## OFF

### 1NC – Mining DA

#### Private companies are set to mine in space – new tech and profit motives make space lucrative

Gilbert 21, (Alex Gilbert is a complex systems researcher and PhD student in Space Resources at the Colorado School of Mines, “Mining in Space is Coming”), 4-26-21, Milken Institute Review, https://www.milkenreview.org/articles/mining-in-space-is-coming // MNHS NL

Space exploration is back. after decades of disappointment, a combination of better technology, falling costs and a rush of competitive energy from the private sector has put space travel front and center. indeed, many analysts (even some with their feet on the ground) believe that commercial developments in the space industry may be on the cusp of starting the largest resource rush in history: mining on the Moon, Mars and asteroids. While this may sound fantastical, some baby steps toward the goal have already been taken. Last year, NASA awarded contracts to four companies to extract small amounts of lunar regolith by 2024, effectively beginning the [era of commercial space mining](https://payneinstitute.mines.edu/wp-content/uploads/sites/149/2020/09/Payne-Institute-Commentary-The-Era-of-Commercial-Space-Mining-Begins.pdf). Whether this proves to be the dawn of a gigantic adjunct to mining on earth — and more immediately, a key to unlocking cost-effective space travel — will turn on the answers to a host of questions ranging from what resources can be efficiently. As every fan of science fiction knows, the resources of the solar system appear virtually unlimited compared to those on Earth. There are whole other planets, dozens of moons, thousands of massive asteroids and millions of small ones that doubtless contain humungous quantities of materials that are scarce and very valuable (back on Earth). Visionaries including Jeff Bezos [imagine heavy industry moving to space](https://www.fastcompany.com/90347364/jeff-bezos-wants-to-save-earth-by-moving-industry-to-space) and Earth becoming a residential area. However, as entrepreneurs look to harness the riches beyond the atmosphere, access to space resources remains tangled in the realities of economics and governance. Start with the fact that space belongs to no country, complicating traditional methods of resource allocation, property rights and trade. With limited demand for materials in space itself and the need for huge amounts of energy to return materials to Earth, creating a viable industry will turn on major advances in technology, finance and business models. That said, there’s no grass growing under potential pioneers’ feet. Potential economic, scientific and even security benefits underlie an emerging geopolitical competition to pursue space mining. The United States is rapidly emerging as a front-runner, in part due to its ambitious Artemis Program to lead a multinational consortium back to the Moon. But it is also a leader in creating a legal infrastructure for mineral exploitation. The United States has adopted the world’s first spaceresources law, recognizing the property rights of private companies and individuals to materials gathered in space. However, the United States is hardly alone. Luxembourg and the United Arab Emirates (you read those right) are racing to codify space-resources laws of their own, hoping to attract investment to their entrepot nations with business-friendly legal frameworks. China reportedly views space-resource development as a national priority, part of a strategy to challenge U.S. economic and security primacy in space. Meanwhile, Russia, Japan, India and the European Space Agency all harbor space-mining ambitions of their own. Governing these emerging interests is an outdated treaty framework from the Cold War. Sooner rather than later, we’ll need [new agreements](https://issues.org/new-policies-needed-to-advance-space-mining/) to facilitate private investment and ensure international cooperation.

Back up for a moment. For the record, space is already being heavily exploited, because space resources include non-material assets such as orbital locations and abundant sunlight that enable satellites to provide services to Earth. Indeed, satellite-based telecommunications and global positioning systems have become indispensable infrastructure underpinning the modern economy. Mining space for materials, of course, is another matter. In the past several decades, planetary science has confirmed what has long been suspected: celestial bodies are potential sources for dozens of natural materials that, in the right time and place, are incredibly valuabl**e**. Of these, water may be the most attractive in the near-term, because — with assistance from solar energy or nuclear fission — H2O can be split into hydrogen and oxygen to make rocket propellant, facilitating in-space refueling. So-called “rare earth” metals are also potential targets of asteroid miners intending to service Earth markets. Consisting of 17 elements, including lanthanum, neodymium, and yttrium, these critical materials (most of which are today mined in China at great environmental cost) are required for electronics. And they loom as bottlenecks in making the transition from fossil fuels to renewables backed up by battery storage. The Moon is a prime space mining target. Boosted by NASA’s mining solicitation, it is likely the first location for commercial mining. The Moon has several advantages. It is relatively close, requiring a journey of only several days by rocket and creating communication lags of only a couple seconds — a delay small enough to allow remote operation of robots from Earth. Its low gravity implies that relatively little energy expenditure will be needed to deliver mined resources to Earth orbit. The Moon may look parched — and by comparison to Earth, it is. But recent probes have confirmed substantial amounts of water ice lurking in [permanently shadowed craters](http://lroc.sese.asu.edu/posts/1105) at the lunar poles. Further, it seems that solar winds have implanted significant deposits of helium-3 (a light stable isotope of helium) across the equatorial regions of the Moon. Helium-3 is a potential fuel source for second and third-generation fusion reactors that one hopes will be in service later in the century. The isotope is packed with energy (admittedly hard to unleash in a controlled manner) that might augment sunlight as a source of clean, safe energy on Earth or to power fast spaceships in this century. Between its water and helium-3 deposits, the Moon could be the resource stepping-stone for further solar system exploration. Asteroids are another near-term [mining target](https://foreignpolicy.com/2016/04/28/the-asteroid-miners-guide-to-the-galaxy-space-race-mining-asteroids-planetary-research-deep-space-industries/). There are all sorts of space rocks hurtling through the solar system, with varying amounts of water, rare earth metals and other materials on board. The asteroid belt between the orbits of Mars and Jupiter contains most of them, many of which are greater than a kilometer in diameter. Although the potential water and mineral wealth of the asteroid belt is vast, the long distance from Earth and requisite travel times and energy consumption rule them out as targets in the near term. The prospects for space mining are being driven by technological advances across the space industry. The rise of reusable rocket components and the now-widespread use of off-the-shelf parts are lowering both launch and operations costs. Once limited to government contract missions and the delivery of telecom satellites to orbit, private firms are now emerging as leaders in developing “NewSpace” activities — a catch-all term for endeavors including orbital tourism, orbital manufacturing and mini-satellites providing specialized services. The space sector, with a market capitalization of $400 billion, could grow to as much as $1 trillion by 2040 as private investment soars.

#### OST defines appropriation as occupation, use, or any other means – the aff definitely links

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Based on the premise of ‘res communis’, the magna carta of space law, the OST, illustrates outer space as “the province of all mankind”.[l] Under Article I, States are free to explore and use outer space and to access all celestial bodies “on the basis of equality and in accordance with international law.”[li] Although the OST does not explicitly mention “mining” activities, under Article II, outer space including the Moon and other celestial bodies are “not subject to national appropriation by claim of sovereignty” through use, occupation or any other means.[lii] Furthermore, the Moon Agreement, 1979, not only defines outer space as “common heritage of mankind” but also proscribes commercial exploitation of planets and asteroids by States unless an international regime is established to govern such activities for “rational management,” “equitable sharing” and “expansion of opportunities” in the use of these resources.[liii]

#### Squo private companies are willing to invest, but the plan crosses a perception barrier which destroys investment

Shaw 13 - Lauren E, J.D. from Chapman University School of Law, ”Asteroids, the New Western Frontier: Applying Principles of the General Mining Law of 1872 to Incentive Asteroid Mining”, JOURNAL OF AIR LAW AND COMMERCE, Volume 78, Issue 1, Article 2, <https://scholar.smu.edu/cgi/viewcontent.cgi?article=1307&context=jalc> // recut MNHS NL

