

An Economic Approach to Deterrence

2ND LT TUCKER HUTCHINSON, USAF

Resurgent and revisionist powers have brought a return to great-power competition. These same powers recognize the combat advantage the US military gains from its space capabilities and are developing doctrine and systems to deny and degrade our advantage in a future conflict. What mix of strategies, policies, and systems are required to strengthen US deterrence in space to dissuade adversaries from extending conflict to this domain?

The deepest urge in human nature is the desire to be important.
—John Dewey

Mr. Dewey was right—humans want to be important. World leaders are humans, too. Power makes countries feel important; therefore, “a central continuity in history is the contest for power.”¹ Countries around the world desire power; however, it is China and Russia—the “revisionist powers”—who are currently the most significant threats facing the US. While terrorism has been the threat for the past few decades, the world has now turned back toward power competition. The US will have to understand its enemies and the changing landscape to adapt, deter, fight, and win successfully.

If every country wants to be powerful, why be concerned with China and Russia specifically? To begin to answer this question, an economic discussion is imperative.

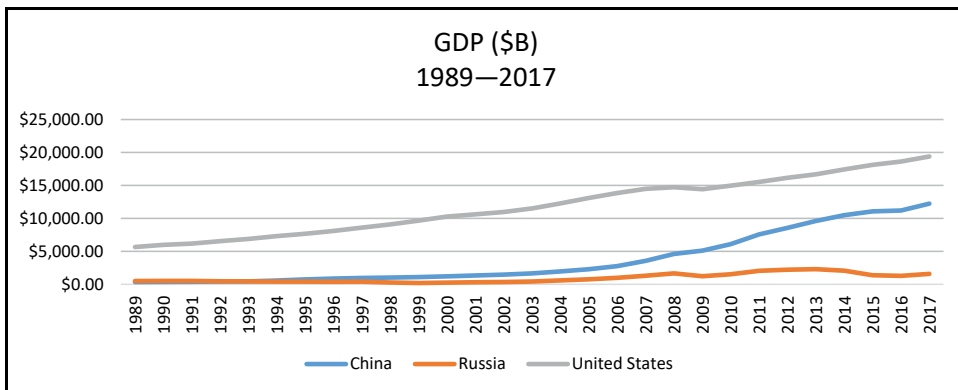


Figure 1. Gross domestic product (GDP), 1989–2017. (Adapted from World Bank Group data.)

The best indicator of a nation’s influence is wealth. The US is the world’s wealthiest nation (see fig. 1). The US GDP was more than \$19 trillion in 2017. China’s (the world’s second wealthiest nation) was \$12.2 trillion in 2017, about two-thirds of the US GDP. Russia’s 2017 GDP was \$1.57 trillion (the 11th wealthiest in the world). China and Russia clearly lag in absolute GDP—why are they on the American radar?

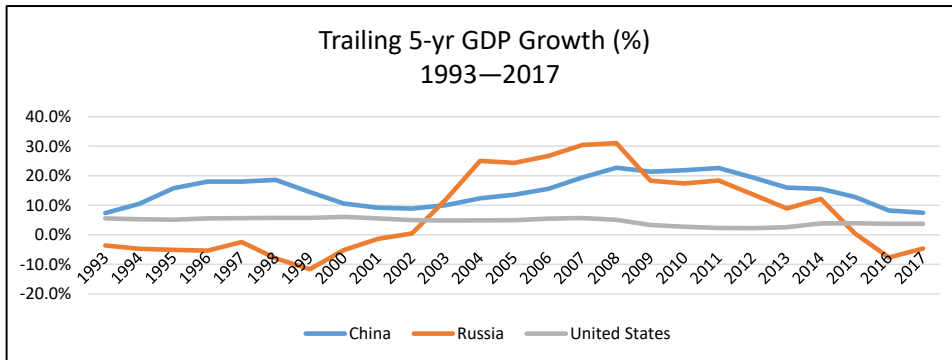


Figure 2. Trailing five-year GDP growth. (Adapted from World Bank Group data.)

