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## 1

#### 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 has committed to the commercial space industry as the linchpin of China’s rise – the plan is seen as a complete 180

**Patel 21** [Neel V. Patel, Neel is a space reporter for MIT Technology Review. 1-21-2021, "China’s surging private space industry is out to challenge the US," MIT Technology Review, <https://www.technologyreview.com/2021/01/21/1016513/china-private-commercial-space-industry-dominance/> accessed 12/14/21] Adam

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](https://archive.md/o/bc9l4/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://archive.md/o/bc9l4/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://archive.md/o/bc9l4/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.

Although China is taking inspiration from the US in building out its private industry, the nature of the Chinese state also means these new companies face obstacles that their rivals in the West don’t have to worry about. While Chinese companies may look private on paper, they must still submit to government guidance and control, and accept some level of interference. It may be difficult for them to make a case to potential overseas customers that they are independent. The distinction between companies that are truly private and those that are more or less state actors is still quite fuzzy, especially if the government is a frequent customer. “That could still lead to a lack of trust from other partners,” says Goswami. It doesn’t help that the government itself is often [very cagey about what its national program is even up to](https://archive.md/o/bc9l4/https:/www.bbc.com/news/science-environment-54076895).

And Hines adds that it’s not always clear exactly how separate these companies are from, say, the People’s Liberation Army, given the historical ties between the space and defense sectors. “Some of these things will pose significant hurdles for the commercial space sector as it tries to expand,” he says.

#### 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.

## 2

#### CP: Private entities appropriate space in the outer atmosphere through satellite launches must equip their technology with safety technologies in accordance with the Space Safety Coalition’s recommendations and best practices for collision avoidance – Wall 21:

Wall, Mike. “Kessler Syndrome and the Space Debris Problem.” Space.com, Space, 15 Nov. 2021, https://www.space.com/kessler-syndrome-space-debris. // LHP GB + LHP PS

**In 2019, for example, the Space Safety Coalition (SSC) laid out a set of proposed voluntary guidelines designed to keep the Kessler Syndrome, and space junk in general, at bay over the coming years.** One recommendation is that **all satellites operating above 250 miles** (400 km) **be equipped with propulsion systems allowing them to maneuver away from possible collisions.** **Drawing the line there makes sense for multiple reasons**, **according to the SSC: It's the altitude at which the ISS flies**, **and satellites that circle below this boundary tend to encounter enough atmospheric drag to fall out of orbit relatively soon after their operational lives come to an end.** The **SSC** also **recommends** that **satellite designers** consider **building** **encryption systems into the command systems** of their craft, so **they'll be harder for chaos-seeking hackers to hijack**. And **operators who control satellites in low Earth orbit should include in their launch contracts a requirement that rocket upper stages be disposed of in the atmosphere shortly after liftoff.** More **active debris-fighting strategies could also be part of the solution.** **Removing just a handful of rocket bodies or big, dead satellites every year could help us keep our space-junk problem under control**, according to some studies. And **researchers** around the world are **developing** and **testing** **ways to do just that, using nets, harpoons and other methods**. Such activities would have to be carefully coordinated and thought out. Space objects, including junk such as spent rocket bodies, belong to the nation that launched them, so **the U.S. government or a U.S. company couldn't just unilaterally de-orbit a bunch of spent Russian rocket bodies** (or vice versa). Such action might spark an international incident, not least because debris-removing tech might also be viewed as a potential space weapon that could take out operational satellites. But **the space-junk issue is a global one, so governments around the world should already be having meaty conversations about how to deal with it. Let's hope the talks, the decisions and the tech end up outpacing the problem**, for all of our sakes.

#### The Space Safety Coalition (SSC) is the best actor – they have academic consensus on space safety and has open membership to both public and private space operators – solves case - Space Safety Coalition 21:

“Participation in the SSC Is Open to All Space Operators -- Including Governmental or Intergovernmental Entities -- Space Industry Associations, and Industry Stakeholders.” Space Safety Coalition Expands Membership: Increased Attention, Global Coordination Needed to Protect Space as Critical Infrastructure, 22 Nov. 2021, http://www.spaceref.com/news/viewpr.html?pid=58807. // LHP GB + LHP PS

