### 1

#### TEXT: The Outer Space Treaty ought to be amended to establish an international legal trust system governing outer space.

Finoa 21 [Ivan Finoa (Department of Law University of Turin), “Building a New Legal Model for Settlements on Mars,” A. Froehlich (ed.), Assessing a Mars Agreement Including Human Settlements, Studies in Space Policy 30, 2021. <https://doi.org/10.1007/978-3-030-65013-1_7>]CT

7.5 A Proposal for an International Legal Trust System

Since several legal and policy issues may arise from the actual legal framework, a new international legal regime for outer space shall: (a) Provide for property rights or a lease allocation system, both incentivising investments in the space sector. The system would be supervised and led by the United Nations (UN) through the United Nations Office for Outer Space Affairs (UNOOSA). (b) Establish the rule of law in outer space. A laissez faire system could turn into anarchy whereby countries and companies could race to grab as many resources as possible bringing considerable potential conflict. (c) Recognise outer space as common heritage of mankind, instead of res communis.24 (d) Provide a sustainable exploitation of celestial bodies, to avoid the uncontrolled production of space debris or to prevent the complete exhaustion of the celestial bodies’ masses or their natural orbits.25 The United Nations should manage the ordered and sustainable economic development in outer space for the present and future generations. (e) Prevent the militarisation of outer space and favours the international collaboration, which are the same aims of the Outer Space Treaty’ drafters. (f) Consider the weak points of the Moon Agreement which led to nations’ refusal to sign. Only a widely accepted agreement would have the power of law in the international context.

The abovementioned requirements could be met by establishing an international Legal Trust System (ILTS). A trust is an arrangement that assigns assets to one or more trustees that will manage them in the interest of one or more beneficiaries. The latter may include the trustee or the settlor.26 Translated in the ILTS, mankind would assume the role of settlor and beneficiary of the outer space resources. The UNOOSA would act as main trustee of outer space resources and trading property rights and leases to companies and countries. The rights over the celestial bodies or over its resources would depend on the nature of the celestial body itself. For example, property rights are preferable to a lease over asteroids, as they could just disappear after the exploitation. Both leases and property rights can be provided over lands and mining sites on Mars. Leases or defeasible titles are preferable for some land mass on those celestial bodies which could hypothetically be used by humankind pending an Earth disaster. In the case of lucrative activities, such as mining, companies will choose whether to get the exclusive use over the resource through payment of the lease or through annual payment linked to net proceeds or to production charges.

7.6 The Functioning of the International Legal Trust System

When a company is interested in leasing or buying an outer space resource, before starting any operations, it must send a plan of work to the United Nations. The plan of work shall include all the details of the activity that would be carried out; it shall be consistent with pre-established parameters of sustainability and shall not interfere with other space activities. If the UN approves the company plan of work, the country of the company assumes the role of co-trustee for the specific resource. Thus, as a cotrustee, countries must investigate whether all activities of their national companies are consistent with the plan of work authorised by the UN. These supervisory duties would be added to the responsibility of nations for all space objects that are launched within their territory.27 The UN, as main trustee, would oversee that countries are performing their duties. This model would be the ordinary one. There would be also an extraordinary model, in which the UN would be the only trustee. This model would be possible in two instances: when the country of the applicant for a private company is not technologically able to act as a trustee or when the applicant of the activity is a country itself. Furthermore, as stated previously, the beneficiaries of this trust are the countries of the world and their citizens; hence all mankind would take concrete profit from lease transactions and benefit sharing. The income from the sales, leases and benefit sharing can be distributed to mankind by financing international global goals, following a similar model of the 17 Sustainable Development Goals adopted by the United Nations in 2015, which addressed poverty, inequality, climate change, environmental degradation, and peace and justice. Finally, the International Legal Trust System would meet acceptance because every country would obtain benefit sharing to improve its living standard and space faring nations would rely on property rights.

### 2

#### The private sector is essential for asteroid mining – competition is key and government development is not effective, efficient, or cheap enough. Thiessen 21:

Marc Thiessen, 6-1, 21, Washington Post, Opinion: SpaceX’s success is one small step for man, one giant leap for capitalism, https://www.washingtonpost.com/opinions/2020/06/01/spacexs-success-is-one-small-step-man-one-giant-leap-capitalism/

It was one small step for man, one giant leap for capitalism. Only three countries have ever launched human beings into orbit. This past weekend, SpaceX became the first private company ever to do so, when it sent its Crew Dragon capsule into space aboard its Falcon 9 rocket and docked with the International Space Station. This was accomplished by a company Elon Musk started in 2002 in a California strip mall warehouse with just a dozen employees and a mariachi band. At a time when our nation is debating the merits of socialism, SpaceX has given us an **incredible testament to the power of American free enterprise.** While the left is advocating unprecedented government intervention in almost every sector of the U.S. economy, from health care to energy, **today Americans are celebrating the successful privatization of space travel.** If you want to see the difference between what government and private enterprise can do, consider: It took a private company to give us the first space vehicle with touch-screen controls instead of antiquated knobs and buttons. It took a private company to give us a capsule that can fly entirely autonomously from launch to landing — including docking — without any participation by its human crew. It also took a private company to invent a reusable rocket that can not only take off but land as well. When the Apollo 11 crew reached the moon on July 20, 1969, Neil Armstrong declared “the Eagle has landed.” On Saturday, SpaceX was able to declare that the Falcon had landed when its rocket settled down on a barge in the Atlantic Ocean — ready to be used again. That last development will save the taxpayers incredible amounts of money. The cost to NASA for launching a man into space on the space shuttle orbiter was $170 million per seat, compared with just $60 million to $67 million on the Dragon capsule. The cost for the space shuttle to send a kilogram of cargo into to space was $54,500; with the Falcon rocket, the cost is just $2,720 — a decrease of 95 percent. And while the space shuttle cost $27.4 billion to develop, the Crew Dragon was designed and built for just $1.7 billion — making it the lowest-cost spacecraft developed in six decades. SpaceX did it in six years — far faster than the time it took to develop the space shuttle. ***The private sector does it better, cheaper, faster and more efficiently than government***. Why? Competition. Today, SpaceX has to compete with a constellation of private companies — including legacy aerospace firms such as Orbital ATK and United Launch Alliance and innovative start-ups such as Blue Origin (which is designing a Mars lander and whose owner, Jeff Bezos, also owns The Post) and Virgin Orbit (which is developing rockets than can launch satellites into space from the underside of a 747, avoiding the kinds of weather that delayed the Dragon launch). In the race to put the first privately launched man into orbit, upstart SpaceX had to beat aerospace behemoth Boeing and its Starliner capsule to the punch. It did so — for more than $1 billion less than its competitor. **That spirit of competition and innovation will revolutionize space travel in the years ahead.** Indeed, Musk has his sights set far beyond Earth orbit. Already, SpaceX is working on a much larger version of the Falcon 9 reusable rocket called Super Heavy that will carry a deep-space capsule named Starship capable of carrying up to 100 people to the moon and eventually to Mars. Musk’s goal — the reason he founded SpaceX — is to colonize Mars and make humanity a multiplanetary species. He has set a goal of founding a million-person city on Mars by 2050 complete with iron foundries and pizza joints. Can it be done? Who knows. But this much is certain: **Private-sector innovation is opening the door to a new era of space exploration**. Wouldn’t it be ironic if, just as capitalism is allowing us to explore the farthest reaches of our solar system, Americans decided to embrace socialism back here on Earth?

