

Indo-Pacific Security in 2030-35 Links in the Chain

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on China.

n recent years, events like the COVID-19 pandemic and the Russia-Ukraine war have brought global supply chains squarely under the spotlight. The economic impact of these disruptive events exposed the vulnerabilities of today's global value chains (GVCs) in the face of complex, uncertain, and fast-changing environments. In the Indo-Pacific particularly, the escalating geopolitical tensions threaten the stability of supply chains and, by extension, that of the global economy. As a major transit route for international trade – about 80% of the total global trade by volume passes through the region – the Indo-Pacific is of paramount strategic importance. Most importantly, several sensitive technologies like semiconductors and critical materials like rare earth metals transit through the region, making this immensely vulnerable area vital for global value chains.

As GVCs have been pushed to the top of the agenda, it has become critical for leaders – both in the government and in industries – to redesign and future-proof their supply chains to make them more resilient in the face of disruptions. This paper explores the future of critical supply chains. It seeks to understand the risk factors that GVCs face, their vulnerabilities in the face of rising geopolitical tensions in the Indo-Pacific region, and how building mutually beneficial dependency into supply chains is critical to making them resilient to US—China strategic competition.

GVCs and the Indo-Pacific: Assessing the Risk Factor

The most pressing point of vulnerability for GVCs is perhaps their over-concentration on a single actor, as with their reliance on China. Furthermore, the over-dependence of the Indo-Pacific (and global) supply chains on China is problematic as it gives Beijing significant power to cause disruption across the world. In rare earth minerals, for example, China refines 60% of the world's lithium and 80% of cobalt, and mines 68% of graphite; all three are key components of high-capacity batteries that are becoming increasingly essential in the transition to renewable energy and a green economy.² China's monopoly over essential materials has only served to generate opportunities for the weaponization of supply chains to gain greater geopolitical advantages in sensitive situations of conflict.3 One example of this is how China used its monopoly of rare earth minerals to its advantage by halting all exports to Japan as the China-Japan maritime dispute in the East China Sea over the Senkaku/Diaoyu islands heated up. In fact, China's propensity to use tools of economic coercion to pressure other states into certain behaviors and achieve its foreign policy goals is well documented. Beijing's actions of establishing exorbitantly high import tariffs on Australian goods following Canberra's decision to support an inquiry into the origins of the COVID-19 pandemic is a case in point. Therefore, over-reliance on China only exacerbates the risk factor for GVCs.

Apart from intentional disruptions as part of Beijing's foreign and security policy toolkit, global black swan events like the pandemic are, in themselves, grave problems to the regional and global economy.⁴ Early on during the pandemic, images began to appear of medical

Jan Heinrich et al., "Future-Proofing the Supply Chain," McKinsey & Company, accessed September 6, 2023, https://www.mckinsey.com/capabilities/operations/our-insights/future-proofing-the-supply-chain.

² Robert Kuttner, "China: Epicenter of the Supply Chain Crisis," The American Prospect, February 1, 2022, https://prospect.org/api/content/054ed860-82da-11ec-96a0-12f1225286c6/.

³ Kazuto Suzuki, "Investing in Supply Chain Resilience in the Indo-Pacific," Canadian Global Affairs Institute, February 2022, https://www.cgai.ca/investing_in_supply_chain_resilience_in_the_indo_pacific.

⁴ Stephen Nagy, "Supply Chain Resilience in the Indo-Pacific: Building Mutual Beneficial Dependency," Canadian Global Affairs Institute, February 2022, https://www.cgai.ca/supply_chain_resilience_in_the_indo_pacific_building_mutual_beneficial_dependency.

The US-China rivalry is also the cause of great geopolitical risk to supply chains in the Indo-Pacific, largely because while bilateral relations are at their lowest, the economic interdependence between them remains higher than ever.

personnel wearing trash bags for protection. This abrupt scarcity of protective gear was not due to the sudden rise in global demand, but because Wuhan happened to be a major centre for production. As a country under authoritarian leadership, China has the liberty to make draconian decisions; its sudden shutdown and quarantine of Wuhan disrupted GVCs. The staggering shortages that the world faced in essential materials like semiconductors and medical and pharmaceutical equipment as China, the world's factory, shut down its operations in the early months of the pandemic, highlight these vulnerabilities. In other words, excessive reliance on China gives it the power to play a unique bottleneck role in the world, both as a producer and consumer, and could have devastating consequences for the economic and national security of states across the world.

