# 1NC

## 1

#### Interp: Debaters must disclose round reports on the 2021-22 NDCA LD wiki for every round they have debated this season immediately after the round and before the next round. Round reports disclose which positions were read or gone for in every speech

#### Violation: the screenshot

#### Standards

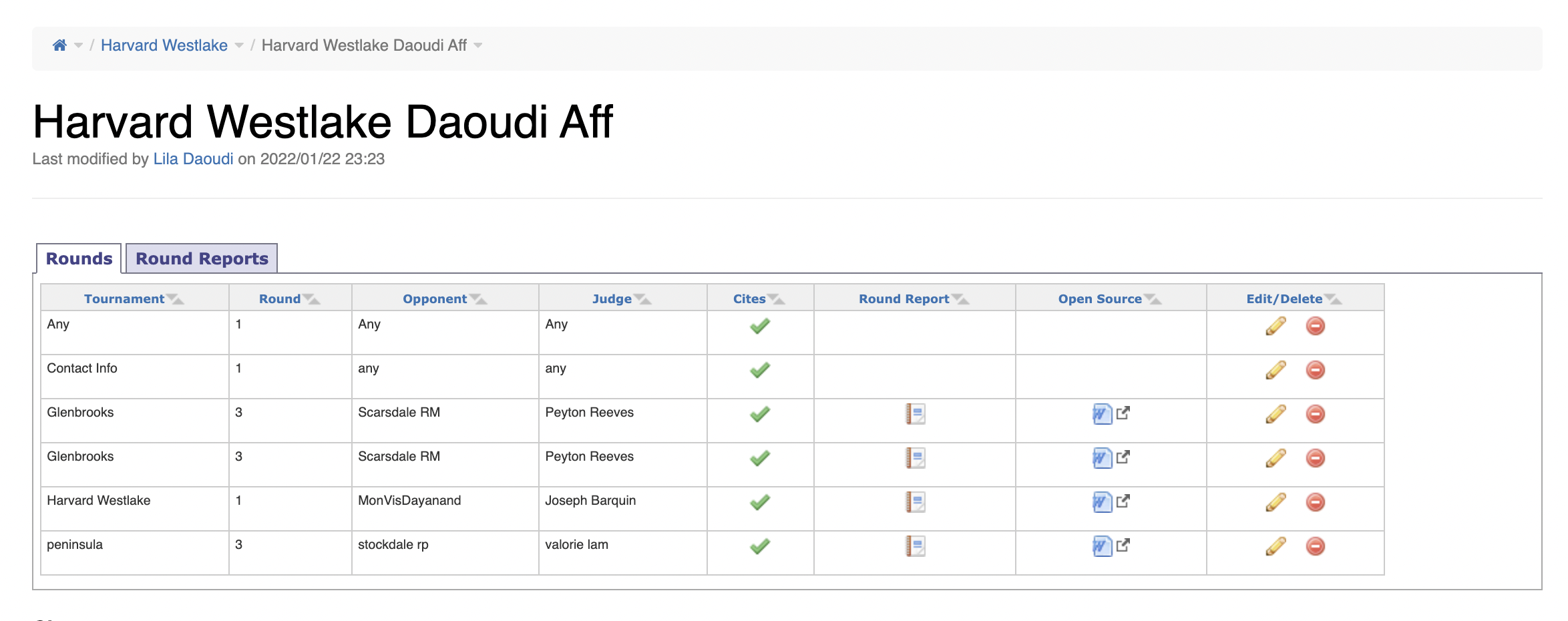
#### 1] Level playing field- Big schools can go around and collect flows but independents are left in the dark so rr’s are k2 our prep so we can prepare strats best. Accessilibility first and independent voter- its an impact multiplier

#### 2] strat education- round reports help novices understand the context in which positions are read by good debaters and help w brainstorming potential 1ncs vs affs and it helps kids who cant afford coaches

#### 3] pre round preps- 1acs give an idea of what type of debater someone is- they could go for the theory every round and kick case but idk if they do because they have no round reports

#### Drop the debater

#### No rvis – they shouldn’t win for being fair

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## 2

#### Interp: the aff must only defend banning appropriation

#### violation: they defend the nationalization of private entities

#### standards

#### 1] limits- allows them to DL out of neg generics because they can say that they still utilize the private sector and they go beyond the limits of the res. The aff could add anything they could possible fathom to the resolution. I can’t be excepted to prep out every single instance of every single policy – which means I get destroyed by 1ar frontlines. Limits key to fairness because without limits the aff could just be infinitely abusive. Also key to jurisdiction because it sets up what the judge can and can’t vote on – If the aff adds arbitrary planks to the resolution, then they are no longer debating the intent of the resolution so the judge can’t vote aff.

#### 2] ground- neg can’t run anything bc the aff basically forces us to double turn and debate ourselves. All neg generics/positions depend on some IL to the aff not having priv space but the aff effectively removes that and takes away any positions we can run. That’s k2 education bc we can’t properly debate the topic

#### 3] tva- ban approp of outer space by priv entities

#### 4] Precision o/w – anything else justifies the aff arbitrarily jettisoning words in the resolution which decks negative ground and preparation because the aff is no longer bound by the resolution

#### Fainess & Education are voters-

#### Topicality is Drop the Debater – it’s a fundamental baseline for debate-ability.

#### Use Competing Interps – 1] Topicality is a yes/no question, you can’t be reasonably topical and 2] Reasonability invites arbitrary judge intervention and a race to the bottom of questionable argumentation.

#### No RVI’s - 1] Forces the 1NC to go all-in on Theory which kills substance education, 2] Encourages Baiting since the 1AC will purposely be abusive, and 3] Illogical – you shouldn’t win for not being abusive.

## 3

#### CP: The appropriation of outer space by private entities except for Large Satellite Constellations in Lower Earth Orbit is unjust.