The Space Safety Coalition (SSC) announced today a doubling of the number of space companies who have endorsed SSC’s set of best practices since its inception in 2019, increasing to more than 50 global participants. **The SSC is the first-of-its-kind global ad hoc coalition dedicated to developing and maintaining a set of aspirational space safety best practices that continue to evolve based on the needs, threats, and advancements in space technology. Coalition members include leading space operators, industry associations, and stakeholders from across the globe. Newest endorsees include: Space Micro Inc., Astro Dynamic Ltd.,Slingshot Aerospace, LeoLabs Inc., and ClearSpace.** “In light of the recent Russian ASAT incident, it is even more paramount that – collectively - we increase our attention and global coordination on space safety issues and protecting space as a critical infrastructure,” said Dan Oltrogge, administrator of the SSC. **The SSC actively promotes responsible space safety through the voluntary adoption of relevant international standards, guidelines, and practices, coupled with the development and adoption of aspirational space safety guidelines and industry best practices. More than 50organizations have endorsed the SSC’s Best Practices document.** “SSC endorsees around the globe are committed to promoting and implementing our set of best practices for the long-term sustainability of space operations,” said Oltrogge. “Participants have been actively involved in space sustainability discussions, development of international standards for Orbit Data Messages and Conjunction Data Messages, and working to codify best practices for Large Constellations and for Space Traffic Coordination.” **The SSC’s best practices are applicable to all spacecraft regardless of physical size, orbital regime, and constellation size. These best practices directly incorporate existing guidance and standards published by entities including the Inter-Agency Space Debris Coordination Committee (IADC), the U.N. Committee on the Peaceful Uses of Outer Space (UN COPUOS), the International Organization for Standardization (ISO).** **“By endorsing treaties, guidelines, and standards, spacecraft operators and stakeholders can collectively achieve the long-term sustainability of space operations -- frequently improving upon minimum-accepted consensus levels,”** said Oltrogge. **The SSC and its members are committed to continuing to publish, coordinate, and periodically update the SSC’s best practices in order to keep them strategically and operationally aligned with responsible space operations and the evolving understanding of the orbital debris environment, to address gaps in space governance, and promote better spacecraft design, operations, and disposal practices associated with long-term space operations sustainability.** Participation in the SSC is open to all space operators -- including governmental or intergovernmental entities -- space industry associations, and industry stakeholders.

## Case

### Overview

**No solvency - circumvention moots solvency, but Xi still backlashes – Jakhu and Pelton 17** Jakhu, R. S., & Pelton, J. N. (Eds.). (2017). *Global Space Governance: an international study*. Springer International Publishing. pg 129-132

