# Offcase

## DA

#### US wins the commercial space race now

Tepper 8-30 [Eytan Tepper,  research coordinator and adjunct professor, space governance, at Laval University, Canada and Adjunct Research Professor of Law and Faculty Member, Institute for Earth and Space Exploration at Western University, 8-30-2021, "The Space Review: The billionaires compete and the US wins the 21st century space race," No Publication, <https://www.thespacereview.com/article/4233/1> [accessed 12-5-21] lydia

Whoever is declared the winner in the so-called billionaire space race, the US wins the new space race. In the new era of space exploration, where commercial companies are taking the lead, they are mostly US-based. Symbolically, British billionaire Richard Branson, the first in space, launched from Spaceport America in New Mexico, where his company is based. “New Space”, new race In what is dubbed as “New Space”, the commercial sector is gradually taking the lead in space activities. One of the characteristics of the current New Space era is the so-called billionaire space race, in which billionaires who made their fortune elsewhere invest their wealth and talent in daring projects to accomplish their visions. Elon Musk (PayPal) established SpaceX, Jeff Bezos (Amazon) established Blue Origin, and Richard Branson (Virgin Records, Virgin Atlantic) established Virgin Galactic. Together with the many not-yet-famous space entrepreneurs and startups, they are bringing a boom to space activities.

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On July 11, billionaire Richard Branson rode Virgin Galactic's Unity 22 mission to space, making him the first of the racing billionaires to go to space, and by that launch his company’s space tourism business. Jeff Bezos rode Blue Origin’s New Shepard to space just nine days later. Elon Musk hasn’t yet been to space himself, but his company SpaceX carried astronauts to the International Space Station, and his red Tesla roadster, launched to space in 2018, orbits the Sun. You can follow its current whereabout [here](https://www.whereisroadster.com/). [“Jealousy among teachers increases wisdom”](https://www.sefaria.org/Bava_Batra.21a.11?lang=bi) provides the Babylonian Talmud; in the space context, the competition, perhaps jealousy, among billionaires and other space entrepreneurs is bringing a boom to space activities. The future of space exploration is commercial activities The commercial space sector is rapidly growing and taking the lead from national space agencies. It is reducing the costs of launch and introducing new activities and business models, including tourism, space-based Internet, factories in space, and manufacturing pharmaceuticals in microgravity. [Harvard business professor Matthew Weinzierl pointed that](https://www.hbs.edu/ris/Publication%20Files/jep.32.2.173_Space,%20the%20Final%20Economic%20Frontier_413bf24d-42e6-4cea-8cc5-a0d2f6fc6a70.pdf) the model of centralized, government-directed space activities born in the 1960s has, over the last two decades, made way for a new model in which the private sector shares the stage. [Three quarters the global space activity ($400 billion) are commercial space revenues](https://apps.bea.gov/scb/2019/12-december/pdf/1219-commercial-space.pdf), spearheaded by the satellite communications segment. The US already reaps the lion’s share in the traditional space segments, [with 44% of the global satellite industry revenues](https://www.nasa.gov/sites/default/files/atoms/files/sia_ssir_2017.pdf). It is now on track to lead the way also in the new segments. American pie A new dataset built at Laval University by Prof. Jean-Frédéric Morin and I as part of the [Astro-environmentalism project](http://www.institutions.space/) reveals trends in the global space sector. The dataset includes details on more than 1,500 space actors from around the world and preliminary findings from its analysis [were presented in June at the 60th Session of the Legal Subcommittee of the UN Committee on the Peaceful Uses of Outer Space](https://unoosa.org/documents/pdf/copuos/lsc/2021/tech-08E.pdf). The data shows the sharp increase in the share of the private space actors compared with the first decades of the space age (1957 onwards), and while there is more geographical diversity today in where actors are based, the US is widening the gap. Between 2010 and 2019 the number of space actors almost doubled (an 89% increase), with more than 86% of them private actors, of which 34% are based in the US; this amounts to five times those based in the second and third places, the UK and China, respectively. The number of new organizations based in EU countries taken together (without the UK) is bit over half of that of the US (56%). The new organizations are significantly smaller than before, with an average size index (combining number of employees and budget) of 2.9 versus 8 in the early days of space exploration. Space startups is a thing.

