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#### Asteroid mining is now – multiple companies are competing in mineral exploitation to obtain rare earth metals.

Gilbert 4-26 [Alex Gilbert is a complex systems researcher and a PhD student in space resources at the Colorado School of Mines. Milken Institute, “Mining in Space Is Coming”; <https://www.milkenreview.org/articles/mining-in-space-is-coming>] kelvin

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. 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 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 space resources 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 to facilitate private investment and ensure international cooperation.

What’s Out There

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 valuable. 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 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. 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.

Even the surface of celestial bodies pose a challenge to mining machinery since they consist of unconsolidated rocky materials called regolith instead of more familiar soil.

Wannabe asteroid miners will thus be looking at smaller near-Earth asteroids. While they are much further away than the Moon, many of them could be reached using less energy — and some are even small enough to make it technically possible to tow them to Earth orbit for mining.

Space mining may be essential to crewed exploration missions to Mars. Given the distance and relatively high gravity of Mars (twice that of the Moon), extraction and export of minerals to Earth seems highly unlikely. Rather, most resource extraction on Mars will focus on providing materials to supply exploration missions, refuel spacecraft and enable settlement.

Technology Is the Difference

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.

But despite the high-profile commercial advances, governments still call the shots on the leading edge of space resource technologies. The United States extracted the first extraterrestrial materials in space from the Moon during the Apollo missions, followed by the Soviet Union’s recoveries from crewless Luna missions. President Biden recently borrowed one of the Apollo lunar rocks for display in the Oval Office, highlighting the awe that deep space can still summon.

For the time being, scientific samples remain the goal of mining. Last October, NASA’s OSIRIS-REx mission — due to return to Earth in 2023 — collected a small amount of material from the asteroid Bennu. In December, Japan returned a sample of the asteroid Ryugu with the Hayabusa2 spacecraft. And several weeks later, China’s Chang’e 5 mission returned the first lunar samples since the 1970s.

Sample collection is accelerating, with recent missions targeting Mars. Japan is planning to visit the two moons of Mars and extract a sample from one. NASA’s robotic Perseverance rover will collect and cache drilled samples on Mars that could later be returned to Earth. Perseverance also carries gear for the unique MOXIE experiment on Mars — an attempt to produce oxygen on the planet with technologies that could eventually extract oxygen for astronauts to breath and refuel spacecraft.It’s about as wide as the Eiffel Tower is tall and it could be where we obtain the elements needed to power bases on the moon, Mars or in orbit one day.

The private sector is uniquely key to get mining off the ground – the plan decimates the predicted growth.   
Weinzierl and Sarang 21 [Matt Weinzierl and Mehak Sarang; Matt Weinzierl is the Joseph and Jacqueline Elbling Professor of Business Administration in the Business, Government, and the International Economy Unit at Harvard Business School and a Research Associate at the National Bureau of Economic Research. Mehak Sarang works with the Space Exploration Initiative and a Research Associate at the National Bureau of Economic Research, 2-12-21, “The Commercial Space Age Is Here”, Harvard Business Review, <https://hbr.org/2021/02/the-commercial-space-age-is-here>] kelvin

In contrast, the space-for-space economy — that is, goods and services produced in space for use in space, such as mining the Moon or asteroids for material with which to construct in-space habitats or supply refueling depots — has struggled to get off the ground. As far back as the 1970s, research commissioned by NASA predicted the rise of a space-based economy that would supply the demands of hundreds, thousands, even millions of humans living in space, dwarfing the space-for-earth economy (and, eventually, the entire terrestrial economy as well). The realization of such a vision would change how all of us do business, live our lives, and govern our societies — but to date, we’ve never even had more than 13 people in space at one time, leaving that dream as little more than science fiction.

Today, however, there is reason to think that we may finally be reaching the first stages of a true space-for-space economy. SpaceX’s recent achievements (in cooperation with NASA), as well as upcoming efforts by Boeing, Blue Origin, and Virgin Galactic to put people in space sustainably and at scale, mark the opening of a new chapter of spaceflight led by private firms. These firms have both the intention and capability to bring private citizens to space as passengers, tourists, and — eventually — settlers, opening the door for businesses to start meeting the demand those people create over the next several decades with an array of space-for-space goods and services.

Welcome to the (Commercial) Space Age

In our recent research, we examined how the model of centralized, government-directed human space activity born in the 1960s has, over the last two decades, made way for a new model, in which public initiatives in space increasingly share the stage with private priorities. Centralized, government-led space programs will inevitably focus on space-for-earth activities that are in the public interest, such as national security, basic science, and national pride. This is only natural, as expenditures for these programs must be justified by demonstrating benefits for citizens — and the citizens these governments represent are (nearly) all on earth.

In contrast to governments, the private sector is eager to put people in space to pursue their own personal interests, not the state’s — and then supply the demand they create. This is the vision driving SpaceX, which in its first twenty years has entirely upended the rocket launch industry, securing 60% of the global commercial launch market and building ever-larger spacecraft designed to ferry passengers not just to the International Space Station (ISS), but also to its own promised settlement on Mars.

Today, the space-for-space market is limited to supplying the people who are already in space: that is, the handful of astronauts employed by NASA and other government programs. While SpaceX has grand visions of supporting large numbers of private space travelers, their current space-for-space activities have all been in response to demand from government customers (i.e., NASA). But as decreasing launch costs enable companies like SpaceX to leverage economies of scale and put more people into space, growing private sector demand (that is, tourists and settlers, rather than government employees) could turn these proof-of-concept initiatives into a sustainable, large-scale industry.

This model — of selling to NASA with the hopes of eventually creating and expanding into a larger private market — is exemplified by SpaceX, but the company is by no means the only player taking this approach. For instance, while SpaceX is focused on space-for-space transportation, another key component of this burgeoning industry will be manufacturing.

Made In Space, Inc. has been at the forefront of manufacturing “in space, for space” since 2014, when it 3D-printed a wrench onboard the ISS. Today, the company is exploring other products, such as high-quality fiber-optic cable, that terrestrial customers may be willing to pay to have manufactured in zero-gravity. But the company also recently received a $74 million contract to 3D-print large metal beams in space for use on NASA spacecraft, and future private sector spacecraft will certainly have similar manufacturing needs which Made In Space hopes to be well-positioned to fulfill. Just as SpaceX has begun by supplying NASA but hopes to eventually serve a much larger, private-sector market, Made In Space’s current work with NASA could be the first step along a path towards supporting a variety of private-sector manufacturing applications for which the costs of manufacturing on earth and transporting into space would be prohibitive.

Another major area of space-for-space investment is in building and operating space infrastructure such as habitats, laboratories, and factories. Axiom Space, a current leader in this field, recently announced that it would be flying the “first fully private commercial mission to space” in 2022 onboard SpaceX’s Crew Dragon Capsule. Axiom was also awarded a contract for exclusive access to a module of the ISS, facilitating its plans to develop modules for commercial activity on the station (and eventually, beyond it).

This infrastructure is likely to spur investment in a wide array of complementary services to supply the demand of the people living and working within it. For example, in February 2020, Maxar Technologies was awarded a $142 million contract from NASA to develop a robotic construction tool that would be assembled in space for use on low-Earth orbit spacecraft. Private sector spacecraft or settlements will no doubt have need for a variety of similar construction and repair tools.

#### Impacts:

#### 1] Commercial mining solves extinction from scarcity, climate, terror, war, and disease.

Pelton 17—(Director Emeritus of the Space and Advanced Communications Research Institute at George Washington University, PHD in IR from Georgetown). Pelton, Joseph N. 2017. The New Gold Rush: The Riches of Space Beckon! Springer. Accessed 8/30/19.