#### Terrestrial Internet Cables are vulnerable now – risks access.

Griffiths 19 James Griffiths 7-26-2019 "The global internet is powered by vast undersea cables. But they’re vulnerable." <https://www.cnn.com/2019/07/25/asia/internet-undersea-cables-intl-hnk/index.html> (CNN Analyst)//ELmer

Hong Kong (CNN) - On July 29, 1858, two steam-powered battleships met in the middle of the Atlantic Ocean. There, they connected two ends of a 4,000 kilometer (2,500 mile) long, 1.5 centimeter (0.6 inch) wide cable, linking for the first time the European and North American continents by telegraph. Just over two weeks later, the UK’s Queen Victoria sent a congratulatory message to then US President James Buchanan, which was followed by a parade through the streets of New York, featuring a replica of a ship which helped lay the cable and fireworks over City Hall. In their inaugural cables, Queen Victoria hailed the “great international work” by the two countries, the culmination of almost two decades of effort, while Buchanan lauded a “triumph more glorious, because far more useful to mankind, than was ever won by conqueror on the field of battle. The message took over 17 hours to deliver, at 2 minutes and 5 seconds per letter by Morse code, and the cable operated for less than a month due to a variety of technical failures, but a global communications revolution had begun. By 1866, new cables were transmitting 6 to 8 words a minute, which would rise to more than 40 words before the end of the century. In 1956, Transatlantic No. 1 (TAT-1), the first underwater telephone cable, was laid, and by 1988, TAT-8 was transmitting 280 megabytes per second – about 15 times the speed of an average US household internet connection – over fiber optics, which use light to transmit data at breakneck speeds. In 2018, the Marea cable began operating between Bilbao, Spain, and the US state of Virginia, with transmission speeds of up to 160 terabits per second – 16 million times faster than the average home internet connection. Today, there are around 380 underwater cables in operation around the world, spanning a length of over 1.2 million kilometers (745,645 miles). Underwater cables are the invisible force driving the modern internet, with many in recent years being funded by internet giants such as Facebook, Google, Microsoft and Amazon. They carry almost all our communications and yet – in a world of wireless networking and smartphones – we are barely aware that they exist. Yet as the internet has become more mobile and wireless, the amount of data traveling across undersea cables has increased exponentially. “Most people are absolutely amazed” by the degree to which the internet is still cable-based, said Byron Clatterbuck, chief executive of Seacom, a multinational telecommunications firm responsible for laying many of the undersea cables connecting Africa to the rest of the world. “People are so mobile and always looking for Wi-Fi,” he said. “They don’t think about it, they don’t understand the workings of this massive mesh of cables working together. “They only notice when it’s cut.” Network down In 2012, Hurricane Sandy slammed into the US East Coast, causing an estimated $71 billion in damage and knocking out several key exchanges where undersea cables linked North America and Europe. “It was a major disruption,” Frank Rey, director of global network strategy for Microsoft’s Cloud Infrastructure and Operations division, said in a statement. “The entire network between North America and Europe was isolated for a number of hours. For us, the storm brought to light a potential challenge in the consolidation of transatlantic cables that all landed in New York and New Jersey.” For its newest cable, Marea, Microsoft chose to base its US operation further down the coast in Virginia, away from the cluster of cables to minimize disruption should another massive storm hit New York. But most often when a cable goes down nature is not to blame. There are about 200 such failures each year and the vast majority are caused by humans. “Two-thirds of cable failures are caused by accidental human activities, fishing nets and trawling and also ships’ anchors,” said Tim Stronge, vice-president of research at TeleGeography, a telecoms market research firm. “The next largest category is natural disaster, mother nature – sometimes earthquakes but also underwater landslides.” A magnitude-7.0 earthquake off the southwest coast off Taiwan in 2006, along with aftershocks, cut eight submarine cables which caused internet outages and disruption in Taiwan, Hong Kong, China, Japan, Korea and the Philippines. Stronge said the reason most people are not aware of these failures is because the whole industry is designed with it in mind. Companies that rely heavily on undersea cables spread their data across multiple routes, so that if one goes down, customers are not cut off. How a cable gets laid Laying a cable is a years-long process which costs millions of dollars, said Seacom’s Clatterbuck. The process begins by looking at naval charts to plot the best route. Cables are safest in deep water where they can rest on a relatively flat seabed, and won’t rub against rocks or be at risk of other disturbances. “The deeper the better,” Clatterbuck said. “When you can lay the cable down in deep water you rarely have any problems. It goes down on the bottom of the seabed and just stays there.” Things become more difficult the closer you get to shore. A cable that is only a few centimeters thick on the bottom of the ocean must be armored from its environment as reaches the landing station that links it with the country’s internet backbone. “Imagine a long garden hose, inside of which are very small tubes that house a very, very thin fiber pair,” Clatterbuck said. That hose is wrapped in copper, which conducts the direct current that powers the cable and its repeaters, sometimes up to 10,000 volts. “The fibers are wrapped in urethane and wrapped in copper and wrapped again in urethane,” he said. “If we’re going to have to put that cable on a shoreline that is very shallow and has a lot of rocks, you’re now going to have to armor coat that cable so no one can hack through it.” Cables in less hospitable areas can be far thicker than garden hoses, wrapped in extra plastic, kevlar armor plating, and stainless steel to ensure they can’t be broken. Depending on the coast, cable companies might also have to build concrete trenches far out to sea, to tuck the cable in to protect it from being bashed against rocks. “Before the cable-laying vessels go out they send out another specialized ship that maps the sea floor in the area when they want to go,” said TeleGeography’s Stronge. “They want to avoid areas where there’s a lot of undersea currents, certainly want to avoid volcanic areas, and avoid a lot of elevation change on the sea floor.” Once the route is plotted and checked, and the shore connections are secure, huge cable laying ships begin passing out the equipment. “Imagine spools of spools of garden hose along with a lot of these repeaters the size of an old travel trunk,” Clatterbuck said. “Sometimes it can take a month to load the cable onto a ship.” The 6,600 kilometer (4,000 mile) Marea cable weighs over 4.6 million kilograms (10.2 million pounds), or the equivalent of 34 blue whales, according to Microsoft, which co-funded the project with Facebook. It took more than two years to lay the entire thing. Malicious cuts The blackout came without warning. In February 2008, a whole swath of North Africa and the Persian Gulf suddenly went offline, or saw internet speeds slow to a painful crawl. This disruption was eventually traced to damage to three undersea cables off the Egyptian coast. At least one – linking Dubai and Oman – was severed by an abandoned, 5,400 kilogram (6-ton) anchor, the cable’s owner said. But the cause of the other damage was never explained, with suggestions it could have been the work of saboteurs. That raises the issue of another threat to undersea cables: deliberate human attacks. In a 2017 paper for the right-wing think tank Policy Exchange, British lawmaker Rishi Sunak wrote that “security remains a challenge” for undersea cables. “Funneled through exposed choke points (often with minimal protection) and their isolated deep-sea locations entirely public, the arteries upon which the Internet and our modern world depends have been left highly vulnerable,” he said. “The threat of these vulnerabilities being exploited is growing. A successful attack would deal a crippling blow to Britain’s security and prosperity.” However, with more than 50 cables connected to the UK alone, Clatterbuck was skeptical about how useful a deliberate outage could be in a time of war, pointing to the level of coordination and resources required to cut multiple cables at once. “If you wanted to sabotage the global internet or cut off a particular place you’d have to do it simultaneously on multiple cables,” he said. “You’d be focusing on the hardest aspect of disrupting a network.”

#### Mega-constellations provide fast, affordable internet that bridges digital divide – independently, competition lowers prices across the board.

