### Xi Lashout DA

#### Xi’s regime is stable now, but its success depends on strong growth and private sector development.

**Mitter and Johnson 21** [Rana Mitter and Elsbeth Johnson, [Rana Mitter](https://hbr.org/search?term=rana%20mitter&search_type=search-all) is a professor of the history and politics of modern China at Oxford. [Elsbeth Johnson](https://hbr.org/search?term=elsbeth%20johnson&search_type=search-all), formerly the strategy director for Prudential PLC’s Asian business, is a senior lecturer at MIT’s Sloan School of Management and the founder of SystemShift, a consulting firm. May-June 2021, "What the West Gets Wrong About China," Harvard Business Review, [https://hbr.org/2021/05/what-the-west-gets-wrong-about-china accessed 12/14/21](https://hbr.org/2021/05/what-the-west-gets-wrong-about-china%20accessed%2012/14/21)] Adam

In China, however, growth has come in the context of stable communist rule, suggesting that democracy and growth are not inevitably mutually dependent. In fact, many Chinese believe that the country’s recent economic achievements—large-scale poverty reduction, huge infrastructure investment, and development as a world-class tech innovator—have come about because of, not despite, China’s authoritarian form of government. Its aggressive handling of Covid-19—in sharp contrast to that of many Western countries with higher death rates and later, less-stringent lockdowns—has, if anything, reinforced that view.

China has also defied predictions that its authoritarianism would inhibit its capacity to [innovate](https://hbr.org/2011/06/what-the-west-doesnt-get-about-china). It is a global leader in AI, biotech, and space exploration. Some of its technological successes have been driven by market forces: People wanted to buy goods or communicate more easily, and the likes of Alibaba and Tencent have helped them do just that. But much of the technological progress has come from a highly innovative and well-funded military that has invested heavily in China’s burgeoning new industries. This, of course, mirrors the role of U.S. defense and intelligence spending in the development of Silicon Valley. But in China the consumer applications have come faster, making more obvious the link between government investment and products and services that benefit individuals. That’s why ordinary Chinese people see Chinese companies such as Alibaba, Huawei, and TikTok as sources of national pride—international vanguards of Chinese success—rather than simply sources of jobs or GDP, as they might be viewed in the West.

Thus July 2020 polling data from the Ash Center at Harvard’s Kennedy School of Government revealed 95% satisfaction with the Beijing government among Chinese citizens. Our own experiences on the ground in China confirm this. Most ordinary people we meet don’t feel that the authoritarian state is solely oppressive, although it can be that; for them it also provides opportunity. A cleaner in Chongqing now owns several apartments because the CCP reformed property laws. A Shanghai journalist is paid by her state-controlled magazine to fly around the world for stories on global lifestyle trends. A young student in Nanjing can study propulsion physics at Beijing’s Tsinghua University thanks to social mobility and the party’s significant investment in scientific research.

#### Xi Jing Ping wants to increase private sector participation in the space industry.

Neel Patel, “China’s Surging Private Space Industry is Out to Challenge the US,” MIT Technology Review, January 21, 2021, https://www.technologyreview.com/2021/01/21/1016513/china-private-commercial-space-industry-dominance/

Until recently, China’s space activity has been overwhelmingly dominated by two state-owned enterprises: the China Aerospace Science & Industry Corporation Limited (CASIC) and the China Aerospace Science and Technology Corporation (CASC). A few private space firms have been allowed to operate in the country for a while: for example, there’s the China Great Wall Industry Corporation Limited (in reality a subsidiary of CASC), which has provided commercial launches since it was established in 1980. But for the most part, China’s commercial space industry has been nonexistent. Satellites were expensive to build and launch, and they were too heavy and large for anything but the biggest rockets to actually deliver to orbit. The costs involved were too much for anything but national budgets to handle.

That all changed this past decade as the costs of making satellites and launching rockets plunged. In 2014, a year after Xi Jinping took over as the new leader of China, the Chinese government decided to treat civil space development as a key area of innovation, as it had already begun doing with AI and solar power. It issued a policy directive called [Document 60](http://www.cpppc.org/en/zy/994006.jhtml) that year to enable large private investment in companies interested in participating in the space industry.

“Xi’s goal was that if China has to become a critical player in technology, including in civil space and aerospace, it was critical to develop a space ecosystem that includes the private sector,” says Namrata Goswami, a geopolitics expert based in Montgomery, Alabama, who’s been studying China’s space program for many years. “He was taking a cue from the American private sector to encourage innovation from a talent pool that extended beyond state-funded organizations.”

As a result, there are now 78 commercial space companies operating in China, according to a[2019 report by the Institute for Defense Analyses](https://www.ida.org/-/media/feature/publications/e/ev/evaluation-of-chinas-commercial-space-sector/d-10873.ashx). More than half have been founded since 2014, and the vast majority focus on satellite manufacturing and launch services.

For example, Galactic Energy, founded in February 2018, is building its Ceres rocket to offer rapid launch service for single payloads, while its Pallas rocket is being built to deploy entire constellations. Rival company i-Space, formed in 2016, became the first commercial Chinese company to make it to space with its Hyperbola-1 in July 2019. It wants to pursue reusable first-stage boosters that can land vertically, like those from SpaceX. So does LinkSpace (founded in 2014), although it also hopes to use rockets to deliver packages from one terrestrial location to another.

Spacety, founded in 2016, wants to turn around customer orders to build and launch its small satellites in just six months. In December it launched a miniaturized version of a satellite that uses 2D radar images to build 3D reconstructions of terrestrial landscapes. Weeks later, it [released the first images taken by the satellite](https://spacenews.com/spacety-releases-first-sar-images/), Hisea-1, featuring three-meter resolution. Spacety wants to launch a constellation of these satellites to offer high-quality imaging at low cost.

To a large extent, China is following the same blueprint drawn up by the US: using government contracts and subsidies to give these companies a foot up. US firms like SpaceX benefited greatly from NASA contracts that paid out millions to build and test rockets and space vehicles for delivering cargo to the International Space Station. With that experience under its belt, SpaceX was able to attract more customers with greater confidence.

Venture capital is another tried-and-true route. The IDA report estimates that VC funding for Chinese space companies was up to $516 million in 2018—far shy of the $2.2 billion American companies raised, but nothing to scoff at for an industry that really only began seven years ago. At least 42 companies had no known government funding.

And much of the government support these companies do receive doesn’t have a federal origin, but a provincial one. “[These companies] are drawing high-tech development to these local communities,” says Hines. “And in return, they’re given more autonomy by the local government.” While most have headquarters in Beijing, many keep facilities in Shenzhen, Chongqing, and other areas that might draw talent from local universities.

There’s also one advantage specific to China: manufacturing. “What is the best country to trust for manufacturing needs?” asks James Zheng, the CEO of Spacety’s Luxembourg headquarters. “It’s China. It’s the manufacturing center of the world.” Zheng believes the country is in a better position than any other to take advantage of the space industry’s new need for mass production of satellites and rockets alike.

Making friends

The most critical strategic reason to encourage a private space sector is to create opportunities for international collaboration—particularly to attract customers wary of being seen to mix with the Chinese government. (US agencies and government contractors, for example, are barred from working with any groups the regime funds.) Document 60 and others issued by China’s National Development and Reform Commission were aimed not just at promoting technological innovation, but also at drawing in foreign investment and maximizing a customer base beyond Chinese borders.

“China realizes there are certain things they cannot get on their own,” says Frans von der Dunk, a space policy expert at the University of Nebraska–Lincoln. Chinese companies like LandSpace and MinoSpace have worked to accrue funding through foreign investment, escaping dependence on state subsidies. And by avoiding state funding, a company can also avoid an array of restrictions on what it can and can’t do (such as constraints on talking with the media). Foreign investment also makes it easier to compete on a global scale: you’re taking on clients around the world, launching from other countries, and bringing talent from outside China.

#### Shifts in regime perception threatens CCP’s legitimacy from nationalist hardliners

Weiss 19 Jessica Weiss 1-29-2019 “Authoritarian Audiences, Rhetoric, and Propaganda in International Crises: Evidence from China” <http://www.jessicachenweiss.com/uploads/3/0/6/3/30636001/19-01-24-elite-statements-isq-ca.pdf> (Associate Professor of Government at Cornell University)//Elmer

Public support—or the appearance of it—matters to many autocracies. As Ithiel de Sola Pool writes, modern dictatorships are “highly conscious of public opinion and make major efforts to affect it.”6 Mao Zedong told his comrades: “When you make revolution, you must first manage public opinion.”7 Because autocracies often rely on **nationalist mythmaking**,8 success or failure in defending the national honor in international crises could burnish the leadership’s patriotic credentials or spark opposition. **Shared outrage at the regime’s foreign policy failures could galvanize street protests or elite fissures, creating intraparty upheaval** or inviting military officers to step in to restore order. Fearing a domestic backlash, authoritarian leaders may feel compelled to take a tough international stance. Although authoritarian leaders are rarely held accountable to public opinion through free and fair elections, fears of popular unrest and irregular ouster often weigh heavily on autocrats seeking to maximize their tenure in office. Considering the harsh consequences that authoritarian elites face if pushed out of office, even a small increase in the probability of ouster could alter authoritarian incentives in international crises.9 A history of nationalist uprisings make Chinese citizens and leaders especially aware of the linkage between international disputes and domestic unrest. The weakness of the PRC’s predecessor in defending Chinese sovereignty at the Paris Peace Conference in 1919 galvanized protests and a general strike, forcing the government to sack three officials and reject the Treaty of Versailles, which awarded territories in China to Japan. These precedents have made Chinese officials particularly sensitive to the appearance of hewing to public opinion. As the People’s Daily chief editor wrote: “History and reality have shown us that public opinion and regime safety are inseparable.”10 One Chinese scholar even claimed: “the Chinese government probably knows the public’s opinion better and reacts to it more directly than even the U.S. government.”11

#### Xi will launch diversionary war to domestic backlash – escalates in multiple hotspots

Norris 17, William J. Geostrategic Implications of China’s Twin Economic Challenges. CFR Discussion Paper, 2017. (Associate professor of Chinese foreign and security policy at Texas A&M University’s Bush School of Government and Public Service)//Elmer