#### Asteroid mining can happen with private sector innovation and is key to solve a laundry list of impacts--climate change, economic decline and asteroid collisions. Taylor 19

Chris Taylor [journalist, was senior news writer for Time.com, San Francisco bureau chief for Time magazine], 19 - ("How asteroid mining will save the Earth — and mint trillionaires," Mashable, 2019, accessed 12-13-2021, https://mashable.com/feature/asteroid-mining-space-economy)//ML

How much, exactly? We’re only just beginning to guess. [Asterank](http://www.asterank.com/" \t "_blank), a service that keeps track of some 6,000 asteroids in NASA’s database, prices out the estimated mineral content in each one in the current world market. More than 500 are listed as “>$100 trillion.” The estimated profit on just the top 10 asteroids judged “most cost effective” — that is, the easiest to reach and to mine, subtracting rocket fuel and other operating costs, is around $1.5 trillion.¶ Is it ours for the taking? Well, here’s the thing — we’re taking it already, and have been doing so since we started mining metals thousands of years ago. Asteroid strikes are the only reason rare metals exist in the Earth’s crust; the native ones were all sucked into our planet’s merciless iron core millions of years ago. Why not go to the source?¶ As a side project, space mining can grab water from the rocks and comets — water which, with a little processing makes rocket fuel. Which in turn makes even more currently unimaginable space operations possible, including ones that could give the planet all the energy it needs to avert climate catastrophe. Cislunar space — the bit around us and the moon, the local neighborhood, basically — is about to get very interesting.¶ It’s hard, even for the most asteroid-minded visionaries, to truly believe the full scope of this future space economy right now. Just as hard as it would have been in 1945, when an engineer named Vannevar Bush first proposed [a vast library of shared knowledge that people the world over would access via personal computers](https://en.wikipedia.org/wiki/Memex), to see that mushroom into a global network of streaming movies and grandmas posting photos and trolls and spies who move the needle on presidential elections. ¶ No technology’s pioneer can predict its second-order effects.¶ The space vision thing is particularly difficult in 2019. Not only do we have plenty of urgent problems with democracy and justice to keep us occupied, but the only two companies on the planet to have gone public with asteroid-mining business plans, startups that seemed to be going strong and had launched satellites already, were just bought by larger companies that are, shall we say, less comfortable executing on long-term visions.¶ Planetary Resources was founded in 2012 in a blaze of publicity. Its funding came from, among others, Larry Page, Eric Schmidt, Ross Perot, and the country of Luxembourg. It had inked an orbital launch deal with Virgin Galactic. And it was sold last October to a blockchain software company. (To 21st century readers, this paragraph would look like I’m playing tech world mad libs.)¶ In January, the other company, Deep Space Industries, also partly funded by Luxembourg (way to get in the space race, Luxembourg!), was sold to Bradford Space, owned by a U.S. investment group called the American Industrial Acquisition Corporation. Maybe these new overlords plan on continuing their acquisitions' asteroid mining endeavors rather than stripping the companies for parts. Both companies have been notably silent on the subject. “The asteroid mining bubble has burst,” [declared The Space Review](http://www.thespacereview.com/article/3633/1), one of the few online publications to even pay attention.¶ That’s also to be expected. After all, anyone trying to build Google in 1945 would go bankrupt. Just as the internet needed a half-dozen major leaps forward in computing before it could even exist, space industry needs its launch infrastructure.¶ Currently, the world’s richest person and its most well-known entrepreneur, Jeff Bezos and Elon Musk, respectively, are working on the relatively cheap reusable rockets asteroid pioneers will need. (As I was writing this, Bezos announced in an email blast that one of his New Shepherd rockets had flown to space and back five times like it was nothing, delivering 38 payloads for various customers while remaining entirely intact.) ¶ Meanwhile, quietly, Earth’s scientists are laying the groundwork of research the space economy needs. Japan’s Hayabusa 2 spacecraft has been in orbit around asteroid Ryugu for the last year and a half, learning everything it can. (Ryugu, worth $30 billion according to Asterank, is the website's #1 most cost-effective target.) The craft dropped [tiny hopping robot rovers](https://www.space.com/41941-hayabusa2-asteroid-rovers-hopping-tech.html) and a [small bomb](https://www.space.com/japan-hayabusa2-asteroid-bomb-video.html) on its target; pictures of the small crater that resulted were released afterwards.¶ Officially, the mission is to help us figure out how the solar system formed. Unofficially, it will help us understand whether all those useful metals clump together at the heart of an asteroid, as some theorize. If so, it’s game on for asteroid prospectors. If not, we can still get at the metals with other techniques, such as optical mining (which basically involves sticking an asteroid in a bag and drilling with sunlight; sounds nuts to us, but [NASA has proved it in the lab](https://www.nasa.gov/directorates/spacetech/niac/2017_Phase_I_Phase_II/Sustainable_Human_Exploration/)). It’ll just take more time.¶ Effectively, we’ve just made our first mark at the base of the first space mineshaft. And there’s more to come in 2020 when Hayabusa 2 returns to Earth bearing samples. If its buckets of sand contain a modicum of gold dust, tiny chunks of platinum or pebbles of compressed carbon — aka diamonds — then the Duchy of Luxembourg won’t be the only deep-pocketed investor to sit up and take notice.¶ The possibility of private missions to asteroids, with or without a human crew, is almost here. The next step in the process that takes us from here to where you are? Tell us an inspiring story about it, one that makes people believe, and start to imagine themselves mining in space. How would you explain the world-changing nature of the internet to 1945? How would you persuade them that there was gold to be mined in Vannevar Bush’s idea? You’d let the new economy and its benefits play out in the form of a novel.¶ As Hayabusa dropped a bomb on Ryugu, Daniel Suarez was making the exact same asteroid the target of his fiction. Suarez is a tech consultant and developer turned New York Times bestselling author. His novels thus far have been techno-thrillers: his debut, [Daemon](https://www.amazon.com/dp/B003QP4NPE/ref=dp-kindle-redirect?_encoding=UTF8&btkr=1), a novel of Silicon Valley’s worst nightmare, AI run rampant, made more than a million dollars.¶ So it was a telling shift in cultural mood that Suarez’s latest thriller is also a very in-depth description of — and thinly-disguised advocacy for — asteroid mining. In [Delta-v](https://www.amazon.com/Delta-v-Daniel-Suarez-ebook/dp/B07FLX8V84/ref=sr_1_1?crid=UMNUUSR3NCBX&keywords=delta-v&qid=1556930756&s=digital-text&sprefix=delta-v%2Cdigital-text%2C204&sr=1-1), published in April, a billionaire in the 2030s named Nathan Joyce recruits a team of adventurers who know nothing about space — a world-renowned cave-diver, a world-renowned mountaineer — for the first crewed asteroid mission.¶ Elon Musk fans might expect this to be Joyce’s tale, but he soon fades into the background. The asteroid-nauts are the true heroes of Delta-v. Not only are they offered a massive payday — $6 million each for four years’ work — they also have agency in key decisions in the distant enterprise. Suarez deliberately based them on present-day heroes. The mission is essential, Joyce declares, to save Earth from its major problems. First of all, the fictional billionaire wheels in a fictional Nobel economist to demonstrate the actual truth that the entire global economy is sitting on a [mountain of debt](https://www.washingtonpost.com/opinions/the-247-trillion-global-debt-bomb/2018/07/15/64c5bbaa-86c2-11e8-8f6c-46cb43e3f306_story.html?noredirect=on&utm_term=.5fb3ff1155d9). It has to keep growing or it will implode, so we might as well take the majority of the industrial growth off-world where it can’t do any more harm to the biosphere.¶ Secondly, there’s the climate change fix. Suarez sees asteroid mining as the only way we’re going to build [solar power satellites](https://en.wikipedia.org/wiki/Space-based_solar_power). Which, as you probably know, is a form of uninterrupted solar power collection that is theoretically more effective, inch for inch, than any solar panels on Earth at high noon, but operating 24/7. (In space, basically, it’s always double high noon). ¶ The power collected is beamed back to large receptors on Earth with large, low-power microwaves, which researchers think will be harmless enough to let humans and animals pass through the beam. A space solar power array like [the one China is said to be working on](https://www.forbes.com/sites/scottsnowden/2019/03/12/solar-power-stations-in-space-could-supply-the-world-with-limitless-energy/#2d3f78a54386) could reliably supply 2,000 gigawatts — or over 1,000 times more power than the largest solar farm currently in existence. ¶ “We're looking at a 20-year window to completely replace human civilization's power infrastructure,” Suarez told me, citing the report of the Intergovernmental Panel on Climate Change on the coming catastrophe. Solar satellite technology “has existed since the 1970s. What we were missing is millions of tons of construction materials in orbit. Asteroid mining can place it there.”¶ The Earth-centric early 21st century can’t really wrap its brain around this, but the idea is not to bring all that building material and precious metals down into our gravity well. Far better to create a whole new commodities exchange in space. You mine the useful stuff of asteroids both near to Earth and far, thousands of them taking less energy to reach than the moon. That’s something else we’re still grasping, how relatively easy it is to ship stuff in zero-G environments. ¶ Robot craft can move 10-meter boulders like they’re nothing. You bring it all back to sell to companies that will refine and synthesize it in orbit for a myriad of purposes. Big pharma, to take one controversial industry, would [benefit by taking its manufacturing off-world](https://medium.com/fitch-blog/why-is-big-pharma-interested-in-the-space-economy-c078ac1bf67c). The molecular structure of many chemicals grows better in microgravity.¶ The expectation is that a lot of these space businesses — and all the orbital infrastructure designed to support them — will be automated, controlled remotely via telepresence, and monitored by AI. But Suarez is adamant that thousands if not millions of actual human workers will thrive in the space economy, even as robots take their jobs in old industries back on Earth.¶ “Our initial expansion into space will most likely be unsettled and experimental. Human beings excel in such environments,” he says. “Humans can improvise and figure things out as we go. Robots must be purpose-built, and it's going to take time and experience for us to design and build them.”¶ Which is another way startups back on Earth will get rich in the new economy: designing and building those robots, the nearest thing to selling picks and shovels to prospectors in the space gold rush. Thousands of humans in space at any one time will also require the design and construction of stations that spin to create artificial gravity. Again, this isn’t a great stretch: Using centrifugal force to simulate gravity in space was first proposed by scientists in the 19th century. NASA has had workable designs for spinning cislunar habitats called [O’Neill cylinders](https://en.wikipedia.org/wiki/O%27Neill_cylinder) since the 1970s. We just haven’t funded them. ¶ But the trillionaires clearly will.¶ In short, Suarez has carefully laid out a vision of the orbital economy that offers something for everyone in our divided society. For Green New Deal Millennials, there’s the prospect of removing our reliance on fossil fuels at a stroke and literally lifting dirty industries off the face of the planet. For libertarians and other rugged individualists, there’s a whole new frontier to be developed, largely beyond the reach of government. ¶ For those who worry about asteroids that could wipe out civilization — though luckily, [this isn't likely to happen any time soon](https://mashable.com/article/armageddon-asteroid-threat) — here is a way for humanity to get proficient in moving them out of the way, fast. Indeed, the National Space Society has offered [a proposal](https://space.nss.org/technologies-for-asteroid-capture-into-earth-orbit/) to capture the asteroid Aphosis (which is set to miss Earth in the year 2029, but [not by a very comfortable margin](https://www.space.com/asteroid-apophis-2029-flyby-planetary-defense.html)), keep it in orbit, and turn it into 150 small solar-power satellites, as a proof of concept. ¶ For the woke folks who care about the bloody history of diamond production, there’s the likelihood that space mining would wipe out Earth’s entire diamond industry. “They will be found in quantities unattainable on Earth,” claims Suarez, with good reason. We are starting to discover that there is more crystalized carbon in the cosmos than we ever suspected. Astronomers have identified one [distant planet made entirely of diamond](https://www.nationalgeographic.com/science/phenomena/2014/06/24/diamond-the-size-of-earth/); there may be more, but they are, ironically, hard to see. ¶ We don’t have diamond planets in our solar system (and we can’t do interstellar missions), but we do have diamond-studded asteroids. Mine them for long enough and you will wear diamonds on the soles of your shoes.¶ For investors and entrepreneurs, there is the thrill of racing to be the first member of the four-comma club. ([Neil deGrasse Tyson believes that the first trillionaire will be an asteroid mining mogul](https://www.nbcnews.com/science/space/neil-degrasse-tyson-says-space-ventures-will-spawn-first-trillionaire-n352271); Suarez isn’t sure whether they’ll be the first, but he suspects that asteroid mining “will mint more trillionaires than any industry in history.”) ¶ For the regular guy or gal with a 401K, there’ll be a fast-rising stock market — inflated not by financial shenanigans this time, but an actual increase in what the world counts as wealth.¶ For workers, there is the promise of sharing in the untold riches, both legally and otherwise. It would be hard to stop miners attaining mineral wealth beyond their paycheck, under the table, when your bosses are millions of miles away. Then there’s the likelihood of rapid advancement in this new economy, where the miners fast gain the knowledge necessary to become moguls.¶ “After several tours in space working for others, perhaps on six-month or year-long contracts, it's likely that some workers will partner to set up their own businesses there,” says Suarez. “Either serving the needs of increasing numbers of workers and businesses in space, marketing services to Earth, or launching asteroid mining startups themselves.” All in all, it’s starting to sound a damn sight more beneficial to the human race than the internet economy is. Not a moment too soon. I’ve written encouragingly about asteroid mining several times before, each time touting the massive potential wealth that seems likely to be made. And each time there’s been a sense of disquiet among my readers, a sense that we’re taking our rapacious capitalist ways and exploiting space.¶ Whereas the truth is, this is exactly the version of capitalism humanity has needed all along: the kind where there is no ecosystem to destroy, no marginalized group to make miserable. A safe, dead space where capitalism’s most enthusiastic pioneers can go nuts to their hearts’ content, so long as they clean up their space junk. ¶ ([Space junk](https://mashable.com/category/space-junk) is a real problem in orbital space because it has thousands of vulnerable satellites clustered closely together around our little blue rock. The vast emptiness of cislunar space, not so much.)¶ And because they’re up there making all the wealth on their commodities market, we down here on Earth can certainly afford to focus less on growing our stock market. Maybe even, whisper it low, we can afford a fully functioning social safety net, plus free healthcare and free education for everyone on the planet.¶ It’s also clearly the area where we should have focused space exploration all along. If we settle on Mars, we may disturb as-yet-undiscovered native bacteria — and as the character Nathan Joyce shouts at a group of “Mars-obsessed” entrepreneurs in Delta-V, Mars is basically filled with toxic sand and is thus looking increasingly impossible to colonize. (Sorry, Mark Watney from The Martian, those potatoes would probably kill you.)

