

MARITIME STRATEGIC EVALUATION FOR ISRAEL 2022/23

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China's Port and Shipping Diplomacy

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The History of China's Commerce and Ports

For its thousands of years of existence, since the imperial age, China's geostrategy has always been land-based and defensive. At the same time, because of its long coastlines and many rivers, shipping and highly technologically advanced ship-building began developing as early as the Han dynasty (256–220 BCE). Years later, the Tang and Song dynasties (618–1279 CE) established the Maritime Silk Route, connecting China with Europe and the Middle East. The pinnacle of ancient maritime exploits was achieved during the Ming dynasty (1368–1644) when Admiral Zheng voyaged across the seas with enormous treasure ships between 1405 to 1433, expanding China's maritime diplomacy and commercial network all the way to East Africa.¹ But China did not use any of this as a basis for establishing naval power, in part because all of its enemies were continental nations. Having no overseas enemies, it did not invest in building a navy. Moreover, in response to opposition from supporters of Confucianism and to save on military expenditures, the navy was entirely scrapped after Zheng He's seventh voyage (in the course of which he died in 1432). Maritime commerce with Europe was henceforth also severely curtailed.² In fact, China closed itself off to the outside world, losing its global status and its control of the seas. The Ming dynasty did not take advantage of the opportunity to build a permanent presence in far-flung corners of the world. Thus, for almost its entire history, China did not engage in a policy of establishing colonies or conquering distant territories by sea. As a result, its international status was weak until the end of the 20th century.³

With the arrival of Europeans in China (1500–1750), China's maritime trade was in private hands and the country lacked a government navy. Not surprisingly, during the Opium Wars (the first between the United Kingdom and the Ching dynasty lasted from 1839 until 1842, and the second between assorted western nations and China from 1856 until 1860), China was actually defeated at sea. Only then did the Chinese discover that enemies could also appear in the maritime domain. The change in China's attitude to a military naval power came only towards the end of the 20th century, when it became clear that China's economy depended on commerce by sea.

¹ For more on Zheng He's voyages, see: "[Zheng He's Achievements](#)", *Encyclopedia Britannica*.

² G. Wang, "[China, ASEAN and the New Maritime Silk Road](#)", *The Straits Time*, November 22, 2021.

³ V. Bileta, "[Zheng He's Last Voyage, How Ming Chin, Closed Themselves to the World](#)", *The Collector*, October 29, 2022.

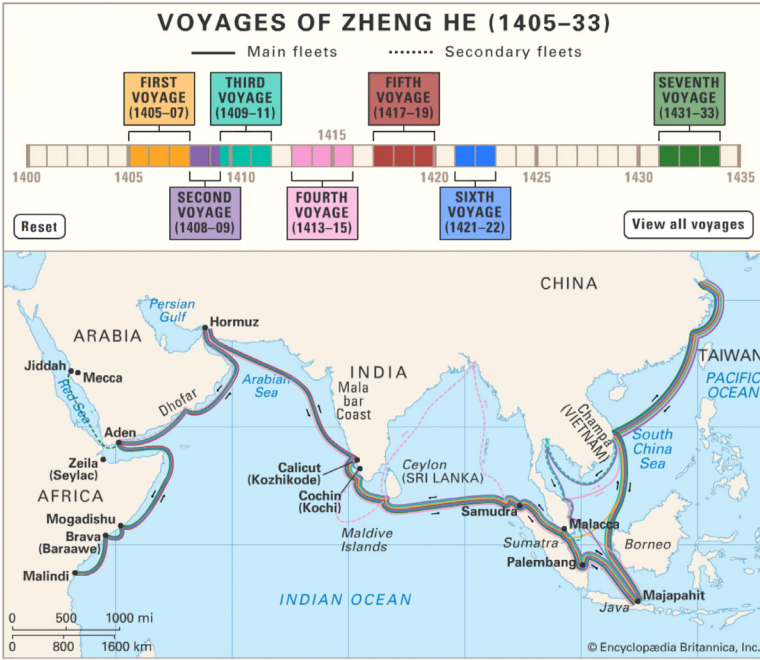


Figure 1: [Admiral Zheng He 7 voyages](#)



Figure 2: [The Treasure Fleet under Admiral He Command](#)

This article examines the development of China's ports and commercial maritime traffic and describes its port and shipping diplomacy, which led the country to becoming today's leading power in maritime trade. Sea trade now plays an integral role in China's economic

plans, including the Belt and Road Initiative (BRI),⁴ by preparing for economic and strategic competition, mainly with the United States. This article seeks to answer the question of whether China's port and shipping diplomacy is for commercial and economic purposes only, or whether it also serves geopolitical and geostrategic aims, such as achieving hegemony and greater influence on the global agenda and being in a position to promote its policies on a global level, as part of the competition with the USA.



Figure 3: [Container port in Shanghai](#)



Figure 4: [Hansaport bulk cargo port](#)

Scope of Global Maritime Commerce

In 2000, the global commercial shipping fleet consisted of 99,800 vessels, with a net tonnage of 100 and above; of these, 53,000 had a net tonnage of 1,000 and above. In January 2021, capacity was equivalent to 2.13 billion DWT (deadweight tonnage) (Table 1). In 2020, delivery of new ships fell by 12 percent (as a result of the Covid-19 lockdowns, which wreaked havoc with industrial marine activity). Most of the ships delivered were bulk cargo ships, followed by oil tankers, and container ships.⁵ According to another source, the number of vessels in the world, including fishing ships and tugboats of 100 and above tonnage, was 120,000, of which 63 percent were commercial ships.⁶

A model published in February 2022 estimated that the real value of maritime cargo after the Covid-19 pandemic of 2020 and 2021 would steadily rise, and having risen in 2021 to \$20,175 billion, would reach \$21,038 billion in 2022 and would continue to rise. The

⁴ China's Belt and Road Initiative is meant to connect Asia with Africa and Europe through a network of overland and maritime routes designed to promote regional integration, expand trade, and encourage the country's economic growth. President Xi Jinping, inspired by the Silk Road of the Han Dynasty of 2,000 years ago, gave the plan its name in 2013.

⁵ United Nations Conference on Trade and Development UNCTAD, "[Review of Maritime Transport 2021](#)", United Nations, Geneva, 2021.

⁶ Equasis, [The 2020 World Merchant Fleet Statistics from Equasis](#).

volume of cargo would also increase, reaching more than 20 billion tons within a decade. It can be assumed that maritime transport of such magnitude will require increased activity at ports all around the globe (Figure 5).

Table 1: Types of tonnage of ships in the global merchant marine⁷

World fleet by principal vessel type, 2020–2021 (thousand dead-weight tons and percentage)					
Principal types	2020		2021		Percentage change 2021 over 2020
Bulk carriers	879 725	42.47%	913 032	42.77%	3.79%
Oil tankers	601 342	29.03%	619 148	29.00%	2.96%
Container ships	274 973	13.27%	281 784	13.20%	2.48%
Other types of ships:	238 705	11.52%	243 922	11.43%	2.19%
Offshore supply	84 049	4.06%	84 094	3.94%	0.05%
Gas carriers	73 685	3.56%	77 455	3.63%	5.12%
Chemical tankers	47 480	2.29%	48 858	2.29%	2.90%
Other/not available	25 500	1.23%	25 407	1.19%	-0.36%
Ferries and passenger ships	7 992	0.39%	8 109	0.38%	1.46%
General cargo ships	76 893	3.71%	76 754	3.60%	-0.18%
World total	2 071 638		2 134 640		3.04%

Source: UNCTAD calculations, based on data from Clarksons Research.

Note: Propelled seagoing merchant vessels of 100 tons and above; beginning-of-year figures.

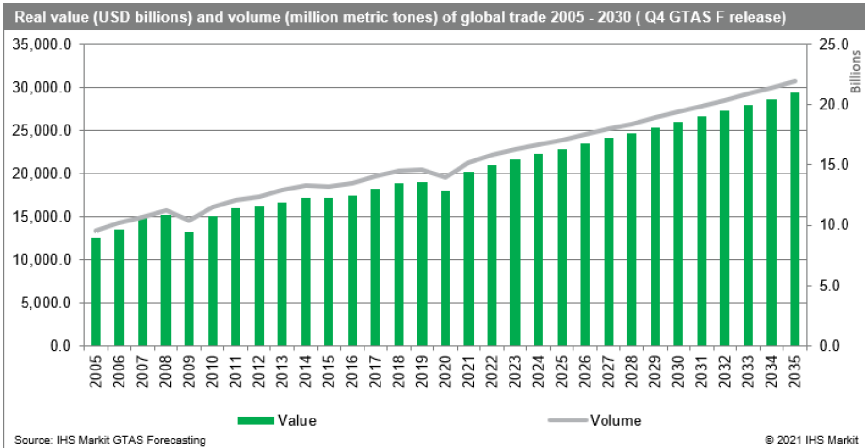


Figure 5: Increase in global maritime trade in monetary value and tonnage⁸

⁷ UNCTAD, [Review of Maritime Transport 2021](#). Table 1.

⁸ Tomasz Brodzicki, "[Global Trade Outlook 2022. High Global Trade Volume Growth in 2021 and Significant Moderation in 2022. Supply Chains Disruption is Likely to Continue in the First Half of 2022](#)", *S&P Global, Market Intelligence*, January 12, 2022.

Modern / Smart Ports

About 90 percent of global commerce is shipped by sea via merchant ships of all kinds. The demand for efficient ports and shipping lanes will only grow as the scope of maritime trade triples by 2050. It is obvious that the system of maritime transportation, ships, and ports is part of an economic mechanism that creates added value to the economies of nations that operate ports.⁹

A port is an area capable of providing harbor to many vessels and allowing continuous or periodic activity of loading and offloading goods and people. Ports may be highly important to a nation, serving as catalysts for economic development by enabling commerce and supporting the supply chain. Investments in ports have economic benefits, both direct and indirect. Ports may also have military importance.