Populist pressures might tempt the **party leadership** to encourage **diversionary nationalism**. The logic of this concern is straightforward: the Communist Party might seek to **distract a restless domestic population** with **adventurism abroad**.19 The **Xi** administration wants to **appear tough** in its **defense of foreign encroachments** against China’s interests. This need stems from a long-running narrative about how a weak Qing dynasty was unable to defend China in the face of European imperial expansion, epitomized by the Opium Wars and the subsequent treaties imposed on China in the nineteenth century. The party is **particularly sensitive** to **perceptions of weakness** because much of its **claim to legitimacy**—manifested in **Xi’s Chinese Dream** campaign today—stems from the party’s claims of leading the **restoration of Chinese greatness**. For example, the May Fourth Movement, a popular protest in 1919 that helped catalyze the CPC, called into question the legitimacy of the Republic of China government running the country at that time because the regime was seen as not having effectively defended China’s territorial and sovereignty interests at the Versailles Peace Conference. **Diversionary nationalist frictions** would likely occur if the Chinese leadership portrayed a foreign adversary as having made the first move, thus forcing Xi to stand up for China’s interests. An example is the 2012 attempt by the nationalist governor of Tokyo, Shintaro Ishihara, to buy the Senkaku/Diaoyu Islands from a private owner.20 Although the Japanese central government sought to avert a crisis by stepping in to purchase the islands—having them bought and administered by Ishihara’s Tokyo metropolitan government would have dragged Japan into a confrontation with China—China saw this move as part of a deliberate orchestration by Japan to nationalize the islands. Xi seemingly had no choice but to defend China’s claims against an attempt by Japan to consolidate its position on the dispute.21 This issue touched off a period of heated tensions between China and Japan, lasting more than two years.22 Such dynamics are not limited to Japan. Other possible areas of conflict include, but are not necessarily limited to, **Taiwan**, **India**, and the **South China Sea** (especially with the **Philippines** and **Vietnam**). The Chinese government will use such tactics if it believes that the costs are relatively low. Ideally, China would like to appear tough while avoiding material repercussions or a serious diplomatic breakdown. Standing up against foreign encroachment—without facing much blowback—could provide Xi’s administration with a tempting source of noneconomic legitimacy. However, over the next few years, Xi will probably not be actively looking to get embroiled abroad. Cushioning the fallout from slower growth while managing a structural economic transition will be difficult enough. Courting potential international crises that distract the central leadership would make this task even more daunting. Even if the top leadership did not wish to provoke conflict, a smaller budgetary allotment for security could cause **military interests** in China to **deliberately instigate trouble** to **justify** their **claims over increasingly scarce resources**. For example, an air force interested in ensuring its funding for a midair tanker program might find the existence of far-flung territorial disputes to be useful in making its case. Such a case would be made even stronger by a pattern of recent frictions that highlights the necessity of greater air power projection. Budgetary pressures may be partly behind a recent People’s Liberation Army reorganization and headcount reduction. A slowing economy might cause a further deceleration in China’s military spending, thus increasing such pressures as budgetary belts tighten. Challenges to Xi’s Leadership Xi Jinping’s efforts to address economic challenges could fail, unleashing consequences that extend well beyond China’s economic health. For example, an **economic collapse** could give rise to a Vladimir **Putin–like redemption figure** in China. Xi’s approach of centralizing authority over a diverse, complex, and massive social, political, and economic system is a **recipe for brittleness**. Rather than designing a resilient, decentralized governance structure that can gracefully cope with localized failures at particular nodes in a network, a highly centralized architecture **risks catastrophic**, **system-level failure**. Although centralized authority offers the tantalizing chimera of stronger control from the center, it also puts all the responsibility squarely on Xi’s shoulders. With China’s ascension to great power status, the consequences of internecine domestic political battles are increasingly playing out on the world stage. The international significance of China’s domestic politics is a new paradigm for the Chinese leadership, and one can expect an adjustment period during which the outcome of what had previously been relatively insulated domestic political frictions will likely generate **unintended international repercussions**. Such dynamics will influence Chinese foreign policy and security behavior. Domestic arguments over ideology, bureaucratic power struggles, and strategic direction could all have **ripple effects abroad**. Many of China’s party heavyweights still employ a narrow and exclusively domestic political calculus. Such behavior increases the possibility of international implications that are not fully anticipated, **raising the risks** of **strategic miscalculation** on the world stage. For example, the factional power struggles that animated the Cultural Revolution were largely driven by domestic concerns, yet manifested themselves in Chinese foreign policy for more than a decade. During this period, China was not the world’s second largest economy and, for much of this time, did not even have formal representation at the United Nations. If today’s globally interconnected China became engulfed in similar domestic chaos, the effects would be felt worldwide.23 Weakened Fetters of Economic Interdependence If China successfully transitioned away from its export-driven growth model toward a consumption-driven economic engine over the next four or five years, it could no longer feel as constrained by economic interdependence. To the extent that such constraints are loosened, the U.S.-China relationship will be more prone to conflict and friction.24 While China has never been the archetypal liberal economic power bent on benign integration with the global economy, its export-driven growth model produced a strong strategic preference for stability. Although past behavior is not necessarily indicative of future strategic calculus, China’s “economic circuit breaker” logic seems to have held its most aggressive nationalism below the threshold of war since 1979. A China that is both comparatively strong and less dependent on the global economy would be a novel development in modern geopolitics. As China changes the composition of its international economic linkages, global integration could place fewer constraints on it. Whereas China has been highly reliant on the import of raw materials and semifinished goods for reexport, a consumption-driven China could have a different international trade profile. China could still rely on imported goods, but their centrality to the country’s overall economic growth would be altered. Imports of luxury goods, consumer products, international brands, and services may not exert a significant constraining influence, since loss of access to such items may not be seen as strategically vital. If these flows were interrupted or jeopardized, the result would be more akin to an inconvenience than a strategic setback for China’s rise. That said, China is likely to continue to highly depend on imported oil even if the economic end to which that energy resource is directed shifts away from industrial and export production toward domestic consumption.

#### **US–China war goes nuclear – crisis mis-management ensures conventional escalation - extinction**

Kulacki 20 [Dr. Gregory Kulacki focuses on cross-cultural communication between the United States and China on nuclear and space arms control and is the China Project Manager for the Global Security Program at the Union of Concerned Scientists, 2020. Would China Use Nuclear Weapons First In A War With The United States?, Thediplomat.com, https://thediplomat.com/2020/04/would-china-use-nuclear-weapons-first-in-a-war-with-the-united-states/] srey

Admiral Charles A. Richard, the head of the U.S. Strategic Command, recently told the Senate Armed Service Committee he “could drive a truck” through the holes in China’s no first use policy. But when Senator John Hawley (R-MO) asked him why he said that, Commander Richard backtracked, described China’s policy as “very opaque” and said his assessment was based on “very little” information. That’s surprising. **China** has been exceptionally **clear** **about** its **intentions** **on** the possible **first** **use** **of** **nuclear** **weapons**. On the day of its first nuclear test on October 16, 1964, China declared it “will never at any time or under any circumstances be the first to use nuclear weapons.” That **unambiguous** **statement** **has** **been** a **cornerstone** **of** **Chinese** **nuclear** **weapons** policy for 56 years and has been repeated frequently in authoritative Chinese publications for domestic and international audiences, including a highly classified training manual for the operators of China’s nuclear forces. Richard should know about those publications, particularly the training manual. A U.S. Department of Defense translation has been circulating within the U.S. nuclear weapons policy community for more than a decade. The commander’s comments to the committee indicate a familiarity with the most controversial section of the manual, which, in the eyes of some U.S. analysts, indicates there may be some circumstances where **China** **would** **use** **nuclear** **weapons** **first** **in** a **war** **with** **the** **U**nited **S**tates. This U.S. misperception is understandable, especially given the difficulties the Defense Department encountered translating the text into English. The language, carefully considered in the context of the entire book, articulates a strong reaffirmation of China’s no first use policy. But it also reveals **Chinese** military planners are **struggling** **with** **crisis** **management** **and** **considering** **steps** **that** could **create** **ambiguity** **with** **disastrous** **consequences**. Towards the end of the 405-page text on the operations of China’s strategic rocket forces, in a chapter entitled, “Second Artillery Deterrence Operations,” the authors explain what China’s nuclear forces train to do if **“**a strong military power possessing nuclear‐armed missiles and an absolute advantage in high‐tech conventional weapons is carrying out intense and continuous attacks against our major strategic targets and we have no good military strategy to resist the enemy.**”** The military power they’re talking about is the United States. The authors indicate China’s nuclear missile forces train to take specific steps, including increasing readiness and conducting launch exercises, to “dissuade the continuation of the strong enemy’s conventional attacks.” The manual refers to these steps as an “adjustment” to China’s nuclear policy and a “lowering” of China’s threshold for brandishing its nuclear forces. Chinese leaders would only take these steps in extreme circumstances. The text highlights several triggers such as U.S. conventional bombing of China’s nuclear and hydroelectric power plants, heavy conventional bombing of large cities like Beijing and Shanghai, or other acts of **conventional** **warfare** **that** “**seriously** **threatened**” the “safety and **survival**” of the nation. U.S. Misunderstanding Richard seems to believe this planned adjustment in China’s nuclear posture means China is **preparing** **to** **use** **nuclear** **weapons** first under these circumstances. He told Hawley that there are a “number of situations where they may conclude that first use has occurred that do not meet our definition of first use.” The head of the U.S. Strategic Command appears to assume, as do other U.S. analysts, that the **Chinese** would **interpret** **these** types of U.S. conventional **attacks** **as** **equivalent** **to** a **U.S. first use** **of** **nuclear** **weapons** against China. But that’s not what the text says. “Lowering the threshold” refers to China putting its nuclear weapons on alert — it does not indicate Chinese leaders might lower their threshold for deciding to use nuclear weapons in a crisis. Nor does the text indicate Chinese nuclear forces are training to launch nuclear weapons first in a war with the United States. China, unlike the United States, keeps its nuclear forces off-alert. Its warheads are not mated to its missiles. China’s nuclear-armed submarines are not continuously at sea on armed patrols. The manual describes how China’s nuclear warheads and the missiles that deliver them are controlled by two separate chains of command. Chinese missileers train to bring them together and launch them after China has been attacked with nuclear weapons. All of these behaviors are consistent with a no first use policy. The “adjustment” Chinese nuclear forces are preparing to make if the United States is bombing China with impunity is to place China’s nuclear forces in a state of readiness similar to the state the nuclear forces of the United States are in all the time. This step is intended not only to end the bombing, but also to convince U.S. decision-makers they cannot expect to destroy China’s nuclear retaliatory capability if the crisis escalates. Chinese Miscalculation Unfortunately, alerting Chinese nuclear forces at such a moment could have terrifying consequences. Given the relatively small size of China’s nuclear force, a U.S. president might be tempted to try to limit the possible damage from a Chinese nuclear attack by destroying as many of China’s nuclear weapons as possible before they’re launched, especially if the head of the U.S. Strategic Command told the president China was preparing to strike first. One study concluded that if the United States used nuclear weapons to attempt to knock out a small fraction of the Chinese ICBMs that could reach the United States it may kill tens of millions of Chinese civilians. The authors of the text assume alerting China’s nuclear forces would “create a great shock in the enemy’s psyche.” That’s a fair assumption. But they also assume this shock could “dissuade the continuation of the strong enemy’s conventional attacks against our major strategic targets.” That’s highly questionable. There is a **substantial** **risk** **the** **U**nited **S**tates **would** **respond** **to** this implicit **Chinese** **threat** **to** **use** **nuclear** **weapons** **by** **escalating**, rather than halting, its **conventional** **attacks**. If China’s nuclear forces were targeted, it would put even greater strain on the operators of China’s nuclear forces. A **slippery** **slope** **to** **nuclear** **war** Chinese military planners are aware that attempting to coerce the United States into halting conventional bombardment by alerting their nuclear forces could fail. They also know it might trigger a nuclear war. But if it does, they are equally clear China won’t be the one to start it. Nuclear attack is often preceded by nuclear coercion. Because of this, in the midst of the process of a high, strong degree of nuclear coercion we should prepare well for a nuclear retaliatory attack. The more complete the preparation, the higher the credibility of nuclear coercion, the easier it is to accomplish the objective of nuclear coercion, and the lower the possibility that the nuclear missile forces will be used in actual fighting. They assume if China demonstrates it is well prepared to retaliate the United States would not risk a damage limitation strike using nuclear weapons. And even if the United States were to attack China’s nuclear forces with conventional weapons, China still would not strike first. In the opening section of the next chapter on “nuclear retaliatory attack operations” the manual instructs, as it does on numerous occasions throughout the entire text: According to our country’s principle, its stand of no first use of nuclear weapons, the Second Artillery will carry out a nuclear missile attack against the enemy’s important strategic targets, according to the combat orders of the Supreme Command, only after the enemy has carried out a nuclear attack against our country. Richard is wrong. There are no holes in China’s no first use policy. But the worse-case planning articulated in this highly classified military text is a significant and deeply troubling departure from China’s traditional thinking about the role of nuclear weapons. Mao Zedong famously called nuclear weapons “a paper tiger.” Many assumed he was being cavalier about the consequences of nuclear war. But what he meant is that they would not be used to fight and win wars. U.S. nuclear threats during the Korean War and the Taiwan Strait Crisis in the 1950s – threats not followed by an actual nuclear attack – validated Mao’s intuition that nuclear weapons were primarily psychological weapons. Chinese leaders decided to acquire nuclear weapons to free their minds from what Mao’s generation called “**nuclear** **blackmail**.” A former director of China’s nuclear weapons laboratories told me China developed them so its leaders could “sit up with a straight spine.” Countering nuclear blackmail – along with compelling other nuclear weapons states to negotiate their elimination – were the only two purposes Chinese nuclear weapons were meant to serve. Contemporary Chinese military planners appear to have added a new purpose: compelling the United States to halt a conventional attack. Even though it only applies in extreme circumstances, it **increases** the **risk** **that** a **war** between the United States and China **will** **end** **in** a nuclear exchange with unpredictable and **catastrophic** **consequences**. Adding this new purpose could also be the first step on a slippery slope to an incremental broadening the role of nuclear weapons in Chinese national security policy. Americans would be a lot safer if we could avoid that. The United States government should applaud China’s no first use policy instead of repeatedly calling it into question. And it would be wise to adopt the same policy for the United States. If both countries declared they would never use nuclear weapons first it may not guarantee they can avoid a nuclear exchange during a military crisis, but it would make one far less likely.