#### The plan upends a foundation for US economic competitiveness---the space-value chain touches all sectors of the economy.

George 19 [Kelly, Professor, Embry-Riddle Aeronautical University. “The Economic Impacts of the Commercial Space Industry.” Space Policy 47: 181-186.] brett

As the 1960s was known as the height of the space race propelled by government funding, the 21st century may be known as the commercial space race propelled by private investors that will lend to stimulus to the U.S. and Florida's economy's future structure. Continued domination by government investment in the space industry is a topic of debate as new commercial companies began working in and acting as disruptors to the commercial space sector [3], [21], [24]. Those that may have thought there would not be a stand-alone commercial space industry were surely dealt a blow with the visual of Elon Musk's red sports car driven by Spaceman past the earth that had been launched into orbit by SpaceX on February 6, 2018 [23]. However, in recent years, more evidence of advancements in the commercial space industry have been fulfilled by other private commercial space companies, most notably Blue Origin, Virgin Galactic, Moon Express, and Orbital ATK [8]. The U.S. government policy intentionally embarked on a direction intended to speed innovation and drive costs down by expanding the role of commercial space companies in manufacturing and launch activities [2]; hence, the orbiting sports car. Yet more importantly, reusable rockets, satellites, and associated services have developed as a result of the deliberate shift in federal policy initiated by the Commercial Space Launch Act of 1984 and follow-on public private partnerships that supported launch efforts and satellites [4], [24]. This analysis chose the United States and then more narrowly, the state of Florida as the region to study because of the importance of the industry to the U.S. and the state's specific geographical characteristics and its economy: specifically, the launch/landing facilities and support resources. Also, Florida's governor appointed a commission on space and aeronautics whose goals include advancing the state's economic development across the global aerospace enterprise further emphasizing the role of commercial space in the economy.

Various bodies forecast significant future growth in commercialization of the space industry and its importance for the U.S. economic competitiveness within the global market. The space sector is not solely comprised of launches and satellites but now includes direct consumer applications and personal entertainment. As the commercial space industry has some history of growth and its growth is expected to accelerate, input-output (IO) analysis is useful to help predict what industries will benefit from its growth and inform the government that may want to use this information in their policy or public investment decisions [27], [28], [29]. Discussions regarding expansion of industries often led to polarizing aspects of the debate. This analysis can be useful for researchers, practitioners, and policy-makers in mitigating debate or enhancing discussions by contributing unbiased, accurate quantitative data about the economic impacts of the expansion of an industry.

The Space Project Team of the Organization for Economic Cooperation and Development International Futures Program (IFP) determined that the future demand for commercial space applications is likely to be substantial. They presented 3 likely scenarios that have different geopolitical, socio-economic, and energy and environment characteristics. Using the 3 IFP scenarios for Space 2030 and the presented cost of access to space, this research determines a potential impact from the change in final demand of the space value chain to the U.S. economy. The IFP's estimates spanned a range of 18–40% growth in the industry from 2004 to 2030 [17]. These projections appear to be on track with a $339 billion in economic activity according to a June 2017 Satellite Industry Association report showing growth of 7% from 2013 to 2016. This estimate is a conservative one as Morgan Stanley estimates the industry to be over $1 trillion by 2040 [24]. Because of the interrelations of applications, the space-value chain is made up of 4 broad categories: ground equipment, launch industry and satellite manufacturing which make up the core of the space industrial base, and satellite services [22].

#### US competitiveness underwrites global stability and non-prolif---great power war.

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America’s status as the world’s most vital nation is as dependent on its prosperity as it is on its military might and ability to project power worldwide. The federal government’s capacity to allocate resources to our armed forces, the private sector’s ability to develop beneficial products and technologies, and the satisfaction of the domestic public are all closely tied to the continued growth of American wealth at home and abroad. This has been proven repeatedly during periods where the United States has faced its greatest existential threats: Nazi Germany and Imperial Japan were unable to keep up with the sheer industrial output of the American heartland, while the Soviet Empire lost control of its satellites in great part due to their desire to benefit from the Western free market system.