#### Warming causes extinction.

Bill McKibben 19, Schumann Distinguished Scholar at Middlebury College; fellow of the American Academy of Arts and Sciences; holds honorary degrees from 18 colleges and universities; Foreign Policy named him to their inaugural list of the world’s 100 most important global thinkers. "This Is How Human Extinction Could Play Out." Rolling Stone. 4-9-2019. https://www.rollingstone.com/politics/politics-features/bill-mckibben-falter-climate-change-817310/

Oh, it could get very bad. In 2015, a study in the Journal of Mathematical Biology pointed out that if the world’s oceans kept warming, by 2100 they might become hot enough to “stop oxygen production by phyto-plankton by disrupting the process of photosynthesis.” Given that two-thirds of the Earth’s oxygen comes from phytoplankton, that would “likely result in the mass mortality of animals and humans.” A year later, above the Arctic Circle, in Siberia, a heat wave thawed a reindeer carcass that had been trapped in the permafrost. The exposed body released anthrax into nearby water and soil, infecting two thousand reindeer grazing nearby, and they in turn infected some humans; a twelve-year-old boy died. As it turns out, permafrost is a “very good preserver of microbes and viruses, because it is cold, there is no oxygen, and it is dark” — scientists have managed to revive an eight-million-year-old bacterium they found beneath the surface of a glacier. Researchers believe there are fragments of the Spanish flu virus, smallpox, and bubonic plague buried in Siberia and Alaska. Or consider this: as ice sheets melt, they take weight off land, and that can trigger earthquakes — seismic activity is already increasing in Greenland and Alaska. Meanwhile, the added weight of the new seawater starts to bend the Earth’s crust. “That will give you a massive increase in volcanic activity. It’ll activate faults to create earthquakes, submarine landslides, tsunamis, the whole lot,” explained the director of University College London’s Hazard Centre. Such a landslide happened in Scandinavia about eight thousand years ago, as the last Ice Age retreated and a Kentucky-size section of Norway’s continental shelf gave way, “plummeting down to the abyssal plain and creating a series of titanic waves that roared forth with a vengeance,” wiping all signs of life from coastal Norway to Greenland and “drowning the Wales-sized landmass that once connected Britain to the Netherlands, Denmark, and Germany.” When the waves hit the Shetlands, they were sixty-five feet high. There’s even this: if we keep raising carbon dioxide levels, we may not be able to think straight anymore. At a thousand parts per million (which is within the realm of possibility for 2100), human cognitive ability falls 21 percent. “The largest effects were seen for Crisis Response, Information Usage, and Strategy,” a Harvard study reported, which is too bad, as those skills are what we seem to need most. I could, in other words, do my best to scare you silly. I’m not opposed on principle — changing something as fundamental as the composition of the atmosphere, and hence the heat balance of the planet, is certain to trigger all manner of horror, and we shouldn’t shy away from it. The dramatic uncertainty that lies ahead may be the most frightening development of all; the physical world is going from backdrop to foreground. (It’s like the contrast between politics in the old days, when you could forget about Washington for weeks at a time, and politics in the Trump era, when the president is always jumping out from behind a tree to yell at you.) But let’s try to occupy ourselves with the most likely scenarios, because they are more than disturbing enough. Long before we get to tidal waves or smallpox, long before we choke to death or stop thinking clearly, we will need to concentrate on the most mundane and basic facts: everyone needs to eat every day, and an awful lot of us live near the ocean. FOOD SUPPLY first. We’ve had an amazing run since the end of World War II, with crop yields growing fast enough to keep ahead of a fast-rising population. It’s come at great human cost — displaced peasant farmers fill many of the planet’s vast slums — but in terms of sheer volume, the Green Revolution’s fertilizers, pesticides, and machinery managed to push output sharply upward. That climb, however, now seems to be running into the brute facts of heat and drought. There are studies to demonstrate the dire effects of warming on coffee, cacao, chickpeas, and champagne, but it is cereals that we really need to worry about, given that they supply most of the planet’s calories: corn, wheat, and rice all evolved as crops in the climate of the last ten thousand years, and though plant breeders can change them, there are limits to those changes. You can move a person from Hanoi to Edmonton, and she might decide to open a Vietnamese restaurant. But if you move a rice plant, it will die. A 2017 study in Australia, home to some of the world’s highest-tech farming, found that “wheat productivity has flatlined as a direct result of climate change.” After tripling between 1900 and 1990, wheat yields had stagnated since, as temperatures increased a degree and rainfall declined by nearly a third. “The chance of that just being variable climate without the underlying factor [of climate change] is less than one in a hundred billion,” the researchers said, and it meant that despite all the expensive new technology farmers kept introducing, “they have succeeded only in standing still, not in moving forward.” Assuming the same trends continued, yields would actually start to decline inside of two decades, they reported. In June 2018, researchers found that a two-degree Celsius rise in temperature — which, recall, is what the Paris accords are now aiming for — could cut U.S. corn yields by 18 percent. A four-degree increase — which is where our current trajectory will take us — would cut the crop almost in half. The United States is the world’s largest producer of corn, which in turn is the planet’s most widely grown crop. Corn is vulnerable because even a week of high temperatures at the key moment can keep it from fertilizing. (“You only get one chance to pollinate a quadrillion kernels of corn,” the head of a commodity consulting firm explained.) But even the hardiest crops are susceptible. Sorghum, for instance, which is a staple for half a billion humans, is particularly hardy in dry conditions because it has big, fibrous roots that reach far down into the earth. Even it has limits, though, and they are being reached. Thirty years of data from the American Midwest show that heat waves affect the “vapor pressure deficit,” the difference between the water vapor in the sorghum leaf’s interior and that in the surrounding air. Hotter weather means the sorghum releases more moisture into the atmosphere. Warm the planet’s temperature by two degrees Celsius — which is, again, now the world’s goal — and sorghum yields drop 17 percent. Warm it five degrees Celsius (nine degrees Fahrenheit), and yields drop almost 60 percent. It’s hard to imagine a topic duller than sorghum yields. It’s the precise opposite of clickbait. But people have to eat; in the human game, the single most important question is probably “What’s for dinner?” And when the answer is “Not much,” things deteriorate fast. In 2010 a severe heat wave hit Russia, and it wrecked the grain harvest, which led the Kremlin to ban exports. The global price of wheat spiked, and that helped trigger the Arab Spring — Egypt at the time was the largest wheat importer on the planet. That experience set academics and insurers to work gaming out what the next food shock might look like. In 2017 one team imagined a vigorous El Niño, with the attendant floods and droughts — for a season, in their scenario, corn and soy yields declined by 10 percent, and wheat and rice by 7 percent. The result was chaos: “quadrupled commodity prices, civil unrest, significant negative humanitarian consequences . . . Food riots break out in urban areas across the Middle East, North Africa, and Latin America. The euro weakens and the main European stock markets lose ten percent.” At about the same time, a team of British researchers released a study demonstrating that even if you can grow plenty of food, the transportation system that distributes it runs through just fourteen major choke-points, and those are vulnerable to — you guessed it — massive disruption from climate change. For instance, U.S. rivers and canals carry a third of the world’s corn and soy, and they’ve been frequently shut down or crimped by flooding and drought in recent years. Brazil accounts for 17 percent of the world’s grain exports, but heavy rainfall in 2017 stranded three thousand trucks. “It’s the glide path to a perfect storm,” said one of the report’s authors. Five weeks after that, another report raised an even deeper question. What if you can figure out how to grow plenty of food, and you can figure out how to guarantee its distribution, but the food itself has lost much of its value? The paper, in the journal Environmental Research, said that rising carbon dioxide levels, by speeding plant growth, seem to have reduced the amount of protein in basic staple crops, a finding so startling that, for many years, agronomists had overlooked hints that it was happening. But it seems to be true: when researchers grow grain at the carbon dioxide levels we expect for later this century, they find that minerals such as calcium and iron drop by 8 percent, and protein by about the same amount. In the developing world, where people rely on plants for their protein, that means huge reductions in nutrition: India alone could lose 5 percent of the protein in its total diet, putting 53 million people at new risk for protein deficiency. The loss of zinc, essential for maternal and infant health, could endanger 138 million people around the world. In 2018, rice researchers found “significantly less protein” when they grew eighteen varieties of rice in high–carbon dioxide test plots. “The idea that food became less nutritious was a surprise,” said one researcher. “It’s not intuitive. But I think we should continue to expect surprises. We are completely altering the biophysical conditions that underpin our food system.” And not just ours. People don’t depend on goldenrod, for instance, but bees do. When scientists looked at samples of goldenrod in the Smithsonian that dated back to 1842, they found that the protein content of its pollen had “declined by a third since the industrial revolution — and the change closely tracks with the rise in carbon dioxide.” Bees help crops, obviously, so that’s scary news. But in August 2018, a massive new study found something just as frightening: crop pests were thriving in the new heat. “It gets better and better for them,” said one University of Colorado researcher. Even if we hit the UN target of limiting temperature rise to two degrees Celsius, pests should cut wheat yields by 46 percent, corn by 31 percent, and rice by 19 percent. “Warmer temperatures accelerate the metabolism of insect pests like aphids and corn borers at a predictable rate,” the researchers found. “That makes them hungrier[,] and warmer temperatures also speed up their reproduction.” Even fossilized plants from fifty million years ago make the point: “Plant damage from insects correlated with rising and falling temperatures, reaching a maximum during the warmest periods.”

#### An asteroid collision would ensure extinction – would fundamentally alter the biosphere, don’t underestimate its risk. Hudson 19

Wesley Hudson ’19, news reporter for Express, “Asteroid alert: NASA warning as kilometre long space rock set to skim Earth at 25,000mph”, 8/28/19, Express, https://www.express.co.uk/news/science/1170826/asteroid-news-NASA-latest-space-rock-asteroid-1998-HL1-earth-danger-apocalypse

AN ASTEROID almost a kilometre wide is currently barreling through space at more than 25,000mph and is due to skim the earth towards the end of October. NASA’s Jet Propulsion Laboratory (JPL) claim the space rock will shoot past the earth within a “close” proximity of the planet in the early hours of October 26. The asteroid, dubbed 1998 HL1, is a so-called Near-Earth Object (NEO) flying on a Close Approach Trajectory. NASA expects the 1998 HL1 to come flying by dangerously close around 1.21am BST (17.21pm PDT). The daunting moment will mark anther journey around the sun for the asteroid since it was discovered in 1998. The asteroid will be travelling at a staggering speed of over 25,000mph as it barrels past the Earth. The JPL predict the asteroid could be between 440m and 990m wide. At its largest an asteroid of this size is bigger than the tallest building in the world, the Burj Khalifa in Dubai. Even at it’s smallest, 1998 HL1 is still bigger than The Shard. Since it was discovered, 1998 HL1 has been seen up to 408 times. An NEO is an asteroid or comet which is on an orbital path intersecting that of the Earth's. This asteroid will miss the Earth by almost four million miles. If it were to strike the Earth, an asteroid of this size would cause catastrophic damage. The extinction of the dinosaurs in the Cretaceous-Tertiary event 65million years ago is famously believed to have been caused by a massive asteroid impact. The Chicxulub Crater in Mexico is the most commonly accepted point of impact, with the responsible body thought to be around 10km in diameter. A car-sized asteroid is estimated to hit the Earth roughly once a year. The majority of asteroids on track for the planet are usually burnt up as they enter the Earth's atmosphere. NASA administrator Jim Bridenstine has previously warned a potential asteroid collision is more likely then people realise. He said: "We have to make sure that people understand that this is not about Hollywood, it's not about the movies. "This is about ultimately protecting the only planet we know, right now, to host life - and that is the planet Earth.” NASA is currently in the process of developing the Double Asteroid Redirection Test (DART). DART will test if it is possible to redirect asteroids that are threatening to impact with Earth. SpaceX chief Elon Musk had previously tweeted fears of a deadly collision that Earth was not prepared for. Mr Musk tweeted: “A big rock will hit Earth eventually & we currently have no defence.”