The paramount issue in regard to the adequacy of the current governance system for commercial space activities lies at the nexus of international space law and the national laws and regulations that implement international rights and obligations. **International space laws were developed in the 1960s and early 1970s**, **in a bi-polar world** **dominated by Cold War concerns** and characterized by much less commercial space activity. **The result was a broad, amorphous body of laws that are nowadays somewhat outdated, particularly given the proliferation of trans-national, commercial activities** and an evolving global market for space-based and space-related products and services. The issue is how to reconcile State legislation and regulations across borders to create interoperability and compatibility in what is an inherently international activity. **Internationally, there has been somewhat of a cessation of lawmaking**. This is par- tially attributable to the inability of the Legal Subcommittee of the UNCOPUOS to advance and make relevant the basic principles of public international law articulated in the space treaties with commercial space activities of the 21st century. Without further development of the public international space law, States can only resort to nebulous principles when implementing international obligations. Often, the result is regulation that impedes and confuses activities rather than facilitating them. Specifically, let us consider the following gaps in the current governance system. With regard to registration, the Registration Convention requires registration only when “a space object is launched into Earth orbit or beyond” [Registration Convention, art. II]. As suborbital flights are not intended to, and never actually enter, Earth orbit, they are, strictly speaking, exempt from the registration require- ments [Gerhard, 2011, p. 290]. This could cause a gap in the existing space law treaty regime whereby a significant proportion of space objects would be exempt from the international registration requirement. As the retention of jurisdiction and control over a space object is, under international law, directly tied to the object’s entry on a national registry, this registration gap also potentially creates a significant issue with regard to the basis upon which a State may exercise jurisdiction and con- trol over such objects [Outer Space Treaty, art. VIII]. Secondly, **the patchwork of national regulations is beginning to cause critical problems and induce so-called “forum shopping**.” For example, **when Bigelow Aerospace sought permission to launch its Genesis I and II orbital habitats, it was turned away by every entity in the United States that issues licenses** for outer space activities. The problem was one of an inadequate implementation of Article VI of the Outer Space Treaty. U. S. law allows for launch and re-entry licenses to be issued by the FAA, a telecommunications license to be issued by the FCC, and a remote sensing license to be issued by NOAA. Because Bigelow’s proposed activi- ties fell outside of those spheres, none of those entities was capable of issuing a license. **Bigelow’s only alternative was to approach Russia, which would consider launching its payloads as a purely commercial endeavor** and, thus, would not be inclined to insist on any specific licensing requirement other than mitigating the potential third party damage. Subsequently, Bigelow was able to build an inflatable habitat to be tested on the International Space Station under the auspices of NASA. This inconsistency of domestic regulations has also led to problems, such as “paper satellites,” as addressed in Chapter 6. **There is currently, as a generalized matter, tension being created in international space law due to the inability of the Legal Subcommittee of the UNCOPUOS, the Committee itself, and ultimately the United Nations, to successfully advance the basic principles of public international law as articulated in the space treaties in such way that is responsive to the demands and interests of space activities in the 21st century.** As a result, we are seeing a proliferation of national laws that are endeavoring to implement nebulous and amorphous principles. As mentioned, **this can often result in regulation that impedes and confuses space activity rather than facilitating it.** National concern about international liability has often led to delay, uncertainty, and confusion. This can result in efforts to shop for States that provide the best provisions related to taxation, liability, and the licensing of launches that are not tied down by strict provisions related to orbital debris or environmental protections. To rectify this problem, the United States has developed what it calls an “enhanced payload review,” where the FAA, in conducting its normal payload review for a launch license, coordinates with other government agencies to vet pro- posed activities. The applicant, in turn, provides additional information and prom- ises to update such information, thereby allowing authorization and continuous supervision. The FAA then issues a license if all of the concerned agencies deter- mine that it is appropriate under the circumstances. In 2016, this process was employed to issue a license to Moon Express for the launch of a commercial rover to the Moon. **This problem of inconsistent rules is likely to become a bigger issue as technologies and business plans continue to evolve. Given the current state of development of space transportation, effective national regulations, which can foster both the development of the sector without undue hindrance and, simultaneously, public trust, are critical for the functioning of this industry.** Although the lack of development of international law has rendered a nebulous and amorphous regime, leaving States without clear direction for implementation, the development of new international space law that might hinder and complicate activities is equally an issue of concern. Take, for instance, the UNIDROIT Space Assets Protocol. Although the protocol is a well-intentioned addition to private inter- national law that attempted to establish a new legal regime for the reconciliation of security interests, its effect was to add another layer onto national laws. There have been concerns as to whether this protocol has led to overlap, duplications and, in some areas, possible obscuring of established principles.It is important to note that, in the short term, “[m]any of the currently planned space tourism projects will operate from one and the same territory. As long as the intended vehicles will ‘take off’ and ‘land’ in that territory, the likelihood of cross- border damage is limited, and in principle that State’s national law will apply, whether it concerns orbital or suborbital flight” [Masson-Zwaan & Freeland, 2010, p. 1,600]. Although there is a plethora of suborbital travel endeavors planned, none of those that have significantly progressed in their development are prepared to serve as point-to-point transportation between two States. Thus, for the time being, these activities are more likely to be governed by national laws rather than the bilat- eral or multilateral agreements, acknowledging, of course, that these activities must be performed in conformity with the governing treaty law and customary interna- tional law. The questions of legal liability will rise in prominence and complexity as we move closer to cross-border space transportation. The necessity for a liability regime that can both promote the growth of the space industry and adequately pro- tect consumers cannot be overestimated. Although regulations may only govern the activities with regard to a particular State, it is still necessary for such regulations to be carefully drafted and easily comparable to the regimes of other States. Wholly separate from the issue of reconciling international and national space laws, however, is the effect of national laws of general application to extraterritorial activity (export control, taxation, intellectual property, secured lending and finance, ownership, etc.). This is a relevant topic for governance since the impact on national activities, whether private or State-sponsored, can be profound. As space tourism and stratospheric activities in the protozone expand in future years, these extrater- ritorial issues should also be considered. Already the issue of the European value added tax (VAT) has impacted the planning of where space tourism flights might be conducted from.