Today, most ports (especially seaports) are equipped with special facilities and computerized systems to ease the flow of routine traffic and reduce the time any ship stays docked. Generally speaking, there are five types of ports: inland ports built on lakes or rivers, with or without a channel to sea; fishing ports; warm water ports, which have the operational advantage of not freezing over in the winter; dry ports, which are ground terminals located away from the seaport and connected to it by a network of ground transportation; and seaports, the most common, generally located in natural bays or behind artificial seawalls on the coast or at river estuaries.¹⁰ The most significant ports in terms of the economy are those that also serve as cargo ports, classified by their specializing in types of cargo – container ports, oil and gas ports, and bulk ports – or mixed ports capable of serving different types of cargo.

A smart port is a digital port; it must be more attractive and innovative in a competitive environment, be better connected to logistics, industrial environments, and development resources. These are automatic ports using technologies with an emphasis on the maritime environment. They use smart data systems geared for innovation, including big data, AI, blockchain technologies, nonstop service, efficiency, automation, and green technologies. The need to develop and become "smart" is more vital now than ever, given the changing demands of global trade: ships are getting bigger, goods are moving faster, and geopolitical issues create new challenges for ports all over the world.¹¹

⁹ OECD, [The Ocean, Ocean shipping and Shipbuilding](#).

¹⁰ Soumyajit Dasgupta, "[What Are Different Types of Ports for Ships](#)", *Marine Insight*, April 26, 2022.

¹¹ Port Technology Team, "[What is a Smart Port?](#)", *Port Technologies*, April 14, 2021.



Figure 6: [A smart port](#)



Figure 7: [The importance of the use of smart technology in ports was made clear during the pandemic](#), Photo: Andy Li

Specialization in transporting containers has become a key factor in competition among ports. At times, the economic constraints of countries and other factors make it necessary to privatize ports or apply an PPP model – public-private partnership – to them. PPP models may be categorized into four broad groups in order of increased involvement on the part of the private sector: supply and management contracts, partnerships, private ownership, and franchising.¹²



Figure 8: [Singapore Port](#), 4th on the list of 10 smart ports in the world

China's Shipping Strategy

Since the economic reforms in China and the institution of its "Open Door" policy (starting in 1978),¹³ along with the global port privatization trend beginning in the 1990s, and China's

¹² *iRami*, "[Major Features of Modern Ports](#)", September 15, 2012.

¹³ Guocang Huan, "China's Open Door Policy, 1978–1984", *Journal of International Affairs*, 39, no. 2, China in Transition (Winter 1986):1–18.

entry into the World Trade Organization (WTO) in the early 2000s, foreign investors have flocked to China's port sector, operated on the basis of the 2004 Chinese "Port Law" for joint ventures supported by the Chinese government. Thus began a process of mergers of government-owned Chinese companies, receiving financial support and political backing, such as the 2015 merger of the largest port management company in the world, the China Merchant Group (CMG), a shipping company founded in 1872, and the 2016 merger of the COSCO Group with China Shipping Group, which led to the creation of the third-largest shipping company in the world. The Chinese authorities set ambitious maritime strategic goals, both domestic and international, investing \$132 billion in international ports between 2010 and 2019 for 25 projects in 18 countries.¹⁴ The outcome has been not just an expansion of ports, infrastructures, and service in China, but also cumulative experience that, with government support, has led to the expansion of other cooperative ventures at ports around the world.¹⁵

Two major factors apparently form the basis for China's buildup in maritime transportation (and also in other fields of the economy) and for its full or partial ownership of dozens of ports around the world. The first is the formulation of a new communist ideology, "socialism with Chinese characteristics," that combines China's unique history and culture with the nation's communist doctrine, and is a key component in China's economic, social, and security development. According to party propaganda, China's economic development is a source of profound admiration, the standard of living has improved dramatically, and the use of capitalist principles incorporated with a socialist foundation has brought China nothing but good. Similarly, in the realm of national pride, China has developed and advanced after "the century of humiliation."¹⁶ The emphasis on the intention and ambition to return to a place of Chinese superiority was part of China's name from the year 1000 BCE until the 16th century, when the nation was called "the Middle Kingdom"¹⁷ and was a world leader diplomatically, militarily, and economically.

¹⁴ Jude Blanchette, "[Hidden Harbors: China's State-backed Shipping Industry](#)", *CSIS*, July 8, 2020.

¹⁵ K.X. Li, W. Zhang, S.L. Chen, and W. Huo, "[International Port Investment of Chinese Port-Related Companies](#)", *International Journal of Shipping and Transport Logistics*, 11, no. 5 (January 2019): 430.

¹⁶ "The century of humiliation" is a historical term referring to the period of Western and Japanese intervention and imperialism in China and ranges from 1839 to 1949.

¹⁷ At different times, China was called the "Middle Kingdom" or "Central Kingdom" and, in fact, in Chinese the name of the nation is Zhongguo, which is translated as "the Middle Kingdom." It is indicative of the country's supreme function as the center of civilization or even the world. With such self-confidence and collective sentiment, China was destined to be isolated. From the beginning of the year 1000 BCE, the members of the Zhou dynasty, not aware of high civilizations in the West, believed that their empire had conquered the middle of planet Earth and was surrounded by barbarians.

Like historically distant leaders, the Communist Party of China (CPC) of today also behaves as if China is at the center of the universe.

The second factor in China's maritime growth is the reliance of China's maritime policy shapers on the naval doctrines of Mahan and Corbett, both of whose writings have directly influenced the concept of China's military fleet and are an inseparable part of its policy of shipping and controlling ports all over the world (see below).



Figure 9: "[Socialism with Chinese characteristics](#)"

As early as 2017, President Xi, speaking about the BRI, said, "If you want to get rich, first build a road, but in coastal areas, if you want to get rich, you also need to build a port."¹⁸ He also said that "Economic powers must be maritime powers and shipping powers."¹⁹

In previous articles, I have tried to clarify China's geostrategic intention as an economic policy and strategy rather than as an aspiration for hegemony or a military strategy.²⁰ For hundreds of years, China's security strategy was aimed at its long land borders with its neighbors. In the 1980s and 1990s, as China's industry grew, accompanied by an impressive increase in maritime commerce (imports and exports), China's grand strategy

¹⁸ Isaac Kardon, "[China's Ports in Africa](#)", *NBR*, Special Report, no. 9:8. May 3, 2022.

¹⁹ "[How Is China Influencing Global Maritime Connectivity?](#)", *China Power*, Retrieved September 17, 2022.

²⁰ Benni Ben Ari, "Strategies in the Indo-Pacific Region", in Shaul Chorev and Ziv Rubinovitz (eds.), *Maritime Strategic Evaluation for Israel 2021–2022* (Haifa: Maritime Policy & Strategy Research Center, University of Haifa, 2022), pp. 103–121; Benni Ben Ari, "Is U.S. Strategy on China's Maritime Buildup Correct?" in Ziv Rubinovitz (ed.), *The Geostrategic Series 2022* (Haifa: Chaikin Chair for Geostrategy and the Maritime Policy & Strategy Research Center, University of Haifa, 2023), pp. 12–17 (Hebrew).

shifted to "offshore balancing."²¹ In my opinion, making China's maritime strategy part of the nation's grand strategy is a result of its population size and the CPC's policy that it must ensure that its 1.5 billion citizens are satisfied with the standard and quality of living in the country. A population of that size demands the of production²² and import of massive quantities of food (China is the world's large food importer,²³ as well as a leading exporter of foodstuffs²⁴) and a constant flow of raw goods to the industrial sector, including energy products – coal, oil, and gas – lacking in China (which is the world largest importer of oil,²⁵ as well as the largest importer and consumer of iron in the world).²⁶ Employment opportunities for so massive a population and the world first-place manufacturing capacity demand extensive export and import capabilities.²⁷ Such activities, undertaken on such a large scale, can be carried out only by sea transport; therefore, China must have a very large merchant fleet and a well-developed home port system. In seven years, the expansion of the merchant fleet's gross tonnage (GT) totaled 97.4 million: from 126.3 million GT at the end of 2014 to 223.7 million GT at the end of 2021. Almost half of the total expansion in that time involved bulk carriers, including ore carriers (47 percent); about one-quarter involved container ships (26 percent), followed by tankers (17 percent), and other types of vessels (10 percent).²⁸

The rapid growth of China's economy on the world stage steps primarily from the constant growth in exports of the last few decades. Container ships transport more than 80 percent of international commerce, which is why China is implementing a plan for export-oriented economic growth. Along with this, the Chinese government is investing

²¹ "Offshore balancing" in strategy is a term used in the doctrine of international relationships that perceives multi-polarity – international relations controlled by force over many – as an opportunity rather than a threat. For more on China's strategy, see: Benni Ben Ari, "[The Cat Is out of the Bag: Geostrategy and Geopolitics in the South China Sea](#)," Maritime Policy & Strategy Research Center, University of Haifa, October 11, 2021 [Hebrew].

²² K. Whiting, "[Food Security: This is How China Plans to Feed its 1.4 Billion People](#)", *World Economic Forum*, March 11, 2022.

²³ O. Wang, "[China Food Security: How's It Going and Why It Is Important](#)", *China Macro Economy*, November 29, 2000.

²⁴ T. Brodzicki, "[Agri-food Exports of China](#)", *S&P Global*, February 25, 2020.

²⁵ K. H. Wang, C. W. Su, "[Dose High Crude Oil Dependence Influence Chinese Military Expedition Decision Making?](#)", *Energy Strategy Reviews*, 35: 100653, May, 2021.

²⁶ Luo Guoping, Fan Ruohong, and Han Wei, "[China's Steel Industry at a Crossroads as Long Winter Looms](#)", *Nikkei Asia*, September 7, 2022.

