# 1NC

### Framing

#### 1] They say Neolib but they offer no reasons to prefer even if you don’t buy our framing we have to agree that staying alive is our first priority

#### 2] Prefer Util – the greatest good for the greatest number of people Framing pleasure and pain are the basic intrinsic of moral reasoning – so if they rely on that logic then they are inherently util

#### 3] Even if you don’t buy that life comes first under any framework because we need to be alive to even solve other moral uncertainties

#### Pleasure and pain are the starting point for moral reasoning—they’re our most baseline desires and the only things that explain the intrinsic value of objects or actions that’s the basis of all moral reasoning – that’s util which their framing is based off of

Moen 16, Ole Martin (PhD, Research Fellow in Philosophy at University of Oslo). "An Argument for Hedonism." Journal of Value Inquiry 50.2 (2016): 267.

Let us start by observing, empirically, that a widely shared judgment about intrinsic value and disvalue is that pleasure is intrinsically valuable and pain is intrinsically disvaluable. On virtually any proposed list of intrinsic values and disvalues (we will look at some of them below), pleasure is included among the intrinsic values and pain among the intrinsic disvalues. This inclusion makes intuitive sense, moreover, for there is something undeniably good about the way pleasure feels and something undeniably bad about the way pain feels, and neither the goodness of pleasure nor the badness of pain seems to be exhausted by the further effects that these experiences might have. “Pleasure” and “pain” are here understood inclusively, as encompassing anything hedonically positive and anything hedonically negative. 2 The special value statuses of pleasure and pain are manifested in how we treat these experiences in our everyday reasoning about values. If you tell me that you are heading for the convenience store, I might ask: “What for?” This is a reasonable question, for when you go to the convenience store you usually do so, not merely for the sake of going to the convenience store, but for the sake of achieving something further that you deem to be valuable. You might answer, for example: “To buy soda.” This answer makes sense, for soda is a nice thing and you can get it at the convenience store. I might further inquire, however: “What is buying the soda good for?” This further question can also be a reasonable one, for it need not be obvious why you want the soda. You might answer: “Well, I want it for the pleasure of drinking it.” If I then proceed by asking “But what is the pleasure of drinking the soda good for?” the discussion is likely to reach an awkward end. The reason is that the pleasure is not good for anything further; it is simply that for which going to the convenience store and buying the soda is good. 3 As Aristotle observes: “We never ask [a man] what his end is in being pleased, because we assume that pleasure is choice worthy in itself.”4 Presumably, a similar story can be told in the case of pains, for if someone says “This is painful!” we never respond by asking: “And why is that a problem?” We take for granted that if something is painful, we have a sufficient explanation of why it is bad. If we are onto something in our everyday reasoning about values, it seems that pleasure and pain are both places where we reach the end of the line in matters of value. Although pleasure and pain thus seem to be good candidates for intrinsic value and disvalue, several objections have been raised against this suggestion: (1) that pleasure and pain have instrumental but not intrinsic value/disvalue; (2) that pleasure and pain gain their value/disvalue derivatively, in virtue of satisfying/frustrating our desires; (3) that there is a subset of pleasures that are not intrinsically valuable (so-called “evil pleasures”) and a subset of pains that are not intrinsically disvaluable (so-called “noble pains”), and (4) that pain asymbolia, masochism, and practices such as wiggling a loose tooth render it implausible that pain is intrinsically disvaluable. I shall argue that these objections fail. Though it is, of course, an open question whether other objections to P1 might be more successful, I shall assume that if (1)–(4) fail, we are justified in believing that P1 is true itself a paragon of freedom—there will always be some agents able to interfere substantially with one’s choices. The effective level of protection one enjoys, and hence one’s actual degree of freedom, will vary according to multiple factors: how powerful one is, how powerful individuals in one’s vicinity are, how frequent police patrols are, and so on. Now, we saw above that what makes a slave unfree on Pettit’s view is the fact that his master has the power to interfere arbitrarily with his choices; in other words, what makes the slave unfree is the power relation that obtains between his master and him. The difﬁculty is that, in light of the facts I just mentioned, there is no reason to think that this power relation will be unique. A similar relation could obtain between the master and someone other than the slave: absent perfect state control, the master may very well have enough power to interfere in the lives of countless individuals. Yet it would be wrong to infer that these individuals lack freedom in the way the slave does; if they lack anything, it seems to be security. A problematic power relation can also obtain between the slave and someone other than the master, since there may be citizens who are more powerful than the master and who can therefore interfere with the slave’s choices at their discretion. Once again, it would be wrong to infer that these individuals make the slave unfree in the same way that the master does. Something appears to be missing from Pettit’s view. If I live in a particularly nasty part of town, then it may turn out that, when all the relevant factors are taken into account, I am just as vulnerable to outside interference as are the slaves in the royal palace, yet it does not follow that our conditions are equivalent from the point of view of freedom. As a matter of fact, we may be equally vulnerable to outside interference, but as a matter of right, our standings could not be more different. I have legal recourse against anyone who interferes with my freedom; the recourse may not be very effective—presumably it is not, if my overall vulnerability to outside interference is comparable to that of a slave— but I still have full legal standing.68 By contrast, the slave lacks legal recourse against the interventions of one speciﬁc individual: his master. It is that fact, on a Kantian view—a fact about the legal relation in which a slave stands to his master—that sets slaves apart from freemen. The point may appear trivial, but it does get something right: whereas one cannot identify a power relation that obtains uniquely between a slave and his master, the legal relation between them is undeniably unique. A master’s right to interfere with respect to his slave does not extend to freemen, regardless of how vulnerable they might be as a matter of fact, and citizens other than the master do not have the right to order the slave around, regardless of how powerful they might be. This suggests that Kant is correct in thinking that the ideal of freedom is essentially linked to a person’s having full legal standing. More speciﬁcally, he is correct in holding that the importance of rights is not exhausted by their contribution to the level of protection that an individual enjoys, as it must be on an instrumental view like Pettit’s. Although it does matter that rights be enforced with reasonable effectiveness, the sheer fact that one has adequate legal rights is essential to one’s standing as a free citizen. In this respect, Kant stays faithful to the idea that freedom is primarily a matter of standing—a standing that the freeman has and that the slave lacks. Pettit himself frequently insists on the idea, but he fails to do it justice when he claims that freedom is simply a matter of being adequately (and reliably) shielded against the strength of others. As Kant recognizes, the standing of a free citizen is a more complex matter than that. One could perhaps worry that the idea of legal standing is something of a red herring here—that it must ultimately be reducible to a complex network of power relations and, hence, that the position I attribute to Kant differs only nominally from Pettit’s. That seems to me doubtful. Viewing legal standing as essential to freedom makes sense only if our conception of the former includes conceptions of what constitutes a fully adequate scheme of legal rights, appropriate legal recourse, justiﬁed punishment, and so on. Only if one believes that these notions all boil down to power relations will Kant’s position appear similar to Pettit’s. On any other view—and certainly that includes most views recently defended by philosophers—the notion of legal standing will outstrip the power relations that ground Pettit’s theory.

### Space Debris CP

#### States should commission private companies to clean up space junk and space debris

#### 1] The plan solves – Private companies are more effective than government agencies

Follett, Andrew. “Private Firms Are the Key to Space Exploration.” National Review, National Review, 21 Aug. 2021, https://www.nationalreview.com/2021/08/private-firms-are-the-key-to-space-exploration/?utm\_source=recirc-desktop&utm\_medium=article&utm\_campaign=river&utm\_content=more-in-tag&utm\_term=second.

America’s public-sector space program recently had a rough couple of weeks that perfectly exemplify why it desperately [needs](https://www.nationalreview.com/2021/03/bernies-lost-on-space/) a free-market overhaul. On July 29, the International Space Station (ISS) suffered a serious loss of control after a Russian spacecraft docked with it, accidentally [causing the station to make a full 540-degree rotation and a half](https://www.nytimes.com/2021/08/02/science/nasa-space-station-zebulon-scoville.html) before coming to a stop upside down, when the astronauts got it under control. Like most NASA programs, the ISS is massively over budget. Costs were initially projected at $12.2 billion, but the bill [ultimately reached a stunning $150 billion](https://scholarworks.wm.edu/cgi/viewcontent.cgi?article=1593&context=honorstheses). American taxpayers paid around 84 percent of that. What happened to the American dream of human space exploration? Put simply, the government happened. NASA devolved into a jobs program to bring home the space bacon. Then, on August 10, NASA’s inspector general [released a report](https://oig.nasa.gov/docs/IG-21-025.pdf) deeming plans to send astronauts back to the moon in 2024 unfeasible because of significant delays in developing the mission’s spacesuits. Right now the suits are being built by 27 different companies that successfully lobbied the government for a piece of the action. SpaceX’s Elon Musk has rightly noted that NASA has “[too many cooks in the kitchen](https://twitter.com/elonmusk/status/1425100378459279370).” The difference between NASA’s cumbersome designed-by-committee suits and SpaceX’s suits — created by a single contractor — [is remarkable](https://twitter.com/AlexanderPayton/status/1425181840462200833), even to the naked eye. The report unconvincingly blames NASA’s failure to develop a new spacesuit over the last 14 years solely on shifting technical requirements. It recommends “ensuring technical requirements for the next-generation suits are solidified before selecting the acquisition strategy to procure suits for the ISS and Artemis programs.” Instead of dealing with the problem, the Biden administration is trying to distract attention from the space agency’s mismanagement by [announcing plans](https://www.cnn.com/2021/04/09/world/nasa-artemis-person-of-color-crew-scn/index.html) to land the first person of color on the moon . . . even though NASA has been incapable of sending astronauts of any color into space under its own power since July 2011. NASA has been reduced to begging the Russians for a ride. The agency’s troubled Constellation program, meant to replace the Space Shuttle fleet, was canceled after tens of billions of dollars had already been spent. But NASA’s troubles are, depressingly, likely to get even worse. In November the James Webb Space Telescope (JWST) will finally launch, after taxpayers have [forked over $9.7 billion](https://www.gao.gov/products/gao-21-406). It was originally supposed to launch in 2007 on a budget of $500 million. That means the project is over a decade behind schedule and costing almost 20 times its initial budget. Perhaps the telescope, meant to locate potentially habitable planets around other stars and perhaps even extraterrestrial life, could instead search for a calendar . . . or fiscal sanity . . . in the stars? JWST isn’t the first NASA space telescope to suffer cost overruns and setbacks. The Hubble Space Telescope (HST) was originally intended to launch in 1983, but technical issues delayed the launch until 1990 because the main mirror was incorrectly manufactured. JWST is very likely to fail because it is supposed to unfold itself “origami style” in space in an extremely technically complicated process. If difficulties arise, JWST lacks [HST’s generous margin for error](https://www.scientificamerican.com/article/is-the-james-webb-space-telescope-too-big-to-fail/) because of its location far beyond earth’s orbit at the Sun-Earth L2 LaGrange point. NASA currently lacks the capability to send a team of astronauts out that far to fix any problems. Even if NASA could get out to JWST, the telescope doesn’t have a grappling ring for an astronaut to grab onto and thus could potentially kill astronauts attempting to fix it. It is hard to imagine a better example of the private sector’s amazing ability to outcompete government bureaucracy and mismanagement than NASA’s planned Shuttle replacement, the Space Launch System. It is estimated to [cost more than $2 billion per flight](https://arstechnica.com/science/2019/11/nasa-does-not-deny-the-over-2-billion-cost-of-a-single-sls-launch/). That’s on top of the $20 billion and nine years the agency has already spent developing the vehicle. Contrast that with the comparatively inexpensive $300 million spent by SpaceX to develop the Falcon 9 in a little over four years, and the fact that each Falcon 9 costs [around $62 million](https://www.fool.com/investing/2020/10/05/how-much-cheaper-are-spacex-reusable-rockets-now-w/#:~:text=SpaceX%2C%20the%20pioneering%20rocket%20launch,four%20and%20a%20half%20years.). One SLS launch could pay for over 32 SpaceX launches. Private ventures such as SpaceX are more efficient because they have a lot more incentive to avoid excessive costs and focus on solutions: Their own money is at stake, and people spend their own money more carefully than they spend taxpayer dollars collected from others. Multiple private American space firms are currently pursuing accomplishments beyond those of NASA, and they are more advanced and ambitious than the entire government space programs of China and the European Union combined. So one possible solution to NASA’s woes would be to greatly increase its reliance on commercial launch providers. And one way to do that would be to return to the system that made civil aviation great: prizes to reward private-sector innovation. Charles Lindbergh flew across the Atlantic Ocean in pursuit of the [privately funded Orteig prize](http://www.charleslindbergh.com/plane/orteig.asp), valued at almost $395,000 in today’s money. Another famous example was the X Prize, which rewarded Burt Rutan’s company Scaled Composites with [over $14 million](https://www.nbcnews.com/id/wbna6167761) in today’s money for becoming the first nongovernmental organization to launch a reusable and manned space vehicle, SpaceShipOne. The X Prize succeeded in creating over $100 million in investment by private corporations and individuals. Aerospace experts [expect](https://www.nationalreview.com/2012/02/mars-prize-robert-zubrin/) that establishing a $10 billion prize for successfully landing a crew on Mars and returning it safely to earth could very well lead to a successful landing. That’s a bargain compared with the [$500 billion cost estimates](https://ntrs.nasa.gov/api/citations/20200000973/downloads/20200000973.pdf) NASA puts out for the same objective. And of course in the worst-case failure scenario for a prize program, taxpayers would pay nothing until the mission was complete. A system based on private enterprise incentivized by a fixed prize would end government cost overruns and waste. The cause of space exploration is simply too important to leave to the public sector

#### 2] The plan solves of all affirmative offence on space debris – no risk of their impacts and we avoid the risks of our disad

#### 3] The plan is mutually exclusive it requires private agencies to take action.. a perm would ….

#### Centuries of empirics prove strong property rights are the key driver of investment – specifically true for the space economy

CEA 21 [Council of Economic Advisers, executive agency advising the president on economic policy, 2021, “Exploring New Frontiers in Space Policy and Property Rights,” Economic Report of the President, https://www.govinfo.gov/content/pkg/ERP-2021/pdf/ERP-2021-chapter8.pdf]/Kankee

Historical Examples of Property Rights Evolution Historical examples of the development of property rights establish that without these extra sticks in the property rights bundle, we should expect to see higher costs and lower benefits from investments in the space economy, potentially hindering future developments in outer space. The early history of oil drilling provides an example of how resources are likely to be wasted if property rights are not established in a timely manner. Until the early 20th century, oil was not considered property until it was extracted. This led to what Libecap and Smith (2002) call extractive anarchy. Companies drilled wells without concern for maximizing the amount of oil produced from a well, but instead sought to be the first to extract and claim ownership of the oil. Oil flows from a well because of the pressure inside the reservoir; if too many wells are drilled into one reservoir, then the pressure escapes too quickly to push the oil in the reservoir up the well. As a result, less oil is extracted. By 1914, the director of the Federal Bureau of Mines estimated that a quarter of the value of all petroleum production was being wasted due to the race to extract oil. Further, due to oil and natural gas being found together in a reservoir, the lower-valued natural gas was often vented into the atmosphere to ensure that the oil was extracted and thus ownership was secured. As time went on, the structure of property rights for oil and gas has changed to allow for increased value to be created from investments in resource extraction. Without clear in situ property rights for subsurface resources, space could see a repeat of this behavior for its natural resources. Many elements that are common in space are frequently used in important technologies. Iron, aluminum, and titanium are elements critical to the production of electrical components. Silicon is a raw material for solar panels and computers. Extracted water can be broken down into hydrogen and oxygen to meet a variety of needs—oxygen is breathable, recombining hydrogen and oxygen generates electrical power, and liquid hydrogen and liquid oxygen can serve as propellants (Butow et al. 2020). Though it may sound futuristic, we can imagine a situation where mining expeditions recklessly extract resources from various celestial bodies, severely depleting the deposit of resources and diminishing the returns on future investment in mining. Therefore, defining property rights now to ensure the responsible use of resources in space could lead to future higher levels of demand and investment in exploration and a more sustainable space economy. A similar story emerges for mineral rights in Nevada during the 19th century (Libecap 1978). As new deposits of minerals were found, especially those deposits further underground requiring increased investment for extraction, the specification and enforcement of property rights increased. One of the largest deposits in Nevada, the Comstock Lode, was discovered while Nevada was still a Federal territory. Property rights for discoveries on Federal lands were lacking at the time, so citizens created a series of local laws and eventually founded the State of Nevada to ensure these property rights. Libecap (1978) shows that as deposits increased in value, local property rights specification also increased. It may seem difficult to imagine how local property rights would be formed in space as in territorial Nevada, given the lack of settlements in space. However, this history implies that it is important to set these rules as economic actors spend extended time in space in order to maximize the future investment in the space economy.

