Section 301 Investigation

Report on China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance

January 16, 2025

OFFICE *of the* U.S. TRADE REPRESENTATIVE

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Abbreviations and Acronyms

Acronym	Definition
ACFTU	All-China Federation of Trade Unions
BRI	Belt and Road Initiative
CANSI	China Association of the National Shipbuilding Industry
CCP	Chinese Communist Party
CCCC	China Communications Construction Co.
CEU	car equivalent unit
CEXIM	Export-Import Bank of China
CGT	compensated gross ton/tonnage
CIMSA	Canadian Marine Industries and Shipbuilding Association
CMG	China Merchants Group
COSCO	China Ocean Shipping (Group) Company
CSIC	China Shipbuilding Industry Corporation
CSICL	China Shipbuilding Industry Company Ltd.
CSIS	Center for Strategic and International Studies
CSSC	China State Shipbuilding Corporation
DWT	dead weight ton/tonnage
EV	electric vehicle
FYP	five-year plan
GDP	gross domestic product
GFSEC	Global Forum on Steel Excess Capacity
ICBC	Industrial and Commercial Bank of China
IDDS	Innovation-Driven Development Strategy
ILO	International Labour Organization
LNG	liquified natural gas
LOGINK	National Transportation and Logistics Public Information Platform (China)
LPG	liquified petroleum gas
MARAD	U.S. Maritime Administration
MCF	Military-Civil Fusion
MIC2025	Made in China 2025
MIIT	Ministry of Industry and Information Technology (China)
MLP	medium and long-term plan
MOST	Ministry of Science and Technology (China)
MOT	Ministry of Transport (China)
NDRC	National Development and Reform Commission (China)
NMSAC	National Manufacturing Strategy Advisory Committee (China)
NQPF	new quality productive forces
OECD	Organisation of Economic Co-operation and Development
PEARL	Piraeus-Europe-Asia Rail Logistics
PLA	People's Liberation Army
PLAN	People's Liberation Army Navy
PRC	People's Republic of China
RMB	Renminbi
R&D	research and development
SASAC	State-owned Assets Supervision and Administration Commission (China)
SASTIND	State Administration of Science, Technology, and Industry for National Defense (China)
SCM	Subsidies and Countervailing Measures (Agreement) (WTO)

SEI	strategic emerging industries
SMNS	Strong Manufacturing Nation Strategy
SOE	state-owned enterprise
S&T	science and technology
USTR	Office of the United States Trade Representative
USW	United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union (i.e., United Steelworkers)
WTO	World Trade Organization
WTIV	wind turbine installation vessels
ZPMC	Shanghai Zhenhua Heavy Industries Co., Ltd.

Executive Summary

On April 17, 2024, the U.S. Trade Representative initiated an investigation of China's acts, policies, and practices targeting the maritime, logistics, and shipbuilding sectors for dominance under Section 301 of the Trade Act of 1974, as amended (the "Trade Act"). Section 301 of the Trade Act allows the U.S. Trade Representative to address unreasonable or discriminatory acts, policies, or practices that burden or restrict U.S. commerce.

For nearly three decades, China has targeted the maritime, logistics, and shipbuilding sectors for dominance and has employed increasingly aggressive and specific targets in pursuing dominance of the maritime, logistics, and shipbuilding sectors. China has largely achieved its dominance goals, severely disadvantaging U.S. companies, workers, and the U.S. economy generally through lessened competition and commercial opportunities and through the creation of economic security risks from dependencies and vulnerabilities.

Top-down industrial planning is a critical feature of China's state-led, non-market economic system. China organizes the development of its economy through broad national-level five-year economic and social development plans. It then employs industry-specific plans and local plans at central and sub-central levels of government that typically align chronologically with the national five-year plans. These plans often contain detailed quantitative and qualitative targets, including for production, domestic content, and domestic and international market shares, as well as outline the non-market policies and practices China should use to achieve these targets. China's plans reveal its targeting of the maritime, logistics, and shipbuilding sectors for dominance.

China's targeting of these sectors for dominance is enabled by policies that unfairly depress costs or provide advantages. For example, enterprises in the Chinese shipbuilding supply chain benefit from China's lack of effective labor rights and the use of forced or compulsory labor. Likewise, China's non-market excess capacity in inputs, such as steel, advantage downstream Chinese enterprises.

China's industrial plans set long-term goals and specify industry structure, industry scale, and composition of supply chains. China has set targets for shipbuilding, marine equipment, maritime engineering equipment, high-technology ships, and shipping, among others. In particular, China sets targets as market shares of global production or for specific levels of Chinese production as a proxy for market share targets.

Market share targets necessitate substitution by Chinese companies at the expense of foreign competitors—for Chinese companies to gain market share, they must displace foreign companies in existing markets and take new markets as they develop in the future. In the shipbuilding and marine equipment sectors, China has set production targets broadly since 2006. China's industrial targets have become more aggressive and sophisticated over the years. For example, in the area of high-technology ships, China initially set a target of 20 percent of global market share by 2011, but now aims to achieve 50 percent global market share by 2025. For maritime engineering equipment, China initially targeted 10 percent of global market share by 2011, and now seeks 40 percent market share by 2025.

China's targeting of these sectors for dominance has undercut competition and taken market share with dramatic effect: raising China's shipbuilding market share from less than 5 percent of global tonnage in 1999, to over 50 percent in 2023; increasing China's ownership of the commercial world fleet to over 19 percent as of January 2024; and controlling production of 95 percent of shipping containers and 86 percent of the world's supply of intermodal chassis, among other components and products.

As identified in the Section 301 investigation and discussed in this report, **China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable** for the following reasons:

First, China's targeting of the maritime, logistics, and shipbuilding sectors for dominance displaces foreign firms, deprives market-oriented businesses and their workers of commercial opportunities, and lessens competition. China's plans, including as demonstrated by specific market share targets, are to achieve a long-term dominant position in these economic sectors. China frames its targeting for dominance in the maritime, logistics, and shipbuilding sectors in nationalistic terms as a zero-sum contest pitting companies it controls against all others. Its targeting of each sector for dominance necessarily means displacing foreign firms from existing markets, and taking new markets as they arise, diminishing competition.

Competition is a process of rivalry that incentivizes businesses to offer greater value and lower prices, improve wages and working conditions, enhance quality and resilience, innovate, and expand choice, among many other benefits. Foreign firms are not able to compete with the resources of the Chinese state, resulting in lost sales, under-investment in capacity, diminished ability to attract financing, and lost jobs and lower wages. China's objective is not to foster more competitive markets and fair competition between Chinese enterprises and foreign enterprises. The dominant positions China seeks, and increasingly achieves, in each sector, give it market power over global supply, pricing, and access. In short, through its targeting of these sectors for dominance, China seeks to bring about unfair and non-market-oriented competition.

Second, China's targeting of the maritime, logistics, and shipbuilding sectors for dominance creates dependencies on China, increasing risk and reducing supply chain resilience. China's objective is to ultimately displace foreign competitors throughout the maritime value chain in domestic and foreign markets, which increases the world's dependence on its companies, products, services, and technology. Diminished choice which creates dependencies is itself an unfair, anti-competitive outcome. The creation of dependencies also increases risk for individual firms and their workers, for economic sectors (including workers' communities), and for supply chain resilience. These risks can relate to potential disruptions, whether natural, accidental, or geopolitical. China has demonstrated in the past its willingness to weaponize dependencies for purposes of economic coercion. China's targeting of these sectors for dominance is therefore unreasonable also due to the creation of dependencies and resulting vulnerabilities and risks.

Third, China's targeting of the maritime, logistics, and shipbuilding sectors is unreasonable because of China's extraordinary control over its economic actors and these sectors. China exerts extraordinary control over the maritime, logistics, and shipbuilding sectors in order to achieve its targeted dominance of these sectors. Adherence to the objectives of China's industrial plans is effectively mandatory. Both state actors and Chinese companies move toward the goals set by the central government and have little discretion to ignore China's industrial targets. The Chinese Communist Party also exerts control through personnel and enterprise structures. China's control over economic actors enables China to direct and influence their commercial behavior in pursuit of its targeted dominance, in ways that run counter to fair competition and market-oriented principles.

Through its control of economic actors and sectors, China directs non-market advantages to China's maritime, logistics, and shipbuilding sectors. China's industrial plans identify a matrix of mechanisms that are used to achieve China's goals, including government financial support, barriers for foreign firms, consolidation policies, measures associated with forced technology transfer and intellectual property theft, state-led investments, and government procurement. China's maritime, logistics, and shipbuilding sectors accrue a wide-range of other non-market advantages, such as artificially low costs or preferential supply from China's non-market excess capacity, including in steel, China's lack of effective labor rights, and China's control over digital logistics services. Thus, China's targeting of the maritime, logistics, and shipbuilding sectors is unreasonable also because of China's extraordinary control over its economic actors and ability to direct non-market advantages to these sectors.

China's targeted dominance of the maritime, logistics, and shipbuilding sectors also serves a broader purpose to strengthen all of China's instruments of national power through China's Military-Civil Fusion (MCF) strategy. Through the MCF strategy, China seeks to become a "world-class" military. As one assessment notes, "China's opaque business ecosystem offers limited transparency into the flow of capital within its shipbuilding industry, but available evidence indicates that profits from foreign orders likely lower the costs of upgrading China's navy." This assessment illustrates how China's targeted dominance of these sectors has national security implications.

As identified in the Section 301 investigation and discussed in this report, **China's targeting of the maritime, logistics, and shipbuilding sectors for dominance burdens or restricts U.S. commerce** for the following reasons:

First, China's targeted dominance burdens or restricts U.S. commerce because it undercuts business opportunities for and investments in the U.S. maritime, logistics, and shipbuilding sectors. China has targeted these sectors for dominance for nearly three decades, and increasingly dominates the global maritime, logistics, and shipbuilding sectors. China's dominance means that its companies could almost always outbid their competitors with low pricing. Indeed, China continues to build upon its dominance and seeks to expand into new segments of those markets. For China to achieve its targeted dominance, Chinese companies must displace foreign companies in existing markets and take new markets as they develop.

In the shipbuilding sector, China's targeting for dominance is hindering any public or private efforts to revitalize the U.S. shipbuilding industry. U.S. companies are severely constrained to compete for business in the global recapitalization of the commercial fleet. Low-priced Chinese ships, which result from China's targeted dominance, are among the constraints that U.S. companies face to compete for business. For maritime shipping, China's targeting for dominance means that Chinese companies are gaining market share at the expense of foreign competitors, negatively impacting U.S. vessels and shipowners. Furthermore, China's state-sponsored and -supported logistics services platform, LOGINK, continue to gain global dominance and impede the development of a fair and competitive market for such platforms, including at the expense of a now-defunct U.S. provider of similar services. This has altered the competitive dynamics for global logistics and data management. China continues to capture a greater share of the transportation market, negatively impacting U.S. vessels and shipowners.