²⁷ "[Top Manufacturing Countries in the World](#)", *Global Upside*, Global Manufacturing Output, China, – 28.7% United States, – 16.8% Japan, 7.5%, Retrieved December 12, 2022.

²⁸ "[Powerful Growth in the China-Owned Fleet](#)", *Hellenic Shipping News*, June 16, 2022.

in upgrading and strengthening the infrastructure of the country's ports, through which most of the nation's international commerce passes.²⁹ The Chinese companies building and operating infrastructures overseas are exposed to ever-increasing competition from other world powers. In fact, China is not alone in operating a port strategy, and, currently, a number of port operators from one country own and operate terminals in others. PSA (the Singapore Port Authority) operates terminals in 15 countries; the Danish Maersk Line has 76 ports in 41 countries; Switzerland's Mediterranean Shipping Company (MSC) operates 35 terminals in 22 countries; and DP World from Dubai runs 77 ports in 40 nations.³⁰

China's defense experts applied Alfred Thayer Mahan's principles of naval strategy during the impressive development of the merchant fleet and later to the naval branch of the armed forces charged with maritime defense of China's coasts and littoral water, as Mahan's ideas suited China's growing strength and influence.³¹ Later, the development of commercial sea routes to all corners of the globe led to a conceptual change and the adoption of Julian Corbett's naval strategy, which holds that naval strategy always derives from a nation's unique political ambitions and desires while taking into account its limitations and constraints.³² According to Corbett, such a grand strategy requires an appropriate naval strategy that can link the use of naval power with the political objective of preventing the development of a negative balance of power in each and every region. In China's case, such a strategy necessarily involves achieving the objectives of being able to face other navies and threats, especially from the United States and its navy.³³ Mahan's doctrine may be summarized as focusing the navy on finding and destroying the adversary's navy in a decisive battle at sea (an offensive defense). In contrast, Corbett's theory may be summarized as the need to ensure command of the sea to deny freedom of action to one's adversary. A transition to Corbett's strategy also requires a well-

²⁹ "[How the Ports are Helping China to Lead the Global Container Shipping Industry](#)", *The Cooperative*, February 2, 2022.

³⁰ W. Shepard, "[China's Seaport Shopping Spree: What China Is Winning by Buying Up the World's Ports](#)", *Forbes*, September 6, 2017.

³¹ Alfred Thayer Mahan was considered "the guru" of U.S. naval power in the 19th century and the spiritual father of the modern U.S. Navy. His theories are not time-dependent, and Chinese experts refer to his writings again and again, urging their nation to construct a powerful navy.

³² Corbett's main goal was to fill the lacunae in the British Royal Navy's doctrine by articulating the theories and principles of naval warfare. His strategies focused on the art of naval warfare and formulated the differences between warfare on land and at sea.

³³ Andrew Latham, "[Mahan, Corbett, and China's Maritime Grand Strategy](#)", *The Diplomat*, August 24, 2020.

developed navy to be a "blue-water navy"³⁴ equipped with suitable weapons capable of securing commercial maritime routes and operating at distant chokepoints³⁵ that have the potential to interfere with or even prevent free and secure shipping at sea.

Major Ports and Maritime Commerce in China

Along its 14,500 km. long coastline, China operates 34 large open-sea ports and more than 2,000 smaller ports located along rivers and canals, all of which are active year-round. Thus, most large cities have a port of their own or are close to one.³⁶ After the economic reforms that followed the Cultural Revolution (post-1979) and as exports and imports increased, in particular after the announcement of the Belt and Road Initiative in 2013,³⁷ the field of maritime commerce and port construction has undergone considerable development. Today, China has the largest number of home ports of any country in the world, and of the ten largest ports in the world, seven are located in China (since 2009, the largest port in the world has been the Port of Shanghai).³⁸ China also controls more than 150 ports in 79 countries scattered across all five continents (a different source claims 63 nations;³⁹ a breakdown of Chinese ports in the world may be found below).

In the first quarter of 2022, China's foreign trade increased by 10.7 percent (compared to the previous year), for a value of CN¥9.42 trillion (\$1.48 trillion), maintaining a growth momentum for seven consecutive quarters and kicking off a stable year despite mounting challenges: the Russia-Ukraine crisis and local outbreaks of the Omicron strain of Covid-19.⁴⁰ Undoubtedly, a significant part of maritime trade growth is due to the recovery of maritime transport, which slowed during the pandemic, and due to the many efficient ports in China itself and the ports it controls throughout the world.

³⁴ Navies with the ability to operate at great distances in the waters of all the oceans.

³⁵ A narrow strategic route providing transit to another region.

³⁶ [List of ports in China](#), *wikinone.com*, Retrieved July 20, 2022.

³⁷ Belt and Road Initiative, a development strategy that President Xi Jinping proposed, focused on connections and cooperation with other nations, especially between the People's Republic of China and other Eurasian nations, in the developed of commercial and industrial infrastructures.

³⁸ "[Top 9 Ports in China](#)", *ShipHub*, Retrieved July 9, 2022.

³⁹ Matthew Rochat, "[China's Growing Dominance in Maritime Shipping](#)", *The Diplomat*, December 18, 2021.

⁴⁰ GT staff reporters, "[China's Foreign Trade Mirrors Stable Start in Q1 Despite Omicron Outbreak, Ukraine Crisis](#)", *Global Times*, April 13, 2022.



Figure 10: Sea ports in China



Figure 11: Volume of international commerce shipping by sea in China in the first quarter of 2022

China's Shipping Policy

China's merchant marine grew by an average of 8.5–14.5 percent between 2015 and 2020. Over the last decade, the capacity of China's merchant fleet has more than doubled (at the end of 2011, the total GT was 106 million; at the end of 2021, the GT had grown to 223.7 million). A fair estimate puts the number of Chinese merchant marine vessels of all types at more than 9,000. Expanding the fleet of Chinese-owned bulk carriers, tankers, container ships, gas carriers, and other types has made it possible for China to increase maritime imports and exports and reduce its dependence on foreign-owned ships. These trends are the result of the implementation of a national maritime shipping policy that appears in various economic programs of the PCP. Thus, the involvement of nationally-owned ships has also grown in maritime trade routes in which China is neither an importer nor an exporter. In fact, today China owns about one-seventh of all commercial ships in the world.⁴¹



Figure 12: [Container ships belonging to COSCO](#)

The Chinese merchant navy has also been of military-strategic importance for some time. As early as 2015, when China announced its shift of maritime military strategy from "defense in the nation's littoral waters" to an incorporation of "the open sea" in the navy's missions,⁴² the state approved and published guidelines for shipyards building merchant navy ships entitled "The Technical Standards for New Civilian Ships to Implement National Defense Requirements." This was done to ensure that the ships – container ships, roll-on-roll-off carriers (i.e., designed for wheeled cargo, such as cars, buses, etc.), general cargo, fuel tankers, and bulk carriers⁴³ – could also be used to transport soldiers, military

⁴¹ "[Powerful Growth in the China-owned Fleet](#)", *Hellenic Shipping News*, June 16, 2022.

⁴² Himanil Raina, "[China's Military Strategy White Paper 2015: Far Seas Operations and the Indian Ocean Region](#)", *CIMSEC*, July 1, 2015.

⁴³ Conor M. Kennedy, "[Civil Transport in PLA Power Projection](#)". *China Maritime Report No. 4*, U. S. Naval War College, December 2019.

equipment, armored combat vehicles, and various weapons systems.⁴⁴ In 2016, the Chinese government passed the "National Defense Transportation Law," updated in 2021, which determines that every government-owned organization is obligated to support security issues even outside of China, stressing that infrastructure projects (including ports) must take into account and realize military requirements.⁴⁵ Thus, the merchant navy is an integral part of China's strategic maritime capabilities. At the same time, the Chinese navy has also developed considerably; today, it is larger than the U.S. Navy in terms of the number of vessels.⁴⁶ Nonetheless, the modern Chinese navy has never fought a battle at sea, and even in its early history, it never won a serious naval battle. The construction of a modern navy seems justified if its main function is to secure the coasts and shipping lanes for commerce and to ensure that the nation's economy, so dependent on maritime trade, is never threatened by hostile parties. But based on the types of vessels included – aircraft carriers, nuclear subs, and armored vehicle and troop carriers – it seems that China also wants to project a maritime presence as a blue-water fleet and to make it possible to secure long-range shipping routes.

In addition to its standing in terms of scope of maritime trade (some 15 percent of all maritime trade is Chinese), China's investment in maritime technologies, not just port construction, is also steadily on the rise. China is the world's leader in the manufacture of port equipment and machines. It manufactures 96 percent of all containers in the world, 100 percent of refrigerated containers, and 80 percent of cranes for on- and offloading ships (especially container cranes), and in 2020, Chinese ship-builders received 48 percent of the world's orders for the construction of new ships.⁴⁷ In terms of orders, China leads the world in the construction of container ships and operates the third-largest shipping company in the world, the China Ocean Shipping Company (COSCO), which has been active since 1961 as a government-owned company. China's exports by maritime shipping contributes 39.18 percent to China's GDP. China's system of ports, which operate in all seasons, moving cargo of 242 million TEU (twenty equipment units), and its shipping lanes

⁴⁴ Franz-Stefan Gady, "[China Prepares Its 172,000 Civilian Ships for War](#)". *The Diplomat*, June 23, 2015.

⁴⁵ Ben Lowsen, "[China's Updated National Defense Law: Going for Broke](#)", *China Brier*, 21, no. 4 (February 26, 2021), The Jadestone Foundation.

⁴⁶ David Axe, "[Yes, The Chinese Navy Has More Ships Than The U.S. Navy. But It's Got Far Fewer Missiles](#)", *Forbes*, November 10, 2021. A comparison between U.S. Navy capabilities and those of China in terms of attack missiles serves as a good demonstration. The Chinese Navy has 355 forward line battleships minimally of a Corvette size and more than 400 if one also counts small coastal missile boats, while the U.S. Navy has only 305 forward line battleships.

