# 1NC

## Case

### Framing

**1] Moral uncertainty means preventing extinction should be our highest priority.  
Bostrom 12** [Nick Bostrom. Faculty of Philosophy & Oxford Martin School University of Oxford. “Existential Risk Prevention as Global Priority.” Global Policy (2012)]  
These reflections on **moral uncertainty suggest** an alternative, complementary way of looking at existential risk; they also suggest a new way of thinking about the ideal of sustainability. Let me elaborate.¶ **Our present understanding of axiology might** well **be confused. We may not** nowknow — at least not in concrete detail — what outcomes would count as a big win for humanity; we might not even yet **be able to imagine the best ends** of our journey. **If we are** indeedprofoundly **uncertain** about our ultimate aims,then we should recognize that **there is a great** option **value in preserving** — and ideally improving — **our ability to recognize value and** to **steer the future accordingly. Ensuring** that **there will be a future** version of **humanity** with great powers and a propensity to use them wisely **is** plausibly **the best way** available to us **to increase the probability that the future will contain** a lot of **value.** To do this, we must prevent any existential catastrophe.

2] Independently, extinction turns suffering impacts – mass death causes massive amounts of structural violence

#### 3] The future definitively outweighs the present under any framework

Todd ’17 [Benjamin, Ben managed 80,000 Hours while it grew from a lecture, to a student society, to the organisation it is today. Before 80,000 Hours, he was the first undergraduate to intern as an analyst at a top investment fund. He has a 1st from Oxford in Physics and Philosophy, has published in Climate Physics, once kick-boxed for Oxford, and speaks Chinese, badly, “Future generations and their moral significance”, October 2017, https://80000hours.org/articles/future-generations/]//pranav

In almost all of these cases, there’s potentially a lot more of it to come in the future: The Earth could remain habitable for 600-800 million years,1 so there could be about 21 million future generations,2 and they could lead great lives, whatever you think “great” consists of. Even if you don’t think future generations matter as much as the present generation, since there could be so many of them, they could still be our key concern. Civilization could also eventually reach other planets — there are 100 billion planets in the Milky Way alone.3 So, even if there’s only a small chance of this happening, there could also be dramatically more people per generation than there are today. By reaching other planets, civilization could also last even longer than if we stay on the Earth.If you think it’s good for people to live happier and more flourishing lives, there’s a possibility that technology and social progress will let people have much better and longer lives in the future (including those in the present generation). So, putting these first three points together, there could be many more generations, with far more people, living much better lives. The three dimensions multiply together to give the potential scale of the future. If what you value is justice and virtue, then the future could be far more just and virtuous than the world today.4 If what you value is artistic and intellectual achievement, a far wealthier and bigger civilization could have far greater achievements than our own. And so on. This suggests that, insofar as you care about making the world a better place, your key concern should be to increase the chance that the future goes well rather than badly. This isn’t to deny that you have special obligations to your friends and family, and an interest in your own life going well. We’re only talking about what matters insofar as you care about helping others in general. Philosophers often say what matters “from the point of view of the universe” or according to “impartial altruism”. We think everyone should care about the lives of other people to some degree, even though it might not be your only goal. People often assume the long-term value thesis is especially about the possibility of there being lots of people in the future, and so only of interest to a narrow range of ethical views (especially utilitarian totalism), but as we can see in the list above, it’s actually much broader. It just rests on the idea that if something is of value, it’s better to have more of what’s valuable rather than less, and that it’s possible to have much more of it in the future. This might include non-welfare values, such as beauty or knowledge. The arguments are also not about humans; rather, they concern whatever agents in the future might have moral value, including other species. People also often think that the long-term value thesis assumes the future will have positive rather than negative value. Quite the opposite is true — the future could also contain far more suffering than the present, and this implies even more concern for how it unfolds. It’s important to reduce the probability of bad futures as well as increase the probability of good ones.

#### 4] Focus on large scale catastrophes is good and they outweigh – appeals to social costs, moral rules, and securitization play into cognitive bias and flawed risk calculus – 2020 is living proof

Weber 20 (ELKE U. WEBER is Gerhard R. Andlinger Professor in Energy and the Environment and Professor of Psychology and Public Affairs at Princeton University.), November-December 2020 Issue, "Heads in the Sand," Foreign Affairs, <https://www.foreignaffairs.com/articles/2020-10-13/heads-sand> mvp

We are living in a time of crisis. From the immediate challenge of the COVID-19 pandemic to the looming existential threat of climate change, the world is grappling with massive global dangers—to say nothing of countless problems within countries, such as inequality, cyberattacks, unemployment, systemic racism, and obesity. In any given crisis, the right response is often clear. Wear a mask and keep away from other people. Burn less fossil fuel. Redistribute income. Protect digital infrastructure. The answers are out there. What’s lacking are governments that can translate them into actual policy. As a result, the crises continue. The death toll from the pandemic skyrockets, and the world makes dangerously slow progress on climate change, and so on.

It’s no secret how governments should react in times of crisis. First, they need to be nimble. Nimble means moving quickly, because problems often grow at exponential rates: a contagious virus, for example, or greenhouse gas emissions. That makes early action crucial and procrastination disastrous. Nimble also means adaptive. Policymakers need to continuously adjust their responses to crises as they learn from their own experience and from the work of scientists. Second, governments need to act wisely. That means incorporating the full range of scientific knowledge available about the problem at hand. It means embracing uncertainty, rather than willfully ignoring it. And it means thinking in terms of a long time horizon, rather than merely until the next election. But so often, policymakers are anything but nimble and wise. They are slow, inflexible, uninformed, overconfident, and myopic.

Why is everyone doing so badly? Part of the explanation lies in the inherent qualities of crises. Crises typically require navigating between risks. In the COVID-19 pandemic, policymakers want to save lives and jobs. With climate change, they seek a balance between avoiding extreme weather and allowing economic growth. Such tradeoffs are hard as it is, and they are further complicated by the fact that costs and benefits are not evenly distributed among stakeholders, making conflict a seemingly unavoidable part of any policy choice. Vested interests attempt to forestall needed action, using their money to influence decision-makers and the media. To make matters worse, policymakers must pay sustained attention to multiple issues and multiple constituencies over time. They must accept large amounts of uncertainty. Often, then, the easiest response is to stick with the status quo. But that can be a singularly dangerous response to many new hazards. After all, with the pandemic, business as usual would mean no social distancing. With climate change, it would mean continuing to burn fossil fuels.

But the explanation for humanity’s woeful response to crises goes beyond politics and incentives. To truly understand the failure to act, one must turn to human psychology. It is there that one can grasp the full impediments to proper decision-making—the cognitive biases, emotional reactions, and suboptimal shortcuts that hold policymakers back—and the tools to overcome them.

AVOIDING THE UNCOMFORTABLE

People are singularly bad at predicting and preparing for catastrophes. Many of these events are “black swans,” rare and unpredictable occurrences that most people find difficult to imagine, seemingly falling into the realm of science fiction. Others are “gray rhinos,” large and not uncommon threats that are still neglected until they stare you in the face (such as a coronavirus outbreak). Then there are “invisible gorillas,” threats in full view that should be noticed but aren’t—so named for a psychological experiment in which subjects watching a clip of a basketball game were so fixated on the players that they missed a person in a gorilla costume walking through the frame. Even professional forecasters, including security analysts, have a poor track record when it comes to accurately anticipating events. The COVID-19 crisis, in which a dystopic science-fiction narrative came to life and took everyone by surprise, serves as a cautionary tale about humans’ inability to foresee important events.

Not only do humans fail to anticipate crises; they also fail to respond rationally to them. At best, people display “bounded rationality,” the idea that instead of carefully considering their options and making perfectly rational decisions that optimize their preferences, humans in the real world act quickly and imperfectly, limited as they are by time and cognitive capacity. Add in the stress generated by crises, and their performance gets even worse.