### **CASE**

Agree to their fw-extinction first under any fw because we cant focus on current issues if we are extinct

**AT Property Bad**

#### Property rights in space solve predation and prevent conflict.

Thomas 05 [Jonathan Thomas, “Privatization of Space Ventures: Proposing a Proven Regulatory Theory for Future Extraterrestral Appropriation,” 1 BYU Int'l L. & Mgmt. R. 191 (2005). https://digitalcommons.law.byu.edu/ilmr/vol1/iss1/7]CT

The current corpus juris spatialis based on res communis has received wide criticism by legal commentators, in part because of the practical limitations of its idealistic principles in application. For example, one commentator addressing the potential problems of future colonization of celestial bodies argued that the prohibition against private and national appropriation may cause deleterious effects when colonizers build settlements. Although these colonizers may occupy the property, they will have no legal control of their communities and could be uprooted for the purposes of putting that property to a better use for the benefit of common heritage. This risk may serve as a strong disincentive to the preservation of sectarian colonization in a res communis society.

Other commentators argue that the current corpus juris spatialis based on the idealistic res communis principle has actually slowed the development of outer space exploration because privately and publicly funded organizations cannot appropriate outer space.61 Under the corpus juris spatialis, there exists no probability or possibility of return on investments, which results in insufficient monetary incentive for businesses or private persons. Even with the daunting needs created by increasing population and consumption, and decreasing resources on earth, many states may not even attempt to exploit extraterrestrial resources because the current corpus juris spatialis does not guarantee that their own citizens will benefit from the investments made with their tax dollars. A future lack of resources, combined with a body of law that mandates common ownership of potential resources, may create a black market for extraterrestrial resources, or it may engender armed conflicts over the lack of supplies available to states.63

While there is little past precedent to justify it, and little present sentiment to support it, the current corpus juris spatialis clings to the idea that in the future, humans will be able to share the resources of space in common. One commentator illustrates these idealistic ideas and assumptions:

The articles of the various [outer space J treaties all predicate themselves upon the theory that mankind will work together for the common good with no real advantage to be gained other than the praise of his fellow man. It assumes that people are able to co-operate, and that they will indeed do so whenever dealing with outer space ventures. While the global effort in researching, developing and exploring space for the sheer joy of the information obtained, accomplished in the spirit of teamwork is a noble goal, it is clear that a world full of economic strife is ripe to intervene.64

These assumptions of the Outer Space Treaty and the Moon Treaty are unrealistic at present. Perhaps someday humankind will develop ideal characteristics that the Outer Space Treaty and Moon Treaty would like it to engender. In the meantime, it may be impractical to attempt to solve the dilemma of space appropriation based on characteristics yet to be consistently demonstrated.

Furthermore, res communis principles would become problematic as applied to space law due to the following problems: (1) the application of res communis theory in the Western world has been unsuccessful; and (2) scarcity of resources in res communis society is fatalistic to the society. It could be argued that the success of res communis ideology, albeit on a small scale, indicates that humankind should be able to implement the res communis ideology into corpus juris spatialis. While res communis ideology has seen some success in other societies, it is not prudent to assume that it will enjoy the same successful application in our increasingly capitalistic, modern society. Societies that have successfully implemented res communis ideology have had entirely different goals and values systems than those of the capitalist societies that are now developing the means for further space exploration. 65 While the isolated successes of communal societies in Africa and the Australian Outback are indeed admirable, they are certainly not the pioneers of space exploration and appropriation. Furthermore, it is difficult to posit that capitalistic nations can successfully switch to a res communis ideology. Groups that originated in capitalistic societies and subsequently switched to communal living have ultimately failed and reverted back to the individual ownership system from which they came. 66

The second problem with using res communis as a basis for property endowment in outer space law is the damaging effect of individual appropriation on the community when scarcity arises. Even in a res communis society where the community owns all property, individual members of the community nonetheless use certain parts of that property to the exclusion of the rest of the community. Such individual use and appropriation against the community is seen as permissible under res communis ideology supported by Lockean notions of property endowment; an individual may exclude the community from property if he or she mixes his or her labor with that property. This individual appropriation does not have a damaging impact on the community as long as there IS "'enough and as good left in common for others.71 However, when there IS scarcity, the rights of the community against the individual become increasingly hostile.

In outer space, scarcity will always be an Issue and thus will limit the utility of res communis based on Lockean principles of property endowment.72 The universe potentially may contain billions of solar systems and planets, but some celestial bodies may prove to be gold mines, while others prove to be "the Sahara."73 More important than the scarcity of limited resources, however, is the scarcity created by human lifespan and technological limitations. The time that space travel presently takes in comparison to the average human life span limits our ability to exploit celestial resources. Furthermore, technological limitations already have created issues of scarcity: such as the increasing problems of satellite positioning and traffic in geostationary orbit.

#### Terrestrial examples prove. Absent enforceable property rights, the poor are subject to deprivation, abuse, predation, and conflict. Turns case since without property rights, the power of the rich to exploit the rest of society increases.

UNDP ’08 - Working Group on Property Rights, 2008, 'Empowering the Poor Through Property Rights', in Making the Law Work for Everyone Volume II, Commission on Legal Empowerment of the Poor, United Nations Development Programme, New York, pp. 63-128 <https://www.mercatus.org/system/files/ch2.pdf> AT

Growing Slums and Legal VoidsAt least a third of the world’s poor live in irregular settlements without coherent legal protection of their assets. Population and urban settlement growth projections predict an aggravation of the problem. The UN Human Settlements Programme holds that over the next 25 years more than 2 billion urban dwellers could be added to the close to 1 billion now living in slums, with some 2.825 billion requiring housing and urban services by 2030. If no action is taken most of this growth will occur outside the legally protected sector.37 The consequences of the exclusion of the poor as a result of rapid urbanisation and modernisation are being acutely manifested around the world. In the final analysis, among all the causal factors for displacement, first and foremost is lack of security of tenure for the poor, who have no enforceable property rights or access to justice.

Dire Consequences and Missed Development Opportunities

Without enforceable property rights, residents of informal settlements are often subject to forceful eviction. They must fend for themselves or pay bribes to local landlords to defend their right to occupy land, protect it from harmful encroachment, and settle disputes. Lack of protection, of tenure and of legal leverage for economic activity, decreases productivity. It leads to social exclusion, reproduced over generations and visible in the spatial segregation of the poor in the urban housing environment. Environmental and behavioural degradation is closely linked to the vicious circles perpetuated by faltering property rights systems which fail the poor and slow down the development of society at large. Residents in extra-legal settlements have no legitimate way to transfer a home to a family member or heir nor to rent or sell to another. Illegal black land markets emerge and abusive practices become prevalent. Due to a lack of property rights guarantee, many assets in developing nations are not fungible. The poor and their potential business partners have no criteria to establish or realise the potential of their assets. There is no clear reciprocity for holding each other accountable and no sufficient basis to protect transactions or to pool assets with others. For the national economy, extra-legality sets off a cycle of disinvestment in housing; it represents a lost opportunity to stimulate productive economic activity.