Investment Responses to Property Right Enhancement All the space policy developments discussed above have improved the ability of investors to set expectations for the manner in which benefits flow from investments in space. The historical examples given argue that further specifying property rights will bolster investment in the space economy. Increased investments in the space economy will lead to advances in space technology. In this subsection, we discuss the economics literature that addresses the effects of setting and strengthening property rights on both investment and economic growth. The research presented here aims to convey that the benefits for economic activity from improved setting of expectations that clarifies property rights is universal and not just due to specific circumstances of time and/or place. Losses from short-term decisionmaking. A growing concern for future space exploration activities arises from a lack of property rights security leading to short-term decisionmaking, which may inhibit long-term human activity. Many empirical studies show that insecure property rights lead to investment decisions with lower values. Many of these studies have come from analyses of water rights in the western United States. In what is known as the Prior Appropriation Doctrine, water rights are handed out based on a “first in time, first in right” principle. Given that the amount of water available changes each year due to precipitation patterns, water rights holders that were, earlier in time, known as senior rights holders are more likely to receive their water allocation each year than those that were later in time, known as junior rights holders. Leonard and Libecap (2019) argue that the Prior Appropriation Doctrine, with its clear rights for senior rights holders, allowed for investment in irrigation technologies. Given the climate of the western United States, large-scale investment in irrigation is required to maximize the productivity of large swaths of land. Leonard and Libecap estimate that 16 percent of western States’ income in 1930 is attributable to investments made in irrigation that would not have occurred without secure property rights. Another concern with insecure property rights is that owners of natural resources rush to extract them to ensure that they accrue the benefits of their investments. This rush to extract resources has a detrimental effect on the value obtained from those resources and other negative spillover effects on society. One example is the increase in the rate of deforestation that occurs when property rights for the land are insecure (Bohn and Deacon 2000). Ferreira (2004) finds that those countries with clearly defined property rights experience less deforestation than those with weaker protections. Kemal and Lange (2018) find that a reduced chance of oil well expropriation in Indonesia lowered the rate of extraction by up to 40 percent. If short-term decisionmaking prevails in the initial incursions into space, the future of the space economy could be seriously harmed. Depleting the resources necessary to sustain life in space would mean having to transport these resources from Earth at a prohibitive cost and complexity. Therefore, protecting and responsibly using the resources available in space is more efficient in the long term. If done prudently, establishing property rights in space could diminish the risk of short-term decisionmaking and strengthen the ability of humans to receive benefits from space.

Enhanced investment and asset value. Frameworks such as the U.S. Commercial Space Launch Competitiveness Act and the Artemis Accords enhance property rights by providing clear expectations of the benefits one can receive from their investment and providing a list of principles that partner nations will follow as a way to encourage economic activity in space. One branch of the economics literature uses legal or legislative decisions that enhance or diminish property rights to determine how investment and asset values respond to a change in property rights specification. We discuss this literature here. Later in the chapter, we apply the conclusions of these studies to estimate the value of enhancing property rights in space. Alston and Smith (2020) measure the effect of uncertain property rights resulting from the manner in which Northern Pacific Railroad’s land grants were structured. The Federal Government provided generous land grants to railroad companies in hopes of ensuring the quick buildout of rail infrastructure. Northern Pacific was granted almost 16 percent of the land area in Montana, a State that requires coordination among its farmers and ranchers to irrigate any tract of land for productive use. Delays in the completion of the rail line in the 1870s led to uncertainty as to whether Northern Pacific owned (and could sell) land in its land grant or whether the land was the property of the Federal Government. As a result of this uncertainty, completed irrigation projects averaged delays of four years, while investment in irrigation projects decreased by 28 percent. Insecure property rights affected the landowners whose rights were secure, because irrigation projects often require coordination among many parcels due to their high capital costs. The delay in undertaking irrigation investments led to these landowners being more junior water rights holders and, subsequently, holding less secure water rights. In total, Montana’s economic activity was 6 percent lower in 1930 as a result of these insecure property rights. Grainger and Costello (2014) compare the value of more secure property rights for fisheries in the United States, Canada, and New Zealand. New Zealand’s regulations on quotas to operate in a given fishery explicitly state that these quotas are a property right, yet similar quota systems in the United States and Canada have regulations that explicitly state that the quotas are not property rights. The fact that the United States’ and Canada’s fishery quotas are not as secure as New Zealand’s quotas leads to a lower perpetuity value of the quotas relative to their current annual value. Because U.S. and Canadian firms have the potential for their quotas to be taken away without recourse, their assets have lower values relative to New Zealand’s firms. In an additional analysis, Grainger and Costello (2014) show that the increased security of property rights with the settling of an ownership dispute between native New Zealanders, known as the Maori, and New Zealanders of European descent improved the perpetuity value of fishing quotas by 50 percent. Ensuring that property rights will be honored is very important for market participants in understanding the value of their asset. Galiani and Schargodsky (2010) use a court case in Argentina to estimate the effect of secure property rights for one’s home on household decisions. Their results show that households that gained secure property rights increased their investments in the home structure. Investment in walls and roofs increased by 40 percent and 47 percent, respectively, as a result of households being granted title to the home. Though not directly related to space assets, the available evidence demonstrates that more secure property rights lead to other spillover benefits that are not directly related to the assets on which a property rights are granted. Galiani and Schargodsky (2010) find that when households had increased property rights security, they increased investment in their children’s education. Children in households who obtained the secure property rights on their land achieved an extra 0.7 year of schooling on average. This is an important spillover effect given the large individual and societal benefits of extra years of education (see chapter 7 of this Report). Telecommunications satellites orbiting Earth provide an example of positive spillovers from ensuring secure property rights in space. The International Telecommunication Union (ITU) is an organization that standardizes rules and regulations for a wide range of communications. Through the ITU, the United States was able to operate satellites that used specific frequencies to transmit information to Earth, thereby allowing companies to invest in utilizing those signals for commercial purposes. Communications satellites in geosynchronous orbit rely on the ITU to secure access to specific orbital slots as well as specific frequencies.

Protection against expropriation. A number of nongovernmental organizations produce indices that measure property rights protections or general institutional quality. The indices attempt to quantify the relative level of property rights characteristics, such as the rule of law or protection against expropriation risk, that are consistent across countries and time. A large body of economics literature uses these country-level indices of institutional quality to determine the extent to which improvements in property rights enforcement affect economic outcomes. Policies initiated under the Trump Administration would likely alter these indices in a measurable way if there were a property rights index for space. Seminal work by Acemoglu, Johnson, and Robinson (2001) shows that improving the enforcement of property rights, in this case property rights that protect against expropriation risk, has large effects on gross domestic product (GDP). In their analysis, the authors show that a one-unit improvement in the protection against expropriation risk would lead to more than doubling GDP per capita 10 years later. Similar results are found when researchers examine specific industries. For example, Cust and Harding (2020) show that firms drill for oil twice as often in countries with stronger property rights enforcement relative to their neighbors with weaker property rights. They also show that the effect of the enforcement of rights is most important for private international oil companies relative to national oil companies, highlighting the important role of stronger rights for harnessing private investment. Bohn and Deacon (2000) find a similar pattern for the effect on oil drilling as property rights security improves, with a 30 percent increase in security leading to a 60 percent increase in drilling per year. Some changes in property rights enforcement come through improvements in technology. Hornbeck (2010) uses the invention and widespread use of barbed wire as a technology advancement that reduced the costs of enforcing property rights in agriculture. Importantly, Hornbeck compares areas that had access to timber for wooden fences with those that did not and finds a 23 percent relative improvement in crop productivity when barbed wire came into use, as barbed wire lowered the relative cost of fencing. Most of the gain came from farmers altering the type of crop that they planted once they were confident that livestock would not destroy the crop. This increased ability to effectively enforce property rights led to investments that increased the total area of farmland that had been improved by 19 percentage points, while also increasing land values. In many ways, this example of marking off territory is similar to the Artemis Accords’ “Deconfliction of Activities” Principle. This principle prescribes setting “safety zones” to limit harmful interference and keep the probability of accidental loss to a minimum. The Effects of Policies on Investment in Space Industries The previous section detailed the expansive literature showing that more secure property rights increase both investment and economic activity. The examples discussed varied across time and space, leaving little doubt that the results are not driven by random chance; the studies as a whole reveal that the findings hold outside specific examples. Because the examples are numerous and varied, determining an average effect of more secure property rights on investment is difficult. Each study concerns a particular improvement in the security of property rights that is difficult to quantify. However, it is still a goal of this chapter to estimate the effect of the last year’s space policy developments on future investment, given the available evidence. Table 8-2 summarizes the effects of most of the studies discussed in the previous section. All these effects are large in magnitude. Another data point is the increase of investment in the space economy in the United States with the passage of the U.S. Commercial Space Launch Competitiveness Act in 2015 relative to investments in other countries. Using the Space Capital data discussed in the second section, and the historical examples given above, the CEA estimates the increase in investment in the United States due to the improved property rights specification in 2015. Controlling for country and time period effects, the data show a statistically significant increase in investment of 92 percent—or roughly double—in the United States since passage of the U.S. Commercial Space Launch Competitiveness Act relative to countries that did not improve property specification. Together, these small improvements in the security of property rights have the potential to lead to large increases in investment. As an approximation, the CEA assumes that these improvements in property rights security will double the amount of investment in space. This number is in line with the evidence that has been discussed here. To project the effect of the enhancements of property rights security that the Trump Administration’s policies have achieved, the CEA starts with data from Space Capital on total private investment in space activities. Figure 8-4 illustrates the increasing rate of private investment in space activities. The review of the literature discussed above shows that further property rights specification leads to increased investment and further economic activity. In figure 8-4, the diverging lines from 2020 to 2028 project the expected path of private investment as a result of policy developments in 2020. The Space Capital data suggest that a linear projection of private investment in space would reach $23 billion in 2028, which is illustrated by the blue dashed line in figure 8-4. However, this does not take into account property rights enhancements that occurred in 2020 or will be occurring in the future. Therefore, the CEA projects that private investment in space will reach $46 billion by 2028. This projection is based on a doubling of investment over the eight-year period, which is in line with empirical estimates in the academic literature discussed above. Establishing rights to distant resources with the goals of incentivizing economic development and investment has not always produced the desired results. The above-mentioned examples demonstrate how property rights specification and security can lead to increased investment. However, aligning incentives is a necessary but not sufficient condition in the short term. For example, the leading asteroid mining companies that were supporting the space resources language in the Commercial Space Launch Amendments Act of 2004 have both failed, despite the benefit of positive Federal legislation. In addition, the Deep Seabed Hard Mineral Resources Act, which was passed in 1980, established a legal system for extracting resources from the deep seabed with hopes of achieving economic viability before 2000. Forty years after the law’s passage, the deep seabed mineral extraction industry still lacks the technology for economical extraction and does not bolster the argument that enhanced property rights typically unlock commercial value. Certain similarities do exist with the space industry, such as the need for technological innovation, the considerable distance to the resources, and some uncertainty about the types of resources for extraction. Moreover, the space resource extraction industry currently lacks a customer base other than national governments, and even government demand will not become substantive until robust human and robotic operations on the lunar surface and elsewhere can be established. However, several key differences would support a space resource extraction industry. First, the commercial space industry benefits from public investment in civil space exploration, which might result in a decreased amount of investment necessary for the development of basic technologies. In addition, space exploration and research remain a national priority for many countries, which may drive further development of the industrial base. Moreover, space resource extraction potentially offers more valuable resources than deep sea mining (Barton and Recht 2018). Looking Ahead

### Innovation DA

#### Private Entities are key to space exploration – NASA is not good enough

Follett, Andrew. “Private Firms Are the Key to Space Exploration.” National Review, National Review, 21 Aug. 2021, https://www.nationalreview.com/2021/08/private-firms-are-the-key-to-space-exploration/?utm\_source=recirc-desktop&utm\_medium=article&utm\_campaign=river&utm\_content=more-in-tag&utm\_term=second.