### Fem IR K

#### International relations are inherently patriarchal and serve to marginalize women’s voices—the aff’s discussions of security fail to take account the violence that is inflicted upon women, especially during global conflicts.

#### Ruiz ’05 – CSU Hayward

Tricia Ruiz, “Feminist Theory and International Relations: The Feminist Challenge to Realism and Liberalism,” 2005, CSU, <https://www.csustan.edu/sites/default/files/honors/documents/journals/soundings/Ruiz.pdf>

Feminists also apply the terms ‘gender’ and ‘patriarchy’ when analyzing how situations have been shaped to exclude women from the international political arena. For example, Eric M. Blanchard refers to a ‘catch-22’ situation, in which a candidate seeking political office will highly depend on past military service as qualification for the position, putting women at a disadvantage since they generally have less military experience. This significantly limits a woman’s chances to attain a national government position directly involved with issues of defense and security. From this example alone, we can understand how areas of domestic politics, the military, and even the topic of education (which is directly related to this example), are issues with respect to which feminists would argue that gender and patriarchy do not allow women equal access to positions in world politics.

As with many theories, “feminist theory” reflects a wide range of perspectives generating many internal debates concerning how it should be represented. As Diana Thorburn notes, “there can never be a truly singular voice of feminist foreign policy simply because of the diversity of views within feminism itself.”5 However, a brief look at some relevant facets of the discipline can be seen through Lorraine Codes’ summary of two salient areas within feminist IR theory, standpoint feminism, and radical feminism.

Standpoint theory considers how the gendered construction of knowledge...[helps to] understand traditional topics in international relations” and is “alerting us to the idea that gender may be structuring how we think in the international context.”7 Author Martin Griffiths classifies feminist scholar J. Ann Tickner as a standpoint feminist. Before even addressing existing IR theory, Griffiths first argues that the purpose and definition of ‘theory’ is in itself male-centered, because it is “oppressingly normative rather than conjectural and analytic.”9 Simply put, the processes of forming and learning theory is constructed around on automatically-accepted ideas of what is standard and normal, rather than first challenging the ‘norm’ and questioning if the ‘standard’ is objective enough. In this case, ‘theory’ lacks female perspective because it is not objectively sought at the onset of formulating ideas.

Tickner argues that IR is gendered to “marginalize women’s voices,” and stresses “that women have knowledge, perspectives and experiences that should be brought to bear on the study of international relations.” For example, Tickner would argue that security, a main topic in IR, should not only be understood as “defending the state from attack,” but should also consider that security for women “might be different because women are more likely to be attacked by men they know, rather than strangers from other states.”10

In other words, in contrast to traditional IR views that view security as protecting the state from other states, feminists argue the topic of security should address acts of rape and violence, not only from foreign perpetrators, but from their own fellow citizens as well. Feminists would also add that occurrences of rape increase during times of war, and is even used as a method of ethnic cleansing among the rivalries within their state, yet would never enter into typical IR discussions that focus solely on state- to-state interaction, simply because IR discussions traditionally remain focused on states as the key actors. Thus, the topic of security shows how gender consideration, excluded from the very beginning of the discussion, results in policymaking that would be subsequently exclusive of, and likely detrimental to, women. Prior to discussing any IR topic, standpoint feminist IR theory would first challenge those participating in the discussion, and those defining the key terms and issues, by critically asking them if the normative perspectives and working vocabulary are broad enough to effectively accommodate issues affecting women.

#### Portraying the state is the primary actor in international relations reinforces patriarchy—the state is a masculine actor that creates gendered consequences and marginalizes women through the public/private dichotomy.

#### **Saloom ’06**

Rachel Saloom, “A Feminist Inquiry Into International Law and International Relations,” 2006, <https://core.ac.uk/download/pdf/56705653.pdf>

While there are additional categories of feminist thought, most gender theorists fall into one of these categories elucidated. It is problematic to speak of one unifying feminism; however, there are some commonalities and useful points of intersection to discuss. The starting point of many feminist criticisms 28 is the state. Gender theorists criticize the state as the primary actor in international law and international relations for a myriad of reasons. The state is understood as a masculinist actor. Jill Steans posits that the "identity" of the state itself is masculine. When international law and international relations theorists imagine the state as an actor, this actor is identified as male. Feminists criticize the personification of the state as male. Besides this abstract notion about the identity of the state, most feminists believe that the state’s actions and inactions are gendered.

The impact of state action has different effects on men and women. Because of unequal social relations, women and men have different relationships to the state.

For instance, one can generalize that men are not as dependent on the state as women. Women are more dependent on the state because of  
economic and social disparities that exist between men and women. J. Ann Tickner argues that since the formation of the modern state, international relations has been gendered. She argues that international relations conflates that which is human with that which is masculine. She posits that international relations is based largely upon the experiences and ideas of men. Many gender theorists point out that male- dominated discipline of international law and international relations as a starting point for their criticisms. Gender theorists also examine the realm of international law and politics, noting the disparity that exists between the number of men and women that are involved in world politics.

Other scholars believe that patriarchy is manifested through state action. According to Eisenstein, the state inscribes the dichotomy between the public and private.  
This dichotomy perpetuates the marginalization of women. The state operates in the public sphere and does not interfere in the private realm and the lives of women. Peterson argues that "[t]he state constitutes itself as the realm of political action and promotes a definition of politics that narrowly construes power relations. Gender theorists argue that the public/private dichotomy acts as a veil for domestic violence. The state can justify non-interference into the lives of women and men, because the state's role is political and not personal. Feminists seek to break down the dichotomy that exists between the public and private spheres that the state upholds. The slogan, "the personal is the political" is one of the foundations of many types of feminism. international human rights law. Hilary Charlesworth, a leading feminist international law scholar, argues that the: [P]ublic/private distinction in international human rights law is not a neutral or objective qualification. Its consequences are gendered because in all societies men dominate the public sphere of politics and government and women are associated with the private sphere of home and family. Its effect is to blot out the experiences of many women and to silence their voices in international law. Thus, the public/private distinction is prevalent in both international law and international relations.

#### Rational impact calculus regarding state actions in international relations is inherently masculine and creates artificial gendered constructions that foster conflict.

Sjoberg ’13 – American feminist scholar of international relations and international security, specializes in gendered interpretations of war, feminist security, and violence towards women in global politics, received a PhD at USC, received a JD at Boston College, attended University of Chicago, associate professor at the University of Florida

Laura Sjoberg, “Gendering Global Conflict: Toward a Feminist Theory of War, “ google books