Because humans don’t have enough time, information, or processing power to deliberate rationally, they have evolved easier ways of making decisions. They rely on their emotions, which serve as an early warning system of sorts: alerting people that they are in a positive context that can be explored and exploited or in a negative context where fight or flight is the appropriate response. They also rely on rules. To simplify decision-making, they might follow standard operating procedures or abide by some sort of moral code. They might decide to imitate the action taken by other people whom they trust or admire. They might follow what they perceive to be widespread norms. Out of habit, they might continue to do what they have been doing unless there is overwhelming evidence against it.

Not only do humans fail to anticipate crises; they also fail to respond rationally to them.

Humans evolved these shortcuts because they require little effort and work well in a broad range of situations. Without access to a real-time map of prey in different hunting grounds, for example, a prehistoric hunter might have resorted to a simple rule of thumb: look for animals where his fellow tribesmen found them yesterday. But in times of crisis, emotions and rules are not always helpful drivers of decision-making. High stakes, uncertainty, tradeoffs, and conflict—all elicit negative emotions, which can impede wise responses. Uncertainty is scary, as it signals an inability to predict what will happen, and what cannot be predicted might be deadly. The vast majority of people are already risk averse under normal circumstances. Under stress, they become even more so, and they retreat to the familiar comfort of the status quo. From gun laws to fossil fuel subsidies, once a piece of legislation is in place, it is hard to dislodge it, even when cost-benefit analysis argues for change.

LBL –

The ansell ev just doesn’t have a warrant for comparative weighing – it j says s/v is bad – sure but extinction o/w

The ahmann ev – a) extinction is a pre-req – threats to bodily security prevent our ability to act on their impacts b) no erasure warrant and it’s not erasure, but rather an impact magnifier

Winter & Leighton is j a hippie we should all love eachother argument which is so reductionist and isn’t prescriptive – at best says we should recognize violence but doesn’t explain how to act after

### UV

DTA & reasonability on 1ar theory – no infinite abuse bc 7 min NC & getting more efficient solves skew. Indepenently, no 3nr means dta & reasonability key to chek 1ar underdeveloped shells.

Group 1AC 1& 2 – they are just rants by random writers that don’t have REAL warrants – it just asserts an analysis of motivation but ignores the tangible things that they’re doing – ask yourself why we should care that someone gets off from looking like a rescuer when they’re massively innovating the space sector – their innovation denialism just straight up ignores empirics.

1AC 3 – it just says space col bad and presumes no future legislation which solves their only terminal impact -- which I’ll impact turn –

#### Space colonization is good and possible – new developing tech and adaptation solves civil war, extinction, civilization collapse, and exploration defense doesn’t apply.

Kennedy ’19 [Fred, “To Colonize Space Or Not To Colonize: That Is The Question (For All Of Us)”, 12-18-2019, Forbes, https://www.forbes.com/sites/fredkennedy/2019/12/18/to-colonize-or-not-to-colonize--that-is-the-question-for-all-of-us/?sh=65a8d2702367]//pranav

It’s important to distinguish between colonize and explore. Exploration already enjoys broad approval here in America. In June, 77% of U.S. respondents told Gallup pollsters that NASA’s budget should either be maintained or increased – undeniable evidence of support for the American space program (as it’s currently constituted). By any measure, we’ve done an admirable job of surveying the solar system over the past 60 years – an essential first step in any comprehensive program of exploration. Unmanned probes developed and launched by the United States and the Soviet Union conducted flybys of the Moon and the terrestrial planets not long after we reached Earth orbit, and since then, we’ve flown by the outer planets. Multiple nations have placed increasingly sophisticated robotic emissaries on the surfaces of the Moon, Mars, Venus and Saturn’s largest moon, Titan. Most stunningly, in a tour de force of technology and Cold War chutzpah, the U.S. dispatched humans to set foot on another world, just 50 years and a few months ago. But after only six such visits, we never returned. Moon habitats in lava tubes, crops under glass domes, ice mining at the south pole? No. NASA’s Artemis program may place a man and a woman on the Moon again in 2024. But that’s hardly colonization. For perspective, let’s look closer to home. Sailors from an American vessel may have landed on Antarctica as early as 1821 – the claim is unverified – but no scientific expeditions “wintered” there for another 75 years. The first two of these, one Belgian and one British, endured extreme cold and privation – one inadvertently, the other by design. And yet, 200 years after the first explorer set foot on the continent, there are no permanent settlements (partially as a result of a political consensus reached in the late 1950s, but in no small part due to the difficulty of extracting resources such as ore or fossil fuels through kilometers of ice). Less than 5,000 international researchers and support staff comprise the “summer population” at the bottom of the world. That number dwindles to just 1,100 during the harsh Antarctic winter, requiring millions of tons of supplies and fuel to be delivered every year – none of which can be produced locally. To suggest that Antarctica is colonized would be far overstating the sustainability of human presence there. If Antarctica is hard, the Moon, Mars, asteroids, and interplanetary space will be punishingly difficult. Writing in Gizmodo this past July, George Dvorsky describes the challenges to a human colony posed by low gravity, radiation, lack of air and water, and the psychological effects of long-term confinement and isolation inside artificial structures, in space or on planetary surfaces. Add to this the economic uncertainties of such a venture – where the modern analog of a Dutch or British East India Company would face enormous skepticism from investors regarding the profitability of shipping any good or finished product between colonial ports of call – and it becomes clear why nation states and mega-corporations alike have so far resisted the temptation to set up camp beyond geosynchronous orbit. Perhaps, many argue, we should focus our limited resources on unresolved problems here at home? Yet a wave of interest in pursuing solar system colonization is building, whether its initial focus is the Moon, Mars, or O’Neill-style space habitats. Jeff Bezos has argued eloquently for moving heavy industry off the home planet, preserving Earth as a nature reserve, and building the space-based infrastructure that will lower barriers and create opportunities for vast economic and cultural growth (similar to how the Internet and a revolution in microelectronics has allowed Amazon and numerous other companies to achieve spectacular wealth). Elon Musk and Stephen Hawking both suggested the need for a “hedge” population of humans on Mars to allow human civilization to reboot itself in the event of a catastrophe on Earth – an eggs-in-several-baskets approach which actually complements the arguments made by Bezos. And while both are valid reasons for pursuing colonization, there’s a stronger, overarching rationale that clinches it. I’ll assert that a fundamental truth – repeatedly borne out by history – is that expanding, outwardly-focused civilizations are far less likely to turn on themselves, and far more likely to expend their fecundity on growing habitations, conducting important research and creating wealth for their citizens. A civilization that turns away from discovery and growth stagnates – a point made by NASA’s Chief Historian Steven Dick as well as Mars exploration advocate Robert Zubrin. As a species, we have yet to resolve problems of extreme political polarization (both internal to nation states as well as among them), inequalities in wealth distribution, deficiencies in civil liberties, environmental depredations and war. Forgoing opportunities to expand our presence into the cosmos to achieve better outcomes here at home hasn’t eliminated these scourges. What’s more, the “cabin fever” often decried by opponents of colonization (when applied to small, isolated outposts far from Earth) turns out to be a potential problem for our own planet. Without a relief valve for ideological pilgrims or staunch individualists who might just prefer to be on their own despite the inevitable hardships, we may well run the risk of exacerbating the polarization and internecine strife we strive so hard to quell. Focusing humanity’s attention and imagination on a grand project may well give us the running room we need to address these problems. But the decision cannot be made by one country, or one company, or one segment of the human population. If we do this, it will of necessity be a truly international endeavor, a cross-sector endeavor (with all commercial, civil, and defense interests engaged and cooperating). The good news: Critical technologies such as propulsion and power generation systems will improve over time. Transit durations between celestial destinations will shorten (in the same way sailing vessels gave way to steam ships and then to airliners and perhaps, one day, to point-to-point ballistic reusable rockets). Methods for obtaining critical resources on other planets will be refined and enhanced. Genetic engineering may be used to better adapt humans, their crops and other biota to life in space or on other planetary surfaces – to withstand the effects of low or micro-gravity, radiation, and the psychological effects of long-duration spaceflight.

