

**ECONOMIC WARFARE:
WORKING OUTSIDE A2/AD THREATS**

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Abstract

The development and fielding of various Chinese and Russian Anti-Access/Area Denial (A2/AD) systems are of immense growing interest to the United States, NATO, and other partner nations. The threat that the majority of these systems present is asymmetric in nature, putting unfavorable costs on those who decide to fight against them. While there are ways to combat and contest A2/AD systems inside of their threat rings, and while the U.S. and allies should continue to develop ways to counter these A2/AD threats, it is not necessarily preferable to attempt to meet an asymmetric threat head-on. The U.S., NATO, and other partner nations should instead meet the asymmetry of these A2/AD systems with an asymmetric advantage of their own: namely, leveraging the geographic disadvantages of Russia and China in the maritime domain. Russia and China are mostly encircled by nations that are weary or outright nervous of them due to the posturing of their regimes, with most of Russia and China's economic activity passing through the maritime spheres of influence of these same nations. The maritime domain thus presents a weakness that can be exploited. The threat or action in denying access to trade and supplies for the Russian and Chinese economies could be a strategic focal point if a conflict were to erupt, or utilized as a measure of coercion and deterrence below armed conflict. While an economic warfare or resource deprivation strategy would not be an end-all solution, the strategy has the advantage of being able to work outside of A2/AD threat rings, utilizing fixed geographic choke points those adversaries would have issues countering. If faced with the prospect of export blockades and oil embargos in addition to a traditional military response, Russia and China may need to seriously recalculate aggressive actions that will not only be contested on the battlefield, but also will have devastating impacts on their economies. The economic impact and adversary

response to an economic or resource blockade should be further studied by the U.S. and NATO in the event of future hostile actions.

Main Body

Russian and Chinese A2/AD

Russia and China have made significant strides in the development of precision guided munitions and surface to air missiles, much to the detriment to the way the U.S and allies have waged war over the past thirty years. The U.S. and NATO reliance on centralized air bases and logistic centers are easily targeted and taken advantage of in a near-peer threat environment. War games conducted by the RAND corporation detail how these A2/AD systems may impact the battlefield of the future, with the U.S. and NATO's sophisticated forward base infrastructure, necessary fuel depots, massive logistics centers, and advanced aircraft getting destroyed in large numbers on the ground before they can have an impact on the fight.¹ The results of these wargames should not come as a surprise, considering how both Russia and China's militaristic focus in the past decade has been on how to counter the reliance of the U.S. and NATO on their air and naval power-projection advantages.²

In the EUCOM theatre, newer Russian Iskander-M and Iskander-K advanced ballistic missiles (known as the SS-26 Stone to NATO) can reach distances upwards of 700km from their launch sites and are launched from highly mobile platforms, posing a threat to targets out past Berlin from Kaliningrad. The Iskander-M reportedly has the ability to evade missile defenses

¹ Freeburg, Sydney J. "US 'Gets Its Ass Handed to It' In Wargames: Here's a \$24 Billion Fix." Breaking Defense, 22 July 2021, breakingdefense.com/2019/03/us-gets-its-ass-handed-to-it-in-wargames-heres-a-24-billion-fix/.

² See: 'Kofman, Michael. "It's Time to Talk about A2/AD: Rethinking the Russian Military Challenge." War on the Rocks, 5 Sept. <https://warontherocks.com/2019/09/its-time-to-talk-about-a2-ad-rethinking-the-russian-military-challenge/>' and Johnson, James. "Washington's Perceptions and Misperceptions of Beijing's Anti-Access Area-Denial (A2-AD) 'Strategy': Implications for Military Escalation Control and Strategic Stability." Pacific review 30, no. 3 (2017): 271–288.

with maneuverability of up to 30G's in its terminal phase, and also by having decoys to spoof anti-missile defenses.³ The Russian Baltic Fleet has also been improving its reach, sporting the Kalbir cruise missile since 2016, a weapon not unlike the U.S. Tomahawk. The Kalbir has a published range topping 2000km, making fixed site targets easily accessible throughout Europe from the waters of the Russian Baltic ports,⁴ and the large salvos that would likely be launched in the event of a conflict would make any attempts to seriously blunt the attack questionable. With their ballistic missiles and cruise missile capabilities, Russia possesses the ability to credibly target a majority of EUCOMs critical nodes should they choose to employ.⁵ Russia's Integrated Air Defenses (IADS) have also become more effective with the rollout of the S-400 system, identified as the SA-21 Growler in NATO parlance. With published ranges of the SA-21 topping 400km for its longer ranged missiles, even far off, slower-flying, high value air assets like AWACS or tankers could be targeted deep in NATO airspace.⁶ Additionally, the Russian IADS possess extremely redundant connectivity, being able to communicate over a wide variety of different mediums to include satellite communications, cellular networks, public switch telephone networks, data links, Wi-Fi networks, cloud computing, and other connectivity sources,⁷ making a potential rollback of the SAM sites a difficult task for NATO planners. When long range SAMs like the SA-21 are combined with medium and lower altitude SAMs like the SA-15, SA-17, and SA-22, the entirety of the Russian IADS would significantly delay allied air

³ Majumdar, Dave. "Introducing the Iskander: The Russian Missile NATO Fears." The National Interest, The Center for the National Interest, 1 Apr.