Finally, Chinese entities, pursuing China's dominance goals, utilize unfair labor practices that severely and artificially suppress China's labor costs in the maritime, logistics, and shipbuilding sectors. The artificially low labor costs in China create suppressive effects on U.S. labor in the maritime, logistics, and shipbuilding sectors. For these reasons, China's targeting of these sectors for dominance contributes to the diminished state of U.S. industry and chronic underinvestment in these sectors, constituting a burden and restriction on U.S. commerce.

Second, China's targeted dominance burdens or restricts U.S. commerce by restricting competition and choice. High levels of market concentration in the hands of few suppliers mean less incentives for innovation, decreased diversity of supply, greater barriers to entry, and ultimately less purchaser or consumer choice. China's targeted dominance results in diminished choice for U.S. firms. U.S. shipping companies enjoy less choice for supply of vessels and for logistics software and services; U.S. importers, exporters, and producers face less choice for shipping options. In other words, U.S. firms cannot realize the benefits—such as the incentives for companies to offer lower prices, enhanced quality and resilience, and innovation, among others—that fair market competition would be expected to provide. Less competition and choice may deny to purchasers and consumers the benefits of innovation, such as enhanced performance, features, or efficiency, that might have resulted from more market-oriented competition. Accordingly, China's targeting of these sectors for dominance burdens or restrict U.S. commerce through restriction of competition and choice.

Third, China's targeting for dominance burdens or restricts U.S. commerce because it creates economic security risks from dependence and vulnerabilities in sectors critical to the functioning of the U.S. economy. China's targeting for dominance has created dependencies for shipbuilding, logistics, and a substantial portion of U.S. international shipping, and creates potential vulnerabilities across the U.S. economy. China has also revealed the capacity and willingness to weaponize dependencies and vulnerabilities through economic coercion to influence policies in China's favor or to punish other countries for policies that offend China. A shock to Chinese-provided shipping, shipbuilding, or logistics would create massive disruptions and impose significant costs on U.S. commerce, on an enterprise and global scale. Over-reliance on a single economy for shipping, shipbuilding, and logistics increases the cost of any disruption.

Ships and shipping are vital to U.S. economic security and the free flow of commerce. Globally, more than 80 percent of goods are transported by sea. In 2022, ships moved 44.6 percent of U.S. international goods trade by value ($2.3 trillion) and 78.6 percent of U.S. international goods trade by weight (1.6 billion tons). By value, ships move 61 percent of U.S. international goods trade with Asia and 45 percent of U.S. international goods trade with Europe. Today, China controls nearly a fifth of the world's commercial shipping fleet. China can influence the pricing and availability of ships for international trade through its greater than 50 percent market share of production. It produces over 70 percent of ship-to-shore cranes, 86 percent of intermodal chassis, 95 percent of shipping containers, and increasing shares of other components and products.

The economic security risks that the U.S. economy, including U.S. firms, bear from these dependencies and vulnerabilities, through their potential for disruption and coercion, burden or restrict U.S. commerce.

Fourth, China's targeting for dominance burdens or restricts U.S. commerce by undermining supply chain resilience. The creation of dependencies increases risk for individual firms, their workers, and communities. While one firm may wish to improve its resilience to shocks by diversifying its sourcing (whether ships, shipping services, or logistics software from another supplier), markets (including the firm's customers) might not adequately reward the firm for reducing risk, for example, through a price premium for its goods or services or increased purchases. Further, if a firm wishes to diversify its sourcing, it might incur significant perceived costs for doing so due to China's artificially low prices. If its competitors do not also seek to diversify, the firm would be absorbing increased cost and put at a competitive disadvantage. If the firm does not, therefore, diversify, it is forced to absorb undue risk, reducing its resilience. The concentration of supply and lack of alternative suppliers means that a disruption can bring about supply chain failure that extends to entire economic sectors bringing significant economic stress. High levels of market concentration in a segment of the supply chain, particularly at a chokepoint, can also put a country at risk of others' weaponization of that market power. The maritime, logistics, and shipbuilding sectors are key to ensuring the flow of U.S. commerce. Dependencies and potential disruption of these sectors therefore undermine supply chain resilience, increasing risks and potential costs. For these reasons, China's targeting of the maritime, logistics, and shipbuilding and sectors burdens or restricts U.S. commerce by undermining supply chain resilience.

As the petitioners have noted, the entrenchment of China's dominance means that U.S. international trade would be "carried out on vessels made in China, financed by state-owned Chinese institutions, owned by Chinese shipping companies, and reliant on a global maritime and logistics infrastructure increasingly dominated by China."

The results of this investigation indicate that:

(1) China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable.

(2) China's targeting of the maritime, logistics, and shipbuilding sectors for dominance burdens or restricts U.S. commerce.

The results of this investigation provide a basis for finding that responsive action is appropriate.

I. Background

Section 301 of the Trade Act of 1974, as amended (the "Trade Act") allows the U.S. Trade Representative to address unfair foreign practices affecting U.S. commerce. The Section 301 provisions of the Trade Act provide a domestic procedure through which interested persons may petition the U.S. Trade Representative to investigate a foreign government's act, policy, or practice and take appropriate action. The U.S. Trade Representative also may self-initiate an investigation.

A. Summary of the Petition

On March 12, 2024, five labor unions[1] filed a Section 301 petition regarding the acts, policies, and practices of China to dominate the maritime, logistics, and shipbuilding sector.[2] The petition was filed pursuant to Section 302(a)(1) of the Trade Act, requesting action pursuant to Section 301(b).

Petitioners allege that China targets the maritime, logistics, and shipbuilding sector for dominance and engages in a wide range of unreasonable or discriminatory acts, policies, and practices that provide unfair advantages across maritime industries, such as shipbuilding, shipping, and maritime equipment, including: implementing industrial planning and policies that are designed to unfairly capture market share, distort global markets, and advantage Chinese enterprises; directing mergers and anticompetitive activities; providing non-market advantages to Chinese firms to dominate key upstream inputs and technologies; providing advanced financing mechanisms advantaging Chinese industry; creating a Chinese network of upstream suppliers, foreign ports and terminals, shippers, and equipment and logistics software that allow advantageous use of information; tolerating intellectual property theft and industrial espionage; and controlling shipping freight rates and capacity allocations. The petitioners also aver that China threatens to discriminate against U.S. commerce and disrupt supply chains.

Petitioners allege that China's acts, policies, and practices burden or restrict U.S. commerce by: dramatically increasing China's shipbuilding excess capacity and global market share, contributing to declines in U.S. shipbuilding capacity, production, and market share; artificially depressing prices, which makes it more difficult for U.S. companies to compete for sales; impeding U.S. investment, production, and employment; reducing the number of U.S.-produced ships in the domestic and global merchant fleets; and providing unfair advantages and preferences that burden or restrict trade in inputs, and burden or restrict trade opportunities for upstream inputs and downstream industries. In addition, the petitioners assert that China threatens to undermine U.S. national and economic security.

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[1] The five petitioners are the United Steel, Paper and Forestry, Rubber, Manufacturing, Energy, Allied Industrial and Service Workers International Union, AFL–CIO CLC (USW), the International Brotherhood of Electrical Workers (IBEW), the International Brotherhood of Boilermakers, Iron Ship Builders, Blacksmiths, Forgers and Helpers, AFL–CIO/CLC (IBB), the International Association of Machinists and Aerospace Workers (IAM), and the Maritime Trades Department of the AFL–CIO (MTD).

[2] The full text of the petition and accompanying exhibits are available at: Section 301-China-Targeting the Maritime, Logistics, and Shipbuilding Sectors for Dominance, https://ustr.gov/issue-areas/enforcement/section-301-investigations/section-301-china-targeting-maritime-logistics-and-shipbuilding-sectors-dominance.

B. Initiation of the Investigation

Pursuant to Section 302(a)(2) of the Trade Act, the U.S. Trade Representative reviewed the allegations in the petition, and after receiving the advice of the Section 301 Committee, the U.S. Trade Representative determined to initiate an investigation regarding the issues raised in the petition. On April 17, 2024, the U.S. Trade Representative requested consultations with the government of China pursuant to Section 303(a) of the Trade Act. The government of China has declined to hold consultations regarding the investigation under the statutory framework.

C. Section 301 Statutory Background

This investigation was initiated pursuant to Section 301(b) of the Trade Act. Under Section 301(b), actionable matters include acts, policies, and practices of a foreign country that are unreasonable or discriminatory and burden or restrict U.S. commerce.[3]

Section 301 provides that an "unreasonable" act, policy, or practice includes an act, policy, or practice that "while not necessarily in violation of, or inconsistent with, the international legal rights of the United States is otherwise unfair and inequitable."[4] Further:

> Acts, policies, and practices that are unreasonable include, but are not limited to, any act, policy, or practice, or any combination of acts, policies, or practices, which-
>
> (i) denies fair and equitable-
> (I) opportunities for the establishment of an enterprise,
> . . .
> (IV) market opportunities, including the toleration by a foreign government of systematic anticompetitive activities by enterprises or among enterprises in the foreign country that have the effect of restricting, on a basis that is inconsistent with commercial considerations, access of United States goods or services to a foreign market,
> (ii) constitutes export targeting, [or]
> (iii) constitutes a persistent pattern of conduct that-
> (I) denies workers the right of association,
> (II) denies workers the right to organize and bargain collectively,
> (III) permits any form of forced or compulsory labor,
> (IV) fails to provide a minimum age for the employment of children, or
> (V) fails to provide standards for minimum wages, hours of work, and occupational safety and health of workers[.][5]

Under the statute, the term "export targeting" means "any government plan or scheme consisting of a combination of coordinated actions (whether carried out severally or jointly) that are bestowed on a specific enterprise, industry, or group thereof, the effect of which is to assist the

[3] *See* Section 301(b)(1).
[4] *See* Section 301(d)(3)(A).
[5] *See* Section 301(d)(3)(B).

enterprise, industry, or group to become more competitive in the export of a class or kind of merchandise."[6]

Section 301 also provides that "discriminatory" includes "any act, policy, and practice which denies national or most-favored nation treatment to United States goods, services, or investment."[7]

The statute provides that an act, policy, or practice of a foreign country that burdens or restricts U.S. commerce may include "the provision, directly or indirectly, by that foreign country of subsidies for the construction of vessels used in the commercial transportation by water of goods between foreign countries and the United States."[8]

Pursuant to Section 304 of the Trade Act, the U.S. Trade Representative will determine on the basis of the investigation whether any act, policy, or practice described under Section 301(b) exists. If that determination is affirmative, the U.S. Trade Representative will determine whether action is appropriate, and if so, what action to take.[9]

D. Input from the Public

The Office of the United States Trade Representative (USTR) provided the public and interested persons with opportunities to present their views through a public comment process and through a public hearing. On May 29, 2024, the Section 301 Committee held a public hearing in the main hearing room of the U.S. International Trade Commission. Witnesses with varied interests and perspectives testified and responded to questions from the interagency Section 301 Committee, including representatives of U.S. companies and workers, trade and professional associations, think tanks, and representatives of trade and professional associations headquartered in China. The transcript of the hearing is available on USTR's website.[10] USTR received more than 40 comments and rebuttal comments.[11] Some comments pertained to other investigations and were not germane to this investigation.