Novo 21 Paula Novo 3-31-2021 "Will Starlink Change the Internet?' <https://www.highspeedoptions.com/resources/insights/will-starlink-change-the-internet> (With over four years of broadband experience, Paula Novo is the Site Editor and Senior Writer for HighSpeedOptions. She has helped develop the criterion by which HighSpeedOptions reviews and recommends internet service providers, striving to simplify and guide the user’s decision toward the best communications services. Paula also leads HighSpeedOptions coverage of the digital divide, ISP reviews, and broadband policy.)//Elmer

While it’s not the first – and won’t be the last – company to test low Earth orbit satellites, Starlink, the satellite internet division of SpaceX, is making waves in the telecommunications industry for its residential beta program launched in 2020. As the first U.S.-based firm to successfully bring LEO internet to market, Starlink shows promise where others have heroically failed. Every satellite company in history to launch a low Earth orbit (LEO) constellation has gone bankrupt, except for Starlink, that is. Said best in a tweet by Elon Musk, founder and CEO of this venture, “Starlink is a staggeringly difficult technical and economic endeavor. However, if we don’t fail, the cost to end-users will improve every year.” In the span of a decade, broadband moved from a “nice-to-have” to a “must-have” – the COVID-19 pandemic simply speeding up the clock on its shift towards a utility. Yet, we’re a far cry away from total connectivity. Due to availability and cost issues (to name a few), millions of Americans don’t have access to reliable internet, which further widens the education and wealth gaps. If successful, Starlink – and LEO satellite internet as a whole – may be the first real solution for billions of people missing out on the benefits of broadband. Current State of the Telecom Industry Despite advances in technology, the telecom industry is lagging behind. And, contrary to what internet service providers and the media report, the United States’ internet options are still very limited. The three biggest hurdles standing in the way of real progress include access, affordability, and lack of competition. Access According to the Federal Communications Commission’s (FCC) 2020 Broadband Deployment Report, roughly 6% of all Americans have zero access to fixed broadband at home. And, of those without access, a majority live in rural areas. That’s about 19 million people who, even if they could afford to subscribe to internet service, are out of luck. The FCC defines broadband speeds as just 25 Mbps down and 3 Mbps up, which may be fast enough to check emails but won’t reliably support your Breaking Bad marathon. You can see how living in an underserved area, then, can severely limit a person’s job prospects, schooling, and social connections. Still, we can’t rate internet access without also looking at affordability. While some 19 million Americans do not have access at all, as many as one in three Americans choose to not subscribe to internet service, citing cost as a leading factor. Affordability FCC data shows that nearly 35% of Americans, or about 114 million people, do not subscribe to broadband service at their homes. Affordability – or lack thereof – is often cited as the main driver for this decision. Despite government intervention via efforts like the FCC Lifeline Program and ISP subsidies to incentivize network expansions, America still seems to lag behind other developed countries when it comes to internet cost. In a 2020 study by New America, it turns out that we pay quite a bit more for internet service than most developed countries in Asia and Europe, regardless of speed. Before factoring in data caps and other ancillary ISP fees, we pay “nearly twice as much as European countries for high-speed internet.” Naturally, the ballooning question pops up – How did we fall behind? Lack of Competition The lack of competition today may be the single greatest obstacle preventing the telecom industry (read: ISPs and consumers) from thriving. A long history of privately-owned infrastructures and government regulations has enabled monopolies to quash competition in the marketplace and ignore the demand for innovation. Unsurprisingly, the Institute of Self-Reliance released a new report finding that two of the largest broadband companies in the U.S. – Comcast and Charter Spectrum – maintain a monopoly over 47+ million American households. It also sheds light on an additional 33 million homes only serviceable by one or two DSL providers. While these are just a few examples of the current market, you can easily see how large segments of the population lack the competitive supply needed to drive down costs and push for more development. What if there was a solution to address these pitfalls with the internet? What if Americans (or, really, anyone in the world) could circumvent some of the physical and political barriers stopping us from connecting from seemingly anywhere? These are questions Starlink is attempting to answer. Ways Starlink May Change the Internet First, what is Starlink and how is it different from other internet providers? It’s an Elon Musk satellite internet company bringing life to the telecom industry. In the last year, Starlink launched over 1,000 satellites into low orbit with the goal of offering a new type of broadband. If successful, this LEO service could not only supersede traditional satellite internet like HughesNet or Viasat but also rival the likes of fiber internet in rural and remote communities. Unlike GEO satellite providers who use a few hundred large satellites orbiting over 35,000 kilometers from Earth, Starlink plans to use up to 42,000 small satellites in low orbit no higher than 1,200 kilometers. Because of these key differences, Starlink is anticipated to offer reliable speeds up to 1 Gbps with lower latency of 20ms to 40ms worldwide. Essentially, it’d combine the performance of grounded internet with the geographical freedom of traditional satellite internet so people can live anywhere on Earth while staying connected. In general, LEO satellite service represents a real chance at solving connectivity issues for anyone outside city limits. Starlink may also pave the way for tangible changes to the industry as a whole, including lower prices, faster speeds, and better economic opportunities. Pricing of Internet As Starlink enters new markets, the added competition has the potential to drive down the cost of internet over time. In a study by the Analysis Group, they calculated that when just one new competitor joins a designated market area (DMA), the price of plans with speeds ranging from 50 Mbps to 1 Gbps sees a monthly decline of $1.50. That’s it? McDonald’s saves me more than that. Not so fast, though. Remember how we said Starlink isn’t the only company testing low orbit satellites? With other ventures like Blue Origin, OneWeb, and Telesat itching to launch their own LEO constellations, it won’t be long before new players enter the market. At which point, the Analysis Group guesstimates an 8% reduction in monthly broadband prices, or about $7.50. For low-income households, that may be the difference needed to break even on bills. And, even though Starlink itself is quite expensive, its presence in the market has the potential to still benefit consumers who could choose a (now) cheaper internet provider. Internet Speeds Similarly, the buzz around LEO internet speeds has industry heads raising their eyebrows as well. While Starlink is only testing speeds of 50 Mbps to 150 Mbps right now, in time it’s expected to offer speeds up to 1 Gbps with low latency. Normally these speeds are reserved for grounded connections like fiber or cable internet. So, if Starlink manages to deliver, we may no longer be limited by our geography. Even further, the Analysis Group reports that the availability of higher internet speeds in a DMA “increases the likelihood that other providers will introduce high-speed plans to match […] their competition.” In particular, they found that broadband providers are 4 to 17 percent more likely to increase their speeds on an annual basis because of competition. This goes to show that a little healthy rivalry in the marketplace first and foremost benefits the consumer. Economic Opportunity If Starlink is successful, we expect to see economic opportunity improve for billions with a B as well. With global availability, more people will have the means to compete for jobs in today’s digital age. To put things into perspective, consider the world population. Of the current 7.8 billion people, a little under half of them (40%) lack regular internet access. That’s nearly one out of every two people. If LEO satellite service can make it to where geography, price, and speeds aren’t roadblocks anymore, what happens? In general, more people with internet access equates to more job access. And, as jobs continue to transition online, it’s safe to assume that people won’t be as limited by obstacles such as disabilities, poor education, and wealth disparities when they compete for openings. In these ways, Starlink has the potential to help offset poverty where many governments have failed.