To some, the mining of asteroids might sound like the premise of a science fiction novel' or the solution to the heartwrenching, fictional scenario depicted in the film Armageddon.2 To others, it evokes a fantastical idea that may come to fruition in a distant reality. However, impressively funded companies have plans to send spacecraft to begin prospecting on asteroids within the next two years.' The issues associated with the mining of asteroids should be addressed before these plans are set in motion. Much has been written about the issues that might arise from allowing nations to own these space bodies and the minerals they contain; one such issue is the impact on international treaties.4 However, little has been written about the applicability of preexisting mining laws-which provide a basic property right scheme for the private sector-such as the General Mining Law of 1872 (Mining Law) to the management of asteroid mining.' The literature to date on how to legally address asteroid mining is minimal.' The articles that do address it propose the creation of different systems, such as a "property rights-based system that relies on the doctrine of first possession"7 or an international authority that would regulate mining operations.' Implementing a scheme that offers ownership of extracted resources without bestowing complete sovereignty is necessary to avoid an impending legal limbo-that is, an outer space "Wild West" equivalent where there is neither certainty nor security in who owns what.9 If private sector miners of asteroids know this right already exists, they will have more incentive to extract resources.' 0 This, in turn, would increase the chances of successful missions, resulting in numerous scientific and explorative benefits, along with the potential replenishment of key elements that are becoming increasingly depleted on Earth yet are still needed for modern industry. Scientists speculate that key elements needed for modern industry, including platinum, zinc, copper, phosphorus, lead, gold, and indium, could become depleted on Earth within the next fifty to sixty years." Many of these metals, such as platinum, are chemical elements that, unlike oil or diamonds, have no synthetic alternative.12 Once the reserves on Earth are mined to complete depletion, industries will be forced to recycle the existing supply of minerals, which will result in increased costs due to increased scarcity.' 3 However, evidence is accumulating that asteroids only a few hundred thousand miles away from Earth may be composed of an abundance of natural resources-including many of the minerals being mined to depletion on Earth-that could lead to vast profits." Most of the minerals being mined on Earth, including gold, iron, platinum, and palladium, originally came from the many asteroids that hit the Earth after the crust cooled during the planet's formation.'

#### Space mining is the only way to solve climate change

Duran 21, (Paloma Duran is a journalist and industry analyst at Mexico Business News, “Is Space Mining the Best Option to Face Climate Change?”), 11-03-21, Mexico Business News, https://mexicobusiness.news/mining/news/space-mining-best-option-face-climate-change // MNHS NL

Going to net zero means that more mining is needed. Experts have said that the current supply cannot support the necessary metals demand for the green transition. As a result, new mining alternatives have gained greater relevance, among them is space mining. Several countries, including Mexico, have shown their interest in this alternative, creating a new space race. “The solar system can support a billion times greater industry than we have on Earth. When you go to vastly larger scales of civilization, beyond the scale that a planet can support, then the types of things that civilization can do are incomprehensible to us … We would be able to promote healthy societies all over the world at the same time that we would be reducing the environmental burden on the Earth,” said Dr. Phil Metzger, Planetary Scientist at the University of Central Florida. Currently, there are several attempts to address global warming and transition to a net zero carbon economy. There has been an increasing interest in renewable energy and infrastructure, which has increased demand for various minerals, especially lithium, cobalt, nickel, copper and rare earth elements. However, according to experts, the world is close to entering a metals supercycle, where demand will exceed available supply, causing prices to skyrocket. Consequently, the mining industry has sought alternatives to achieve the required supply. Options include recycling and improved mine waste management, sea mining and space mining. The latter is considered one of the alternatives with the greatest potential. However, a regulatory framework is still lacking and there is almost no experience in this regard. Despite the lack of knowledge regarding space mining, it has become a very attractive option since the planet is running out of resources. While some people believe that land-based mining is cheaper than space mining, experts believe this may change in the long term. Furthermore, within the solar system there are countless bodies rich in minerals, ores and elements that will accelerate the fight against climate change. “There will come a point when there is nothing left to mine on the surface, prompting mines to reach even further below. But even those resources are destined to run out and so we will aim toward ocean mining, which already has specific technologies that are being developed. Nevertheless, even those mines are limited as well. The mine of the future, which today may seem unlikely, will no longer be on our planet. There will be a time when space mining will be as common as an open leach mine,” Eder Lugo, Minerals Head at Siemens, told MBN. More than 150 million asteroids measuring approximately 100m are believed to be in the inner solar system alone. In addition, astronomers have also identified abundant minerals near the Earth’s space and the Main Asteroid Belt. There are three main groups into which asteroids are divided: C- type, S- type, and M- type. The last two groups are the most abundant in minerals such as gold, platinum, cobalt, zinc, tin, lead, indium, silver, copper and rare earth metals. "Energy is limited here. Within just a few hundred years, you will have to cover all of the landmass of Earth in solar cells. So, what are you going to do? Well, what I think you are going to do is you are going to move out in space … all of our heavy industry will be moved off-planet and Earth will be zoned residential and light-industrial,” said Jeff Bezos, Founder of Amazon and the Space Launch Provider Blue Origin.

#### Anthropogenic warming causes extinction --- mitigation efforts now are key

Griffin, 2015 (David, Professor of Philosophy at Claremont, “The climate is ruined. So can civilization even survive?”, CNN, 4/14/2015, <http://www.cnn.com/2015/01/14/opinion/co2-crisis-griffin/> )

Although most of us worry about other things, climate scientists have become increasingly worried about the survival of civilization. For example, Lonnie Thompson, who received the U.S. National Medal of Science in 2010, said that virtually all climatologists "are now convinced that global warming poses a clear and present danger to civilization." Informed journalists share this concern. The climate crisis "threatens the survival of our civilization," said Pulitzer Prize-winner Ross Gelbspan. Mark Hertsgaard agrees, saying that the continuation of global warming "would create planetary conditions all but certain to end civilization as we know it." These scientists and journalists, moreover, are worried not only about the distant future but about the condition of the planet for their own children and grandchildren. James Hansen, often considered the world's leading climate scientist, entitled his book "Storms of My Grandchildren." The threat to civilization comes primarily from the increase of the level of carbon dioxide (CO2) in the atmosphere, due largely to the burning of fossil fuels. Before the rise of the industrial age, CO2 constituted only 275 ppm (parts per million) of the atmosphere. But it is now above 400 and rising about 2.5 ppm per year. Because of the CO2 increase, the planet's average temperature has increased 0.85 degrees Celsius (1.5 degrees Fahrenheit). Although this increase may not seem much, it has already brought about serious changes. The idea that we will be safe from "dangerous climate change" if we do not exceed a temperature rise of 2C (3.6F) has been widely accepted. But many informed people have rejected this assumption. In the opinion of journalist-turned-activist Bill McKibben, "the one degree we've raised the temperature already has melted the Arctic, so we're fools to find out what two will do." His warning is supported by James Hansen, who declared that "a target of two degrees (Celsius) is actually a prescription for long-term disaster." The burning of coal, oil, and natural gas has made the planet warmer than it had been since the rise of civilization 10,000 years ago. Civilization was made possible by the emergence about 12,000 years ago of the "Holocene" epoch, which turned out to be the Goldilocks zone - not too hot, not too cold. But now, says physicist Stefan Rahmstorf, "We are catapulting ourselves way out of the Holocene." This catapult is dangerous, because we have no evidence civilization can long survive with significantly higher temperatures. And yet, the world is on a trajectory that would lead to an increase of 4C (7F) in this century. In the opinion of many scientists and the World Bank, this could happen as early as the 2060s. What would "a 4C world" be like? According to Kevin Anderson of the Tyndall Centre for Climate Change Research (at the University of East Anglia), "during New York's summer heat waves the warmest days would be around 10-12C (18-21.6F) hotter [than today's]." Moreover, he has said, above an increase of 4C only about 10% of the human population will survive. Believe it or not, some scientists consider Anderson overly optimistic. The main reason for pessimism is the fear that the planet's temperature may be close to a tipping point that would initiate a "low-end runaway greenhouse," involving "out-of-control amplifying feedbacks." This condition would result, says Hansen, if all fossil fuels are burned (which is the intention of all fossil-fuel corporations and many governments). This result "would make most of the planet uninhabitable by humans." Moreover, many scientists believe that runaway global warming could occur much more quickly, because the rising temperature caused by CO2 could release massive amounts of methane (CH4), which is, during its first 20 years, 86 times more powerful than CO2. Warmer weather induces this release from carbon that has been stored in methane hydrates, in which enormous amounts of carbon -- four times as much as that emitted from fossil fuels since 1850 -- has been frozen in the Arctic's permafrost. And yet now the Arctic's temperature is warmer than it had been for 120,000 years -- in other words, more than 10 times longer than civilization has existed. According to Joe Romm, a physicist who created the Climate Progress website, methane release from thawing permafrost in the Arctic "is the most dangerous amplifying feedback in the entire carbon cycle." The amplifying feedback works like this: The warmer temperature releases millions of tons of methane, which then further raise the temperature, which in turn releases more methane. The resulting threat of runaway global warming may not be merely theoretical. Scientists have long been convinced that methane was central to the fastest period of global warming in geological history, which occurred 55 million years ago. Now a group of scientists have accumulated evidence that methane was also central to the greatest extinction of life thus far: the end-Permian extinction about 252 million years ago. Worse yet, whereas it was previously thought that significant amounts of permafrost would not melt, releasing its methane, until the planet's temperature has risen several degrees Celsius, recent studies indicate that a rise of 1.5 degrees would be enough to start the melting. What can be done then? Given the failure of political leaders to deal with the CO2 problem, it is now too late to prevent terrible developments. But it may -- just may -- be possible to keep global warming from bringing about the destruction of civilization. To have a chance, we must, as Hansen says, do everything possible to "keep climate close to the Holocene range" -- which means, mobilize the whole world to replace dirty energy with clean as soon as possible.