### Debris

#### 1] Private companies are key to cleanup

Moore and Burken 21’ – Adrian Moore and Rebecca van Burken, Adrian Moore is vice president and Rebecca van Burken is a senior policy fellow at Reason Foundation, where they are authors of the report, “U.S. Space Traffic Management And Orbital Debris Policy.”, “It's time for US to get serious about cleaning up space junk”, The Hill, July 27th, 2021, [https://thehill.com/opinion/technology/564945-its-time-for-us-to-get-serious-about-cleaning-up-space-junk] Accessed 12/14/21 AHS//AP

Urgency means committing to better space traffic management, and tracking and removing orbital debris. Orbital debris management is not well organized within the government. Right now, the Department of Defense (DOD) does most tracking of space debris for the U.S. out of the need to protect military satellites and national security interests. NASA has its own less advanced systems for tracking debris. However, orbital debris management is not just about tracking debris anymore. It is also about forming collision warning systems and safely managing traffic in space. To do this efficiently, we need a civil repository for all orbital debris components, [something that many commercial space companies have already created on their own](https://www.axios.com/space-junk-tracking-business-a365462b-a82e-4926-849b-5f292dd1b164.html) to stay aware of orbital debris and help protect their satellites in space. Tracking debris may be a national security priority, but providing space traffic control is not really in the Defense Department’s mission. We should be utilizing the private sector’s expertise and advancements in this area. For example, Astroscale has contracts with both the Japanese and European space agencies to develop orbital debris removal capability. And responsibility for developing collision warnings and space traffic management [would be best suited for the Office of Space Commerce](https://reason.org/policy-brief/u-s-space-traffic-management-and-orbital-debris-policy/), an office with existing connections to the commercial space industry, NASA and DOD. Partnering with the debris tracking and removal systems private companies are developing while freeing up DOD to focus on military awareness and NASA to focus on research and development would be the most efficient way forward. If government works with private industry through strategic public-private partnerships, the U.S. can best address the threats posed by orbital debris and create sustainable policies for safe space exploration.

#### 2] CP Sufficiency framing

3] **Probability – 0.1% chance of a collision – Salter 16:**

[(Alexander William, Economics Professor at Texas Tech) “SPACE DEBRIS: A LAW AND ECONOMICS ANALYSIS OF THE ORBITAL COMMONS” 19 STAN. TECH. L. REV. 221 \*numbers replaced with English words] TDI

The probability of a collision is currently low. Bradley and Wein estimate that the maximum probability in LEO of a collision over the lifetime of a spacecraft remains below one in one thousand, conditional on continued compliance with NASA’s deorbiting guidelines.3 However, the possibility of a future “snowballing” effect, whereby debris collides with other objects, further congesting orbit space, remains a significant concern.4 Levin and Carroll estimate the average immediate destruction of wealth created by a collision to be approximately $30 million, with an additional $200 million in damages to all currently existing space assets from the debris created by the initial collision.5 The expected value of destroyed wealth because of collisions, currently small because of the low probability of a collision, can quickly become significant if future collisions result in runaway debris growth.

#### 3] No solvency – public sector can still mine

#### 4] Public sector mining thumps - they’ll just continue after the Moon treaty is passed – NASA 19:

NASA 19 [“NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids,” NASA, June 11, 2019, <https://www.nasa.gov/press-release/nasa-invests-in-tech-concepts-aimed-at-exploring-lunar-craters-mining-asteroids>] TDI