Feminist scholars have also interrogated the unitary nature of the state, pointing out that efforts to maximize the state's security interests often threaten the security of people inside the state. Specifically, as I discussed in the previous section, the state's most marginalized citizens are often made insecure by state security-seeking, making it clear that a state does not have a single interest in interstate interaction but many that conflict. J. Ann Tickner contends that "an explanation of the historical development of state sovereignty and state identities as they have evolved over time does indeed suggest deeply gendered constructions that have not included women on the same terms as men." This is because, according to Tickner:¶ From the time of their foundation, states have sought to control the right to define political identity. Since their legitimacy has constantly been threatened by the undermining power of subnational and transnational loyalties, states' survival and success have depended on the creation and maintenance of legitimating national identities; often these identities have depended on the manipulation of gendered representation. . . . Drawing on metaphors that evoke matrimonial and familial relations, the nation has been portrayed as both male and female. . . . The sense of community implicit in these family metaphors is deeply gendered in ways that not only legitimate foreign policy practices but also reinforce inequalities between men and women.”¶  ¶ Using these gendered metaphors, the state can, while shoring up its "national interest," both threaten the interest of marginalized citizens inside it and reinforce power inequalities among its groups. Catherine MacKinnon has explained that the "state's structures and actions are driven by and institutionalize strategy based on an epistemic angle of vision" that can "distinguish public from private, naturalize dominance as difference, hide coercion beyond consent, and conceal politics beyond morality.” These structures require a certain standard of behavior from some members of the state,” while suppressing the voices of others altogether.”¶ With these tools, the state can appear unitary by suppressing its diversity and presenting one concept of national interest, autonomous of and not necessarily representative of its citizens. In this understanding, the sovereign state can be "an extension of the separation-minded realist man, also autonomous to various degrees from the diverse 'domestic' interests he-it allegedly exists to protect.” Additionally, states are complicit with gender subordination when they fail to intervene in domestic violence, perpetuate a heterosexist bias in education, exercise discrimination in welfare policies, and operate on patriarchal laws.” ¶ In this conception, the unitary state is a misleading and malignant construction. Two implications for the process of state interaction follow; states that interact often promote unrepresentative interests, and those unrepresentative interests exclude gender, racial, and cultural minorities. In this sense, states' elites often make wars (or fail to) "representing" a limited group or groups among their populations, while claiming full representativeness, effectively rendering a significant portion of their supposed "constituency" invisible in the process of interacting with other states. Empirically, this means that there are a number of levels of interstate interaction, many of which are omitted from process-based notions of dyadic war theorizing. Normatively, it suggests that our conceptions of how states interact (and the content of those interactions) are problematically skewed.¶ Rationality in Interaction This skew is particularly evident in the assumption of rationality." The rationality assumption implies that the knower/actor can separate himself/herself from the “other” in interactions with that other. Feminists have argued that knowledge is always perspectival and political; therefore, states and their leaders’ decisions about how to interact with others are not rational, but informed by their situational and political biases. In this view, the rationality assumption may be seen as at once itself a political bias and obscuring other political biases. As Naomi Scheman argues, perceived rational cost-beneﬁt analysis about war-making and war-fighting should “always be seen as especially problematical when... constructed only by those in positions of privilege... [which provide] only distorted views about the world.”78 In this view, rational calculation is not an objective, attainable, and desirable end, but a partial representation of both interest and actors’ representation of those interests. In this way, through gender lenses, rationality has been seen as importantly incomplete, leaving out signiﬁcant (if not the most significant) factors that go into decision-making.79 In addition to understanding the rationality assumption as partial (and therefore unrepresentative), feminist research has pointed out links between rationality and mascuIinism.8° As Karen Jones notes, advocates of rationality as a guide for interstate interactions“ assume: 1. Available... conceptions of rationality and reason represent genuinely human norms and ideals; 2. The list of norms and ideals contained within available conceptions of rationality and reason are sufficiently complete; and 3. The external normative functions assigned to reason and rationality are unproblematic.82 Looking through gender lenses shows problems with each of these assumptions. Feminists have argued that “the identity of the modern subject-in models of human nature, citizenship, the rational actor, the knowing subject, economic man, and political agency-is not gender-neutral but masculine (and typically European and heterosexua|).”83 This impacts not only how we see the rational subject, but how we predict and understand his decisions, at the state level as well as at the individual level. According to Margaret Atherton, the possibility of rationality has “been used in a disturbing fashion to mark a gender distinction. We have, for example, on the one hand, the man of reason, and, on the other, the woman of passion.”84 In rationality assumptions, traits associated with masculinity are normalized and traits associated with femininity are excluded. The impact is compounded because (masculinized) rationality and its (feminized) alternatives are not on equal playing ﬁelds. As a result, Karen Jones notes that “women’s assumed deficiency in rationality” has been used to exclude both women and knowledge associated with femininity from accepted views of the world.85 The alleged gender neutrality of rationality, then, “is often a covert form of privileging maleness”85 and omission of “what has traditionally counted as ‘feminine.’”87 Still, adding women and values associated with femininity to current concepts of rationality is unlikely to create a gender-neutral concept of rationality.88 This is because, epistemologically, the sovereign rational subject constructs artificial gendered boundaries between rationality and emotion, male and female, and knower and known.89 Among states, those boundaries are not benign. Instead, they breed competition and domination that inspire and foster war(s) and conﬂict(s).90 This competition frequently relies on contrasting the state’s own masculinity to the enemy’s (actual or perceived) femininity. This cycle of genderings is not a series of events but a social continuum. In these gendered relationships, as Zillah Eisenstein argues, “gender differentiation will be mobilized for war and peace,” especially moving forward into the age of an American empire focused on manliness.9‘ Feminists have long argued that competitions between hegemonic masculinities and subordinate masculinities play a role in causing war(s).92 Hidden beneath the assumed independence, rationality, and unity of state interaction leading to war are gendered interstate interactions that cause, constitute, and relate to war and wars. Feminist scholars have recognized the extent to which the preeminence of masculine values dominates (particularly conﬂictual) accounts of interstate interactions, wherein “rational” interactions often become “a self-reproducing discourse of fear, suspicion, anticipated violence, and violence” in which “force is used to checkmate force.”93 Interstate interactions leading to wars often show the gendered nature of war narratives, war logics, and war languages, which produce (and reproduce) gendered cycles of violence.

#### The alternative is to reject the aff’s epistemologies and endorse an ontological revisionism that changes how gender structures social relations shape international politics and requires an understanding of why international relations being a masculine field is considered unproblematic from mainstream perspectives.

Youngs ’04 – Lecturer for Art Humanities within the Department of Art History and Archaeology at Columbia University, researches art history, performance studies, media theory, and feminist critique

Gillian Youngs, “Feminist International Relations: A Contradiction In Terms? Or: Why Women And Gender Are Essential To Understanding The World We Live In,” January 2004, <http://www2.kobe-u.ac.jp/~alexroni/IPD%202015%20readings/IPD%202015_5/Youngs,%20Feminist%20International%20Relations.pdf>

This discussion will demonstrate, in the ways outlined above, the depth and range of feminist perspectives on power—a prime concern of International Relations and indeed of the whole study of politics. It will illustrate the varied ways in which scholars using these perspectives study power in relation to gender, a nexus largely disregarded in mainstream approaches. From feminist positions, this lacuna marks out mainstream analyses as trapped in a narrow and superficial ontological and epistemological framework. A major part of the problem is the way in which the mainstream takes the appearance of a pre- dominantly male-constructed reality as a given, and thus as the beginning and end of investigation and knowledge-building. Feminism requires an ontological revisionism: a recognition that it is necessary to go behind the appearance and examine how differentiated and gendered power constructs the social relations that form that reality.

While it may be empirically accurate to observe that historically and con- temporaneously men have dominated the realms of international politics and economics, feminists argue that a full understanding of the nature of those realms must include understanding the intricate patterns of (gendered) inequal- ities that shape them. Mainstream International Relations, in accepting that because these realms appear to be predominantly man-made, there is no reason to ask how or why that is the case, stop short of taking account of gender. As long as those who adhere to this position continue to accept the sufficiency of the appearances and probe no further, then the ontological and epistemological limitations will continue to be reproduced.

Early work in feminist International Relations in the 1980s had to address this problem directly by peeling back the masculinist surface of world politics to reveal its more complex gendered (and racialized) dynamics. Key scholars such as Cynthia Enloe focused on core International Relations issues of war, militarism and security, highlighting the dependence of these concepts on gender structures—e.g. dominant forms of the masculine (warrior) subject as protector/conqueror/exploiter of the feminine/feminized object/other—and thus the fundamental importance of subjecting them to gender analysis. In a series of works, including the early Bananas, beaches and bases: making feminist sense of international politics (1989), Enloe has addressed different aspects of the most overtly masculine realms of international relations, conflict and defence, to reveal their deeper gendered realities. This body of work has launched a powerful critique of the taboo that made women and gender most invisible, in theory and practice, where masculinity had its most extreme, defining (and violent) expression. Enloe’s research has provided one of the most comprehensive bodies of evidence for the ontological revisionism required of mainstream International Relations, especially in relation to its core concerns.

When Enloe claimed that ‘gender makes the world go round’,4 she was in fact turning the abstract logic of malestream International Relations inside out. This abstract logic saw little need to take theoretical and analytical account of gender as a social force because in practical terms only one gender, the male, appeared to define International Relations. Ann Tickner has recently offered the reminder that this situation persists: ‘During the 1990s, women were admitted to most combat positions in the U.S. military, and the U.S. president appointed the first female secretary of state, but occupations in foreign and military policy- making in most states remain overwhelmingly male, and usually elite male.’5

Nearly a decade earlier, in her groundbreaking work Gender in International Relations: feminist perspectives on achieving global security,6 she had asked the kinds of questions that were foundational to early feminist International Relations: ‘Why is the subject matter of my discipline so distant from women’s lived experiences? Why have women been conspicuous only by their absence in the worlds of diplomacy and military and foreign policy-making?’ Tickner, like Enloe, has interrogated core issues in mainstream International Relations, such as security and peace, providing feminist bases for gendered understanding of issues that have defined it. Her reflection on what has happened since Gender in International Relations was published indicates the prominence of tensions between theory and practice. ‘We may have provided some answers to my questions as to why IR and foreign policymaking remain male-dominated; but breaking down the unequal gender hierarchies that perpetuate these androcentric biases remains a challenge.’7

The persistence of the overriding maleness of international relations in practice is part of the reason for the continued resistance and lack of responsiveness to the analytical relevance feminist International Relations claims. In other words, it is to some extent not surprising that feminist International Relations stands largely outside mainstream International Relations, because the concerns of the former, gender and women, continue to appear to be subsidiary to high politics and diplomacy. One has only to recall the limited attention to gender and women in the recent Afghanistan and Iraq crises to illustrate this point. So how have feminists tackled this problem? Necessarily, but problematically, by calling for a deeper level of ontological revisionism. I say problematically because, bearing in mind the limited success of the first kind discussed above, it can be anticipated that this deeper kind is likely to be even more challeng- ing for those in the mainstream camp.

The second level of ontological revisionism required relates to critical understanding of why the appearance of international relations as predominantly a sphere of male influence and action continues to seem unproblematic from mainstream perspectives. This entails investigating masculinity itself: the nature of its subject position—including as reflected in the collective realm of politics— and the frameworks and hierarchies that structure its social relations, not only in relation to women but also in relation to men configured as (feminized) ‘others’ because of racial, colonial and other factors, including sexuality. Marysia Zalewski and Jane Parpart directly captured such an approach as ‘the “man” about feminist International Relations, Zalewski’s introductory chapter, ‘From the “woman” question to the “man” question in International Relations’, offers an impressively transparent way in to its substantive terrain on the editors’ learning process in preparing the volume and working with its contributors, both men and women, Zalewski discusses the various modification-s through which the title of the work had moved. These included at different stages the terms ‘women’, ‘masculinity’ and ‘feminism’, finally ending with ‘the “man” question’—signalling once again, I suggest, tensions between theory and practice, the difficulty of escaping the concrete dominance of the male subject position in the realm of international relations.

The project’s starting point revealed a faith in the modernist commitment to the political importance of bringing women into the position of subjecthood. We implicitly accepted that women’s subjecthood could be exposed and revealed in the study and practice of international relations, hoping that this would also reveal the nature of male dominance and power. Posing the ‘man’ question instead reflects our diminishing belief that the exclusion of women can be remedied by converting them into subjects.

Adding women appeared to have failed to ‘destabilize’ the field; so perhaps critically addressing its prime subject ‘man’ head-on could help to do so. ‘This leads us to ask questions about the roles of masculinity in the conduct of international relations and to question the accepted naturalness of the abundance of men in the theory and practice of international relations’ (emphasis added). The deeper level of ontological revisionism called for by feminist Inter- national Relations in this regard is as follows. Not only does it press beyond the appearance of international relations as a predominantly masculine terrain by including women in its analysis, it goes further to question the predominant masculinity itself and the accepted naturalness of its power and influence in collective (most significantly state) and individual forms.

### Restaurant DA

#### The restaurant package is coming now, but floor time and support are key—restaurants and entertainment venues are struggling post-pandemic.

McPherson ’22 - Senior reporter [@rollcall](https://twitter.com/rollcall) covering House and Senate legislative maneuvering

Lindsey McPherson, “Restaurants Could Get Another $40B Financial Lifeline From Congress,” January 12, 2022, https://rollcall.com/2022/01/12/restaurants-could-get-another-40b-financial-lifeline-from-congress/

A bipartisan Senate group is negotiating a bill to provide about $40 billion in fresh funding for pandemic-battered restaurants, Senate Small Business Chairman [Benjamin L. Cardin](https://www.rollcall.com/members/228?utm_source=memberLinks&utm_medium=memberlinks&personid=228) said Wednesday.

While the details aren't final, the Maryland Democrat told reporters that senators are considering an aid package for struggling businesses that could more than double the amount of pandemic aid funneled to restaurants, bars and others in the food service industry.

“It’s pretty urgent to get done,” Cardin told reporters. “The problem is floor time and how do you get to it, and also making sure we have adequate bipartisan support.”