Are We Humans Doomed to Extinction? What will we do when Earth’s resources are used up by humanity? The world is now hugely over populated, with billions and billions crammed into our overcrowded cities. By 2050, we may be 9 billion strong, and by 2100 well over 11 billion people on Planet Earth. Some at the United Nations say we might even be an amazing 12 billion crawling around this small globe. And over 80 % of us will be living in congested cities. These cities will be ever more vulnerable to terrorist attack, natural disaster, and other plights that come with overcrowding and a dearth of jobs that will be fueled by rapid automation and the rise of artifi cial intelligence across the global economy. We are already rapidly running out of water and minerals. Climate change is threatening our very existence. Political leaders and even the Pope have cautioned us against inaction. Perhaps the naysayers are right. All humanity is at tremendous risk. Is there no hope for the future? This book is about hope. We think that there is literally heavenly hope for humanity. But we are not talking here about divine intervention. We are envisioning a new space economy that recognizes that there is more water in the skies that all our oceans. Th ere is a new wealth of natural resources and clean energy in the reaches of outer space—more than most of us could ever dream possible. There are those that say why waste money on outer space when we have severe problems here at home? Going into space is not a waste of money. It is our future. It is our hope for new jobs and resources. The great challenge of our times is to reverse public thinking to see space not as a resource drain but as the doorway to opportunity. The new space frontier can literally open up a “gold rush in the skies.” In brief, we think there is new hope for humanity. We see a new a pathway to the future via new ventures in space. For too long, space programs have been seen as a money pit. In the process, we have overlooked the great abundance available to us in the skies above. It is important to recognize there is already the beginning of a new gold rush in space—a pathway to astral abundance. “New Space” is a term increasingly used to describe radical new commercial space initiatives—many of which have come from Silicon Valley and often with backing from the group of entrepreneurs known popularly as the “space billionaires.” New space is revolutionizing the space industry with lower cost space transportation and space systems that represent significant cost savings and new technological breakthroughs. “New Commercial Space” and the “New Space Economy” represent more than a new way of looking at outer space. These new pathways to the stars could prove vital to human survival. If one does not believe in spending money to probe the mysteries of the universe then perhaps we can try what might be called “calibrated greed” on for size. One only needs to go to a cubesat workshop, or to Silicon Valley or one of many conferences like the “Disrupt Space” event in Bremen, Germany, held in April 2016 to recognize that entrepreneurial New Space initiatives are changing everything [ 1 ]. In fact, the very nature and dimensions of what outer space activities are today have changed forever. It is no longer your grandfather’s concept of outer space that was once dominated by the big national space agencies. The entrepreneurs are taking over. The hopeful statements in this book and the hard economic and technical data that backs them up are more than a minority opinion. It is a topic of growing interest at the World Economic Forum, where business and political heavyweights meet in Davos, Switzerland, to discuss how to stimulate new patterns of global economic growth. It is even the growing view of a group that call themselves “space ethicists.” Here is how Christopher J. Newman, at the University of Sunderland in the United Kingdom has put it: Space ethicists have offered the view that space exploration is not only desirable; it is a duty that we, as a species, must undertake in order to secure the survival of humanity over the longer term. Expanding both the resource base and, eventually, the habitats available for humanity means that any expenditure on space exploration, far from being viewed as frivolous, can legitimately be rationalized as an ethical investment choice. (Newman) On the other hand there are space ethicists and space exobiologists who argue that humans have created ecological ruin on the planet—and now space debris is starting to pollute space. Th ese countervailing thoughts by the “no growth” camp of space ethicists say we have no right to colonize other planets or to mine the Moon and asteroids—or at least no right to do so until we can prove we can sustain life here on Earth for the longer term. However, for most who are planning for the new space economy the opinion of space philosophers doesn’t really fl oat their boat. Legislators, bankers, and aspiring space entrepreneurs are far more interested in the views of the super-rich capitalists called the space billionaires. A number of these billionaires and space executives have already put some very serious money into enterprises intent on creating a new pathway to the stars. No less than five billionaires with established space ventures—Elon Musk, Paul Allen, Jeff Bezos, Sir Richard Branson, and Robert Bigelow—have invested millions if not billions of dollars into commercializing space. They are developing new technologies and establishing space enterprises that can bring the wealth of outer space down to Earth. This is not a pipe dream, but will increasingly be the economic reality of the 2020s. These wealthy space entrepreneurs see major new economic opportunities. To them space represents the last great frontier for enterprising pioneers. Th us they see an ever-expanding space frontier that offers opportunities in low-cost space transportation, satellite solar power satellites to produce clean energy 24h a day, space mining, space manufacturing and production, and eventually space habitats and colonies as a trajectory to a better human future. Some even more visionary thinkers envision the possibility of terraforming Mars, or creating new structures in space to protect our planet from cosmic hazards and even raising Earth’s orbit to escape the rising heat levels of the Sun in millennia to come. Some, of course, will say this is sci-fi hogwash. It can’t be done. We say that this is what people would have said in 1900 about airplanes, rocket ships, cell phones and nuclear devices. The skeptics laughed at Columbus and his plan to sail across the oceans to discover new worlds. When Thomas Jefferson bought the Louisiana Purchase from France or Seward bought Alaska, there were plenty of naysayers that said such investment in the unknown was an extravagant waste of money. A healthy skepticism is useful and can play a role in economic and business success. Before one dismisses the idea of an impending major new space economy and a new gold rush, it might useful to see what has already transpired in space development in just the past five decades. The world’s first geosynchronous communications satellite had a throughput capability of about 500 kb / s. In contrast, today’s state of the art Viasat 2 —a half century later— has an impressive throughput of some 140 Gb/s. Th is means that the relative throughput is nearly 300,000 greater, while its lifetime is some ten times longer (Figs. 1.1 and 1.2 ). Each new generation of communications satellite has had more power, better antenna systems, improved pointing and stabilization, and an extended lifetime. And the capabilities represented by remote sensing satellites , meteorological satellites , and navigation and timing satellites have also expanded their capabilities and performance in an impressive manner. When satellite applications first started, the market was measured in millions of dollars. Today commercial satellite services exceed a quarter of a billion dollars. Vital services such as the Internet, aircraft traffi c control and management, international banking, search and rescue and much, much more depend on application satellites. Th ose that would doubt the importance of satellites to the global economy might wish to view on You Tube the video “If Th ere Were a Day Without Satellites?” [ 2 ]. Let’s check in on what some of those very rich and smart guys think about the new space economy and its potential. (We are sorry to say that so far there are no female space billionaires, but surely this, too, will come someday soon.) Of course this twenty-fi rst century breakthrough that we call the New Space economy will not come just from new space commerce. It will also come from the amazing new technologies here on Earth. Vital new terrestrial technologies will accompany this cosmic journey into tomorrow. Information technology, robotics, artificial intelligence and commercial space travel systems have now set us on a course to allow us humans to harvest the amazing riches in the skies—new natural resources, new energy, and even totally new ways of looking at the purpose of human existence. If we pursue this course steadfastly, it can be the beginning of a New Space renaissance. But if we don’t seek to realize our ultimate destiny in space, Homo sapiens can end up in the dustbin of history—just like literally millions of already failed species. In each and every one of the five mass extinction events that have occurred over the last 1.5 billion years on Earth, some 50–80 % of all species have gone the way of the T. Rex, the woolly mammoth, and the Dodo bird along with extinct ferns, grasses and cacti. On the other hand, the best days of the human race could be just beginning. If we are smart about how we go about discovering and using these riches in the skies and applying the best of our new technologies, it could be the start of a new beginning for humanity. Konstantin Tsiokovsky, the Russian astronautics pioneer, who fi rst conceived of practical designs for spaceships, famously said: “A planet is the cradle of mankind, but one cannot live in a cradle forever.” Well before Tsiokovsky another genius, Leonardo da Vinci, said, quite poetically: “Once you have tasted flight, you will forever walk the earth with your eyes turned skyward, for there you have been, and there you will always long to return.” The founder of the X-Prize and of Planetary Resources, Inc., Dr. Peter Diamandis, has much more brashly said much the same thing in quite diff erent words when he said: “The meek shall inherit the Earth. The rest of us will go to Mars.” The New Space Billionaires Peter Diamandis is not alone in his thinking. From the list of “visionaries” quoted earlier, Elon Musk, the founder of SpaceX; Sir Richard Branson, the founder of Virgin Galactic; and Paul Allen, the co-founder of Microsoft and the man who financed SpaceShipOne, the world’s first successful spaceplane have all said the future will include a vibrant new space economy. Th ey, and others, have said that we can, we should and we soon shall go into space and realize the bounty that it can offer to us. Th e New Space enterprise is today indeed being led by those so-called space billionaires , who have an exciting vision of the future. They and others in the commercial space economy believe that the exploitation of outer space may open up a new golden age of astral abundance. They see outer space as a new frontier that can be a great source of new materials, energy and various forms of new wealth that might even save us from excesses of the past. Th is gold rush in the skies represents a new beginning. We are not talking about expensive new space ventures funded by NASA or other space agencies in Europe, Japan, China or India. No, these eff orts which we and others call New Space are today being forged by imaginative and resourceful commercial entrepreneurs. Th ese twenty-fi rst century visionaries have the fortitude and zeal to look to the abundance above. New breakthroughs in technology and New Space enterprises may be able to create an “astral life raft” for humanity. Just as Columbus and the Vikings had the imaginative drive that led them to discover the riches of a new world, we now have a cadre of space billionaires that are now leading us into this New Space era of tomorrow. These bold leaders, such as Paul Allen and Sir Richard Branson, plus other space entrepreneurs including Jeff Bezos of Amazon and Blue Origin, and Robert Bigelow, Chairman of Budget Suites and Bigelow Aerospace, not only dream of their future in the space industry but also have billions of dollars in assets. These are the bright stars of an entirely new industry that are leading us into the age of New Space commerce. These space billionaires, each in their own way, are proponents of a new age of astral abundance. Each of them is launching new commercial space industries. They are literally transforming our vision of tomorrow. These new types of entrepreneurial aerospace companies—the New Space enterprises—give new hope and new promise of transforming our world as we know it today. The New Space Frontier What happens in space in the next few decades, plus corresponding new information technologies and advanced robotics, will change our world forever. These changes will redefi ne wealth, change our views of work and employment and upend almost everything we think we know about economics, wealth, jobs, and politics. Th ese changes are about truly disruptive technologies of the most fundamental kinds. If you thought the Internet, smart phones, and spandex were disruptive technologies, just hang on. You have not seen anything yet. In short, if you want to understand a transition more fundamental than the changes brought to the twentieth century world by computers, communications and the Internet, then read this book. There are truly riches in the skies. Near-Earth asteroids largely composed of platinum and rare earth metals have an incredible value. Helium-3 isotopes accessible in outer space could provide clean and abundant energy. There is far more water in outer space than is in our oceans. In the pages that follow we will explain the potential for a cosmic shift in our global economy, our ecology, and our commercial and legal systems. These can take place by the end of this century. And if these changes do not take place we will be in trouble. Our conventional petro-chemical energy systems will fail us economically and eventually blanket us with a hydrocarbon haze of smog that will threaten our health and our very survival. Our rare precious metals that we need for modern electronic appliances will skyrocket in price, and the struggle between “haves” and “have nots” will grow increasingly ugly. A lack of affordable and readily available water, natural resources, food, health care and medical supplies, plus systematic threats to urban security and systemic warfare are the alternatives to astral abundance. The choices between astral abundance and a downward spiral in global standards of living are stark. Within the next few decades these problems will be increasingly real. By then the world may almost be begging for new, out of- the-box thinking. International peace and security will be an indispensable prerequisite for exploitation of astral abundance, as will good government for all. No one nation can be rich and secure when everyone else is poor and insecure. In short, global space security and strategic space defense, mediated by global space agreements, are part of this new pathway to the future.