#### Colony violence is wrong – settlement solves it AND nuclear war – Overview Effect proves.

Globus ’20 [Al, co-founded the NASA Ames Space Settlement Contest for 6-12th grade students. 6-12th grade students. He also co-founded the NASA Ames Nanotechnology Group, which, at first, worked on materials for space elevators and diamondoid machine phase matter to build $50,000 personal spacecraft. He has designed three orbital space settlements (Lewis One, Kalpana One, and Kalpana Two) and published over 45 papers in technical conferences and journals, won a Feynman Prize in Nanotechnology, a NASA Software of the Year award, and a NASA Public Service Medal. He has discussed space colonization and nanotechnology on the History Channel, Danish radio, a French magazine, on a European Commission video, and elsewhere. He is co-author of the book The High Frontier: An Easier Way, “Not so dark skies”, 07-13-2020, https://www.thespacereview.com/article/3985/1]//pranav

War (Geopolitical Malefic)

Argument: Space settlement creates an endless frontier extending for millions of light-years into the cosmos. Frontiers tend to be violent places, creating wars not only at the frontier but between the polities that support the expansion. The vast size of the cosmos means that settlers are widely separated for much of the time, perhaps even evolving new species. When they come close enough to interact there may be little fellow feeling and little reluctance for the stronger to exterminate the weaker.

Counter-argument: With space settlement development there are a number of factors inhibiting violence and warfare. For one, the vast energy and materials resources available will tend to make resource wars obsolete. The fragility of space settlements, particularly free-space settlements in orbit, mandates that settlers avoid pointless provocations and chest-beating exercises. The enormous size of the space inhabited, up to and including the entire galaxy, makes it extremely unlikely that war will consume more than a small fraction of the population and resources available. It is difficult, if not impossible, to predict whether space settlement will lead to an increase or decrease in the odds that any given individual or group is involved in warfare or not. Preventing space settlement may be more or less dangerous than allowing it to proceed; it’s impossible to say.

Comparison with no space settlement: It is reassuring that since World War II warfare has decreased substantially and rarely involves the great powers directly killing each other’s citizens. That is left to proxies. However, not all wars are intentional. Consider World War I and the Cuban Missile Crisis. These suggest that there is a possibility—some would say probability—of an accidental humanity-ending nuclear war.

Space settlement could reduce this probability a bit by exposing large numbers of people to the Overview Effect created by the view of Earth from space, where some astronauts have come to value Earth and the unity of Earth’s people much more than before. More substantively, a sufficiently developed space settlement society surviving a war can repopulate Earth and restock other species if prevention fails. Thus the chance of a humanity-ending nuclear war is much lower with a sufficiently advanced space settlement society.

#### New totalitarian state is empirically wrong and settlement solves the internal link.

Globus ’20 [Al, co-founded the NASA Ames Space Settlement Contest for 6-12th grade students. 6-12th grade students. He also co-founded the NASA Ames Nanotechnology Group, which, at first, worked on materials for space elevators and diamondoid machine phase matter to build $50,000 personal spacecraft. He has designed three orbital space settlements (Lewis One, Kalpana One, and Kalpana Two) and published over 45 papers in technical conferences and journals, won a Feynman Prize in Nanotechnology, a NASA Software of the Year award, and a NASA Public Service Medal. He has discussed space colonization and nanotechnology on the History Channel, Danish radio, a French magazine, on a European Commission video, and elsewhere. He is co-author of the book The High Frontier: An Easier Way, “Not so dark skies”, 07-13-2020, https://www.thespacereview.com/article/3985/1]//pranav

Totalitarian world government (Hierarchy Enablement)

Argument: According to Deudney, “The further large-scale expansion of human activity into solar space is likely to facilitate the emergence of a highly hierarchical world government on… Earth that could then be prone to become totalitarian” due to military pressure on Earth.

Counter-argument: The hypothesized facilitation of highly hierarchical world government is due to the hypothesized threat of attack specifically:

Bombardment by asteroids. But as we have seen, asteroids make inferior weapons.

Attack from low Earth orbit. In this scenario one entity controls Earth and another controls the orbital space near Earth, which can then be used to launch attacks. However, if a single entity controls both, this threat becomes moot.

With regard to turning totalitarian, it should be noted that none of the classic totalitarian states (Soviet Union, Germany, Italy, North Korea, and China) were subject to significantly more threat than other countries which did not turn totalitarian (e.g., the United Kingdom, France, Switzerland, etc.), suggesting that external pressure is not necessarily the driver towards totalitarianism. Indeed, South and North Korea shows that very similar countries in similar circumstance can be driven to either totalitarianism or democracy.

Comparison with no space settlement: If there is no settlement then there cannot be a threat originating from settlements so a comparison makes no sense.

### Solvency

#### Vote neg on presumption – space privatization may be an example of neolib, but no chance that they solve it:

#### None of their ev is reverse causal – industrial agriculture, the defense industrial base, Amazon, Koch Industries are all examples of capitalism – plus capitalism predates space exploration, which proves they don’t control the root cause

#### 1NC Penny and Schultz are critiques of growth mindset writ large – if governments are fundamentally neoliberal, they have the same incentives to appropriate space as private companies – the aff has zero bearing on NASA – means they don’t solve spatial fixes because NASA can appropriate space resources, then sell them to private companies – proven by existing contracts between NASA and NewSpace –

#### No brightline for when spatial fixes on Earth are exhausted – corporations will continue extracting resources from Earth even if it’s less lucrative

That means only let them weigh the sum total of capitalism that they resolve – I’ll give you a hint – it’s *next to nothing*.

No methodological offense – it’s infinitely regressive and super subjective – only evaluating the direct conseqeuncs of the affirmative solves.

#### Death star is impossible

Howell ’16 [https://www.space.com/35020-could-we-build-a-real-death-star.html]//pranav

Does the Death Star lie completely in the realm of fiction, or could such a thing ever be constructed in real life? In 2012, more than 25,000 people signed a petition asking the U.S. government to construct its own Death Star. The White House (as it is bound to do when petitions receive a certain number of signatures) considered the application and penned a discouraging but tongue-in-cheek response — among the concerns cited in the rejection letter were the cost of such a project, and the fact that a single, small spacecraft was apparently enough to destroy it (a significant flaw for such a massive project).

But it turns out that the biggest obstacles aren't just money or rebel spacecraft, but physics. Here are some opinions from experts Space.com consulted on why it would or would not be possible to build a real Death Star. [Rogue One: A Star Wars Story in Pictures]

If constructing the International Space Station was hard, the Death Star's complications dwarf that. Pyle says estimates indicate it would take 830,000 years of Earth's current steel output to create enough metal for the hull of the superstructure alone.

Rocket launches to send all that metal and other building materials to space would "pollute the atmosphere to the point that anyone left who could use the Death Star would have to live on it — Earth would be uninhabitable," Pyle said.

The cost is also difficult to bear: $850 quadrillion, according to the White House's response to the online petition, which is many times the U.S. national debt of about $20 trillion.

"The best way to build a Death Star would likely be to mine asteroids and possibly the moon for metals, print the massive parts, and then transport them to the neighborhood of the Earth or whatever planet you want to destroy," he said.

But even then, there are problems, he added. The Death Star is at most 100 miles (160 kilometers) in diameter, and would not be able to survive long in low Earth orbit. Although small objects can remain in low orbit around the Earth for hundreds of years with no propulsion, an object that large would fall out of orbit more quickly and crash into the surface. Putting it into a higher orbit is possible but would require a "prohibitive" amount of rocket fuel, Pyle said.

### 1NC – T/L – Impact

Their only comparative weighing card compares w a nuke war that only results in 232 million deaths not extinction – it’s just not comparable.