Therefore, the formulation of a long-term strategy that anticipates the potential disruptions and opportunities of the new global economy is as important as questions of diplomacy and military strategy. As the United States evaluates how it will face the rapidly changing and increasingly interconnected world of the 21st century, it must take into account its economic interests as well as the potential economic costs associated with achieving its political objectives.

Since the beginning of the Cold War, America’s unparalleled ability to influence countries through nonviolent means has been critical to the preservation of global stability. The most relevant example of this in our history is the Marshall Plan, which leveraged American capital to provide a devastated post-War Europe with almost 120 billion dollars (adjusted for inflation) in aid. This aid was critical to preventing the spread of Soviet influence into Western Europe, and laid the foundation for an economically strong region stretching from Portugal to Austria that has been free from inter-state conflict since 1945. Because of the pragmatic exercise of economic influence, the European Union is now our strongest ally as well as our largest trading partner.

Worldwide, the liberal economic system that the United States has promoted through international trade organizations like the WTO has contributed to unprecedented economic cohesion between states. When countries are tied together in the mutually beneficial exchange of goods, the opportunity cost of war goes up significantly, making political leaders much more likely to de-escalate and rely on nonviolent means to resolve conflicts.

Our economy also plays a key role in helping the United States deal with states that threaten stability. The American ability to impose sanctions has been a formidable tool for discouraging nuclear proliferation and punishing violators of international norms. When more direct means of coercion are required, a powerful industrial and technological base enables the maintenance of a well-funded and technologically advanced military.

America’s advanced 17 trillion-dollar economy has allowed it to exert the influence that it does in the world today. However, our economic strength and the skill of our workforce, which have always underwritten our international influence, should not be taken for granted. Rapid growth in the developing world means that American companies and workers must now contend in an increasingly crowded global marketplace. In the new “knowledge economy,” educating America’s workers and ensuring that the United States retains its role as an innovation capital must take the highest priority. On the business side, reforming America’s institutions and removing barriers to expansion and innovation will encourage the companies of the future to make their start here.

#### Space dominance stabilizes US primacy.

Starling et al 4-11 [Clementine G. Starling et al., 4-11-2021, "The future of security in space: A thirty-year US strategy," Atlantic Council, <https://www.atlanticcouncil.org/content-series/atlantic-council-strategy-paper-series/the-future-of-security-in-space/> [accessed 12-6-21] lydia