E. Importance of the U.S. Maritime, Logistics, and Shipbuilding Sectors to the U.S. Economy

U.S. law has long reflected the importance of U.S. shipbuilding, shipping, and logistics to U.S. economic security. The Merchant Marine Act of 1936, codified 46 U.S.C. § 5101, states

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[6] *See* Section 301(d)(3)(E).
[7] *See* Section 301(d)(5).
[8] *See* Section 301(d)(2).
[9] *See* Section 304(a)(1)(B).
[10] *Hearing on Section 301 Investigation: China's Acts, Policies, and Practices Targeting the Maritime, Logistics, and Shipbuilding Sectors for Dominance*, *Before the Section 301 Committee*, https://ustr.gov/sites/default/files/Hearing%2005292024.pdf.
[11] *Request for Comments on the Section 301 Investigation of China's Acts, Policies, and Practices Targeting the Maritime, Logistics, and Shipbuilding Sectors for Dominance*, U.S. TRADE REPRESENTATIVE, https://comments.ustr.gov/s/docket?docketNumber=USTR-2024-0005.

that it is the policy of the United States to maintain sufficient domestic shipbuilding, shipping, and logistics capacity to sustain U.S. commerce:

> *It is necessary* for the national defense and the development of the domestic and foreign commerce of the United States *that the United States have a merchant marine—*
>
> (1) *sufficient to carry* the waterborne domestic commerce and *a substantial part of the waterborne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of the waterborne domestic and foreign commerce at all times*;
> (2) capable of serving as a naval and military auxiliary in time of war or national emergency;
> (3) *owned and operated as vessels of the United States by citizens of the United States*;
> (4) *composed of* the best-equipped, safest, and most suitable types of *vessels constructed in the United States* and manned with a trained and efficient citizen personnel; and
> (5) supplemented by efficient facilities for building and repairing vessels.[12]

As this report will discuss: China's targeted dominance of the maritime, logistics, and shipbuilding sectors is a key factor that contributes to the United States not being able to achieve shipbuilding and shipping sectors of the magnitude or size necessary to "carry the waterborne domestic commerce and a substantial part of the waterborne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of the waterborne domestic and foreign commerce at all times."[13] Likewise, China's control over ports, logistics, and maritime shipping creates risks for competitors, potential competitors, and customers alike.

Nevertheless, the maritime, logistics, and shipbuilding sectors significantly contribute to U.S. commerce.[14] In 2022, ships moved 44.6 percent of U.S. international trade by value ($2.3 trillion) and 78.6 percent of U.S. international trade by weight (1.6 billion tons).[15] Ships move 61 percent of U.S. international trade with Asia and 45 percent of U.S. international trade with Europe by value.[16]

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[12] 46 U.S.C. § 50101 (emphasis added); *see also* Merchant Marine Act, 1920, 41 Stat. 988 (Jun. 5, 1920).
[13] 6 U.S.C. § 50101.
[14] Karin Gourdon & Christian Steidl, *Global value chains and the shipbuilding industry*, OECD SCI., TECH. & IND. WORKING PAPERS 2019/08 (Nov. 14, 2019) at 15-16, https://www.oecd-ilibrary.org/science-and-technology/global-value-chains-and-the-shipbuilding-industry_7e94709a-en (*citing* Joachim Brodda, *The Shipbuilding and Offshore Marine Supplies Industry*, Organisation of Economic Co-operation and Development [*hereinafter* "OECD"] Workshop on Shipbuilding and the Offshore Industry (Nov. 24, 2014), https://web-archive.oecd.org/2014-11-27/330699-oecd-shipbuilding-workshop-brodda.pdf); MARTIN STOPFORD, MARITIME ECONOMICS (2nd ed., 2003).
[15] *Int'l Freight Gateway*, BUREAU OF TRANSP. STATISTICS, U.S. DEP'T OF TRANSP., https://data.bts.gov/stories/s/International-Freight-Gateways/4s7k-yxvu.
[16] *Id*.

According to estimates by the U.S. Maritime Administration (MARAD), the U.S. private shipbuilding and repair industry directly provided 107,108 jobs, $9.9 billion in labor income, and $12.2 billion in gross domestic product in 2019.[17] There are 154 private shipyards in the United States, spread across 29 states and the U.S. Virgin Islands.[18] In addition, there are more than 300 shipyards engaged in ship repairs or capable of building ships.[19] Average labor income per job in the U.S. private shipbuilding and repair industry was approximately $92,770 in 2019, which was 49 percent higher than the national average for the private sector economy.[20] U.S. shipbuilders delivered 608 vessels of all types in 2020, including 15 deep-draft vessels and 5 large oceangoing barges. The majority of these 608 vessel deliveries were inland dry cargo or tank barges and tugs and towboats.[21] U.S. shipbuilders delivered only four bulk vessels in 2024, the equivalent of 29,796 compensated gross ton (CGT), down from seven bulk vessels in 2023, or 73,359 CGT.[22]

The importance of the shipbuilding and repairing industry to the U.S. economy goes beyond the direct employment, labor income, and gross domestic product (GDP) that the sector generates. Companies in the shipbuilding and repair industry purchase inputs from domestic industries (indirect impact), and employees spend their incomes supporting the local and national economies (induced impact).[23] According to MARAD's estimates, on a nationwide basis—including direct, indirect, and induced impacts—the industry supported 393,390 jobs (107,180 direct, 276,100 indirect, 10,110 capital-related), $28.1 billion of labor income, and $42.4 billion in GDP in 2019.[24] Each direct job in the U.S. private shipbuilding and repair industry is associated with another 2.67 jobs in other parts of the U.S. economy; each dollar of direct labor income and GDP in the U.S. private shipbuilding and repairing industry is associated with another $1.82 in labor income and $2.48 in GDP, respectively, in other parts of the U.S. economy.[25]

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[17] *Id*. at 1. In 2023, the U.S. shipbuilding industry directly employed 105,652 people. U.S. MARITIME ADMIN. [hereinafter "MARAD"], Fact Sheet – U.S. Domestic Shipbuilding (Jul. 2024), https://www.maritime.dot.gov/sites/marad.dot.gov/files/2024-07/FACT%20SHEET%20for%20DOMESTIC%20SHIPBUILDING%20%28JULY%202024%29_0.pdf.

[18] MARAD defined the U.S. private shipbuilding and repair sector as comprised of enterprises that are engaged in operating shipyards, which are fixed facilities with drydocks and fabrication equipment. Shipyard activities included ship construction, repair, conversion and alteration, as well as the production of prefabricated ship or barge sections as well as other specialized services. The sector also included manufacturing and other facilities outside of the shipyard, which provide parts or services for shipbuilding activities within a shipyard.

[19] U.S. MARITIME ADMIN., ECONOMIC IMPORTANCE OF U.S. PRIVATE SHIPBUILDING & REPAIRING INDUSTRY 2 (Mar. 30, 2021) (hereinafter "ECONOMIC IMPORTANCE OF U.S. PRIVATE SHIPBUILDING").

[20] *Id*. at 9.

[21] *Id*. at 11.

[22] Based on data from Clarksons Research.

[23] *Id*. at 3.

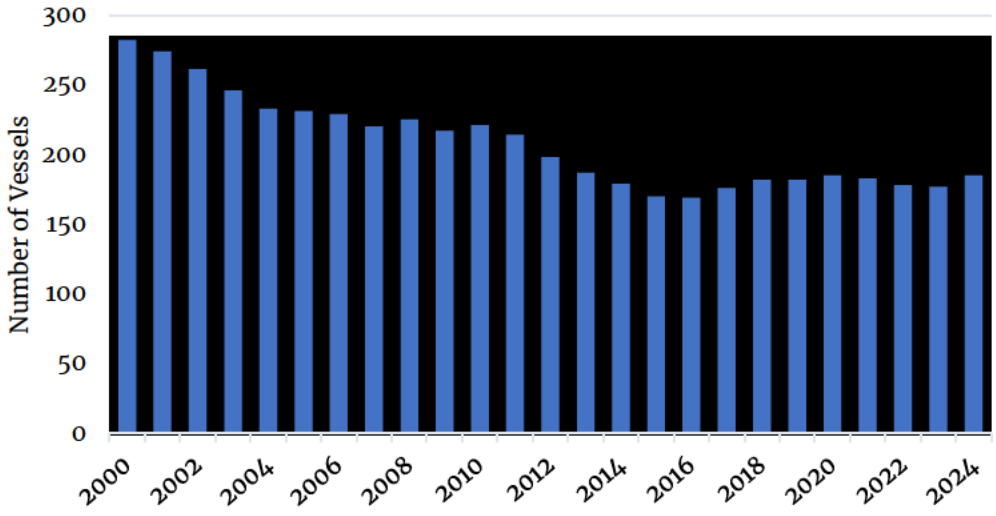
[24] According to recent statistics from the annual Marine Economy Satellite Account, released by two Department of Commerce agencies – the National Oceanic and Atmospheric Administration and the Bureau of Economic Analysis, the "marine economy" contributed a total of $476 billion in economic impact in 2022, making up nearly 2 percent of the nation's GDP, with ship and boat building contributing $20 billion in economic impact, up 14.6 percent compared to 2021. *U.S. marine economy continues upward trend* , NAT'L OCEANIC & ATMOSPHERIC ADMIN. (June 6, 2024), https://www.noaa.gov/news-release/us-marine-economy-continues-upward-trend; *see also* ECONOMIC IMPORTANCE OF U.S. PRIVATE SHIPBUILDING at 1.

[25] ECONOMIC IMPORTANCE OF U.S. PRIVATE SHIPBUILDING at 2.

The supply chain for shipbuilding includes components and inputs such as paints, steel plates, copper tubing, aluminum, iron castings, electronics, electrical wires, and data cables, among others. In the United States, these inputs accounted for 34.1 percent of total shipbuilding industry costs in 2019.[26] Research and development, insurance, security, cleaning costs, equipment repairs, and site maintenance, accounted for an estimated 34 percent of total industry costs. Labor wages accounted for 26.9 percent of industry costs, with depreciation, rent, and utilities accounting for the remaining 5.0 percent of industry costs in 2019.[27]

Maritime logistics, including U.S. seaports, also play a significant role in the U.S. economy. According to the American Association of Port Authorities, in 2023, the U.S. port and maritime industry supported 21.81 million jobs, including 1,000,000 port and maritime workers, 714,000 jobs at suppliers, 803,000 jobs supported by consumer spending, and 19.27 million jobs facilitated by goods that move through ports. The U.S. port and maritime industry also supported $2.89 trillion in economic activity and $1.79 trillion in wages and benefits. The average wages of a port and maritime worker were $98,000, higher than the average wages of a U.S. worker.[28] According to the Bureau of Transportation Statistics, the nation's ports handled 42.9 percent (over $2.28 trillion) of U.S. international trade by value in 2022.[29] An independent research organization estimates that over $6 billion in cargo is handled every week by U.S. ports, with an annual economic activity value of $5.4 trillion.[30]

Figure 1: Number of the U.S. Flag Merchant Fleet Vessels[31]



[26] *Id*. at 12.
[27] *Id*. at 12.
[28] U.S. PORTS & MARITIME INDUSTRY ECONOMIC CONTRIBUTION REPORT, AM. ASSOC. OF PORT AUTHORITIES (Oct. 2024), https://aapa.cms-plus.com/files/AAPA%5FFINAL%20EIS%5FFOR%20PRINT.pdf.
[29] *Port Performance Freight Statistics*, BUREAU OF TRANSPORTATION STATISTICS, U.S. DEP'T OF TRANSPORTATION (Jan. 2024), https://www.bts.gov/sites/bts.dot.gov/files/2024-01/2024_Port_Performance_Report_0.pdf.
[30] Lisa Wynnyk, *Chinese Technology Influence in U.S. Seaports*, MITRE (Feb. 13, 2024), https://www.mitre.org/news-insights/publication/chinese-technology-influence-us-seaports.
[31] *Number and Size of the U.S. Flag Merchant Fleet and Its Share of the World Fleet (Oceangoing Self-Propelled, Cargo-Carrying Vessels of 1,000 Gross Tons and Above)*, BUREAU OF TRANS. STATISTICS, U.S. DEP'T OF TRANS. (May 21, 2024), https://www.bts.gov/content/number-and-size-us-flag-merchant-fleet-and-its-share-world-fleet.