⁴⁷ "[China strives For Global Dominance Through Seaport Control](#)", *The Print*, May 8, 2022.

are the key factors in the nation's success in the field.⁴⁸ Maritime transportation plays a key role in China's economic strategy and the policy of China's Communist Part.

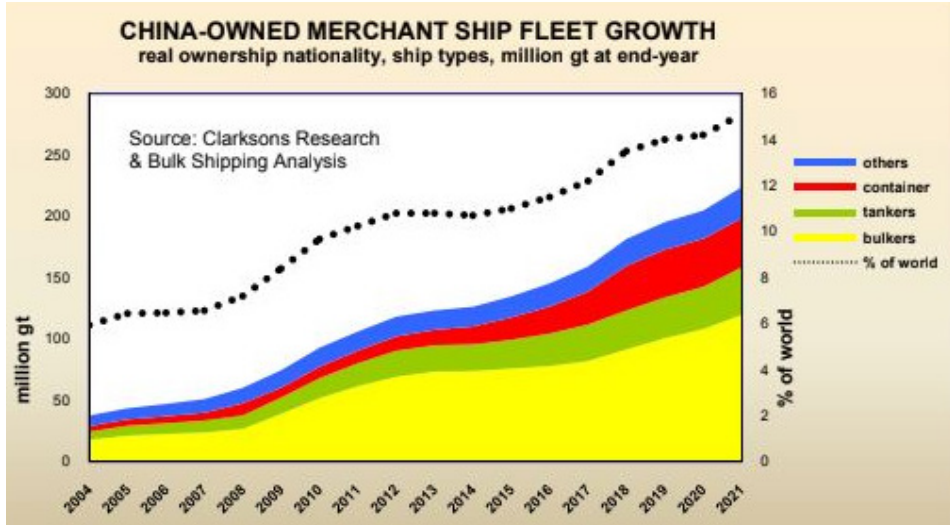


Figure 13: Growth of China's merchant marine, 2004 to 2021

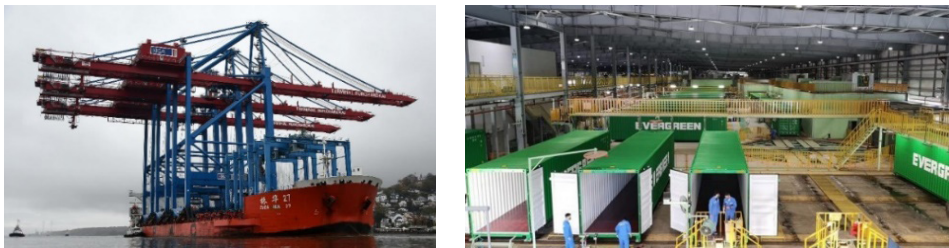


Figure 14: [Transit of container cranes from China to the port in Hamburg and the manufacturing of containers in China](#)

China's high performance in the Liner Shipping Connectivity Index (LSCI) is mainly the result of the nation's ability to handle a high output of container transportation.⁴⁹ China

⁴⁸ "[How dominant is China in the Container Port Business?](#)", *Zeymarine*, April 14, 2022.

⁴⁹ The Liner Shipping Connectivity Index examines the extent to which nations are connected to the global shipping networks. The index is computerized by the UNCTAD (the United Nations Conference on Trade and Development) on the basis of five parameters of maritime traffic: the number of ships, their carrying capacity, the maximal size of the vessels, the number of services, and the number of companies holding container ships at the nation's ports. "[Maritime Connectivity: Countries Vie for Positions](#)", *UNCTAD*, July 17, 2019.

invests heavily in improving its port infrastructures and in connecting them with the international traffic routes of the leading shipping companies. Moreover, many of China's ports are ranked among the most connected and efficient in the world.⁵⁰

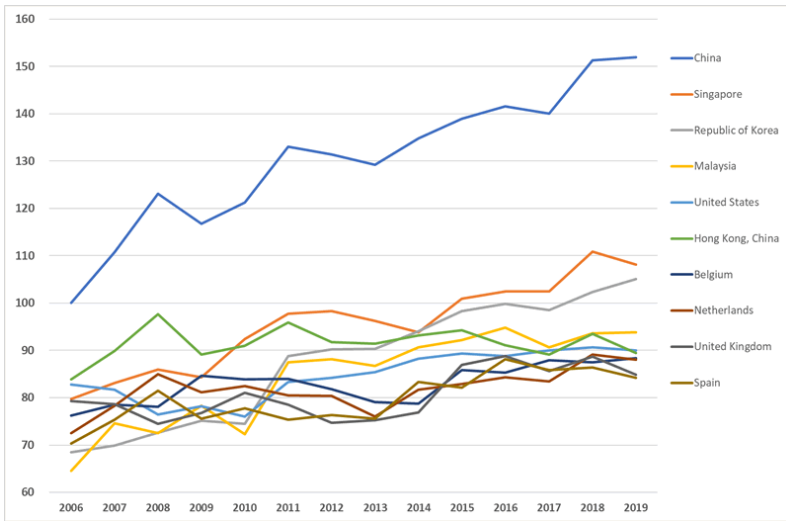


Figure 15: [LSCI 2006 to 2019](#)
 (Source: UNCTAD, based on data provided by MDS Transmodal)

To realize its commercial maritime strategy of having the largest merchant marine in the world⁵¹ to ensure its import and export ability based on China's existential and economic requirements at any time, China must be involved in and control and manage a large number of ports all over the world. In this way, it can ensure the ability to on- and offload goods and raw materials, including energy (coal, oil, and gas), so that the enormous merchant marine can function without limitations, even in economic and political crises. As of 2022, China had about 150 ports and cargo terminals, in particular container ports/ terminals (see Figures 16 and 17).⁵²

⁵⁰ Ibid.

⁵¹ In 2021, Greece held the largest share of the world's merchant marine, some 17.6 percent. China was ranked second with an 11.6 percent share. At the beginning of 2020, the world's total merchant marine comprised some 55,000 ships. [Number of Merchant Ships by Type 2022](#), Retrieved November 29, 2022.

⁵² Most of the numerical data about China's involvement in ports around the globe are based on diverse sources, and offer different number about the total of Chinese ports around the world. Some of China's activity in ports is reflected by dedicated trade agreements as part of the Belt and Road Initiative. Although there are no ownership or partnership relations, in terms of involvement in ports around the world, the number is much higher than 150.

Guided by government policy, Chinese companies are investing in international ports strategically located along the world's leading import and export shipping routes (SLOC, "sea lanes of communication"), including those linking China with raw materials, energy, and markets critical to China's economy. Investments in ports are made along three maritime trade routes known as "the blue economic passages." The main one goes from China through the Indo-Pacific region, Africa, and the Mediterranean, to Europe. The second one goes to the southern part of the Pacific Ocean and Australia, while the third is meant to connect China with Europe through an Arctic passage in the future.⁵³ Some of the ports are located at chokepoints that are important for maritime routes to and from China. The Chinese government has not issued official data on global ports with Chinese ownership or involvement.⁵⁴ The data I gathered using maps, articles, and open-source information show that China is apparently involved in more than 150 ports, terminals, and platforms in various ownership arrangements in 79 countries.

More than 80 percent of the ports and terminals in which China is involved internationally are controlled by three large Chinese companies that operate ports and shipping lines: the above-mentioned COSCO, the China Merchants Group (CMG), and CK Hutchison Holdings. The first two are government-owned, while the third is a privately owned company in Hong Kong. The rest of the companies linked to ownership of ports are in various ways connected to or supported by the Chinese government, despite ostensibly being privately owned.



Figure 16: Nations here China has invested in and is involved in major ports⁵⁵

⁵³ "[China's expanding investment in global ports](#)", *Economist Intelligence*, October 11, 2017.

⁵⁴ John Xie, "[China's Global Network of Shipping Ports Reveal Beijing's Strategy](#)", *VOA News*, September 13, 2021.

⁵⁵ *Ibid.*

The list of countries in which China is involved in or owns ports, cargo terminals, and platforms, or with which it has special trade agreements regarding ports (including within the framework of the maritime BRI and its expansion) and their numbers: Algeria (3), Angola (3), Argentina, Australia (4), Bahamas (3), Bangladesh, Belgium (4), Brazil, Cambodia, Cameroon, Canada, Cape Verde, Chile (2), Congo, Cuba, Djibouti (4, including one military port), Egypt (4), El Salvador, Equatorial Guinea, Eritrea, France (5), Gabon, Gambia, Germany, Ghana (3), Guinea Bissau, Greece (3), Guinea (2), Indonesia, Iraq, Israel (1: Haifa), Italy (2), Ivory Coast, Jamaica, Kenya (2), Korea (4) Madagascar (2), Malasia, Malta, Mauritania, Mexico (8), Morocco (2), Mozambique, Myanmar (2), Namibia, Netherlands (11), Nigeria (6); Oman, Pakistan (3), Panama (5), Papua New Guinea, Peru, Poland, Russia, Sao Tome, Saudi Arabia, Senegal, Sierra Leone (3), Singapore (2), Solomon Islands (Tulagi), South Africa, Spain (3), Sri Lanka (2), Sudan, Sweden, Taiwan (3), Tanzania (4), Thailand (3), Togo, Trinidad and Tobago, Tunisia, Turkey, Ukraine, United Arab Emirates (4), United Kingdom (5); United States (5: Los Angeles, Houston, Miami, Seattle, Long Beach), Uruguay, Vietnam (3), and Zambia.⁵⁶