#### Existential threats outweigh – all life has infinite value and extinction eliminates the possibility for future generations – err aff, because of innate cognitive biases

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

1.2. THE ETHICS OF EXISTENTIAL RISK In his book Reasons and Persons, Oxford philosopher Derek Parfit advanced an influential argument about the importance of avoiding extinction: I believe that if we destroy mankind, as we now can, this outcome will be much worse than most people think. Compare three outcomes: (1) Peace. (2) A nuclear war that kills 99% of the world’s existing population. (3) A nuclear war that kills 100%. (2) would be worse than (1), and (3) would be worse than (2). Which is the greater of these two differences? Most people believe that the greater difference is between (1) and (2). I believe that the difference between (2) and (3) is very much greater. ... The Earth will remain habitable for at least another billion years. Civilization began only a few thousand years ago. If we do not destroy mankind, these few thousand years may be only a tiny fraction of the whole of civilized human history. The difference between (2) and (3) may thus be the difference between this tiny fraction and all of the rest of this history. If we compare this possible history to a day, what has occurred so far is only a fraction of a second.65 In this argument, it seems that Parfit is assuming that the survivors of a nuclear war that kills 99% of the population would eventually be able to recover civilisation without long-term effect. As we have seen, this may not be a safe assumption – but for the purposes of this thought experiment, the point stands. What makes existential catastrophes especially bad is that they would “destroy the future,” as another Oxford philosopher, Nick Bostrom, puts it.66 This future could potentially be extremely long and full of flourishing, and would therefore have extremely large value. In standard risk analysis, when working out how to respond to risk, we work out the expected value of risk reduction, by weighing the probability that an action will prevent an adverse event against the severity of the event. Because the value of preventing existential catastrophe is so vast, even a tiny probability of prevention has huge expected value.67 Of course, there is persisting reasonable disagreement about ethics and there are a number of ways one might resist this conclusion.68 Therefore, it would be unjustified to be overconfident in Parfit and Bostrom’s argument. In some areas, government policy does give significant weight to future generations. For example, in assessing the risks of nuclear waste storage, governments have considered timeframes of thousands, hundreds of thousands, and even a million years.69 Justifications for this policy usually appeal to principles of intergenerational equity according to which future generations ought to get as much protection as current generations.70 Similarly, widely accepted norms of sustainable development require development that meets the needs of the current generation without compromising the ability of future generations to meet their own needs.71 However, when it comes to existential risk, it would seem that we fail to live up to principles of intergenerational equity. Existential catastrophe would not only give future generations less than the current generations; it would give them nothing. Indeed, reducing existential risk plausibly has a quite low cost for us in comparison with the huge expected value it has for future generations. In spite of this, relatively little is done to reduce existential risk. Unless we give up on norms of intergenerational equity, they give us a strong case for significantly increasing our efforts to reduce existential risks. 1.3. WHY EXISTENTIAL RISKS MAY BE SYSTEMATICALLY UNDERINVESTED IN, AND THE ROLE OF THE INTERNATIONAL COMMUNITY In spite of the importance of existential risk reduction, it probably receives less attention than is warranted. As a result, concerted international cooperation is required if we are to receive adequate protection from existential risks. 1.3.1. Why existential risks are likely to be underinvested in There are several reasons why existential risk reduction is likely to be underinvested in. Firstly, it is a global public good. Economic theory predicts that such goods tend to be underprovided. The benefits of existential risk reduction are widely and indivisibly dispersed around the globe from the countries responsible for taking action. Consequently, a country which reduces existential risk gains only a small portion of the benefits but bears the full brunt of the costs. Countries thus have strong incentives to free ride, receiving the benefits of risk reduction without contributing. As a result, too few do what is in the common interest. Secondly, as already suggested above, existential risk reduction is an intergenerational public good: most of the benefits are enjoyed by future generations who have no say in the political process. For these goods, the problem is temporal free riding: the current generation enjoys the benefits of inaction while future generations bear the costs. Thirdly, many existential risks, such as machine superintelligence, engineered pandemics, and solar geoengineering, pose an unprecedented and uncertain future threat. Consequently, it is hard to develop a sati sfactory governance regime for them: there are few existing governance instruments which can be applied to these risks, and it is unclear what shape new instruments should take. In this way, our position with regard to these emerging risks is comparable to the one we faced when nuclear weapons first became available. Cognitive biases also lead people to underestimate existential risks. Since there have not been any catastrophes of this magnitude, these risks are not salient to politicians and the public.72 This is an example of the misapplication of the availability heuristic, a mental shortcut which assumes that something is important only if it can be readily recalled. Another cognitive bias affecting perceptions of existential risk is scope neglect. In a seminal 1992 study, three groups were asked how much they would be willing to pay to save 2,000, 20,000 or 200,000 birds from drowning in uncovered oil ponds. The groups answered $80, $78, and $88, respectively.73 In this case, the size of the benefits had little effect on the scale of the preferred response. People become numbed to the effect of saving lives when the numbers get too large. 74 Scope neglect is a particularly acute problem for existential risk because the numbers at stake are so large. Due to scope neglect, decision-makers are prone to treat existential risks in a similar way to problems which are less severe by many orders of magnitude. A wide range of other cognitive biases are likely to affect the evaluation of existential risks.75

#### Their Achmed 20 evidence concedes that we’re running out of resources – turns the aff because the only way to prevent the destruction that capitalism causes is by allowing mining.

## Case

### 1NC – Framing

#### 1] The ROJ is to vote for the better debater. Anything else is arbitrary, self-serving, and unpredictable. What does it even mean to target the resolution?

#### 2] Their role of the judge makes absolutely no sense. The two cards they read do not have an intent to affirm the resolution as the basis for a ROJ. David Branse is only explaining an argument that people in debates make but they haven’t warranted it here.

#### 3] Branse is defending the truth testing paradigm. This means they must actively prove the resolution true in every instance not merely “target” it.