#### It's comparably faster than current competitors.

Lumanlan 21 August Dominic M Lumanlan 8-14-2021 "How Elon Musk’s Starlink will be the future of the Internet" <https://medium.com/@augustlumanlan2017/how-spacexs-starlink-will-be-the-future-of-the-internet-8f07adb4eb2> (Engineering Author)//Elmer

Internet speeds, satellite equipment, and user feedback Starlink has very high internet speeds, higher than the speed of internet we currently have in our homes. Speeds average around 100 mbps but it could go as far as 200 mbps, or even 300 mbps. It has a latency of 20 milliseconds. Latency just means the time it takes for the satellite to transmit the data packets (YouTube videos, Facebook messages, Google searches, etc.) from the ground station, to the nearest Starlink satellite, which then transmits it to other nearby satellites and whichever one is closest above the user will transmit it downward to the Starlink dish that receives the data packets, which can finally reach your home router and now you’re connected to the internet and received the data packets. The process can repeat vice versa. This means that the internet connection with Starlink is much faster than our current internet connection which has around 60 milliseconds of latency. A lot of beta testers have shared their experiences online and have been picked up by the media to know more about the Starlink internet program’s capabilities and the user’s feedback about them. What they say is true: They are so happy about it, they think it’s worth it. Because its so fast and reliable to many places around the world, you can easily connect to the internet and be able to do multiple things like watch YouTube or Google search, or even work conveniently anywhere you wish, as long as you have a ground Starlink dish with you.

#### Internet solves extinction

**Eagleman 10** [David Eagleman is a neuroscientist at Baylor College of Medicine, where he directs the Laboratory for Perception and Action and the Initiative on Neuroscience and Law and author of Sum (Canongate). Nov. 9, 2010, “ Six ways the internet will save civilization,”  
 http://www.wired.co.uk/magazine/archive/2010/12/start/apocalypse-no]

Many **great** civilisations have fallen, leaving nothing but cracked ruins and scattered genetics. Usually this results from: natural disasters, resource depletion, economic meltdown, disease, poor information flow and corruption. But we’re luckier than our predecessors because we command a technology that no one else possessed: a rapid communication network that finds its highest expression in the internet. I propose that there are six ways in which the net has vastly reduced the threat of societal collapse. Epidemics can be deflected **by telepresence** One of our more dire prospects for collapse is an infectious-disease epidemic**. Viral and bacterial epidemics precipitated the fall of** the Golden Age of Athens**,** the Roman Empire and most of the empires of the Native Americans. **The internet can be our key to survival because the ability to** work telepresently can inhibit microbial transmission by reducing human-to-human contact. In the face of an otherwise devastating epidemic, businesses can keep supply chains running with the maximum number of employees working from home. This can reduce host density below the tipping point required for an epidemic. If we are well prepared when an epidemic arrives, we can fluidly shift into a self-quarantined soc**iety** in which microbes fail due to host scarcity. Whatever the social ills of isolation, they are worse for the microbes than for us. **The internet will** predict natural disasters **We are witnessing the downfall of slow central control in the media**: news stories are increasingly becoming user-generated nets of up-to-the-minute information. **During the recent California wildfires,** locals went to the TV stations to learn whether their neighbourhoods were in danger. But the news stations appeared most concerned with the fate of celebrity mansions, so Californians changed their tack: they uploaded geotagged mobile-phone pictures, updated Facebook statuses and tweeted. The balance tipped: **the internet carried news about the fire more quickly and accurately than any news station could.** In this grass-roots, decentralised scheme, there were embedded reporters on every block, and the news shockwave kept ahead of the fire. This head start could provide the extra hours that save us. If the Pompeiians had had the internet in 79AD, they could have easily marched 10km to safety, well ahead of the pyroclastic flow from Mount Vesuvius. **If the Indian Ocean had the Pacific’s networked tsunami-warning system, South-East Asia would look quite different today. Discoveries are retained and shared** Historically, **critical information has required constant rediscovery**. Collections of learning -- from the library at Alexandria to the entire Minoan civilisation -- have fallen to the bonfires of invaders or the wrecking ball of natural disaster. Knowledge is hard won but easily lost. And information that survives often does not spread. **Consider smallpox inoculation**: this was under way in India, China and Africa centuries before it made its way to Europe**. By the time the idea reached North America, native civilisations who needed it had already collapsed. The net solved the problem. New discoveries catch on immediately;** information spreads widely. In this way, societies can optimally ratchet up, using the latest bricks of knowledge in their fortification against risk. **Tyranny is mitigated Censorship of ideas** was a familiar spectre in the last century, with state-approved news outlets ruling the press, airwaves and copying machines **in the USSR**, Romania, Cuba, China, Iraq **and elsewhere**. In many cases, such as Lysenko’s agricultural despotism in the USSR, it **directly contributed to the collapse of the nation**. Historically**, a more successful strategy has been to confront free speech with free speech -- and the internet allows this in a natural way.** It democratises the flow of information by offering access to the newspapers of the world, the photographers of every nation, the bloggers of every political stripe. Some posts are full of doctoring and dishonesty whereas others strive for independence and impartiality -- but all are available to us to sift through. Given the attempts by some governments to build firewalls, it’s clear that this benefit of the net requires constant vigilance. Human capital is vastly increased **Crowdsourcing brings people together to solve problems.** Yet far fewer than one per cent of the world’s population is involved. We need expand human capital. Most of the world not have access to the education afforded a small minority. For every Albert Einstein, Yo-Yo Ma or Barack Obama who has educational opportunities, uncountable others do not. This squandering of talent translates into reduced economic output and a smaller pool of problem solvers. The net opens the gates education to anyone with a computer. A motivated teen anywhere on the planet can walk through the world’s knowledge -- from the webs of Wikipedia to the curriculum of MIT’s OpenCourseWare. The new human capital will serve us well when we confront existential threats we’ve never imagined before**. Energy expenditure is reduced** Societal collapse can often be understood in terms of an energy budget: **when energy spend outweighs energy return, collapse ensues**. This has taken the form of deforestation or soil erosion; **currently, the worry involves fossil-fuel depletion. The internet addresses the energy problem with a natural ease**. Consider the massive energy savings inherent in the shift from paper to electrons -- as seen in the transition from the post to email. **Ecommerce reduces the need to drive long distances to purchase products. Delivery trucks are more eco-friendly** than individuals driving around, not least because of tight packaging and optimisation algorithms for driving routes. Of course, there are energy costs to the banks of computers that underpin the internet -- but these costs are less than the wood, coal and oil that would be expended for the same quantity of information flow. **The** tangle of events that triggers societal collapse can be complex, and there are several threats the net does not address. But vast, networked communication can be an antidote to several of the most deadly diseases threatening civilisation. The next time your coworker laments internet addiction, the banality of tweeting or the decline of face-to-face conversation, you may want to suggest that the net may just be the technology that saves us.