#### Specifically, asteroid mining solves fallout from terrestrial mining and creates resource abundance

MacWhorter 16 [Kevin; J.D. Candidate, William & Mary Law School, "Sustainable Mining: Incentivizing Asteroid Mining in the Name of Environmentalism", William & Mary Environmental Law and Policy Review, Vol 40, Issue 2, Article 11, <https://scholarship.law.wm.edu/cgi/viewcontent.cgi?referer=https://www.google.com/&httpsredir=1&article=1653&context=wmelpr>] brett

A. Rare Element Mining on Earth

In the next sixty years, scientists predict that certain elements crucial to modern industry such as platinum, zinc, copper, phosphorous, lead, gold, and indium could be exhausted on Earth. 12 Many of these have no synthetic alternative, unlike chemical elements such as oil or diamonds.13 Liquid-crystal display (LCD) televisions, cellphones, and laptops are among the various consumer technologies that use precious metals.14Further, green technologies including wind turbines, solar panels, and catalytic converters require these rare elements. 15 As demand rises for both types of technologies, and as reserves of rare metals fall, prices skyrocket.16 Demand for nonrenewable resources creates conflict, and consumerism in rich countries results in harsh labor treatment for poorer countries.17

In general, the mining industry is extremely destructive to Earth’s environment.18 In fact, depending on the method employed, mining can destroy entire ecosystems by polluting water sources and contributing to deforestation.19 It is by its nature an unsustainable practice, because it involves the extraction of a finite and non-renewable resource.20 Moreover, by extracting tiny amounts of metals from relatively large quantities of ore, the mining industry contributes the largest portion of solid wastes in the world.21 The Environmental Protection Agency (EPA) describes the industry as the source of more toxic and hazardous waste than any other industrial sector [in the United States], costing billions of dollars to address the public health and environmental threats to communities. 22 Poor regulations and oxymoronic corporate definitions of sustainability, however, make it unclear as to just how much waste the industry actually produces.23

Platinum provides an excellent case study of the issue, because it is an extremely rare and expensive metal—an ore expected to exist in vast quantities in asteroids.24 Further, production of platinum has increased sharply in the past sixty years in order to keep up with growing demand for use in new technologies.25 In fact, despite their high costs, platinum group metals are so useful that [one] of [four] industrial goods on Earth require them in production. 26 Scholars do not expect demand to slow any time soon.27 Among other technologies, industries use platinum in products such as catalytic converters, jewelry production, various catalysts for chemical processing, and hydrogen fuel cells.28 While there is no consensus on how far the Earth’s reserves of platinum will take humanity, many scientists agree that platinum ore reserves will deplete in a relatively short amount of time.29

With the rate of mining at an all-time high,30 it is increasingly clear that historical patterns of mineral resources and development cannot simply be assumed to continue unaltered into the future. 31 The platinum mining industry, however, has a strong incentive to increase its rate of extraction as profits grow with the rate of demand. Without any alternative, this destructive practice will continue into the future.32

So-called platinum-group metal (PGM) ores are mined through underground or open cut techniques.33 Due to these practices, all but a very small fraction of the mined platinum ore is disposed of as solid waste.34 The environmental consequences of platinum production are thus quite significant, but like the mining industry in general, the amount of waste is typically under-reported.35

While this is due to high production levels at the moment, those levels will only increase given the estimated future demand of platinum.36 In spite of the negative consequences, mining continues unabated because it is economically important to many areas.37 The future environmental costs provide a major challenge in creating a sustainable system. Relegating at least some mining companies to near-Earth asteroids would reduce the negative effects of future mining levels on Earth. The economic benefits of mining need not be sacrificed for the sake of the environment.38

#### Otherwise terrestrial mining destroys the environment.

Williams 19 [Matthew S. writer at Universe Today; Aug 1 2019, "Asteroid Mining: What Will It Involve and Is This the Future of Wealth?", Interessting Engineering, <https://interestingengineering.com/asteroid-mining-what-will-it-involve-and-is-this-the-future-of-wealth>] brett

Of course, this raises the obvious question: wouldn't it be really expensive to do all this mining? Why not simply continue to rely on Earth for sources of precious metals and resources and simply learn to use them better?

To put it simply, we are running out of resources. To be clear, learning to use our resources better and more sustainably is always a great idea. And while it is certainly true than Earth-based mining is far cheaper than going to space would be, that may not be the case indefinitely.

Aside from the fact that off-world minerals and ices would be of considerable value to Earth's economy, there is also the way that growing consumption is leading our reserves to become slowly exhausted.

In fact, according to some estimates, it is possible that our planet will run out of key elements that are needed for modern industry and food production within the next 50 to 60 years. This alone is a pretty good incentive to tap the virtually inexhaustible supply of elements located off-world.

Plus, there are a lot of benefits to expanding humanity's resource base beyond Earth. Here on Earth, mining takes a considerable toll on the natural environment. In fact, depending on the methods used, it can result in erosion, sinkholes, habitat destruction, and the destruction of native animal and plant life.

There's also the dangers of toxic runoff and the contamination of soil, groundwater, and surface water, which is a danger to humans, as well as to wildlife and the natural environment.

As for smelting, machining, and manufacturing, the environmental damage that results is well-documented. Combined with power generation, these industrial processes are one of the leading contributors to air, water, and pollution.

By shifting these burdens off-world, humanity could dramatically-reduce the impact it has on the natural environment.

#### Environmental destruction causes extinction.

Joe McCarthy 18, a Staff Writer at Global Citizen, Nov 8 2018, "Humans Could Face Extinction if We Don't Protect Biodiversity: UN", Global Citizen, <https://www.globalcitizen.org/en/content/biodiversity-loss-human-extinction/>

As the sixth mass extinction event accelerates around the world, engulfing thousands of animal and plant species, humans risk facing a similar fate unless drastic interventions are made, according to Cristiana Pașca Palmer, the United Nations biodiversity chief, who recently spoke with the Guardian.

Palmer said that within the next two years, countries have to develop an ambitious plan to conserve land, protect animals, and stop practices that are harming wildlife. This effort is equally as urgent as the Paris climate agreement’s goal of mitigating climate change, she said.

“The loss of biodiversity is a silent killer,” she told the Guardian. “It’s different from climate change, where people feel the impact in everyday life. With biodiversity, it is not so clear but by the time you feel what is happening, it may be too late.”

Next month, countries will meet in Sharm el Sheikh, Egypt, to begin mapping out what such a plan would like. Palmer hopes that a final version will be formalized in Beijing in 2020.

If a binding global treaty fails to materialize, then humanity faces an uncertain future, she said. Past efforts to stop the loss of biodiversity have not proved successful, according to the Guardian.

In recent years, evidence of this staggering loss has begun accumulating.

Wild animal populations have declined by 60% since 1970, more than 26,000 plants and animals are close to extinction, nearly two-thirds of the world’s wetlands and half of all rainforests have been destroyed, more than 87% of the world’s ocean area is dying, and the planet needs an estimated 5 million years to recover from the biodiversity loss it has already sustained.

“We are sleepwalking towards the edge of a cliff,” Mike Barrett, executive director of science and conservation at WWF, recently told the Guardian. “If there was a 60% decline in the human population, that would be equivalent to emptying North America, South America, Africa, Europe, China, and Oceania. That is the scale of what we have done.”

“This is far more than just being about losing the wonders of nature, desperately sad though that is,” he said. “This is actually now jeopardising the future of people. Nature is not a ‘nice to have’ — it is our life-support system.”