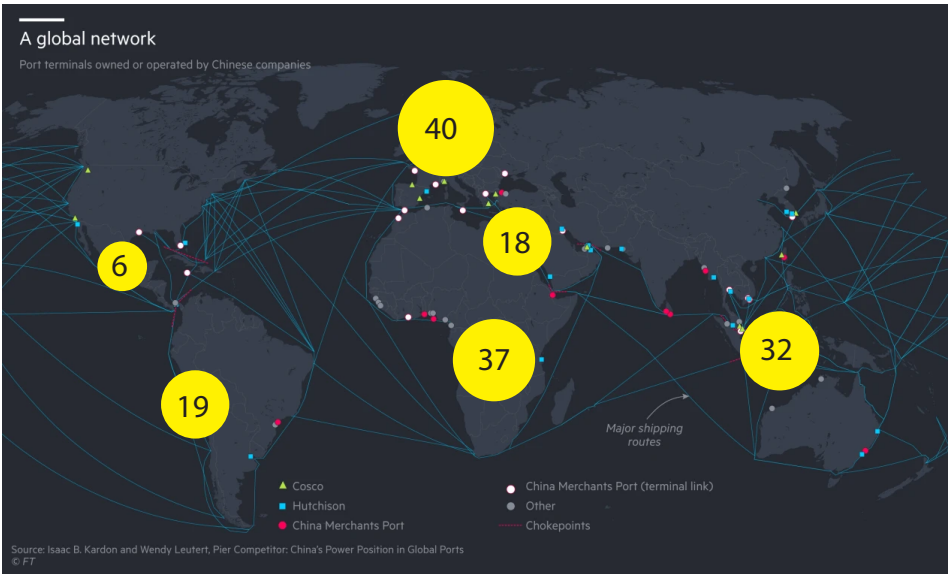


Figure 17: 152 ports where China is active around the world⁵⁷

⁵⁶ The identification of countries and ports based on a survey of maps and articles. The majority of the list of ports is based on Ehud Gonen, "Nations' Responses to Chinese Investments in Seaports" (not yet published), University of Haifa, 2022.

⁵⁷ Source of base map: "[China Denies Building Naval Bases but Fear of its Military Reach Grows](#)", *Public News Times*, June 19, 2022.



Figure 18: [Chinese ports in Europe and in the Indo-Pacific region](#)

Since 2002, China has shown interest in developing some 150 transportation infrastructure projects in Latin America and the Caribbean. Chinese construction companies work everywhere, but are especially focused on Bolivia, Brazil, and Jamaica. China has been particularly successful in acquiring and building port facilities that are considered the most advanced in the world.⁵⁸



Figure 19: [Chinese infrastructure and port projects in the Caribbean and South America](#)



Figure 20: Chinese ports in Africa⁵⁹

⁵⁸ Margaret Myers, "[China's Transport Infrastructure Investment in LAC: Five Things to Know](#)", *The Dialogue*, November 13, 2018.

⁵⁹ Chiponda Chimbela, "[Making Chinese Investment in African Ports Work](#)", *DW*, June 21, 2019.

In 2021, the *Naval War College Review* published a study, which was presented to the U.S. Congress, on China's involvement in commercial ports around the globe. Some were defined as having the ability to provide logistical and intelligence support as well as military and diplomatic activity on military vessels (dual-use functions as strategic strongpoints). The study notes the existence of 95 Chinese-owned or -operated ports, and hundreds more with such dedicated equipment and other activities (other sources in this article and regional maps note an even larger number of ports). Chinese government companies are involved in 35 ports. All Chinese companies have full ownership of at least one terminal at 56 ports and 100 percent ownership in 23 ports. Of the 77 ports, 81 percent are controlled by the three large companies. CK Hutchinson has majority ownership of 36 out of 38 (20 of which are 100 percent owned); COSCO has majority ownership of 7 out of 19 ports; and CMP has majority ownership of 3 ports and minority ownership of 29.⁶⁰

The study notes that worldwide, 31 ports are located along the Atlantic Ocean, 25 along the Indian Ocean, 21 along the Pacific Ocean, and 16 along the Mediterranean and in North Africa. Regionally: 18 ports are on the South and North American continents, 18 in South and Southeast Asia, and 9 in Africa. Of all the ports, 50 are at chokepoints (10 in the English Channel, 9 in the Strait of Malacca, 9 near the Strait of Hormuz, 6 near the Suez Canal, and 4 each in the following areas: the Panama Canal, Gibraltar, and the Dardanelles and Bosphorus).⁶¹

Ownership Modalities

Chinese companies, whether government owned or privately owned with government support, fully or partly control ports around the globe include: China Merchants Port Holdings Company – CMPHC, COSCO (CSP), Hutchison Ports Holding – HPH, Hutchison / TMA Logistics, Terminal Link, LandBridge – DARWIN PORT, OOCL, China Overseas Port Holding Company, Shanghai, Gorgeous, SIPG, and Qingdao Port International Development. There are four major methods whereby Chinese companies gain full or partial control of ports around the world: acquisitions, joint ventures, franchises, and BOT (build, operate, transfer). Some of the projects may be classified as public-private partnerships (PPP).

Between 2004 and 2017, the government-owned COSCO was involved in investments ranging from 12.5 to 100 percent in 12 foreign ports, mostly by acquiring ownership shares: in Belgium (two ports owned at 100 and 25 percent respectively); Spain (51

⁶⁰ Isaac Kardon, "[Research & Debate, Pier Competitor: Testimony on China Global Ports](#)", *Naval War College Review*, 74, no. 1 (2021): 128–152.

⁶¹ Ibid.

percent ownership); Italy (40 percent); UAE (90 percent); the Netherlands (two ports owned at 47.5 and 12.5 respectively); Greece (100 percent); Singapore (49 percent); South Korea (20 percent); Turkey (26 percent); United States (33.33 percent); and Egypt (20 percent). In 2022, after disagreements in the German government, an agreement was approved according to which the company acquired 24.9 percent of the control of the Port of Hamburg but without the ability to affect strategic and management issues.⁶²

Between 2008 and 2017, CMP, the second government company, invested in 13 foreign ports using various ownership methods: in Brazil (90 percent control), Sri Lanka (85 percent), Turkey (26 percent), Myanmar (BOT), Australia (50 percent), and Djibouti (23.5 percent). In joint ventures with the French company Terminal Link, CMP is involved in 14 ports in 8 countries with 49 percent ownership, and in Togo (50 percent), Sri Lanka (85 percent), Nigeria (28.5 percent), and Vietnam (49 percent).

Table 2: Ownership modalities, control of international ports⁶³

Modality Types	Main Features	Risk Transfers
Acquisition	<ul style="list-style-type: none"> • A company acquires shares from either private entities or state-owned enterprises (SOEs) in host countries; • SOEs can be regarded as a PPP partly or wholly, usually called a partial divestiture or total divestiture. 	The company is responsible for all aspects; hence there are risks in infrastructure provision.
Joint venture	<ul style="list-style-type: none"> • A jointly owned and independent company is set up by two or more organizations sharing resources, costs, expertise, and profits. 	All risks are shared between the joint venture partners.
Concession	<ul style="list-style-type: none"> • A brownfield lease, franchise or affermage. • A government transfers operating rights to private enterprise, but still retains the ultimate ownership of assets. 	No equity risk is borne by the private company, with additional exposure of maintaining certain technical standard at the facility.
BOT	<ul style="list-style-type: none"> • A private company builds the facility and operates the facility through a concession. • At the end of the concession, the facility is transferred to the government. 	Private company assumes equity, construction risk and other commercial risks.

⁶² Arne Delfs and Josefine Fokuhl, "[Hamburg Port to Sell Stake to China's COSCO After Scholz's Push](#)", *Bloomberg*, October 26, 2022.

⁶³ Shuiwang Zhang, Yu Mei, Qiang Bao, and Lingzhi Shao, "[International Port Investment of Chinese Port-Related Companies](#)", *International Journal of Shipping and Transport Logistics*, 11, no. 5 (2019): 445, Table 7. Four major modalities of international port investments.



Figure 21: The Chinese Yuan Rui Yang VLCC (very large crude carrier), launched in 2022, with a tonnage of 317,800 GT⁶⁴



Figure 22: Iron ore bulk carrier, Chinese merchant marine (Hong Kong)⁶⁵

⁶⁴ The VLCC, exclusively designed and constructed by CSSC (the China State Shipping Corporation), measured 333 meters long and 60 meters wide. It runs on LNG (liquefied natural gas) as its main fuel and is also equipped with a dual-fuel main engine of LNG, generator, and boiler. When propelled by gas, the carrier can sail a distance of 12,000 nautical miles, equivalent to a round-trip from Shanghai Port to Dubai Port with one LNG fueling. In its dual-fuel state, the carrier can sail up to 24,000 nautical miles. "[China Delivers World's First Super-Large LNG Dual-Fuel Oil Tanker](#)", *CGTN*, March 2, 2022.

⁶⁵ The *Pacific Flourish*, sailing under the Hong Kong flag, was built in China in 2018. A second generation Valemax-class bulk carrier, it belongs to the China Merchants Group, established in 1872, which owns a large fleet of ships of various types and whose routes crisscross the globe. The ship is 362 meters long by 65 meters wide, with a capacity of 203,000 tons and a GT of 399,000. The ship has a 32,400-HP engine and can reach a speed of 14 knots and above. "[10 Largest Bulk Cargo Ship in the World – 2022](#)", *Daily Logistic*, July 16, 2022.