⁴ Marran, Mikk. "The Main Developments in Russian Military Capability." International Centre for Defense and Security, ICDS, 27 Feb.

⁵ Bronk, Justin. "The Status and Future of Russian A2/AD Capabilities" FOI-R--4991--SE, The Swedish Defense Research Agency, 2020, 36

⁶ "S-400 Triumph Triumph SA-21 Growler 5P85TE2", Surface-to-Air defense system Russia, Army Recognition, 20 July

⁷ Mattes, Peter W. What Is a Modern Integrated Air Defense System, Air Force Magazine, 30 Aug.

campaigns near Russian borders, and inflict painful losses to NATO in the unfortunate event of a conflict.⁸

In INDOPACOM, the Chinese People's Liberation Army (PLA) and People's Liberation Army-Navy (PLAN) have also built up their ballistic missile batteries and IADS, investing heavily in a multi-layered and unpredictable IADS to contest the air, land, and sea domains within the first island chain. The latest developments in the ballistic missile front are the publicized successful tests of the DF-26B intermediate-range ballistic missile, and DF-21D medium-range ballistic missile, on a moving target near the Parcel Islands. The test showcased the PLA's ability to strike adversary ships within the first island chain,⁹ reportedly with a combination of data-linked targeting information and an active radar-seeker on the missile itself.

¹⁰ The Chinese IADS are similarly equipped with modern SAMs derived from Russian equivalents, but Chinese civilian sensor technology advancements are allowing Chinese SAMs to develop more efficient sensors for their domestic models.¹¹ Although the PLA IADs are not as well networked as the Russian equivalents¹², unlike the Russians the PLAN constitute a key component of the Chinese IADS system and additional resources for their defensive mass. The PLAN Type 052C/D and Type 055 destroyers effectively constitute mobile IADS in and around the Chinese mainland with their own powerful and modern radars for employment,¹³ resulting in an unpredictable and everchanging IADS threat landscape.

⁸ Bronk, Justin. "Modern Russian and Chinese Integrated Air Defense Systems: The Nature of the Threat, Growth Trajectory and Western Options." Rusi.org, Royal United Services Institute, 15 Jan.

⁹ Trevithick, Joseph. "Chinese Long-Range Ballistic Missiles Struck Moving Ship in South China Sea: Report." The Drive, The Drive, 16 Nov.

¹⁰ Andrew Tate, "China Touts Capabilities of DF-26 as ASBM," Jane's 360, January 28, 2019, <https://www.janes.com/article/86013/china-touts-capabilities-of-df-26-as-asbm>.

¹¹ Bronk, "Modern Russian and Chinese Integrated Air Defense Systems: The Nature of the Threat, Growth Trajectory and Western Options." 22

¹² Ibid, 22

¹³ Ibid, 22

Leveraging Geography and Economics

If a Great Power conflict were to arise, it would be questionable to not use every strategic weakness of an adversary against them. As it relates to both Russia and China, it is their geographic locations and export-heavy economies that are an asymmetric weakness that the U.S., NATO, and partner nations should take advantage of. Russia and China both rely on exports and maritime trade to drive their economies, and are hemmed in on all sides by nations that are either friendly to the U.S. and NATO, or distrustful enough of Russian or Chinese regional desires to be courted. An economic or resource blockade of this domain would allow the U.S., NATO, and partner nations the ability to inflict real damage to an adversary with less risk to hard power assets. An economic blockade far from an adversary's home turf affords the blockader the ability to fight beyond the effective ranges of an adversary's A2/AD complex, and puts the onus on the adversary's sensor nets to accurately target allied assets at ranges where their lethality largely drops off.¹⁴ The current (but limited) literature prescribes a "Two Ring" blockade strategy. An 'Inner Ring', or inshore element, operates near the adversary's coastal shelf under the A2/AD threats and is capable of enforcing a sink-on-sight to deter any ships from entering or leaving the blockaded ports. An 'Outer Ring', or distant element, is situated well beyond the A2/AD threats and staged in natural choke points to both turn away adversary-flagged trade vessels, or process neutral vessels wishing to traverse through the blockade. A traditional 'Counter-Force' element would attrit the adversaries conventional power projection tools like their air power, naval ships, and resupply ships, to limit the ability for the adversary to project power beyond the continental shelf, and outside of their relative protection under their A2/AD. Finally, an 'Infrastructure

¹⁴ Kelly, Terrence, David C. Gompert, and Duncan Long, *Smarter Power, Stronger Partners, Volume I: Exploiting U.S. Advantages to Prevent Aggression*. Santa Monica, CA: RAND Corporation, 2016. https://www.rand.org/pubs/research_reports/RR1359.html.