One economic reason is GDP growth. Figure 2 shows a trailing five-year average of annual GDP growth. From 1993–2008, the US maintained an average of about 5–6 percent. Since then, it dropped off to about 2–3 percent. Compare this with China’s average, which has stayed well above the US’s and even reached growth above 20 percent. Russia’s GDP has been recognizably volatile (even going negative) but has also reached heights above 20 percent (as high as 31 percent). China, in particular, has been dominating the US regarding GDP growth for a long time.

Table 1. World GDP survey rankings

GDP rank	Country	Survey rank	Collective defense arrangement
1	US	n/a	n/a
2	China	129	No
3	Japan	21	Yes
4	Germany	7	Yes
5	UK	2	Yes
6	India	30	No
7	France	4	Yes
8	Brazil	24	Yes
9	Italy	6	Yes
10	Canada	1	Yes
11	Russian Federation	138	No

Table 1. World GDP survey rankings (Continued)

GDP rank	Country	Survey rank	Collective defense arrangement
12	Republic of Korea	27	Yes
13	Australia	3	Yes
14	Spain	15	Yes
15	Mexico	42	No
16	Indonesia	52	No
17	Turkey	74	Yes
18	Netherlands	12	Yes
19	Saudi Arabia	126	No
20	Switzerland	11	No

Source: *US Collective Defense Arrangements*, Department of State; and Josh Katz and Kevin Quealy, "Which Country Is America's Strongest Ally? For Republicans, It's Australia," *New York Times*

Note: Survey includes rankings for 144 countries.

China has the second-highest GDP in the world, and Russia has the 11th-highest. China is outpacing the US at an unsettling rate, and Russia has shown signs of an ability to do the same. These facts must be considered in light of the world political context. Table 1 shows the ranking of the top 20 wealthiest countries in a survey about how Americans view the US's relationship with each of the 144 countries (number 1 considered the strongest ally and number 144 the strongest enemy),² and whether the country has signed a collective defense arrangement with the US.³ Of the top 20 wealthiest countries, China and Russia are viewed as the two most hostile to the US. Furthermore, neither of the two countries has entered into a defense treaty with the US (12 of the 17 other countries have signed such treaties). These data deliver three messages—China and Russia are powerful, they (particularly China) are becoming wealthier at a faster rate than the US, and they are not friendly with the US.

US intelligence makes it clear that China and Russia are aggressively pursuing "great power competition." According to the *2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge*, China is using "predatory economics to intimidate its neighbors while militarizing features in the South China Sea" and pursuing a "military modernization program that seeks Indo-Pacific regional hegemony in the near-term and displacement of the United States to achieve global preeminence in the future."⁴ Russia is attempting to gain political dominance over its neighbors, using "emerging technologies to discredit and subvert democratic processes in Georgia, Crimea, and eastern Ukraine," and "expanding and modernizing" its nuclear capabilities.⁵ China and Russia are taking deliberate action toward gaining more power.

Deterrence begins with an understanding of motives. To effectively deter conflict in space, the US must first understand fundamentally why China and Russia are taking their respective actions. This article will evaluate three sources to understand their motives—(1) the joint policy from China and Russia, (2) where they spend their money, and (3) US intelligence.

On 15 May 1997, China and Russia sent a letter to the United Nations referencing their “Joint Declaration on a Multipolar World and the Establishment of a New International Order.”⁶ In this declaration, they made clear their intention for a new world order. “In a spirit of partnership, the Parties [China and Russia] shall strive to promote the multipolarization of the world and the establishment of a new international order. . . The bipolar system has vanished.”⁷ This declaration not so subtly revealed their frustration with US diplomacy, asserting that “every country has the right independently to choose its path of development in the light of its own specific conditions and without interference from other States.”⁸ One motive is clearly to develop a “multipolarization” of the world. This means an increase in power for more countries, namely China and Russia.

Second, spending habits reveal interests.