The United States is reported to be the number four ship-owning nation, with $99.9 billion in assets as of February 2024, which is an increase of $1.0 billion from February 2023.[32] The United States is dominant in cruise ship ownership and prominent in roll-on/roll-off vessel ownership. In 2022, U.S. nationals owned 1,758 total commercial vessels, including 771 vessels registered under the U.S. flag and 978 registered under a foreign flag, accounting for 7.41 percent of the world fleet by value and 2.3 percent of the world fleet by dead weight ton (DWT).[33] According the Bureau of Transportation Statistics, as of 2024, there are 185 oceangoing, cargo-carrying vessels of 1,000 gross tons and above that are U.S. flagged, which is down from 274 vessels in 2000.[34]

Despite the importance of shipping, logistics, and shipbuilding to the healthy functioning of U.S. commerce and U.S. national security, including U.S. economic security—the U.S. shipbuilding and shipping industries are shadows of their former selves. During World War II, the United States had amassed large fleets of navy and commercial ships, as well as a large shipbuilding sector:

> The United States had 8 naval shipyards and at least 64 private-sector shipyards that were actively building large naval or merchant ships. Of the 64 private-sector yards, 24 had been major shipbuilders before the war, 20 had been established or expanded by the Navy for the naval shipbuilding program, and 20 had been established or expanded by the U.S. Maritime Commission for the merchant shipbuilding program.[35]

Throughout the 1950s and subsequent decades, American workers and industry created new, innovative visions for the global and maritime economy. For example, in the 1950s, U.S. entrepreneurs pioneered the development of containerized shipping, developing the system of shipping containers, box-ships, and ship-to-shore cranes that we use today.[36] In 1970, the United States was the world's sixth largest flag of registration.[37] Today, the United States is 22nd. U.S. ships carry only a small share of international trade—for example, the largest U.S. maritime transport company ranks only 28th globally, carrying approximately 0.2 percent of global container traffic.

The United States also developed some of the earliest innovations in the transportation and use of liquified natural gas (LNG). The history behind the world's first LNG ship is a chapter in the history of U.S. innovation. At the end of World War II, the M.V. *Marline Hitch*

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[32] *Top 10 Shipowning Nations*, CONTAINER NEWS (Feb. 28, 2024), https://container-news.com/top-10-shipowning-nations/.
[33] U.N. TRADE AND DEVELOPMENT [hereinafter "UNCTAD"], REVIEW OF MARITIME TRANSPORT 2023 at Tables 2.5 & 2.6.
[34] *Number and Size of the U.S. Flag Merchant Fleet and Its Share of the World Fleet (Oceangoing Self-Propelled, Cargo-Carrying Vessels of 1,000 Gross Tons and Above)*, BUREAU OF TRANS. STATISTICS, U.S. DEP'T OF TRANS. (May 21, 2024), https://www.bts.gov/content/number-and-size-us-flag-merchant-fleet-and-its-share-world-fleet.
[35] Tim Colton & LaVar Huntzinger, A BRIEF HISTORY OF SHIPBUILDING IN RECENT TIMES, CEN. FOR NAVAL ANALYSES (2002).
[36] *See generally* MARC LEVINSON, THE BOX: HOW THE SHIPPING CONTAINER MADE THE WORLD SMALLER AND THE WORLD ECONOMY BIGGER (2016).
[37] UNCTAD REVIEW OF MARITIME TRANSPORT, 1970.

was built in Duluth Minnesota. It was delivered in 1945 as a U.S. government cargo vessel. In the late 1950s, an opportunity arose to sell LNG to the United Kingdom. A U.S. company worked with the British Gas Council to develop the first ocean shipping system for LNG. In 1958, the M.V. *Marline Hitch* was converted to carry LNG, and was renamed the M.V. *Methane Pioneer*. On January 25, 1959, the M.V. *Methane Pioneer* left the Calcasieu River on the Louisiana Gulf for the United Kingdom, carrying the world's first ocean cargo of LNG.[38]

In the 1970s, the U.S. government encouraged U.S. shipyards to build LNG carrying vessels. From 1977 through 1980, U.S. shipyards built 16 LNG carriers. Of those, 11 vessels were built with the support of Construction Differential Subsidies, and 5 were built without support from that program. All 16 vessels were built for the purpose of conducting international trade.[39]

In 1975, U.S. shipbuilders were building more than 70 commercial ships, and in 1980, 180,000 workers were employed in private shipyards and repair facilities.[40] In the 1980s, the United States ended programs that provided subsidies for the construction and operation of ships engaged in international trade.[41] In its place, the U.S. administration at that time set a goal of building a 600-ship Navy, and the next U.S. administration issued a National Security Directive reaffirming that:

> Sealift is essential both to executing this country's forward defense strategy and to maintaining a wartime economy. The United States' national sealift objective is to ensure that sufficient military and civil maritime resources will be available to meet defense deployment, and essential economic requirements in support of our national security strategy. The broad purpose of this directive is to ensure that the [U.S.] maintains the capability to meet sealift requirements in the event of crisis or war.[42]

Toward this end, the directive established several policy guidelines, including:

> 1. The [U.S.]-owned commercial ocean carrier industry, to the extent it is capable, will be relied upon to provide sealift in peace, crisis, or war. . . .
>
> 2. We must be prepared to respond unilaterally to security threats in geographic areas not covered by alliance commitments. Sufficient [U.S.]-owned sealift resources must be available to meet requirements for such unilateral response.

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[38] Peter G. Noble, A Short History of LNG Shipping, 1959-2009, *available at* https://higherlogicdownload.s3.amazonaws.com/SNAME/1dcdb863-8881-4263-af8d-530101f64412/UploadedFiles/c3352777fcaa4c4daa8f125c0a7c03e9.pdf.

[39] Tim Colton, *LNG Carriers Built in U.S. Shipyards*, SHIPBUILDING HISTORY (Apr. 16. 2020), http://shipbuildinghistory.com/shipssincewwii/3lngcs.htm.

[40] *See* Decline in U.S. Shipbuilding Industry: A Cautionary Tale of Foreign Subsidies Destroying U.S. Jobs, ENO CEN. FOR TRANSP. (Sept. 1, 2015), https://enotrans.org/article/decline-u-s-shipbuilding-industry-cautionary-tale-foreign-subsidies-destroying-u-s-jobs.

[41] COLTON & HUNTZINGER at 18.

[42] Nat'l Sec. Dir. 28 (Oct. 5, 1989).

> 3. In addition to the [U.S.] flag fleet[,] we will continue to rely on U.S.-owned (Effective [U.S.] Controlled) and allied shipping resources to meet strategic commitments to our established alliances.[43]

The directive also directed the Department of State, the Department of Transportation, and USTR to "ensure that international agreements and federal policies governing use of foreign flag carriers protect our national security interests and do not place [U.S.] industry at an unfair competitive disadvantage in world markets."[44] Lastly, the directive states that "[U.S.] government policies and programs shall provide for an environment which fosters the competitiveness and industrial preparedness of all industries including the maritime industry."[45]

However, just five years later:

> [E]mployment fell by a third, and the number of active shipyards was reduced by 40 percent. . . . With no commercial work to fall back on, the competition for naval shipbuilding was so desperate that it effectively drove at least three major long-established shipbuilders—[Fore River Shipyard] (Quincy[,] MA) , Sun Shipbuilding (Chester[,] PA), and Bethlehem Steel (Sparrows Point[,] MD)—out of the business, leaving the work concentrated in only six shipyards, none of which were making any money from building merchant ships.[46]

In the 1990s, it was believed that increases in world ship production and total cargo carrying capacity, coupled with competitive advantages in specialty markets such as naval, dredge, and high-speed ferry markets would aid a nascent recovery process for U.S. maritime industries such as shipbuilding and shipping.

By 2000, there were glimmers of hope for industries in these sectors. For example, one report identified that in the United States:

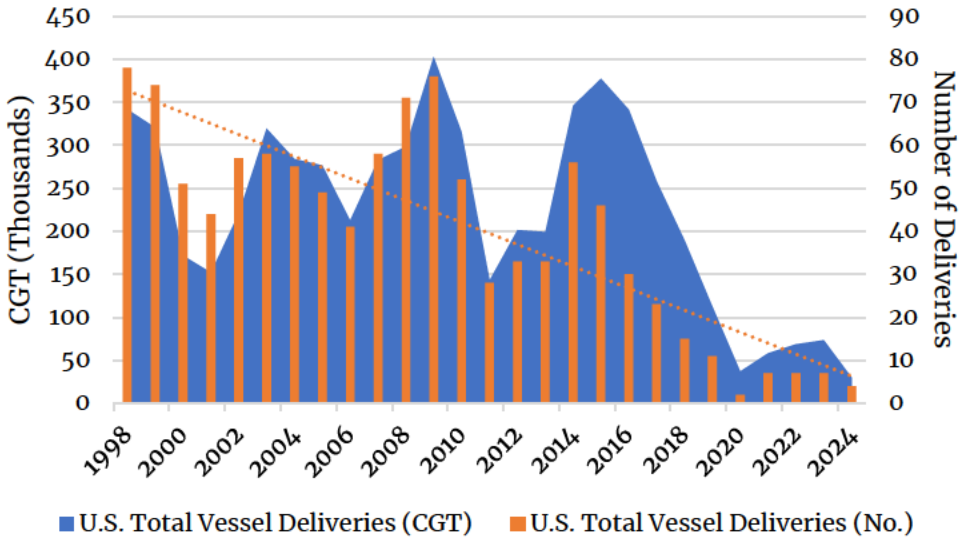
> [T]here were 149 commercial vessels on order with an estimated value of almost $4 billion. The highest-priced commercial items currently on order in the United States include[d] cruise ships, various deepwater and submersible vessels, and oil tankers. Two cruise ships priced at $440 million each are on order from Ingalls,[47] while Avondale will gross almost $500 million from its first three double-hulled oil tankers and an additional $400 million for its next two. NASSCO will be constructing three $210 million tankers and two $150 million [roll-on/roll-off] ships over the next five years. Friede Goldman Offshore landed six semi-submersible (oil rig) orders worth about $700 million, and AMFELS is committed to build two construction vessels, each priced at over $100 million. Kvaerner

[43] *Id*. at 1-2.
[44] *Id.* at 2.
[45] *Id*.
[46] *Id*. at 18.
[47] The cruise ship would be cancelled approximately a year later, impacting nearly 1,250 workers' jobs. *See Ingalls Pulls the Plug on Cruise Ships*, WLOX (Nov. 2, 2001), https://www.wlox.com/story/530906/ingalls-pulls-the-plug-on-cruise-ships/.