Rural Poverty and Property Rights

Despite continuing urbanisation, two-thirds of the poor live in rural areas. Ninety-five percent live in China, South Central Asia and Sub Saharan Africa. Together these rural poor account for around half the world’s total poor. Rural Land Relations and Extreme Poverty Insufficient land to live on, and insecure access or rights over land, are well recognised factors in sustaining poverty.38 Rural landlessness is often the best predictor of extreme poverty and hunger

**CONFLICT**

#### Space commercialization is a strong constraint on conflict – solves space war

Wendy N. Whitman **Cobb 20**, is currently an associate professor of strategy and security studies at the US Air Force's School of Advanced Air and Space Studies, 7-21-2020, "Privatizing Peace: How Commerce Can Reduce Conflict in Space," Routledge & CRC Press, <https://www.routledge.com/Privatizing-Peace-How-Commerce-Can-Reduce-Conflict-in-Space/Cobb/p/book/9780367337834> // AAli

By the end of the twentieth century, scholars zeroed in on the democratic peace theory which attempts to explain why democracies do not go to war with other democracies and why, in some analyses, they seem to be more prone to peace in general than non-democracies. Similar to the golden arches, what is it about democracy that seems to induce such peacefulness? Academics have proposed everything from the nature of mediating institutions to the restraint of public opinion, to trade relations. While these variations will be explored further in Chapter 3, of interest here are the versions that focus explicitly on trade, commercial ties, and capitalism. Along these lines, Erik Gartzke argues, "peace ensues when states lack differences worthy of costly conflict."31 If the costs of conflict are too high, then states should be more unlikely to engage in it. To this end, economic globalization can provide the means through which costs are raised. “The integration of world markets not only facilitates commerce, but also creates new interests inimical to war. Financial interdependence ensures that damage inflicted on one economy travels through the global system, afflicting even aggressors."32 Focusing his analysis primarily on the influence of capitalism, Gartzke's findings suggest that states with markets more closely tied to the global economy are far less likely to experience a militarized dispute.

In thinking about the space environment today, there are obvious principles of capitalism at work. However, China, a major spacefaring state that has been making capitalist reforms, arguably remains far from a true capitalist country. This is especially true in their space industry which is heavily subsidized by the state and almost wholly integrated with China's military.34 Many other states continue to subsidize space activities heavily as well. A better approach through which to examine conflict in space is presented by an offshoot of the capitalist peace which is termed the commercial peace. The commercial peace thesis emphasizes the role of trade and the connections made through it to explain a lack of conflict. Han Dorussen and Hugh Ward write:

Trade is important not only because it creates an economic interest in peace but also because trade generates 'connections' between people that promote communication and understanding.... Based on these ideas, the flow of goods between countries creates a network of ties and communication links. If two countries are more embedded in this network, their relations should be more

peaceful 35

Given the interconnectedness of the global economy to space-based assets, a version of the commercial peace thesis can be used to argue that the chance of conflict in space is less than is commonly understood or recognized precisely because of the extent to which the global economy has become dependent on space-based assets.

### **AT MEGACONSTELLATIONS**

Ozone layer depletion can’t cause extinction-be highly skeptical of their impacts. Ridley 14 (Matthew White Ridley, BA and PhD in Zoology from Oxford. “THE OZONE HOLE WAS EXAGGERATED AS A PROBLEM,” *Rational Optimist*, 9/25/14, <http://www.rationaloptimist.com/blog/the-ozone-hole-was-exaggerated-as-a-problem.aspx>)

Serial hyperbole does the environmental movement no favours My recent Times column argued that the alleged healing of the ozone layer is exaggerated, but so was the impact of the ozone hole over Antarctica: The ozone layer is healing. Or so said the news last week. Thanks to a treaty signed in Montreal in 1989 to get rid of refrigerant chemicals called chlorofluorocarbons (CFCs), the planet’s stratospheric sunscreen has at last begun thickening again. Planetary disaster has been averted by politics. For reasons I will explain, this news deserves to be taken with a large pinch of salt. You do not have to dig far to find evidence that the ozone hole was never nearly as dangerous as some people said, that it is not necessarily healing yet and that it might not have been caused mainly by CFCs anyway. The timing of the announcement was plainly political: it came on the 25th anniversary of the treaty, and just before a big United Nations climate conference in New York, the aim of which is to push for a climate treaty modelled on the ozone one. Here’s what was actually announced last week, in the words of a Nasa scientist, Paul Newman: “From 2000 to 2013, ozone levels climbed 4 per cent in the key mid-northern latitudes.” That’s a pretty small change and it is in the wrong place. The ozone thinning that worried everybody in the 1980s was over Antarctica. Over northern latitudes, ozone concentration has been falling by about 4 per cent each March before recovering. Over Antarctica, since 1980, the ozone concentration has fallen by 40 or 50 per cent each September before the sun rebuilds it. So what’s happening to the Antarctic ozone hole? Thanks to a diligent blogger named Anthony Watts, I came across a press release also from Nasa about nine months ago, which said: “ Two new studies show that signs of recovery are not yet present, and that temperature and winds are still driving any annual changes in ozone hole size.” As recently as 2006, Nasa announced, quoting Paul Newman again, that the Antarctic ozone hole that year was “the largest ever recorded”. The following year a paper in Nature magazine from Markus Rex, a German scientist, presented new evidence that suggested CFCs may be responsible for less than 40 per cent of ozone destruction anyway. Besides, nobody knows for sure how big the ozone hole was each spring before CFCs were invented. All we know is that it varies from year to year. How much damage did the ozone hole ever threaten to do anyway? It is fascinating to go back and read what the usual hyperventilating eco-exaggerators said about ozone thinning in the 1980s. As a result of the extra ultraviolet light coming through the Antarctic ozone hole, southernmost parts of Patagonia and New Zealand see about 12 per cent more UV light than expected. This means that the weak September sunshine, though it feels much the same, has the power to cause sunburn more like that of latitudes a few hundred miles north. Hardly Armageddon. The New York Times reported “an increase in Twilight Zone-type reports of sheep and rabbits with cataracts” in southern Chile. Not to be outdone, Al Gore wrote that “hunters now report finding blind rabbits; fisherman catch blind salmon”. Zoologists briefly blamed the near extinction of many amphibian species on thin ozone. Melanoma in people was also said to be on the rise as a result. This was nonsense. Frogs were dying out because of a fungal disease spread from Africa — nothing to do with ozone. Rabbits and fish blinded by a little extra sunlight proved to be as mythical as unicorns. An eye disease in Chilean sheep was happening outside the ozone-depleted zone and was caused by an infection called pinkeye — nothing to do with UV light. And melanoma incidence in people actually levelled out during the period when the ozone got thinner.

**AT CAP**

#### Regulated cap is good. The aff is only talking about unrestrained consumption, which is solved by our regulations CP. Cap solves---

#### 1---War.

Mousseau 19—Professor in the School of Politics, Security, and International Affairs at the University of Central Florida (Michael, “The End of War: How a Robust Marketplace and Liberal Hegemony Are Leading to Perpetual World Peace,” International Security, Volume 44, Issue 1, Summer 2019, p.160-196, dml)

Is war becoming obsolete? There is wide agreement among scholars that war has been in sharp decline since the defeat of the Axis powers in 1945, even as there is little agreement as to its cause.1 Realists reject the idea that this trend will continue, citing states' concerns with the “security dilemma”: that is, in anarchy states must assume that any state that can attack will; therefore, power equals threat, and changes in relative power result in conflict and war.2 Discussing the rise of China, Graham Allison calls this condition “Thucydides's Trap,” a reference to the ancient Greek's claim that Sparta's fear of Athens' growing power led to the Peloponnesian War.3

This article argues that there is no Thucydides Trap in international politics. Rather, the world is moving rapidly toward permanent peace, possibly in our lifetime. Drawing on economic norms theory,4 I show that what sometimes appears to be a Thucydides Trap may instead be a function of factors strictly internal to states and that these factors vary among them. In brief, leaders of states with advanced market-oriented economies have foremost interests in the principle of self-determination for all states, large and small, as the foundation for a robust global marketplace. War among these states, even making preparations for war, is not possible, because they are in a natural alliance to preserve and protect the global order. In contrast, leaders of states with weak internal markets have little interest in the global marketplace; they pursue wealth not through commerce, but through wars of expansion and demands for tribute. For these states, power equals threat, and therefore they tend to balance against the power of all states. Fearing stronger states, however, minor powers with weak internal markets tend to constrain their expansionist inclinations and, for security reasons, bandwagon with the relatively benign market-oriented powers.