#### No shifty ‘no link’ args – they def link – Westwiood’s blue

1AC Penny 20

(Eleanor Penny is a writer, poet and essayist based in London. She is a senior editor at Novara Media, <https://inthesetimes.com/article/space-privatization-future-technology-silicon-valley-elon-musk-jeff-bezos>, 12-17)

Space is our birthright. ​“Americans should have the right to engage in commercial exploration, recovery and use of resources in outer space,” President Donald Trump wrote April 6, 2020, issuing the ​“Executive Order on Encouraging International Support for the Recovery and Use of Space Resources.” In the stroke of a pen, Trump planted the U.S. flag on ​“the Moon, Mars and other celestial bodies.” As Trump declared these space lands and resources open for business, you could hear the cheers — mostly from ​“moonshot” corporations that have clamored to sweep away the patchy, unregularized Cold War-era space law in favor of new, unregulated corporate plunder of the solar system. While the institution of private land ownership is now widely taken for granted, it was — like many so-called natural things — invented. Before the muddied, grueling transition from feudalism to capitalism, peasants in Britain and much of Western Europe depended on their right to farm, forage and harvest on common, community lands. The land was controlled by local lords, but it belonged (in a loose, de facto sense) to the communities living on it and dependent upon it. Eventually, common lands were ​“enclosed” and became the private property of aristocrats. This exclusive right to land use (to own and profit from land) was the contrivance that established the new economic order. No longer held in common, the planet’s resources were parceled off to strictly private hands. No longer could peasants scrape by, subsisting on the commons. Instead, they depended on the grace and favor of a wage. Life in feudal times was no bucolic idyll, but enclosure was synonymous with disaster, destitution and death for many people. This model was mirrored in the capture, theft and enclosure of colony lands, the people (and resources) of which fueled the early capitalist transition and later the industrial revolution. Capitalism must grow to persist, and as it grows it must transform ripe, unregularized commons into private fiefdoms — at home and afar. So it seems only ​“natural” to carve up the moon into stretches of valuable real estate, just like Manhattan and the metal mines in the Democratic Republic of Congo. After all, Earth’s resources dwindle by the day, and boundless resources beyond the stratosphere could be a backstop for planetary scarcity. Never mind that our crisis of resources is, in part, the result of this system of private ownership that rewards ruthless, short-term profiteering at the expense of the long-term survival of the natural commons. This future access to a new natural commons is now a stress test on governmental priorities. As Trump proclaimed, ​“Outer space is a legally and physically unique domain of human activity, and the United States does not view it as a global commons.” Trump’s executive order to ​“encourage international support for the public and private recovery and use of resources in outer space” heralds yet another public-private boondoggle, where nominally public institutions thrash out fresh boundaries of corporate activity. As an example, look no further than SpaceX’s Crew Dragon capsule, which successfully transported NASA astronauts Bob Behnken and Doug Hurley to the International Space Station on May 31, 2020. The NASA-SpaceX crossover branding leaves no room for misinterpretation: The next small steps for mankind will be giant leaps for corporate America. Elon Musk, who founded SpaceX in 2002, talks misty-eyed about a relatively near future when humanity will have risen out of the mud, setting its sights on colonizing Mars — with SpaceX transportation rocketing there. In 2020, Musk began launching a cavalcade of thousands of satellites into low-Earth orbit to form the Starlink satellite system. As of November 2020, nearly 900 satellites had been launched (42,000 are planned in total). This network will potentially seed an extraplanetary monopoly for key economic infrastructure, such as domestic internet access. Fellow billionaire escapist Jeff Bezos, Amazon CEO, has been romanced by the wealth among the stars as well, founding his own aerospace company, Blue Origin, back in 2000. ​“We are going to build a road to space,” Bezos said in 2019. ​“And then, amazing things will happen.” Bezos has invited us all to cosplay his daydreams with the Amazon-funded, interplanetary sci-fi thriller The Expanse, in which a roll call of stock anti-heroes (the rogue policeman, the war-beleaguered pilot, etc.) tumble through a far future when only wise plutocratic innovators can plumb interstellar riches and deliver the solar system from interstellar war. Microsoft, too, has its fingers in the intergalactic pie, launching Azure Orbital in September 2020 to enable satellite operators on its cloud computing platform, along with a SpaceX partnership the following month. According to Forbes, 2019 was a record year for private space investments, with ​“venture capitalists [investing] $5.8 billion in 178 commercial space startups worldwide.” As Earth’s billionaires burnish the power of new stratospheric tech, Trump launched Space Force, the first new branch of the U.S. military in more than seven decades. ​“Space is the world’s newest war-fighting domain,” Trump said. ​“Amid grave threats to our national security, American superiority in space is absolutely vital.” Space exploration has long been tied to military ambition. From its Cold War founding, NASA’s task was to advance the practical interests of the American state as it squared off against the Soviet behemoth. The new field of battle included space-guided missiles and satellite technology. Astronauts are still generally selected from the ranks of the military. Grumman (now better known as half of Northrop Grumman) made parts for both the NASA spacecraft that leapt into the great unknown and the military machines that waged war in Vietnam. As the shadow of nuclear war retreats in the bright light of a digital dawn, the mission of Space Force is to protect the economic and military infrastructure (communications and surveillance technology) seemingly threatened by rival global powers (namely, Russia and China) gearing up their own military space operations. The 1967 Outer Space Treaty, signed by the United States, the United Kingdom and the Soviet Union, attempted to guard against the militarization and the privatization of our shared stratosphere. The treaty limited governmental (and non-governmental) bodies from sending nuclear weapons into space and prohibited the annexation of the moon and temptingly mineral-rich asteroids. As the treaty outlined, any country could use and explore outer space but there could be no ​“appropriation” of astral territory. It was, at heart, a disarmament treaty — one whose ropey legalities were enforced by the now-defunct Cold War brinkmanship between its main two signatories. The treaty never foresaw the dizzying rise of private enterprise clamoring for a slice of the sky. Nor did it foresee the slow shelving of publicly funded U.S. space exploration (especially the manned variety) that would allow venture capitalists to stake their claim in a new space scramble.

#### Growth is sustainable – yes absolute decoupling

Hausfather 4/6 [(Zeke, climate scientist and energy systems analyst whose research focuses on observational temperature records, climate models, and mitigation technologies, PhD in climate science from the University of California, Berkeley, former research scientist with Berkeley Earth, senior climate analyst at Project Drawdown, and US analyst for Carbon Brief) “Absolute Decoupling of Economic Growth and Emissions in 32 Countries,” Breakthrough Institute, 4/6/2021] JL

The past 30 years have seen immense progress in improving the quality of life for much of humanity. Extreme poverty — the number of people living on less than $1.90 per day — has fallen by nearly two-thirds, from 1.9 billion to around 650 million. Life expectancy has risen in most of the world, along with literacy and access to education, while infant mortality has fallen. Despite perceptions to the contrary, the average person born today is likely to have access to more opportunities and have a better quality of life than at any other point in human history. Much of this increase in human wellbeing has been propelled by rapid economic growth driven largely by state-led industrial policy, particularly in poor-to-middle income countries.

However, this growth has come at a cost: between 1990 and 2019, global emissions of CO2 increased by 56%. Historically, economic growth has been closely linked to increased energy consumption — and increased CO2 emissions in particular — leading some to argue that a more prosperous world is one that necessarily has more impacts on our natural environment and climate. There is a lively academic debate about our ability to “absolutely decouple” emissions and growth — that is, the extent to which the adoption of clean energy technology can allow emissions to decline while economic growth continues.

Over the past 15 years, however, something has begun to change. Rather than a 21st century dominated by coal that energy modelers foresaw, global coal use peaked in 2013 and is now in structural decline. We have succeeded in making clean energy cheap, with solar power and battery storage costs falling 10-fold since 2009. The world produced more electricity from clean energy — solar, wind, hydro, and nuclear — than from coal over the past two years. And, according to some major oil companies, peak oil is upon us — not because we have run out of cheap oil to produce, but because demand is falling and companies expect further decline as consumers increasingly shift to electric vehicles.