The benefits of biodiversity are hard to overstate. The food chain, climate systems, atmospheric conditions, natural resources, and much more depend on the delicately structured interactions of ecosystems around the world.

The truly wild places in the world, meanwhile, are crucial to generating, cleaning, and distributing water around the world, and could help to mitigate the looming water crisis. These landscapes and marine environments also clean the air and act as carbon sinks, stabilize the global environment, and protect countries from natural disasters.

In addition to climate change, the biggest threats to biodiversity are deforestation, agriculture, over-development, and industrial pollution.

While Palmer sounded an urgent alarm bell while speaking with the Guardian, she’s hopeful that countries will recognize the threat of biodiversity loss and begin to take action.

The UN is calling for at least 30% of all land and 15% of all marine environments to be protected by 2030 and for targets to be lifted in the following years.

“Things are moving. There is a lot of goodwill,” Palmer said. “We should be aware of the dangers but not paralysed by inaction. It’s still in our hands but the window for action is narrowing. We need higher levels of political and citizen will to support nature.”

#### 2] Asteroid mining’s key to space col---extinction

Feinman, 14 [Matthew; Juris Doctor Candidate, Class of 2015, at the University of Pittsburgh School of Law. Spring 2014. 14 Pitt. J. Tech. L. & Pol'y no. 2 202 (2013-2014), “Mining the Final Frontier: Keeping Earth's Asteroid Mining Ventures from Becoming the Next Gold Rush” pp. 208-210 DOI: 10.5195/tlp.2014.140] brett

C. Asteroid Resources Can Be Used to Propel Us into the Future

"Humans must colonize planets in other solar systems ... or face extinction."49 -Stephen Hawking

The Earth is plagued with famine, 0 war," disease,52 the fear of nuclear annihilation,53 and those are only some of the "local" threats we face. Other thresats include, tiny meteorites that are consistently pelting the atmosphere every day. Almost all of these meteorites bum up in the atmosphere, but there are occurrences of meteorites reaching the Earth's surface. For example, on February 15, 2013, over Chelyabinsk, Russia, one meteorite passed through the atmosphere and did not bum up.55 Luckily, the meteor exploded before hitting the ground. 56 It is estimated that the meteor had the strength of at least 500 kilotons,57 25 times stronger than the atomic bomb dropped on Nagasaki, Japan, in 1945.

These threats and dangers are very real, and the human race needs alternatives. Stephen Hawking has been quoted as saying that ". . . once we spread out into space and establish independent colonies, our future should be safe."59 To this end, there are a number of companies currently developing technology to live off world.

The Eros Project's mission is to colonize a near-Earth asteroid.60 The Eros Project is the brainchild of Orbital Development, a company dedicated to the advancement of space travel.61 During this project, Orbital Development plans to create a city on one end, a tunnel leading to the other end, and a shipyard at the end of the tunnel. 2 The Lifeboat Foundation, a 501(c)(3),63 on the other hand, is a group devoted to defending Earth and protecting its people, while also developing means to leave this planet should the need arise.64 Lifeboat recognizes the inherent dangers of living on Earth,6 5 and is preparing to move the citizens of the world off the planet if and when the worst should happen.66

Each of these companies has something in common-all need the means and materials to make their missions a reality. It is not cheap to go to space as launching a Space Shuttle can cost the U.S. between $1 and $1.3 billion per launch.67 Add to that the cost of the materials needed to build a colony and the prices will only increase.6 8 Mars One, a nonprofit foundation with plans to have four colonists land on Mars in 2023, estimates that the initial launch will cost $6 billion.69

The technology created by companies like Planetary Resources and DSI could help with these colonization endeavors. Launches from Earth could be cheaper if the shuttles were able to refuel at a DSI Propellant Refinery. 0 Planetary Resources' ARKYD-300 could scout ahead for possible colonization sites on both asteroids and planets." Imagine a scenario where a DSI Harvestor mines the minerals needed to create a colony, and then the shuttle takes those materials, along with a DSI Microgravity Foundry, to build the colony itself. 2

#### Mathematically outweighs

Bostrom, 3 [Nick; Professor, University of Oxford; Director, Future of Humanity Institute, University of Oxford; Director, Governance of AI program. Former lecturer at Yale. PhD, Philosophy, LSE; Studied Astrophysics & General Relativity (Dept. of Physics) and completed MSc-thesis in Computational neuroscience (Dept. of Math), King’s College, London; MA, Philosophy and Physics, University of Stockholm; BA, Philosophy, Mathematics, Mathematical Logic, Artificial Intelligence, University of Goteborg. “Astronomical Waste: The Opportunity Cost of Delayed Technological Development” <https://nickbostrom.com/astronomical/waste.html>] brett

ABSTRACT. With very advanced technology, a very large population of people living happy lives could be sustained in the accessible region of the universe. For every year that development of such technologies and colonization of the universe is delayed, there is therefore an opportunity cost: a potential good, lives worth living, is not being realized. Given some plausible assumptions, this cost is extremely large. However, the lesson for utilitarians is not that we ought to maximize the pace of technological development, but rather that we ought to maximize its safety, i.e. the probability that colonization will eventually occur.

I. THE RATE OF LOSS OF POTENTIAL LIVES

As I write these words, suns are illuminating and heating empty rooms, unused energy is being flushed down black holes, and our great common endowment of negentropy is being irreversibly degraded into entropy on a cosmic scale. These are resources that an advanced civilization could have used to create value-structures, such as sentient beings living worthwhile lives.

The rate of this loss boggles the mind. One recent paper speculates, using loose theoretical considerations based on the rate of increase of entropy, that the loss of potential human lives in our own galactic supercluster is at least ~10^46 per century of delayed colonization.[1] This estimate assumes that all the lost entropy could have been used for productive purposes, although no currently known technological mechanisms are even remotely capable of doing that. Since the estimate is meant to be a lower bound, this radically unconservative assumption is undesirable.

We can, however, get a lower bound more straightforwardly by simply counting the number or stars in our galactic supercluster and multiplying this number with the amount of computing power that the resources of each star could be used to generate using technologies for whose feasibility a strong case has already been made. We can then divide this total with the estimated amount of computing power needed to simulate one human life.

As a rough approximation, let us say the Virgo Supercluster contains 10^13 stars. One estimate of the computing power extractable from a star and with an associated planet-sized computational structure, using advanced molecular nanotechnology[2], is 10^42 operations per second.[3] A typical estimate of the human brain’s processing power is roughly 10^17 operations per second or less.[4] Not much more seems to be needed to simulate the relevant parts of the environment in sufficient detail to enable the simulated minds to have experiences indistinguishable from typical current human experiences.[5] Given these estimates, it follows that the potential for approximately 10^38 human lives is lost every century that colonization of our local supercluster is delayed; or equivalently, about 10^29 potential human lives per second.

While this estimate is conservative in that it assumes only computational mechanisms whose implementation has been at least outlined in the literature, it is useful to have an even more conservative estimate that does not assume a non-biological instantiation of the potential persons. Suppose that about 10^10 biological humans could be sustained around an average star. Then the Virgo Supercluster could contain 10^23 biological humans. This corresponds to a loss of potential equal to about 10^14 potential human lives per second of delayed colonization.

What matters for present purposes is not the exact numbers but the fact that they are huge. Even with the most conservative estimate, assuming a biological implementation of all persons, the potential for one hundred trillion potential human beings is lost for every second of postponement of colonization of our supercluster.[6]

II. THE OPPORTUNITY COST OF DELAYED COLONIZATION

From a utilitarian perspective, this huge loss of potential human lives constitutes a correspondingly huge loss of potential value. I am assuming here that the human lives that could have been created would have been worthwhile ones. Since it is commonly supposed that even current human lives are typically worthwhile, this is a weak assumption. Any civilization advanced enough to colonize the local supercluster would likely also have the ability to establish at least the minimally favorable conditions required for future lives to be worth living.

The effect on total value, then, seems greater for actions that accelerate technological development than for practically any other possible action. Advancing technology (or its enabling factors, such as economic productivity) even by such a tiny amount that it leads to colonization of the local supercluster just one second earlier than would otherwise have happened amounts to bringing about more than 10^29 human lives (or 10^14 human lives if we use the most conservative lower bound) that would not otherwise have existed. Few other philanthropic causes could hope to mach that level of utilitarian payoff.

#### Asteroid mining overcomes all technical barriers

---creates initial habitats in Low Earth Orbit that mine asteroids for the materials to settle the Moon, Mars, etc. Only mining produces sufficient resources.

Matt Williams, 17. Writer for Universe Today. Citing A. J. Berliner, UC Berkeley; C. P. McKay. Space Sciences Division, NASA Ames Research Center; Valeriy Yakovlev, an astrophysicist and hydrogeologist from Laboratory of Water Quality in Kharkov, Ukraine. 3/10/17, “The future of space colonization – terraforming or space habitats?” [https://phys.org/news/2017-03-future-space-colonization-terraforming-habitats.html](https://phys.org/news/2017-03-future-space-colonization-terraforming-habitats.html%20) \*edited for gendered language brett \*\*\*NEOs=Asteroids

In light of this, Yakolev presents what he considers to be the most likely prospects for humanity's exit to space between now and 2030. This will include the creation of the first space biospheres with artificial gravity, which will lead to key developments in terms of materials technology, life support-systems, and the robotic systems and infrastructure needed to install and service habitats in Low Earth Orbit (LEO).