#### 4] If we win that the affirmative is a bad idea, it would also target the resolution since the affirmative is a defense of the resolution

#### 1] The ROB is to endorse the policy option that maximizes well-being.

#### 2] Their framework relies on first winning that capitalism is bad. If we win capitalism good, then it would also answer their framework

#### 3] Orientation fails- Focus on orientation and anti-capitalist education makes resistance worse. Turns the case.

**Smith 19** (Shawn Nicholas Smith has a Doctorate in Philosophy from the University of Texas, Austin. “BLACK ECONOMIC EMPOWERMENT: BOOKER T. WASHINGTON AND RHETORICAL INTERVENTION IN MARKETS”. May 2019)

The Federal Reserve and the monetary policy surrounding it demonstrate how private interest is an integral part of the U.S. economy, monetary policy, and government. For this reason, **it is imprudent to suggest that neoliberalism**, the takeover of public modes of operation with privatization, **is a new phenomenon.** Rather, the very logic of European capitalist governments carries within it the incipient prioritized monetary motive. The market motive, when prioritized, bends the fabric of society toward the pursuit of profit and away from the common good.86 As I have shown in this chapter, the European capitalist state began thwarting opportunities for a common humanity prior to the Trans-Atlantic Slave Trade first with the enslavement of Europeans, then Africans. As such, the marriage of the public and the private did not begin in 1970, but instead has its origins in the fifth century with the fall of the Western Holy Roman Empire.87 To mistake this fact is also to mislabel the necessary actions of neoliberal resistance in the current era. Giroux is wrong: **modern resistance movements like Occupy and The Battle in Seattle did little to jeopardize the neoliberal scene**.88 In fact, the very problems of neoliberal state society have hastened, not slowed, in the last two decades.89 **When we misidentify the root problem of the neoliberal scene, we mischaracterize traditional protest and resistance as viable solutions** to the neoliberal conundrum and omit other useful strategies, particularly those that involve the very markets we wish to resist. Conclusion The above history I have provided is long and deep. This **history highlights both the limitations of contemporary neoliberal criticism and represents a pragmatic rhetorical tradition defined by an evolutionary model of ideation.** Deep within the unfolding of time from the Middle Ages to the present, we have seen how Europe was seduced by a capitalist psychosis following from a basic Orientation of Markets. Importantly, we have also seen how the perversion of capital is not merely a symptom of the state but is instead an offspring of the state as modern governments, infected with the habits of desperate feudal merchants, became the first corporations. Every orientation comes with it a certain training that teaches us how and what tools to select in order to deal with our challenges. **In some ways, orientation is the source of our problems** and solutions. That is, problems and their solutions are made possible when we view experience from a unique ontological and epistemological standpoint. As Burke writes, One’s ideas of relationship obviously have a great deal to do with the selection of means under such circumstances. Savages could make fires by considering dry wood and friction as appropriate linkages in the process of fire-making.”90 **Orientations can cause us to make inefficient connections between events and therefore draw ineffective conclusions** as in the tribe person who, believing the missionary wore the rain coat to bring rain instead of shield against rain, asked the missionary to wear the rain coat to protect against drought. This demonstrates a “faulty selection of means due to a faulty theory of causal relationships.”91 Similarly, the Orientation of Markets transforms humans into agents of markets. Rather than maintain money and markets as abstractions designed to serve human needs, the Orientation of Markets and the subsequent capitalist psychosis configures humans in market terms. They can either be owner or owned by markets, or sometimes both at the same time, but there is seldom room to be anything else. Such a psychosis, the corresponding social structure that follows from an Orientation of Markets has been the mainstay of society for over 1000 years. Race helped to jumpstart capitalism and continues to be a site for the investigation of the transformation of capital. So, **what is the way out and forward**? **The central escape from a corporate governmentality** and ascendant logic **of** race and **capital requires various forms of pragmatic force.** As James Baldwin writes, Black folks must use any available means of persuasion in order to turn the tides of oppression. Indeed, for Baldwin, troubling the pious linkages surrounding Black folks are the key in transforming national, international and governmental consciousness. Interrupting the pious association of the terms “Europe” and “Civilization,” Baldwin imagines nationhood and governmentality absent a Euro-centric logic: This is because White Americans have supposed ‘Europe’ and ‘civilization’ to be synonyms which they are not –and have been distrustful of other standards and other sources of vitality, especially those produced in America itself…What it comes to is that if we, who can scarcely be considered a White nation, persist in thinking of ourselves as one, we condemn ourselves with the truly White nations, to sterility and decay, whereas if we could accept ourselves as we are, we might bring new life to the Western achievements and transform them. The price of this transformation is the unconditional freedom of the Negro.92

#### None of their impact evidence is unique – they need to prove that a better system will replace cap to access their impacts. Cap is better than any other system – it prevents war and reduces poverty.

Weede 2008 [Erich, professor at the Institute for Political Science and Sociology, “Globalization and Inequality” Comparative Sociology 7, p. 415-433]

Globalization refers to an increasing international division of labor and more trade between economies, to cross-border investment and rapid transfers of technology between nations, to global capital ﬂows and, to a lesser degree, to increasing labor mobility. Th ere is as yet no global labor market. Globalization also implies better opportunities to learn from foreigners or strangers. Th e more similar you are to others, the less likely it is that you can learn from them.1 Unfortunately, many people prefer to rely on established routines and resent the challenge of having to learn from others. Globalization is another word for a worldwide expansion of capitalism. It results in international tax competition (Edwards and de Rugy 2002; Mitchell 2005). Globalization is based on some technological and political prerequisites. These include ever cheaper and faster means of communication and transportation as well as an adequate political environment. The global expansion of capitalism requires political fragmentation: markets should be larger than political units.2 This provides an exit option from oppressive government for capital and, to a lesser degree, for qualiﬁed labor. Such an exit option protects economic freedom from ever-increasing state interference and tax burdens. If one state should be much more powerful than all others, as the US currently is, then globalization requires a deeper commitment to capitalism and economic freedom by the hegemon than by other states. Th ese political requirements of globalization are fulﬁlled. Globalization maximizes the size of the market. Since Adam Smith (1776/1976) we know that the size of the market determines the degree of division of labor which promotes productivity. Thus, globalization is beneﬁcial because it increases productivity. This is not only a theoretical claim, but also an empirical statement. For instance, based on data from the US Bureau of Labor Statistics, yearly economic gains from globalization have been estimated to be somewhere between $1,650 and $3,300 per capita for Americans (Scheve and Slaughter 2007:36–37). Real compensation per hour (including beneﬁts and wages) has also gone up in the past decade, by 22 percent (Griswold 2007:1).3 Since Deng Xiaoping opened China in the late 1970s by introducing reforms which imply creeping capitalism, Chinese agricultural production grew rapidly. Later, China attracted a lot of foreign direct investment. Today China is a major base for manufacturing. By 2005 it was already the third largest exporter, still behind Germany and the US but already ahead of Japan (Th e Economist 2005). By 2008 China is likely to become the biggest exporter in the world. In the early 1980s (but no longer thereafter) even the disparity between urban and rural incomes in China decreased (Lin, Cai, and Li 2003:145). Hundreds of millions of Chinese were taken out of abject poverty. In the ﬁrst two decades of reform, per capita incomes grew fourfold (Bhalla 2002:218). Later, less radical reforms in India led to nearly doubling per capita incomes in a similar period of time and pulled about two hundred million Indians out of abject poverty (Das 2002:360). Since China and India together account for nearly forty percent of mankind and about half of the population living in less developed countries, economic growth in China and India and other Asian countries contributes to the equalization of the global distributions of income between individuals and households. If we are interested in individuals rather than states, then the empirical indicators are clear. Globalization or the global expansion of capitalism has contributed to, or at least been compatible with, an equalization of the size distribution of income between human beings. Since cross-national differences between average incomes are still a more important component of inequality between human beings than intra-national differences in income, it is possible – and currently true – to have the following two trajectories at the same time: growing inequality within many or even most countries amidst some movement towards equality among individuals worldwide (Bhalla 2002; Firebaugh 1999; Goesling 2001; Sala-i-Martin 2007; World Bank 2005). Admittedly, many economies, including the US and China, suffered some deterioration in their domestic income distributions. This is why the legitimacy of capitalism and globalization comes under attack, even in the American citadel of capitalism. This is also why calls for protectionism become louder and louder (Scheve and Slaughter 2007). But critics of globalization tend to forget a basic truth about free trade (Griswold 2007:3): “If workers, capital, and resources can shift within the domestic economy, jobs eliminated by import competition will quickly be replaced by jobs created elsewhere.”4 One should not blame the consequences of institutional sclerosis, or of an unwillingness to adjust, on globalization. Globalization has led to a significant reduction in mass poverty. Although the Chinese distribution of income has become much less equal since the reform process began in the late 1970s, the strong growth performance of China has pulled hundreds of millions out of abject poverty. In India growth has been less spectacular than in China such that the distribution of income has changed less, and yet again hundreds of millions have been pulled out of abject poverty. Although Latin America and Africa have benefitted much less from globalization than Asia has, these continents also cannot match the demographic weight of Asia. Therefore, their comparative lack of success cannot neutralize Asian progress in global perspective. Moreover, one has to keep in mind that winning in the process of globalization presupposes participating in it, not abstaining from it. One may illustrate global change with data provided by Indian economist Surjit Bhalla (2002:187). He deﬁnes people with a daily income between $10–$40 USD as members of the global middle class. In 1960 this class consisted largely of whites; only six percent were Asians. By 2000, however, 52 percent was Asian. Th e era of globalization is one in which Asia is now recovering, after falling for about two centuries further behind the West. Except for Africa abject poverty worldwide is likely to become signiﬁcantly reduced within one or two decades. Th e African share of abject poverty in the world is expected to rise until 2015 from 36 percent to about 90 percent (Bhalla 2002:S. 172).5 Why did so many people in Asia beneﬁt from globalization, whereas Africans did not? A plausible explanation has been oﬀered by Collier (2007:79).6 He points out that about three quarters of the bottom billion7 live in countries which have suﬀered from civil war or long periods of bad governance and poor economic policies. According to Collier (2007:27), “civil war is development in reverse. It damages both the country itself and its neighbors.” Bad governance and poor economic policies distort incentives and misallocate the meager resources of poor countries. Africa has suﬀered from these development traps to a greater degree than other continents. Moreover, one may argue that a focus on income and income distributions is biased towards understating the beneﬁts of globalization. As Goklany (2007:chaps. 2–3) has pointed out, the same income per capita today (in terms of purchasing power) implies higher life expectancies, lower infant mortalities, less malnutrition, healthier lives, and less child labor than it did decades or centuries earlier. Less developed, still poor countries do benefit from the technological progress achieved by developed and rich countries. Thus, even if one disputes the widely held and well-supported view regarding some equalization of individual or house-hold incomes worldwide in recent decades, one should still accept Goklany’s contention (2007:72): “In the aspects of human well-being that are truly critical – life expectancy, infant mortality, hunger, literacy, and child labor – the world is far more equal today than it was a century ago, in large part because of globalization.”8 Another advantage of globalization is that it contributes to preventing war (Russett and Oneal 2001; Weede 2005). Quantitative research demonstrates that the risk of war between nations is reduced if they trade a lot with each other. There is something like a commercial peace or peace by trade. Moreover, economic freedom reduces involvement in military conﬂict and ﬁnancial market openness also reduces the risk of war (Gartzke 2005, 2007). In particular, I want to underline that economic cooperation paciﬁes the geopolitical relationship between rising China and the West.9 Moreover, there is also something like a democratic peace. The risk of war between democracies is extremely small. In my view, one should conceptualize this as a component of a capitalist peace because democracies prosper best in wealthy countries10 and because capitalism or economic freedom and thereby globalization contribute to prosperity (Weede 2005, 2006). Since rising powers tend to challenge the political status quo, it is fortunate that the two demographic giants of this world seem to prosper under global capitalism.