America’s public-sector space program recently had a rough couple of weeks that perfectly exemplify why it desperately [needs](https://www.nationalreview.com/2021/03/bernies-lost-on-space/) a free-market overhaul. On July 29, the International Space Station (ISS) suffered a serious loss of control after a Russian spacecraft docked with it, accidentally [causing the station to make a full 540-degree rotation and a half](https://www.nytimes.com/2021/08/02/science/nasa-space-station-zebulon-scoville.html) before coming to a stop upside down, when the astronauts got it under control. Like most NASA programs, the ISS is massively over budget. Costs were initially projected at $12.2 billion, but the bill [ultimately reached a stunning $150 billion](https://scholarworks.wm.edu/cgi/viewcontent.cgi?article=1593&context=honorstheses). American taxpayers paid around 84 percent of that. What happened to the American dream of human space exploration? Put simply, the government happened. NASA devolved into a jobs program to bring home the space bacon. Then, on August 10, NASA’s inspector general [released a report](https://oig.nasa.gov/docs/IG-21-025.pdf) deeming plans to send astronauts back to the moon in 2024 unfeasible because of significant delays in developing the mission’s spacesuits. Right now the suits are being built by 27 different companies that successfully lobbied the government for a piece of the action. SpaceX’s Elon Musk has rightly noted that NASA has “[too many cooks in the kitchen](https://twitter.com/elonmusk/status/1425100378459279370).” The difference between NASA’s cumbersome designed-by-committee suits and SpaceX’s suits — created by a single contractor — [is remarkable](https://twitter.com/AlexanderPayton/status/1425181840462200833), even to the naked eye. The report unconvincingly blames NASA’s failure to develop a new spacesuit over the last 14 years solely on shifting technical requirements. It recommends “ensuring technical requirements for the next-generation suits are solidified before selecting the acquisition strategy to procure suits for the ISS and Artemis programs.” Instead of dealing with the problem, the Biden administration is trying to distract attention from the space agency’s mismanagement by [announcing plans](https://www.cnn.com/2021/04/09/world/nasa-artemis-person-of-color-crew-scn/index.html) to land the first person of color on the moon . . . even though NASA has been incapable of sending astronauts of any color into space under its own power since July 2011. NASA has been reduced to begging the Russians for a ride. The agency’s troubled Constellation program, meant to replace the Space Shuttle fleet, was canceled after tens of billions of dollars had already been spent. But NASA’s troubles are, depressingly, likely to get even worse. In November the James Webb Space Telescope (JWST) will finally launch, after taxpayers have [forked over $9.7 billion](https://www.gao.gov/products/gao-21-406). It was originally supposed to launch in 2007 on a budget of $500 million. That means the project is over a decade behind schedule and costing almost 20 times its initial budget. Perhaps the telescope, meant to locate potentially habitable planets around other stars and perhaps even extraterrestrial life, could instead search for a calendar . . . or fiscal sanity . . . in the stars? JWST isn’t the first NASA space telescope to suffer cost overruns and setbacks. The Hubble Space Telescope (HST) was originally intended to launch in 1983, but technical issues delayed the launch until 1990 because the main mirror was incorrectly manufactured. JWST is very likely to fail because it is supposed to unfold itself “origami style” in space in an extremely technically complicated process. If difficulties arise, JWST lacks [HST’s generous margin for error](https://www.scientificamerican.com/article/is-the-james-webb-space-telescope-too-big-to-fail/) because of its location far beyond earth’s orbit at the Sun-Earth L2 LaGrange point. NASA currently lacks the capability to send a team of astronauts out that far to fix any problems. Even if NASA could get out to JWST, the telescope doesn’t have a grappling ring for an astronaut to grab onto and thus could potentially kill astronauts attempting to fix it. It is hard to imagine a better example of the private sector’s amazing ability to outcompete government bureaucracy and mismanagement than NASA’s planned Shuttle replacement, the Space Launch System. It is estimated to [cost more than $2 billion per flight](https://arstechnica.com/science/2019/11/nasa-does-not-deny-the-over-2-billion-cost-of-a-single-sls-launch/). That’s on top of the $20 billion and nine years the agency has already spent developing the vehicle. Contrast that with the comparatively inexpensive $300 million spent by SpaceX to develop the Falcon 9 in a little over four years, and the fact that each Falcon 9 costs [around $62 million](https://www.fool.com/investing/2020/10/05/how-much-cheaper-are-spacex-reusable-rockets-now-w/#:~:text=SpaceX%2C%20the%20pioneering%20rocket%20launch,four%20and%20a%20half%20years.). One SLS launch could pay for over 32 SpaceX launches. Private ventures such as SpaceX are more efficient because they have a lot more incentive to avoid excessive costs and focus on solutions: Their own money is at stake, and people spend their own money more carefully than they spend taxpayer dollars collected from others. Multiple private American space firms are currently pursuing accomplishments beyond those of NASA, and they are more advanced and ambitious than the entire government space programs of China and the European Union combined. So one possible solution to NASA’s woes would be to greatly increase its reliance on commercial launch providers. And one way to do that would be to return to the system that made civil aviation great: prizes to reward private-sector innovation. Charles Lindbergh flew across the Atlantic Ocean in pursuit of the [privately funded Orteig prize](http://www.charleslindbergh.com/plane/orteig.asp), valued at almost $395,000 in today’s money. Another famous example was the X Prize, which rewarded Burt Rutan’s company Scaled Composites with [over $14 million](https://www.nbcnews.com/id/wbna6167761) in today’s money for becoming the first nongovernmental organization to launch a reusable and manned space vehicle, SpaceShipOne. The X Prize succeeded in creating over $100 million in investment by private corporations and individuals. Aerospace experts [expect](https://www.nationalreview.com/2012/02/mars-prize-robert-zubrin/) that establishing a $10 billion prize for successfully landing a crew on Mars and returning it safely to earth could very well lead to a successful landing. That’s a bargain compared with the [$500 billion cost estimates](https://ntrs.nasa.gov/api/citations/20200000973/downloads/20200000973.pdf) NASA puts out for the same objective. And of course in the worst-case failure scenario for a prize program, taxpayers would pay nothing until the mission was complete. A system based on private enterprise incentivized by a fixed prize would end government cost overruns and waste. The cause of space exploration is simply too important to leave to the public sector

#### Space expo creates innovation and leads to better tech knowledge

**I**nternational **S**pace **E**xploration **C**oordination **G**roup. (20**13**, September). //ear Benefits Stemming from Space Exploration. **Nasa.Gov**. Retrieved December 8, 2021, from <https://www.nasa.gov/sites/default/files/files/Benefits-Stemming-from-Space-Exploration-2013-TAGGED.pdf> ISECG is a collab between NASA and other governments space programs.

To a great extent, the benefits from space exploration are rooted in the generation of new knowledge, which is the first reward and which has inherent value to humankind. Technological knowledge, generated when high‐performance space systems are developed to address the extreme challenges of space missions, yields many innovations that benefit the public. Scientific knowledge acquired from space expands humankind's understanding of nature and frequently unlocks creative and useful Earth‐based applications for society. In the longer term, the knowledge accumulated over many missions and the expansion of human presence into the Solar System help people gain perspective on the fragility and rarity of life in the Universe and on humankind's accomplishments, potential, and destiny. Space exploration stimulates the creation of both tangible and intangible benefits for humanity. Tangible impacts include all the innovation‐related applications and benefits resulting from investments in these programmes, such as new devices and services that spin off into the marketplace. In addition, space exploration leads to advances in science and technology, and furthers workforce development and industrial capabilities, thus leading to an overall stimulation of private companies and industries, all of which contributes significantly to the economic progress of space‐faring nations. Space exploration is also known to attract young people into careers in science and technology to the general benefit of society and the economy (see chapter 2.1). Space exploration also results in various intangible impacts due to the social and philosophical dimensions that address the nature and meaning of human life. Intangible benefits include the enriching of culture, the inspiration of citizens, and the building of mutual understanding as a result of international cooperation among space‐faring nations. The fundamental benefits generated by space exploration are grouped in this document as follows: (i) innovation; (ii) culture and inspiration; and (iii) new means to address global challenges. The delivery of these benefits to society provides the main rationale for investment in space exploration. An illustration on how these benefits are delivered by space agencies is given in the box below. Space exploration’s capacity to continue delivering significant benefits to humanity was recognized by high‐level government representatives from around the world when they convened in Lucca, Italy, in November 2011. They concluded that space exploration provides

#### IL - Technological innovation is driving environmental change – such as MethaneSAT tackling climate change – prefer EMPIRICS

**EDF 21** [Environmental Defense Fund, “This space technology can cut climate pollution on Earth, 11/23/2021, https://www.edf.org/climate/space-technology-can-cut-climate-pollution-earth] /Triumph Debate

**The latest science warns that the window for preventing the most catastrophic global warming is closing fast. But we have a crucial opportunity to slow the rate of warming right now, even as we continue the transition to clean energy as quickly as possible. Deep reductions in carbon dioxide emissions remain critical over the long term.** But it turns out that methane emissions from fossil fuel operations, livestock production and other industries is responsible for more than 25% of current temperature rise**. Cutting these emissions is the fastest way to put the brakes on climate change.** But tracking these invisible emissions can be hard. That’s the reason for **MethaneSAT, a compact new satellite being built by a specially created new arm of EDF. MethaneSAT is specifically designed to locate, measure and track reductions in methane emissions virtually anywhere on Earth with greater precision than any other satellite.** First-of-its-kind satellite gets key data The oil and gas industry is a leading source of methane emissions. From remote wellheads to gas utility lines, companies release at least 75 million metric tons a year — enough gas to produce electricity for all of Africa twice over. Extensive research led by EDF suggests that oil and gas methane emissions in the U.S. are 60% higher than official EPA estimates. To fully understand the problem — and drive the solutions — we need more and better data about: How large methane emissions are. Where they're coming from. The biggest potential reductions. Progress of those reductions over time. **MethaneSAT will provide high-precision global coverage, measuring not just methane concentrations but the rate it’s escaping, from where and who is responsible. It will fill gaps left by other satellite systems, measuring large emission sources as well as those too small for other satellites to see. Because it will focus only on methane, MethaneSAT will be quicker and less expensive to launch than the complex, multi-function satellites built by government space agencies, so we can get data sooner.** 8 **EDF’s efforts using technological innovation to drive environmental change**, **the MethaneSAT mission is about turning data into action**. Video: Watch as EDF's president shares the vision of MethaneSAT in this TED Talk. **That data will be available to the public free of charge, so that stakeholders and the public can see and compare methane emissions by country or company. This unprecedented transparency will both enable and motivate faster reductions. And it will give the public objective assurance that both industry and government are delivering reductions**. Fred Krupp, EDF's president, unveiled the idea for MethaneSAT in a 2018 TED Talk at TED’s flagship event, as part of The Audacious Project, successor to the TED Prize. The purpose of MethaneSAT is to serve as a critical resource for realizing our goal of reducing methane emissions from a diversity of sources, especially global oil and gas. **A 45 percent reduction in oil and gas methane emissions by 2025 would deliver the same 20-year climate benefit as closing one-third of the world’s coal-fired power plants**. Cutting these emissions is the fastest, cheapest thing we can do to slow the rate of warming today, even as we continue to attack carbon dioxide emissions. Drawing from expertise and research MethaneSAT is due to launch in 2022. **The team responsible for getting it off the ground includes Tom Ingersoll, a successful satellite entrepreneur with three decades of experience, and a long list of experts in spaceflight, remote sensing and atmospheric sciences.** Steven Hamburg and Tom Ingersoll Steven Hamburg, left, EDF's chief scientist, and Tom Ingersoll, MethaneSAT project director, pictured at Harvard University And the MethaneSAT team has partnered with Harvard University and the Smithsonian Astrophysical Observatory to develop the science required for the mission. We’ve learned that emissions are much higher than either industry or government previously recognized, and occur across the supply chain. The challenge is, the sources are intermittent, unpredictable and widespread, making it hard to predict where they’ll occur. That means ongoing monitoring and measurement are essential. By providing reliable, fully transparent data on a worldwide scale, MethaneSAT will help transform a serious climate threat into a crucial opportunity.

#### IL - Technology developed in space innovation is key to resolve climate change

**Derr**, E. (20**21**, **September 17**). Space is Crucial to Understanding Climate Change. Nuclear Energy Institute. Retrieved December 9, 2021, from <https://www.nei.org/news/2021/space-is-crucial-to-understanding-climate-change> //ear Emma Derr works as a Manager, Digital Communications at Nuclear Energy Institute, which is a Membership Organizations company with an estimated 133 employees; and founded in 1994. They are part of the Digital Marketing team within the Marketing Department and their management level is Manager. Emma is currently based in Washington, D.C., United States.

Space developments in the last two decades have greatly contributed to our [understanding of our planet’s climate](https://climate.nasa.gov/evidence/). Satellite imaging, space exploration, and new technologies give us an idea of the big picture and how we can adapt to address climate change. For example, satellites in space have played a critical role in our understanding of the causes of global warming by providing us with a large body of data to examine the variations in the Earth’s orbit. Data from these [capabilities](https://www.thespacereview.com/article/4230/1) were essential inputs into the Intergovernmental Panel on Climate Change’s (IPCC) recent [report](https://www.ipcc.ch/report/ar6/wg1/#SPM) that focused on how the physical science of climate change informs likely impacts under five different emissions scenarios. The report also found that climate change is happening quicker than we thought, making the need to reduce emissions imminent. To address this, space infrastructure such as [positioning, navigation, and timing](https://www.transportation.gov/pnt/what-positioning-navigation-and-timing-pnt#:~:text=While%20PNT%20encompasses%20so%20much,GPS%20is%20a%20major%20component.&text=%E2%80%9CA%20U.S.%2Downed%20utility%20that,segment%2C%20and%20the%20user%20segment.) (PNT) can help identify efficient transportation routes and sources of emissions, ultimately aiding mitigation efforts. Time Progression of the Ozone Hole Over Antarctica This series of images shows the size and shape of the thinning ozone layer over Antarctica each year from 1979-2019. Red and yellow areas indicate the ozone hole. Credit to nasa.gov. NASA’s [Earth System Observatory](https://www.nasa.gov/press-release/new-nasa-earth-system-observatory-to-help-address-mitigate-climate-change), the next generation of Earth science satellites that will launch in the next decade, reflect the importance of Earth imaging. This constellation of satellites is designed to provide information about our planet ranging from the location of forest fires to the sea level rise to our agricultural processes. It will be able to collect data at the regional and local levels and connect critical interactions between the atmosphere, land, ocean and ice, significantly bolstering our understanding of the Earth’s climate. Another large [focus](https://www.axios.com/white-house-nasa-earth-science-satellites-climate-c560c9d8-2dfd-4964-bfcf-fd6cb54117e5.html) of the initiative is predicting severe weather and answering questions surrounding aerosols, which are particles in the atmosphere that are a key source of uncertainty in predicting climate change. Alongside adding funding to FEMA, the Biden Administration [announced](https://www.whitehouse.gov/briefing-room/statements-releases/2021/05/24/fact-sheet-biden-administration-invests-1-billion-to-protect-communities-families-and-businesses-before-disaster-strikes/) the development of the Earth System Observatory, indicating its support for the program in understanding how climate change is impacting communities. Space exploration is foundational to climate science because it provides us with more information about the Earth, our solar system and the role of gases in our atmosphere, and nuclear energy has played an important role powering our missions into space. In 1969, NASA launched [Nimbus III](https://rps.nasa.gov/missions/8/nimbus-iii/), a nuclear-powered spacecraft, that is the first U.S. satellite to gather vital oceanographic data, such as measurements of sea ice and the ozone layer. The spacecraft also measured atmospheric temperature, water vapor and ozone, as well as the amount of ultraviolet radiation reaching our atmosphere from the sun. [Cassini](https://solarsystem.nasa.gov/missions/cassini/overview/), a nuclear-powered probe into Saturn and its moons, released the Huygens probe which collected important data about what earth may have looked like in its state before humans evolved. The mission revealed Titan to be one of the most Earth-like worlds we’ve encountered and has shed light on the history of our home planet. Nuclear energy has powered dozens of interplanetary missions, which have gathered critical information about our universe. These make up some of the most successful and inspiring missions in U.S. space exploration history. Climate and space technologies build off of each other, as evidenced by solar photovoltaic panels first gaining a foothold in the space industry. Nuclear energy can be positioned to experience such a catalyst with [new investments](https://www.nei.org/news/2021/nuclear-taking-us-faster-and-farther-into-space) in nuclear space technologies. As climate change intensifies, space exploration and Earth observation will become [increasingly important](https://www.axios.com/space-critical-to-climate-science-2051-0361889a-5ae9-47eb-960f-e83f1b6779c7.html) to gathering critical data. We must meet the moment by investing in these missions and recognizing nuclear power’s important role in space technologies.