Moreover, the US–China rivalry is also the cause of great geopolitical risk to supply chains in the Indo-Pacific, largely because while bilateral relations are at their lowest, the economic interdependence between them remains higher than ever. Other states and multinational companies often have little choice but to be drawn into the great power rivalry, given their expansive economies and centrality within international trade. A key point of flux in US–China relations is Taiwan, and how cross-Strait tensions take shape will be a determining (if not defining) factor for how future supply chains take shape. Increased tensions over Taiwan have already led to concerns that companies will seek to withdraw from the island and direct investments elsewhere. Chinese military exercises around Taiwan have risked the disruption of some of the world's busiest shipping zones which are conduits of semiconductors, other vital electronic goods, and natural gas. In fact, nearly half the world's container ships pass through the narrow Taiwan Strait. Therefore, an invasion of Taiwan by China would lead to massive disruptions and rerouting of GVCs, engendering gross socio-economic consequences for the entire world.

Beyond such geopolitical imperatives, there are several transnational security threats to supply chains in the Indo-Pacific like piracy, maritime terrorism, pollution, and environmental disasters. While these factors may not be as pressing as those pertaining to geopolitical competition, they can exacerbate the prevalent strategic tensions and issues in the Indo-Pacific and make the situation more desperate.

Maritime Chokepoints in the Indo-Pacific: Projecting Impact

A key aspect of supply chain management and assessing risks and vulnerabilities includes calculating for maritime chokepoints. The Suez Canal incident, wherein the passageway was blocked for over six days due to a container ship running aground, demonstrated their significance and ability to wreak havoc on global markets. Within days, the Suez blockage stopped 12% of world trade, holding up US\$15-17 billion in trade, and caused chaos and disruption to supply chains that lasted several months thereafter. With the Indo-Pacific home to several

⁵ Kuttner, n. 2.

^{6 &}quot;China's Taiwan war games threaten more global supply chain disruption," France24, 4 August 2022, https://www.france24.com/en/live-news/20220804-china-s-taiwan-war-games-threaten-more-global-supply-chain-disruption/.

⁷ See Jade Man-yin Lee and Eugene Yin-cheung Wong, "Suez Canal blockage: an analysis of legal impact, risks and liabilities to the global supply chains," MATEC Web of Conference, 339, 2021, https://doi.org/10.1051/matecconf/202133901019.; Pippa Stevens, "The ship that blocked the Suez Canal may be free, but experts warn the supply chain impact could last months," CNBC,March 29, 2021, https://www.cnbc.com/2021/03/29/suez-canal-is-moving-but-the-supply-chain-impact-could-last-months.html.

such sensitive chokepoints – with alternate routes being unfeasible – the pressure on building resilient supply chains is immense. For one, sea lines of communication (SLOCs) within the Indo-Pacific are essential for transporting oil and gas shipments, but subject to several vulnerabilities within the area. As such, greater naval capabilities should be directed towards potential chokepoints within the region that have the greatest potential to be targeted due to their strategic value.

The South China Sea (SCS) is, in itself, a potentially significant chokepoint because global trade would be disrupted if tensions erupt. Not only is it geo-strategically important due to its location at the throat of the Western Pacific and Indian Ocean, but it also holds large amounts of energy reserves. Owing to many states vying for interests and the sensitive territorial disputes among littoral powers, there is the potential for minor encounters within these waters to trigger greater geopolitical rivalry. With six states asserting overlapping claims to the 1.2 million square miles of the SCS – which is a conduit for about US\$5 trillion in annual trade – component supply chains remain highly vulnerable and demand rethinking. Continued tensions between the US and China in the SCS make free navigation through this main artery of trade with Southeast Asia and beyond critically vulnerable.

The Strait of Malacca is arguably the most important sea lane in the world, as the shortest sea route between African and Persian Gulf suppliers and the Asian markets, connecting the Indian Ocean to the Pacific. Almost half of the global maritime trade and a third of global crude oil trade passes through this route – making it a lifeline for not only Japan but also an oil-hungry country like China. The Indian Ocean Region is home to other key waterways that are at risk, such as the Sunda and Lombok Straits, the Strait of Hormuz (due to growing tensions between the US and Iran), the Horn of Africa, the Andaman Sea and Bab El-Mandeb. However, with some 19 times the volume of trade passing through the Panama Canal and four times that of the Suez Canal, the Malacca Strait is among the most critical maritime chokepoints where any blockage would have dire consequences.

For China, such a blockade would cut off crucial energy supplies coming from the Middle East as well as raw materials from Africa, thus massively undermining the economy. Therefore, freedom of passage through the Malacca Strait is a geostrategic priority, and – as former Chinese Premier Hu Jintao's Malacca Dilemma posits – Beijing is concerned that, should any other state gain control over the Strait and implement a naval blockade, they would exercise an incredible strategic advantage over China. India has the most potential to instigate a blockade given its naval dominance in the area. This possibility for New Delhi to exploit the Malacca Strait if war with China were to break out marks a point of asymmetry in their relations. Although such a scenario remains unlikely – especially while India and its partners remain equally reliant on the Malacca Strait ¹³ – its existence is nevertheless a source of panic in Beijing.