Degradation' plan to target refineries, pipelines, and railways would exacerbate internal supply issues by inflicting damage to the adversaries' transportation and production infrastructure.¹⁵ The utility of this strategy is that it can be used both as a threat to deter or coerce, or as a weapon to inflict harm. It is readily scalable as the possibility of a conflict arises, and allows for assets that would otherwise have a difficult time in an A2/AD threat complex to still be useful to the overall engagement. Assets like amphibious assault ships, littoral combat ships, coastal patrol craft, maritime patrol aircraft, and Remotely Piloted Aircraft could sweep for and process vessels far from the threat of the A2/AD systems, and yet still have a large impact on the overall conflict.¹⁶

The Russian geographic position has been a historic limitation in the oceanic realm, and in the modern age it is still no better. The Russian ports in the Baltic Sea are subject to control from the Skagerrak Strait, which is held by NATO members Denmark and Norway. The Russian Black Sea port, Sevastopol, is subject to control from the Bosphorus Strait, which is controlled by Turkey, another NATO member. Finally, Russia's Pacific port of Vladivostok is conveniently located in the Sea of Japan, well within the reach of South Korea and Japan, where the U.S. already has an extensive military presence. Consequently, Russia's ill-fated geographic location means that nearly every port it owns is able to be effectively cut off at sea, save for their cold-water arctic locations to the far north which are naturally limited by sea-ice. These port vulnerabilities are coupled with Russia's export-heavy economy, as Russia's Baltic ports handled

¹⁵ The preponderance of literature that discusses a two-ring blockade strategy is directed at China, but the general theory should also be applicable to Russia. See: 'Mirski, Sean. "Stranglehold: The Context, Conduct and Consequences of an American Naval Blockade of China." *Journal of strategic studies* 36, no. 3 (2013): 385–421.' And 'Pietrucha, Mike. "Avoiding The Charge of the Light Brigade Against China." *War on the Rocks, Texas National Security Review*, 15 June 2016, warontherocks.com/2016/06/avoiding-the-charge-of-the-light-brigade-against-china/.

¹⁶ Montgomery, Evan Braden. "Reconsidering a Naval Blockade of China: A Response to Mirski." *Journal of strategic studies* 36, no. 4 (2013): 615–623.

more than 246 million tons of cargo in 2018, including 133 tons of oil products¹⁷, with over a third of the Russian federal government budget being funded by their oil exports.¹⁸ The dual facets of the Russian maritime landscape, and the reliance on exports for their economy and government expenditures, could be easily utilized as either a credible deterrence or as an economic weapon should the Russian government begin motioning for future hostilities. The same sea straits that would be cut off from Russian military traffic would now also simply include Russian civil maritime shipping.

The Chinese geographic position initially doesn't look nearly as bad as Russia's, with the former having a massive land border with thirteen different countries. Yet, if also viewed through a maritime lens, then the weakness is apparent. Although China is largely thought to be predominantly a land power, in terms of trade, China actually resembles an island nation due to the sheer amount of goods that arrive to China via the sea. 98% of Chinese freight arrives by sea¹⁹, China's ports process almost 60% of Chinese trade by value,²⁰ and nearly 80% of China's energy supplies pass through the Strait of Malacca enroute to China.²¹ These vulnerabilities have not gone without notice to the Chinese security establishment²², even being dubbed the "Malacca Dilemma" by Chinese General Secretary Hu Jintao 2003.²³ Every day, vast amounts of crude oil and other raw materials sail through easily blockaded straits enroute to China- like the Malacca,

¹⁷ Nielson, Anders P. "Defeating the A2/AD Umbrella – Concepts for Exploitation of Russia's Operational Weaknesses." Beyond Bursting Bubbles – Understanding the Full Spectrum of the Russian A2/AD Threat and Identifying Strategies for Counteraction, June 2020, pp.

¹⁸ Energy Information Administration - EIA - Independent Statistics and Analysis." International Analysis, U.S.

¹⁹ Pietrucha, Michael W. "To Defeat China in Battle, America Should Study World War II." Medium, War Is Boring, 22 July 2015, medium.com/war-is-boring/to-defeat-china-in-a-conflict-america-should-study-world-war-ii-43610f7d6f17.