NASA Invests in Tech Concepts Aimed at Exploring Lunar Craters, Mining Asteroids Robotically surveying lunar craters in record time and mining resources in space could help NASA establish a sustained human presence at the Moon – part of the agency’s broader [Moon to Mars exploration](https://www.nasa.gov/specials/moon2mars/) approach. Two mission concepts to explore these capabilities have been selected as the first-ever Phase III studies within the [NASA Innovative Advanced Concepts](https://www.nasa.gov/niac) (NIAC) program. “We are pursuing new technologies across our development portfolio that could help make deep space exploration more Earth-independent by utilizing resources on the Moon and beyond,” said Jim Reuter, associate administrator of NASA’s Space Technology Mission Directorate. “These NIAC Phase III selections are a component of that forward-looking research and we hope new insights will help us achieve more firsts in space.” The Phase III proposals outline an aerospace architecture, including a mission concept, that is innovative and could change what’s possible in space. Each selection will receive as much as $2 million. Over the course of two years, researchers will refine the concept design and explore aspects of implementing the new technology. The inaugural Phase III selections are: Robotic Technologies Enabling the Exploration of Lunar Pits William Whittaker, Carnegie Mellon University, Pittsburgh This mission concept, called Skylight, proposes technologies to rapidly survey and model lunar craters. This mission would use high-resolution images to create 3D model of craters. The data would be used to determine whether a crater can be explored by human or robotic missions. The information could also be used to characterize ice on the Moon, a crucial capability for the sustained surface operations of NASA’s Artemis program. On Earth, the technology could be used to autonomously monitor mines and quarries. [Mini Bee Prototype to Demonstrate the Apis Mission Architecture and Optical Mining Technology](https://www.nasa.gov/directorates/spacetech/niac/2019_Phase_I_Phase_II/Mini_Bee_Prototype) Joel Sercel, TransAstra Corporation, Lake View Terrace, California This flight demonstration mission concept proposes a method of asteroid resource harvesting called optical mining. Optical mining is an approach for excavating an asteroid and extracting water and other volatiles into an inflatable bag. Called Mini Bee, the mission concept aims to prove optical mining, in conjunction with other innovative spacecraft systems, can be used to obtain propellant in space. Thse proposed architecture includes resource prospecting, extraction and delivery.

#### 5] China’s economy is on the brink.

Lopez 21 Linette Lopez 10-24-2021 "If China's economy keeps stumbling, it won't just take down Beijing - the whoel world will collapse with it" <https://archive.md/M4qjY#selection-2241.0-2250.1> (Linette is the senior finance correspondent at Business Insider, writing a combination of opinions and analysis. She joined BI in the summer of 2011 after graduating from Columbia University's School of Journalism.)//Elmer

**China's economy** — the 2nd-largest in the world — **is teetering on the brink of disaster**. Since this spring, Beijing has **canceled** initial **public offerings**, **fined tech companies** billions for antitrust violations, forcibly **shut down** China's entire for-profit **education industry**, and **sent CEOs running** for the exits to avoid the government's ire. Even more dire, the Chinese megadeveloper Evergrande recently started missing payments on its more than $300 billion in debt, shaking global markets. The convulsions have woken the world up to a startling new possibility — that Beijing may be willing to allow some of its private corporate behemoths to collapse in a bid to reshape the economic model that made China a superpower. The **upheaval**, spanning multiple industries and vast swaths of the country, **is** the result of one giant issue: **China's inability to** **borrow or buy** its **way out of its current economic crisis**. **For decades**, the country **relied on cheap labor** and eye-popping amounts of debt, handed out by government-owned banks, to fuel economic growth — pouring money into massive apartment developments, factories, bridges, and other projects at lightning speed. **Now** the **country** **needs people to actually use**, **and pay for**, **everything that's been built**. But the **bulk of China's population lacks** the **income needed to shift the economy** from one driven by state investments to one sustained by consumer spending.

#### Robust Chinese Space Industry key to Economic rejuvenation.

Goswami 19 Namrata Goswami 2019 "What China Wants in Outer Space" <https://www.thecairoreview.com/wp-content/uploads/2019/05/cr33-global-forum.pdf> (Dr. Namrata Goswami is an independent scholar on space policy, great power politics, and ethnic conflicts. She was subject matter expert in international affairs with the Futures Laboratory, Alabama, U.S., and guest lecturer, India Today Class, Emory University. After earning her Ph.D. in international relations from Jawaharlal Nehru University, New Delhi, she worked as research fellow at the Institute for Defence Studies and Analyses, New Delhi. She has been a visiting fellow at Peace Research Institute, Oslo, Norway; La Trobe University, Melbourne, Australia; and University of Heidelberg, Germany.)//Elmer