The world has long been experiencing a relative decoupling between economic growth and CO2 emissions, with the emissions per unit of GDP falling for the past 60 years. This is the case even in countries like India and China that have been undergoing rapid economic growth. But relative decoupling alone is inadequate in a world where global CO2emissions need to peak and decline in the next decade to give us any chance at limiting warming to well below 2℃, in line with Paris Agreement targets.

Thankfully, there is increasing evidence that the world is on track to absolutely decouple CO2 emissions and economic growth — with global CO2 emissions potentially having peaked in 2019 and unlikely to increase substantially in the coming decade. While an emissions peak is just the first and easiest step towards eventually reaching the net-zero emissions required to stop the world from continuing to warm, it demonstrates that linkages between emissions and economic activity are not an immutable law, but rather simply a result of our current means of energy production.

In recent years we have seen more and more examples of absolute decoupling — economic growth accompanied by falling CO2 emissions. Since 2005, 32 countries with a population of at least one million people have absolutely decoupled emissions from economic growth, both for terrestrial emissions (those within national borders) and consumption emissions (emissions embodied in the goods consumed in a country). This includes the United States, Japan, Mexico, Germany, United Kingdom, France, Spain, Poland, Romania, Netherlands, Belgium, Portugal, Sweden, Hungary, Belarus, Austria, Bulgaria, El Salvador, Singapore, Denmark, Finland, Slovakia, Norway, Ireland, New Zealand, Croatia, Jamaica, Lithuania, Slovenia, Latvia, Estonia, and Cyprus. Figure 1, below, shows the declines in territorial emissions (blue) and increases in GDP (red).  
To qualify as having experienced absolute decoupling, we require countries included in this analysis to pass four separate filters: a population of at least one million (to focus the analysis on more representative cases), declining territorial emissions over the 2005-2019 period (based on a linear regression), declining consumption emissions, and increasing real GDP (on a purchasing power parity basis, using constant 2017 international $USD). We chose not to include 2020 in this analysis because it is not particularly representative of longer-term trends, and consumption and territorial emissions estimates are not yet available for many countries.

There is a wide range of rates of economic growth between 2005-2019 among countries experiencing absolute decoupling. Somewhat counterintuitively, there is no significant relationship between the rate of economic growth and the magnitude of emissions reductions within the group. While it is unlikely that there is not at least some linkage between the two factors, there are plenty of examples of countries (e.g., Singapore, Romania, and Ireland) experiencing both extremely rapid economic growth and large reductions in CO2 emissions.

One of the primary criticisms of some prior analyses of absolute decoupling is that they ignore leakage. Specifically, the offshoring of manufacturing from high-income countries over the past three decades to countries like China has led to “illusory” drops in emissions, where the emissions associated with high-income country consumption are simply shipped overseas and no longer show up in territorial emissions accounting. There is some truth in this critique, as there was a large increase in emissions embodied in imports from developing countries between 1990 and 2005. After 2005, however, structural changes in China and a growing domestic market led to a reversal of these trends; the amount of emissions “exported” from developed countries to developing countries has actually declined over the past 15 years.

This means that, for many countries, both territorial emissions and consumption emissions (which include any emissions “exported” to other countries) have jointly declined. In fact, on average, consumption emissions have been declining slightly faster than territorial emissions since 2005 in the 32 countries we identify as experiencing absolute decoupling. Figure 2, below, shows the change in consumption emissions (teal) and GDP (red) between 2005 and 2019.  
There is a pretty wide variation in the extent to which these countries have reduced their territorial and consumption emissions since 2005. Some countries — such as the UK, Denmark, Finland, and Singapore – have seen territorial emissions fall faster than consumption emissions, while the US, Japan, Germany, and Spain (among others) have seen consumption emissions fall faster. Figure 3 shows reductions in consumption and territorial emissions for each country, with the size of the dot representing the size of the population in 2019.  
Absolute decoupling is possible. There is no physical law requiring economic growth — and broader increases in human wellbeing — to necessarily be linked to CO2 emissions. All of the services that we rely on today that emit fossil fuels — electricity, transportation, heating, food — can in principle be replaced by near-zero carbon alternatives, though these are more mature in some sectors (electricity, transportation, buildings) than in others (industrial processes, agriculture).

This is not to say that infinite economic growth is desirable (or even possible), particularly given that the global population is expected to start to shrink by the end of the 21st century (and well before that in most currently wealthy countries). There will be some tradeoffs between economic growth and climate mitigation — particularly if the world is to meet ambitious mitigation targets. But it is possible to envision a world that is prosperous, equal, and at net-zero emissions; indeed, all of the future emissions scenarios used by the Intergovernmental Panel on Climate Change (IPCC) do just that.

#### Tech solves climate, but transition doesn’t.

Bailey ’16 (Ronald; 12/16/16; B.A. in Philosophy and B.A. Economics from the University of Virginia, member of the Society of Environmental Journalists and the American Society for Bioethics and Humanities, citing a compilation of interdisciplinary research; Reason, “Is Economic Growth Environmentally Sustainable?” http://reason.com/archives/2016/12/16/is-economic-growth-environmentally-sust1)