²⁰ "How Much Trade Transits the South China Sea?" ChinaPower, Center for Strategic and International Studies 2021, chinapower.csis.org/much-trade-transits-south-china-sea/.

²¹ Marshall "Prisoners of Geography: Ten Maps That Explain Everything About the World" 60

²² Lanteigne, Marc. "China's Maritime Security and the 'Malacca Dilemma.'" Asian security (Philadelphia, Pa.) 4, no. 2 (2008): 143–161.

²³ Cunningham, Fiona S. "The Maritime Rung on the Escalation Ladder: Naval Blockades in a US-China Conflict." Security studies 29, no. 4 (2020): 761

Sunda, Lombok, and Strait of Hormuz- that are outside of the easily accessible reach of the PLAN.²⁴

To some analysts, the idea of an economic warfare strategy is criticized due to the uncertain global economic and political outcomes that may result.²⁵ However, it is nearly impossible to imagine that the world economy would remain untouched if escalations between the U.S. and either Russia or China were to unfold, or that the political landscapes would be unchanged. In the event of a hypothetical shooting war between NATO and Russia, or the U.S. and China, it would be a nearly unthinkable situation to allow Russian-flagged ships to pass unopposed through the Skagerrak or Bosphorus Straits, or if oil tankers would still be able to sail into Shanghai laden with fuel for the Chinese war effort. In EUCOM, the effectiveness of a Russian export blockade or willingness for continued hostilities could be marred due to the Russian overland gas pipelines that supply gas to the most of Europe. Russia supplies 100% of gas imports to Latvia, Slovakia, Finland, and Estonia, 80% to the Czech Republic, Bulgaria, and Lithuania, 60% to Greece, Austria, and Hungary, and nearly 50% to Germany.²⁶ For Europe and NATO allies to withhold the effects of a possible tit-for-tat Russian gas supply shut off, the U.S. would need to increase its supply of Liquefied Natural Gas (LNG) to the European continent in tandem with a concerted European decline in Russian gas dependency. Although LNG terminals are being built in greater numbers on European coastlines to reduce these dependencies on Russian pipes²⁷, the Russian-European gas bridge will serve as a tenuous supplier-consumer relationship for the near future, especially since the Russian government has already shown a

²⁴ Collins, Gabriel B., and William S. Murray. "NO OIL FOR THE LAMPS OF CHINA?" *Naval War College Review*, 61, no. 2 (2008): 79-95. Accessed August 15, 2021. <http://www.jstor.org/stable/26396924>.

²⁵ Collins, Gabriel. "A MARITIME OIL BLOCKADE AGAINST CHINA: Tactically Tempting but Strategically Flawed." *Naval War College Review* 71, no. 2 (2018): 49-78.

²⁶ Marshall, Tim. *Prisoners of Geography: Ten Maps That Explain Everything About the World* First Scribner Hardcover Edition. New York, New York: Scribner, an imprint of Simon & Schuster, Inc., 2015. 30-32

²⁷ *Ibid*, 33.

willingness to flex its supply of gas as a tool of diplomatic manipulation.²⁸ Likewise, if China were to be blockaded for any reason, there would be significant economic repercussions and follow-on effects on a global scale. China has also shown a willingness to utilize their huge economy as a threat to other nations, making any actions perceived to be hostile to Chinese interests a burden to endure.²⁹

The ultimate factor to the viability of such a strategy would be the full or tacit participation of nations nearest to the blockade sites. In EUCOM, the straits in question are already under NATO control, but there would have to be considerable buy-in from the nations who might get their gas supplies shut off from Russian pipes. The INDOPACOM sphere would require a larger diplomatic lift, with the cooperation of Indonesia, Malaysia, and Singapore,³⁰ but the effect would be decisive. It would be useful for further study to be done on the range of economic outcomes if a blockade situation were to unfold, or how adversaries might respond to one in the future- diplomatically, militarily, and economically.

²⁸ Zinets, Natalia and Vladimir Soldatkin. "Russia Cuts off Gas to Ukraine as Kiev Orders Border Secured." Reuters, Thomson Reuters, 16 June 2014

²⁹ See 'Bennhold, Katrin and Jack Ewing. "In Huawei Battle, China Threatens Germany 'Where It Hurts': Automakers." The New York Times, The New York Times, 16 Jan.' And 'Choudhury, Saheli Roy. "Here's a List of the Australian Exports Hit by Restrictions in China.", CNBC, 18 Dec. 2020'

³⁰ Cunningham "The Maritime Rung on the Escalation Ladder: Naval Blockades in a US-China Conflict." 747

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