In some ownership modalities between China and other nations for the construction, development, or management of ports, China finances the project or grants a loan to the other nations, after which it "takes advantage" of the other nations' difficulty in returning the debt to Chinese banks. The term "debt trap diplomacy" is in common use, attributing to China a policy geared at maneuvering countries (usually poor and undeveloped nations) into a trap that will force them to accept Chinese loans in exchange for strategically important physical assets given as guarantees, or the transfer of large shares of control of infrastructure projects. China faces criticism for its lending methods to poor countries and has been accused of leaving them struggling for a way to repay their debts and exposing them to pressure from Beijing. China's response was, "There is not a single nation that has been caught in a so-called 'debt trap' as a result of loans from China."⁶⁶ The best-known case is that of Hambantota International Port in Sri Lanka.⁶⁷ Various studies rule out these cases being the result of deliberate policy.⁶⁸

Concurrently with the development of major ports in China and an economic policy of construction, acquisition, or leasing of ports around the world, China, to all intents and purposes, has also been implementing a military/security policy in the Indo-Pacific region of seizing control of the South China Sea, China's port entry zone. China has been building artificial islands in the South China Sea, on which they have been building military infrastructures, including: runways for fighter jets; and detection, command, and control systems; as well as aggressive posturing on the part of its coast guard, naval militias, and navy.⁶⁹

The three major areas where China has considerable involvement in ports are the Indo-Pacific region, Africa, and Europe. In recent years, China has been expanding its port activities in South and Central America and the Pacific Ocean. Despite China's denial, attempts at involvement in Solomon Islands ports (including a military port), in southern Argentina (Strait of Magellan), and even the Panama Canal have aroused concern in the U.S. administration about China's political and strategic expansion.⁷⁰

⁶⁶ Kai Wang, "[China: Is it Burdening Poor Countries with Unsustainable Debt](#)", *BBC News*, January 6, 2022.

⁶⁷ Wale Ajetunmob, "[Like Zambia, Sri Lanka also Handed Over Port to China to Pay Off Debt](#)", *African Liberty*, September 10, 2018.

⁶⁸ Mark Leon Goldberg, "[Chinese 'Debt Trap Diplomacy' is a Myth](#)", *UN Dispatch*, May 19, 2022.

⁶⁹ For more on the South China Sea, see Ben Ari, "Strategies in the Indo-Pacific Region", pp. 89–104; "Is U.S. Strategy on China's Maritime Buildup Correct?", pp. 12–17.

⁷⁰ K. Moriyasu, "[Strategic Chokepoints: The New U.S.-China Battlegrounds](#)", *Nikkei Asia*, April 27, 2022.

China's "String of Pearls"⁷¹

China started to realize its strategy of building civilian and military ports in the Indian Ocean in 2004,⁷² and began to buy European ports for the sake of maritime commerce in 2008.⁷³ China's "String of Pearls" refers to the nation's intention to set up a network of ports in the Indian Ocean domain, surrounding India and the Indo-Pacific region as the geopolitical realization of China's aims in that part of the world. Each "pearl" refers to a port with military capabilities in a sequence along the maritime transportation routes in the region. China's presence in the Indian Ocean and Bay of Bengal is a clear threat to the security of India from the sea. India responded to the threat with the development of its own "East Policy."⁷⁴ The military-strategic significance is accompanied by an economic price tag, because the "String of Pearls" is an inseparable part of China's Belt and Road Initiative.

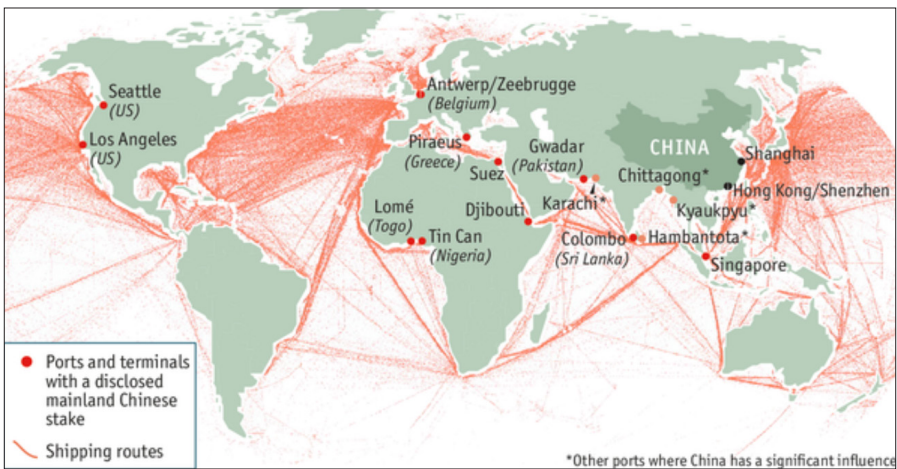


Figure 23: The "String of Pearls" early on (2013)

China's major achievements in the Indo-Pacific domain are a 99-year lease and expansion of Hambantota International Port in Sri Lanka; a 40-year rental agreement at Gwadar Port

⁷¹ Aarna Tiwari, "[China's String of Pearls UPSC: About, Impact on India and Measures Undertaken](#)", *BYJUS*, October 12, 2022.

⁷² Virginia Marantidoy, "[Revisiting China's 'String of Pearls' Strategy Places 'With Chinese Characteristics' and their Security Implications](#)", *Issues & Insights*, 14, no. 7. (June 2014).

⁷³ Jérôme de Ricqlès, "[European Ports: China Sets Up its Commercial 'Factories'](#)", *UPPLYYS*, October 28, 2019.

⁷⁴ [China's String of Pearls: Notes for UPSC International Relations](#), *BYJUS*, Retrieved December 13, 2022.

in Pakistan; and the investment of \$350 million in the Port of Djibouti, which is also China's first overseas military base, located near the central strategic chokepoint between the Gulf of Aden and the Red Sea.

In the decade between 2009 and 2019, China emerged as an economic superpower of strategic proportions in the Mediterranean and southeast Europe, a region where large powers have vied for influence for hundreds of years. Having established its supremacy at the Greek port of Piraeus, China has implemented a sweeping program of "Port Diplomacy" covering more than two dozen ports along the Mediterranean coastline – Europe, the Middle East, and North Africa. At the same time, China prepared plans for active involvement in central and eastern European nations, the reason why the "17+1 forum" (now called the Cooperation between China and Central and Eastern European Countries – China-CEEC) in Europe is linked to the BRI via Piraeus, the gate to the Middle East.⁷⁵ Based on these developments, China is well placed to expand its power in the Mediterranean in the future. Cargos intended for European destination are offloaded at the modernized port of Piraeus and transported by rail across the continent in a much shorter time.⁷⁶

This strategy is the foundation of China's expansion in ports and shipping lines, with the added bonus of, at least in part, using the ports for military purposes. Having established itself in ports over several decades, Liam Fox, former U.K. Defence Secretary, observed, "Some of these (ports) are at key locations for maritime trade—which also means energy trade—giving Beijing strategic dominance without having to deploy a single soldier, ship or weapon."⁷⁷

Ports in Africa

Africa is rich in minerals needed in various industries and produces a bounty of agricultural products, while having a growing consumer market. China has therefore shown economic and political interest in the continent for decades, taking advantage of the lack of modern

⁷⁵ The "17+1 forum" is a setting for cooperation between China and 17 central eastern European countries established in 2012 in Budapest to expand China's BRI. Of the 17, 12 are EU members and five are from the Balkans: Albanian, Bulgaria, Bosnia and Herzegovina, Croatia, the Czech Republic, Estonia, Greece, Hungary, Latvia, Lithuania, Macedonia, Montenegro, Poland, Romania, Serbia, Slovakia, and Slovenia. Pritish Gupta, "[The '17+1 Initiative': Is China Losing its Charm in Central and Eastern Europe?](#)", *ORF*, September 18, 2020.

⁷⁶ Shin Watanabe, "[China Drops \\$11bn Anchors to Expand Maritime Silk Road](#)", *Nikkei Asia*, January 5, 2020.

⁷⁷ Antonia Filmer, "[China Expanding its Ports Worldwide](#)", *Sunday Guardian*, January 1, 2022.

ports there to invest in construction and upgrades intended to provide solutions for Africa's increasing scope of imports and exports.⁷⁸

Consequently, since 2009, China has been the largest bilateral trade partner with many African countries and has provided expert solutions, including budgets, for the rising demand for modern ports, transportation infrastructures, and industrial installations. Such ports, especially in western Africa on the Atlantic Ocean (Figure 20), provide a firm foundation for China's economy and a tool for wielding political and diplomatic influence on the continent. The rise in piracy at sea in western Africa could ostensibly provide a legal justification for Chinese military activity in the region.⁷⁹ The Chinese are also building dual-purpose – civilian and military – sites for possible future use: not just for commerce with African markets, but also to promote broader foreign relations objectives, especially with regard to U.S. interests in the region.⁸⁰ However, the concern is that these investments might prove a risk should China try to control or limit port access to competing companies or companies with different priorities. Nonetheless, African nations will still profit if they can reduce the risks of that occurring.⁸¹

Still, China is not immune to local politics in Africa. One of the most ambitious projects on the continent is now on hold: Bagamoyo Port in Tanzania was supposed to have become the largest ever Chinese-built and operated port on the continent, but the current government does not agree with the terms of the \$10 billion project agreed upon by the previous government with Beijing. Tanzanian official sources now say the deal is not commercially worthwhile for the country.⁸²

Ports in Europe

China has been involved in port operations across Europe since 1982 and is currently active in 40 ports through some of the leading Chinese companies. The Port of Hamburg is a leading example. COSCO's attempt to acquire 35 percent of the port's shares was blocked in October 2022, and it had to settle for 24.9 percent due to objections from various

⁷⁸ Joel Gehrke, "['They Want to Become a Superpower': African Port Links Could Make Chinese Access to Atlantic Inevitable](#)", *Washington Examiner*, December 14, 2021.

⁷⁹ Carlota Ahrens Teixeira and Jaime Nogueira Pinto, "[Maritime Piracy in the Gulf of Guinea](#)", *GIS*, March 28, 2022.

⁸⁰ Eric A. Miller, "[More Chinese Military Bases in Africa: A Question of When, Not If](#)", *Foreign Policy*, August 16, 2022.

⁸¹ Margaret Myers, "[China's Transport Infrastructure Investment in LAC: Five Things to Know](#)", *The Dialogue*, November 13, 2018.