The restaurant industry has been clamoring for more federal aid since burning through $28.6 billion Congress provided as part of a pandemic relief package last year. Only about a third of the restaurants that applied for aid last year received a grant under the Restaurant Revitalization Fund, leaving nearly 200,000 restaurants and bars struggling to stay afloat without aid.

More than 90,000 restaurants and bars nationwide have closed since the beginning of the pandemic and more than 86 percent of owners say they may close if they don’t receive a grant, according to a recent survey from the Independent Restaurant Coalition.

Lawmakers of both parties introduced various bills last year offering up to $120 billion for restaurant aid, but none gained enough traction to win a floor vote in either chamber. Cardin introduced a bill last summer that would have provided $48 billion in additional relief.

Cardin declined to give many details about the discussions but said $40 billion is the ballpark figure lawmakers have discussed for new restaurant aid. He said the new package would include aid to other businesses, including live entertainment venues and gyms. “We are looking beyond just restaurants,” he said, while declining to offer a price tag for the entire package.

The Community Gyms Coalition pointed out in a statement Wednesday that gyms and fitness studios haven't gotten any federal relief, unlike restaurants and live entertainment venues.

"Small gyms are continuing to suffer disproportionately from the pandemic," the coalition said. "We are counting on both Congress and the Biden administration to move quickly to save tens of thousands of gyms and fitness studios across the country."

Mississippi Sen. [Roger Wicker](https://www.rollcall.com/members/279?utm_source=memberLinks&utm_medium=memberlinks&personid=279), Cardin’s chief Republican partner in the new effort, declined to comment Wednesday. “There’s one issue and one issue only I’m talking about this week, and that’s saving the Senate from attack on 200 years of tradition,” he said, referring to the upcoming fight over the Senate’s filibuster rule relating to voting rights legislation.

Cardin wouldn't say what legislative vehicle would be used, whether a stand-alone bill or as part of a larger spending package. Lawmakers are considering attaching pandemic-related aid such as more money for testing, vaccine distribution and school retrofits in an omnibus fiscal 2022 appropriations bill.

“We are making a lot of progress,” Cardin said. “The question is, how will it come to the floor?"

#### The plan is a political firestorm---regulating private space is unpopular---lawmakers want to encourage private space industries to encourage innovation and avoid government liability.

Loren Grush 15, science reporter for The Verge, the technology and culture brand from Vox Media, where she specializes in news about Space and Space law, 2015, “Private space companies avoid FAA oversight again, with Congress' blessing,” https://www.theverge.com/2015/11/16/9744298/private-space-government-regulation-spacex-asteroid-mining

The Senate passed the bill [H.R. 2262](https://www.congress.gov/bill/114th-congress/house-bill/2262), also known as the US Commercial Space Launch Competitiveness Act, last week, and both the House and the Senate have expressed support for it. House Majority Leader Kevin McCarthy has [scheduled the bill for final approval this afternoon](http://www.majorityleader.gov/floor/#daily). After it passes, it goes to the president for his official signature. PRIVATE SPACE TRAVEL IS STILL CONSIDERED YOUNG Many prominent commercial space companies — including SpaceX, Blue Origin, and Virgin Galactic — [have applauded H.R. 2262](https://science.house.gov/sites/republicans.science.house.gov/files/documents/FINAL%20WTS_SPACE%20Act%20of%202015.pdf). The legislation means that private space travel is still considered young, and lawmakers have given the industry more time to experiment and gather data."It allows the industry to grow, to test, and to develop without this overshadow of the regulatory hammer coming down on them," Eric Stallmer, president of the Commercial Spaceflight Federation, a non-profit aimed at promoting commercial spaceflight development, told *The Verge*. It also means that people participating in private spaceflight do so at their own risks, and there are no government regulations in place specifically to keep them safe. Space travel isn’t that safe, of course; nearly 1 in 10 rockets fail, though most vehicles that go into space these days don’t have crew members on board. The FAA is concerned about the spacecraft that will carry people, though, which is why the agency doesn’t seem supportive of the learning period extension. In February of 2014, George Nield, head of the FAA Office of Commercial Space Transportation, [testified before the House Subcommittee on Space](http://docs.house.gov/meetings/SY/SY16/20140204/101703/HHRG-113-SY16-Wstate-NieldG-20140204.pdf) that he thinks it's time for the period to expire. Nield said he understands that many in the industry fear overregulation by the FAA, but that his office is more concerned with ensuring crew safety than issuing "burdensome" standards. "We want to enable safe and successful commercial operations," he testified. REGULATORY LEARNING PERIOD The advent of private spaceflight began in the 1960s, but the industry has only started growing rapidly this decade. To address this expansion, Congress passed the Commercial Space Launch Amendments Act in 2004. It granted the private sector a "learning period" free of regulation. The learning period was set to expire in December 2012 but was granted two short extensions. H.R. 2262 will extend the period for a further eight years, through September 30th, 2023. THE FAA STILL HAS SOME AUTHORITY TO REGULATE THE COMMERCIAL SECTOR During the learning period, the FAA still has some authority to regulate the commercial sector. The agency is responsible for issuing licenses for rocket launches and for vehicles re-entering Earth's atmosphere. The agency’s main concern is to ensure that launch vehicles aren’t immediate threats to the uninvolved public and property. Under this legislation, the FAA is restricted from issuing licenses specifically pertaining to the safety of a spacecraft's crew or passengers. Right now, people who participate in commercial spaceflight do so through "informed consent" — meaning they know that they're partaking in an endeavor that could [easily kill them](http://www.popsci.com/article/technology/virgin-galactic-crash-may-lead-new-regulations-private-spaceflight). Before these participants can fly, they must sign a document that says spaceflight is inherently dangerous and they understand the risks associated with it. The end of the learning period would allow the FAA to issue standards related to crew safety — but it also means the agency could issue standards for anything else in relation to commercial spaceflight. For example, the agency could dictate specifically how engines or vehicles should be designed and built, similar to how the FAA oversees the commercial aviation industry. *NTSB investigators stand next to the crash site of SpaceShipTwo. (NTSB)* The FAA hasn't expressed interest in doing this, but Nield noted in his 2014 testimony that the agency wants to regulate spaceflight activities that take place in orbit; for instance, the FAA wants to issue standards for collision avoidance. The agency also hinted it might try to regulate commercial crew safety following last year's Virgin Galactic crash, in which a pilot was killed during a test flight of the company's SpaceShipTwo vehicle. The initial regulatory learning period allowed the FAA to issue regulations in direct response to a serious commercial space travel accident, and the SpaceShipTwo crash was the first commercial flight to result in a fatality. [The FAA told *Bloomberg*](http://www.bloomberg.com/news/articles/2014-11-07/should-space-travel-be-like-climbing-everest-or-airlines-) that the agency may want additional regulations following an accident investigation, without saying what those might entail. H.R. 2262 still maintains the FAA's ability to issue regulations in the event of a fatal accident, however those regulations must specifically address the accident itself and wouldn't apply to the entire industry. Stallmer, of the Commercial Spaceflight Federation, argued that there will be a time when more regulations are needed — after this learning period is over, without saying when that would be. He hopes that any new standards will stem from extensive dialogue between the government and commercial sectors, as companies continue to learn more about the business of rocket science. "And as the industry grows, we’ll have the knowledge we need so we can eventually have efficient and common sense regulations," said Stallmer. SPACE STATION AND ASTEROID MINING *The International Space Station (NASA)* H.R. 2262 also issues a number of other key provisions, [which can be found here](http://www.gpo.gov/fdsys/pkg/BILLS-114hr2262eas/pdf/BILLS-114hr2262eas.pdf). For one, the bill officially extends operations of the International Space Station through 2024. President Obama had already approved this ISS extension, but Congress must sign off on it in order for it to be final. "A new president could come and say, 'To hell with this space station,'" said Stallmer. "This puts into law that the space station will continue to be a national laboratory." And then there’s the asteroid mining. Under one provision of H.R. 2262 called the Space Resource Exploration and Utilization Act of 2015, commercial companies get the rights to any resources that they collect from celestial bodies. The provision is important for companies like the asteroid mining company Planetary Resources, which recently partnered with Virgin Galactic. "Now, if you go out somewhere in space and you pick [something] up, it’s yours," said Chris Lewicki, the president and chief engineer of Planetary Resources. "IF YOU GO OUT SOMEWHERE IN SPACE AND YOU PICK [SOMETHING] UP, IT’S YOURS." The bill mostly refines what was originally laid out in the Outer Space Treaty, a document signed by 104 companies in 1967 that eventually became the basis for international space law. The treaty forbids anyone from claiming asteroids or planets as new government territories, but it does grant non-government entities the rights "explore and use" outer space. That means companies can go collect any space materials they can find and bring back home with them. Now, H.R. 2262 guarantees that they will own those materials.

#### Restaurant industry decline causes economic collapse.

Lew ’20 – Forbes Council Member, LA-based lawyer, consultant, and serial entrepreneur who owns and operates many hospitality concepts

Charles Lew, “As Restaurants Go, So Goes The Economy,” Forbes, April 20, 2020, https://www.forbes.com/sites/forbesbusinesscouncil/2020/04/20/as-restaurants-go-so-goes-the-economy/?sh=780a431840cc

Who knew that the nail in the coffin for restaurants would be a microscopic organism? For the past five years, the restaurant industry has rallied against the visible enemies: skyrocketing occupancy costs and unsympathetic landlords, rising food costs coupled with a more cost-conscious consumer base, regulatory red tape and disinterested local governments, increased minimum wage even to tipped employees, and proliferation of ADA and wage-and-hour violation lawsuits. But I, for one, never anticipated the death knell being a highly contagious virus.

Well, here we are, and the prognosis for the hospitality industry is bleak. My law firm, which serves primarily small businesses of which a large percentage are restaurant concepts, has been incredibly busy since the pandemic, but certainly not in the way we would want. Instead of assisting entrepreneurs with company formations, the protection and establishment of their intellectual property, and the creation of financial projections, we are now advising on chapter 11 reformations, negotiating with landlords over potential evictions and helping submit SBA disaster relief applications.

Is it truly as dire as it appears? Well, it seems it’s not only myself that sees the forced closure as a terrifying omen for the future of food and beverage establishments; restaurant analysts and operators estimate that [75%](https://www.nytimes.com/2020/03/20/dining/local-restaurants-coronavirus.html) of restaurants won’t reopen after closing from pandemic restrictions. The current number of people who have been laid off is simply staggering, and we are only weeks into our shelter orders and social distancing procedures.

With approximately 11 million jobs and over 4% of the GDP [attributable](https://www.bonappetit.com/story/food-businesses-covid-19) to the restaurant industry, one could make a very well-founded argument that “as restaurants go, so goes the economy.” It’s not just the direct loss of employment directly related to the shuttering of our favorite watering holes, it’s the delivery people and the transportation companies that dispense to the restaurants; the farmers, brewers and distillers that create, grow and cultivate the goods sold to the restaurants; and the technology platforms that provide social media, sales systems and reservation methods for the restaurants.