#### **Starlink solves internet monopolies**

**Krow 21** Krow, A. (2021, February 27). *Will Starlink disrupt spectrum’s internet provider monopoly?* Medium. <https://medium.com/technology-hits/will-starlink-disrupt-spectrums-internet-provider-monopoly-c3b33d20be11> (Teacher. Writer. Future Author. Aspiring Linguist. Progressive Voter. Twitter @ajkrow\_writer.) //Aadit

Throughout college and well into my teaching career, I’ve spent several hundred dollars sitting in coffee shops, drinking a latte or a Frappuccino while I completed work using their Wi-Fi until closing. Once I arrived home, I opened YouTube on my phone and played a video at the lowest resolution, 144p. I waited for several minutes as the video buffered. This became a daily occurrence when living in a rural area. Millions still don’t have access to fast internet at home As of [2019](https://www.digitaltrends.com/web/31-percent-us-households-no-broadband-internet/), a third of households nationwide do not have a reliable internet connection. The only way those families can access the internet is to leave their homes and go to a public library, school, or Starbucks. A week before schools transitioned to virtual learning in 2020, I remember some of my students stared at their phones under their desks. When I caught them and asked them to turn it in, they refused. For many students, the only internet access they had available was at school. [As of September 2020](https://usafacts.org/articles/internet-access-students-at-home/), 3.7 million children still did not have access to an internet connection at home. In August of 2020, teachers were expected to provide live (synchronous) classes to students via Zoom. I panicked. I still did not have access to the internet in my rural home. I immediately went on apartments.com and searched for a decent apartment that would have access to the internet. Once school started, many students could not log in to Google Classroom or Zoom and attend class. Of the seventy or so students I see every other day, less than half log in to Zoom. All the other students have never logged in, nor have they turned in a single assignment since school began. As a result, teachers, schools, and [districts nationwide failed them](https://apnews.com/article/distance-learning-coronavirus-pandemic-oregon-7fde612c3dbfd2e21fab9673ca49ad89). Corporations control who gets access to the internet In the United States, only two companies control a majority of the internet service available in the country. Those are Spectrum (also known as Comcast) and Charter (also known as Xfinity). Both companies decided they wouldn’t compete against each other. Instead, they would each claim one area and be the only internet service provider available. By doing so, they could raise prices and provide data caps. Customers have no choice other than to agree to the terms and conditions. In the U.S., [83.3 million people](https://ilsr.org/report-most-americans-have-no-real-choice-in-internet-providers/) are controlled by an internet monopoly: either Charter or Spectrum. Since both corporations have no other competition, they have no incentive to innovate or expand their services to other areas, namely rural areas. Spectrum and Charter see no benefit in laying out hundreds or thousands of feet of underground cable and spend tens of thousands of dollars to provide internet to a rural home, as the customer would only pay $50-$100 a month. Meanwhile, their “competitors” provide poor services and fail to offer any sort of competition to Charter or Spectrum. ViaSat, for example, offers limited data plans — its most expensive plan offers 150GB for $200 per month. In a family of four or five people, where children are connected to Zoom meetings, that data plan will reach its limit very quickly. This data plan also can’t compare to Spectrum, which offers unlimited internet for a quarter of the price of ViaSat. However, ViaSat and HughesNet are the only internet service providers available to rural areas. Since ViaSat and HughesNet face no competition from Spectrum and Charter, they have no incentive to provide fast speeds for their consumers. The average speed of ViaSat clocks in at [11.7Mbps](https://testmy.net/hoststats/viasat), or 1.4 Megabytes per second. At that speed, a YouTube video has to be played at the lowest resolution and would still buffer. Google Fiber failed to disrupt the market Roughly ten years ago, Google announced it would become an internet service provider. Google planned to disrupt Spectrum and Charter’s current control of the market by offering internet using fiber-cable. This new technology would allow for faster speeds. [As of 2020](https://support.google.com/fiber/answer/6250056?hl=en), it is about five times faster than Spectrum internet. Today, a majority of the U.S. population still does not have access to Google Fiber. According to Google, Fiber is [only available in twelve cities](https://fiber.google.com/) in the country. Rural customers still don’t have a solution, nor do city people have access to more than one or two options. Starlink will do what Google couldn’t A few years ago, Elon Musk announced Starlink, a division of SpaceX. Musk intends on providing internet access to everyone around the world wirelessly through the use of satellites. So far, SpaceX has launched over a thousand satellites into low-Earth orbit, though the FCC has approved SpaceX to launch over 12,000 satellites for Starlink usage. As more satellites are launched into space, internet coverage will expand around the world. Whether you live in an urban, suburban, or rural area, you will have access to high-speed internet. Many YouTubers who have preordered the Starlink service have already received their installation package and are testing it out in remote areas. As of [a few days ago](https://www.cnbc.com/2021/02/22/elon-musk-spacex-will-double-starlink-internet-speed-later-this-year.html), Elon Musk made a few promises. People would have access to 300Mbps speed internet, and coverage will be available worldwide by the end of 2021. This timeline beats Google Fiber, as Google is only providing coverage to a dozen cities in the U.S. For people who lack internet access or want something other than Spectrum or Charter, Starlink will be the answer.

## 4

#### Space Commercialization drives Tech Innovation in the Status Quo – it provides a unique impetus.

Hampson 17 Joshua Hampson 1-25-2017 “The Future of Space Commercialization” <https://republicans-science.house.gov/sites/republicans.science.house.gov/files/documents/TheFutureofSpaceCommercializationFinal.pdf> (Security Studies Fellow at the Niskanen Center)//Elmer