Commerce as a driver of activity. Nation-states are far from the only entities operating in space. Corporations have been making money in Earth orbit for half a century and will continue to lead innovation in space, creating opportunities and challenges for governments. New technology and business revolutions—in microelectronics, telecommunications, and space launch—have made a compelling business case for commercial firms to conduct missions in low Earth orbit (LEO) that had traditionally been situated in geosynchronous Earth orbit (GEO). The result of this trend—massive constellations of small satellites—will upend the commercial space business and transform the global communication industry. Indeed, while traditional advances in defense technologies (like ballistic missiles) have driven space commerce and exploration in the past, it is increasingly commercial developments (like on-orbit satellite servicing) that are driving defense capabilities and concerns going forward. The security (ad)vantage point of space. From a security perspective, there is an urgent need for the United States and its allies and partners to shape the future trajectory of space. In many ways, space is the ultimate “high ground,” as it contains key “terrain” that is very advantageous for surveillance, warfighting, and rapidly expanding commercial uses. This high ground is becoming more and more useful for nations—including the United States and its allies and partners, as well as competitors like China and Russia. Securing this high ground over the coming decades is imperative for spacefaring nations to gain and maintain an advantageous position. The return of great-power competition. Increased competition among the United States, China, and Russia on Earth further complicates the security picture in space. Great-power competitors may find themselves in a struggle for space resources and this high ground. The winners of this struggle will likely be those nations that can establish a generally accepted space framework, which is why the United States must urgently seek to shape this framework. How nations interact; develop space capabilities; and advance future tactical, operational, and strategic plans will shape the future trajectory of space. If great-power competitors are unable to agree on key space norms, rules, and frameworks, a long-term struggle for space superiority may escalate into tension and potentially even boil over into warfare. The authors of this report lay out a strategic plan to not only prevent a space catastrophe from occurring, but to encourage dialogue and planning to unlock new opportunities and innovation. The United States should lead now to shape the rules of the road for space and ensure favorable frameworks are developed and adhered to, otherwise these rules will be written for it. To realize this potential, it is imperative that policymakers act now and in accordance with a long-term strategy. Risk of disruption and denial of space activity and access. Since the 1990s, the United States’ expeditionary model of warfare has relied on space capabilities for both tactical and strategic intelligence, missile-launch warning, and communication. Meanwhile, China and Russia are fielding increasingly sophisticated counterspace weapons capable of disrupting, denying, or destroying US and allied space assets in conflict or crisis. The saliency of denying space access is likely to increase in great-power competition. The vulnerability of space systems to lower-cost cyberattack means that other, smaller competitors could also achieve counterspace effects. The creation of the Russian Aerospace Forces (2015), the Chinese People’s Liberation Army Strategic Support Force (2015), and the US Space Force (2019) all point to competitors perceiving space as a warfighting domain. The edge of humanity’s routine activity in space is moving beyond GEO to encompass cislunar space, the sphere formed by the Earth-Moon radius. This opens new opportunities and risks that any future strategy must come to grips with. As the United States continues to plan a crewed lunar landing in the 2020s, commercial firms are racing to support exploration efforts (and even resource extraction) on the Moon. At the Lagrange points—areas of particular orbital stability in the Earth-Moon system—nation-states are deploying satellites for research and, increasingly, military reconnaissance. The Lagrange points (and other advantageous orbital regions) may become contested as nations seek to observe and operate in cislunar space, and activity there will become all the more important in the coming decades.

#### Military readiness solves every threat---leadership ensures military overmatch but decline emboldens rivals and causes miscalc and arms races that escalate.

Hal Brands 18. Henry A. Kissinger Distinguished Professor of Global Affairs at the Johns Hopkins University School of Advanced International Studies, Senior Fellow at the Center for Strategic and Budgetary Assessments and the Foreign Policy Research Institute, Ph.D. in history from Yale University. “Chapter 6: Does America Have Enough Hard Power?” American Grand Strategy in the Age of Trump; pp. 129-133.