#### Empirics outweigh – none of their evidence outlines a realistic alternative to capitalism

#### We turn poverty.

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Critics frequently accuse markets and capitalism of making life worse for the poor. This refrain is certainly common in the halls of left-leaning academia as well as in broader intellectual circles. But like so many other criticisms of capitalism, this one ignores the very real, and very available, facts of history. Nothing has done more to lift humanity out of poverty than the market economy. This claim is true whether we are looking at a time span of decades or of centuries. The number of people worldwide living on less than about two dollars per day today is less than half of what it was in 1990. The biggest gains in the fight against poverty have occurred in countries that have opened up their markets, such as China and India. If we look over the longer historical period, we can see that the trends today are just the continuation of capitalism’s victories in beating back poverty. For most of human history, we lived in a world of a few haves and lots of have-nots. That slowly began to change with the advent of capitalism and the Industrial Revolution. As economic growth took off and spread throughout the population, it created our own world in the West in which there are a whole bunch of haves and a few have-more-and-betters. For example, the percentage of American households below the poverty line who have basic appliances has grown steadily over the last few decades, with poor families in 2005 being more likely to own things like a clothes dryer, dishwasher, refrigerator, or air conditioner than the average household was in 1971. And consumer items that didn’t even exist back then, such as cell phones, were owned by half of poor households in 2005 and are owned by a substantial majority of them today. Capitalism has also made poor people’s lives far better by reducing infant and child mortality rates, not to mention maternal death rates during childbirth, and by extending life expectancies by decades. Consider, too, the way capitalism’s engine of growth has enabled the planet to sustain almost 7 billion people, compared to 1 billion in 1800. As Deirdre McCloskey has noted, if you multiply the gains in consumption to the average human by the gain in life expectancy worldwide by 7 (for 7 billion as compared to 1 billion people), humanity as a whole is better off by a factor of around 120. That’s not 120 percent better off, but 120 times better off since 1800. The competitive market process has also made education, art, and culture available to more and more people. Even the poorest of Americans, not to mention many of the global poor, have access through the Internet and TV to concerts, books, and works of art that were exclusively the province of the wealthy for centuries. And in the wealthiest countries, the dynamics of capitalism have begun to change the very nature of work. Where once humans toiled for 14 hours per day at backbreaking outdoor labor, now an increasing number of us work inside in climate-controlled comfort. Our workday and workweek have shrunk thanks to the much higher value of labor that comes from working with productive capital. We spend a much smaller percentage of our lives working

for pay, whether we’re rich or poor. And even with economic change, the incomes of the poor are much less variable, as they are not linked to the unpredictable changes in weather that are part and parcel of a predominantly agricultural economy long since disappeared. Think of it this way: the fabulously wealthy kings of old had servants attending to their every need, but an impacted tooth would likely kill them. The poor in largely capitalist countries have access to a quality of medical care and a variety and quality of food that the ancient kings could only dream of. Consider, too, that the working poor of London 100 years ago were, at best, able to split a pound of meat per week among all of their children, which were greater in number than the two or three of today. In addition, the whole family ate meat once a week on Sunday, the one day the man of the household was home for dinner. That was meat for a week. Compare that to today, when we worry that poor Americans are too easily able to afford a meal with a quarter pound of meat in it every single day for less than an hour’s labor. Even if you think that capitalism has made poor people overweight, that’s a major accomplishment compared to the precapitalist norm of constant malnutrition and the struggle even 100 years ago for the working poor to get enough calories. The reality is that the rich have always lived well historically, as for centuries they could commandeer human labor to attend to their every need. In a precapitalist world, the poor had no hope of upward mobility or of relief from the endless physical drudgery that barely kept them alive. Today, the poor in capitalist countries live like kings, thanks mostly to the freeing of labor and the ability to accumulate capital that makes that labor more productive and enriches even the poorest. The falling cost of what were once luxuries and are now necessities, driven by the competitive market and its profit and loss signals, has brought labor-saving machines to the masses. When profit-seeking and innovation became acceptable behavior for the bourgeoisie, the horn of plenty brought forth its bounty, and even the poorest shared in that wealth. Once people no longer needed permission to innovate, and once the value of new inventions was judged by the improvements they made to the lives of the masses in the form of profit and loss, the poor began to live lives of comfort and dignity.