These habitats could be serviced thanks to the creation of robotic spacecraft that could harvest resources from nearby bodies – such as the Moon and Near-Earth Objects (NEOs). This concept would not only remove the need for planetary protections – i.e. worries about contaminating Mars' biosphere (assuming the presence of bacterial life), it would also allow human beings to become accustomed to space more gradually.

As Yakovlev told Universe Today via email, the advantages to space habitats can be broken down into four points:

"1. This is a universal way of mastering the infinite spaces of the Cosmos, both in the Solar System and outside it. We do not need surfaces for installing houses, but resources that robots will deliver from planets and satellites. 2. The possibility of creating a habitat as close as possible to the earth's cradle allows one to escape from the inevitable physical degradation under a different gravity. It is easier to create a protective magnetic field.

"3. The transfer between worlds and sources of resources will not be a dangerous expedition, but a normal life. Is it good for sailors without their families? 4. The probability of death or degradation of [hu]mankind as a result of the global catastrophe is significantly reduced, as the colonization of the planets includes reconnaissance, delivery of goods, shuttle transport of people – and this is much longer than the construction of the biosphere in the Moon's orbit. Dr. Stephen William Hawking is right, a person does not have much time."

And with space habitats in place, some very crucial research could begin, including medical and biologic research which would involve the first children born in space. It would also facilitate the development of reliable space shuttles and resource extraction technologies, which will come in handy for the settlement of other bodies – like the Moon, Mars, and even exoplanets.

Ultimately, Yakolev thinks that space biospheres could also be accomplished within a reasonable timeframe – i.e. between 2030 and 2050 – which is simply not possible with terraforming. Citing the growing presence and power of the commercial space sector, Yakolev also believed a lot of the infrastructure that is necessary is already in place (or under development).

"After we overcome the inertia of thinking +20 years, the experimental biosphere (like the settlement in Antarctica with watches), in 50 years the first generation of children born in the Cosmos will grow and the Earth will decrease, because it will enter the legends as a whole… As a result, terraforming will be canceled. And the subsequent conference will open the way for real exploration of the Cosmos. I'm proud to be on the same planet as Elon Reeve Musk. His missiles will be useful to lift designs for the first biosphere from the lunar factories. This is a close and direct way to conquer the Cosmos."

With NASA scientists and entrepreneurs like Elon Musk and Bas Landorp looking to colonize Mars in the near future, and other commercial aerospace companies developing LEO, the size and shape of humanity's future in space is difficult to predict. Perhaps we will jointly decide on a path that takes us to the Moon, Mars, and beyond. Perhaps we will see our best efforts directed into near-Earth space.

Or perhaps we will see ourselves going off in multiple directions at once. Whereas some groups will advocate creating space habitats in LEO (and later, elsewhere in the Solar System) that rely on artificial gravity and robotic spaceships mining asteroids for materials, others will focus on establishing outposts on planetary bodies, with the goal of turning them into "new Earths".

Between them, we can expect that humans will begin developing a degree of "space expertise" in this century, which will certainly come in handy when we start pushing the boundaries of exploration and colonization even further.

## Case

Uv – 1ar theory, dtd

### 1NC – Cap Good

#### The role of the ballot is to determine the desirability of the AFF method---Anything else destroys the stasis of contestation provided by the topic which unpredictably denies us all of the 1AC the impact is clash---that outweighs and turns all their offense because it’s intrinsic to debate and lets us best export our strategies

#### Capitalism solves war.

Mina E. Tanious 18, General Authority for Investment and Free Zones (GAFI), Giza, Egypt and Faculty of Economics and Political Science, Cairo University, Giza, Egypt. REPS 4,1, July 7, 2018. “The impact of economic interdependence on the probability of conflict between states” <https://www.emerald.com/insight/content/doi/10.1108/REPS-10-2018-010/full/pdf> brett

Liberals view that increasing ties between countries in some fields encourages them to achieve greater cooperation in other fields. These linkages are supposed to strengthen communication and reduce misunderstandings which may cause tension and creates cultural and institutional mechanisms capable of mediating conflicts that may arise between them. At the same time, mutual recognition of mutual benefits enhances peace.

Liberals believe that economic relations between nations lead to peace, with liberals pointing to three important points (Korbel and Chen, 2009, p. 15):

(1) The costs of waging a war against state’s economic partner are very high because fighting against a partner with which the state trade and invest, the state actually fights against itself because a war between the state and its partner must have a negative effect on the state’s economy.

(2) Economic ties change states’ preferences when economic ties between two states become stronger and these two states become more economically interdependent or even integrated, economic interests – compared with other national interests such as military buildup – become the most important.

(3) Strong economic ties make non-military threats such as economic sanctions credible. Therefore, when there is a conflict between two states that have strong economic ties, a non-military threat is more likely to be the choice.

Liberals, assuming that states seek to maximize absolute welfare, maintain that situations of high trade should continue into the foreseeable future as long as states are rational; such actors have no reason to forsake the benefits from trade, especially defection from the trading arrangement will only lead to retaliation. Liberals can argue that interdependence as reflected in high trade at any particular moment in time-will foster peace, given the benefits of trade over war (Copeland, 1996, p. 16).

The core liberal position is straightforward trade provides valuable benefits, or “gains from trade,” to any particular state. A dependent state should therefore seek to avoid war, as peaceful trading gives it all the benefits of close ties without any of the costs and risks of war. Trade pays more than war, so dependent states should prefer to trade not invade (Copeland, 1996, p. 8).

#### Studies prove.

Dafoe 14, Political Science and International Economics (Allan & Nina Kelsey; assistant professor in political science at Yale & research associate in international economics at Berkeley; Journal of Peace Research, “Observing the capitalist peace: Examining market-mediated signaling and other mechanisms,” http://jpr.sagepub.com.proxy.lib.umich.edu/content/51/5/619.full)