Much contemporary commentary favors the first option—reducing commitments—and denounces the third as financially ruinous and perhaps impossible.5 Yet significantly expanding American capabilities would not be nearly as economically onerous as it may seem. Compared to the alternatives, in fact, this approach represents the best option for sustaining American primacy and preventing a slide into strategic bankruptcy that will eventually be punished. Since World War II, the United States has had a military second to none. Since the Cold War, America has committed to having overwhelming military primacy. The idea, as George W. Bush declared in 2002, that America must possess “strengths beyond challenge” has featured in every major U.S. strategy document for a quarter century; it has also been reflected in concrete terms.6 From the early 1990s, for example, the United States consistently accounted for around 35 to 45 percent of world defense spending and maintained peerless global power-projection capabilities.7 Perhaps more important, U.S. primacy was also unrivaled in key overseas strategic regions—Europe, East Asia, the Middle East. From thrashing Saddam Hussein’s million-man Iraqi military during Operation Desert Storm, to deploying—with impunity—two carrier strike groups off Taiwan during the China-Taiwan crisis of 1995– 96, Washington has been able to project military power superior to anything a regional rival could employ even on its own geopolitical doorstep. This military dominance has constituted the hard-power backbone of an ambitious global strategy. After the Cold War, U.S. policymakers committed to averting a return to the unstable multipolarity of earlier eras, and to perpetuating the more favorable unipolar order. They committed to building on the successes of the postwar era by further advancing liberal political values and an open international economy, and to suppressing international scourges such as rogue states, nuclear proliferation, and catastrophic terrorism. And because they recognized that military force remained the ultima ratio regum, they understood the centrality of military preponderance. Washington would need the military power necessary to underwrite worldwide alliance commitments. It would have to preserve substantial overmatch versus any potential great-power rival. It must be able to answer the sharpest challenges to the international system, such as Saddam’s invasion of Kuwait in 1990 or jihadist extremism after 9/11. Finally, because prevailing global norms generally reflect hard-power realities, America would need the superiority to assure that its own values remained ascendant. It was impolitic to say that U.S. strategy and the international order required “strengths beyond challenge,” but it was not at all inaccurate. American primacy, moreover, was eminently affordable. At the height of the Cold War, the United States spent over 12 percent of GDP on defense. Since the mid-1990s, the number has usually been between 3 and 4 percent.8 In a historically favorable international environment, Washington could enjoy primacy—and its geopolitical fruits—on the cheap. Yet U.S. strategy also heeded, at least until recently, the fact that there was a limit to how cheaply that primacy could be had. The American military did shrink significantly during the 1990s, but U.S. officials understood that if Washington cut back too far, its primacy would erode to a point where it ceased to deliver its geopolitical benefits. Alliances would lose credibility; the stability of key regions would be eroded; rivals would be emboldened; international crises would go unaddressed. American primacy was thus like a reasonably priced insurance policy. It required nontrivial expenditures, but protected against far costlier outcomes.9 Washington paid its insurance premiums for two decades after the Cold War. But more recently American primacy and strategic solvency have been imperiled. THE DARKENING HORIZON For most of the post–Cold War era, the international system was— by historical standards—remarkably benign. Dangers existed, and as the terrorist attacks of September 11, 2001, demonstrated, they could manifest with horrific effect. But for two decades after the Soviet collapse, the world was characterized by remarkably low levels of great-power competition, high levels of security in key theaters such as Europe and East Asia, and the comparative weakness of those “rogue” actors—Iran, Iraq, North Korea, al-Qaeda—who most aggressively challenged American power. During the 1990s, some observers even spoke of a “strategic pause,” the idea being that the end of the Cold War had afforded the United States a respite from normal levels of geopolitical danger and competition. Now, however, the strategic horizon is darkening, due to four factors. First, great-power military competition is back. The world’s two leading authoritarian powers—China and Russia—are seeking regional hegemony, contesting global norms such as nonaggression and freedom of navigation, and developing the military punch to underwrite these ambitions. Notwithstanding severe economic and demographic problems, Russia has conducted a major military modernization emphasizing nuclear weapons, high-end conventional capabilities, and rapid-deployment and special operations forces— and utilized many of these capabilities in conflicts in Ukraine and Syria.10 China, meanwhile, has carried out a buildup of historic proportions, with constant-dollar defense outlays rising from US$26 billion in 1995 to US$226 billion in 2016.11 Ominously, these expenditures have funded development of power-projection and antiaccess/area denial (A2/AD) tools necessary to threaten China’s neighbors and complicate U.S. intervention on their behalf. Washington has grown accustomed to having a generational military lead; Russian and Chinese modernization efforts are now creating a far more competitive environment. Second, the international outlaws are no longer so weak. North Korea’s conventional forces have atrophied, but it has amassed a growing nuclear arsenal and is developing an intercontinental delivery capability that will soon allow it to threaten not just America’s regional allies but also the continental United States.12 Iran remains a nuclear threshold state, one that continues to develop ballistic missiles and A2/AD capabilities while employing sectarian and proxy forces across the Middle East. The Islamic State, for its part, is headed for defeat, but has displayed military capabilities unprecedented for any terrorist group, and shown that counterterrorism will continue to place significant operational demands on U.S. forces whether in this context or in others. Rogue actors have long preoccupied American planners, but the rogues are now more capable than at any time in decades. Third, the democratization of technology has allowed more actors to contest American superiority in dangerous ways. The spread of antisatellite and cyberwarfare capabilities; the proliferation of man-portable air defense systems and ballistic missiles; the increasing availability of key elements of the precision-strike complex— these phenomena have had a military leveling effect by giving weaker actors capabilities which were formerly unique to technologically advanced states. As such technologies “proliferate worldwide,” Air Force Chief of Staff General David Goldfein commented in 2016, “the technology and capability gaps between America and our adversaries are closing dangerously fast.”13 Indeed, as these capabilities spread, fourth-generation systems (such as F-15s and F-16s) may provide decreasing utility against even non-great-power competitors, and far more fifth-generation capabilities may be needed to perpetuate American overmatch. Finally, the number of challenges has multiplied. During the 1990s and early 2000s, Washington faced rogue states and jihadist extremism—but not intense great-power rivalry. America faced conflicts in the Middle East—but East Asia and Europe were comparatively secure. Now, the old threats still exist—but the more permissive conditions have vanished. The United States confronts rogue states, lethal jihadist organizations, and great-power competition; there are severe challenges in all three Eurasian theaters. “I don’t recall a time when we have been confronted with a more diverse array of threats, whether it’s the nation state threats posed by Russia and China and particularly their substantial nuclear capabilities, or non-nation states of the likes of ISIL, Al Qaida, etc.,” Director of National Intelligence James Clapper commented in 2016. Trends in the strategic landscape constituted a veritable “litany of doom.”14 The United States thus faces not just more significant, but also more numerous, challenges to its military dominance than it has for at least a quarter century.