### 1NC – Contention 1

#### We’ll impact turn space colonization –

#### First, space solves every impact --- only exploration ensures survival

Pelton ‘03(Joseph, Dir – Space and Advanced Communications Research Institute – GWU, 9-12,http://www.space.com/news/commentary\_top10\_030912.html)

Actually the lack of a space program could **get us all killed**. I don’t mean you or me or my wife or children. I mean that Homo sapiens as a species are actually endangered. Surprising to some, a well conceived space program may well be our **only hope for long-term survival.** The right or wrong decisions about space research and exploration may be key to the futures of our grandchildren or great-grandchildren or those that follow. Arthur C. Clarke, the author and screenplay writer for 2001: A Space Odyssey, put the issue rather starkly some years back when he said: “The dinosaurs are not around today because they did not have a space program.” He was, of course, referring to the fact that we now know a quite largish meteor crashed into the earth, released poisonous Iridium chemicals into our atmosphere and created a killer cloud above the Earth that blocked out the sun for a prolonged period of time. This could have been foreseen and averted with a sufficiently advanced space program. But this is only one example of how space programs, such as NASA’s Spaceguard program, help protect our fragile planet. Without a space program we would not know about the large ozone hole in our atmosphere, the hazards of solar radiation, the path of killer hurricanes or many other **environmental dangers**. But this is only a fraction of the ways that space programs are crucial to our future. We rely on space systems for communicating with many parts of the world, for navigating our airplanes, for coping with weather systems, for charting the path of hurricanes and tidal waves, and for monitoring air and water pollution. Right now space scientists and engineers are developing new technology to protect us from **environmental perils**, to alert us to terrorist attacks and to stimulate new industries that actually create new jobs. Cheap energy, essential to sustaining modern life, may very well have to come from space-based energy systems. Every dollar NASA spent on developing the communications satellites industry has put back more than $25 into the economy. It is important for citizens to know that the lack of a space program may truly imperil generations to come. Many people have said the time has come to re-evaluate our space programs, define a new vision and articulate new goals in space. These people are dead right. The time for a major review is indeed now. It is time for everyone to know and understand the ways that space programs are **absolutely critical for solving the largest problems** that all people living on our planet now face. NASA Administrator Sean O’Keefe and President George W. Bush are welcome to share this list with the American people and members of the U.S. Congress who ask, “why do we need a space program?” Prevention of environmental disaster: Remote sensing satellites allow us to monitor the ozone hole, global warming, **air, water and ocean pollution**, the effect of **oil spills** on the melting of the ice caps, the **loss of rain forests** and other environmental threats to human survival. These systems can help us trace our recovery from the worst environmental threats and improve our quality of life. Creating a global network for modern communications, entertainment and networking: Advanced satellites provide global connectivity by means of the telephone, fax, the Internet, radio and television extend far beyond the reach of fiber optic cables. Eleven thousand television channels are now available via satellite and well over 200 countries and territories are linked via satellite. Global education and health services: Over 2 billion of the 6 billion people in our world today lack formal educational systems, health care services, potable water or power. The only way to provide global education and health care services in coming decades at reasonable cost and broad coverage is via space-based communication systems. Socrates once said, “there is only one good — knowledge, and only one evil -- ignorance.” In an age of terrorism and great intolerance the need for global education is ever more important. Cheap and environmentally friendly energy: NASA scientists and engineers already have gone a long way to develop space technology that can provide unlimited low cost energy from space. The operational systems, however, still need to be developed and proven in practice. Transportation safety: The 6,000 commercial airplanes that are aloft at one time during peak periods in the U.S. depend on satellite navigation for safe operation. New systems can provide better fuel efficiency, earlier warnings of safety hazards and alert of terrorist attack. This is but one of the ways that future space systems can provide greater transportation safety in decades to come. Emergency warning and recovery systems: **The ability to warn populations of pending dangers** from hurricanes, monsoons, tidal waves, fires and earthquakes are increasingly dependent on space-based systems. Further rescue operations, from emergency communications to disaster assessment to recovery operations, are dependent on satellite networks as well. Protection of our information networks from cyberterrorists: Many of our current electronic information networks that control transportation systems, energy grids, banking systems and governmental databases are vulnerable. Public Key Infrastructure systems are in need of upgrade. New types of security systems based on GPS location and encryption systems are dependent on space-based systems. National defense and strategic security: Space has been called the high frontier. **National security systems** are increasingly based on smart technologies and instruments that operate in outer space. Ever since Operation Desert Storm, military operations are based heavily on space systems and future systems will be even more so. **Protection against catastrophic planetary accidents**: It is easy to assume that an erratic meteor or comet will not bring destruction to the Earth because the probabilities are low. The truth is we are bombarded from space daily. The dangers are greatest not from a cataclysmic collision, but from not knowing enough about solar storms, cosmic radiation and the ozone layer. An enhanced Spaceguard Program is actually a prudent course that could save our species in time. Creation of new jobs and Industries -- a new vision for the 21st century and a mandate to explore truly new frontiers: Most of the economically advanced countries such as Japan, Canada, Australia and Europe, not to mention China, India and Russia, use their space programs to **stimulate their economy**, expand their educational and health care networks, improve their agriculture, upgrade their information networks, enhance their entertainment networks and create new jobs. In this respect the U.S. space program now spends precious little of its resources in these areas, but it once did and it could again. These are only some of the ways that space programs could help create a better future for generations yet to come, but it is an impressive list that impacts every American. Space is actually our future. Some would argue that space is the next great step forward for a pioneering nation that sees the need for advancement and discovery. In Nebraska a historical display dedicated to the pioneers that went out West notes that the cowards stayed home but the brave died seeking a better tomorrow. Now is the time to assess our values and our aspirations.

#### Second, global economic collapse is inevitable without private space development.

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The growth of orbital passenger space travel to several million passengers/year over a few decades would represent a direct commercial turnover of some 100 billion Euros/year. In such a scenario of rapid growth, annual investment in new facilities, research and development might add the same amount again. Indeed, having reached such a scale, there would be no foreseeable limit to further growth—in particular it need not be limited, like terrestrial activities, by environmental or political constraints. Quite apart from the numerous opportunities which such a scenario offers for growth of the space industry, it also offers great potential benefits for humanity, in several different fields, as discussed in turn in the following.

2. Employment

In most countries, most of the population do not have economically significant land holdings, and so employment is the economic basis of social life, providing income and enabling people to have stable family lives. The high level of unemployment in most countries today is therefore not only wasteful, it also causes widespread poverty and unhappiness, and is socially damaging, creating further problems for the future. One reason for investing in the development of passenger space travel, therefore, is that it could create major new fields of employment, capable of growing as far into the future as we can see.

As of 2001, the hotel, catering and tourism sector was estimated to employ 60 million people world-wide, or 3% of the global workforce, and 6% of Europeans [15]. Hence we can estimate that the passenger air travel industry, including airlines, airports, hotels and other tourism-related work, indirectly employs 10–20 times the number of people employed in aircraft manufacturing alone. Likewise, passenger space travel services could presumably create employment many times that in launch vehicle manufacturing—in vehicle operations and maintenance, at spaceports, in orbiting hotels, in many companies supplying these, in services such as staff training, certification and insurance, and in a growing range of related businesses. This possibility is particularly valuable because high unemployment, both in richer and poorer countries, has been the major economic problem throughout the world for decades. Consequently the growth of such a major new market for advanced aerospace technology and services seems highly desirable, as discussed further in [16].

By contrast, in recent years employment in the traditional space industry in USA and Europe has been shrinking fast: a 2003 report by the US Federal Aviation Administration stated that employment in launch vehicle manufacturing and services fell from 28,617 in 1999 to 4828 in 2002, while employment in satellite manufacturing fell from 57,372 to 31,262 [17]. Likewise, European space industry employment fell by 20% from 1995 to 2005; the major space engineering company Astrium cut 3300 staff from 2003 through 2006; and in 2005 alone, European prime contractors cut 13.5% of their staff or some 2400 people [18]. Unfortunately, the probability of space industry employment recovering soon is low, because satellite manufacturing and launch services face both low demand and rapidly growing competition from India and China, where costs are significantly lower.