⁸² Prachi Mittal, "[Falling Apart – A Story of the Tanzanian Bagamoyo Port Project](#)", *ORF*, September 15, 2020.

actors in Germany. There was political opposition to the move not only for economic but also political reasons. The smaller share of the terminal was agreed upon after the Germans were "burned" by their dependence on Russian gas. The Port of Hamburg is the eastern-most port of the North Sea, making it ideal for eastern Europe. As a global center serving overseas nations, central and eastern Europe, and the entire Baltic region, Hamburg enjoys a central geographical location, and China sees gaining ownership in this port as an important economic move.⁸³ For years, China has tried to acquire and develop Lithuania's Port of Klaipeda, but its efforts have yet to succeed. According to the Lithuanian president and other high-ranking officials, a Chinese foothold would represent a threat to the country's national security and to NATO.⁸⁴ Proposals for further expansions of the Port of Piraeus (to increase China's influence) have been similarly rejected.⁸⁵

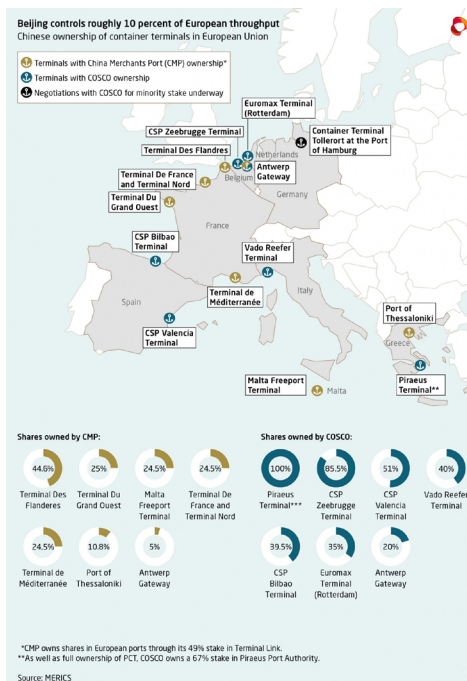


Figure 24: China's control of some 10 percent of maritime commerce in Europe⁸⁶

- ⁸³ Andreas Rinke and Sarah Marsh, "[German Coalition Divided Over Chinese Bid for Hamburg Port Terminal](#)", *Reuters*, September 14, 2022.
- ⁸⁴ "[Lithuania Puts Off Deep-Water Port Project Eyed by China 'For at Least a Decade'](#)", *LRT News*, April 2, 2021.
- ⁸⁵ Kardon, *Pier Competitor*, 2021.
- ⁸⁶ Jacob Mardel and Giovanni Giamello, "[COSCO Takes Stake in Hamburg Port Terminal](#)", *MERICs*, September 30, 2021.

China's strategy for controlling maritime transportation in Europe is also reflected in its involvement in the Port of Trieste, Italy, which is of utmost strategic importance to China, because it connects the Mediterranean with landlocked nations that represent potential markets – Austria, the Czech Republic, Hungary, Serbia, and Slovakia⁸⁷ – that can contribute to the expansion of the Maritime Silk Road (MSRI).⁸⁸

Ports in North, Central, and South America

Chinese government-owned companies own terminals in five U.S. ports. COSCO entered into joint ventures in Long Beach, Los Angeles, and Seattle, and CMPort is a minority shareholder in French-owned terminals in Miami and Houston. It would seem that investments in Chinese ports in the United States is motivated by pure commercial interests. In Canada, China is involved in the Port of Quebec, and at the time of this writing, a deal for Hutchinson to build a huge container terminal in Quebec has not yet been approved.⁸⁹

As part of the strategy to expand the BRI and increase maritime commerce, shipping lanes to South America in the Atlantic and Pacific are becoming more important than ever. Chinese companies are building and operating ports and platforms, especially for energy shipping, in Central and South America. These activities, especially in the Caribbean, rang alarm bells in the United States during the Trump administration. Continued Chinese construction in Peru and Brazil will make it possible to realize a shared Brazilian-Peruvian dream to connect their respective Atlantic and Pacific coastlines, and China can make the dream come true with economic benefits.⁹⁰ This would then provide Chinese shipping with an overland link between the Atlantic and Pacific Oceans.⁹¹

Chinese Ports: Only Commercial or Also Military?

Chinese ports around the globe are located along international shipping lanes that are mostly geared to commercial rather than "offensive" use,⁹² but it seems obvious that

⁸⁷ Nadia Helm, "[China's Influence and Operating of the Main European Ports](#)", *Modern Diplomacy*, November 10, 2021.

⁸⁸ Jean-Marc F. Blanchard, "[China's Maritime Silk Road Initiative \(MSRI\) and Southeast Asia: A Chinese 'pond' not 'lake' in the Works](#)", *Journal of Contemporary China*, 27, no. 111 (2017): 329–343.

⁸⁹ Léonce Naud, "[China Controlling \(for 60 years\) the Gateway to the Great Lakes St. Lawrence Seaway System?](#)", Québec.

⁹⁰ "[Brazil, Peru and China and the Inter-oceanic Dream](#)", *Dialogo Chino*, February 5, 2015.

⁹¹ Milton Leal, "[A Chinese Train Could Link South America's Atlantic and Pacific Coasts by Rail for the First Time](#)", *China File*, September 15, 2016.

⁹² "[The New Masters and Commanders](#)", *The Economist*, June 13, 2013.

the Chinese army, including the navy, has ambitious plans for projecting its power. In addition to preparing for the possibility of using force to resolve its territorial demands in East Asia (Taiwan and the South China Sea), the Chinese military is also charged with defending China's expanding "overseas interests." The national objectives require the navy to be able to exert clear military power beyond China's immediate maritime space. To meet these needs, organic support and logistical capabilities are in the process of being constructed, including large maritime support troops and transport planes. The National Defense Transportation Law also addresses and obligates civilian organizations, especially government owned ones, to provide for the China's maritime transportation and infrastructure needs across the globe.⁹³

While China rejects international concerns about its intentions, the Chinese army has already started preparing a network of so-called "strategic strongpoints" along its important maritime shipping lanes to protect its growing global interests. Some of the ports and terminals that are part of this growing network may serve dual-purpose functions, enabling the Chinese navy to carry out military actions far from home, which are more complex than those closer to China, and over increasingly long periods of time. This option of dual-use of ports is currently not suited to supporting actual combat, but it is mainly adapted for logistics and intelligence gathering in peacetime. China's 2019 White Paper stated that military missions also include protecting cargo carriers and ships evacuating Chinese citizens from locations abroad, and that the army and navy will open "logistical facilities abroad."⁹⁴ The Chinese Navy has visited about one-third of the ports with some Chinese involvement for the sake of maritime logistics and diplomacy. In nine ports, the navy carried out maintenance work and in 47 it made dry-dock repairs, while 69 visits were dedicated to joint exercises.⁹⁵

Signs that supposedly civilian ports are also intended for military use may be found at the Chinese ports in Djibouti (especially as support for Chinese participation in the taskforce fighting maritime piracy at the Horn of Africa),⁹⁶ and in the Solomon Islands in the Pacific Ocean.⁹⁷ This is addition to the establishment of a military port – Ream Naval Base – in

⁹³ Conor M. Kennedy, "[Civil Transport in PLA Power Projectio](#)", *China Maritime Report*, No. 4, U. S. Naval War College, December 2019.

⁹⁴ K. Hille, D. Sevastopulo, and J.P. Rathbone, "[China Denies Building Naval Bases but Fear of Its Military Reach Grows](#)", *Financial Times*, June 20, 2022.

⁹⁵ Ibid.

⁹⁶ Cobus van Staden, "[Fears of a Chinese Naval Base in West Africa Are Overblown](#)", *Foreign Policy*, March 3, 2022.

⁹⁷ Tali Goldstein, "[China Enhances Its Influence – and the World Trembles](#)" (Hebrew), *Walla*, April 20, 2022.

Cambodia.⁹⁸ A Chinese military presence in the Indo-Pacific region seems rational and perhaps even justified (most of China's oil comes from the Persian Gulf). However, naval bases in the Atlantic in the near and mid-term future are neither highly probable nor justified despite the criticism, especially from the United States, of China's intention to build a naval base in Equatorial Guinea. Today, there is no doubt that placing the mission of protecting "economic investments and infrastructures" and Chinese interests all over the world in the hands of the army and navy will inevitably lead to an increase in the number of ports in which China will be involved, so as to allow them to provide combat support or increase the number of military ports to overcome the limitations of dual-purpose ports. The use of commercial ports for military purposes requires preparation and special means. At present, it still does not seem that these intentions can be realized in the near or mid-term future. Even in the Indo-Pacific region, possibly the most sensitive area for China, the ports in Pakistan and Sri Lanka are not yet ready for military use.⁹⁹

Haifa Bayport

Haifa Bayport, an infrastructure project of high economic importance to the Israeli economy and part of Israel's 2005 ports reforms, broke ground in 2015 and was completed in 2021. When it went into operation, it added vital infrastructure for Israeli commerce and opened up competition among the country's ports, which in turn led to improved efficiency and enhanced services to exporters, importers, industry, and shipping. Haifa Bayport is operated by the Shanghai International Port Group (SIPG) and serves as an additional Israeli seaport.

The new port is meant to double the capacity of Israel's seaports in response to increased commerce and the local economy's needs. In addition, the new port will be able to handle the newer, more environmentally-friendly mega-ships. Haifa Bayport will help minimize Israel's dependence on foreign ports in the region. A private container platform measuring 800 meters by 17.3 meters makes it possible for large, 400-meter-long ships, carrying up to 24,000 GT, to cast anchor.

Haifa Bayport is operated by the Shanghai-based SIPG on a 25-year lease. Does this fact open a door to Chinese espionage, providing a convenient base for cyberattacks or moves to damage U.S.-Israel relations? Many arguments against building the port were based on the fact that it would be operated by a Chinese company, but are the concerns justified?¹⁰⁰

⁹⁸ Ellen Nakashima and Cate Cadell, "[China Secretly Building Naval Facility in Cambodia, Western Officials Said](#)", *The Washington Post*, June 6, 2022.