#### Economic Collapse goes Nuclear.

Tønnesson 15, Stein. "Deterrence, interdependence and Sino–US peace." International Area Studies Review 18.3 (2015): 297-311. (the Department of Peace and Conflict, Uppsala University, Sweden, and Peace research Institute Oslo (PRIO), Norway)

Several recent works on China and Sino–US relations have made substantial contributions to the current understanding of how and under what circumstances a combination of nuclear deterrence and economic interdependence may reduce the risk of war between major powers. At least four conclusions can be drawn from the review above: first, those who say that interdependence may both inhibit and drive conflict are right. Interdependence raises the cost of conflict for all sides but asymmetrical or unbalanced dependencies and negative trade expectations may generate tensions leading to trade wars among inter-dependent states that in turn increase the risk of military conflict (Copeland, 2015: 1, 14, 437; Roach, 2014). The risk may increase if one of the interdependent countries is governed by an inward-looking socio-economic coalition (Solingen, 2015); second, the risk of war between China and the US should not just be analysed bilaterally but include their allies and partners. Third party countries could drag China or the US into confrontation; third, in this context it is of some comfort that the three main economic powers in Northeast Asia (China, Japan and South Korea) are all deeply integrated economically through production networks within a global system of trade and finance (Ravenhill, 2014; Yoshimatsu, 2014: 576); and fourth, decisions for war and peace are taken by very few people, who act on the basis of their future expectations. International relations theory must be supplemented by foreign policy analysis in order to assess the value attributed by national decision-makers to economic development and their assessments of risks and opportunities. If leaders on either side of the Atlantic begin to seriously fear or anticipate their own nation’s decline then they may blame this on external dependence, appeal to anti-foreign sentiments, contemplate the use of force to gain respect or credibility, adopt protectionist policies, and ultimately refuse to be deterred by either nuclear arms or prospects of socioeconomic calamities. Such a dangerous shift could happen abruptly, i.e. under the instigation of actions by a third party – or against a third party. Yet as long as there is both nuclear deterrence and interdependence, the tensions in East Asia are unlikely to escalate to war. As Chan (2013) says, all states in the region are aware that they cannot count on support from either China or the US if they make provocative moves. The greatest risk is not that a territorial dispute leads to war under present circumstances but that changes in the world economy alter those circumstances in ways that render inter-state peace more precarious. If China and the US fail to rebalance their financial and trading relations (Roach, 2014) then a trade war could result, interrupting transnational production networks, provoking social distress, and exacerbating nationalist emotions. This could have unforeseen consequences in the field of security, with nuclear deterrence remaining the only factor to protect the world from Armageddon, and unreliably so. Deterrence could lose its credibility: one of the two great powers might gamble that the other yield in a cyber-war or conventional limited war, or third party countries might engage in conflict with each other, with a view to obliging Washington or Beijing to intervene.

### Case

### AT Solvency

#### Viewing space as a global commons is utterly meaningless and impossible given the variety of resources in outer space.

Goehring ’05 – Space and international law attorney for the Department of Defense and a judge advocate in the United States Air Force Reserve

John S. Goehring, “Why Isn’t Outer Space a Global Commons?.” 2005, https://jnslp.com/wp-content/uploads/2021/09/Why\_Isnt\_Outer\_Space\_a\_Global\_Commons\_2.pdf

How “Global Commons” as a Constraining Concept is Ill-Suited to Outer Space

The constraining concept can have two distinct meanings and both face difficulty when applied to outer space. The observation in EO 13914 that outer space is a “physically unique domain” alludes to the meaning of commons as a category of resources. This uniqueness is apparent in its immense scale and sheer variety of physical attributes. Hence, to say that outer space is a global commons, meaning a commons in the sense of an open access economic resource, “would be a sweeping generalization and . . . utterly meaningless.”70 Outer space is ex- traordinarily vast with myriad resources and benefits. As such, outer space defies any attempt to generalize the entirety as a singular common resource. Void space, galaxies, planets, stars, moons, asteroids, different Earth orbits, moon orbits, Lagrange points, the various benefits that all these may provide – these cannot be lumped together and thought of as a single common resource, let alone a common resource that ought to be governed by the inhabitants of planet Earth. In this sense, thinking of space as a global commons would indeed be more distracting than helpful. Moreover, the physical uniqueness of outer space is such that any conclusions about governance based on analogies to other domains should be viewed with skepticism.

#### Viewing space as a global commons doesn’t prevent private appropriation—it’s just a meaningless term. Countries already view space as a global commons, but that won’t stop appropriation—countries will easily circumvent.

### AT Kessler

#### Property rights are key to preventing congestion in space, which would lead to worse space debris

**Scheraga 86** [Joel D. Scheraga, Visiting Assistant Professor of Economics at Princeton University & Assistant Professor of Economics at Rutgers University, “Homesteading and the creation of property rights in outer space”, 1986, AIP Conference Proceedings 148, <https://doi.org/10.1063/1.36015> ] // Triumph Debate

**As space is colonized, it is inevitable that problems of congestion will occur if property rights are not established. In the absence of property rights, the price of exploiting a scarce resource** (such as desirable locations for settlements on the Moon and orbital slots for geosynchronous satellites) **is zero.** Students of economics will recognize that the opportunity cost to any nation of colonizing a particular location is lower than if property rights were assigned, so that scarce locations will be overused and over colonized.[3] **The failure to define property rights leads to a divergence between the private costs faced by an individual nation and the social costs to all nations in the world community. In the absence of private property, a country colonizing areas in space will not fully take into account the "external costs" that it imposes on all other nations that may also want to exploit these locations.** **The colonizing country has no incentive to consider the social cost of exploiting another scarce location. It will consider only its own private cost of the colonization project.** **To understand this point better, consider the expected future colonization of the Moon. The far side of the Moon offers scientists an ideal location for the placement of astronomical telescopes** that would probe the universe. The absence of a turbulent and filtering atmosphere permits telescopes to scan the ultraviolet and infrared regions of the spectrum that are unobservable on the Earth. Radio telescopes on the far side are protected from the abundance of radio noise emanating from the Earth. **Now suppose a country has decided to place a large nuclear-waste disposal site on the far side of the Moon,** rather than in some alternative location in space. **When the disposal site is constructed, it imposes a nonpecuniary externality** (or external effect) **on all other countries that are interested in building and occupying lunar bases in this region.** By building the disposal site, **the country adds to congestion in the area, and appropriates a location that could have alternatively been used for scientific purposes.** **The external effect on any one country is small, but the total effect summed over all countries is large. The country building the waste-disposal site, however, does not consider this total effect.** It does not consider the social cost of occupying the scarce lunar location**. It considers only the average cost of constructing the lunar garbage dump.** propositlon I: Each individual country that is colonizing outer space, acting in its own self-interest, will not make socially correct decisions when the scarce locations being colonized are not owned by anyone. **The resolution to the problem is straightforward. Adam Smith's generalization, as applied to scarcity problems in outer space, asserts that if the rights to scarce resources in space are assigned unambiguously** to a particular country, **and if free exchange of the rights is permitted, then these resources will be used efficiently.**

### AT Cap

#### Advantage 2 is completely non-unique—poverty, exploitation, and capitalism are happening in the status quo

#### A healthy balance of restricted capitalism solves—private space exploration can overcome the risks of capitalism to benefit billions of lives.

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Maanas Sharma, “The Privatized Frontier: The Ethical Implications and Role of Private Companies in Space Exploration,” The Space Review, September 7, 2021, https://www.thespacereview.com/article/4238/1

In recent years, private companies have taken on a larger role in the space exploration system. With lower costs and faster production times, they have displaced some functions of government space agencies. Though many have levied criticism against privatized space exploration, it also allows room for more altruistic actions by government space agencies and the benefits from increased space exploration as a whole. Thus, we should encourage this development, as the process is net ethical in the end. Especially if performed in conjunction with adequate government action on the topic, private space exploration can overcome possible shortcomings in its risky and capitalistic nature and ensure a positive contribution to the general public on Earth.

The implications of commercial space exploration have been thrust into the limelight with the successes and failures of billionaire Elon Musk’s company SpaceX. While private companies are not new to space exploration, their prominence in American space exploration efforts has increased rapidly in recent years, fueled by technological innovations, reductions in cost, and readily available funding from government and private sources.[1] In May 2020, SpaceX brought American astronauts to space from American soil for the first time in almost 10 years.[2] Recognizing the greatly reduced costs of space exploration in private companies, NASA’s budget has shifted to significantly relying on private companies.[3] However, private space companies are unique from government space agencies in the way they experience unique sets of market pressures that influence their decision-making process. Hence, the expansion of private control in the space sector turns into a multifaceted contestation of its ethicality.

The most obvious ethical concern is the loss of human life. Critics contend that companies must answer to their shareholders and justify their profits. This contributes to a larger overall psyche that prioritizes cost and speed above all else, resulting in significantly increased risks.[4] However, the possible increase in mishaps is largely overstated. Companies recognize the need for safety aboard their expeditions themselves.[5] After all, the potential backlash from a mishap could destroy the company’s reputation and significantly harm their prospects. According to Dr. Nayef Al-Rodhan, Head of the Geneva Centre for Security Policy’s Geopolitics and Global Futures Programme, “because there were noand alternatives to government space programs, accidents were seen to some degree as par for the course… By comparison, private companies actually have a far more difficult set of issues to face in the case of a mishap. In a worst case scenario, a private company could make an easy scapegoat.” [6]

Another large ethical concern is the prominence capitalism may have in the future of private space exploration and the impacts thereof. The growth of private space companies in recent years has been closely intertwined with capitalism. Companies have largely focused on the most profitable projects, such as space travel and the business of space.[7] Many companies are funded by individual billionaires, such as dearMoon, SpaceX’s upcoming mission to the Moon.[8] Congress has also passed multiple acts for the purpose of reducing regulations on private space companies and securing private access to space. From this, many immediately jump to the conclusion that capitalism in space will recreate the same conditions in outer space that plague Earth today, especially with the increasing push to create a “space-for-space” economy, such as space tourism and new technologies to mine the Moon and asteroids. Critics, such as Jordan Pearson of VICE, believe that promises of “virtually unlimited resources” are only for the rich, and will perpetuate the growing wealth inequality that plagues the world today.[9]

However, others contend that just because private space exploration has some capitalist elements, it is by no means an embodiment of unrestricted capitalism. A healthy balance of restricted capitalism—for example, private space companies working through contracts with government agencies or independently under monitoring and regulation by national and international agreements—will avoid the pitfalls that capitalist colonialism faced down here on Earth. Even those who are generally against excessive government regulation should see the benefits of them in space. Lacking any consensus on definitions and rights in space will create undue competition between corporations as well as governments that will harm everyone rather than helping anyone. To create a conducive environment for new space-for-space exploration, one without confrontation but with protection for corporate astronauts, infrastructure, and other interests, governments must create key policies such as a framework for property rights on asteroids, the Moon, and Mars.[7,10]

Another key matter to note is restricted capitalism in space “could also be our salvation.”[11] Private space exploration could reap increased access to resources and other benefits that can be used to solve the very problems on Earth that critics of capitalism identify. Since governments offset some of their projects to private companies, government agencies can focus on altruistic projects that otherwise would not fit in the budget before and do not have the immediate commercial use that private companies look for. Scott Hubbard, an adjunct professor of aeronautics and astronautics at Stanford University, discusses how “this strategy allows the space agency to continue ‘exploring the fringe where there really is no business case’” but still has important impacts on people down on Earth.[12]

Indeed, this idea is a particularly powerful one when considering the ideal future of private companies in space exploration. Though there is no one set way governments will interact with companies, the consensus is that they must radically reimagine their main purpose as the role of private space exploration continues to grow. As governments utilize services from private space companies, “[i]nstead of being bogged down by the routine application of old research, NASA can prioritize their limited budget to work more on research of other unknowns and development of new long-term space travel technologies.”[13] According to the Council on Foreign Relations, such technologies have far-reaching benefits on Earth as well. Past developments obviously include communications satellites, by themselves a massive benefit to society, but also “refinements in artificial hearts; improved mammograms; and laser eye surgery… thermoelectric coolers for microchips; high-temperature lubricants; and a means for mass-producing carbon nanotubes, a material with significant engineering potential; [and h]ousehold products.”[2] Agencies like NASA are the only actors able to pursue the next game-changing missions, “where the profit motive is not as evident and where the barriers to entry are still too high for the private sector to really make a compelling business case.”[8] These technologies have revolutionized millions, if not billions, of lives, demonstrating the remarkable benefits of space exploration. It follows then that it is net ethical to prioritize these benefits.