Countries with liberal political and economic systems rarely use military force against each other. This anomalous peace has been most prominently attributed to the ‘democratic peace’ – the apparent tendency for democratic countries to avoid militarized conflict with each other (Maoz & Russett, 1993; Ray, 1995; Dafoe, Oneal & Russett, 2013).More recently, however, scholars have proposed that the liberal peace could be partly (Russett & Oneal, 2001) or primarily (Gartzke, 2007; but see Dafoe, 2011) attributed to liberal economic factors, such as commercial and financial interdependence. In particular, Erik Gartzke, Quan Li & Charles Boehmer (2001), henceforth referred to as GLB, have demonstrated that measures of capital openness have a substantial and statistically significant association with peaceful dyadic relations. Gartzke (2007) confirms that this association is robust to a large variety of model specifications. To explain this correlation, GLB propose that countries with open capital markets are more able to credibly signal their resolve through the bearing of greater economic costs prior to the outbreak of militarized conflict. This explanation is novel and plausible, and resonates with the rationalist view of asymmetric information as a cause of conflict (Fearon, 1995). Moreover, it implies clear testable predictions on evidential domains different from those examined by GLB. In this article we exploit this opportunity by constructing a confirmatory test of GLB’s theory of market-mediated signaling. We first develop an innovative quantitative case selection technique to identify crucial cases where the mechanism of market-mediated signaling should be most easily observed. Specifically, we employ quantitative data and the statistical models used to support the theory we are probing to create an impartial and transparentmeans of selecting cases in which the theory – as specified by the theory’s creators –makes its most confident predictions.We implement three different case selection rules to select cases that optimize on two criteria: (1) maximizing the inferential leverage of our cases, and (2) minimizing selection bias. We examine these cases for a necessary implication of market-mediated signaling: that key participants drew a connection between conflictual events and adverse market movements. Such an inference is a necessary step in the process by which market-mediated costs can signal resolve. For evidence of this we examine news media, government documents, memoirs, historical works, and other sources. We additionally examine other sources, such as market data, for evidence that economic costs were caused by escalatory events. Based on this analysis, we assess the evidence for GLB’s theory of market mediated costly signaling. Our article then considers a more complex heterogeneous effects version of market-mediated signaling in which unspecified scope conditions are required for the mechanism to operate. Our design has the feature of selecting cases in which scope conditions are most likely to be absent. This allows us to perform an exploratory analysis of these cases, looking for possible scope conditions. We also consider alternative potential mechanisms. Our cases are reviewed in more detail in the online appendix.1 To summarize our results, our confirmatory test finds that while market-mediated signaling may be operative in the most serious disputes, it was largely absent in the less serious disputes that characterize most of the sample of militarized interstate disputes (MIDs). This suggests either that other mechanisms account for the correlation between capital openness and peace, or that the scope conditions for market-mediated signaling are restrictive. Of the signals that we observed, strategic market-mediated signals were relatively more important than automatic market-mediated signals in the most serious conflicts. We identify a number of potential scope conditions, such as that (1) the conflict must be driven by bargaining failure arising from uncertainty and (2) the economic costs need to escalate gradually and need to be substantial, but less than the expected military costs of conflict. Finally, there were a number of other explanations that seemed present in the cases we examined and could account for the capitalist peace: capital openness is associated with greater anticipated economic costs of conflict; capital openness leads third parties to have a greater stake in the conflict and therefore be more willing to intervene; a dyadic acceptance of the status quo could promote both peace and capital openness; and countries seeking to institutionalize a regional peace might instrumentally harness the pacifying effects of liberal markets. The correlation: Open capital markets and peace The empirical puzzle at the core of this article is the significant and robust correlation noted by GLB between high levels of capital openness in both members of a dyad and the infrequent incidence of militarized interstate disputes (MIDs) and wars between the members of this dyad (Gartzke, Li & Boehmer, 2001). The index of capital openness (CAPOPEN) is intended to capture the ‘difficulty states face in seeking to impose restrictions on capital flows (the degree of lost policy autonomy due to globalization)’ (Gartzke & Li, 2003: 575). CAPOPEN is constructed from data drawn from the widely used IMF’s Annual Reports on Exchange Arrangements and Exchange Controls; it is a combination of eight binary variables that measure different types of government restrictions on capital and currency flow (Gartzke, Li & Boehmer, 2001: 407). The measure of CAPOPEN starts in 1966 and is defined for many countries (increasingly more over time). Most of the countries that do not have a measure of CAPOPEN are communist.2 GLB implement this variable in a dyadic framework by creating a new variable, CAPOPENL, which is the smaller of the two dyadic values of CAPOPEN. This operationalization is sometimes referred to as the ‘weak-link’ specification since the functional form is consonant with a model of war in which the ‘weakest link’ in a dyad determines the probability of war. CAPOPENL has a negative monotonic association with the incidence of MIDs, fatal MIDs, and wars (see Figure 1).3 The strength of the estimated empirical association between peace and CAPOPENL, using a modified version of the dataset and model from Gartzke (2007), is comparable to that between peace and, respectively, joint democracy, log of distance, or the GDP of a contiguous dyad (Gartzke, 2007: 179; Gartzke, Li & Boehmer, 2001: 412). In summary, CAPOPENL seems to be an important and robust correlate of peace. The question of why specifically this correlation exists, however, remains to be answered. The mechanism: Market-mediated signaling? Gartzke, Li & Boehmer (2001) argue that the classic liberal account for the pacific effect of economic interdependence – that interdependence increases the expected costs of war – is not consistent with the bargaining theory of war (see also Morrow, 1999). GLB argue that ‘conventional descriptions of interdependence see war as less likely because states face additional opportunity costs for fighting. The problem with such an account is that it ignores incentives to capitalize on an opponent’s reticence to fight’ (Gartzke, Li & Boehmer, 2001: 400.)4 Instead, GLB (see also Gartzke, 2003; Gartzke & Li, 2003) argue that financial interdependence could promote peace by facilitating the sending of costly signals. As the probability of militarized conflict increases, states incur a variety of automatic and strategically imposed economic costs as a consequence of escalation toward conflict. Those states that persist in a dispute despite these costs will reveal their willingness to tolerate them, and hence signal resolve. The greater the degree of economic interdependence, the more a resolved country could demonstrate its willingness to suffer costs ex ante to militarized conflict. Gartzke, Li & Boehmer’s mechanism implies a commonly perceived costly signal before militarized conflict breaks out or escalates: if market-mediated signaling is to account for the correlation between CAPOPENL and the absence of MIDs, then visible market-mediated costs should occur prior to or during periods of real or potential conflict (Gartzke, Li & Boehmer, 2001). Thus, the proposed mechanism should leave many visible footprints in the historical record. This theory predicts that these visible signals must arise in any escalating conflict, involving countries with high capital openness, in which this mechanism is operative Clarifying the signaling mechanism Gartzke, Li & Boehmer’s signaling mechanism is mostly conceptualized on an abstract, game-theoretic level (Gartzke, Li & Boehmer, 2001). In order to elucidate the types of observations that could inform this theory’s validity, we discuss with greater specificity the possible ways in which such signaling might occur. A conceptual classification of costly signals The term signaling connotes an intentional communicative act by one party directed towards another. Because the term signaling thus suggests a willful act, and a signal of resolve is only credible if it is costly, scholars have sometimes concluded that states involved in bargaining under incomplete information could advance their interests by imposing costs on themselves and thereby signaling their resolve (e.g. Lektzian & Sprecher, 2007). However, the game-theoretic concept of signaling refers more generally to any situation in which an actor’s behavior reveals information about her private information. In fact, states frequently adopt sanctions with low costs to themselves and high costs to their rivals because doing so is often a rational bargaining tactic on other grounds: they are trying to coerce their rival to concede the issue. Bargaining encounters of this type can be conceptualized as a type of war-of-attrition game in which each actor attempts to coerce the other through the imposition of escalating costs. Such encounters also provide the opportunity for signaling: when states resist the costs imposed by their rivals, they ‘signal’ their resolve. If at some point one party perceives the conflict to have become too costly and steps back, that party ‘signals’ a lack of resolve. Thus, this kind of signaling arises as a by-product of another’s coercive attempts. In other words, costly signals come in two forms: self-inflicted (information about a leader arising from a leader’s intentional or incidental infliction of costs on himself) or imposed (information about a leader that arises from a leader’s response to a rival’s imposition of costs). Additionally, costs may arise as an automatic byproduct of escalation towards military conflict or may be a tool of statecraft that is strategically employed during a conflict. The automatic mechanism stipulates that as the probability of conflict increases, various economic assets will lose value due to the risk of conflict and investor flight. However, the occurrence of these costs may also be intentional outcomes of specific escalatory decisions of the states, as in the case of deliberate sanctions; in this case they are strategic. Finally, at a practical level, we identify three different potential kinds of economic costs of militarized conflict that may be mediated by open capital markets: capital costs from political risk, monetary coercion, and business sanctions.

#### Capitalism is sustainable

Bailey ’18 [Ronald; March 12; B.A. in 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, “Climate Change Problems Will Be Solved Through Economic Growth,” <https://reason.com/2018/03/12/climate-change-problems-will-be-solved-t>; RP]

"It is, I promise, worse than you think," David Wallace-Wells wrote in an infamously apocalyptic 2017 New York Magazine article. "Indeed, absent a significant adjustment to how billions of humans conduct their lives, parts of the Earth will likely become close to uninhabitable, and other parts horrifically inhospitable, as soon as the end of this century." The "it" is man-made climate change. Temperatures will become scalding, crops will wither, and rising seas will inundate coastal cities, Wallace-Wells warns. But toward the end of his screed, he somewhat dismissively observes that "by and large, the scientists have an enormous confidence in the ingenuity of humans….Now we've found a way to engineer our own doomsday, and surely we will find a way to engineer our way out of it, one way or another." Over at Scientific American, John Horgan considers some eco-modernist views on how humanity will indeed go about engineering our way out of the problems that climate change may pose. In an essay called "Should We Chill Out About Global Warming?," Horgan reports the more dynamic and positive analyses of two eco-modernist thinkers, Harvard psychologist Steven Pinker and science journalist Will Boisvert. In an essay for The Breakthrough Journal, Pinker notes that such optimism "is commonly dismissed as the 'faith that technology will save us.' In fact, it is a skepticism that the status quo will doom us—that knowledge and behavior will remain frozen in their current state for perpetuity. Indeed, a naive faith in stasis has repeatedly led to prophecies of environmental doomsdays that never happened." In his new book, Enlightenment Now, Pinker points out that "as the world gets richer and more tech-savvy, it dematerializes, decarbonizes, and densifies, sparing land and species." Economic growth and technological progress are the solutions not only to climate change but to most of the problems that bedevil humanity. Boisvert, meanwhile, tackles and rebuts the apocalyptic prophecies made by eco-pessimists like Wallace-Wells, specifically with regard to food production and availabilty, water supplies, heat waves, and rising seas. "No, this isn't a denialist screed," Boisvert writes. "Human greenhouse emissions will warm the planet, raise the seas and derange the weather, and the resulting heat, flood and drought will be cataclysmic. Cataclysmic—but not apocalyptic. While the climate upheaval will be large, the consequences for human well-being will be small. Looked at in the broader context of economic development, climate change will barely slow our progress in the effort to raise living standards." Boisvert proceeds to show how a series of technologies—drought-resistant crops, cheap desalination, widespread adoption of air-conditioning, modern construction techniques—will ameliorate and overcome the problems caused by rising temperatures. He is entirely correct when he notes, "The most inexorable feature of climate-change modeling isn't the advance of the sea but the steady economic growth that will make life better despite global warming." Horgan, Pinker, and Boisvert are all essentially endorsing what I have called "the progress solution" to climate change. As I wrote in 2009, "It is surely not unreasonable to argue that if one wants to help future generations deal with climate change, the best policies would be those that encourage rapid economic growth. This would endow future generations with the wealth and superior technologies that could be used to handle whatever comes at them including climate change." Six years later I added that that "richer is more climate-friendly, especially for developing countries. Why? Because faster growth means higher incomes, which correlate with lower population growth. Greater wealth also means higher agricultural productivity, freeing up land for forests to grow as well as speedier progress toward developing and deploying cheaper non–fossil fuel energy technologies. These trends can act synergistically to ameliorate man-made climate change." Horgan concludes, "Greens fear that optimism will foster complacency and hence undermine activism. But I find the essays of Pinker and Boisvert inspiring, not enervating….These days, despair is a bigger problem than optimism." Counseling despair has always been wrong when human ingenuity is left free to solve problems, and that will prove to be the case with climate change as well.