## CP

### US-Only

#### CP: The Federal Government of the United States should rule that private companies incorporated in the United States violate the non-appropriation obligations under the Outer Space Treaty and its succeeding treaties

#### Their plan text has the US ban and enforce a ban that applies to other nations’ private entities. That is obviously terrible for multilat. China and Russia would throw a fit if we claimed jurisdiction over their own private entities.

#### The CP only applies US jurisdiction to its own companies, which avoids the double turn. AND, there’s no solvency deficit for practical purposes because the US has no way to enforce its extraterritorial jurisdiction in the aff world anyway. Chinese and Russian companies obviously wouldn’t listen, and they have no evidence saying otherwise.

#### It’s not a PIC because it only does a small portion of the aff, not most of it. But if they do win a violation, PICs out of explicit mandates of the plan are good. It’s key to encourage good plan-writing which fosters specific policy advocacy. And it’s not unlimited because they get to craft their plan text to determine which PICs are competitive.

### T

#### Interp: The affirmative must defend the resolution, “the appropriatrion of space by PRIVATE ENTITES is unjust.

Vio- They don’t

#### Their plan text is private companies

#### As defined by Cornell Law in 22, Private Entities are

#### "Definition: Private Entity From 6 USC § 1501(15)(A) | LII / Legal Information Institute". *Law.Cornell.Edu*, 2022, https://www.law.cornell.edu/definitions/uscode.php?width=840&height=800&iframe=true&def\_id=6-USC-625312480-168358316&term\_occur=999&term\_src=title:6:chapter:6:subchapter:I:section:1501. Accessed 8 Jan 2022.

#### In general Except as otherwise provided in this paragraph, the term “private entity” means any person or private group, organization, proprietorship, partnership, trust, cooperative, corporation, or other commercial or nonprofit entity, including an officer, employee, or agent thereof.

**They discount more than half of the ground included in the topic.** Limits

#### The topic has no clear agent and no clear limit on which areas of space or private companies are included. There is also no temporal limit, which compounds the abuse on a topic where most of the possible technologies are in the future and often the far future. There are literally millions of permutations of agents, regions of space, companies, and technologies that the aff could defend. That is an impossible neg research.

#### Drop the debater on T—the damage was done and I can’t regive the 1NC after a 1AR shift. Use competing interps; it avoids arbitrariness and judge intervention.