#### Warming causes extinction and it’s try or die. Spratt 19

David Spratt, Research Director for Breakthrough National Centre for Climate Restoration, Ian Dunlop, member of the Club of Rome, formerly an international oil, gas and coal industry executive, chairman of the Australian Coal Association, May 2019, “Existential climate-related security risk: A scenario approach,” <https://docs.wixstatic.com/ugd/148cb0_b2c0c79dc4344b279bcf2365336ff23b.pdf>, //recut hzheng

An existential risk to civilisation is one posing permanent large negative consequences to humanity which may never be undone, either annihilating intelligent life or permanently and drastically curtailing its potential. With the commitments by nations to the 2015 Paris Agreement, the current path of warming is 3°C or more by 2100. But this figure does not include “long-term” carbon-cycle feedbacks, which are materially relevant now and in the near future due to the unprecedented rate at which human activity is perturbing the climate system. Taking these into account, the Paris path would lead to around 5°C of warming by 2100. Scientists warn that warming of 4°C is incompatible with an organised global community, is devastating to the majority of ecosystems, and has a high probability of not being stable. The World Bank says it may be “beyond adaptation”. But an existential threat may also exist for many peoples and regions at a significantly lower level of warming. In 2017, 3°C of warming was categorised as “catastrophic” with a warning that, on a path of unchecked emissions, low-probability, high-impact warming could be catastrophic by 2050. The Emeritus Director of the Potsdam Institute, Prof. Hans Joachim Schellnhuber, warns that “climate change is now reaching the end-game, where very soon humanity must choose between taking unprecedented action, or accepting that it has been left too late and bear the consequences.” He says that if we continue down the present path “there is a very big risk that we will just end our civilisation. The human species will survive somehow but we will destroy almost everything we have built up over the last two thousand years.”11 Unfortunately, conventional risk and probability analysis becomes useless in these circumstances because it excludes the full implications of outlier events and possibilities lurking at the fringes.12 Prudent risk-management means a tough, objective look at the real risks to which we are exposed, especially at those “fat-tail” events, which may have consequences that are damaging beyond quantification, and threaten the survival of human civilisation. Global warming projections display a “fat-tailed” distribution with a greater likelihood of warming that is well in excess of the average amount of warming predicted by climate models, and are of a higher probability than would be expected under typical statistical assumptions. More importantly, the risk lies disproportionately in the “fat-tail” outcomes, as illustrated in Figure 1.

### Analysis

#### 1 – judge take our innovation DA in conjunction with CP, without property rights and in the Aff world, private sector innovation would take a nosedive, life should come first so our first priority should be stopping warming or extinction

#### 2 – This is not a ridiculous disad with completely improbable links the logic makes sense, the aff does not solve for innovation and prefer us on timeframe because warming is happening right now, the temperatures today in California ( ) in mid January is enough ev, so are the wildfires, warming is happening and the aff kills all of us by stopping innovation vote NEG on timeframe

### Digital Divide DA

#### Digital divides are growing, especially because of the pandemic.

Li, C. (2021, October 11). *Worsening global digital divide as the US and China continue zero-sum competitions*. Brookings. Retrieved December 14, 2021, from https://www.brookings.edu/blog/order-from-chaos/2021/10/11/worsening-global-digital-divide-as-the-us-and-china-continue-zero-sum-competitions/ Cheng Li is the director of the John L. Thornton China Center and a senior fellow in the Foreign Policy program at Brookings. He is also a director of the National Committee on U.S.-China Relations. Li focuses on the transformation of political leaders, generational change, the Chinese middle class, and technological development in China. Li is also the author or the editor of numerous books. //ech

The COVID-19 crisis has interrupted daily life and business routines across the world, caused a massive loss of millions of lives, and exacerbated economic disparities within and between countries. **COVID-19 has also revealed fundamental challenges in the international order.** As Kissinger has asserted, “the world will never be the same after the coronavirus.” One can reasonably expect that cynicism regarding regional and global integration, as well as radical populism, racism, ultranationalism and xenophobia, will likely continue to rise around the world. At this critical juncture, it has become even more essential to examine the urgent challenges that the world confronts and to engage in global cooperation instead of devolving into constant contention and confrontation. **One of the most urgent tasks for the international community is to overcome growing digital divides. Digital divides in least developed countries (LDCs) have been particularly salient, as digitally disconnected populations have been left further behind during the pandemic. The U.S. and China, two superpowers in the digital era, should work in tandem with the international community to jointly combat digital divides and COVID-19. Despite the global growth of digital technologies, a 2021 United Nations report noted that nearly half of the world’s population, 3.7 billion people, lack internet access. Deficiency of digital connectivity is especially prevalent within LDCs, where more than 80% of the population are still offline.** In comparison, the unconnected population in developed countries and developing countries stands at 13% and 53%, respectively. LDCs account for about 14% of the world’s population, and they comprise more than half of the world’s extremely poor. **Digital divides both reflect and reinforce socioeconomic disparities. The pandemic has aggravated existing inequalities, often resulting in a widening gap of digital skills. As a result of COVID-19-induced economic difficulties, the population of extreme poor in LDCs expanded by 32 million, and the number of people in poverty in LDCs grew to 36% in 2020, 3% more than in prior years. More specifically, LDCs lag further behind in the following three areas.**

#### Starklink and other private entity developments could bridge existing digital divides, but regulations are inhibiting them.

Estes, A. C. (2020, September 26). *The pandemic is speeding up the space internet race*. Vox Recode. Retrieved December 14, 2021, from <https://www.vox.com/recode/2020/9/26/21457530/elon-musk-spacex-starlink-satellite-broadband-amazon-project-kuiper-viasat>. Adam Clark Estes is the deputy editor of Recode. He was previously a senior editor at Gizmodo, an associate editor at Motherboard, and a staff writer at The Atlantic Wire. //ech

**In vast swaths of the United States and the world, there are millions of people who don’t have reliable internet access.** These unconnected people aren’t just in far-flung places like rural America or New Zealand or sub-Saharan Africa, either. There are plenty of people living in dense city centers with limited access to affordable broadband. **The**[Covid-19](https://www.vox.com/coronavirus-covid19)**pandemic has brought new urgency to the challenge of getting everyone connected**, and while companies like Google and Facebook have floated far-out ideas for solving the problem, the internet technology that’s most promising is also one that’s already proven: satellite broadband. In early March, just days before cities across the US shut down due to the pandemic, **Elon Musk**[shared the latest details](https://arstechnica.com/information-technology/2020/03/musk-says-starlink-isnt-for-big-cities-wont-be-huge-threat-to-telcos/)**about his plan to build a satellite broadband service called Starlink. Speaking at a satellite conference in Washington, DC, Musk described how a constellation of Starlink satellites will “blink” when they enter low-Earth orbit**. As described, they almost sound like streaks of glitter in the night sky, or magic bands of flying gadgets that can beam internet down to anyone on the planet. Combined with improvements to existing technology like DSL, cable, and fiber — not to mention 4G and 5G cellular networks — **futuristic satellite broadband stands to bridge the digital divide in the US and elsewhere.** And because the pandemic has prompted explosive demand for better, more widely available internet connectivity, fast progress seems more inevitable than ever. Musk’s new satellites went online in early September, giving beta testers download speeds [that rival those of terrestrial broadband](https://www.theverge.com/2020/9/3/21419841/spacex-starlink-internet-satellite-constellation-download-speeds-space-lasers). **SpaceX has now put 700 Starlink satellites into orbit in the past 16 months and**[has plans to deliver](https://spacenews.com/spacex-submits-paperwork-for-30000-more-starlink-satellites/)**as many as 30,000 more in the next few years. More satellites mean more bandwidth and faster speeds, and eventually, SpaceX says, its low-Earth orbit satellite constellations could deliver high-speed internet to the entire US.** [Amazon](https://www.theverge.com/2019/4/4/18295310/amazon-project-kuiper-satellite-internet-low-earth-orbit-facebook-spacex-starlink), [Facebook](https://www.wired.com/story/facebook-confirms-its-working-on-new-internet-satellite/), and several startups have made similar promises in recent years. The concept of satellite-based internet service is actually decades old. However, **the innovative low-Earth orbit satellite technology being developed by SpaceX and others could be essential, if not transformative, for everything from telemedicine to remote learning in places that aren’t already connected.** [Satellite broadband](https://www.vox.com/recode/2020/9/10/21426810/internet-access-covid-19-chattanooga-municipal-broadband-fcc) could also be very profitable for whichever company figures it out first. One could imagine Amazon using satellite broadband to boost its Amazon Web Services (AWS) business, or Facebook using it to ensure that more people get on its platform. And if Musk gets his way, his Starlink constellations will generate billions of dollars in profits to fund his mission to colonize Mars. This all sounds futuristic, but satellite broadband is already a very real thing. In fact, if you’ve ever connected to wifi on a plane or cruise ship, you’ve probably used it. The basic idea is that ground stations connected to the internet, known as gateways, can send data up to a satellite which then relays that data to antennas somewhere else on the ground — or on a ship or an airplane. **The problem with this technological feat is that it’s all very expensive**. **It can cost** hundreds of millions of dollars to launch satellites into space, and that’s not even taking into account what it takes **to get over regulatory hurdles**. Plenty of companies have tried and failed to crack the business model in the past 20 years. But rather suddenly, the space internet game has changed. “**The Covid-19 crisis has significantly accelerated attention to and investment in satellite technology**,” Babak Beheshti, dean of the College of Engineering and Computing Sciences at the New York Institute of Technology, told Recode. Beheshti added that the number of launches had gone up tenfold from last year to this year. “Why? Because schools, local governments, and others suddenly needed to have broadband internet access in areas where there was really no infrastructure in place.”

#### The digital divide amplifies gender inequality and leads to decreased women in STEM.

**Gromova**, K., Anderson, R., & Gupta, G. (20**21**, November 4). *Opening a global conversation about the gender digital divide*. World Bank Blogs. Retrieved December 16, 2021, from <https://blogs.worldbank.org/digital-development/opening-global-conversation-about-gender-digital-divide>. Kate Gromova worked for more than 15 years at the intersection of economics, law, technology, and entrepreneurship development. Reyn is a born lawyer, digital development specialist, and excellent project manager. Garima is a corporate lawyer turned digital development enthusiast.  //ech

[**The COVID-19 pandemic showed how critical digital technologies are in today’s world — they kept businesses, education, government services, healthcare, and economies running despite the health crisis and global economic downturn.**](https://twitter.com/intent/tweet?text=The+COVID-19+pandemic+showed+how+critical+digital+technologies+are+in+today%E2%80%99s+world+%E2%80%94+they+kept+businesses%2C+education%2C+government+services%2C+healthcare%2C+and+economies+running+despite+the+health+crisis+and+global+economic+downturn.&url=https://blogs.worldbank.org/digital-development/opening-global-conversation-about-gender-digital-divide/?cid=SHR_BlogSiteTweetable_EN_EXT&via=WBG_DigitalDev)But it also shed light on another issue — many people and communities have been left out of their country’s digital transformation. Why is this a problem? Because economic development has become more dependent on digital technologies. **Those with limited or no access to technology are falling further and further behind. In many developing countries, women and girls fall into this category**. Barriers and constraints in accessing the internet impede their full participation in the social and economic life of their communities and countries. [**Today, we are seeing long-standing development gaps between men and women moving online. It is called the gender digital divide.**](https://twitter.com/intent/tweet?text=Today%2C+we+are+seeing+long-standing+development+gaps+between+men+and+women+moving+online.+It+is+called+the+gender+digital+divide.%20&url=https://blogs.worldbank.org/digital-development/opening-global-conversation-about-gender-digital-divide/?cid=SHR_BlogSiteTweetable_EN_EXT&via=WBG_DigitalDev)**Digital transformation can’t achieve its potential when half of the world’s population is excluded or limited from the process, making it an important and relevant topic in development.** [**Closing this divide is imperative for ensuring women and girls have better and more access to healthcare, education, jobs, and civic participation.**](https://twitter.com/intent/tweet?text=Closing+this+divide+is+imperative+for+ensuring+women+and+girls+have+better+and+more+access+to+healthcare%2C+education%2C+jobs%2C+and+civic+participation.&url=https://blogs.worldbank.org/digital-development/opening-global-conversation-about-gender-digital-divide/?cid=SHR_BlogSiteTweetable_EN_EXT&via=WBG_DigitalDev)**However,**[**bridging the gender digital divide is complex — its causes are multifactorial, and the mix of factors changes across a woman’s lifetime.**](https://twitter.com/intent/tweet?text=bridging+the+gender+digital+divide+is+complex+%E2%80%94+its+causes+are+multifactorial%2C+and+the+mix+of+factors+changes+across+a+woman%E2%80%99s+lifetime.&url=https://blogs.worldbank.org/digital-development/opening-global-conversation-about-gender-digital-divide/?cid=SHR_BlogSiteTweetable_EN_EXT&via=WBG_DigitalDev) These include the legal and regulatory environment, the availability and accessibility of affordable internet, digital skills development, relevant content, online safety and security, and opportunities for education and employment in the CT sector. **Cutting across all these factors are social and cultural norms and expectations concerning girls’ and women’s roles and their relationship to technology.** For instance, cost concerns may limit the number and sophistication of smartphones used in a household. When the supply of phones or computers is limited, women’s and girls’ access is not prioritized. [Affordability concerns can also impact internet availability for girls and women; lower-cost internet access plans are usually more restrictive in terms of service and are of lower quality.](https://twitter.com/intent/tweet?text=Affordability+concerns+can+also+impact+internet+availability+for+girls+and+women%3B+lower-cost+internet+access+plans+are+usually+more+restrictive+in+terms+of+service+and+are+of+lower+quality.+&url=https://blogs.worldbank.org/digital-development/opening-global-conversation-about-gender-digital-divide/?cid=SHR_BlogSiteTweetable_EN_EXT&via=WBG_DigitalDev)The poor user experience may decrease women’s interest—or appetite — in using the internet or seeing it as a valuable resource. Security and privacy concerns also creep in, like online harassment and cyberstalking. These threats further discourage women from becoming active internet users. [**The ability to use digital technologies productively and safely requires digital literacy, skills, and confidence that may not be provided or encouraged for women and girls.**](https://twitter.com/intent/tweet?text=The+ability+to+use+digital+technologies+productively+and+safely+requires+digital+literacy%2C+skills%2C+and+confidence+that+may+not+be+provided+or+encouraged+for+women+and+girls.&url=https://blogs.worldbank.org/digital-development/opening-global-conversation-about-gender-digital-divide/?cid=SHR_BlogSiteTweetable_EN_EXT&via=WBG_DigitalDev)**Pursuing STEM education may be actively discouraged, narrowing the pipeline of potential female leaders, role models in technology fields, and gender-based innovation.**