#### Growth and innovation solves existential warming.

Ogutonye, 21—Policy Lead, Science & Innovation Unit, Tony Blair Institute for Global Change (Olamide, “Should Tech Make Us Optimistic About Climate Change?,” <https://institute.global/policy/should-tech-make-us-optimistic-about-climate-change>, dml)

In the middle of a climate emergency, it is challenging to stay upbeat. Yet the good news is that investment in climate technology has continued to grow since the early 2010s. US-listed companies involved with providing technology solutions that support global decarbonisation have consistently outperformed the average since 2019 (Figure 7). Venture capital (VC) investment in the sector grew tenfold between 2013 and 2018, representing five times the growth rate of the overall VC market. By comparison, the growth rate of VC investment in Artificial Intelligence was a third of climate tech between 2013 and 2018 although AI is renowned for its uptick within the same timeframe. Beyond VC, public investment in climate technology research has continued to grow too. In 2019, government research and development funding for energy technologies alone stood at $30 billion, with around 80 per cent of it aimed at low-carbon solutions.

In addition to the positive role of technology, political leaders are increasingly showing a willingness to make ambitious commitments on climate. The Paris Agreement is a case in point. The international treaty was adopted in 2015 and ratified internationally within a year – a much quicker pace than its predecessor, the Kyoto Protocol, which took eight years. The Paris deal grew into a political snowball, galvanising further commitment from most of the world’s leading emitters and arguably becoming the most symbolic climate event of the 21st century. The US withdrawal from the Paris Agreement in 2019 dealt a political blow to the global pact although the decision, since reversed by President Biden, did not resonate or last long enough to have any major impact.

The Biden-Harris administration has already indicated that it will not sit on the fence but will instead revive the country’s leadership on climate action. In the UK and elsewhere, similar efforts can be observed as more countries commit to some form of net zero target. More than 100 countries have pledged a commitment towards net zero, with estimates suggesting that over 70 per cent of global GDP and 55 per cent of CO2 emissions are now covered by a similar target. A Climate Action Tracker Report indicates that the cumulative effect of countries’ pledges to the Paris Agreement – if kept and fully achieved – could keep global temperature rise below 2.1°C by 2100, putting the stated goal of 1.5°C within striking distance.

As explored in our recent Institute paper, there are also important insights for politicians in terms of applying lessons from the Covid-19 pandemic to the climate emergency. Although the pandemic is different in scale, complexity and timeline, it offers an immediate window into how policy leaders can adapt and make decisions in order to better support climate innovation. Countries can also apply the “recovering better together” principles outlined by the UN, which calls for a commitment to climate-related actions as economies recover from the Covid-19 slowdown. More than 60 countries, including high emitters, are already making an explicit promise to link their nationally determined contributions (NDC) to Covid-19 recovery, supported by the United Nations Development Programme’s Climate Promise programme. Countries in the Global South are equally aligning their climate mission with international support for various NDC support programmes. A green recovery can cut the level of 2030 emissions to 25 per cent lower than projections based on pre-Covid commitments and put the world close to a 2°C pathway. The pandemic has also highlighted the significance of tech innovation, not least in record-breaking vaccine delivery but also in the suite of digital solutions developed for contact tracing, compliance monitoring and management of health-care records.

The global financial landscape is evolving to become more responsive to climate innovation. Since they were first issued in 2007, green bonds have grown into what is now estimated to become a $1 trillion market. Analysts expect as much as $500 billion of green bonds this year as the EU raises capital for its Covid recovery fund. From target-linked to transition bonds, innovations in this green market are being used to bring projects in energy, transport, buildings and other economic sectors to life. Investor-led initiatives such as Climate Action 100+, whose members control over $50 trillion of assets, are actively using funds to ensure the world’s largest corporate greenhouse gas emitters commit to climate action. Other investor networks are pursuing a similar agenda, including Europe’s Institutional Investors Group on Climate Change (IIGCC) and Australia and New Zealand’s Investor Group on Climate Change (IGCC). Humanity’s competence in technology and innovation will be central to the race in mitigating and tackling climate change.

#### Capitalism solves domestic and global poverty – *you need wealth before you can redistribute it*.

Pethokoukis ’18 (James; a columnist and policy analyst, is the Dewitt Wallace Fellow at the American Enterprise Institute; October 18th; “Ending poverty by ‘ending capitalism’ is absolute nonsense. Just so, so wrong”; <http://www.aei.org/publication/ending-poverty-by-ending-capitalism-is-absolute-nonsense-just-so-so-wrong/>; accessed 1/12/19; MSCOTT)

It’s hardly to Teen Vogue’s credit that its dreadful story “[What ‘Capitalism’ Is and How It Affects People](https://www.teenvogue.com/story/what-capitalism-is?mbid=social_twitter)” isn’t nearly as wrongheaded and offensive as the viral [tweet](https://twitter.com/TeenVogue/status/1052641654367313921) promoting it: “Can’t[#endpoverty](https://twitter.com/hashtag/endpoverty?src=hash)without ending capitalism!” But let’s start with the grotesque, clickbaity tweet. End poverty where, exactly? Is Teen Vogue referring to the United States, which it identifies as an example of a “modern capitalist” country along with Britain and Germany?

First of all, the median income of the bottom 20 percent of households is up more than 70 percent since 1979 in real terms, according to the [CBO](https://www.cbo.gov/publication/53597). More to the point, poverty in America has declined considerably since LBJ declared a War on Poverty in 1964. Like other advanced capitalist economies, the United States redistributes some of its massive, market-generated wealth to improve living standards at the bottom. According to the Census Bureau’s [Supplemental Poverty Measure](https://www.census.gov/library/publications/2018/demo/p60-265.html) — which unlike the official poverty measure takes into account key safety net programs such as the Earned Income Tax Credit and the Supplemental Nutrition Assistance Program — the poverty rate fell to 13.9 percent in 2017 from 26 percent in 1967. There’s even better news when one looks at “consumption-based” poverty measures, which calculates what a family consumes instead of how much income it earns. The work of visiting AEI scholar Bruce Meyer (along with his colleague James Sullivan) finds consumption-based poverty [is more like 3 percent](http://www.aei.org/publication/annual-report-on-us-consumption-poverty-2016/). Here is a relevant bit from a recent [podcast chat](http://www.aei.org/publication/inequality-and-poverty-in-the-us-a-long-read-qa-with-bruce-meyer/) we had:

Pethokoukis: Correct me if I have the numbers wrong, but if you look at just the official poverty rate measure you hear about in the news, since 1980 it seems kind of flat. But if you look at consumption, poverty has gone down fairly considerably. Is that right?

Meyer: Yes, so one of the statistics that I like least and I think is most misleading is the poverty rate. The official poverty rate says that we are at the same level of poverty now as we were in the 70s, which just does not fit.

Pethokoukis: So the Great Society failed, we spent all this money and poverty is no better.

Meyer: That’s essentially what the official statistics say, but you shouldn’t believe them for two main reasons. First, the official statistics don’t count much of what we’ve done to reduce poverty; so the official statistics look at pre-tax money income which omits the earned income tax credit, which omits food stamps, it omits housing benefits, it omits Medicaid. So, it gives you a very distorted picture of how those at the bottom are doing.

The second big reason that the official poverty statistic completely misleads the people taking them at face value is that the thresholds above which you have to be to not be poor go up too fast over time because they are indexed to inflation in a way that overstates the effects of inflation.

And you can see that again if you look at material circumstances in more objective ways of those at the bottom. If you look at the housing conditions of the bottom 20% of the income distribution, they look like the housing conditions of the middle class 30 years ago. So, the rates of air conditioning, central air conditioning, of washers and dryers in the apartment, have gone way up. The incidents of peeling paint, of water leaks in the ceiling or in the pipes, and the like have gone way down.

Pethokoukis: When I think about the house I grew up in, it was about half the size of my current house, it had no air conditioning, and I remember the leaks in the ceilings. I certainly am sure that my parents considered us a solidly middle-class household. But I guarantee if I drove by that house with my kids, they would say, “We didn’t know you were so poor.”

Meyer: I think that’s exactly right. I think that’s what a lot of us can see in how our lives have changed, but the official statistics don’t really reflect that, in significant part because of the overstatement of inflation and because of the omission of in-kind transfers and other government benefits.