See Paul Sullivan, "Shipping, chokepoints and supply chain vulnerabilities," Arab News, June 9, 2022, https://www.arabnews.com/node/2100436.

⁹ Greg Wood, "Component Supply Chain and the South China Sea," HIS Markit, August 21, 2020, https://cdn. ihsmarkit.com/www/prot/pdf/1020/SouthChinaSea-WhitePaper.pdf.

¹⁰ Tomas Hirst, "The world's most important trade route?" World Economic Forum, May 21, 2014, https://www.weforum.org/agenda/2014/05/world-most-important-trade-route/.

[&]quot;Safety in the Straits of Malacca and Singapore," The Nippon Foundation, https://www.nippon-foundation. or.jp/en/what/projects/safe passage.

¹² Abhijit Singh, "ORF Occasional Paper: Securing Sea Lines of Communication" (Observer Research Foundation), accessed September 6, 2023, https://www.orfonline.org/wp-content/uploads/2022/11/ORF_OccasionalPaper 383 SLOC-Asial-Nov21.pdf.

¹³ Krzysztof Iwanek, "Why Even in a Crisis India May Not Block Maritime Trade with China," The Diplomat, February 4, 2023, https://thediplomat.com/2023/02/why-even-in-a-crisis-india-may-not-block-maritime-trade-with-china/.

Forecasting the Future: Towards Resilient, Agile, and Sustainable GVCs?

Anxieties over disruptions owing to heightening geopolitical risks – and the potential of their weaponisation – have caused the restructuring of supply chains to move high up on the political agenda of Indo-Pacific countries, becoming a question of national interest. In essence, the priorities driving supply chains are shifting from efficiency to minimizing geopolitical risk. As such, strategies for the restructuring of supply chains are gaining urgency in national policy, and many states are exhibiting signs of 're-shoring' and 'near-shoring' to reduce their vulnerabilities. Both the US and China are shifting towards prioritising their domestic industries and trying to wean their dependence off each other; for the US, this shift is evident in the Biden-Harris Plan to Revitalise American Manufacturing and Secure Critical Supply Chains, ¹⁴ and in the case of China, this is occurring through Beijing's dual circulation strategy. ¹⁵ Nevertheless, these shifts have the potential to deepen US—China strategic rivalry and descend into another trade war as both countries clash over protectionist policies that will hurt others along the supply chain.

The focus on GVCs over the past few years has already seen states make moves to address vulnerabilities. For example, in recognition of the Malacca Dilemma that it faces, Beijing is looking to forge alternative trade routes that would allow it to bypass the Malacca Strait. These include shipping overland through Pakistan as part of the China-Pakistan Economic Corridor under the Belt and Road Initiative (BRI), or eventually venturing into the Northern Sea Route via the establishment of a Polar Silk Road. Smaller Indo-Pacific states, on their part, have attempted to promote the rule of law and safeguard freedom of navigation and the free flow of goods by expanding their coastal guard or naval services to protect their waters. Yet, most cooperation within groupings like ASEAN has remained limited to areas like piracy. Now, greater attention must be devoted to bolstering maritime security to safeguard SLOCs in the face of such vulnerabilities.

While alternatives to chokepoints remain elusive, the most effective way to safeguard supply chains is to work collectively and build resilience through alternative supply chains between a coalition of allies. The India-Japan-Australia Supply Chain Resilience Initiative (SCRI), commitments of the Quad, and the Indo-Pacific Economic Framework (IPEF) are prominent examples. The drive to re-organise supply chains to evade the threats of geopolitics present in the Indo-Pacific is now palpable. Building resilient, agile, and sustainable

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- 14 "The Biden-Harris Plan to Revitalize American Manufacturing and Secure Critical Supply Chains in 2022," The White House, February 24, 2022, https://www.whitehouse.gov/briefing-room/statements-releas-es/2022/02/24/the-biden-harris-plan-to-revitalize-american-manufacturing-and-secure-critical-sup-ply-chains-in-2022/.
- Liu He, "Accelerate the Construction of the New Development Pattern with Domestic Circulation as the Main Body and Domestic and International Dual Circulation Promoting Each Other (Studying and Implementing the Spirit of the Fifth Plenary Session of the 19th Central Committee of the Party)," People's Daily, November 25, 2020, http://politics.people.com.cn/n1/2020/1125/c1001-31943814.html; "The Fourteenth Five-Year Plan for National Economic and Social Development of the People's Republic of China and the Outline of the Long-term Goals for 2035," National Development and Reform Commission, https://www.ndrc.gov.cn/xxgk/ zcfb/ghwb/202103/P020210323538797779059.pdf.
- 16 See H.I. Sutton, "Could the Indian Navy Strangle China's Lifeline in the Malacca Strait?" Forbes, July 8, 2020, https://www.forbes.com/sites/hisutton/2020/07/08/could-the-indian-navy-strangle-chinas-life-line-in-the-malacca-strait/?sh=37d0f31b78e8.
- 17 Jay Batongbacal, "Protecting law and order at sea means educating people on their rights," The Interpreter, April 6, 2022, https://www.lowyinstitute.org/the-interpreter/protecting-law-order-sea-means-educatingpeople-their-rights.