#### Lessening the Digital divide helps solve poverty by creating jobs.

**The World Bank**. (20**21**, September 24). *Narrowing the Digital Divide Can Foster Inclusion and Increase Jobs*. IBRD - IDA. Retrieved December 16, 2021, from https://www.worldbank.org/en/news/feature/2021/09/24/narrowing-the-digital-divide-can-foster-inclusion-and-increase-jobs//ech

**A growing body of evidence demonstrates that digital technologies can enable economic transformation in Africa and help create more jobs for its people**. **Digital technologies do so by helping all people, and especially lower-income and lower-skilled entrepreneurs and employees, work better and learn better, catalyzing adoption and productivity of complementary technologies.** World Bank country-level studies, on Nigeria, Senegal, and Tanzania, have analyzed the impact on jobs of mobile internet availability (3G or 4G coverage), including the poor and most vulnerable. **Studies show that both internet availability and use of more sophisticated digital technologies lead to more and better jobs for lower-income, lower-skilled people, and hence reduce poverty. Labor force participation and wage employment increased significantly in areas with internet availability after three years, relative to those with no coverage.** For example, digital technologies such as the use of local language videos on tablet computers and use of a decision support tool app on a smartphone can provide personalized advice resulting in better jobs, and an increase in crop yields of lower-income farmers. Although mobile internet availability has increased, Africa’s internet coverage still lags behind other regions—with digital divides in availability still an issue in remote and poorer areas in all countries. Yet uptake is a bigger problem today than coverage. Africa’s uptake gap has widened, both relative to other regions and relative to availability: while 70 percent of Africa’s regional population have availability of mobile internet, less than 25 percent are using it—resulting in an average uptake gap of almost 50 percent. This uptake gap is highest in rural areas and informal enterprises; it is also high for older and poorer women and rural households. There are growing digital divides in use between richer, urban, literate, and better educated households with electricity and poorer households without electricity. Three World Bank country-level studies, on Nigeria, Senegal, and Tanzania, have analyzed the impact on jobs of mobile internet availability (3G or 4G coverage). **Better jobs and earnings for some people are also associated with large effects on total household consumption and poverty reduction**. **One key takeaway is that the more digital access Africans have, the more likely they are to reduce poverty over time.**

#### EXTENTION CARDS 2NR

#### Digital Divides leave the poor behind especially the global south where there is a lack of access to education, this means only the top few will prosper..

Steele Coming from a technical background, Carmen. “The Impacts of Digital Divide.” Digital Divide Council, 17 Dec. 2018, http://www.digitaldividecouncil.com/the-impacts-of-digital-divide/.

The digital divide has created a new distinction basis in the society that has critically influenced daily operations and livelihood of persons in globally. The ability to fully access the internet is creating disparity and segregation witnessed in different fields today. [Analysis of ICT use among countries](http://www.fao.org/docs/eims/upload/257344/Fairlie_presentation.pdf) depicts enormous variations that will well hold water in other aspects of life considering the pivotal role of the internet in our daily lives. Differences in income and literacy are most significant contributors to the digital divide but explain only part of the ethnic and racial disparities in home and workplace technology access. Effects of the digital divide are immensely felt in the following areas: Education, job opportunities, communication, politics, consumer satisfaction, health Information, community Involvement, government, and emergency information. The ever-widening gap in the digital divide has significantly undermined industrialization in the developing world creating a notion of dependency and insufficiency. Considering the importance of technology in the development of a country, it is exceptionally essential that developing countries seek on [ways of bridging the digital divide](https://www.oecd.org/site/schoolingfortomorrowknowledgebase/themes/ict/bridgingthedigitaldivide.htm). Some of the initiatives to bridging this gap such as the provision of incentives and awareness campaigns have shown a desirable degree of success while others, for instance, funding citizens’ technology experience have proven to be counter-active and sometimes harmful. A candid look at the impacts of the digital divide will guide on the direction and speed of bridging the digital gap. Some of the vivid effects of the digital divide are elaborated below The internet offers a rich reservoir of information and knowledge. Skills and expertise are well organized and conveyed over the internet making the use of computers to be a ubiquitous activity in the developed world. The access and availability of ICT have been associated with academic success and robust research activities since users can quickly make references. Education is a very dynamic sector and keeping up to date is crucial to success, the presence of internet access will ensure you get the latest trends and revolutionize your research skills. The inadequacy of ICT equipment has made the already weak education system in the developing countries even more ineffective. Governments are now striving to avail ICT services to schools in an effort to improve the education standards. Installation of computer laboratories, provision of laptops to every student among other strategies have shown remarkable success rates. Ceding of telecommunication services is crucial for economic growth, and there exists a strong linear correlation between the two. Interestingly, socio-economic status is one of the major causes of the digital divide and it also a consequence of the [digital divide](http://vle.moirahouse.co.uk/studentwebsites/ict/theteacherict/ict/ict1_26.htm). Penetration of internet enables people to engage in economically productive activities such as trade without much hassle. They can shop online and compare prices to get the best bargains, participate in online auctions and safely and securely transact online this translates to economic empowerment. For the sect that lacks access to technology, trade is made hectic, and returns get lowered this maintain the economic gap between the developed and the underdeveloped nations extensive. The rich countries get, and the emerging countries cannot compete with them hence remaining to depend on grants and donations. Integration of ICT affects the success of a business and thus influence the circulation of resources among citizens. The inclusion of ICT services has been crucial in enhancing social interactions among people. Social websites such as Facebook and Instagram have been useful in facilitating communication and maintaining touch with friend and relatives of close ties. Technology is very influential on the levels of relations among members of society since new social opportunities arise when we include ICT in our relationships. People can now keep in touch with friends or even make new friends even amidst tight schedule courtesy of chat rooms. Besides, internet harbors fertile information about peoples’ culture and religion that are vital in guiding social relations. Internet access offers person access to a broader range of opportunities thus creating a social divide between those who are enriched and those who are deficient. Such segregation creates a potential for [social conflicts](https://www.researchgate.net/publication/287922233_Civil_conflictdigital_divideand_e-government_service_adoption_A_conflict_theory_approach) in the communities where the wealthy can have computers and access the internet while the poor are barred. Efforts to bridge this gap initiated at a personal level through unacceptable activities such as theft has led to the disruption of harmony in the society. The digital divide has contributed significantly to stratification in the community whereby there arises a class of persons with access to the internet and another class unable to use the ICT services either due to affordability issues or literacy levels. Some other factors that contribute to the [digital divide in the society](http://broadbandbreakfast.com/2010/03/digital-impact-group-persistent-digital-divide-among-low-income-individuals/) include age, race, and ethnicity. The digital divide has led to a rise of new alignments in the community whereby people are classified depending on ability to access internet services this is coupled with associated benefits, and therefore those with limited access to technology continue to lag behind in development matters. Technology [affects different cultures](https://wiki.uiowa.edu/pages/viewpage.action?pageId=42009930) in varied ways either on the positive or the negative. The integral components culture like relationships, communications, and art have been dramatically evolved by technology. However, it seems like some specific customs and cultural traditions have remained intact. The developed countries experience tremendous changes in their culture as they incorporate new cultures acquired from the internet while the developing countries with people having limited access to the internet have their culture unchanged. Because they do not have access to technology, people in technology-poor nations are left behind. However, in order to narrow the digital divide, people need access to technology. To eliminate the ICT global divide is essential for the growth of developing countries. The development of information infrastructure is a quick way to economic growth for less developed nations. Inasmuch as digital divide is essential in preserving certain cultures, the downside impacts are overwhelming and speedy efforts towards its reduction if not elimination should be much enhanced

#### 1] Since Morality is the basis for LD.. this DA outweighs the entire aff under their own framing because we are leaving out a chance for helping people suffering in the name of existential risk i.e. space debris which means the NEG now becomes more urgent

### Overpopulation DA

#### Overpopulation is happening right now – Judge vote neg on timeframe

“Is the Earth Really Overpopulated?” The Overpopulation Project, 26 Nov. 2020, https://overpopulation-project.com/motivation-and-project-objectives/.

Yes, for two main reasons. First, people are rapidly displacing wildlife species across the globe, initiating a [mass extinction event](http://www.pnas.org/content/114/30/E6089). Second, we are degrading ecosystems that provide essential, irreplaceable [environmental services](http://www.stockholmresilience.org/research/research-news/2015-01-15-planetary-boundaries---an-update.html) that future generations will need to live decent lives. Both these trends are driven, in large part, by immense and unprecedented numbers of human beings. Because there are too many of us to share the Earth fairly with other species and with future human generations, Earth is overpopulated. Habitat destruction is threatening many of Madagascar’s endemic species, and has already driven some of them to extinction. Overpopulation already exists for billions of poor people living under insecure conditions around the world: on unsuitable land, in unsafe houses, lacking fresh water, or living in severely polluted environments. Natural catastrophes such as drought, flooding, or earthquakes may kill people, but overpopulation does too, by severely [increasing people’s vulnerability](https://www.tandfonline.com/doi/abs/10.1080/14735903.2017.1293929). But the news media rarely reports this fact. Overpopulation exists today in crowded mega-cities where many residents have never seen a wild landscape. Even small green spots are disappearing in densely populated urban areas, which will become increasingly crowded as population growth and urbanization continue. The negative effects of crowding and lack of connection to nature are [well documented](http://richardlouv.com/books/last-child/). We are currently 7.8 billion people and the [United Nations predicts](https://esa.un.org/unpd/wpp/publications/Files/WPP2017_KeyFindings.pdf) an increase of almost 3.5 billion by 2100 if current trends continue. Our overpopulation is obvious if we compare the population in 1960 (3 billion) to today’s and ask questions such as: “How serious a problem would climate change be if we had kept our population at 3 billion?” “How many fewer people would have died due to famine, conflict and war?” “How much less pollution and plastic garbage would there have been?” and “How much less food would have been needed and how many millions of acres of forests, grasslands, wetlands and other ecosystems would have been spared conversion to agricultural use?” Latest population projections from the UN World Population Prospects (2019) showing how differences in assumed fertility levels lead to large differences in future population numbers. The “No change” variant keeps the current mortality and fertility levels constant. Studies suggest that a future population of 11 or 12 billion could require a doubling of global food production. Tens of millions of people around the world already go to bed hungry every night. Continued population growth, combined with the uncertainties of climate change, could lead to much greater food insecurity in the years ahead. Meanwhile, the attempt to feed ever more people will inevitably come at the expense Earth’s remaining biodiversity, [shrinking wild lands](http://science.sciencemag.org/content/356/6335/260.full?casa_token=A82ZkGhZ_pYAAAAA:y0gSqcJuEZDV4hTV08uQpHKsoqjQEyTimOSeDaFWGvF9YhlGAsD5UwjnC8bV1cyXJ1IwjCAVZb3XBUs) and extinguishing many thousands of species. Human beings have no right to act so selfishly and destructively. Earth is their home, too. It is important to realize that overpopulation exists in many rich countries with too high rates of consumption as well as in many poor countries with too high fertility rates. Every effort should be made reduce consumption rates as well as high birth rates; in combination, these two measures would create a much better future for people on the planet. The word ‘overpopulation’ is rarely used by political leaders, the news media, or even many environmentalists. But a recent [international survey](https://overpopulation-project.com/public-believes-population-growth-negative-risky-and-requiring-international-attention-while-politicians-look-the-other-way/) showed that people in many countries consider overpopulation to be a serious problem. In this case, common people seem to be out in front of their leaders. They are also more willing to consider futures that do not rely on endless growth—an ecological impossibility on a finite planet. The [good news](https://www.amazon.com/More-Population-Nature-What-Women/dp/1597260193) is that it is possible to end global population growth, fairly and without coercion. The right policies have already helped dozens of nations stabilize their populations, and many others have made substantial progress toward doing so. Ending population growth and then allowing population levels to decline as a result of lower fertility levels are necessary steps toward creating ecologically sustainable societies. They will help enable future populations, human and nonhuman, to flourish far into the future.

#### Overpopulation makes warming inevitable - if we stay on this planet, then we will recreate the conditions for warming. Get off the rock and spread our wings to solve warming. Those marginalized by society, less well, off or the “people at the bottom” will be first and disproptionately more – increasing the urgency of the NEG.. we outweigh the aff

Angell, Marcia. “Our Beleaguered Planet.” Prospect. 2016. Web. December 11, 2021. .