This report concludes that the private sector, indeed, has a prominent role to play in the future of space exploration. Further, though private space exploration does bring the potential of increased danger and the colonization of space, these concerns can be effectively mitigated. Namely, strong government frameworks—particularly international ones—will minimize possible sources of ethical violations and ensure an optimal private sector role in space. This also allows government agencies to complete significantly more difficult, innovative projects which have transformative benefits for life on Earth.

#### Rejection of capitalism causes massive transition wars

Harris 03 – Analyst at the Hoover Institution and Author of The Suicide Reason

Lee Harris, “The Intellectual Origins of America-Bashing”, Hoover Policy Review, January 2003, [https://www.hoover.org/research/intellectual-origins-america-bashing](https://www.hoover.org/research/intellectual-origins-america-bashing#:~:text=For%20it%20is%20here%20that,international%20phenomenon%20of%20America%2Dbashing.&text=It%20is%20the%20global%20immiserization,America%20into%20a%20terrorist%20state.)

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

#### Innovation solves *irreversible* warming.

Krupp 19. Fred Krupp, Nathaniel [Keohane](https://search-proquest-com.libproxy2.usc.edu/indexinglinkhandler/sng/au/Keohane,+Nathaniel/$N?accountid=14749), and Eric Pooley. \*President of Environmental Defense Fund, a United States-based nonprofit environmental advocacy group. \*\*Vice president for international climate at the Environmental Defense Fund. He used to be in academia at Yale University and served in the White House as special assistant to President Barack Obama. \*\*\*Senior Vice President, Strategy & Communications at the Environmental Defense Fund., 4-1-2019, "Less Than Zero: Can Carbon-Removal Technologies Curb Climate Change?" Foreign Affairs, https://search-proquest-com.libproxy2.usc.edu/docview/2186099162/594BA6C689D844ABPQ/13?accountid=14749, accessed 7-3-2019//JDi

\* GHGs = greenhouse gases

\* NET = negative emissions technology

When it comes to generating support for climate policy, a warranted sense of alarm is only half the battle. And the other half-a shared belief that the problem is solvable-is lagging far behind. The newfound sense of urgency is at risk of being swamped by collective despair. A scant six percent of Americans, according to the Yale study, believe that the world "can and will" effectively address climate change. With carbon dioxide emissions from fossil fuels having risen by an estimated 2.7 percent in 2018 and atmospheric concentrations of carbon dioxide, which will determine the ultimate extent of warming, at their highest level in some three million years, such pessimism may seem justified-especially with a climate change denier in the White House. But it is not too late to solve the global climate crisis. A decade of extraordinary innovation has made the greening of the global economy not only feasible but also likely. The market now favors clean energy: in many U.S. states, it is cheaper to build new renewable energy plants than to run existing coal-fired power plants. By combining solar power with new, efficient batteries, Arizona and other sunny states will soon be able to provide electricity at a lower cost per megawatthour than new, efficient natural gas plants. Local, regional, and federal governments, as well as corporations, are making measurable progress on reducing carbon pollution. Since 2000, 21 countries have reduced their annual greenhouse gas emissions while growing their economies; China is expected to see emissions peak by 2025, five years earlier than it promised as part of the negotiations for the Paris climate agreement in 2015. At the UN climate talks held late last year in Poland, countries agreed on rules for how to report progress on meeting emission-reduction commitments, an important step in implementing the Paris accord. What's more, an entirely new arsenal is emerging in the fight against climate change: negative emission technologies, or nets. Nets are different from conventional approaches to climate mitigation in that they seek not to reduce the amount of greenhouse gases emitted into the atmosphere but to remove carbon dioxide that's already there. These technologies range from the old-fashioned practice of reforestation to high-tech machines that suck carbon out of the sky and store it underground. The window of opportunity to combat climate change has not closed-and with a push from policymakers, nets can keep it propped open for longer. THE HEAT IS ON How much time is left to avoid climate catastrophe? The truth is that it is impossible to answer the question with precision. Scientists know that human activity is warming the planet but still don't fully understand the sensitivity of the climate system to greenhouse gases. Nor do they fully comprehend the link between average global warming and local repercussions. So far, however, most effects of climate change have been faster and more severe than the climate models predicted. The downside risks are enormous; the most recent predictions, ever more dire. The Paris agreement aims to limit the increase in global average temperatures above preindustrial levels to well below two degrees Celsius, and ideally to no more than 1.5 degrees Celsius. Going above those levels of warming would mean more disastrous impacts. Global average temperatures have already risen by about one degree Celsius since 1880, with two-thirds of that increase occurring after 1975. An October 2018 special report by the un's Intergovernmental Panel on Climate Change, a body of leading scientists and policymakers from around the world, found that unless the world implements "rapid and far-reaching" changes to its energy and industrial systems, the earth is likely to reach temperatures of 1.5 degrees Celsius above preindustrial levels sometime between 2030 and 2052. Limiting warming to that level, the ipcc found, would require immediate and dramatic cuts in carbon dioxide: roughly a 45 percent reduction in the next dozen years. Even meeting the less ambitious target of two degrees would require deep cuts in emissions by 2030 and sustained aggressive action far beyond then. The ipcc report also warns that seemingly small global temperature increases can have enormous consequences. For example, the half-degree difference between 1.5 degrees Celsius and two degrees Celsius of total warming could consign twice as many people to water scarcity, put ten million more at risk from rising sea levels, and plunge several hundred million more people into poverty as lower yields of key crops drive hunger across much of the developing world. At two degrees of warming, nearly all of the planet's coral reefs are expected to be lost; at 1.5 degrees, ten to 30 percent could survive. The deeper message of the IPCC report is that there is no risk-free level of climate change. Targets such as 1.5 degrees Celsius or two degrees Celsius are important political markers, but they shouldn't fool anyone into thinking that nature works so precisely. Just as the risks are lower at 1.5 degrees Celsius than at two degrees Celsius, so are they lower at two degrees Celsius than at 2.5 degrees Celsius. Indeed, the latter difference would be far more destructive, since the damages mount exponentially as temperatures rise. To manage the enormous risks of climate change, global emissions of greenhouse gases need to be cut sharply, and as soon as possible. That will require transforming energy, land, transport, and industrial systems so they emit less carbon dioxide. It will also require reducing short-lived climate pollutants such as methane, which stay in the atmosphere for only a fraction of the time that carbon dioxide does but have a disproportionate effect on near-term warming. Yet even that will not be enough. To stabilize the total atmospheric concentration of carbon dioxide and other greenhouse gases [GHGs---, the world will have to reach net negative emissions-that is, taking more greenhouse gases out of the atmosphere than are being pumped into it. Achieving that through emission reductions alone will be extremely difficult, since some emissions, such as of methane and nitrous oxide from agriculture, are nearly impossible to eliminate. Countering the emissions that are hardest to abate, and bring concentrations down to safer levels, requires technologies that actually remove carbon dioxide from the atmosphere. That's where nets come in-not as a substitute for aggressive efforts to reduce greenhouse gas emissions but as a complement. By deploying technology that removes existing carbon dioxide from the atmosphere, while accelerating cuts in emissions, the world can boost its chances of keeping warming below two degrees and reduce the risk of catastrophe. Scientists and activists have tended to regard these technologies as a fallback option, to be held in reserve in case other efforts fail. Many fear that jumping ahead to carbon dioxide removal will distract from the critical need to cut pollution. But the world no longer has the luxury of waiting for emission-reduction strategies to do the job alone. Far from being a Plan B, nets must be a critical part of Plan A. What's more, embracing nets sooner rather than later makes economic sense. Because the marginal costs of emission reductions rise as more emissions are cut, it will be cheaper to deploy nets at the same time as emission-reduction technologies rather than waiting to exhaust those options first. The wider the solution set, the lower the costs. And the lower the costs, the easier it is to raise ambitions and garner the necessary political support. THE FUTURE IS NOW Even though removing carbon dioxide from the atmosphere may sound like the stuff of science fiction, there are already nets that could be deployed at scale today, according to a seminal report released by the National Academies of Sciences, Engineering, and Medicine in October 2018. One category involves taking advantage of carbon sinks-the earth's forests and agricultural soils, which have soaked up more carbon dioxide since the Industrial Revolution than has been released from burning petroleum. To date, the growth of carbon sinks has been inadvertent: in the United States, for example, as agriculture shifted from the rocky soils of the Northeast to the fertile Midwest, forests reclaimed abandoned farmland, breathing in carbon dioxide in the process. But this natural process can be improved through better forest management-letting trees grow longer before they are harvested and helping degraded forests grow back more quickly. The large-scale planting of trees in suitable locations around the world could increase carbon sinks further, a process that must go hand in hand with efforts to curb tropical deforestation and thereby continue to contain the vast amounts of carbon already stored in the earth's rainforests. Farmland provides additional potential for negative emissions. Around the world, conventional agricultural practices have reduced the amount of carbon in soils, decreasing their fertility in the process. Smarter approaches can reverse the process. Small and large landholders alike could add agricultural waste to soil, maximize the time that the soil is covered by living plants or mulch, and reduce tilling, which releases carbon dioxide. All these steps would decrease the amount of carbon that is lost from soil and increase the amount of carbon that is stored in it. The most technologically sophisticated net available in the near term is known as "bioenergy with carbon capture and storage," or BECCS. It is also the riskiest. Broadly defined, beccs involves burning or fermenting biomass, such as trees or crops, to generate electricity or make liquid fuel; capturing the carbon dioxide produced in the process; and sequestering it underground. It is considered a negative emission technology, and not a zero emission technology, because growing the biomass used in the process removes carbon from the atmosphere. What makes BECCS so exciting is its potential to remove significantly more carbon from the atmosphere than other approaches do. But it also brings challenges. For one, it is expensive: electricity generated from beccs could cost twice as much as that generated with natural gas, because biomass is an inefficient fuel source and capturing and sequestering carbon dioxide is costly. The technology would also require careful monitoring to ensure that the carbon dioxide pumped underground stays there and clear rules for legal liability in the event of leaks. But the fact that private companies have been successfully injecting carbon dioxide into depleted oil and gas reservoirs for decades offers good evidence that permanent storage is possible on a large scale. More worrying are the additional climate risks that BECCS poses. If BECCS drives demand for biomass and more of the carbon that is stored in the forest ecosystem is released as a result, it could end up raising the level of carbon in the atmosphere rather than reducing it. Another concern is competition for land: converting farms or forests to grow energy crops, something that the large-scale use of BEccs might require, could drive up the cost of food, reduce agricultural production, and threaten scarce habitats. These problems could be mitigated by using only biomass waste, such as residues from logging and agriculture, but that would reduce the potential scale. Although BEccs deserves consideration as part of the arsenal, these risks mean that its contribution will likely end up being smaller than some proponents claim. Taking all these land-based nets together, and factoring in the considerable economic, practical, and behavioral hurdles to bringing them to scale, the National Academies report concludes that by midcentury, nets could remove as much as five billion tons of carbon dioxide from the atmosphere annually. Given the significant risks involved, that estimate is probably too bullish. Even if it were not, that's still only half of the ten billion tons of carbon dioxide that will likely need to be removed each year to zero out the remaining greenhouse gas emissions, even with aggressive cuts. CLOSING THE GAP Removing from the atmosphere the balance of the carbon dioxide necessary will require perfecting technologies currently in development. Two deserve particular mention; both are full of promise, although neither is ready for widespread use. The first is called "direct air capture"-essentially, sucking carbon from the sky. The technology is already being tested in Canada, Iceland, Italy, and Switzerland at pilot plants where massive arrays of fans direct a stream of air toward a special substance that binds with the passing carbon dioxide. The substance is then either heated or forced into a vacuum to release the carbon dioxide, which is compressed and either stored or used as feedstocks for chemicals, fuels, or cement. These technologies are real-albeit prohibitively expensive in their current form. As a recent study led by David Sandalow of Columbia University's Center on Global Energy Policy concludes, taking them to scale means solving a variety of technological challenges to bring down the costs. Above all, these processes are highly energy intensive, so scaling them would require enormous amounts of low-carbon electricity. (A direct-air-capture facility powered by coal-fired electricity, for example, would generate more new carbon dioxide than it would capture.) These obstacles are serious, but the surprising progress of the past decade suggests that they can be overcome in the next one. The second technology, enhanced carbon mineralization, is even further from being realized, but it is full of even more possibility. Geologists have long known that when rock from the earth's mantle (the layer of the earth between its crust and its core) is exposed to the air, it binds with carbon dioxide to form carbon-containing minerals. The massive tectonic collisions that formed the Appalachian Mountains around 460 million years ago, for example, exposed subsurface rock to weathering that resulted in the absorption of substantial amounts of carbon dioxide from the atmosphere. That took tens of millions of years; enhanced carbon mineralization seeks to fast-forward the process. Scientists are exploring two ways to do this. In one approach, rocks would be brought to the surface to bind with carbon from the air. Such natural weathering already occurs in mine tailings, the waste left over from certain mining operations. But mimicking this process on a large scale-by grinding up large quantities of rock containing reactive minerals and bringing it to the earth's surface-would be highly energy intensive and thus costly, roughly on par with direct air capture. Another potential approach is pumping the carbon dioxide underground to meet the rock. As the National Academies report explains, carbon-dioxide-rich fluids injected into basalt or peridotite formations (two kinds of igneous rock that make up much of the earth's mantle) react with the rock, converting the dissolved carbon dioxide into solid carbon-containing minerals. Pilot projects in Iceland and the United States have demonstrated that this is possible. There is also evidence for how this could work in the natural world. Peridotite usually lies deep inside the earth, but some rock formations around the globe contain pockets of it on the surface. For example, scientists are studying how the surface-level peridotite in Oman's rock formations reacts with the air and absorbs large amounts of carbon. In theory, this approach offers nearly unlimited scale, because suitable rock formations are widespread and readily accessible. It would also be cheap, because it takes advantage of chemical potential energy in the rock instead of costly energy sources. And since the carbon dioxide is converted to solid rock, the effect is permanent, and it carries few of the side effects that other nets could bring. GETTING TO LESS These technologies do not come cheap. The National Academy of Sciences recommends as much as $1 billion annually in U.S. government funding for research on nets. And indeed, such funding should be an urgent priority. But to make these technologies economically viable and scale them rapidly, policymakers will also have to tap into a much more powerful force: the profit motive. Putting a price on carbon emissions creates an economic incentive for entrepreneurs to find cheaper, faster ways to cut pollution. Valuing negative emissions-for example, through an emission-trading system that awards credits for carbon removal or a carbon tax that provides rebates for them-would create an incentive for them to join the hunt for nets. Forty-five countries, along with ten U.S. states, have put in place some mechanism to price carbon. But only a handful of them offer rewards for converting land into forest, managing existing forests better, or increasing the amount of carbon stored in agricultural soils, and none offers incentives for other nets. What's needed is a carbon pricing system that not only charges those who emit carbon but also pays those who remove it. Such a system would provide new revenue streams for landowners who restored forest cover to their land and for farmers and ranchers who increased the amount of carbon stored in their soils. It would also reward the inventors and entrepreneurs who developed new, better technologies to capture carbon from the air and the investors and businesses that took them to scale. Without these incentives, those players will stay on the sidelines. By spurring innovation in lower-cost nets, incentives would also ease the way politically for an ambitious pollution limit-which, ultimately, is necessary for ensuring that the world meets it climate goals. Simply put, humanity's best hope is to promise that the next crop of billionaires will be those who figure out low-cost ways to remove carbon from the sky. The biggest hurdle for such incentives is the lack of a global market for carbon credits. Hope on that front, however, is emerging from an unlikely place: aviation. Currently responsible for roughly two percent of global greenhouse gases, aviation's emissions are expected to triple or quadruple by midcentury in the absence of effective policies to limit them. But in 2016, faced with the prospect that the eu would start capping the emissions of flights landing in and taking off from member states, the un body that governs worldwide air travel, the International Civil Aviation Organization, agreed to cap emissions from international flights at 2020 levels. The airline industry supported the agreement, hoping to avoid the messy regulatory patchwork that might result if the eu went ahead and states beyond the eu followed suit with their own approaches. The resulting program, called the Carbon Offsetting and Reduction Scheme for International Aviation (corsia), requires all airlines to start reporting emissions this year, and it will begin enforcing a cap in 2021. Once in full swing, at least 100 countries are expected to participate, covering at least three-quarters of the forecast increase in international aviation emissions. Airlines flying between participating countries will have two ways to comply: they can lower their emissions (for example, by burning less fuel or switching to alternative fuels), or they can buy emission-reduction credits from companies. Because the technologies for reducing airline emissions at scale are still a long way off, the industry will mostly choose the second option, relying on carbon credits from reductions in other sectors. It is estimated that over the first 15 years of corsia, demand for these credits will reach between 2.5 billion and 3.0 billion tons-roughly equal to the annual greenhouse gas emissions from the U.S. power and manufacturing sectors. With this new option to sell emission-reduction credits to airlines, there is a good possibility that a pot of gold will await companies that cut or offset their carbon emissions. In short, corsia could catalyze a global carbon market that drives investment in low-carbon fuels and technologies-including nets. To realize its promise, corsia must be implemented properly, and there are powerful forces working to see that it is not. Some countries, including ones negotiating on behalf of their state-owned companies, are trying to rig the system by allowing credits from projects that do not produce legitimate carbon reductions, such as Brazil's effort to allow the sale of credits from huge hydroelectric dams in the Amazon that have already been built and paid for (and thus do not represent new reductions). Allowing such credits into the system could crowd out potential rewards for genuine reductions. But there are also powerful, sometimes unexpected allies who stand to gain from a global carbon market that works. For example, some airlines are motivated to act out of a fear that millennials, concerned about their carbon footprint, may eventually begin to shun air travel. The new regulations, by creating demand for emission reductions and spurring investment in nets to produce jet fuel, could be the industry's best hope of protecting its reputation-and a critical step toward a broader global carbon market that moves nets from promising pilot projects to a gamechanging reality. Skeptics say that nets are too speculative and a possibility only, perhaps, in the distant future. It is true that these innovations are not fully understood and that not all of them will pan out. But no group of scholars and practitioners, no matter how expert, can determine exactly which technologies should be deployed and when. It is impossible to predict what future innovations will look like, but that shouldn't stop the world from pursuing them, especially when the threat is so grave. The fact remains that many nets are ready to be deployed at scale today, and they might make the difference between limiting warming to two degrees and failing to do so. Ultimately, climate change will be stopped by creating economic incentives that unleash the innovation of the private sector-not by waiting for the perfect technology to arrive ready-made, maybe when it's already too late. No one is saying that achieving all of this will be easy, but the road to climate stability has never been that. Hard does not mean impossible, however, and the transformative power of human ingenuity offers an endless source of hope.