Beijing has made it clear that its ambitions for China’s space program are an integral part of its long-term vision for national rejuvenation. In his 2017 address to the Chinese Communist Party’s nineteenth National Congress, President Xi Jinping said that the Chinese space program will play a critical role in elevating the country to a “fully developed, rich, and powerful nation” by 2049—the year the People’s Republic of China celebrates its one-hundredth anniversary. For China, investing in outer space goes beyond simply achieving prestige and reputation—as opposed to the “flags and footprints”-based moon race between the United States and the Soviet Union during the Cold War. Instead, China aims to establish a permanent space presence, which would offer long-term economic benefits. The global space economy today is worth $350 billion, but is predicted to grow to $2.7 trillion by 2040. The economic returns from future mining of space-based resources like titanium, platinum, water-ice, thorium, and iron-ore far exceed the trillion-dollar mark. Consequently, the Chinese are working to establish a base on the moon with the industrial capacity to build spacecrafts using lunar resources. This would drastically reduce the cost of interplanetary travel. A lunar base would serve the distinctive purpose of providing a testing ground for human space settlement, and building capacity for China’s long-term space ambitions. Beijing’s Lunar Dreams Following the landing of Chang’e 4 (China’s fourth lunar exploration mission) on the far side of the moon on January 3, the China National Space Administration (CNSA) announced follow-on missions to augment the state’s space capacity. By this year’s end, China will launch Chang’e 5 to bring lunar samples back to Earth, followed by Chang’e 6 (2024) to bring samples specifically from the moon’s south pole. Chang’e 7 (2030) will survey the south pole’s composition and Chang’e 8 (2035) will test key technologies like 3D printing to lay the groundwork for the construction of a research station. The moon not only strengthens China’s space-faring capacities but also has resources like iron-ore and water that can be utilized for space-based manufacturing. Meanwhile, a lunar base offers some short-term strategic dominance in cislunar space (the area between the Earth and the moon). Another of China’s major space ambitions is its investment in SpaceBased Solar Power (SBSP) to build a space solar station thirty-six thousand kilometers above Earth. Some Chinese leaders stress that dwindling fossil fuel resources on Earth will make solar energy the most important future energy source. China started construction on the world’s first SBSP experimental plant in Chongqing earlier this year. If successful, the technology would allow China to fully power its lunar base and augment space mining operations. Space mining involves developing technologies to harvest resources from asteroids and the moon—a highly lucrative prospect. For instance, a single asteroid called 2011 UW158, which passed by Earth in 2015, was estimated to contain 5 trillion dollars’ worth of platinum. While still roughly a decade off, space mining is fast becoming a reality. Countries like the United States and Luxembourg have already passed legislation enabling private companies to begin exploration and operations.

### Inequality

#### Starlink is coming now – but regulatory jousting matches like the affirmative are slowing it down – Crist 12/03/21:

Crist, Ry. “What Is Starlink? Elon Musk's Satellite Internet Venture Explained.” CNET, 3 Dec. 2021, https://www.cnet.com/home/internet/starlink-satellite-internet-explained. // LHP GB + LHP PS

**After years of development within SpaceX -- and securing nearly $885.5 million in grant funds from the Federal Communications Commission at the end of 2020 -- Starlink picked up the pace in 2021**. **In January, after three years' worth of successful launches, the project surpassed 1,000 satellites delivered into orbit.** And **by June, SpaceX said the number was roughly 1,800**. In February, Musk's company disclosed that Starlink was serving more than 10,000 customers. Now, **after expanding preorders to even more potential customers and exploring the possibility of providing in-flight Wi-Fi for passenger aircraft, Musk says that Starlink has shipped more than 100,000 satellite internet terminals to customers in 14 countries**.**SpaceX said that it expected Starlink to reach global serviceability sometime in fall 2021** -- though **regional availability will depend on regulatory approval**. During a talk at Mobile World Congress in June 2021, Musk told an audience that Starlink would be available worldwide except at the North and South Poles starting in August. In September, Musk tweeted that Starlink would exit its initial beta phase in October, which indicates that the service is continuing to ramp up and expand -- though the budding broadband provider faces a backlog of prospective customers waiting to receive equipment and start service. Starlink isn't without its controversies. Members of the scientific community have raised concerns about the impact of Starlink's low-earth orbit satellites on night sky visibility. **Meanwhile, satellite internet competitors including Viasat, HughesNet and Amazon's Project Kuiper have taken notice of Starlink's momentum, too, prompting plenty of regulatory jousting and attempts to slow Musk down.**