Since the first Earth Day in April 1970, the challenge of climate change has only worsened. In this piece from our Spring 2016 issue, the former editor of the New England Journal of Medicine discusses the collision of global warning, excess carbon-based consumption in rich regions, destitution in poor ones, overpopulation, and new forms of epidemic. Zika, the mosquito-borne virus that is spreading rapidly in South America and heading north toward the U.S. as summer comes, shows how a previously isolated and sporadic illness can suddenly become a frightening pandemic because of the combined effects of global warming and overpopulation. Carried by the Aedes aegypti mosquito, Zika apparently arose in Uganda in the 1940s and occurred only episodically until 2015, when it began to spread explosively in Brazil, mainly in densely crowded urban areas. Like other mosquitoes, which are vectors for many diseases, Aedes aegypti thrives in a warm climate, and, as nearly all experts now agree, the world's climate is steadily growing warmer because of human activity. In addition, this mosquito has evolved to live near humans, and breeds in small amounts of water in human trash, such as bottle caps and plastic containers. The transmission of the virus occurs in both directions-from mosquitoes to people and from infected people back to mosquitoes. The more densely packed the population, the more easily Zika spreads, and that is particularly so in slums where there are few screens or air conditioners, and even mosquito repellent is rare-and where trash collection is even rarer. Thus, Zika is the poster child of a pandemic resulting from both climate change and overpopulation. Nearly everyone now acknowledges that global warming is real and caused by human activity. There are very few "deniers" left, except among paid consultants to oil companies and on the Republican side of the aisle in Congress. Since the Industrial Revolution, carbon emissions have grown right along with population and the use of fossil fuels. The resultant increase in greenhouse gases, which trap heat in the atmosphere, causes the climate to warm, and sea levels to rise as glaciers melt. Atmospheric carbon dioxide, the most important of the greenhouse gases, reached a record 398 parts per million (ppm) in 2015, up from 285 ppm in 1850. Much of the carbon dioxide is absorbed by the oceans, which causes them to become more acidic and threatens the marine food chain on which we all depend. Droughts are more frequent, and deserts are expanding. Floods and severe storms are also more frequent as the atmosphere warms. But the cause of global warming is not just our "carbon footprint"-that is, the amount of greenhouse gases emitted per capita-but the number of humans contributing to it. The world population is now more than 7.3 billion, compared with 2.5 billion in 1950, when I was growing up, and 1.3 billion in 1850 during the Industrial Revolution. It will reach about 9.5 billion in 2050. Yet, while there is much discussion of climate change, very little is said these days about population growth. It seems almost to have been ruled off the table as a legitimate topic, even though it is an essential part of the equation. How many people can the planet support? The carrying capacity for any species is defined as the maximum number that can be sustained indefinitely, and in the case of humans is usually said to be about ten billion, albeit with a wide range of estimates. But humans are not just any species; we are increasingly divided into rich and poor, both within and across countries, and the effects of overpopulation are seen unevenly, and well before any theoretical carrying capacity is reached. For nearly all of human history, the risk has instead been under-population-the lack of communities large enough to foster human progress, and even at times, the threat of extinction. We didn't reach the first billion until about 1800. But with better sanitation and living standards, especially since the Industrial Revolution, global population grew rapidly, with shorter and shorter doubling times. In addition to fossil fuels, we are now exhausting other natural resources, as well as despoiling the environment in trying to extract them. And we have created what is known, somewhat misleadingly, as the "great Pacific garbage patch" by dumping into the oceans vast amounts of discarded plastic containers, which tend to break into small particles that remain suspended in certain regions just beneath the water's surface. IN 1798, THOMAS MALTHUS famously predicted that population growth would soon lead to mass starvation. After he was shown to be stunningly wrong, not much public attention was given to the subject until 1968, when Paul R. Ehrlich published his best-selling book, The Population Bomb-at a time when the global population was a mere 3.6 billion. Like Malthus, Ehrlich predicted imminent mass starvation, and argued for stringent population control. But in the last half of the 20th century, remarkable technological improvements in agriculture-the "green revolution"-greatly increased food supply, and Ehrlich's predictions, like those of Malthus, were off the mark. The fact that dire predictions had proved wrong may have been one reason that overpopulation largely disappeared from public discourse in the 1980s. The decade saw a renewed confidence in technology to solve nearly any problem. And with growing economic inequality, it was easy for wealthy populations to conclude that they were immune to the effects of overpopulation. There was also an element of "political correctness," in that the problems of overpopulation were mainly the problems of poor people in poor regions of the world, and many in the developed world felt that family size is a private matter and it was unseemly to suggest that disadvantaged populations should have fewer children. (No one had anything good to say about China's one-child policy, quite apart from the methods used to achieve it.) Moreover, the 1980s was the decade when climate change first became widely recognized, not only by scientists, but increasingly by the larger public, and that concern supplanted concern about overpopulation. In 1988, James E. Hansen, Director of NASA's Goddard Institute for Space Studies, testified before Congress on the dangers of global warming, and about the same time, the World Meteorological Organization established the Intergovernmental Panel on Climate Change. The focus shifted from population to carbon emissions, even though they were, and are, related. It was as though if we could all cut down on the use of fossil fuels and be better stewards of the environment, the total number of people wouldn't matter. But it does matter, of course. There is a limit, even though one can argue what that is, and how much suffering people on the fringes should endure before we recognize it. The threats, then, are twofold and interrelated: First, the number of people, and second, the way we live. However, there is an inverse and paradoxical relationship. In general, areas of the world with the fastest population growth are those with the smallest per capita carbon footprint and consumption of resources. But poorer regions are hardly going to be satisfied to remain that way. Underdeveloped regions of the world aspire to the life of affluent regions, which means that even as their birthrates decline, which they inevitably do with economic development, their environmental footprint will grow. With poverty still widespread, their populations will also continue to grow. Even if we stabilized the population at its current level, it is likely that consumption per capita would continue to increase because of rapid, often uncontrolled, development-exactly as happened in China and is happening in India. A grave effect of overpopulation and climate change is the scarcity of clean water, either to drink or for sanitation. Much of the available water is used for irrigation, and as conditions become warmer and more arid, more water is required for crops. The scarcity is particularly acute in North Africa and the Middle East, but we can see it also in the American Southwest and southern California. For example, the Colorado River, the source of much of the water there, is depleted before it can reach its original outlet to the Sea of Cortez. The rivers and aquifers of Africa are similarly becoming exhausted. The larger the population, the worse the problem. One result is mass migration in search of water and arable land, and this probably underlies some of the unrest in North Africa and the Middle East. Migrants are especially vulnerable to starvation and violence of all kinds, in addition to disruption of education, childhood immunizations, and other health care. Even while much of the earth is growing more arid, some places are now experiencing disastrous floods. But that water is of little use, because of contamination with sewage. The rainfall in the growing megacities is also largely wasted, since it doesn't reach the soil and is quickly contaminated. These effects are bad enough, but what may be most threatening is epidemic disease. The slums of the new, rapidly growing megacities are breeding grounds for disease. In Lagos, Nigeria, for example, a city of some 21 million people, about two-thirds of the inhabitants live in slums. Contamination from sewage causes cholera, but there is also the likelihood of the spread of other infectious diseases that have previously been contained in small geographic areas or by seasonal cool weather. For example, for many years Ebola outbreaks have occurred sporadically in isolated villages, but did not reach epidemic proportions until there were large and mobile populations. Before Zika, several other pandemics-defined as worldwide epidemics-have appeared in recent years. They arose in one part of the world, but because of crowding and easy travel, they were able to spread widely. A new disease (or new to the broader world) called SARS (severe acute respiratory syndrome) arose in southern China in 2002 and was carried to some two dozen countries by infected travelers. Another apparently new disease called MERS (Middle East respiratory syndrome) arose in Saudi Arabia in 2012, but spread to many countries, including the United States, and to South Korea, where it is still causing serious, sometimes fatal, illness. So far, we have not had a pandemic on the scale of the 1918 flu pandemic or the bubonic plague of the 14th century. But conditions are ripe for it. Probably the most likely cause would be an influenza virus, transmitted to humans from birds or other animals. In a recent op-ed about Zika in The New York Times, Michael T. Osterholm, the director of the Center for Infectious Disease Research and Policy at the University of Minnesota, wrote, "Even more than these viruses, we should be afraid of a planet-wide catastrophe caused by influenza." Flu viruses mutate often, and can shift in both their host targets and their virulence. Bird flu, which is often fatal, is not readily transmissible between humans, but that could change. Moreover, because transmissible flu viruses are airborne, they spread easily and quickly from person to person. Most important, people can spread the virus before they have symptoms, unlike the case with other diseases such as Ebola. Thus, someone can get on a plane feeling quite well, but still spread the virus to everyone around him by talking or coughing. The 2011 film Contagion illustrated the dangers very well: A flu-like virus causes a deadly pandemic, starting with a young Minneapolis woman (Gwyneth Paltrow) who had just returned from a trip to Hong Kong. At the end of the film, we learn that she was probably infected by shaking hands with the chef at a restaurant. His hands were contaminated with the blood of a pig that had been infected by a bat that dropped a piece of banana into the pig pen. Parts of the film were unrealistic, but this idea of the origin of a flu epidemic was not. The ability to monitor or contain such outbreaks is limited, particularly in sub-Saharan Africa. As Keiji Fukuda, then the assistant director-general for health security at the World Health Organization (WHO), said in 2013, "The world is not ready for a large, severe outbreak." TO DEAL WITH THE TWIN threats of overpopulation and climate change, we will need to get busy. Small, incremental efforts will not be enough. Much is made of the fact that as living standards and urbanization increase, and as women in particular become better educated, fertility rates drop. In fact, in some countries, including Japan, Russia, much of Eastern Europe, Germany, Italy, and Spain, population is either static or declining. But population growth is not evenly distributed. These small declines in the wealthy countries will be more than offset by continued growth in other parts of the world. The population in Africa, for example, is expected to double by 2050-from about 1.2 billion to 2.5 billion. Although the rate of growth worldwide has slowed in recent years, it has not reached zero, so the population will inexorably grow, albeit more slowly. The United Nations Department of Economic and Social Affairs predicts continued growth for the remainder of this century, with a projected population of about 11 billion in 2100. What can be done? There are two non-coercive and constructive ways to bring the rate of population growth to zero or less. First, we need to provide enough economic security to families in developing countries to reduce the incentive to have large numbers of children. It is often assumed that providing better birth control is the answer, and that may be partially true. But it is likely that many families want a large number of children because they need them for farm labor or to contribute otherwise to family income, and also to provide for their parents when they reach old age. Unlike families in the developed world, these families see children as a "profit center," not a "cost center." People need to be protected against illness, extreme poverty, and the infirmities of old age to be willing to have fewer children. They need a minimum social safety net. Second, we need to make stronger efforts to ensure that girls are educated. The evidence is overwhelming that maternal education, regardless of income, correlates with smaller family size. It is essential, then, to focus on the education of girls and more generally the status of women, for moral reasons as well as population control. In 1994, when the global population was 5.6 billion, the International Conference on Population and Development met in Cairo and issued a lengthy Programme of Action that was widely heralded and adopted by a special session of the U.N. General Assembly in 1999. It was notable for its strong, and I believe warranted, emphasis on human welfare and the status of women. In fact, it was a veritable Christmas list of all the things that make life worth living, even including a fulfilling sex life within an egalitarian marriage. But it said little about the harms of overpopulation, nor how to bring about, and pay for, the undeniably better world it called for. And it included this in its opening statement: "The implementation of the recommendations contained in the Programme of Action is the sovereign right of each country, consistent with national laws and development priorities, with full respect for the various religious and ethical values and cultural backgrounds of its people, and in conformity with universally recognized international human rights." Anyone who has read Katherine Zoepf's January 11 New Yorker article "Sisters in Law," about the legal status of women in Saudi Arabia, or the February 5 New York Times article by Pam Belluck and Joe Cochrane about female genital cutting in Indonesia, where it is performed on nearly half of Indonesian girls, will see the problem with the deference to sovereign rights, religious and ethical values, and cultural backgrounds. Even though bringing population growth under control is crucial, global warming and the wanton consumption of natural resources are still primarily caused by the way we in the developed world live. It is still our carbon footprint that is doing most of the damage. Three years ago, New York Times reporter Elisabeth Rosenthal wrote an article titled "Your Biggest Carbon Sin May Be Air Travel." It concerned the industry-inspired U.S. law that forbids American airlines from participating in the European Union Emissions Trading System, which charges airlines for excess carbon emissions generated by flights in or out of European airports. She pointed out that for many Americans, air travel is probably the largest contributor to their individual carbon footprint. And she added: "It is for me. And for people like Al Gore or Richard Branson who crisscross the world, often by private jet, proclaiming their devotion to the environment." It is for me, too. Air travel emissions account for about 5 percent of global warming, according to Rosenthal, but that fraction is projected to rise. Unless there are required changes in our habits that apply to everyone, analogous to the rationing of gasoline for cars during World War II, Al Gore and I will probably continue to live pretty much the way we have, with only small changes at the margins. People will embrace restrictions in the way they live only if they are shared. To tackle the problem seriously means to tackle it at the national level, and paradoxically to do so by modifying our allegiance to nationhood. We all breathe the same air, and depend on the same oceans. Because we have no international body with sufficient authority, we will have to rely on nation-states to join together to modify their behavior for the good of the planet, and that means blunting the super-patriotism that afflicts most countries. Just as the formation of the U.S. required the 13 colonies to modify their sense of sovereignty for the greater good, so must the countries of the world do that for the sake of the planet. Yet, some European countries are now actually arguing for increasing population growth, because they see the aging and decline of their population as a national threat. They would like to create more young people to support the old ones, and generally to grow their way out of their problems. For similar reasons, China has announced an end to its one-child policy. But no country is alone on the planet. Not only would these countries add to the global problems, but even within their own borders, the policy simply delays the effects of an aging population for another generation. To provide enough security to families in developing countries to reduce their incentive to have large numbers of children will take money, not only from the governments of these countries, but even more from developed countries. The concept of a subsidy for basic needs is not new. Some European countries are currently considering providing a small income to all their residents for that reason. A similar scheme could be set up by which wealthy nations contribute to a global fund to ensure basic needs for impoverished regions of the world. Contributions could be based on a small percentage of GDP. A portion might be earmarked to support education for girls. Developed countries also need to subject themselves to the same constraints we ask of developing regions. Large families could become socially unacceptable in the same way that cigarette smoking gradually became less acceptable in the U.S. But the real job for affluent countries is to rein in overconsumption, profligate waste, and the use of fossil fuels. This requires a transition that is far beyond anything now being seriously discussed in mainstream politics or global diplomacy. The much-celebrated U.N. Climate Change Conference, held in Paris late last year, merely pledged participating countries to work toward a goal and revisit the subject in five years. Proposals to accomplish a serious transition to a sustainable economy are invariably countered by massive lobbying by business elites and more general objections that this will cost jobs and limit economic growth. We need a shift that radically reconceives prosperity and how we define it. To survive as well-functioning, civilized communities in a static global population, there will inevitably have to be some redistribution of wealth, both within countries and across them. We might have to make do with less-certainly with less as traditionally understood-and distribute it more equitably. Just as the notion of the supreme nation-state needs modification, so, too, does our devotion to unfettered capitalism and the grail of GDP growth. While politically, my solutions are a nonstarter, that could change. They are certainly more palatable than pandemics, starvation, and wars as a means of population control and resource allocation, and we could come to that realization fairly suddenly. I am very much aware that I have not laid out a political road map-that is, a route to building a mass movement and the leadership to deal adequately with the problems. I simply don't know how that is to be done, and I'm pessimistic that it will be. After all, our Congress can't pass even the simplest, most uncontroversial legislation, and much of the rest of the world is not only ungovernable, but committed to tribal warfare of one sort or another. But I do know that we cannot continue as we are now, and that small efforts at the margins are not enough. My purpose is to convey a sense of urgency and the reasons for it. The first step is to begin talking candidly about the issues. Overpopulation cannot continue to be the problem that dares not speak its name. Humans are not just fouling their nest, but crowding it beyond its capacity. Only when both problems are taken seriously and become part of respectable discourse will we be able to move ahead on the steps necessary to deal with the self-destructive way we are treating our planet.

#### Private Entities are key to space exploration – NASA is not good enough

Follett, Andrew. “Private Firms Are the Key to Space Exploration.” National Review, National Review, 21 Aug. 2021, https://www.nationalreview.com/2021/08/private-firms-are-the-key-to-space-exploration/?utm\_source=recirc-desktop&utm\_medium=article&utm\_campaign=river&utm\_content=more-in-tag&utm\_term=second.