I argue that this liberal global hierarchy is unwittingly but systematically buttressing states' embrace of market norms and values that, if left uninterrupted, is likely to culminate in permanent world peace, perhaps even something close to harmony. My argument challenges the realist assertion that great powers are engaged in a timeless competition over global leadership, because hegemony cannot exist among great powers with weak markets; these inherently expansionist states live in constant fear and therefore normally balance against the strongest state and its allies.5 Hegemony can exist only among market-oriented powers, because only they care about global order. Yet, there can be no competition for leadership among market powers, because they always agree with the goal of their strongest member (currently the United States) to preserve and protect the global order based on the principle of self-determination. If another commercial power, such as a rising China, were to overtake the United States, the world would take little notice, because the new leading power would largely agree with the global rules promoted and enforced by its predecessor. Vladimir Putin's Russia, on the other hand, seeks to create chaos around the world. Most other powers, having market-oriented economies, continue to abide by the hegemony of the United States despite its relative economic decline since the end of World War II.6

To support my theory that domestic factors determine states' alignment decisions, I analyze the voting preferences of members of the United Nations General Assembly from 1946 to 2010. I find that states with weak internal markets tend to disagree with the foreign policy preferences of the largest market power (i.e., the United States), but more so if they are major powers or have stronger rather than weaker military and economic capabilities. The power of states with robust internal markets, in contrast, appears to have no effect on their foreign policy preferences, as market-oriented states align with the market leader regardless of their power status or capabilities. I corroborate that this pattern may be a consequence of states' interest in the global market order by finding that states with higher levels of exports per capita are more likely than other states to have preferences aligned with those of the United States; those with lower levels of exports are more likely to have interests that do not align with the United States, but again more so if they are stronger rather than weaker.

Liberal scholars of international politics have long offered explanations for why the incidence of war may decline, generally beginning with the assumption that although the security dilemma exists, it can be overcome with the help of factors external to states.7 Neoliberal institutionalists treat states as like units and international organization as an external condition.8 Trade interdependence is dyadic and thus an external condition.9 Democracy is an internal factor, but theories of democratic peace have an external dimension: peace is the result of the expectations of states' behavior informed by the images that leaders create of each other's regime types.10 In contrast, I show that the security dilemma may not exist at all and how peace can emerge in anarchy with states pursuing their interests determined entirely by internal factors.11

#### 2---Inequality and Poverty.

Teixeira and Judis 17—senior fellow at both The Century Foundation and American Progress AND editor-at-large at Talking Points Memo, former senior writer at The National Journal and a former senior editor at The New Republic (Ruy and John, “Why The Left Will (Eventually) Triumph: An Interview With Ruy Teixeira,” <http://talkingpointsmemo.com/cafe/why-left-will-eventually-win-ruy-teixeira>, dml)

Judis: In your book, you explain at several points that you are no longer a socialist and instead support a reformed capitalism. When we met many years ago, we were in a socialist organization. When did this transformation occur? Teixeira: What happened is that I began to think a lot about how economies actually work. When I was a socialist, I **didn’t think very carefully** and **long** about what **actually** a socialist economy would look like. I had this **general idea** that the capitalist system was **inefficient** and **prone to crisis** and that one should **somehow tamp down the profit motive** and limit the freedom of action of capitalists. But **the more I thought** about how economies worked, it was **hard to gainsay** that the market was **absolutely essential** for the efficient delivery of goods and services. And the more I read, the more I realized my viewpoint was closer to social democrats than to socialists. Capitalism needs to be **regulated**, it needs to be **pointed in the right direction**, you **need to have a big safety net**, but you **can’t replace it**. Judis: Was there something that happened, a book you read, that changed your mind? Teixeira: I would say it was an obscure book by Alec Nove called “The Economics of Feasible Socialism.” Judis: That’s amazing. I was deeply influenced by the same book. Teixeira: Nove was a historian of the Soviet Union. He came from a Menshevik family, and he basically laid out the way the standard conceptions of socialism that a lot of people on the left had couldn’t work. If you wanted to **think rationally about what’s feasible**, the way economies and people tend to work, you **had to have a market**. The goal as I see it is a mixed economy that works as well as possible, and of course you have not gotten that in the West for the last several decades. The mixed economy just needs improvement and modification. Judis: And what kind of improvements would that be? Teixeira; I favor what economists are calling a model of **equitable growth**. It would mean **substantial government investment** in creating new opportunities for the middle and aspirational classes. It could include a dramatic expansion of the educational system and a Manhattan-style investment in bringing down the price of clean energy and building the infrastructure to match. Granted, these kind of proposals would not get through Congress now, but it is the kind of agenda that I am optimistic that the Democrats will endorse and that the country will **eventually embrace**. The Left Prospers in Prosperity Judis: Your book is titled “The Optimistic Leftist,” but if you look at the terrain of politics today, the center-left or left of center parties are decimated. The Democrats haven’t been in such bad shape nationally and in the states since the 1920s. The Dutch Labor Party got less than 10 percent in the recent election. Jeremy Corbyn and British Labor may be routed in June. The French Socialist candidate came in fifth with 6 percent. Why is this happening? And given that this is happening, what grounds do you have for thinking that the left will suddenly find itself on top? Teixeira: The way I look at it we are going through a **long transition** from an industrial capitalist system to a **post-industrial services-based capitalist system**. So far this transition has **not gone well**. It hasn’t had the outcomes that people want. We have **slow productivity growth** and **rising inequality**. The central point I’d make is that **by and large**, **poor economic times** are **not good for the left**. They **make people reactive**, **pessimistic**, **trying to hold onto their own**, and **not supportive of collective endeavors** to help the way society functions. And we’ve seen all that in spades in the last decade. Really that kind of situation is **best for the right**, and the left has had a very difficult time figuring out a way forward. The Democrats have their problems, but in Europe, you see the problems crystallized. Europe’s mainstream left was based in the industrial working class and has had a terrible time adjusting to the transition to post-industrial capitalism and figuring out what a new model of capitalism and capitalist growth would look like. They have thrown in their lot with a much more right-wing approach, beginning with the Third Way in the ’90s. The idea behind it was that capitalism can pretty well function on its own and we just have to let it rip. We’re still coming out of that phase, and I think the mainstream social democrats with their collaboration with austerity in places like France and the Netherlands are reaping the whirlwind. But if you look at other parts of the left, they are actually doing relatively well. If you look at the Netherlands election, the green left did very well, and if you add up the votes of the Socialist Party (a left-socialist party), the greens, Democrats 66 (a left social-liberal party) and the social democrats, the left **hasn’t been totally decimated**. What has really been decimated is the Party of Labor, as the social democrats in the Netherlands are called. We are seeing the same thing in France where the Socialist Party (the French social democrats) candidate did terribly, but [independent socialist Jean-Luc] Melenchon did quite well. The left **still has strength**, but it is **divided up among different political tendencies**. It is going to have to **reorganize itself around an economic program** that is going to deliver what people want, which is **better growth** and **better distribution**. Until that happens, the left will be **in a quagmire**. Judis: I want to look more closely at your argument that the left does better in good times and the right in bad times. Bill Clinton got elected in the wake of a recession in 1992, Barack Obama might not have won the presidency in 2008 if the financial crash hadn’t happened that September. The Populists came out of the farm crisis in 1880s and early 1890s; the New Deal out of the Great Depression. I am not saying that bad times is better for the left, but only that there isn’t a necessary connection in either case and that you are making too facile an assumption about which times promote which politics. Teixeira: Bad times do propel people into motion and produce protest and reaction, but