The size of the space economy is far larger than many may think. In 2015 alone, the global market amounted to $323 billion. Commercial infrastructure and systems accounted for 76 percent of that 9 total, with satellite television the largest subsection at $95 billion. The global space launch market’s 10 11 share of that total came in at $6 billion dollars. It can be hard to disaggregate how space benefits 12 particular national economies, but in 2009 (the last available report), the Federal Aviation Administration (FAA) estimated that commercial space transportation and enabled industries generated $208.3 billion in economic activity in the United States alone. Space is not just about 13 satellite television and global transportation; while not commercial, GPS satellites also underpin personal navigation, such as smartphone GPS use, and timing data used for Internet coordination.14 Without that data, there could be problems for a range of Internet and cloud-based services.15 There is also room for growth. The FAA has noted that while the commercial launch sector has not grown dramatically in the last decade, there are indications that there is latent demand. This 16 demand may catalyze an increase in launches and growth of the wider space economy in the next decade. The Satellite Industry Association’s 2015 report highlighted that their section of the space economy outgrew both the American and global economies. The FAA anticipates that growth to 17 continue, with expectations that small payload launch will be a particular industry driver.18 In the future, emerging space industries may contribute even more the American economy. Space tourism and resource recovery—e.g., mining on planets, moons , and asteroids—in particular may become large parts of that industry. Of course, their viability rests on a range of factors, including costs, future regulation, international problems, and assumptions about technological development. However, there is increasing optimism in these areas of economic production. But the space economy is not just about what happens in orbit, or how that alters life on the ground. The growth of this economy can also contribute to new innovations across all walks of life. Technological Innovation Innovation is generally hard to predict; some new technologies seem to come out of nowhere and others only take off when paired with a new application. It is difficult to predict the future, but it is reasonable to expect that a growing space economy would open opportunities for technological and organizational innovation. In terms of technology, the difficult environment of outer space helps incentivize progress along the margins. Because each object launched into orbit costs a significant amount of money—at the moment between $27,000 and $43,000 per pound, though that will likely drop in the future —each 19 reduction in payload size saves money or means more can be launched. At the same time, the ability to fit more capability into a smaller satellite opens outer space to actors that previously were priced out of the market. This is one of the reasons why small, affordable satellites are increasingly pursued by companies or organizations that cannot afford to launch larger traditional satellites. These small 20 satellites also provide non-traditional launchers, such as engineering students or prototypers, the opportunity to learn about satellite production and test new technologies before working on a full-sized satellite. That expansion of developers, experimenters, and testers cannot but help increase innovation opportunities. Technological developments from outer space have been applied to terrestrial life

since the earliest days of space exploration. The National Aeronautics and Space Administration (NASA) maintains a website that lists technologies that have spun off from such research projects. Lightweight 21 nanotubes, useful in protecting astronauts during space exploration, are now being tested for applications in emergency response gear and electrical insulation. The need for certainty about the resiliency of materials used in space led to the development of an analytics tool useful across a range of industries. Temper foam, the material used in memory-foam pillows, was developed for NASA for seat covers. As more companies pursue their own space goals, more innovations will likely come from the commercial sector. Outer space is not just a catalyst for technological development. Satellite constellations and their unique line-of-sight vantage point can provide new perspectives to old industries. Deploying satellites into low-Earth orbit, as Facebook wants to do, can connect large, previously-unreached swathes of 22 humanity to the Internet. Remote sensing technology could change how whole industries operate, such as crop monitoring, herd management, crisis response, and land evaluation, among others. 23 While satellites cannot provide all essential information for some of these industries, they can fill in some useful gaps and work as part of a wider system of tools. Space infrastructure, in helping to change how people connect and perceive Earth, could help spark innovations on the ground as well. These innovations, changes to global networks, and new opportunities could lead to wider economic growth.

#### Strong Innovation solves Extinction.

Matthews 18 Dylan Matthews 10-26-2018 “How to help people millions of years from now” <https://www.vox.com/future-perfect/2018/10/26/18023366/far-future-effective-altruism-existential-risk-doing-good> (Co-founder of Vox, citing Nick Beckstead @ Rutgers University)//Re-cut by Elmer

If you care about improving human lives, you should overwhelmingly care about those quadrillions of lives rather than the comparatively small number of people alive today. The 7.6 billion people now living, after all, amount to less than 0.003 percent of the population that will live in the future. It’s reasonable to suggest that those quadrillions of future people have, accordingly, hundreds of thousands of times more moral weight than those of us living here today do. That’s the basic argument behind Nick Beckstead’s 2013 Rutgers philosophy dissertation, “On the overwhelming importance of shaping the far future.” It’s a glorious mindfuck of a thesis, not least because Beckstead shows very convincingly that this is a conclusion any plausible moral view would reach. It’s not just something that weird utilitarians have to deal with. And Beckstead, to his considerable credit, walks the walk on this. He works at the Open Philanthropy Project on grants relating to the far future and runs a charitable fund for donors who want to prioritize the far future. And arguments from him and others have turned “long-termism” into a very vibrant, important strand of the effective altruism community. But what does prioritizing the far future even mean? The most literal thing it could mean is preventing human extinction, to ensure that the species persists as long as possible. For the long-term-focused effective altruists I know, that typically means identifying concrete threats to humanity’s continued existence — like unfriendly artificial intelligence, or a pandemic, or global warming/out of control geoengineering — and engaging in activities to prevent that specific eventuality. But in a set of slides he made in 2013, Beckstead makes a compelling case that while that’s certainly part of what caring about the far future entails, approaches that address specific threats to humanity (which he calls “targeted” approaches to the far future) have to complement “broad” approaches, where instead of trying to predict what’s going to kill us all, you just generally try to keep civilization running as best it can, so that it is, as a whole, well-equipped to deal with potential extinction events in the future, not just in 2030 or 2040 but in 3500 or 95000 or even 37 million. In other words, caring about the far future doesn’t mean just paying attention to low-probability risks of total annihilation; it also means acting on pressing needs now. For example: We’re going to be better prepared to prevent extinction from AI or a supervirus or global warming if society as a whole makes a lot of scientific progress. And a significant bottleneck there is that the vast majority of humanity doesn’t get high-enough-quality education to engage in scientific research, if they want to, which reduces the **odds that we have enough trained scientists to come up with the breakthroughs** we need as a civilization to survive and thrive. So maybe one of the best things we can do for the far future is to improve school systems — here and now — to harness the group economist Raj Chetty calls “lost Einsteins” (potential innovators who are thwarted by poverty and inequality in rich countries) and, more importantly, the hundreds of millions of kids in developing countries dealing with even worse education systems than those in depressed communities in the rich world. What if living ethically for the far future means living ethically now? Beckstead mentions some other broad, or very broad, ideas (these are all his descriptions): Help make computers faster so that people everywhere can work more efficiently Change intellectual property law so that technological innovation can happen more quickly Advocate for open borders so that people from poorly governed countries can move to better-governed countries and be more productive Meta-research: improve incentives and norms in academic work to better advance human knowledge Improve education Advocate for political party X to make future people have values more like political party X ”If you look at these areas (economic growth and technological progress, access to information, individual capability, social coordination, motives) a lot of everyday good works contribute,” Beckstead writes. “An implication of this is that a lot of everyday good works are good from a broad perspective, even though hardly anyone thinks explicitly in terms of far future standards.” Look at those examples again: It’s just a list of what normal altruistically motivated people, not effective altruism folks, generally do. Charities in the US love talking about the lost opportunities for innovation that poverty creates. Lots of smart people who want to make a difference become scientists, or try to work as teachers or on improving education policy, and lord knows there are plenty of people who become political party operatives out of a conviction that the moral consequences of the party’s platform are good. All of which is to say: Maybe effective altruists aren’t that special, or at least maybe we don’t have access to that many specific and weird conclusions about how best to help the world. If the far future is what matters, and generally trying to make the world work better is among the best ways to help the far future, then effective altruism just becomes plain ol’ do-goodery.