GVCs requires a holistic approach with the participation of like-minded actors across the region and beyond. Rather than a piecemeal approach engendered by states working unilaterally in this direction, resilient and stable supply chains can be achieved through broad-spectrum cooperation between like-minded states, such as via a SCRI+, Quad Plus, or IPEF model. This should necessarily involve not only the key Indo-Pacific economies of India, Japan, Australia, and the US, but also actors like Taiwan, ASEAN, South Korea, and the EU. Geopolitically, China's adventurism and demonstrated willingness to use coercion to achieve its ambitions are the most pressing risk factors to stable supply chains. A minilateral coalition of like-minded states which can build mutual dependencies in key areas like rare earth minerals, pharmaceuticals, and critical technologies is vital for unhindered growth and stability. Its

Supply chains are likely to always remain vulnerable to disruption.

Over the coming decade or so, in 2030-2035, the stability of GVCs will be shaped by how the US-China competition plays out and the extent to which they reduce their interdependence. As the transition to clean energy becomes of critical importance, China's monopoly over rare earth minerals and production of products like electric vehicles will only empower the country further. Yet, while over-dependence on China intensifies the risk of being subject to economic coercion and disruption of lifeline supplies, a complete decoupling remains out of the question. In fact, strategies like the US 'friend-shoring' 19 pose their own risk of creating a situation wherein global trade is bifurcated into two blocs led by the US and China, respectively, and driven by entirely opposing world views. This scenario makes supply chain resilience cooperation between middle economies – like Japan, India, Australia, ASEAN, the EU, and Taiwan – outside of great power collaboration all the more important. A SCRI+ format could be a critical way forward in this regard.

While the US-China great power dynamic will influence chokepoints like the SCS and the Taiwan Strait, the India-China bilateral relationship holds the potential to derail stability in the Malacca Strait. Should a greater confrontation in the Himalayas break out, and the battle for influence over the Indian Ocean further intensify, to the point where India-China relations suffer an utter breakdown, India could seek to cut off China's access to the Strait. Yet, as discussed above, this remains unlikely while India and its partner states remain equally dependent on the narrow waterway. Moreover, India's position to throttle China will be remarkably diminished as China focuses on developing alternative routes. If climate change reaches predicted levels, this could include Arctic shipping routes; in such a scenario, supply chain considerations will widen to include geostrategic competition in the North. Here, China's relations with Russia (and for that matter, Russia's own position in global geopolitics in the wake of the Ukraine war) will be added factors to consider while securing maritime trade routes.

In essence, supply chains are likely to always remain vulnerable to disruption. For industry leaders and governments, the challenge is to use predictive models and analytics to understand these risks and limit their vulnerabilities. This endeavour cannot be a singular effort but must involve a holistic approach including suppliers, processes, and markets. In other words, this includes anticipating and mitigating variability upfront, building agility into GVCs, and ensuring their operational reactivity. For governments, this could mean investing in infrastructure, pushing for a digital transformation in the trade and economic domain especially,

¹⁸ Nagy, n. 4.

¹⁹ Gunther Maihold, "A New Geopolitics of Supply Chains," SWP Comment (Stiftung Wissenschaft und Politik, 2022), https://www.swp-berlin.org/publications/products/comments/2022C45_Geopolitics_Supply_Chains.pdf.

and ensuring regulatory flexibility. Rather than advancing national or regional trade and strategies like friend-shoring or decoupling, the focus must be on keeping markets open and competitive, promoting innovation, facilitating the exchange of knowledge and diversification, and most importantly, international collaboration. In the face of mounting geopolitical challenges, it is vital that like-minded partners in the Indo-Pacific and beyond work together to anticipate risk, minimize exposure, and help each other resist, adapt, and recover from economic shocks.

In the face of mounting geopolitical challenges, it is vital that like-minded partners in the Indo-Pacific and beyond work together to anticipate risk, minimize exposure, and help each other resist, adapt, and recover from economic shocks.

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