looked at from when you can accomplish the goals of the left of **making society better** and **implementing important reforms**, I think it is **typically easier** when the economy is **expanding fairly rapidly** and **living standards are going up** than when the reverse is true. It is **not a perfect relationship**, but **by and large** I think it’s true. So yeah, Obama can get elected in a situation where he was aided by an economic downturn, but his ability to **put together a progressive coalition** that could **stick together for a long time** and continue to implement reforms was **very much undermined by the economic situation**. Judis: Let’s turn it around and look at the connection between the right and good and bad times. In America, the 1920s were relatively good times, and the Republicans controlled the government the whole decade. Teixeira: The 1920s were not nearly as good a time people think it was. It was a time of relatively slow per capita income growth. It was very unequally distributed, the industrial working class did somewhat well, but the rural areas did poorly, and there were four recessions between 1918 and 1929. It was not such a great time. It was relatively poor compared to the Progressive Era. Judis: So the Republicans did well in the 1920s because they were really bad times? Teixeira: There was a sense of real uncertainty, real economic paranoia. Judis: I don’t think you could call the 1920s bad times. You could call it uneven times. “Bad times” is stretching it. In addition, you have the real bad times of the Depression staring you in your face which is the time of the greatest advance in terms of a left and social democracy in our history. Teixeira: Desperate times make for desperate measure sometimes. There is **no guarantee they will help the left rather than the right**. I think that’s what we saw in the U.S. Obviously it didn’t work out so well in Europe. When I make the general analysis that the left is better off in a period of economic expansion and rising living standards, it doesn’t correspond exactly to the political outcomes you’ll have in those different periods. I am saying that **in a general sense**, the left has the **easiest time making advances** and **improving society** when things are going well **rather than when are going poorly**. Judis: Let’s look at Europe. In some of the countries in Northern Europe that are doing well, the center-right parties are in charge. Teixeira: Yes, but I think you can make the case the center-right parties aren’t exactly in charge in Europe. They also have their problems. The rise of populism in Europe is blowing apart the party system. Judis: You have got Holland, Denmark, Germany, and Austria. Those are all countries that are doing pretty well compared to the rest of the EU and that have center-right governments. Teixeira: The Netherlands is not doing that well. It’s all relative. Their recovery has been somewhat better. Their employment level has been high compared to other European countries, but there are a number of cuts in social services, wages haven’t been going up much, there is a lot more insecurity. Judis: Isn’t Germany doing well? Teixeira:. Germany is doing relatively well, but it hasn’t been a period of expansive growth for them either. There is a lot of wage stagnation and compression there. I **never meant to imply** that you can **perfectly predict social reform from economic outcomes**. But I think it **provides an important lens** on when the left does well and when the left does poorly. By and large when you look at Europe, you see the ~~straitjacket~~ [**dilemma**] that the Eurozone has created in the economies. People are **fearful**, they are **pessimistic**, they are **passive**. This is **very bad for the left**. Until you **break out** of that [dilemma] ~~straitjacket~~, the left is **not going to be able to do that well**, and the right is **going to continue to do relatively well** compared to them, and you’ll see the **continued rise in populism** because people have no faith in the system. So what I am trying to do is to get the left to focus on **getting to a new stage of capitalist growth** and **being able actually to deliver rising incomes**. There is No Alternative to the Left Judis: So let’s talk about how this political change will come about. What I took from your book is that we are currently suffering from secular stagnation, and that to get to a new stage of growth, we will have to implement the kind of left program that you describe. I worry that this argument contains a contradiction. On the one hand, the left can’t get its program enacted as long as times are bad. On the other hand, the only way to get out of bad times is for the left to get its program enacted. Teixeira: I see what you are asking. I think it is going to be **two steps forward**, **one step back**. We are sort of **slouching** toward the next stage of capitalism. I **don’t think it’s going to be pretty**. Political and economic factors are going to propel us in that direction. Ultimately, people want things to work better, they want their problems to be solved. And the **only way** we are going to get there is along the road I have described. I think this **equitable growth** approach that the Democrats united around is the future. The level of growth is going to vary over time, but I think the Democrats are the ones who are going to put us there and I think they are going to be rewarded for it. Judis:. But how does that happen? Isn’t there a crisis scenario implicit in your account? At some time, the current Third Way or neoliberal approach results in another Great Recession and at that point people will buy into a left-wing approach, the left-wing approach will create prosperity and at that time we will have an enduring left-wing or Democratic majority. Isn’t a step like this missing from your argument? Teixeira:. That certainly could be the way it goes down, but it’s **not clear we are required to have a recession** on the level we did in 2007 and 2008, or whether this sort of rolling crisis we have combined with other political events might do it. I don’t know, it’s hard to predict, but I think the great economist Herbert Stein said, if something cannot go on forever, it will stop. Judis: The great socialist Rosa Luxembourg said the choice was socialism or barbarism. I am not saying we are heading toward barbarism, but I think there is a determinism in your argument. I think you are saying that people will eventually choose a politics that will best help them. Reason will prevail. And I am not sure if that holds up historically. When you talk about the EU, you say eventually they will consolidate into a fiscal monetary union. I am not sure that is going to happen. It’s also possible that the Eurozone could break up and that there could be a lot of chaos. We have periods in history where things don’t happen in the best of all possible ways. Teixeira: The trajectory is **ultimately going to take us** to a **different** and **better place**. I think **eventually we will adapt** and we will **get something better** than we have because it is the **only solution to the ongoing problems**. **There is no alternative**. Judis: Countries are sometime structurally unable to do what is in their best interest. In the U.S., we have this strong anti-statist tradition going back to the revolution that seems to get in the way every time we want to do something like what you are proposing. It is possible that contrary to Hegel, the rational won’t turn out to be the real. Teixeira: Of course it is possible, but if you look at the history of the United States, **despite the anti-statist bias** and **despite all the other political problems**, the way the country has evolved over time is toward a **larger government** that **does more** and **provides more for people**. And we **obviously have evolved tremendously** in the social realm as well. Governments don’t do what is rational in the short term, at least rational in the sense you are describing it, but political systems **evolve over time** in a way that is consistent with the values and priorities of the left, and I expect that to continue over time. The 2016 Election Judis: Let’s talk about the 2016 election. Why did Clinton lose to such a weak opponent? Teixeira: The Democrats have an evolving majority that consists of groups like minorities, professionals, young people, single women and what have you, and that’s a true fact. It’s growing over time and it will continue to grow, but it was always mathematically true that if you take the declining group, the white non-college voters, and they move sufficiently in the direction of the other party, that will be enough to undermine your coalition. You won’t win. That’s exactly what happened in 2016. These voters moved rapidly away from the Democrats both in local and state races and in the presidential election. Judis: Why did they move? Teixeira: They do not have any faith that the Democrats share their values and are going to deliver a better life for them and their kids, and I think Hillary Clinton was a very efficient bearer of that meme. Whether she wanted to or not, the message she sent to these voters is that you are really not that important and I don’t take your problems seriously, and frankly I don’t have much to offer you. And that’s despite the fact that her economic program and policies would have actually been very good for these people. There was a study of campaign advertising in 2016 that showed Hillary outspent Trump significantly and that almost none of her advertising was about what she would actually do. Almost all of it was about how he was a bad dude. Voters were **fed up with stagnation** and with the Democrats and they **turned to someone who thought could blow up the system**. The way the Democrats and the left could **mitigate that problem** is to show these voters that they **take their problems seriously** and have their interests in mind, and could improve their lives. I **don’t think there is any way of doing that** without a **new model of economic growth**.