Is economic growth environmentally sustainable? No, say a group of prominent ecological economists led by the Australian hydrologist James Ward. In a new PLoS ONE article—"Is Decoupling GDP Growth from Environmental Impact Possible?"—they offer an analysis inspired by the 1972 neo-Malthusian classic The Limits to Growth. They even suggest that The Limits to Growth's projections with regard to population, food production, pollution, and the depletion of nonrenewable resources are still on track. In other words, they think we're still heading for a collapse. I think **they're wrong**. But they're wrong in an instructive way. The authors describe two types of "decoupling," relative and absolute. Relative decoupling means that economic growth increases faster than rates of growth in material and energy **consumption** and **environmental impact**. Between 1990 and 2012, for example, China's GDP rose 20-fold while its energy use increased by a factor of four and its material use by a factor of five. Basically this entails increases in efficiency that result in using fewer resources to produce more value. Absolute decoupling is what happens when continued economic growth actually lessens resource use and impacts on the natural environment, that is, creating more value while using less stuff. Essentially humanity becomes richer while withdrawing from nature. To demonstrate that continued economic growth is unsustainable, the authors recycle the hoary I=PAT model devised in 1972 by the Stanford entomologist and population alarmist Paul Ehrlich and the Harvard environmental policy professor (and chief Obama science adviser) John Holdren. Human Impact on the environment is supposed to equal to Population x Affluence/consumption x Technology. All of these are presumed to intensify and worsen humanity's impact on the natural world. In Ward and company's updated version of I=PAT, the sustainability of economic growth largely depends on Technology trends. Absolute decoupling from resource consumption or pollutant emissions requires technological intensity of use and emissions to decrease by at least the same annual percentage as the economy is growing. For example, if the economy is growing at three percent per year, technological intensity must reduce 20-fold over 100 years to maintain steady levels of resource consumption or emissions. If technological intensity is faster then resource use and emissions will decline over time, which would result in greater wealth creation with ever lessening resource consumption and environmental spillovers. Once they've set up their I=PAT analysis, Ward and his colleagues assert that "for non-substitutable resources such as land, water, raw materials and energy, we argue that whilst efficiency gains may be possible, there are minimum requirements for these resources that are ultimately governed by physical realities." Among the "physical realities" they mention are limits on plant photosynthesis, the conversion efficiencies of plants into meat, the amount of water needed to grow crops, that all supposedly determine the amount of agricultural land required to feed humanity. They also cite "the upper limits to energy and material efficiencies govern minimum resource throughput required for economic production." To illustrate the operation of their version of the I=PAT equation, they apply it to a recent study that projected it would be possible for Australia's economy to grow 7-fold while simultaneously reducing resource and energy use and lowering environmental pressures through 2050. They **crank the notion** that there are nonsubstitutable physical limits on material and energy resources through their equations until 2100, and they find that eventually consumption of both rise at the same rate as economic growth. QED: Economic growth is unsustainable. Or as they report, "Permanent decoupling (absolute or relative) is impossible for essential, non-substitutable resources because the efficiency gains are ultimately governed by physical limits." **Malthus wins again!** Or does he? GDP growth—increases in the monetary value of all finished goods and services—is a crude measure for improvements in human well-being. Nevertheless, rising incomes (GDP per capita) correlate with lots of good things that nearly everybody wants, including access to more and better food, longer and healthier lives, more educational opportunities, and greater scope for life choices. Ward and his colleagues are clearly right that there is only so much physical stuff on the Earth, but even they know that wealth is not created simply by using more stuff. Where they go wrong (as so many Malthusians do) is by implicitly assuming that there are limits to human creativity. Interestingly, Ward and his colleagues, like Malthus before them, focus on the supposed limits to **agricultural productivity**. For example, they cite the limits to photosynthesis, which will limit the amount of food that humanity can produce. But as they acknowledge, human population may not continue to increase. In fact, **global fertility rates** have been **decelerating** for many decades now, and demographer Wolfgang Lutz calculates that world population will peak after the middle of this century and begin falling. Since the number of mouths to feed will stabilize and people can eat only so much, it is unlikely that the biophysical limits of agriculture on Earth will be exceeded. But it gets even better. Agricultural productivity is improving. Consider the biophysical limit on photosynthesis cited by the study. In fact, researchers are already making progress on installing more efficient C-4 photosynthesis into rice and wheat, which would boost yields by as much as 50 percent. British researchers just announced that they had figured out how to boost photosynthetic efficiency to create a super-wheat would increase yields by 20 percent. In a 2015 article for the Breakthrough Journal, "The Return of Nature: How Technology Liberates the Environment," Jesse H. Ausubel of Rockefeller University reviews how humanity is **already** decoupling in many ways from the natural world. "A series of 'decouplings' is occurring, so that our economy no longer advances in tandem with exploitation of land, forests, water, and minerals," he writes. "American use of almost everything except information **seems to be peaking**." He notes that agricultural applications of fertilizer and water in the U.S. peaked in the 1980s while yields continued to increase. Thanks to increasing agricultural productivity, humanity is already at "peakfarmland"; as a result, "an area the size of India or of the United States east of the Mississippi could be released globally from agriculture over the next 50 years or so." Ward is worried about biophysical limits on water use. But as Ausubel notes, U.S. water use **has** peaked and has declined below **the level of** 1970. What about meat? Ausubel notes the **greater efficiency** with which chickens and cultivated fish turn grains and plant matter into meat. In any event, the future of farming is not fields but factories. Innovators are already seeking to replace the entire dairy industry with milk, yogurt, and cheeses made by genetically modified bacteria grown in tanks. Others are figuring how to culture meat in vat. Ausubel also notes that many countries have already been through or are about to enter the "forest transition," in which forests begin to expand. Roger Sedjo, a forest economist at Resources of the Future, has projected that by the middle of this century most of world's industrial wood will be produced from planted forests covering a remarkably small land area, perhaps only 5 to 10 percent of the extent of today's global forest. Shrinking farms and ranches and expanding forests will do a lot toward turning around the alarming global reduction in wildlife. How about unsubstitutable stuff? Are we running out of that? Ausubel notes that the U.S. has apparently already achieved absolute decoupling—call it peak stuff—for a lot of materials, including plastics, paper, timber, phosphate, aluminum, steel, and copper. And he reports relative decoupling for 53 other commodities, all of which are likely heading toward absolute decoupling. Additive manufacturing is also known as 3-D printing, in which machines build up new items one layer at a time. The Advanced Manufacturing Office suggested that additive manufacturing can reduce material needs and costs by up to 90 percent. And instead of the replacement of worn-out items, their material can **simply be recycled** through a printer to return it to good-as-new condition using only 2 to 25 percent of the energy required to make new parts. 3-D printing on demand will also eliminate storage and inventory costs, and will significantly cut transportation costs. Nanomanufacturing—building atom-by-atom—will likely engender a fourth **industrial** revolution by spurring exponential economic growth while reducing human demands for material resources. Ward and company project that Australians will be using 250 percent more energy by 2100. Is there an upper limit to energy production that implies unsustainability? In their analysis, the ecological economists apparently assume that energy supplies are limited. Why this is not clear, unless their model **implicitly** assumes a growing **consumption** of fossil fuels (and even then, the world is not close to running out of those). But there is a source of energy that, for all practical purposes, is limitless and has few deleterious environmental effects: **nuclear power**. If demand for primary energy were to double by 2050, a back-of-the-envelope calculation finds that the entire world's **energy** needs could be supplied by 6,000 conventional nuclear power plants. The deployment of fast reactors would supply "renewable" energy for thousands of years. The development of thorium reactors could also supply **thousands of years** of energy. And both could do so without harming the environment. (Waste heat at that scale would not be much of a problem.) Such power sources are in any relevant sense "decoupled" from the natural world, since their fuel cycles produce **little pollution**. Recall that GDP measures the monetary value of all finished goods and services. Finished goods will become a shrinking part of the world's economy as more people gain access to food, clothing, housing, transportation, and so forth. Already, services account for 80 percent of U.S. GDP and 80 percent of civilian employment. Instead of stuff, people will want to spend time creating and enjoying themselves. As technological progress enables economic growth, people will consume more pixels and less petroleum, more massages and less mortar, more handicrafts and less hardwood. Ultimately, Ward and his colleagues make the **same mistake as Malthus** and the Limits to Growth folks: They extrapolate trends without taking adequate account of human ingenuity. Will it be possible to grow the economy 7-fold over this century while reducing resource consumption and restoring the natural world? Yes.

#### Capitalism is inevitable – self-hatred, love for the game, and lack of recognition of subjugation all disprove their thesis. Independently, neoliberal governments crack down on unions which kills aff solvency.

Han ’15 [Byung-Chul, “Why revolution is no longer possible”, 10-23-2015, https://www.opendemocracy.net/en/transformation/why-revolution-is-no-longer-possible/]//pranav