America’s public-sector space program recently had a rough couple of weeks that perfectly exemplify why it desperately [needs](https://www.nationalreview.com/2021/03/bernies-lost-on-space/) a free-market overhaul. On July 29, the International Space Station (ISS) suffered a serious loss of control after a Russian spacecraft docked with it, accidentally [causing the station to make a full 540-degree rotation and a half](https://www.nytimes.com/2021/08/02/science/nasa-space-station-zebulon-scoville.html) before coming to a stop upside down, when the astronauts got it under control. Like most NASA programs, the ISS is massively over budget. Costs were initially projected at $12.2 billion, but the bill [ultimately reached a stunning $150 billion](https://scholarworks.wm.edu/cgi/viewcontent.cgi?article=1593&context=honorstheses). American taxpayers paid around 84 percent of that. What happened to the American dream of human space exploration? Put simply, the government happened. NASA devolved into a jobs program to bring home the space bacon. Then, on August 10, NASA’s inspector general [released a report](https://oig.nasa.gov/docs/IG-21-025.pdf) deeming plans to send astronauts back to the moon in 2024 unfeasible because of significant delays in developing the mission’s spacesuits. Right now the suits are being built by 27 different companies that successfully lobbied the government for a piece of the action. SpaceX’s Elon Musk has rightly noted that NASA has “[too many cooks in the kitchen](https://twitter.com/elonmusk/status/1425100378459279370).” The difference between NASA’s cumbersome designed-by-committee suits and SpaceX’s suits — created by a single contractor — [is remarkable](https://twitter.com/AlexanderPayton/status/1425181840462200833), even to the naked eye. The report unconvincingly blames NASA’s failure to develop a new spacesuit over the last 14 years solely on shifting technical requirements. It recommends “ensuring technical requirements for the next-generation suits are solidified before selecting the acquisition strategy to procure suits for the ISS and Artemis programs.” Instead of dealing with the problem, the Biden administration is trying to distract attention from the space agency’s mismanagement by [announcing plans](https://www.cnn.com/2021/04/09/world/nasa-artemis-person-of-color-crew-scn/index.html) to land the first person of color on the moon . . . even though NASA has been incapable of sending astronauts of any color into space under its own power since July 2011. NASA has been reduced to begging the Russians for a ride. The agency’s troubled Constellation program, meant to replace the Space Shuttle fleet, was canceled after tens of billions of dollars had already been spent. But NASA’s troubles are, depressingly, likely to get even worse. In November the James Webb Space Telescope (JWST) will finally launch, after taxpayers have [forked over $9.7 billion](https://www.gao.gov/products/gao-21-406). It was originally supposed to launch in 2007 on a budget of $500 million. That means the project is over a decade behind schedule and costing almost 20 times its initial budget. Perhaps the telescope, meant to locate potentially habitable planets around other stars and perhaps even extraterrestrial life, could instead search for a calendar . . . or fiscal sanity . . . in the stars? JWST isn’t the first NASA space telescope to suffer cost overruns and setbacks. The Hubble Space Telescope (HST) was originally intended to launch in 1983, but technical issues delayed the launch until 1990 because the main mirror was incorrectly manufactured. JWST is very likely to fail because it is supposed to unfold itself “origami style” in space in an extremely technically complicated process. If difficulties arise, JWST lacks [HST’s generous margin for error](https://www.scientificamerican.com/article/is-the-james-webb-space-telescope-too-big-to-fail/) because of its location far beyond earth’s orbit at the Sun-Earth L2 LaGrange point. NASA currently lacks the capability to send a team of astronauts out that far to fix any problems. Even if NASA could get out to JWST, the telescope doesn’t have a grappling ring for an astronaut to grab onto and thus could potentially kill astronauts attempting to fix it. It is hard to imagine a better example of the private sector’s amazing ability to outcompete government bureaucracy and mismanagement than NASA’s planned Shuttle replacement, the Space Launch System. It is estimated to [cost more than $2 billion per flight](https://arstechnica.com/science/2019/11/nasa-does-not-deny-the-over-2-billion-cost-of-a-single-sls-launch/). That’s on top of the $20 billion and nine years the agency has already spent developing the vehicle. Contrast that with the comparatively inexpensive $300 million spent by SpaceX to develop the Falcon 9 in a little over four years, and the fact that each Falcon 9 costs [around $62 million](https://www.fool.com/investing/2020/10/05/how-much-cheaper-are-spacex-reusable-rockets-now-w/#:~:text=SpaceX%2C%20the%20pioneering%20rocket%20launch,four%20and%20a%20half%20years.). One SLS launch could pay for over 32 SpaceX launches. Private ventures such as SpaceX are more efficient because they have a lot more incentive to avoid excessive costs and focus on solutions: Their own money is at stake, and people spend their own money more carefully than they spend taxpayer dollars collected from others. Multiple private American space firms are currently pursuing accomplishments beyond those of NASA, and they are more advanced and ambitious than the entire government space programs of China and the European Union combined. So one possible solution to NASA’s woes would be to greatly increase its reliance on commercial launch providers. And one way to do that would be to return to the system that made civil aviation great: prizes to reward private-sector innovation. Charles Lindbergh flew across the Atlantic Ocean in pursuit of the [privately funded Orteig prize](http://www.charleslindbergh.com/plane/orteig.asp), valued at almost $395,000 in today’s money. Another famous example was the X Prize, which rewarded Burt Rutan’s company Scaled Composites with [over $14 million](https://www.nbcnews.com/id/wbna6167761) in today’s money for becoming the first nongovernmental organization to launch a reusable and manned space vehicle, SpaceShipOne. The X Prize succeeded in creating over $100 million in investment by private corporations and individuals. Aerospace experts [expect](https://www.nationalreview.com/2012/02/mars-prize-robert-zubrin/) that establishing a $10 billion prize for successfully landing a crew on Mars and returning it safely to earth could very well lead to a successful landing. That’s a bargain compared with the [$500 billion cost estimates](https://ntrs.nasa.gov/api/citations/20200000973/downloads/20200000973.pdf) NASA puts out for the same objective. And of course in the worst-case failure scenario for a prize program, taxpayers would pay nothing until the mission was complete. A system based on private enterprise incentivized by a fixed prize would end government cost overruns and waste. The cause of space exploration is simply too important to leave to the public sector

#### Warming causes extinction and it’s try or die. Spratt 19

David Spratt, Research Director for Breakthrough National Centre for Climate Restoration, Ian Dunlop, member of the Club of Rome, formerly an international oil, gas and coal industry executive, chairman of the Australian Coal Association, May 2019, “Existential climate-related security risk: A scenario approach,” <https://docs.wixstatic.com/ugd/148cb0_b2c0c79dc4344b279bcf2365336ff23b.pdf>, //recut hzheng

An existential risk to civilisation is one posing permanent large negative consequences to humanity which may never be undone, either annihilating intelligent life or permanently and drastically curtailing its potential. With the commitments by nations to the 2015 Paris Agreement, the current path of warming is 3°C or more by 2100. But this figure does not include “long-term” carbon-cycle feedbacks, which are materially relevant now and in the near future due to the unprecedented rate at which human activity is perturbing the climate system. Taking these into account, the Paris path would lead to around 5°C of warming by 2100. Scientists warn that warming of 4°C is incompatible with an organised global community, is devastating to the majority of ecosystems, and has a high probability of not being stable. The World Bank says it may be “beyond adaptation”. But an existential threat may also exist for many peoples and regions at a significantly lower level of warming. In 2017, 3°C of warming was categorised as “catastrophic” with a warning that, on a path of unchecked emissions, low-probability, high-impact warming could be catastrophic by 2050. The Emeritus Director of the Potsdam Institute, Prof. Hans Joachim Schellnhuber, warns that “climate change is now reaching the end-game, where very soon humanity must choose between taking unprecedented action, or accepting that it has been left too late and bear the consequences.” He says that if we continue down the present path “there is a very big risk that we will just end our civilisation. The human species will survive somehow but we will destroy almost everything we have built up over the last two thousand years.”11 Unfortunately, conventional risk and probability analysis becomes useless in these circumstances because it excludes the full implications of outlier events and possibilities lurking at the fringes.12 Prudent risk-management means a tough, objective look at the real risks to which we are exposed, especially at those “fat-tail” events, which may have consequences that are damaging beyond quantification, and threaten the survival of human civilisation. Global warming projections display a “fat-tailed” distribution with a greater likelihood of warming that is well in excess of the average amount of warming predicted by climate models, and are of a higher probability than would be expected under typical statistical assumptions. More importantly, the risk lies disproportionately in the “fat-tail” outcomes, as illustrated in Figure 1.

# Case

### Legal Reform solves and avoids the risk of DA

#### Legal reform is possible---eschewing contingent harm reduction reinforces the violence they critique.

Hanna, 18—teaches courses in Aboriginal law and Indigenous laws methodology at the University of Victoria (Alan, “SPACES FOR SHARING: SEARCHING FOR INDIGENOUS LAW ON THE CANADIAN LEGAL LANDSCAPE,” University of British Columbia Law Review. 51.1 (Jan. 2018): p105, dml)

Substantive meaning in Indigenous laws will come from substantive change. According to Canadian legal scholar, Robert Samek, meaningful and effective legal reform requires serious commitment to effect proper social change:

Changing the letter of the law does not of itself cure one social ill. It merely changes the scenery on the stage; the play still goes on. [T]he greatest illusion of all is to think of the present as fixed, as a piece of machinery which can be kept going forever by replacing a few parts here and there, and patching up the test. Any social fabric can only take so much patchwork. Beneath every reforming patch yawns a tear. (173)

Significant change comes from legal reform, rather than tweaking an already archaic, inflexible, dilapidated system that has too many patches. The question is whether people are capable of change that will align contemporary society with the values and beliefs Canadians hold of ourselves. In the Tsilhqot'in BCSC trial decision, Vickers J contemplated what the consequence might be if the Crown suddenly admitted the Tsilhqot'in had existed on their territory for 200 years: "the real question to be answered . . . concerned the consequences that would follow such an admission." (174) Would the result be consequential? If so, for whom? Does doing nothing not continue the consequence of colonization on First Nations and their citizens, as Vickers J held: "[a]s a consequence of colonization and government policy, Tsilhqot'in people can no longer live on the land as their forefathers did"? (175)

So what of change ? What does it mean to reform Canada's legal system so Indigenous laws can participate in a meaningful way ? This is the topic of another paper. However, acknowledging the squatter state's unlawful presence and authority on the land would be a signal toward seeking meaningful reconciliation. Rejecting the suffocating and untenable test for title in BC is a starting point (a test Canada would fail). (176) Accept that BC is unceded Indigenous territoty, meaning Aboriginal title is everywhere and unextinguished--de facto title. This would require giving meaning to shared or joint jurisdiction in a manner that First Nations propose, according to their legal processes. Begin meaningful consultations with First Nations to develop legislation that sets out how to proceed when wanting to enter First Nations' territories through a process that includes respect, reciprocity, relationality, consent, and sharing. This would be a place to start.

The prospect of Nisga'a being granted limited governing powers was considered by some to potentially cause "a profound constitutional upheaval," which we now know simply was not true. (177) Initiating significant change that serves to decolonize the state and its practices will be significant, but the world will not end, the economy will not collapse, people will not be run off the lands, although the humility in accepting these possibilities is a part of what seeking true reconciliation requires. Much harm has been done for a very long time. Change will not be simple or easy, but the results will provide its own reward (e.g. strengthened values and beliefs, strengthened economy, enriched and more sustainable environmental practices, respectful relationships).

#### 300 years of history proves.

NoiseCat 17 (Julian Brave - enrolled member of the Canim Lake Band Tsq'escen in British Columbia where he was nominated to run for Chief in 2014 AND a graduate of Columbia University and the University of Oxford, “When the Indians Defeat the Cowboys,” 1/15/17, https://www.jacobinmag.com/2017/01/standing-rock-indigenous-american-progress/)