> Philadelphia is working on a $70 million containership, which does not yet have a buyer.[48]

Yet, these U.S. sectors were about to face new, stiff headwinds.

Figure 2: U.S. Vessel Deliveries[49]



After China acceded to the World Trade Organization (WTO) in 2001, imports of Chinese goods surged into the United States and Chinese imports displaced nearly one million American manufacturing jobs—a development commonly referred to as the "China Shock".[50] A more recent examination assessed that:

> [I]mport penetration from China, which increased at an average rate of 0.89% between 2000 and 2012, accounted for 59.3% of all manufacturing job losses in the U.S. between 2001 and 2019. . . Manufacturing job losses caused by the China trade shock converted nearly one for one into long-term unemployment.[51]

The China Shock harmed factory towns across the United States, with job losses often geographically concentrated in hard-hit communities. The same study found that, despite decreases in consumer prices due to trade, 82 commuting zones comprising 6.3 percent of the U.S. population continue to experience net declines in real incomes due to the China Shock.[52]

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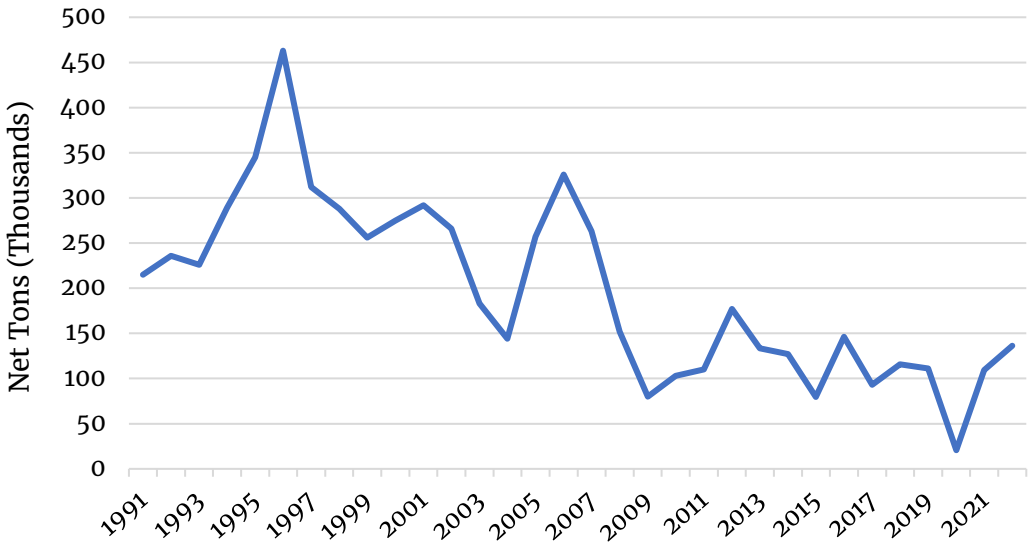
[48] U.S. DEPARTMENT OF COMMERCE OFFICE OF STRATEGIC INDUS. & ECON. SEC. STRAT. ANALYSIS DIVISION NAT'L SEC. ASSESSMENT OF THE U.S. SHIPBUILDING AND REPAIR INDUSTRY 28 (2001).
[49] Based on data from Clarksons Research.
[50] David H. Autor, David Dorn, Gordon Hanson, *The China Shock: Learning from Labor-Market Adjustment to Large Changes in Trade*, 8 ANNUAL REVIEW OF ECONOMICS 205, 227 (2016).
[51] David Author, David Dorn, & Gordon H. Hanson, *The China Shock and Its Enduring Effects*, STANFORD CEN. ON CHINA'S ECON. AND INSTIT. (Oct. 1, 2022), https://fsi9-prod.s3.us-west-1.amazonaws.com/s3fs-public/202212/china_shock_enduring_effects_10.1.22.pdf.
[52] *Id.*

As China doubles down on manufacturing amid slowing domestic demand, some observers warn that a "China Shock 2.0" could be coming as Beijing seeks to export overproduction.[53]

U.S. maritime industries and sectors have not been immune. A number of U.S. shipyards have been forced to close as cheap Chinese ships have flowed into the global market. For example, Bender Shipbuilding in Mobile, Alabama declared bankruptcy and was sold in 2009, and delivered its last ship in 2012.[54] Avondale Shipyards in New Orleans, Louisiana announced it was closing in 2010 and delivered its last ship in 2014.[55] U.S shipbuilding employment has seen a corresponding impact. From 2008 to 2021, the number of shipbuilding and repair production workers in the United States fell by 14.9 percent and the number of production hours worked fell by 19.5 percent.[56] Similarly, as fewer ships were built, U.S. domestic steel shipments to the shipbuilding and marine equipment industries decreased:

Figure 3: U.S. Domestic Steel Shipments to Shipbuilding and Marine Equipment Industries[57]



Nearly 50 years after the United States stopped taking actions to level the playing field in the shipbuilding and shipping sectors, the number of commercial shipyards in the United States has plunged, tens of thousands of jobs have been lost, and the United States now produces only a fraction of one percent of the world's commercial vessels, falling to 16th place globally.

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[53] Jacky Wong, *China Shock 2.0 Will Be Different*, WALL ST. J. (Apr. 11, 2024), https://www.wsj.com/world/china/china-shock-2-0-will-be-different-027d5d30.

[54] *Mobile's Bender Shipyard to Change Hands; Company Sought Bankruptcy Protection in Early July*, AL.COM (Oct. 1, 2009), https://www.al.com/press-register-business/2009/10/bender_shipyard_to_change_hand.html; *Bender Shipbuilding*, SHIPBUILDING HISTORY (Oct. 8, 2020), http://shipbuildinghistory.com/shipyards/large/bender.htm.

[55] *Avondale Shipyard Sold, Now Called Avondale Marine*, WORKBOAT (Oct. 4, 2018), https://www.workboat.com/shipbuilding/avondale-shipyard-morph-into-avondale-marine; *Avondale Shipyards*, SHIPBUILDING HISTORY (Dec. 26, 2020), http://shipbuildinghistory.com/shipyards/large/avondale.htm.

[56] U.S. Census Bureau, "Annual Survey of Manufactures for NAICS 336611, Shipbuilding and Repair".

[57] American Iron and Steel Institute Annual Statistical Report.

II. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance

China has targeted the maritime, logistics, and shipbuilding sectors for dominance, both domestically and globally, through industrial planning over the last three decades. China has employed increasingly aggressive and specific targets in pursuing its dominance. In 2002, then-Premier Zhu Rongji expressed ambitions for China to become the world's largest shipbuilder,[58] and in 2003, Beijing declared shipbuilding a "pillar industry".[59] As early as 2003, China expressed ambitions to become a Strong Maritime Nation, a Strong Shipbuilding Nation, and a Strong Shipping Nation. These strategies encompassed efforts to dominate all facets of the marine economy including the maritime, logistics, and shipbuilding sectors.[60] China continues to pursue these goals. When Chinese Communist Party (CCP) General Secretary Hu Jintao mentioned China's Strong Maritime Nation goals in the 18th Party Congress work report in 2012, it elevated the stature of this strategy.[61] As recently as April 2022, President of the People's Republic of China (PRC) and CCP General Secretary Xi Jinping said, "Building a Strong Maritime Nation is a major strategic task for realizing the great rejuvenation of the Chinese nation".[62]

Top-down industrial planning and targeting is a critical feature of China's state-led, non-market economic system. China organizes the development of its economy at a high level through broad, national-level five-year economic and social development plans. It then employs industry-specific plans that typically align chronologically with the national five-year plans. These plans often contain detailed quantitative and qualitative targets, including for production, domestic content, and domestic and international market shares, and outline the non-market policies and practices China should use to achieve them. Local governments and agencies also issue their own supplemental industry-specific plans to implement the objectives laid out in the national plans, and include more granularity for execution of those objectives. These national five-year plans and industry-specific plans are reinforced by overarching industrial plans that are longer term and seek alignment between and among industries to drive China's broader economic and geopolitical goals to achieve technological and industrial parity and then dominance relative to advanced economies.[63]

Indeed, these industrial planning and targeting policies are driven by China's persistent and long-standing goals of dominating strategic sectors and to secure control over its own supply chains. As USTR's Section 301 investigation on China's Acts, Policies, and Practices Related to Technology Transfer, Intellectual Property, and Innovation had found, these policies are founded

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[58] *Three Generations of Leaders, Three Generations of Love: A Record of Three Generations of Leaders of the Republic Caring About the Shipbuilding Industry* [Chinese], HUBEI PARTY HISTORY (Sep. 2, 2016), http://www.hbdsw.org.cn/dsyj/201609/t20160902_107933.shtml.
[59] *Outline of the National Marine Economy Development Plan* Art. 2.1.5 (State Council, Guo Fa [2003] No. 13, issued May 9, 2003), https://www.gov.cn/gongbao/content/2003/content_62156.htm.
[60] *Outline of the National Marine Economy Development Plan* at Art. 2.2.1, 3.2, 3.5.
[61] *See Hu Jintao's Report at the 18th National Congress of the Communist Party of China* [Chinese], XINHUA (Nov. 17, 2012), http://www.xinhuanet.com//18cpcnc/2012-11/17/c_113711665.htm.
[62] *Xi Jinping: March Towards the Ocean and Accelerate the Construction of a Strong Maritime Nation* [Chinese], DANGJIAN (Jun. 8, 2022), http://www.dangjian.com/shouye/dangjianyaowen/202206/t20220608_6398476.shtml.
[63] For a detailed discussion of China's overarching industrial plans, *see* Section II.A.

on concepts such as "indigenous innovation" and "re-innovation" of foreign technologies, among others.[64] Citing economic and national security reasons, China seeks to "reduce its dependence on technologies from other countries and move up the value chain, advancing from low-cost manufacturing to become a 'global innovation power in science and technology'… In pursuit of this overarching objective, China has issued a large number of industrial policies, including more than 100 five-year plans, science and technology development plans, and sectoral plans over the last decade."[65]

The institutions that issue these plans provide insight into their respective importance. National economic and social development five-year plans are overseen by the CCP with the National Development and Reform Commission (NDRC)—China's state planner and industrial policy regulator in charge of coordinating input and drafting.[66] These plans are ratified by the National People's Congress, China's legislature. Industry-specific and overarching industrial plans may be drafted by a range of government and Party organizations. The highest-level industry-specific and overarching plans are issued jointly by the State Council—China's executive branch—and the CCP Central Committee—the body of around 200 members that leads the Party and governs China. In descending order of importance, plans can also be issued by the State Council on its own, the General Office of the State Council, multiple agencies under the State Council, or a single agency. This model is again replicated at sub-central levels, such as the provincial, municipal, or even county levels.