## Case

#### Solvency- nationalizing space doesn’t break down cap but j lets private companies exist under the guise of public use

* **Cap exists in ways outside of private space --- no reason why it is key to upholding cap and cx proves that**

#### On the 1 pt on thanos paradox – the aff assumes the end of the world

No solv / enf

#### Green cap is the only way to solve climate change

**Scales 17** (Ivan R., Sir Harvey McGrath lecturer in Geography and Fellow, St Catharine's College, "Green capitalism", The International Encyclopedia of Geography, 2017, DOA: 7-26-2017) //Snowball

Although the various ideas underpinning green capitalism have a long history, it is only since the emergence of the concept of sustainable development in the 1980s that they have become mainstream. This represents a significant shift away from the “limits to growth” and “zero growth” environmentalism of the 1960s and 1970s, which argued for radical political, economic, and cultural changes to drastically cut production and consumption. Green capitalism also fits well with neoliberal economic thinking, which places an emphasis on individual liberty, minimal involvement of the state, and free markets as the most efficient way to coordinate the diverse needs of people.

Emerging forms of green capitalism

Accounting for nature and paying for ecosystem services There have been growing efforts to include the value of natural capital into business activities and government policy. These depend on (i) being able to calculate the value of various ecosystem services and (ii) creating mechanisms whereby those who benefit from ecosystem services pay those who maintain those services. Calculating the economic value of ecosystem services remains technically challenging. With regard to creating financial flows to pay for natural capital, the most advanced attempts to establish such schemes have been under the banner of Payments for Ecosystem Services (PES). These are defined as voluntary transactions that involve the purchase of a well-defined ecosystem service from a service provider, who is paid if (and only if) the provision of that ecosystem service is secured (Wunder 2005). From a green capitalist perspective the advantage of PES is that they conform to Coase’s view that environmental issues are best left to negotiations between individuals or groups with clear ownership rights over natural resources.

A green industrial revolution: harnessing the competitive and innovative aspects of market forces to improve manufacturing processes

Internalizing the value of natural capital into the operation of markets is the first step toward green capitalism. Once pollution has a cost and natural capital has financial value it is expected that the logic of capitalism will drive innovation and efficiency to reduce costs and maximize income. In the same way that the first industrial revolution harnessed machinery and new forms of fossil fuel energy to dramatically increase productivity, a green industrial revolution would harness technology to deliver radical improvements in efficiency.

Hawken, Lovins, and Lovins (1999) propose a range of ways that a green industrial revolution might occur. First, radical improvements in productivity and efficiency could allow societies to produce more from fewer resources. Looking at the automobile industry, for example, ultra-light “hypercars” with fuel-efficient engines could dramatically reduce fuel consumption. In order to generate radical leaps in productivity, Hawken, Lovins, and Lovins (1999) advocate biomimicry, a design principle that imitates biological processes and structures in order to improve manufacturing and create new materials. For example, the physical properties of spider silk could be mimicked to make ultra-strong and ultra-light materials.

#### Capitalism is self-correcting and sustainable.

Kaletsky ’11 (Anatole, editor-at-large of *The Times* of London, where he writes weekly columns on economics, politics, and international relationsand on the governing board of the New York-based Institute for New Economic Theory (INET), a nonprofit created after the 2007-2009 crisis to promote and finance academic research in economics, Capitalism 4.0: The Birth of a New Economy in the Aftermath of Crisis, p. 19-21)

Democratic capitalism is a system built for survival. It has adapted successfully to shocks of every kind, to upheavals in technology and economics, to political revolutions and world wars. Capitalism has been able to do this because, unlike communism or socialism or feudalism, it has an inner dynamic akin to a living thing. It can adapt and refine itself in response to the changing environment. And it will evolve into a new species of the same capitalist genus if that is what it takes to survive. In the panic of 2008—09, many politicians, businesses, and pundits forgot about the astonishing adaptability of the capitalist system. Predictions of global collapse were based on static views of the world that extrapolated a few months of admittedly terrifying financial chaos into the indefinite future. The self-correcting mechanisms that market economies and democratic societies have evolved over several centuries were either forgotten or assumed defunct. The language of biology has been applied to politics and economics, but rarely to the way they interact. Democratic capitalism’s equivalent of the biological survival instinct is a built-in capacity for solving social problems and meeting material needs. This capacity stems from the principle of competition, which drives both democratic politics and capitalist markets. Because market forces generally reward the creation of wealth rather than its destruction, they direct the independent efforts and ambitions of millions of individuals toward satisfying material demands, even if these demands sometimes create unwelcome by-products. Because voters generally reward politicians for making their lives better and safer, rather than worse and more dangerous, democratic competition directs political institutions toward solving rather than aggravating society’s problems, even if these solutions sometimes create new problems of their own. Political competition is slower and less decisive than market competition, so its self-stabilizing qualities play out over decades or even generations, not months or years. But regardless of the difference in timescale, capitalism and democracy have one crucial feature in common: Both are mechanisms that encourage individuals to channel their creativity, efforts, and competitive spirit into finding solutions for material and social problems. And in the long run, these mechanisms work very well. If we consider democratic capitalism as a successful problem-solving machine, the implications of this view are very relevant to the 2007-09 economic crisis, but diametrically opposed to the conventional wisdom that prevailed in its aftermath. Governments all over the world were ridiculed for trying to resolve a crisis caused by too much borrowing by borrowing even more. Alan Greenspan was accused of trying to delay an inevitable "day of reckoning” by creating ever-bigger financial bubbles. Regulators were attacked for letting half-dead, “zombie” banks stagger on instead of putting them to death. But these charges missed the point of what the democratic capitalist system is designed to achieve. In a capitalist democracy whose raison d’etre is to devise new solutions to long-standing social and material demands, a problem postponed is effectively a problem solved. To be more exact, a problem whose solution can be deferred long enough is a problem that is likely to be solved in ways that are hardly imaginable today. Once the self-healing nature of the capitalist system is recognized, the charge of “passing on our problems to our grand-children”—whether made about budget deficits by conservatives or about global warming by liberals—becomes morally unconvincing. Our grand-children will almost certainly be much richer than we are and will have more powerful technologies at their disposal. It is far from obvious, therefore, why we should make economic sacrifices on their behalf. Sounder morality, as well as economics, than the Victorians ever imagined is in the wistful refrain of the proverbially optimistic Mr. Micawber: "Something will turn up."