And if Teen Vogue doesn’t understand what’s happening in the US, maybe it’s really too much to ask that it understand global trends, like the historic massive reduction in global poverty over recent decades. ([Most Americans have no idea](http://www.aei.org/publication/extreme-poverty-declining-americans-have-no-idea/).) Over the past 30 years, the share of our fellow humans living in extreme poverty has decreased to 21 percent from 52 percent. That’s a billion fewer people in extreme poverty, largely in China and India. The Economist magazine — a publication quite willing to address flaws in the world’s capitalist economies — has put it this way:

The world’s achievement in the field of poverty reduction is, by almost any measure, impressive. . . . Most of the credit, however, must go to capitalism and free trade, for they enable economies to grow — and it was growth, principally, that has eased destitution. The world now knows how to reduce poverty. A lot of targeted policies — basic social safety nets and cash-transfer schemes help. So does binning policies like fuel subsidies to Indonesia’s middle class and China’s hukou household-registration system that boost inequality.

But the biggest poverty-reduction measure of all is liberalizing markets to let poor people get richer. That means freeing trade between countries (Africa is still cruelly punished by tariffs) and within them (China’s real great leap forward occurred because it allowed private business to grow). Both India and Africa are crowded with monopolies and restrictive practices. Many Westerners have reacted to recession by seeking to constrain markets and roll globalization back in their own countries, and they want to export these ideas to the developing world, too. It does not need such advice. It is doing quite nicely, largely thanks to the same economic principles that helped the developed world grow rich and could pull the poorest of the poor out of destitution.

You’ll find none of the above in the Teen Vogue piece, which means they’ve missed the story. Totally. Modern advanced economies — whether America, Sweden, the UK, or Germany — combine market-driven economies with social safety nets of one flavor or another. The result is high living standards and a low poverty level. But you can’t redistribute wealth without creating it. And that is what innovation-driven capitalism has done really well for the past two centuries. I would urge Teen Vogue editors and reporters to read “[Factfulness: Ten Reasons We’re Wrong About the World–and Why Things Are Better Than You Think](https://www.amazon.com/dp/B0756J1LLV/ref=dp-kindle-redirect?_encoding=UTF8&btkr=1" \t "_blank)” by the late Hans Rosling, a fantastic book which examines all the ways in which very smart people are getting so many important things so very wrong — including poverty. Hard to believe this story has been up since April without any apparent modification.

#### Transition goes nuclear:

#### 1---Security threats.

Mann 14 [Eric Mann is a special agent with a United States federal agency, with significant domestic and international counterintelligence and counter-terrorism experience. Worked as a special assistant for a U.S. Senator and served as a presidential appointee for the U.S. Congress. He is currently responsible for an internal security and vulnerability assessment program. Bachelors @ University of South Carolina, Graduate degree in Homeland Security @ Georgetown. “AUSTERITY, ECONOMIC DECLINE, AND FINANCIAL WEAPONS OF WAR: A NEW PARADIGM FOR GLOBAL SECURITY,” May 2014, <https://jscholarship.library.jhu.edu/bitstream/handle/1774.2/37262/MANN-THESIS-2014.pdf>]

The conclusions reached in this thesis demonstrate how economic considerations within states can figure prominently into the calculus for future conflicts. The findings also suggest that security issues with economic or financial underpinnings will transcend classical determinants of war and conflict, and change the manner by which rival states engage in hostile acts toward one another. The research shows that security concerns emanating from economic uncertainty and the inherent vulnerabilities within global financial markets will present new challenges for national security, and provide developing states new asymmetric options for balancing against stronger states.¶ The security areas, identified in the proceeding chapters, are likely to mature into global security threats in the immediate future. As the case study on South Korea suggest, the overlapping security issues associated with economic decline and reduced military spending by the United States will affect allied confidence in America’s security guarantees. The study shows that this outcome could cause regional instability or realignments of strategic partnerships in the Asia-pacific region with ramifications for U.S. national security. Rival states and non-state groups may also become emboldened to challenge America’s status in the unipolar international system.¶ The potential risks associated with stolen or loose WMD, resulting from poor security, can also pose a threat to U.S. national security. The case study on Pakistan, Syria and North Korea show how financial constraints affect weapons security making weapons vulnerable to theft, and how financial factors can influence WMD proliferation by contributing to the motivating factors behind a trusted insider’s decision to sell weapons technology. The inherent vulnerabilities within the global financial markets will provide terrorists’ organizations and other non-state groups, who object to the current international system or distribution of power, with opportunities to disrupt global finance and perhaps weaken America’s status. A more ominous threat originates from states intent on increasing diversification of foreign currency holdings, establishing alternatives to the dollar for international trade, or engaging financial warfare against the United States.

#### 2---Violent collapse.

Milne and Kinsella, 17—Faculty of English, University of Cambridge AND School of Media, Culture and Creative Arts, Faculty of Humanities, Curtin University (Drew and John, “NUCLEAR THEORY DEGREE ZERO, WITH TWO CHEERS FOR DERRIDA,” Angelaki, 22:3, 1-16,) brett

Another version of the “accelerationist” argument captures some of the ideological workings of the term. In Marxist circles, an “accelerationist” is someone who thinks that the collapse of capitalism will be hastened by allowing reactionary forces to speed up capitalism’s self-destruction. There are occasions when such an argument has validity: nothing about the form of the argument makes it inherently or structurally wrong. There are revolutionary moments when allowing capitalism to collapse in order to rebuild a socialist society is a better path than propping up a failing capitalist regime. The judgement is political rather than philosophical. In most contexts, however, the accelerationist argument, especially as a political principle, is deeply dangerous. It would be better, for example, to preserve a failing US capitalist regime while building social forces to take it over, than to allow the nuclear weapons of the United States to fall into the hands of a suicidal military rearguard or some counter-revolutionary terrorist organisation. Preserving the possibility of human life might involve propping up collapsing capitalist institutions, not least the nuclear safety inspectorate, rather than allowing humanity to be swallowed up by some death spiral of presidential dictators in fear of being toppled. These are critical judgements that could arise at any moment, with real risks that poor judgements will hasten a nuclear confrontation that leads to mutually assured annihilation. The formal shape of an accelerationist argument needs to be understood strategically and politically if it is to address nuclear questions

### AT: U.S Russia Conflict

#### No Russia war – 5 reasons

Edited for ableist language

Maral Margossian, political journalist for the Daily Collegian. March 27, 2014 "Five reasons why Russia won’t start World War III" dailycollegian.com/2014/03/27/five-reasons-why-russia-wont-start-world-war-iii/

The recent events in Eastern Europe involving Russia and Ukraine have spawned, at their most extreme, apocalyptic claims. Here are five reasons why Russia won’t start World War III, or any other war for that matter: 1. The world is MAD. The end of World War II ushered the world into a precarious atomic age that characterized the international atmosphere during the Cold War. Luckily, the Cold War never escalated to nuclear war. Why? Because of mutually assured destruction (or MAD). Russia knows that if it pushes that big red button, we have our own even bigger, redder button to push in retaliation. The odds of a nuclear war with Russia are extremely unlikely. 2. The impact of economic sanctions on the Russian economy is far too ~~crippling~~ [damaging] for Russia to fund a war. As a part of a globalized world, economic sanctions are more than mere slaps on the wrist. Already the sanctions imposed on Russia have begun to take their toll. The West has yet to attack Russia’s strongest economic assets, but the declining strength of the Russian economy puts Putin far from a position to wage a world war. 3. Putin’s actions demonstrate his longing for Russia’s glory days before the fall of the Soviet Union. His annexation of Crimea is more out of fear than strength. Putin feels threatened by Russia’s changing role in world affairs and is using Crimea to tell the world that Russia still matters. 4. Russia is already seen as the “big bad wolf” of Europe. Though Putin may have been nominated for the Nobel Peace Prize for his involvement in the Syrian chemical weapons deal, Russia’s popularity among many Western countries is not very high. The recent suspension of Russia from the G8 group is a symbolic action that demonstrates that Russia will have to face a united front of world powers if it chooses to start a war. 5. There is just too much at stake. War between Ukraine and Russia is one thing; Russia’s military is large enough and strong enough to easily defeat Ukraine. However, if Russia decides to take further aggressive action, it must also contend with surrounding European Union member nations and their potential involvement in the war. Moreover, Russia’s involvement in other international affairs will be affected. For example, the ongoing effort to normalize relations between Iran and the rest of the world will be jeopardized, considering Russia is involved in those efforts. Crimea may have symbolic meaning close to the hearts of Russians, but it isn’t worth risking the domino effect of events that can potentially occur.¶ So, those of you who feel abnormally unsettled by the recent turn of events can rest easy. While Russia’s actions can’t be brushed aside and should be taken seriously, the chances of this confrontation escalating to a great war are slim — assuming these countries act rationally.

### LBL

#### Robinson – no wealth inequality – inequality is inevitable – literally could not show the aff world and how it solves

#### link is really blippy

Space means cap expands infinitely