⁹⁹ Jocelyn Wang, "[The Realities of Chinas Overseas Port Push](#)", *The Diplomat*, June 4, 2021.

¹⁰⁰ Galia Lavi and Assaf Orian, "[The Launch of the Haifa Bayport Terminal: Economic and Security Considerations](#)", *INSS Insight* 1516, September 2, 2021.

Beyond the economic benefits, the media and various forums have raised concerns about Bayport's management by a Chinese state-owned company. First, the company is subject to an authoritarian regime, which uses "debt traps" and takes control over assets, such as it did in Hambantota Port in Sri Lanka. Second, the Chinese company could allow China's military vessels to anchor in Israel as part of its "Military-Civil Fusion" strategy. Third, SIPG might disrupt the port's activity in times of emergency or leverage its economic power for China's political influence over Israel. Fourth, the port might be used for espionage and cyber operations, including against U.S. Navy ships. Finally, it is argued that even if the port does not embody special risks or create significant Israeli dependency on China, in the eyes of the United States, and certainly in Pentagon and U.S. Navy circles, it has become a provocative symbol of treacherous cooperation by a close ally, Israel, with America's arch-rival, China, and therefore also a threat to the special relationship between the United States and Israel.¹⁰¹

Claims that the port might serve as a base for Chinese espionage and that China might suspend its services during crises are unfounded. It is possible to spy on sites at the various ports in Haifa from more comfortable geographic locations. Furthermore, the fact that the port is leased rather than owned by the Chinese contractually prevents a suspension of operations in emergencies. Even having Chinese military vessels anchor at the port is not a serious security threat; it is highly improbable that China would begin a naval military confrontation within a port. In view of the economic benefits, it seems that all reasons against having the port operated by a company partly owned by China are not greatly worrisome. At most, it can be argued that a port on Haifa Bayport's scale is a critical national infrastructure and it would be appropriate for it to be owned by the State of Israel alone, or, if it were privately owned, it should at least be owned by Israeli entities.



Figure 25: Haifa Bayport¹⁰²

¹⁰¹ Ibid.

¹⁰² ["The Newest Port in the World: Haifa Bayport Makes History"](#) (Hebrew), *Walla*, September 2, 2021.

Conclusion

A nation's sea power consists of three major elements: ports, shipping lanes, and a military navy. The development of China's economy since 1979 and its status as a global superpower have led to a change in the nation's grand strategy and consequently to a change in its naval strategy. China's merchant navy is the largest in the world, and some of its vessels are already adapted for military purposes. The need for shipping lanes that begin and end at ports led China to a strategy of building, acquiring, and managing ports around the world. This model began as "a String of Pearls" and partly forms a core piece of the Belt and Road Initiative, which is expanding to new parts of the world to form what is now being called the Maritime Silk Road. It would seem that, among all the nations in the world, China – with considerable serious and ongoing work – is adopting Mahan's naval strategy with regard to commercial shipping and Corbett's naval strategy of a fighting naval force.

Shipping and ports exist mostly for economic reasons. Securing shipping routes for transporting energy and other goods is now at the top of China's military priorities. Without these enormous ports with the capacity to handle very large cargo carriers, China's commerce would not be as developed as it is. Control of ports along the shipping lanes of countries of strategic significance for China is a key component of its grand strategy. It enables China to hold another nation hostage, in a sense, thanks to Chinese prosperity, which is liable to force a weaker nation's leadership to adopt political positions convenient for the CPC. Therefore, seaports are a critical factor in China's ability to wield commercial, diplomatic, and military influence.

Enhanced maritime connectivity has created significant economic benefits to China, giving it much greater say in matters of transporting goods throughout the world. Chinese leaders are pushing to leverage the nation's resources to strengthen connectivity, especially the improvement of port infrastructures. In 2022, we saw the tremendous clout the Chinese ports have on the global shipping industry. As President Xi Jinping noted, "economic superpowers must be maritime superpowers and shipping superpowers".¹⁰³

But there are several differences between China's strategy, on the one hand, and all the other international shipping route and port operators, on the other. As a nation with a centralized communist government, Chinese companies are not constrained by nor operate on the basis of commonly accepted commercial practices, because they must meet the demands and obey the directives of their government and the CPC. To

¹⁰³ "[How Is China Influencing Global Maritime Connectivity?](#)", *China Power*, Retrieved September 17, 2022.

that end, they are willing to pay higher prices, helped, of course, by receiving special budgets to do so. Although ports are acquired or constructed on the basis of economic imperatives, a political aspect is most certainly also involved. By owning and operating a complex network of key logistical crossroads throughout Asia, Europe, and Africa, China can effectively control a huge part of its incoming supply chain for essential goods, such as energy sources from the Middle East, and control outgoing trade routes for its exports. The vast fleet sailing under its flag, control of ports, and keeping shipping lanes active provide China with a high level of independent capabilities, prevent dependence on foreign shipping lines, and reduce the amount of political and economic leverage other nations can bring to bear on it.

There is no practical way to deny China commercial entrance into most foreign markets. The United States failed to persuade Israel to revoke the concession SIPG won at Haifa Bayport. If so close a security partner of the United State like Israel is unconvinced that the security risks outweigh the economic benefits, there is a chance that other nations will likewise not deny Chinese involvement in their critical strategic infrastructures.

One may assume that only a few commercial ports, appropriately planned and equipped, will fulfill military functions in terms of logistics, maintenance, refueling, storing munitions, and so on. Their immediate capabilities are primarily focused on intelligence and communications, two capabilities that do not require the establishment of facilities and permissions. But most civilian ports are unlikely to provide the Chinese navy with support or any kind of political preference, whereupon China will probably examine the possibility of building military ports, although only in countries where China can receive political and other approvals.

In the process of constructing strategic strongpoints, China is not placing too great an emphasis on military diplomacy. Mostly, it simply denies its intentions. The speed with which China is implementing its plans has been discussed in a study: when military diplomacy is advanced, it is necessary to pay attention to method and speed. It isn't a good idea to push ahead with force or to be too keen on attaining results. Instead, it makes good sense to conduct talks with the target nation and proceed gradually.¹⁰⁴

At most ports with Chinese involvement, China holds a minority of controlling shares, and it is therefore safe to assume that it lacks the ability to control the economy or certainly to have a huge effect on the host nation. Greece, Belgium, Canada, Germany, and African and other nations are examples of countries worried about the influence of

¹⁰⁴ K. Hille et al., "[China Denies Building Naval Bases](#)".

China's investments in their ports and have taken means to shield themselves against China, which is described as a partner, economic competitor, and systematic adversary.¹⁰⁵

Undoubtedly, there are political, strategic, and economic risks to the nations where China maintains ports. The biggest challenge for Chinese companies investing in global ports is profitability. In their zeal to increase their overseas presence, these companies might be investing overblown sums or discounting the political sensitivities that could prevent the ports from generating worthwhile profits. It is therefore necessary to undertake a careful analysis of the economic potential of these projects. Decision making in a nation with a communist government – always not only economically-driven and always containing a political component – could bypass such risks.

This detailing of the facts and data reflecting China's force construction makes it possible to assess that China is concurrently operating geo-economically and geo-strategically to realize both Mahan's and Corbett's strategies in order to control shipping lanes to provide for the economic needs of a global superpower with a population of more than 1.4 billion, while also making economic profits to the extent possible. This in addition to having the ability to defend those shipping lanes and ports, perhaps not all of them, but at least those most critical for realizing China's geo-economic and geo-strategic goals.

The size of China's merchant navy is unprecedented, with 5,600 to 9,000 vessels (estimates vary by source).¹⁰⁶ It is possible that the Greek merchant navy has more vessels, about 21 percent of the entire global merchant marine fleet,¹⁰⁷ but there are no international claims that Greece is aiming for global hegemony in the field of shipping. The most strident opponent to China's strategy is the United States, whose merchant navy shrank from 485 to 178 vessels between 1996 and 2022.¹⁰⁸ Some U.S. voices are calling on the administration to expand both the merchant navy and the U.S. Navy fleet,¹⁰⁹ but it is doubtful these calls will be heeded.

¹⁰⁵ George Fujii, "[China's Emergence as a Power in the Mediterranean: Port Diplomacy and Active Engagement](#)", *H-Diplo Article, Review 1084*, January 19, 2022.

¹⁰⁶ GT staff reporters, "[China's Foreign Trade Mirrors Stable Start in Q1 Despite Omicron Outbreak, Ukraine Crisis](#)", *Global Times*, April 13, 2022.

¹⁰⁷ T. Kokkinidis, T., "[Greece Remains Top Shipping Nation in the World](#)", *Greek Reporter*, May 20, 2022.

¹⁰⁸ "[Number of Ships in the U.S.-Flag Merchant Fleet from 1996 to 2022](#)", *Statista*, Retrieved December 13, 2022.

¹⁰⁹ Xiaoshan Xue, "[As China Expands Its Fleets, US Analysts Call for Catch-up Efforts](#)", *VOA*, September 13, 2022.

Given the complexity of China's ports and shipping diplomacy, Jeffrey Bader's conclusions are notable:

China's growing and modernizing military will complicate United States strategy regionally but will not approach American force projection capabilities globally... The temptation to see China as an enemy rather than a competitor is reinforced by its internal policies of repression... The United States and China have areas of overlapping interest and issues on which they must work together.¹¹⁰

¹¹⁰ Jeffrey Bader, "[Meeting the China Challenge: A Strategic Competitor, Not an Enemy](#)", in Ryan Hass, Ryan Mcelveen, and Robert D. Williams (eds.), *The Future of Us Policy Toward China – Recommendations for the Biden Administration* (Brookings Foreign Policy's John L. Thornton China Center and Yale Law School's Paul Tsai China Center, November 2020): 1–7.

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