#### Free market capitalism has drastically improved the world.

Empirical education in child mortality and increase in life expectancy, development of tech innovation in the private market k2 medical advances, food production increased with agriculture tech green revolution, also decreased armed conflicts

Feyman 14 Yevgeniy [adjunct fellow at the Manhattan Institute. He writes on health care policy, entitlement reform, and the Affordable Care Act. His research has focused on a variety of topics, including the physician shortage, the cost of health care reform, and consumer-directed health care. Feyman was previously the deputy director of health policy at the Manhattan Institute and is currently a research assistant in the department of health policy at the Harvard T.H. Chan School of Public Health] “The Golden Age Is Now” May 23, 2014. IB

In How Much Have Global Problems Cost the World? Lomborg and a group of economists conclude that, with a few exceptions, the world is richer, freer, healthier, and smarter than it’s ever been. These gains have coincided with the near-universal rejection of statism and the flourishing of capitalist principles. At a time when political figures such as New York City mayor Bill de Blasio and religious leaders such as Pope Francis frequently remind us about the evils of unfettered capitalism, this is a worthwhile message. The doubling of human life expectancy is one of the most remarkable achievements of the past century. Consider, Lomborg writes, that “the twentieth century saw life expectancy rise by about 3 months for every calendar year.” The average child in 1900 could expect to live to just 32 years old; now that same child should make it to 70. This increase came during a century when worldwide economic output, driven by the spread of capitalism and freedom, grew by more than 4,000 percent. These gains occurred in developed and developing countries alike; among men and women; and even in a sense among children, as child mortality plummeted. Why are we living so much longer? Massive improvements in public health certainly played an important role. The World Health Organization’s global vaccination efforts essentially eradicated smallpox. But this would have been impossible without the innovative methods of vaccine preservation developed in the private sector by British scientist Leslie Collier. Oral rehydration therapies and antibiotics have also been instrumental in reducing child mortality. Simply put, technological progress is the key to these gains—and market economies have liberated, and rewarded, technological innovation. People are not just living longer, but better—sometimes with government’s help, and sometimes despite it. Even people in the developing countries of Africa and Latin America are better educated and better fed than ever before. Hundreds of thousands of children who would have died during previous eras due to malnutrition are alive today. Here, we can thank massive advancements in agricultural production unleashed by the free market. In the 1960s, privately funded agricultural researchers bred new, high-yield strains of corn, wheat, and various other crops thanks to advances in molecular genetics. Globalization helped spread these technologies to developing countries, which used them not only to feed their people, but also to become export powerhouses. This so-called “green revolution” reinforced both the educational progress (properly nourished children tend to learn more) and the life-expectancy gains (better nutrition leads to better health) of the twentieth century. These children live in a world with fewer armed conflicts, netting what the authors call a “peace dividend.” Globalization and trade liberalization have surely contributed to this more peaceful world (on aggregate). An interdependent global economy makes war costly. Of course, problems remain. As Lomborg points out, most foreign aid likely does little to boost economic welfare, yet hundreds of billions of dollars in “development assistance” continue to flow every year from developed countries to the developing world. Moreover, climate change is widely projected to intensify in the second half of the twenty-first century, and will carry with it a significant economic cost. But those familiar with the prior work of the “skeptical environmentalist” understand that ameliorating these effects over time could prove wasteful. Lomborg notes that the latest research on climate change estimates a net cost of 0.2 to 2 percent of GDP from 2055 to 2080. The same report points out that in 2030, mitigation costs may be as high as 4 percent of GDP. Perhaps directing mitigation funding to other priorities—curing AIDS for instance—would be a better use of the resources. Lomborg’s main message? Ignore those pining for the “good old days.” Thanks to the immense gains of the past century, there has never been a better time to be alive.

#### Empirics outweigh everything – they take into account every factor, which predictive evidence can’t.

#### Rejection of capitalism causes massive transition wars

Harris 03. Lee, Analyst – Hoover Institution and Author of The Suicide of Reason, “The Intellectual Origins of America-Bashing”, Policy Review, January, http://www.hoover.org/publications/policyreview/3458371.html

This is the immiserization thesis of Marx. And it is central to revolutionary Marxism, since if capitalism produces no widespread misery, then it also produces no fatal internal contradiction: If everyone is getting better off through capitalism, who will dream of struggling to overthrow it? Only genuine misery on the part of the workers would be sufficient to overturn the whole apparatus of the capitalist state, simply because, as Marx insisted, the capitalist class could not be realistically expected to relinquish control of the state apparatus and, with it, the monopoly of force. In this, Marx was absolutely correct. No capitalist society has ever willingly liquidated itself, and it is utopian to think that any ever will. Therefore, in order to achieve the goal of socialism, nothing short of a complete revolution would do; and this means, in point of fact, a full-fledged civil war not just within one society, but across the globe. Without this catastrophic upheaval, capitalism would remain completely in control of the social order and all socialist schemes would be reduced to pipe dreams.

#### Extinction

Nyquist 5. J.R. renowned expert in geopolitics and international relations, WorldNetDaily contributing editor, “The Political Consequences of a Financial Crash,” February 4, www.financialsense.com/stormw...2005/0204.html

Should the United States experience a severe economic contraction during the second term of President Bush, the American people will likely support politicians who advocate further restrictions and controls on our market economy – guaranteeing its strangulation and the steady pauperization of the country. In Congress today, Sen. Edward Kennedy supports nearly all the economic dogmas listed above. It is easy to see, therefore, that the coming economic contraction, due in part to a policy of massive credit expansion, will have serious political consequences for the Republican Party (to the benefit of the Democrats). Furthermore, an economic contraction will encourage **the formation of** anti-capitalist majorities and a turning away from the free market system. The danger here is not merely economic. The political left openly favors the collapse of America’s strategic position abroad. The withdrawal of the United States from the Middle East, the Far East and Europe would catastrophically impact an international system that presently allows 6 billion people to live on the earth’s surface in relative peace. Should anti-capitalist dogmas overwhelm the global market and trading system that evolved under American leadership, the planet’s economy would contract and untold millions would die of starvation. Nationalistic totalitarianism, fueled by a politics of blame, would once again bring war to Asia and Europe. But this time the war would be waged with mass destruction weapons and the United States would be blamed because it is the center of global capitalism. Furthermore, if the anti-capitalist party gains power in Washington, we can expect to see policies of appeasement and unilateral disarmament enacted. American appeasement and disarmament, in this context, would be an admission of guilt before the court of world opinion. Russia and China, above all, would exploit this admission to justify aggressive wars, invasions and mass destruction attacks. A future financial crash, therefore, must be prevented at all costs.