Accordingly, I tried to say why revolution is no longer possible today. Why is the neoliberal system of domination so stable? Why is there so little resistance to it? Why does the resistance that does occur so quickly come to naught? Why, despite the ever-expanding divide between rich and poor, is revolution no longer possible? To explain this state of affairs, we need a precise understanding of how power and domination function today. Anyone wishing to install a new system of rule must eliminate resistance. The same holds for the neoliberal order. Implementing a new system of dominion requires an instance of power that posits; often, this entails the use of force. However, power that posits a system is not identical to power that stabilizes a system internally. As is well known, Margaret Thatcher, the standard bearer of neoliberalism, treated unions as “internal enemies” and combated them violently. For all that, using force to establish the neoliberal agenda does not amount to system-preserving power. System-preserving power is not repressive, but seductive In disciplinary and industrial society, system-preserving power was repressive. Factory workers were brutally exploited by factory owners. Such violent exploitation of others’ labor entailed acts of protest and resistance. There, it was possible for a revolution to topple the standing relations of production. In that system of repression, both the oppressors and the oppressed were visible. There was a concrete opponent — a visible enemy —and one could offer resistance. The neoliberal system of domination has a wholly different structure. Now, system-preserving power no longer works through repression, but through seduction — that is, it leads us astray. It is no longer visible, as was the case under the regime of discipline. Now, there is no longer a concrete opponent, no enemy suppressing freedom that one might resist. Neoliberalism turns the oppressed worker into a free contractor, an entrepreneur of the self. Today, everyone is a self-exploiting worker in their own enterprise. Every individual is master and slave in one. This also means that class struggle has become an internal struggle with oneself. Today, anyone who fails to succeed blames themselves and feels ashamed. People see themselves, not society, as the problem. The subjugated subject is not even aware of its subjugation Any disciplinary power that expends effort to force human beings into a straitjacket of commandments and prohibitions proves inefficient. It is significantly more efficient to ensure that people subordinate themselves to domination on their own. The efficacy defining the system today stems from the fact that, instead of operating through prohibition and privation, it aims to please and fulfill. Instead of making people compliant, it endeavors to make them dependent. This logic of neoliberal efficiency also holds for surveillance. In the 1980s, to cite one example, there were vehement protests against the German national census. Even schoolchildren took to the streets. From today’s perspective, the information requested therein— profession, education levels, and distance from the workplace — seem almost laughable. At the time, people believed that they were facing the state as an instance of domination wresting data from citizens against their will. That time is long past. Today, people expose themselves willingly. Precisely this sense of freedom is what makes protest impossible. In contrast to the days of the census, hardly anyone protests against surveillance. Free self-disclosure and self-exposure follow the same logic of efficiency as free self-exploitation. What is there to protest against? Oneself? Conceptual artist Jenny Holzer has formulated the paradox of the present situation: “Protect me from what I want.” It is important to distinguish between power that posits and power that preserves. Today, power that maintains the system assumes a “smart” and friendly guise. In so doing, it makes itself invisible and unassailable. The subjugated subject does not even recognize that it has been subjugated. The subject thinks she is free. This mode of domination neutralizes resistance quite effectively. Domination that represses and attacks freedom is not stable. The neoliberal regime proves stable by immunizing itself against all resistance, because it makes use of freedom instead of repressing it. Suppressing freedom quickly provokes resistance; exploiting freedom does not. After the Asian financial crisis, South Korea stood paralyzed and shocked. The IMF intervened and extended credit. In return, the government had to assert its neoliberal agenda by force. This was repressive, positing power — the kind that often proves violent and differs from system-preserving power, which manages to pass itself off as freedom. According to Naomi Klein, the state of social shock following catastrophes such as the financial crisis in South Korea — or the current crisis in Greece — offers the chance to radically reprogram society by force. Today, there is hardly any resistance in South Korea. Quite the opposite: a vast consensus prevails — as well as depression and burnout. South Korea now has the world’s highest suicide rate. People enact violence on themselves instead of seeking to change society. Aggression directed outward, which would entail revolution, has yielded to aggression directed inward, against oneself. Today, no collaborative, networked multitude exists that might rise up in a global mass of protest and revolution. Instead, the prevailing mode of production is based on lonesome and isolated self-entrepreneurs, who are also estranged from themselves. Companies used to compete with each other. Within each enterprise, however, solidarity could occur. Today, everyone is competing against everyone else — and within the same enterprise, too. Even though such competition heightens productivity by leaps and bounds, it destroys solidarity and communal spirit. No revolutionary mass can arise from exhausted, depressive, and isolated individuals. Neoliberalism cannot be explained in Marxist terms. The famous “alienation” of labor does not even occur. Today, we dive eagerly into work — until we burn out. The first stage of burnout syndrome, after all, is euphoria. Burnout and revolution are mutually exclusive. Accordingly, it is mistaken to believe that the Multitude will cast off the parasitic Empire to inaugurate a communist society.

### 1NC – Turn – Disease

#### Key to solve disease.

Jackson ‘16 (Kerry, Pacific Research Institute; 12/19/16; Free Market Policies Needed To Incentivize Creation Of New Life-Saving Treatments; https://www.pacificresearch.org/article/free-market-policies-needed-to-incentivize-creation-of-new-life-saving-treatments/)

“Our strongest antibiotics don’t work and patients are left with potentially untreatable infections,” Director Dr. Tom Frieden said when the CDC issued its warning. He asked doctors, hospitals and public health officials to “work together” to “stop these infections from spreading.” The 2014 Report to the President expressed a similar concern: “The evolution of antibiotic resistance is now occurring at an alarming rate and is outpacing the development of new countermeasures capable of thwarting infections in humans. This situation threatens patient care, economic growth, public health, agriculture, economic security and national security.” For those thinking this sort of thing shouldn’t be happening when medical science is more advanced than can almost be conceived, be assured that it is. And unless there are public policy interventions, it’s likely to get worse. “More and more microorganisms will continue to gain resistance to the current drug therapies because (antimicrobial resistance, or AMR) is basic evolution,” Wayne Winegarden writes in the Pacific Research Institute’s newly-released report “Incenting the Development of Antimicrobial Medicines to Address the Problem of Drug-Resistant Infections.” The International Federation of Pharmaceutical Manufacturers says the problem is caused by “a dearth of new antibiotic medicines.” At the same time that there’s been an increase in AMR, there has been “a sharp decline in the development of new antibiotic medicines.” The group reports that only two new classes of antibiotics have been discovered in the last three decades compared to 11 in the previous 50 years. The answers to many medical problems are still not within reach of researchers. But the hazards of AMR can be diminished. Winegarden suggests we begin with public health campaigns that encourage handwashing, which he calls a highly effective and low-cost way to reduce the spread of infection. He further recommends policy that would address the problem of antibiotic overuse and greater use of vaccines to cut the incidents of infection. But Winegarden’s primary concern is establishing the correct incentives for developing new antimicrobial medicines that would be effective against AMR microorganisms. He’s specifically referring to policies “based on a thorough understanding of the disincentives that are currently inhibiting their development.” “These disincentives are well-recognized,” he writes. “Despite the medical need, and despite the generally strong return on investment for many other drug classes, the return on investment for developing new antimicrobial medicines (particularly antibiotics) is too low.” Producing a new drug is a grinding and expensive endeavor. It can take 10 to 15 years to develop a single prescription drug that is introduced to the market, and a company can spend as much as $5.5 billion on research and development for each medication that is eventually approved and prescribed. Less than 2 percent of all projects launched to create new drugs succeed. This is not an environment in which pharmaceutical companies can get too amped up about pursuing new treatments. Yet new drug approvals increased over the last decade. Don’t look for a surge of antimicrobial drugs in that pipeline, though. Winegarden says that particular drug class is among several that “face unique impediments” that serve as disincentives for innovation. To overcome the steep hill that impedes the development of new AMR drugs, lawmakers must implement policies that unleash the incentives of the free market. Policymakers also should look at the 1983 federal Orphan Drug Act and its market-oriented reforms that increased the number of drugs developed to treat rare diseases. More than 400 have been introduced to the market since the law was enacted, compared to fewer than 10 in the 1970s. Put another way, government needs to remove its anchors from the process and let the market do what it does so well. In this case, that’s restoring patients’ health, enriching innovative companies that create jobs, and inspiring biotech start-ups such as the group of Stanford undergraduates that has been capitalized to develop new antibiotics. If the proper incentives are in place, the needed treatments will follow.

#### Disease causes extinction – defense is wrong

Piers Millett 17, Consultant for the World Health Organization, PhD in International Relations and Affairs, University of Bradford, Andrew Snyder-Beattie, “Existential Risk and Cost-Effective Biosecurity”, Health Security, Vol 15(4), http://online.liebertpub.com/doi/pdfplus/10.1089/hs.2017.0028

Historically, disease events have been responsible for the greatest death tolls on humanity. The 1918 flu was responsible for more than 50 million deaths,1 while smallpox killed perhaps 10 times that many in the 20th century alone.2 The Black Death was responsible for killing over 25% of the European population,3 while other pandemics, such as the plague of Justinian, are thought to have killed 25 million in the 6th century—constituting over 10% of the world’s population at the time.4 It is an open question whether a future pandemic could result in outright human extinction or the irreversible collapse of civilization.