It is therefore positively bizarre that government policy-makers have declined to even discuss the subject of investing in the development of passenger space travel services, and have permitted no significant investment to date out of the nearly 20 billion Euro-equivalents which space agencies spend every year! This is despite the very positive 1998 NASA report “General Public Space Travel and Tourism” [19], and the NASA-funded 2002 “ASCENT” study referred to above [2] and [3].

In the capitalist system, companies compete to reduce costs since this directly increases their profits. However, reducing the number of employees through improving productivity raises unemployment, except to the extent that new jobs are created in new and growing industries. In an economy with a lack of new industries, increasing so-called “economic efficiency” creates unemployment, which is a social cost. In this situation, governments concerned for public welfare should either increase the rate of creation of new industries, and/or slow the elimination of jobs, at least until the growth of new industries revives, or other desirable counter-measures, such as new social arrangements, are introduced. These may include more leisure time, job-sharing, and other policies designed to prevent the growth of a permanent “under-class” of unemployed and “working poor”—a development which would pose a major threat to western civilisation.

One of the many ill effects of high unemployment is that it weakens governments against pressure from corporate interests. For example, increased restrictions on such undesirable activities as arms exports, unfair trade, environmental damage, corporate tax evasion, business concentration, advertising targeted at children, and anti-social corporate-drafted legislation such as the “codex alimentarus”, “tort reform” and compulsory arbitration are socially desirable. However, when unemployment is high, corporations’ arguments that government intervention would “increase unemployment” have greater influence on governments.

As outlined above, the opening of near-Earth space to large-scale economic development, based initially on passenger space travel services, promises to create millions of jobs, with no obvious limits to future growth. At a time when high unemployment is the most serious economic problem throughout the world, developing this family of new industries as fast as possible should be a priority for employment policy. To continue economic “rationalisation” and “globalisation” while not developing space travel is self-contradictory, and would be both economically and socially very damaging.

3. Economic growth

The continuation of human civilisation requires a growing world economy, with access to increasing resources. This is because competing groups in society can all improve their situation and reasonable fairness can be achieved, enabling social ethics to survive, only if the overall “economic pie” is growing. Unfortunately, societies are much less robust if the “pie” is shrinking, when ethical growth becomes nearly impossible, as competing groups try to improve their own situation at the expense of other groups. Continued growth of civilisation requires continual ethical evolution, but this will probably be possible only if resources are sufficient to assure health, comfort, education and fair employment for all members of society.

The world economy is under great stress recently for a number of reasons, a fundamental one being the lack of opportunities for profitable investment—as exemplified by Japan's unprecedented decade of zero interest-rates. This lack of productive investment opportunities has led a large amount of funds in the rich countries to “churn” around in the world economy in such forms as risky “hedge funds”, causing ever greater financial instability, thereby further weakening economic growth, and widening the gap between rich and poor.

Increasing the opportunities for profitable, stable investment requires continual creation of new industries [16]. Governments today typically express expectations for employment growth in such fields as information technology, energy, robotics, medical services, tourism and leisure. However, there are also sceptical voices pointing out that many of these activities too are already being outsourced to low-cost countries which are catching up technologically in many fields [20]. Most of the new jobs created in the USA during the 21st century so far have been low-paid service work, while the number of US manufacturing jobs has shrunk rapidly [21]. It is thus highly relevant that aerospace engineering is a field in which the most technically advanced countries still have a substantial competitive advantage over later developing countries. Hence, if a commercial space travel industry had already been booming in the 1980s, the shrinkage in aerospace employment after the end of the “cold war” would have been far less. Consequently it seems fair to conclude that the decades-long delay in developing space travel has contributed to the lack of new industries in the richer countries, which is constraining economic growth and causing the highest levels of unemployment for decades.

The rapid economic development of China and India offers great promise but creates a serious challenge for the already rich countries, which need to accelerate the growth of new industries if they are to benefit from these countries’ lower costs without creating an impoverished under-class in their own societies. The long-term cost of such a socially divisive policy would greatly outweigh the short-term benefits of low-cost imports. The development of India and China also creates dangers because the demands of 6 billion people are now approaching the limits of the resources of planet Earth. As these limits are approached, governments become increasingly repressive, thereby adding major social costs to the direct costs of environmental damage [22]. Consequently, as discussed further below, it seems that the decades-long delay in starting to use the resources of the solar system has already caused heavy, self-inflicted damage to humans’ economic development, and must be urgently overcome, for which a range of policies have been proposed in [23] and [24].

#### Third, space development key to prevent global ecological collapse.

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4. Environmental protection

Economic development in space based on low launch costs could contribute greatly, even definitively, to solving world environmental problems. As a first step, substantially reducing the cost of space travel will reduce the cost of environment-monitoring satellites, thereby improving climate research and environmental policy-making.

4.1. Space-based solar power supply

A second possibility, which has been researched for several decades but has not yet received funding to enable testing in orbit, is the delivery of continuous solar-generated power from space to Earth. Researchers believe that such space-based solar power (SSP) could supply clean, low-cost energy on a large scale, which is a prerequisite for economic development of poorer countries, while avoiding damaging pollution. However, realisation of SSP requires much lower launch costs, which apparently only the development of a passenger space travel industry could achieve. Hence the development of orbital tourism could provide the key to realising SSP economically [14].

4.2. Carbon-neutral space travel

Clean energy produced by SSP could eliminate the environmental impact of space travel, and even make it “carbon neutral” if this is considered desirable [25]. Moreover, SSP has a much shorter energy pay-back time than terrestrial solar energy, due to the almost continuous supply of power which it can generate, rather than only in day-time during clear weather. Some critics claim that space travel will become a significant environmental burden [26]. However, while superficially correct in the short term, this is the opposite of the truth over the longer term. It would be a dangerous error to prevent the growth of space tourism in order to avoid its initial, minor environmental impact, since this would prevent a range of major benefits in the future, including the supply of low-cost, carbon-neutral SSP, and other space-based industry.

4.3. Space-based industry

If orbital travel grows to a scale of millions of passengers/year—as it could by the 2030s, with vigorous investment—it will stimulate the spontaneous growth of numerous businesses in space. These will grow progressively from simple activities such as maintenance of orbiting hotels, to in-space manufacturing using asteroidal minerals. For example, the development of SSP would enable a range of industrial processes using the advantages of space, including high vacuum, weightlessness, low-cost electricity and sources of both minerals and volatile chemicals in shallow gravitational wells.

If SSP grows to supply a significant share of the terrestrial energy market, more and more industry would operate outside the Earth's ecological system. While most industries cause growing damage to the Earth's environment as they grow in scale, industrial activities which are outside the Earth's ecosystem need not cause any such damage. Hence the growth of space-based industry to large scale offers the longer-term possibility of decoupling economic growth from the limits of the terrestrial environment. Indeed, it has been convincingly argued that only the use of space resources, including especially SSP, offers the possibility of protecting the Earth's environment while enabling sufficient economic growth to preserve civilised society [22] and [27].

4.4. Severe weather amelioration and climate stabilisation

The use of solar power satellites for reducing the severity of hurricanes and typhoons, and/or ameliorating severe snow conditions has been discussed for some years. In the extreme case this application of SSP might even include a role in the stabilisation of climate. Earth's climate system is extremely complex, and is the subject of a great deal of ongoing scientific research, including collection of an ever-wider range of data, and ever-more detailed analysis of climate change in the past.

A positive-feedback cycle causing sudden onset of the cooling phase of the long-term cycle of “ice ages” has been hypothesized, whereby a winter with unusually low temperatures and/or unusually widespread and/or long-lasting snow cover would increase the probability of the following winter being even more severe [28] and [29]. The beginning of such a trend would be similar to the sharply more severe winters seen over the two last years in North America (as well as the unusually cool 2009 summer).

Consequently, although such a possibility may seem remote, and although there are thorny legal problems concerning deliberate weather modification, it is nevertheless noteworthy that satellite power stations may be the only practical means of selectively melting snow over areas of thousands of square kilometres, possibly sufficient to prevent such a vicious circle, even in the event of terrestrial energy shortages.