The various targets in these plans are long-term and specify industry structure, industry scale, and the composition of supply chains. They are updated and revised regularly, reflecting the fact that China's industrial structure changes over time. This in turn informs changes in global trading patterns and industrial structures. China has set targets over the past two decades for shipbuilding broadly, marine equipment, maritime engineering equipment, high-technology ships, shipping, and logistics, among other subsectors.

Key Subsectors Subject to Industrial Targeting

China's industrial planners articulate targets in a number of subsectors of the maritime, logistics, and shipbuilding sectors.

- **Shipbuilding:** Especially in earlier plans, China set targets for ship production broadly, including lower value commodity ships like bulk carriers, tankers, and container ships.[67]

[64] OFFICE OF THE U.S. TRADE REPRESENTATIVE, FINDINGS OF THE INVESTIGATION INTO CHINA'S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE TRADE ACT OF 1974 (Mar. 22, 2018).
[65] *Id.*
[66] *The Fourteenth Five-Year Plan is Coming, How Will It Come Out?* [Chinese], STATE COUNCIL (Nov. 27, 2019), https://www.gov.cn/xinwen/2019-11/27/content_5456153.htm.
[67] In Chinese: " ". Plans sometimes refer to bulk carriers, tankers, and container ships as the "three major mainstream ship types". *See Ship Industry Adjustment and Revitalization Plan* [hereinafter "*Ship Industry Revitalization Plan"*] Art. 2.3.3 (State Council, issued Jun. 9, 2009), https://www.gov.cn/zwgk/2009-06/09/content_1335839.htm.

- **Marine equipment:** China also set targets for equipment installed in ships such as diesel engines, deck machinery, and cabin equipment.[68]
- **Maritime engineering equipment:** Plans also include targets for offshore equipment used for exploiting marine resources, such as oil drilling platforms.[69]
- **High-technology ships:** Later targets focused on more technically advanced and higher value-added ships, for example cruise ships, ocean fishing vessels, or liquefied natural gas (LNG) carriers.[70]
- **Shipping:** China's targets in this sector focus on companies that own or lease ships for the transportation of goods or passengers.[71]
- **Logistics:** Chinese industrial plans also target areas such as port operation, logistics data services, and port equipment manufacturing.

China sets market share targets based on a certain percentage of global production. Targets for specific levels of Chinese production can also serve as a proxy for market share targets. Market share targets necessitate substitution by Chinese companies at the expense of foreign competitors—for Chinese companies to gain market share, they must displace foreign companies in existing markets and take new markets as they develop in the future. In the shipbuilding and marine equipment sectors, China has set production targets broadly since 2006.[72] Targets have become more aggressive and sophisticated over the years.

[68] In Chinese: " ", sometimes also referred to as " ", or "ship accessories", to provide the connotation of equipment as a part of an integrated set.

[69] In Chinese: " ". An official interpretation of Made in China 2025 [hereinafter "MIC2025"] describes maritime engineering equipment as, "a general term for all kinds of equipment used to develop, utilize, and protect the ocean." *See Interpretation of Made in China 2025: Promoting the Development of Maritime Engineering and High-Technology Ships*, Ministry of Industry and Information Technology [hereinafter "MIIT"] (May 12, 2016), https://www.gov.cn/zhuanti/2016-05/12/content_5072766.htm. Technologies enumerated in the 2015 MIC2025 Technology Roadmap include deep sea exploration equipment; marine oil and gas, mineral, and renewable resource development equipment; large floating structures; and offshore island and reef utilization equipment. *See* NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, "MADE IN CHINA 2025" GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2015) 81-83 (Publishing House of Electronics Industry 2015) (hereinafter "2015 MIC2025 TECHNOLOGY ROADMAP").

[70] In Chinese: " ". An official interpretation of MIC2025 defines a high-technology ship as, "characterized by high technical complexity and high value." *See Interpretation of Made in China 2025: Promoting the Development of Maritime Engineering and High-Technology Ships*. The 2015 MIC2025 TECHNOLOGY ROADMAP enumerates types of ships considered to be high-technology ships (e.g., polar transport ships, ocean fishing vessels, law enforcement ships, cruise ships, etc.) as well as related technologies (e.g., low emission engines, intelligent ship monitoring systems, liquefied natural gas [hereinafter "LNG"] propulsion, low-friction hull coatings, etc.), implying that both ship function as well as the type of equipment installed are factors in determining whether a ship is considered high-technology. *See* 2015 MIC2025 TECHNOLOGY ROADMAP at 81-83.

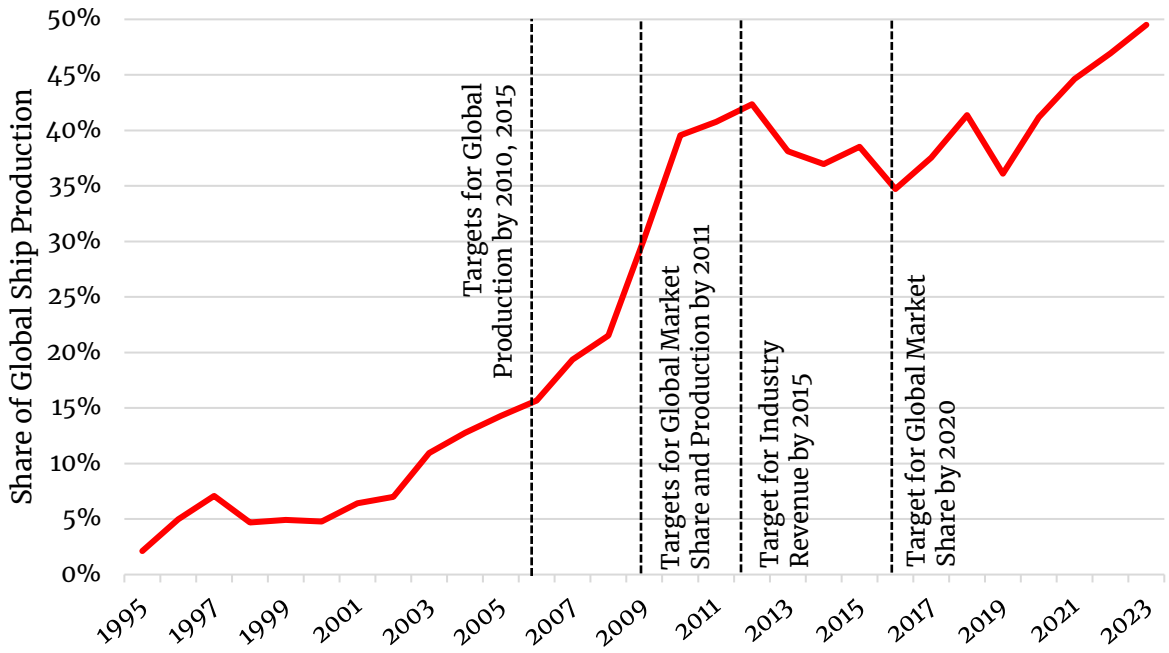
[71] In Chinese, or , the latter of which is sometimes also translated as "maritime transport".

[72] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* Art. 1.1.2 (National Development and Reform Commission [hereinafter "NDRC"], State Administration of Science, Technology, and Industry for National Defense [hereinafter "SASTIND'], issued Sep. 18, 2006), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/200710/P020191104623363865929.pdf.

- In the area of high-technology ships, for example, China initially set a target of 20 percent of global market share by 2011,[73] but now aims to achieve a 50 percent global market share by 2025.[74]
- For maritime engineering equipment, China initially targeted 10 percent of global market share by 2011,[75] and is now shooting for 40 percent market share by 2025.[76]
- Amid increased focus on reducing ship emissions, China has set targets to dominate green shipbuilding as well, aiming to achieve a 50 percent global market share by 2025 and maintain a world-leading market share in 2030.[77]

The results have been that China's market share of global ship production has increased steadily since the turn of the century, increasing from approximately 5 percent in 2000 to over 50 percent today.[78] That is, China has broadly achieved its goals for shipbuilding ahead of schedule.

Figure 4: Industrial Targeting Drives China's Share of Global Ship Production[79]



[73] *Ship Industry Revitalization Plan* at Art. 2.3.2.
[74] 2015 MIC2025 TECHNOLOGY ROADMAP at 73.
[75] *Ship Industry Revitalization Plan* at Art. 2.3.2.
[76] 2015 MIC2025 TECHNOLOGY ROADMAP. For a summary of industrial targets in the shipbuilding sector, *see* Appendix A.
[77] *Shipbuilding Industry Green Development Action Outline (2024-2030)* Art. 1.3 (MIIT, NDRC, Ministry of Finance [hereinafter "MOF"], Ministry of Ecology and Environment [hereinafter "MEE"], Ministry of Transport [hereinafter "MOT"], Gong Xin Bu Lian Zhong Zhuang [2023] No. 254, issued Dec. 28, 2023), https://wap.miit.gov.cn/zwgk/zcwj/.wjfb/tz/art/2023/art_3c718652a49b4c0dbf8f2079567cb742.html.
[78] Based on data from Clarksons Research.
[79] Gross tonnage of self-propelled ocean-going cargo vessels greater than or equal to 100 gross tons, based off Maritime Administration analysis of data from Lloyds Register and S&P Global.

Targets for domestic content raise similar concerns. That is, if a certain percentage of marine equipment in a ship, for example, must be produced domestically, achieving such a target comes at the expense of foreign competitors and constitutes import substitution in China's market and displacement of exports from other markets. China began setting domestic content targets for marine equipment in 2006, and targets similarly increased in ambition over time.[80]

- China initially set a target of 60 percent of marine equipment installed in all Chinese-built ships to be produced domestically by 2010,[81] and now aims to achieve 85 percent by 2025.[82]
- China raised its target of 40 percent of maritime engineering equipment to be produced domestically by 2020 to 50 percent by 2025.
- China also raised its target of 60 percent of key systems and equipment in high-technology ships to be sourced domestically by 2020 to 80 percent by 2025.[83]

The effect that domestic content targets have had on China's imports of marine equipment has been stark. China sourced over 90 percent of inputs for ship production domestically in 2015, the highest among major shipbuilding economies.[84]

China's industrial plans also set industrial consolidation targets. For example, in 2012, China set a target for its top 10 shipbuilding companies to account for more than 70 percent of national annual output.[85] Such targets create access barriers for new market entrants, which can, among other things, create barriers for foreign companies to access the Chinese market.

In China's system and in practice, targets laid out in China's industrial plans are treated as mandatory, and government authorities deploy a wide range of tools designed to achieve them. These tools are detailed in Section III.