A skeptic would have many good reasons to think that existential risk from disease is unlikely. Such a disease would need to spread worldwide to remote populations, overcome rare genetic resistances, and evade detection, cures, and countermeasures. Even evolution itself may work in humanity’s favor: Virulence and transmission is often a trade-off, and so evolutionary pressures could push against maximally lethal wild-type pathogens.5,6

While these arguments point to a very small risk of human extinction, they do not rule the possibility out entirely. Although rare, there are recorded instances of species going extinct due to disease—primarily in amphibians, but also in 1 mammalian species of rat on Christmas Island.7,8 There are also historical examples of large human populations being almost entirely wiped out by disease, especially when multiple diseases were simultaneously introduced into a population without immunity. The most striking examples of total population collapse include native American tribes exposed to European diseases, such as the Massachusett (86% loss of population), Quiripi-Unquachog (95% loss of population), and theWestern Abenaki (which suffered a staggering 98% loss of population).

In the modern context, no single disease currently exists that combines the worst-case levels of transmissibility, lethality, resistance to countermeasures, and global reach. But many diseases are proof of principle that each worst-case attribute can be realized independently. For example, some diseases exhibit nearly a 100% case fatality ratio in the absence of treatment, such as rabies or septicemic plague. Other diseases have a track record of spreading to virtually every human community worldwide, such as the 1918 flu,10 and seroprevalence studies indicate that other pathogens, such as chickenpox and HSV-1, can successfully reach over 95% of a population.11,12 Under optimal virulence theory, natural evolution would be an unlikely source for pathogens with the highest possible levels of transmissibility, virulence, and global reach. But advances in biotechnology might allow the creation of diseases that combine such traits. Recent controversy has already emerged over a number of scientific experiments that resulted in viruses with enhanced transmissibility, lethality, and/or the ability to overcome therapeutics.13-17 Other experiments demonstrated that mousepox could be modified to have a 100% case fatality rate and render a vaccine ineffective.18 In addition to transmissibility and lethality, studies have shown that other disease traits, such as incubation time, environmental survival, and available vectors, could be modified as well.19-2

### 1NC – Turn – Laundry List

#### Capitalism is *objectively good* in space – it’s key to American primacy, internet access, and warming. This ev assumes *ALL* of their underview warrants – every empirical example concludes negative and independently our ev postdates theirs.

Rinehart & Thierer ’21 [William Rinehart and Adam Thierer, “Why Capitalists in Space Are Good for Americans’ Future”, 08-05-2021, https://regproject.org/blog/why-capitalists-in-space-are-good-for-americans-future/]//pranav

Nothing quite exposes differing views on innovation than billionaires launching their own rockets into space. As Blue Origin ascended, carrying Amazon founder Jeff Bezos, critics rose up against private space tourism efforts. They repeated all the same slogans as the week before when Virgin Galactic CEO Richard Branson took a trip.

But the harshest critics have the story backwards. We are on the precipice of an epochal shift that will help make space travel cheaper, safer, and more accessible. Thanks to nearly two decades of reform at NASA, American entrepreneurialism and ingenuity are flourishing in space. The story is told as a failure, but it is actually a sign of success.

While many praised Bezos, Branson, and Elon Musk of SpaceX for using their fortunes to advance private space travel and exploration, with the goal of even getting to Mars, a vocal group of detractors blasted these capitalists for having the audacity to look toward the stars at all.

Discouraging private space exploration would be a step backwards and undo positive reforms that have made space more accessible and affordable. The way that NASA did things changed dramatically in 2005 when Mike Griffin took over as Administrator. In early 2006, the Commercial Orbital Transportation Services (COTS) program was announced, which aimed to spend $500 million to develop and demonstrate commercial space launches. It was unlike anything NASA had tried before. Instead of detailed requirements which were typical at the time, COTS spent only three pages to lay out broad cargo and crew transportation capabilities. Private industry was left to innovate on their own to meet those requirements.

These contractual tweaks seem minor, but they’ve been revolutionary for NASA and for the space industry. COTS pushed SpaceX and Blue Origin to begin developing reusable rockets. SpaceX’s Falcon 9 rocket has since become a workhorse, supplying the International Space Station (ISS) and launching satellites into orbit. Another milestone was reached last year when Americans were launched to the ISS on a reused Falcon 9, the first time a U.S.-built space vehicle accomplished this feat since the shuttering of the Shuttle program.

COTS and its follow-on programs demonstrate what innovation can accomplish when coupled with policy reforms. About a decade ago, NASA ran the numbers on Falcon 9 and estimated its traditional system of contracting would have cost taxpayers $4 billion. SpaceX did it for $443 million, a tenth of the cost. NASA estimated that COTS’ successor, the Commercial Crew program, saved the agency some $20 billion to $30 billion over its lifetime, ultimately reducing the cost of launching hardware into space.

Cheap launches mean Starlink broadband internet is potentially feasible for rural regions. Cheap launches mean satellites like Sentinel 6 which track climate change are easier to deploy. They mean more experiments in space and a better understanding of our world. But yes, cheap launches also mean billionaires can hitch a ride to space, even if some mistakenly claim it’s just the rich living out their fantasies.

We have heard similar stories before. When the Wright Brothers proved flight was possible, some predicted it would never be anything more than a toy for the rich. Astronomer William H. Pickering argued that the vision of “gigantic flying machines speeding across the Atlantic carrying innumerable passengers… would be prohibitive to any but the capitalist who could use his own yacht.”

Technologies of all stripes go through this process. The automobile was a novelty of the rich until it wasn’t. Cell phones were the plaything of the wealthy until they weren’t. Space travel seems poised to travel this same arc, and it was pushed along because NASA changed course and did things better.

Instead of dunking on billionaires, critics should take it as a chance to learn what has gone right and apply those lessons broadly. Smarter policy combined with American ingenuity is a recipe for success, both here on Earth and out in space.

#### US leadership in this decade solves global war and results in a peaceful end to Chinese revisionism **Erickson and Collins 10/21** [(Andrew, A professor of strategy in the U.S. Naval War College’s China Maritime Studies Institute)(Gabriel, Baker Botts fellow in energy and environmental regulatory affairs at Rice University’s Baker Institute for Public Policy) “A Dangerous Decade of Chinese Power Is Here,” Foreign Policy, 10/18/2021] U.S. and allied policymakers are facing the most important foreign-policy challenge of the 21st century. **China’s power is peaking**; so is the political position of Chinese President Xi Jinping and the Chinese Communist Party’s (CCP) **domestic strength.** In the long term, China’s **likely decline** after this peak is a **good thing.** But right now, it creates a **decade of danger** from a system that increasingly realizes it only has a **short time** to fulfill some of its **most critical**, long-held **goals.**

Within the next five years, China’s leaders are likely to conclude that its deteriorating demographic profile, structural economic problems, and technological estrangement from global innovation centers are eroding its leverage to annex Taiwan and achieve other major strategic objectives. As Xi internalizes these challenges, his foreign policy is likely to become even more accepting of risk, feeding on his nearly decadelong track record of successful revisionist action against the rules-based order. Notable examples include China occupying and militarizing sub-tidal features in the South China Sea, ramping up air and maritime incursions against Japan and Taiwan, pushing border challenges against India, occupying Bhutanese and Tibetan lands, perpetrating crimes against humanity in Xinjiang, and coercively enveloping Hong Kong.

The relatively low-hanging fruit is plucked, but Beijing is emboldened to grasp the biggest single revisionist prize: Taiwan.

Beijing’s actions over the last decade have triggered backlash, such as with the so-called AUKUS deal, but concrete constraints on China’s strategic freedom of action may not fully manifest until after 2030. It’s remarkable and dangerous that China has paid few costs for its actions over the last 10 years, even as its military capacities have rapidly grown.

Beijing will likely conclude that under current diplomatic, economic, and force postures for both “gray zone” and high-end scenarios, the 2021 to late 2020s timeframe still favors China—and is attractive for its 68-year-old leader, who seeks a historical achievement at the zenith of his career.

U.S. planners must mobilize resources, effort, and risk acceptance to maximize power and thereby deter Chinese aggression