Table 2. GDP by end use

GDP by end use	China	Russia	US
Household consumption	39.1%	52.4%	69.1%
Government consumption	14.6%	17.8%	17.2%
Investment in fixed capital	43.3%	21.1%	16.3%
Investment in inventories	1.1%	2.5%	0.3%
Exports	19.7%	25.6%	12.2%
Imports	-17.8%	19.4%	-15.1%

Source: *Central Intelligence Agency World Factbook*, “GDP—Composition, by End Use,” *World Factbook*

China spends a distinctively high portion of its wealth on fixed capital (43.3 percent). The starkest example of this investment in fixed capital is the Belt and Road Initiative (BRI). The BRI (see fig. 3) is a massive effort to improve regional connectedness through the construction and expansion of transportation networks. Its primary goal is “to build transportation networks that can help support Chinese export flows.”⁹

China’s desire to invest in fixed capital shows its intent to achieve economic preeminence in Asia. Expanding its economic clout allows China to achieve power in multiple respects, including greater security. “One of China’s motives is to strengthen security on its western flank by helping Central Asian countries prosper—thereby, it hopes, preventing them from becoming hotbeds of Islamist terrorism.”¹⁰ A more extensive network of trade partners is certainly a step in the right direction for China’s security concerns.

Russia’s spending also illuminates its motives. A quarter of Russia’s GDP comes from exports. Russia spends significant resources on manufacturing arms and refining its natural resources for sale to international partners. Russia sells both arms and its natural resources to China, one of its most important partners. “Russian oil exports to China more than doubled” from 2013–2016, and Russia became China’s number one oil supplier in 2016.¹¹ “China’s economic and industrial success is dependent on access to a steady supply of Russian hydrocarbons and other resources,” and Russia’s sale of arms “increases China’s ability to punch back at the West in the event of a military crisis in the South China Sea.”¹² President Vladimir Putin intends to expand Russia’s ability to tap into its natural

resources; he has deemed the development of the Russian Far East (representing 36 percent of Russian territory but only 5.5 percent of GDP in 2015), a “national priority for the 21st century.”¹³



Figure 3. Mapping the Belt and Road Initiative's progress. (Reprinted from Frank Holmes, “China’s Belt and Road Initiative Opens Up Unprecedented Opportunities,” *Forbes*, 4 September 2018).

The Far East is underdeveloped and underutilized, and Russia is not the only one to realize this. China is involving itself economically in the region, and “Moscow has been skeptical of Beijing’s intentions in the Far East, specifically that Chinese economic activities and migration could trigger political influence and eventually territorial claims.”¹⁴ Russia wants to maintain geographic, political, and economic control of the region but also understands, albeit cautiously, its dependence on China to develop its coveted region. Apart from being China’s top oil supplier, Russia also depends on China for transportation networks. For Russia, the “most significant barrier to attracting foreign capital. . . is the inadequacy of transportation infrastructure in the Russian Far East.”¹⁵ Russia needs China’s growing transportation network to tap into the resources it holds in the Far East. It is clear that Russia is far more dependent on China than vice versa. Countless countries in the region are “eager for China’s financing [and] welcome it as a source of investment in infrastructure between China and Europe via the Middle East and Africa.”¹⁶ Not only small countries need China’s financing but also Russia—the 11th wealthiest nation in the world. Establishing itself as a provider of financing is where China truly flexes its muscle as the world’s second wealthiest nation, and where the source of its power emanates. Ralph Waldo Emerson said, “A man in debt is so far a slave.” In this case, the nations are becoming slaves to China. Russia and China are after the same thing—economic power. Wealth ensures security and power, and power, importance. Although their motives are aligned, it is not a balanced relationship—China holds the upper hand.

Third, US intelligence helps highlight Chinese and Russian motives. The *Worldwide Threat Assessment of the US Intelligence Community* bolsters the evidence already examined. The assessment calls out the BRI as a method “to expand China’s economic reach and political influence across Eurasia, Africa, and the Pacific through infrastructure projects.”¹⁷ It recognizes Russia’s use of “aggressive tactics to bolster its standing as a great power, secure a ‘sphere of influence’ in the post-Soviet space, weaken the United States, and undermine Euro-Atlantic unity.”¹⁸ It is important to note the recurrence of multipolarization and ultimately a desire for power. The *NSS* unequivocally states the intentions of the nations—to “challenge American power, influence, and interests, attempting to erode American security and prosperity. . . to make economies less free and less fair. . .”¹⁹ Again, a desire for power—the great continuity in history. Not only are China and Russia pursuing their own power, but they are doing so “at the expense of the sovereignty of others,” intending to “shape a world consistent with their authoritarian model.”²⁰

Looking at all three of these sources of evidence for motives—(1) Chinese and Russian policy, (2) economic analysis, and (3) US intelligence—tells a consistent story. All three sources make it clear that both China and Russia seek power, even at the expense of other nations. China is expanding its infrastructure and becoming the primary lender in Asia, and Russia is playing to its strengths of exporting its goods to the world. An understanding of these motives and methods will prove crucial in developing deterrence strategy.