4.5. Ethical consumption

Passenger space travel and its numerous spinoff activities have the important potential to escape the limitations of the “consumerism” which governments in the rich countries have encouraged in recent decades in order to stimulate economic growth, defined as GDP. Researchers now understand that this is resulting in “excess consumption” which causes unnecessary environmental damage [30], while reducing rather than increasing popular satisfaction [31]. That is, “first world” citizens are increasingly trapped in a culturally impoverished “consumer” lifestyle which reduces social capital, social cohesion and happiness, while damaging the environment. By contrast, expenditure on the unique experience of space travel promises to play a more positive role in the economy and society, enriching customers culturally without requiring mass production of consumer goods and corresponding pollution. As such it could be a harbinger of a future “open world” economy [27].

#### Fourth, Private space development eliminates resource wars.

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8.1. Heaven or hell on Earth?

As discussed above, the claim that the Earth's resources are running out is used to justify wars which may never end: present-day rhetoric about “the long war” or “100 years war” in Iraq and Afghanistan are current examples. If political leaders do not change their viewpoint, the recent aggression by the rich “Anglo-Saxon” countries, and their cutting back of traditional civil liberties, are ominous for the future. However, this “hellish” vision of endless war is based on an assumption about a single number—the future cost of travel to orbit—about which a different assumption leads to a “heavenly” vision of peace and ever-rising living standards for everyone. If this cost stays above 10,000 Euros/kg, where it has been unchanged for nearly 50 years, the prospects for humanity are bleak. But if humans make the necessary effort, and use the tiny amount of resources needed to develop vehicles for passenger space travel, then this cost will fall to 100 Euros/kg, the use of extra-terrestrial resources will become economic, and arguments for resource wars will evaporate entirely. The main reason why this has not yet happened seems to be lack of understanding of the myriad opportunities by investors and policy-makers. Now that the potential to catch up half a century of delay in the growth of space travel is becoming understood, continuing to spend 20 billion Euro-equivalents/year on government space activities, while continuing to invest nothing in developing passenger space travel, would be a gross failure of economic policy, and strongly contrary to the economic and social interests of the public. Correcting this error, even after such a costly delay, will ameliorate many problems in the world today.

#### Fifth, Ice age coming now—causes extinction and collapses the economy.

Aym, writer – Los Angeles Sentinel, Individual Investor Magazine, 12/22/’10 (Terrence, “German scientist predicts new Ice age now approaching” <http://www.helium.com/items/2045473-scientist-predicts-new-ice-age-now-approaching>)

Panicking people fleeing dying cities…Pandemics and epidemics breaking out…Europe facing regional famines…Countries going to war…Millions dying… The plot for a new Hollywood disaster movie? No. Scenes from the near future. For those that live in the upper half of the northern hemisphere no theater tickets are needed. Everyone will have front row seats. The ice is coming A growing number of scientists have checked their data, the solar cycles, the climate cycles and the Arctic ice core samples. What they see is approaching disaster: a new Ice Age that could displace whole nations, destroy the word's fragile economy and bring freezing death to as much as one-fifth of the world's population. According to some, a new mini-Ice Age could occur in as little as five to ten years. And those are the optimists. The pessimists believe the Earth is spinning towards a full-fledged Ice Age—the kind that lasts thousands of years. The kind that changed the shape of continents and carved out gigantic fresh water lakes like the Great Lakes in the northern Midwest of the United States. The kind of planetary climate disaster that almost wiped out the entire human race some 12,000 years ago. Cycles Everything in the universe is cyclical. Climate is no exception. Ice Ages have come and gone in cycles. Two primary cycles exist: the cycle of the mini-Ice Ages and the major Ice Ages. Both types of cooling are destructive. Some regions become virtually uninhabitable with terribly shortened growing seasons, while southern areas can suffer devastating droughts. If the planet's truly on the cusp of a major Ice Age, some experts predict that the Antarctic ice sheet will calve at the edges and thicken towards the middle. That's exactly what's been happening during the last decade or so. According to the evidence gleaned from core ice samples, the Ice Age cycles are normally preceded by a brief warm-up in the atmosphere followed by years of greater precipitation and centuries or millennia of cooling. Despite the short-sightedness of the man-made global warming crowd—who were over-reacting to the brief warm-up before the massive global cooling kicked in—some of the clearer thinking climatologists have been tracking the trends towards a new Ice Age since the 1970s. Unfortunately, their voices of concern were shouted down by media and political hysteria over the trumped up warming. Now, humans may be about to face something far, far worse. “It is quite possible that we are at the beginning of a Little Ice Age,” ~ Thomas Globig, meteorological scientist As the frenzy over man-made global warming dies the slow death of a thousand cuts, desperate scientists are attempting to interpret what has happened to the sun, what will happen to the Earth as the solar system swings into alignment with the galactic core possibly exposing everything to titanic energies the planet is normally shielded from, and why the Earth may slip into a full-fledged Ice Age in less than ten years. The clock is running out. Then add to their discoveries raw data that suggests the Earth's molten core may have shifted and the readings pouring in that the magnetic field protecting the planet from Unimaginable deadly solar radiation is weakening. Passing the zenith of a nearly two centuries of robust warming, the sun's next phase will see a decline. Climatologists and heliologists agree that within 30 years the sun will go quiet resulting in a dramatic drop of solar heating. The early stages of this activity are already being felt. All of these factors—in one way or another—have or will have a significant impact on the future climate. The impact is not a favorable one. And again, each of these events is cyclical. Arctic ice could spread farther to the south “I think it is even conceivable that the Arctic ice spreads significantly in the years to come,” Globig told reporters for the German weather site weter.t-online. de. "The impact of solar activity on climate has been criminally underestimated for a long time." During the last few weeks of November and the first several weeks of December 2010, amazing climate anomalies have been occurring: Cuba's temperature plunged towards the freezing mark, historic mega-storms battered the West Coast; across Europe's temperatures plummeted as far south as the Mediterranean; Sweden braced for the coldest weather in 1,000 years and Australia had a record snowfall with one week before the beginning of summer. England is fighting against the coldest weather seen in many hundreds of years. “What actually will happen depends on the next five to ten years,” believes Globig. Harder, longer winters and shorter, colder summers Globig sees two main causes for the significant cooling: First, the cyclical changes in the big air currents over the Atlantic, and second, the variations in solar activity. Unfortunately, the high-tech Western world might not fare too well as the Ice Age advances. As Globig points out, people across northern Europe have been barely coping with just a little more snow and cold. “Our modern, high-tech world was completely overwhelmed with the winter situation." As the climate shifts towards an Ice Age footing, the world's weather patterns will reverse dramatically

#### Private space solves.

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4.4. Severe weather amelioration and climate stabilisation

The use of solar power satellites for reducing the severity of hurricanes and typhoons, and/or ameliorating severe snow conditions has been discussed for some years. In the extreme case this application of SSP might even include a role in the stabilisation of climate. Earth's climate system is extremely complex, and is the subject of a great deal of ongoing scientific research, including collection of an ever-wider range of data, and ever-more detailed analysis of climate change in the past.

A positive-feedback cycle causing sudden onset of the cooling phase of the long-term cycle of “ice ages” has been hypothesized, whereby a winter with unusually low temperatures and/or unusually widespread and/or long-lasting snow cover would increase the probability of the following winter being even more severe [28] and [29]. The beginning of such a trend would be similar to the sharply more severe winters seen over the two last years in North America (as well as the unusually cool 2009 summer).

Consequently, although such a possibility may seem remote, and although there are thorny legal problems concerning deliberate weather modification, it is nevertheless noteworthy that satellite power stations may be the only practical means of selectively melting snow over areas of thousands of square kilometres, possibly sufficient to prevent such a vicious circle, even in the event of terrestrial energy shortages.

### 1NC – Contention 2

#### Miraux –

#### 1] No methodology for this study and no warrant for why private corporations rockets are uniquely key to increasing space emissions.

#### 2] Public launches spill over – if the private sector doesn’t launch NASA definitely will so there’s no reason the public sector makes it uniquely works