Consider, for example, the most cited work in the fields of settler colonial and indigenous studies: “Settler Colonialism and the Elimination of the Native,” a 2006 essay by the late radical Australian anthropologist Patrick Wolfe. In a clever turn of phrase, repeated today like a Feuerbach Thesis for indigenous radicals and scholars, Wolfe described the invasion of indigenous lands as “a structure not an event.” His argument was that settler colonialism — a form of colonialism where colonists come to stay, as in the United States, Canada, Australia, New Zealand, South Africa, Palestine, and some Pacific Islands — requires the elimination of Native people and societies to access and occupy their land. As Wolfe put it, “Settler colonialism destroys to replace.” Wolfe’s theory of settler colonialism emerged out of the ongoing “History Wars” in Australia, a public, battle-hardened, and career-defining debate over whether Australia’s treatment of Aborigines should be considered genocide. For decades, specialists have squabbled over the numbers massacred at places like Tasman and Slaughterhouse Creek. These debates remain passionate and deeply controversial. They are tied to political battles over land rights, reconciliation, constitutional recognition, mass incarceration, racism, and Aboriginal treaties. But while his contemporaries tried to win the History Wars by appealing to documents, figures, and definitions, Wolfe sought to reframe the debate. He shifted the focus from determining the point at which butcheries become genocide to the “logic” of eliminating indigenous people over centuries and around the world. Settler colonialism, he argued, is a structural phenomenon that plays an ongoing and central role in shaping the modern world. Wolfe’s was a brilliant intervention. In the jargon-riddled field of postcolonial studies, he homed in on the empires, colonies, states, and territories of ongoing settlement and indigenous dispossession. His theory traveled well. For indigenous scholars and activists from the United States to Palestine and Canada to New Zealand, “settler colonialism” became the dominant framework for understanding ongoing Fourth World struggles. But Wolfe’s theory ran into a rather significant problem — reality. If settler societies like Australia, Canada, New Zealand, and the United States are structurally dependent upon the elimination of the Native, how do we explain the survival, resilience, and resurgence of that same Native? How do we explain the global emergence of policies of indigenous self-determination, recognition, and land rights in various forms? Are these policies lipstick on the same colonial pig? Are indigenous people permanently cast in cameo roles — their victories small exceptions that prove the rule? How do we explain Standing Rock? Wolfe’s theory, however popular and illuminating, is in a sense, a gussied-up version of the inevitable victory of Cowboys over Indians — a reworking of Victorian ideology as critical theory. The indigenous story unfolding before us demands more. Explaining Standing Rock The Cowboy is supposed to be everything the Indian is not. While the Indian is depicted as a tragic vanquished trope, the Cowboy is a handsome, swaggering, and triumphant trickster. While the Indian retreats into the wild, the Cowboy hunts down his enemies to settle old scores. While the Indian is at best a noble savage and at worst a villain, the Cowboy is a cultural icon and hero. And, while the Indian is a loser, the Cowboy is a winner. At Standing Rock, generations of myth and folk wisdom proved wrong. As Bill McKibben put it in the Guardian, the Standing Rock movement “is a break in that long-running story, a new chapter.” In a moment when the Left is struggling in the face of a globalizing free market and an ascendant right, indigenous victory stands as both a surprising puzzle and an intriguing promise. It begs the rarely considered question: why have indigenous people been able to secure a stunning victory while even the most successful movements of late have faltered? And what can other movements learn from Indians? Various voices have risen to offer answers. Writing in the Nation, Audrea Lim argues that Standing Rock shows a multiracial coalition united against neoliberalism and white supremacy can win in the heartland. McKibben and Naomi Klein tout the power of direct action and praise indigenous organizers for catalyzing nonviolent mass resistance. In the New Yorker, novelist Louise Erdrich suggests that Standing Rock prevailed because it offered the world an emotionally, historically, and environmentally compelling story rooted in faith. “Every time the water protectors showed the fortitude of staying on message and advancing through prayer and ceremony, they gave the rest of the world a template for resistance,” Erdrich concludes. All of these analyses are accurate, but their individual and collective explanations for the Standing Rock victory are insufficient. They fail to ask key questions about the when, where, how, and who. They do not explain what made this movement and moment different. And perhaps most importantly, in their haste to explain a seemingly improbable and episodic victory, these writers miss the remarkable big picture. Outflanking Corporate Globalization Since the 1970s, unions, public goods, social welfare, and other essential building blocks of social democracy have been beaten back by the free market consensus. Yet over these same decades, indigenous rights to land, jurisdiction, and sovereignty have gained ground. At the same time workers lost their unions, the environment was winning a union of its own. That union takes the form of indigenous rights. Credit for these often-overlooked indigenous victories belongs to the indigenous movements that unswervingly pushed for similar goals across decades and even centuries: return of indigenous lands, restoration of indigenous sovereignties, and dignity for indigenous peoples. From the time their lands were seized in the nineteenth century and even before, indigenous people came together, forming tribal, intertribal, regional, and national coalitions and organizations. They pressured states and empires built on lands taken from them to recognize their demands. They stood strong against obstinate and repressive governments determined to claim their remaining territories and assimilate their people into the laboring class. They remained resolute. As the Chiefs of the Syilx, Nlaka’pamux, and Secwepemc nations wrote in a petition to then–Canadian prime minister Wilfrid Laurier in 1910: So long as what we consider justice is withheld from us, so long will dissatisfaction and unrest exist among us, and we will continue to struggle to better ourselves. For the accomplishment of this end we and other Indian tribes of this country are now uniting and we ask the help of yourself and government in this fight for our rights. In moments of global political and economic crisis like the 1880s, 1930s, 1940s, 1970s, and now 2010s, state policies toward indigenous people worldwide often shifted. During the 1880s and 1940s, the United States applied assimilationist pressure on indigenous communities, with disastrous consequences. In the 1880s allotment and privatization policies under the Dawes Act of 1887 splintered indigenous lands and communities and brought poverty and political, social, and cultural erosion. In the 1940s, termination policies designed to eliminate tribes and assimilate Native laborers further devastated indigenous communities. Children were taken from their families and placed in abusive residential schools. Workers were displaced from their homelands and dropped into poverty and homelessness in urban ghettos. Indigenous people, particularly indigenous women, were subjected to sexual violence, sterilization, and medical experimentation. Yet the stubborn dream of indigenous resurgence endured. And crises sometimes ushered in marginal progress. In the 1930s, Franklin Delano Roosevelt’s so-called “Indian New Deal” afforded tribes greater control over their lands and resources and restored a measure of sovereignty and self-determination. The 1960s and 70s saw the rise of the Red Power movement, a momentous breakthrough that pushed the US and Canadian states to adopt policies based on recognition instead of assimilation. The contemporaneous Maori Renaissance in Aotearoa/New Zealand and Aboriginal land rights movement in Australia won similar gains. These movements often found unlikely allies in neoconservatives, neoliberals, and their predecessors who, beginning in the 1970s and especially from the 1980s onwards, saw indigenous self-determination and autonomy as an opportunity to scale back social welfare spending and reduce indigenous dependence on the government. It was Richard Nixon who inaugurated the current era of indigenous self-determination. He outlined his commitment to the policy in a special message to Congress on July 8, 1970: This, then, must be the goal of any new national policy toward the Indian people: to strengthen the Indian’s sense of autonomy without threatening his sense of community. We must assure the Indian that he can assume control of his own life without being separated involuntarily from the tribal group. And we must make it clear that Indians can become independent of Federal control without being cut off from Federal concern and Federal support. At times, support from capital-friendly politicians contained and defanged the revolutionary potential inherent in the restoration of indigenous lands and sovereignties. In some instances, capital interests used self-determination as a facade to restructure tribes as junior corporate partners in the global political economy. This occurred at times with Indian gaming, Alaska Native Corporations, corporate iwi that manage Treaty of Waitangi settlement money in New Zealand, the Indigenous Land Corporation in Australia, and First Nations natural resource corporations in Canada. More often, however, indigenous people have coopted conservative forces as agents of an indigenous agenda. Across the world, while other Left and progressive movements gained little and often lost ground, indigenous people moved debate and policy in directions favorable to their interests. Self-determination is now the established framework for indigenous policy in the United States, Canada, Australia, and Aotearoa/New Zealand. It has been firmly endorsed and furthered through the United Nations Declaration on the Rights of Indigenous Peoples. In states built upon the dispossession, marginalization, and attempted elimination of indigenous people, these are remarkable victories. At Standing Rock and at proposed pipeline sites across the United States and Canada, neoliberals have been forced to confront indigenous rights — a legal precedent and policy partially of their own creation — when in a prior age they would have plowed through these communities without a moment’s hesitation. Politicians like Nixon did not anticipate that indigenous people would, for instance, be able to parlay the minor restoration of self-governance over expanded acreage in the hinterlands into a transformative political, economic, and cultural movement. Indigenous people, according to common sense, could never win. The future that is now our present would never happen. This condescending assumption turned out to be dead wrong. And it opened up pathways to victory for indigenous people precisely because they had been underestimated. Viewed from a decades-long and global view, indigenous people emerge as cunning, courageous, and even heroic political tricksters. They took their struggle out onto their lands and waters and into the courts. They outsmarted and outflanked politicians by simultaneously pressuring and cozying up to them. In so doing, they won important and lasting concessions bit by bit. In the long run, these concessions and relationships have provided indigenous nations with access to government as well as the political, economic, and legal leverage to deliver devastating blows to the networks and infrastructure of carbon-dependent capitalism, which threaten the future of indigenous communities, lands, and waters and all who share these with them. This dynamic revealed itself most vividly under the administration of Barack Obama, who many Indians adopted and embraced. Obama became one of the only sitting presidents to visit an Indian reservation when he journeyed to Standing Rock in 2014. In September 2016, at the Obama administration’s final Tribal Nations Conference, National Congress of American Indians president Brian Cladoosby honored Obama with a song, blanket, and traditional cedar hat. At the same time, Standing Rock marshaled a global indigenous-led coalition, pressuring Obama to halt the Dakota Access Pipeline. “Help us stop this pipeline. Stick true to your words because you said you had our back,” Standing Rock youth Kendrick Eagle pleaded in a moving message to the president in November. “I believed in you then, and I still believe in you now that you can make this happen.” A similar dynamic is unfolding in Canada, where Liberal Prime Minister Justin Trudeau has promised to renew a “nation-to-nation” relationship with First Nations, a position which contradicts his economic agenda and is forcing him to either backpedal or face a Standing Rock North in the forces aligned against a proposed Kinder Morgan pipeline. But indigenous movements used more than cunning and moral suasion. They also identified pressure points and exploited them. The Dakota Access Pipeline, by its very nature, was a vulnerable target. Trenches cannot be dug where people stand. A pipeline cannot be rerouted without incurring immense expense. Bakken shale oil costs more to refine and transport to market than other forms of crude oil. Investors, bankers, and business partners are risk averse. They don’t like delays, and they don’t like bad headlines. OPEC, not American and Canadian oil barons and politicians, controls the largest share of the global oil market. In short, if your objective is to shore up the Bakken as a viable domestic alternative to OPEC, Dakota Access looks like a risky play. Now, indigenous operatives and their supporters are pushing investors to divest. In recent weeks, they’ve posted a conspicuous billboard in Times Square and unfurled a massive banner at an NFL game, even as they maintain their presence in North Dakota. While President-elect Trump has threatened to approve Dakota Access, divestment, environmental review processes, and proposed rerouting could end up delivering more partial victories for Standing Rock in the coming months. Had the Democrats won in November, the movement could have killed Dakota Access like Keystone XL, delivering a crippling blow to the Bakken oil barons. But to assume Trump’s election guarantees the pipeline will be completed is to again underestimate the indigenous movement. Indians Make the Best Cowboys At Standing Rock, Indians settled old scores. They danced inside and outside the lines as lawyers and outlaws. They took on pipelines and bulldozers where the tools and trappings of the oil industry were most vulnerable. As capital and corporate globalization threatened to squelch progress and conscience, the Indians rode to victory. The water protectors emerged as heroes. Their enemies became villains. For today, it’s victory. For generations it will be remembered and honored. For the movements of the Left, it’s a lesson. Beyond well-worn analyses of the power of action, solidarity, and narrative, Standing Rock points to the necessity to act when and where the networks and infrastructures of capital are most vulnerable, at the level of individual projects as well as entire industries and global systems. It shows that movements must remain resolute in their aims — even if their goals take decades to achieve. Politics is a long game. Standing Rock also reminds us that resistance is key, but that effective resistance is strategic. And strategic resistance is even more impactful when paired with subtle and cunning forms of persuasion. This is especially essential for Indians, who comprise less than 2 percent of the population and so must out-strategize and outsmart the powers aligned against them to win. Lastly, it suggests that indigenous rights are potentially revolutionary, and that indigenous sovereignty is an increasingly powerful instrument against the forces of capital. When the Justice Department halted construction of the Dakota Access Pipeline in October, they committed to look into Free Prior Informed Consent legislation. Such a move would greatly strengthen the rights and leverage of indigenous nations. The Left should see these and other indigenous struggles as its own, incorporating an indigenous platform into the next generation of radical coalitions and writing and thinking about indigenous issues alongside more commonly discussed forms of oppression. Dark times lie ahead for the first people of this land and all who share it with us. President-elect Trump, a former Dakota Access investor, has threatened to approve the pipeline and others like it. He is lining up resources to accelerate energy exploitation, devastating the natural world and pushing the global thermometer higher and higher. Trump’s advisors have called for the privatization of oil, gas, and coal-rich Indian reservations, mirroring policies like the Dawes Act of 1887 and the “Termination” policies of the 1940s and 50s, both designed to destroy tribal communities. But the frontier is turning. In an unforeseen and previously unimaginable twist, it is the Indians who shepherd forward progress. In their right hand, they clutch a long history of unrequited struggle for Native Sovereignty. Among its many chapters is the story of Standing Rock and the rallying cry heard around the world, “Water is Life!” With their left hand, they sow the seeds and point the way forward for the forces of conscience against capital. In politics, it turns out that Indians make the best Cowboys.

### A/2: Space Debris Advantage

#### Privatization key to preventing space debris - more efficient than other methods – This Turns Case and can be taken into conjunction with the CP, so judge even if you do not buy the CP, this card still turns their entire Debris advantage

**Blodger 16** [Ian Blodger, JD Candidate at University of Minnesota Law School, 2016, “Reclassifying Geostationary Earth Orbit as Private Property: Why Natural Law and Utilitarian Theories of Property Demand Privatization”, The Minnesota Journal of Law, Science, and Technology Vol 17, Issue 1, <https://scholarship.law.umn.edu/cgi/viewcontent.cgi?article=1006&context=mjlst> ] // Triumph Debate

First, **allowing privatization of geostationary orbit will mitigate future space debris and** potentially **allow for a clean up of current debris.**150 **Analyzing different methods for reducing space debris**, **Nodir Aldinov, Peter Alexander, and Brenda Cunningham** **concluded that the lack of costs associated with launching a satellite** (apart from the costs necessary to build and place the satellite in orbit) **allows for more satellites than optimum.**151 **This is because corporations seeking to maximize profits have no need to take account of the negative externality its satellite launches impose on other firms.**152 Aldinov, Alexander, and Cunningham conclude that by instituting a tax on each launch, actors would be incentivized to internalize externalities, which would in turn bring the number of launches to the socially optimum level.153 They further contend that the profits from the launch tax could be used to invest in programs to seek out and actively clean up space.154 **The creation of a property interest in GEO locations will not only accomplish the end results of a tax, but it also provides an incentive to launch a satellite in the first place.** **By creating a property interest in geostationary orbit, the market will quickly establish a price for the zone.**155 **This price will act in cost of the satellite** (which will inevitably be lost), **but also a potential return on the investment in the property right itself.**156 **The creation of this additional cost and benefit will eliminate negative externalities associated with too many satellite launches.**157 **Additionally, allowing actors to resell their orbital zone or reuse it as needed provides an added incentive to actively clean up the area.**158 **Therefore,** like the imposition of a tax, **creating a private interest in a GEO slots will decrease the number of excess satellites launched into GEO, and provide incentives to clean up the area in order to maximize profits.** Unlike a tax however, **property rights more efficiently ensure a preservation of a clean space environment.**159 Murray N. Rothbard’s book, For a New Liberty, discusses a libertarian approach to pollution and finds that **the government’s control over pollution regulations is much less efficient than a private property owner enforcing their rights through the court system.**160 In part, **this inefficiency results from an apathetic enforcement of the laws, which do not benefit the enforcers.**161 Rothbard additionally argues the government’s assessment of the potential harms of pollution often differ from those who have a stake in the matter, and thus fail to take into account the full magnitude of the situation, leading to inefficient tax regimes.162 **In a private system with redress to the courts, property owners will zealously defend their property from trespass, and will do so efficiently, because they are able to take into account the relevant variables that threaten their property, where the government cannot take such an individualized approach.**163 **Thus,** while the benefits derived from a system of taxation and a private property system are similar, **the allocation of private property will ultimately lead to a more efficient protection of GEO. This, in turn, will effectively eliminate the need for indirect costs associated with preventing harm to satellites in orbit.** **Currently, satellites must contain equipment necessary to track, and maneuver away from orbiting debris.**164 **With a reduction in the number of satellites and an increased number of satellites moved to graveyard orbits, and the potential for a reduction in other forms of debris, the need for such sophisticated technology will decrease.**165 The market will control this as well, since risk adverse actors will desire avoidance systems so they can ensure a return on the resale of the property after the satellite’s eventual failure.16

#### 1 – No Uniqueness: Their definition of space appropriation means….

#### HOLD THEM TO WHAT THEY SAID Judge

#### 2 – Why hasn’t the Kessler effect started yet?

### A/2: Treating Space as Global Commons:

#### 1 – How? How are you gonna enforce that/make it legally binding

#### 2 – OST loopholes => US sending private companies so no solvency, no binding mechanism that countries have to abide by… plan fails to solve even if companies and states have some enforcement mechanism in space.. the incentive is too high and there will always be loopholes HISTORY and EMPIRICS PROVE