Space now enters the discussion. What are China and Russia doing in space, and how are these actions presenting challenges to the US? The Sec. 1601 report to Congress, *Space Acquisition and Management and Oversight*, notes China and Russia “are explicitly pursuing space warfighting capabilities to neutralize US space capabilities during a time of conflict” to include “counter-space capabilities such as jamming, dazzling, and cyberattacks.”²¹ Both countries are pursuing “anti-satellite (ASAT) weapons as a means to reduce military effectiveness.”²² Cyber attacks have proven extremely effective, “as they are low-cost, relatively low-risk, and deniable ways to retaliate against adversaries, to shape foreign perceptions, and to influence populations.”²³ These countries are taking deliberate steps to deny the US the ability to fight wars. If the US does not respond and modernize effectively, it will be hindered in numerous areas but namely its war-fighting ability. For the US, “unfettered access to and freedom to operate in space” is a “vital interest.”²⁴ Actions to deny the US the ability to fight wars must be placed into the context of the prior discussion—China and Russia seek power, and the ability of the US to dominate in war fighting directly and substantially restricts their power in a time of conflict. Their actions to deny space are extensions of their intent to create a new international order and power landscape.

Currently, everything explored has laid a necessary foundation for understanding the revisionist powers whom the US needs to deter. But how does the US strengthen deterrence in space? Specifically, how can strategy, policy, and systems dissuade China and Russia from choosing to bring the fight into the space domain?

To deter means “to prevent the occurrence of.”²⁵ Commonly, there are two ways to deter an enemy attack: (1) make it costly to attack (“deterrence by punishment”), or (2)

make it difficult to attack in the first place (“deterrence by denial”).²⁶ A third and fourth method will be added here—(3) to decrease the benefits of attack (the inverse of the first method), and (4) to mitigate the enemy’s incentive to attack. Mitigating the incentive is using alternative means to fulfill the driving desire of the enemy so that an attack is a less attractive option to fulfill those desires. Policy, strategy, and systems can all be used as effective tools with these four deterrence methods in mind.

The policy must be clear, unambiguous, and consistent. The US needs to make it clear that it will preserve principles of freedom and peace. In the case of this revisionist power emergence, China and Russia are seeking power over freedom. They are willing to suppress ideas and values for the sake of influence and control, and the US needs to make it clear that this will not be tolerated. At the same time, however, the US needs to strive toward an understanding and partnership with its competitors. A policy that falls too far on one end of the spectrum will fail—too harsh, and war is likely; too soft, and freedom and peace will not be preserved.

The US must pay particular attention to its economic policy, as both China and Russia strive to achieve power through economic growth. Economic policy must remain open to the greatest extent possible. Of course, when China operates through unfair trade practices, the US must call it out for what it is and punish the action accordingly. However, within the realm of legal practices, the US will hurt itself by restricting competitive and open trade. A restrictive economic policy may induce American corporations to produce more, but it creates an inefficiency in the global economy. If the US cannot naturally compete in certain industries, it should either ramp up the industry or strategically import. A restrictive policy will ultimately hurt the economy and relations with an already hostile nation. Open economic policies will strengthen US–Chinese–Russian relations and allow China’s and Russia’s desire for economic growth to be fulfilled. When they compete in the global economy fairly and legally, they should be rewarded and deserve the growth. When they compete unethically, they should be punished. US economic policy should make this clear. Rewarding fair economic competition may at least partially fulfill Chinese and Russian desire for power, making attacks on space assets a less desirable method of attaining that power (the implementation of the fourth deterrence method).