#### Space mining is key to solve climate change—resources needed for the green transition are becoming limited on Earth.

Duran ’21 – Journalist and Industry Analyst

Paloma Duran, “Is Space Mining the Best Option to Face Climate Change?,” Mexico Business News, November 3, 2017, https://mexicobusiness.news/mining/news/space-mining-best-option-face-climate-change

Going to net zero means that more mining is needed. Experts have said that the current supply cannot support the necessary metals demand for the green transition. As a result, new mining alternatives have gained greater relevance, among them is space mining. Several countries, including Mexico, have shown their interest in this alternative, creating a new space race.

“The solar system can support a billion times greater industry than we have on Earth. When you go to vastly larger scales of civilization, beyond the scale that a planet can support, then the types of things that civilization can do are incomprehensible to us … We would be able to promote healthy societies all over the world at the same time that we would be reducing the environmental burden on the Earth,” said Dr. Phil Metzger, Planetary Scientist at the University of Central Florida.

Currently, there are several attempts to address global warming and transition to a net zero carbon economy. There has been an increasing interest in renewable energy and infrastructure, which has increased demand for various minerals, especially lithium, cobalt, nickel, copper and rare earth elements. However, according to experts, the world is close to entering a metals supercycle, where demand will exceed available supply, causing prices to skyrocket.

Consequently, the mining industry has sought alternatives to achieve the required supply. Options include recycling and improved mine waste management, sea mining and space mining. The latter is considered one of the alternatives with the greatest potential. However, a regulatory framework is still lacking and there is almost no experience in this regard.

Despite the lack of knowledge regarding space mining, it has become a very attractive option since the planet is running out of resources. While some people believe that land-based mining is cheaper than space mining, experts believe this may change in the long term. Furthermore, within the solar system there are countless bodies rich in minerals, ores and elements that will accelerate the fight against climate change.

“There will come a point when there is nothing left to mine on the surface, prompting mines to reach even further below. But even those resources are destined to run out and so we will aim toward ocean mining, which already has specific technologies that are being developed. Nevertheless, even those mines are limited as well. The mine of the future, which today may seem unlikely, will no longer be on our planet. There will be a time when space mining will be as common as an open leach mine,” Eder Lugo, Minerals Head at Siemens, told MBN.

More than 150 million asteroids measuring approximately 100m are believed to be in the inner solar system alone. In addition, astronomers have also identified abundant minerals near the Earth’s space and the Main Asteroid Belt. There are three main groups into which asteroids are divided: C- type, S- type, and M- type. The last two groups are the most abundant in minerals such as gold, platinum, cobalt, zinc, tin, lead, indium, silver, copper and rare earth metals.

"Energy is limited here. Within just a few hundred years, you will have to cover all of the landmass of Earth in solar cells. So, what are you going to do? Well, what I think you are going to do is you are going to move out in space … all of our heavy industry will be moved off-planet and Earth will be zoned residential and light-industrial,” said Jeff Bezos, Founder of Amazon and the Space Launch Provider Blue Origin.