#### 3---Climate.

Fickling 20 (David, Bloomberg Opinion columnist covering commodities, as well as industrial and consumer companies, citing a report from the International Energy Agency, “Capitalism Caused Climate Change; It Must Also Be the Solution,” Bloomberg, 10/14/20, <https://www.bloomberg.com/opinion/articles/2020-10-14/capitalism-caused-climate-change-it-must-also-be-the-solution>, ccm)

After that, though, things fall apart. Thanks to ongoing economic weakness, governments and businesses lose the capacity to carry out the spending needed to remake the world’s energy system. Investment in fossil fuels falls by 10% relative to expectations under current policies, but spending on renewables and nuclear drops by 5% as well, so that $2.2 trillion less is spent by 2030.

Rather than investing to replace our power plants and appliances with lower-carbon alternatives, we eke out their polluting lives a little bit longer. By 2030, annual emissions are about 29% higher than they would be under Sustainable Development.

This desktop model of how the world could develop reflects a profound truth. The atmosphere can accommodate about 500 billion metric tons more carbon dioxide to give an even chance of keeping warming below 1.5 degrees — but the world’s current industrial base is currently pumping out roughly 33 billion tons a year, and will continue to do so unless we can replace it.

Retrofitting the world’s energy systems is going to require vast sums of money. Renewable power alone will need an average $569 billion of investment every year over the coming decade under the IEA’s Sustainable Development Scenario. That’s almost twice the rate seen over the past five years, and not far behind what the entire oil and gas sector would spend under the same settings. If anything, the world needs a target that’s more ambitious still.

If we can get up to speed, that volume of spending will create its own momentum. One justified complaint of anti-capitalist climate activists is that our political systems frequently put their thumbs on the scale to favor powerful incumbent businesses, which at present are mostly the polluting ones. But a system where investment dollars are flowing away from fossil fuels and toward decarbonization is one where power, too, is shifting away from the carbon economy.

Even under the IEA’s less ambitious Stated Policies Scenario, the $15.14 trillion that gets spent globally on fossil fuel generation and production by 2040 is smaller than the $15.97 trillion spent on renewables and nuclear — and doesn’t include the amounts that go to energy efficiency and grid networks.

Under the Sustainable Development Scenario, which has historically often been a better guide to the path of the energy transition, low-carbon power ends up with $2.70 of spending for every $1 going to fossil fuel extraction and generation. That’s a world in which renewables will increasingly set the rules of the game, encouraging governments to remove the remaining subsidies that support oil, gas and coal.

Since the industrial revolution, the fossil-fueled engine of capitalist growth has conspired to put the world in its current climate crisis. Harnessing that power to drive the carbon transition is now our best hope of turning that disaster around.