As the petition points out, China's industrial planning and targeting, in combination with other acts, policies, and practices, have allowed China to create an "integrated network of Chinese-built vessels, owned and operated by Chinese shipping companies and others, financed

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[80] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* at Art. 1.1.2.
[81] *Id*.
[82] *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* Art. 2 (MIIT, Gong Xin Bu Zhuang [2015] No. 486, issued Dec. 30, 2015), https://jxt.sc.gov.cn/scjxt/uploadfiles/20191106152016115 85.pdf.
[83] 2015 MIC2025 TECHNOLOGY ROADMAP at 73.
[84] OECD, GLOBAL VALUE CHAINS AND THE SHIPBUILDING INDUSTRY 25 (Aug. 2019). Chinese sources indicate that China may be further behind in localizing maritime engineering equipment and high-technology ships. In one 2016 official policy interpretation, China's industry and technology regulator estimated that the localization rate for maritime engineering equipment and high-technology ships was less than 30 percent while South Korea and Japan's marine equipment was 85 and 90 percent localized, respectively. *See Interpretation of Made in China 2025: Promoting the Development of Maritime Engineering and High-Technology Ships*.
[85] *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 3 (MIIT, issued Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm. This target was initially set for 2015 but later appears in a separate shipbuilding action plan with a target date of 2020. *See Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* Art. 1.3 (MIIT, NDRC, MOF, People's Bank of China [hereinafter "PBOC"], China Banking Regulatory Commission [hereinafter "CBRC"], SASTIND, Gong Xin Bu Lian Zhuang [2016] No. 447, issued Jul. 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828.html.

by Chinese banks, and favored by a growing web of global ports and terminals owned by Chinese SOEs [state-owned enterprises]".[86] For example,

- In the shipbuilding sector: China increased its commercial vessel tonnage from just 5 percent in 1999 to over 50 percent of global tonnage by 2023;[87]
- In the maritime sector: China has become the world's largest shipowner, with 19.1 percent of global oceangoing commercial vessels by deadweight ton.[88]
- In the logistics sector: Chinese firms own stakes in or operate one or more terminals at 96 overseas ports, 36 of which are among the world's top 100 ports by container throughput. Chinese SOEs own stakes in or operate 65 of these ports. Another 25 of the world's top 100 ports are located in mainland China.[89] Experts estimate that National Transportation and Logistics Public Information Platform (LOGINK), a Chinese state-owned and -controlled logistics data management platform, controlled data associated with at least half of global container volume in 2020.[90]
- China has become the dominant provider of chassis, containers, and cranes: supplying over 86 percent of the world's intermodal chassis, 95 percent of shipping containers, approximately 80 percent of the ship-to-shore cranes in the United States.[91]

These advantages have allowed China to expand its dominance throughout the maritime value chain, as discussed in Section III.B.3.

The following sections detail how, over the past three decades, China has targeted the shipbuilding sector through two types of interlocking policy planning: overarching industrial plans and industry-specific plans. These plans work in conjunction with China's five-year

[86] Petition at 20.
[87] *See* Mathew P. Funaiole, *The Threat of China's Shipbuilding Empire*, CEN. STRAT. & INT'L STUDIES (May 10, 2024), https://www.csis.org/analysis/threat-chinas-shipbuilding-empire; Stephen Gordon, *2023 Shipping Market Review*, CLARKSONS (Jan. 22, 2024), https://www.clarksons.com/home/news-and-insights/2024/2023-shipping-market-review/.
[88] *See* Figure 13 "Top 10 world shipowners, dead weight tons, share of world total, as at 1 January 2024" in UNCTAD, REVIEW OF MARITIME TRANSPORT 2024 (including Hong Kong, China).
[89] Isaac B. Kardon and Wendy Leutert, *Pier Competitor: China's Power Position in Global Ports*, 46 INT'L SEC. 9, 12, 27 (2022).
[90] Gabriel Collins & Jack Bianchi, *China's LOGINK Logistics Platform and its Strategic Potential for Economic, Political, and Military Power Projection,* BAKER INSTITUTE (Apr. 25, 2023), https://www.bakerinstitute.org/research/chinas-logink-logistics-platform-and-its-strategic-potential-economic-political-and (hereinafter "COLLINS & BIANCHI"); LOGINK contains data on everything from cargo location to freight carrier price quotes to customs clearance information. *See* U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION, LOGINK: RISKS FROM CHINA'S PROMOTION OF A GLOBAL LOGISTICS MANAGEMENT PLATFORM 4 (Sep. 20, 2022).
[91] CARL W. BENTZEL, COMMISSIONER, U.S. FEDERAL MARITIME COMMISSION, ASSESSMENT OF P.R.C. CONTROL OF CONTAINER AND INTERMODAL CHASSIS MANUFACTURING 3 (Mar. 2023), https://www.fmc.gov/wp-content/uploads/2022/03/ContainerandChassisManufacturingFinalReport.pdf; *see* Dustin Volz, *Espionage Probe Finds Communications Device on Chinese Cranes at U.S. Ports*, WALL ST. J. (Mar. 7, 2024), https://www.wsj.com/politics/national-security/espionage-probe-finds-communications-device-on-chinese-cargo-cranes-867d32c0; *see generally* COLLINS & BIANCHI.

planning cycles and are reflected in national-level economic and social five-year plans.[92] They are then implemented through specific policies at the central and local level.

A. China's Overarching Industrial Plans and the Maritime, Logistics, and Shipbuilding Sectors

This section provides an overview of China's overarching industrial plans and how they relate to the maritime, logistics, and shipbuilding sectors.

1. The Medium and Long-Term S&T Development Plan

China's industrial planning and targeting of sectors for dominance intensified in the mid-2000s. The foundational 2006 *National Medium and Long-Term Science and Technology Development Plan Outline (2006-2020)* ("*2006-2020 MLP*") identified a development plan for 11 priority industries and eight advanced technologies for the years 2006 to 2020. The plan specified "large maritime engineering technology and equipment" as a sub-industry of manufacturing, one of the 11 priority industries, and "marine technology" as one of the eight advanced technologies, signaling that these sectors were among China's top technological development priorities.[93] The plan enjoyed support from the highest levels of the Party. In a 2006 address to a conference of scientists, then-CCP General Secretary Hu Jintao urged them to ". . . deploy the implementation of the *National Medium and Long-Term Science and Technology Development Plan Outline (2006-2020)*, [and] mobilize the whole Party and society to adhere to the path of indigenous innovation with Chinese characteristics. . ."[94]

A core principle of the *2006-2020 MLP* was "indigenous innovation", which in practice meant China developing its own technology to dominate a sector while preventing market access by foreign firms or engaging in the carrot and stick dynamic of offering limited market access to foreign advanced technology manufacturing firms in exchange for localized production so China could absorb the advanced technology and know-how. The *2006-2020 MLP* stated "the guiding principles for our science and technology undertakings over the next 15 years are: indigenous innovation, leapfrogging in priority fields, enabling development, and leading the future."[95] Following these principles, China ultimately sought to limit overall "dependence on foreign technology" to "less than 30 percent by 2020".[96] The *2006-2020 MLP* articulated the general goal of increasing "indigenous innovation" for ships and designated "large high-technology ships, large distant water fishing vessels, and marine scientific research vessels" as research and

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[92] For a visual representation of how China's overarching industrial plans, national five-year plans, and industry-specific plans overlap over time, *see* Appendix B. For a table of which subsegments of the shipbuilding and shipping sectors are covered in each plan, *see* Appendix C.

[93] *National Medium and Long-Term Science and Technology Development Plan Outline (2006-2020)* Art. 3.5.30, 5.6 (State Council, [2006] No. 9, issued Dec. 26, 2005), https://www.gov.cn/gongbao/content/2006/content_240244.htm.

[94] *Adhere to the path of independent innovation with Chinese characteristics and strive to build an innovative country—Speech at the National Science and Technology Conference* [Chinese], Ministry of Science and Technology [hereinafter "MOST"] (Jan. 10, 2006), https://www.most.gov.cn/ztzl/kxdct30/kxdct30tpxw/200803/t20080317_59817.html.

[95] *Id*. at Art. 2.1 (internal quotations omitted).

[96] *Id*. at Art. 2.2.

development (R&D) priorities.[97] Thus, for the shipbuilding sector, China articulated its goal to indigenize technology and production and substitute out foreign products and technology.

2. Strategic Emerging Industries

In 2010, China's State Council issued the *Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries* ("*SEI Decision*"), which identified seven "strategic emerging industries" (SEIs).[98] There is considerable continuity between the *2006-2020 MLP* and *SEI Decision* sectors. The "high-end equipment manufacturing" SEI sector included maritime engineering equipment, and outlined China's goal to "vigorously develop maritime engineering equipment for the development of marine resources."[99] Also similar to the *2006-2020 MLP*, the *SEI Decision* placed great emphasis on the "indigenous" nature of technological development in SEIs, stating that "strengthening indigenous innovation capabilities is the central link in cultivating and developing strategic emerging industries".[100]

By 2012, China integrated the *SEI Decision* and the SEI concept into its five-year plans with the *12th Five-Year National Strategic Emerging Industry Development Plan* ("*SEI 12th FYP*").[101] The *SEI Decision* and the *SEI 12th FYP* stipulated that the government should "give full play to government planning guidance, policy incentives, and organizational and coordinating functions" to develop the seven SEIs while at the same time leveraging market forces in support of their goals.[102] As with the *2006-2020 MLP*, the *SEI 12th FYP* included a focus on maritime engineering equipment.[103]

In 2016, China issued the *13th Five-Year National Strategic Emerging Industry Development Plan* ("*SEI 13th FYP*"), which covered similar sectors as the *SEI 12th FYP.* It included a goal to "enhance the international competitiveness of maritime engineering equipment" and achieve breakthrough developments.[104] One tool that the plan promoted for achieving such breakthroughs was technology "introduction, digestion, absorption, and re-innovation"—terms associated with China's technology transfer efforts—and the plan encouraged foreign investment in SEIs in line with such efforts.[105]

To support its technological development goals, the *SEI 13th FYP* called for a range of financial and taxation support including increased direct financing for enterprises, tax support

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[97] *Id*. at Art. 3.6.
[98] *State Council Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries* Art. 3.1-3.7 (State Council, Guo Fa [2010] No. 32, issued Oct. 18, 2010), https://www.gov.cn/zwgk/2010-10/18/content_1724848.htm.
[99] *Id.* at Art. 3.4.
[100] *Id*. at Art. 4.
[101] *Id*. at Art. 3.4.4.
[102] *Id*. at Art. 2.2.; *12th Five-Year National Strategic Emerging Industry Development Plan* Art. 2.2 (State Council, Guo Fa [2012] No. 28, issued Jul. 9, 2012), https://www.gov.cn/zwgk/2012-07/20/content_2187770.htm.
[103] *12th Five-Year National Strategic Emerging Industry Development Plan* at Art. 3.4.4. Products covered included "design and manufacture of marine deep-water exploration equipment, drilling equipment, production equipment, operation, and auxiliary ships" for oil and gas, as well as "equipment for offshore wind energy."
[104] *13th Five-Year National Strategic Emerging Industry Development Plan* Art. 3.5 (State Council, Guo Fa [2016] No. 67, issued Nov. 29, 2016), https://www.gov.cn/zhengce/content/2016-12/19/content_5150090.htm.
[105] *Id*. at Art. 9.1.