As discussed, Russia depends completely upon China for economic growth. First, Russia relies heavily on Chinese financing. The US must find ways to encourage Russia to turn to American lending rather than Chinese lending, especially in the Russian Far East. The lender always has influence, and China’s growth in Asia has placed it in a position of power over Russia. If the US can replace China as Russia’s primary lender, it can exert legitimate influence and build a strategic partnership. The difficulty will be in partnering with Russia without enabling their suppression of surrounding Eurasian states, but the US has to first establish influence before hoping to discourage such suppression. Second, Russia relies on China as a customer. The US should, therefore, buy more Russian exports. If the US replaces China in yet another area of economic dependence, it will exert influence. Both lending to Russia and consuming Russian goods can be executed with clever caution in order to shift the international political climate. Bringing eco-

conomic power to Russia while replacing China as the provider of that power may prove to be another effective implementation of the fourth deterrence method by incentive mitigation.

US space policy must clearly communicate that counterspace actions will not be tolerated. An adversary must understand that the costs of an attack or of an attempt to deny our capabilities are very high (first deterrence method). Nonetheless, a policy can only go so far and must be supplemented. Strategy and systems will put meat on the bones of deterrence policy. Strategically, the US must be prepared to respond with devastating consequences for an enemy who is willing to deny space capabilities. The first part of a strategy is to clarify which actions will trigger response and which will not—choosing battles wisely. The second part is fielding capabilities equipped to respond. Systems equipped to respond to ASAT weapons, for example, must be fully matured in light of the current threat, or strategy is hollow. Combining strategy with potent systems will reinforce policy and ultimately allow the US to deter attacks on space systems—the costs will simply be too high. In addition to fielding systems capable of responding to attack, systems that deny the ability to attack are equally important (second deterrence method). The intelligence and acquisitions communities must work in lockstep to understand what it takes to deny the enemy's ability to engage in counterspace activities. The US must prioritize rapid technology maturation and acquisition—not only in rhetoric but in a budget.

The US must also diversify its space assets, making each asset less costly if its capability were to be lost. During the US space program's infancy in the 1960s, a launch was very expensive, and it made perfect sense to load as much capability onto the satellite as possible. Today, however, launch services are becoming profitable for corporations, driving costs down significantly. This is advantageous to the government—it allows the US to launch more assets and avoid putting all of its eggs in one basket. If an enemy chooses to deny an American asset that is one of only two assets able to execute a specific mission, then the nation is in trouble. If it is one of 20 assets, then the redundancy and diversification protect the mission. If an enemy knows that its attack will not be very detrimental to the US, it is less likely to attack (third deterrence method). The US must continue to focus on driving down launch costs in order to diversify on-orbit assets.

A final piece of strategy will be to bolster alliances. The US needs to convince its allies of the urgency of the threat and encourage research, innovation, and rapid development of capabilities with the common goal of deterring China and Russia from extending the war into space. This will entail US leadership consistently engaging allied leadership and providing funding where reasonable. The US should look particularly at allies who have the ability to either shift power away from China or Russia or to strategically make the revisionist powers feel more in control without enabling true growth. For example, if a country can become a more significant consumer of Chinese or Russian goods but also a lender for smaller countries targeted by Chinese or Russian influence, it will prove to be a very strategic ally. A sense of economic growth can steer both China and Russia away from war by establishing a certain contentment with perceived power shifts in their favor (fourth deterrence method). Neither China nor Russia ultimately desires war—each desires

power. Extending conflict into space is a means to attain that power, but if the US can strategically fulfill the desire for power economically, war is less likely. US leadership must take into account these dynamics and leverage allies accordingly.

Thoughtful economic and space policy, rapid technology development and fielding, asset diversification, and goal-oriented alliances will empower the US to (1) make waging war in space prohibitively costly, (2) deny adversary capabilities, (3) reduce the rewards of an attack for the enemy, and (4) mitigate enemy incentives to attack. This mix of policy, strategy, and systems should focus primarily on systems because, at the end of the day, an enemy may decide irrationally to attack. If that day comes, the US must be prepared, and no policy or strategy will prove effective without capable systems. The US must modernize its space technologies by leveraging its international partners and industry. The importance of systems cannot be overstated. Prudent policy and strategy will serve first as buffers to the use of systems and then an implementation plan for the systems, but when power dynamics come to a head, systems need to perform.

World leaders seek importance, and China and Russia are challenging the longstanding role of the US in the international playing field. Economic motives and strategy cannot be ignored and provide deep insight into effective deterrence. Policy, strategy, and systems must be used in concert, but ultimately it will be superior systems that dissuade adversaries from war fighting in space. The US should crave this competition presented by revisionist powers and use it as fuel for improvement. When it does, the US will emerge yet again as the clear leader in preserving peace and freedom, as it always has and always will. 🌐

Notes

1. Executive Office of the President of the United States, *National Security Strategy of the United States of America* (Washington, DC: US Government Printing Office, December 2017), <https://www.whitehouse.gov/wp-content/uploads/2017/12/NSS-Final-12-18-2017-0905.pdf>.

2. Josh Katz and Kevin Quealy, "Which Country Is America's Strongest Ally? For Republicans, It's Australia," *New York Times*, 3 February 2017, <https://www.nytimes.com/interactive/2017/02/03/upshot/which-country-do-americans-like-most-for-republicans-its-australia.html>.

3. US Department of State Office of the Legal Advisor, *U.S. Collective Defense Arrangements*, accessed 6 December 2018, <https://www.state.gov/s/l/treaty/collectivedefense/>.

4. DOD, *Summary of the 2018 National Defense Strategy of the United States of America: Sharpening the American Military's Competitive Edge* (Washington, DC: Office of the Secretary of Defense, 2018), <https://dod.defense.gov/Portals/1/Documents/pubs/2018-National-Defense-Strategy-Summary.pdf>.

5. Ibid.

6. United Nations, *Russian-Chinese Joint Declaration on a Multipolar World and the Establishment of a New International Order, adopted in Moscow on 23 April 1997*, General Assembly, 52nd session, 1997, <http://www.un.org/documents/ga/docs/52/plenary/a52-153.htm>.

7. Ibid.

8. Ibid.

9. Paul Stronski and Nicole Ng, "Cooperation and Competition."

10. *Economist*, "China's Belt-and-Road Plans Are to be Welcomed."

11. Stronski and Nicole Ng, "Cooperation and Competition."

12. Ibid.

13. Ibid.
14. Ibid.
15. Ibid.
16. *Economist*, “China’s Belt-and-Road Plans Are to be Welcomed.”
17. Daniel R. Coats, *Worldwide Threat Assessment of the US Intelligence Community* (Washington, DC: Office of the Director of National Intelligence, 13 February 2018), <https://www.dni.gov/files/documents/Newsroom/Testimonies/2018-ATA—Unclassified-SSCI.pdf>.
18. Coats, *Worldwide Threat Assessment*.
19. Executive Office of the President of the United States, *National Security Strategy*.
20. Executive Office of the President of the United States, *National Security Strategy*; and DOD, *Summary of the 2018 National Defense Strategy*.
21. DOD, *Final Report on Organizational and Management Structure for the National Security Space Components of the Department of Defense*, (Washington, DC: Office of the Secretary of Defense, 9 August 2018), Report to Congressional Defense Committees, <https://media.defense.gov/2018/Aug/09/2001952764/-1/-1/1/ORGANIZATIONAL-MANAGEMENT-STRUCTURE-DOD-NATIONAL-SECURITY-SPACE-COMPONENTS.PDF>.
22. Ibid.
23. Coats, *Worldwide Threat Assessment*.
24. Executive Office of the President of the United States, *National Security Strategy*.
25. *English Oxford Living Dictionaries*, s.v. “deter,” <https://en.oxforddictionaries.com/definition/deter>.
26. A. Wess Mitchell, “The Revisionists: The Case for Deterrence by Denial,” *American Interest*, 12 August 2015, <https://www.the-american-interest.com/2015/08/12/the-case-for-deterrence-by-denial/>.

2nd Lt Tucker Hutchinson

2nd Lt Hutchinson is currently a project officer for the Next Generation Overhead Persistent Infrared program in the Remote Sensing Systems Directorate at Los Angeles AFB, CA. He grew up in Virginia Beach, VA and graduated from the University of Pennsylvania with a degree in Economics in 2017.