policies to encourage venture capital investment, bond issuance support, loan review systems "adapted to the characteristics of strategic emerging industries", and financing support.[106] It also highlighted government guidance funds such as the National Emerging Industry Venture Capital Guidance Fund, which began operating in August 2016 with over $6 billion (RMB 40 billion) in funding.[107] In 2018, the NDRC and state-owned China Construction Bank established an even larger SEI Development Fund with the goal of raising $45 billion (RMB 300 billion).[108] In 2020, four agencies led by the NDRC issued a set of opinions to encourage expanded investment in SEIs, including maritime engineering equipment, and explicitly incorporated high-technology ships into SEIs.[109] An official interpretation of this policy stated that it "effectively implemented the strategic deployment of the Party Central Committee."[110]

3. Made in China 2025

In March 2015, China released Made in China 2025's ("MIC2025") foundational document, the State Council's *Made in China 2025 Notice*. MIC2025 implements the first 10 years (2015-2025) of China's Strong Manufacturing Nation Strategy, a 30-year plan divided into 10-year segments to make China the world's preeminent advanced manufacturing power before the 100th anniversary of China in 2049.[111] As with other industrial plans, MIC2025 enjoyed high-level Party support. A readout of a 2015 CCP Central Committee meeting stated that China would "accelerate the construction of a Strong Manufacturing Nation, [and] implement Made in China 2025."[112]

The *Made in China 2025 Notice* directed state and private resources to upgrade China's "indigenous mastery" of 10 strategic manufacturing sectors, including "maritime engineering equipment and high-technology ships".[113] MIC2025 demonstrated significant continuity with

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[106] *Id*. at Art. 10.5.
[107] *National Development and Reform Commission: National Emerging Industry Venture Capital Guidance Fund Will Officially Begin Operating* [Chinese], STATE COUNCIL (Aug. 25, 2016), https://www.gov.cn/xinwen/2016-08/25/content_5102325.htm. Unless citing a value provided by a footnoted source, currency conversions are based on the U.S. Federal Reserve Bank's average annual exchange rate for the relevant year. *See Chinese Yuan Renminbi to U.S. Dollar Spot Exchange Rate,* FEDERAL RESERVE BANK OF ST. LOUIS, https://fred.stlouisfed.org/series/AEXCHUS, (last visited Jul. 11, 2024).
[108] *The National Development and Reform Commission and China Construction Bank Sign a Strategic Cooperation Memorandum on Jointly Launching the Establishment of a Strategic Emerging Industries Development Fund* [Chinese], STATE COUNCIL (Jun. 13, 2018), https://www.gov.cn/xinwen/2018-06/13/content_5298312.htm.
[109] *Guiding Opinions on Expanding Investment in Strategic Emerging Industries and Cultivating Strengthened New Growth Points and Growth Poles* (NDRC, MOST, MIIT, MOF, Fa Gai Gao Ji [2020] No. 1409, issued Sep. 25, 2020), https://www.ndrc.gov.cn/xxgk/zcfb/tz/202009/t20200925_1239582.html.
[110] *Promoting high-quality development of strategic emerging industries – Second expert interpretation of the "Guiding Opinions on Expanding Investment in Strategic Emerging Industries and Cultivating and Strengthening New Growth Points and Growth Poles"* [Chinese] NDRC (Sep. 25, 2020), https://www.ndrc.gov.cn/xxgk/jd/jd/202009/t20200925_1239581.html.
[111] *State Council Notice on Issuing "Made in China 2025"* Preamble (State Council, Guo Fa [2015] No. 28, issued May 19, 2015), https://www.gov.cn/zhengce/content/2015-05/19/content_9784.htm (hereinafter "*Made in China 2025 Notice"*).
[112] *Communiqué of the Fifth Plenary Session of the 18th Central Committee of the Communist Party of China*, COMMUNIST PARTY MEMBER NETWORK (Oct. 29, 2015), https://news.12371.cn/2015/10/29/VIDE1446122400867967.shtml
[113] *Id*. at Art. 3.6.4.

and contained characteristics similar to the *2006-2020 MLP*, *SEI Decision, SEI 12th FYP*, and *SEI 13th FYP*, including a strong overlap in sector coverage and increasing emphasis on indigenous innovation—that is, the substitution of foreign technology and products by Chinese products and technology.

A critical element of the MIC2025 policy was wide-ranging and detailed quantitative targeting of market shares and domestic content for specific product areas. The National Manufacturing Strategy Advisory Committee, a government-affiliated advisory body, released a series of blueprints, beginning with the *"Made in China 2025" Greenbook for Technology Innovation Key Areas—Technology Roadmap (2015)* ("*2015 MIC2025 Technology Roadmap*"), that outlined over 280 explicit market share targets for hundreds of products across the 10 MIC2025 priority sectors.[114]

An official interpretation of MIC2025 for two subsegments of the shipbuilding sector, maritime engineering equipment and high-technology ships, explained how these technologies are "core links of the marine equipment industry chain" and how their development is a "necessary requirement to promote the structural adjustment, transformation, and upgrading of our country's shipbuilding industry and accelerate the pace of building our country into a Strong Shipbuilding Nation in the world".[115] It explained that because of overcapacity, demand for conventional ships was down, but remained strong for maritime engineering equipment and high-technology ships, and predicted competition in these sectors would become fiercer. It also linked MIC2025 to realizing China's strategy to become a Strong Maritime Nation by emphasizing China's goals to develop the South China Sea and build a 21st Century Maritime Silk Road.[116] In the maritime engineering equipment and high-technology ship industries, the *2015 MIC2025 Technology Roadmap* stipulated four key targets to be achieved by 2025:

- The international market share of indigenously designed and built maritime engineering equipment and high-technology ships should reach 40 percent and 50 percent, respectively; and,
- The indigenous proportion of maritime engineering equipment and high-technology ship critical systems and equipment should reach 50 percent and 80 percent, respectively.[117]

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[114] 2015 MIC2025 TECHNOLOGY ROADMAP.
[115] *Interpretation of Made in China 2025: Promoting the Development of Maritime Engineering and High-Technology Ships*.
[116] *Id*.
[117] 2015 MIC2025 TECHNOLOGY ROADMAP. The 2017 edition of the Technology Roadmap contained these same targets, *see* NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, CHINESE MANUFACTURING INDUSTRY GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2017) 111 (Publishing House of Electronics Industry Dec. 2017) (hereinafter "2017 MIC2025 TECHNOLOGY ROADMAP"). Most quantitative targets for shipbuilding and other industries were removed from the 2019 edition of the Technology Roadmap, and the 2023 edition removed maritime engineering equipment and high-technology ships as a sector, though still includes discussion of related industries such as manufacturing equipment, design software, and high-technology steel used in shipbuilding, *see* NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, CHINESE MANUFACTURING INDUSTRY GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2019) 94 (Publishing House of Electronics Industry Nov. 2020) (hereinafter "2019 TECHNOLOGY ROADMAP"); NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, CHINESE MANUFACTURING INDUSTRY GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2023) 271 (Publishing House of Electronics Industry Dec. 2023) (hereinafter "2023 TECHNOLOGY ROADMAP").

The 2019 edition of the *Technology Roadmap* includes targets for 2030, including to "have the ability to lead world development of maritime engineering equipment and high-technology ships", "become the industry's main technology leader and important standard setter", and "greatly enhance indigenous innovation capabilities for critical systems and supporting equipment".[118]

The *Made in China 2025 Notice* outlined a wide range of measures to achieve these goals including financial support policies and fiscal and tax support.[119] These led to specific implementing policies such as value-added tax refunds for maritime engineering equipment and high-technology ships as an MIC2025 industry starting in 2017.[120] China also launched government guidance funds, establishing an Advanced Manufacturing Fund in June 2016 with initial funding of $3.05 billion (RMB 20 billion) to support the development of MIC2025 industries, including maritime engineering equipment and high-technology ships.[121] Most localities also issued their own plans to implement MIC2025, which included further targets and support measures.[122]

4. The Innovation-Driven Development Strategy

In May 2016, the CCP Central Committee and State Council jointly issued the *Outline of the National Innovation-Driven Development Strategy Outline* ("*IDDS*"). Similar to the Strong Manufacturing Nation Strategy, *IDDS* outlined a three-phase, 35-year timeline for China to become the "global superpower in science and technology innovation" by 2050 with intermediate goals of becoming an innovative country by 2020 and a leading innovating country by 2030.[123] *IDDS* sought to raise China's innovative capacity in a number of areas including "maritime engineering equipment and high-technology ships".[124]

To meet its goals, *IDDS* called for the government to encourage foreign companies to invest their "capital, technology, and knowledge" into high-technology sectors,[125] which China would "ingest and absorb" to transition from "laggard, to running side-by-side, and eventually leading" in the race for technological supremacy over the 35-year timeline.[126] While SEIs and

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[118] 2019 TECHNOLOGY ROADMAP at 94.
[119] *Made in China 2025 Notice* at Arts. 4.3, 4.4.
[120] *The Ministry of Finance Issued the 2017 Implementation Plan for the Import Tax Policy on Major Technological Equipment* [Chinese], MOF, (Nov. 15, 2017), http://www.gov.cn/xinwen/2017-11/15/content_5239832.htm.
[121] *Our Country Establishes an Advanced Manufacturing Industry Investment Fund* [Chinese], STATE COUNCIL (Jul. 15, 2016), https://www.gov.cn/xinwen/2016-07/15/content_5091658.htm.
[122] *Local Made in China 2025 Plans,* U.S.-CHINA BUS. COUNCIL (Sep., 2016), https://www.uschina.org/local-made-china-2025-plans.
[123] *Outline of the National Innovation-Driven Development Strategy* at Art. 2.3 (Chinese Communist Party [hereinafter "CCP"] Central Committee, State Council, issued May 19, 2016), https://www.gov.cn/zhengce/2016-05/19/content_5074812.htm.
[124] *Id*. at Art. 4.1.2.
[125] *Id*. at Art. 5.3.
[126] *The Path of Innovative Development with Chinese Characteristics: From Version 1.0 to Version 4.0* [Chinese], COMMUNIST PARTY OF CHINA NEWS (Nov. 11, 2016), http://theory.people.com.cn/n1/2016/1111/c217905-28854590.html.

the *Made in China 2025 Notice* focused on targeting specific industries for dominance, *IDDS* focused on technologies with cross-sectoral applications and aimed to create an ecosystem that encourages technological diffusion and upgrading backed by strategies and tactics that guide policymakers and stakeholders in implementation.[127] Chinese President Xi Jinping continues to promote *IDDS* to advance China's indigenous capabilities in advanced technology.[128]

B. China's Industry-Specific Plans in the Maritime, Logistics, and Shipbuilding Sectors

National economic and social development five-year plans reflect the main themes of China's overarching industrial plans, which are then elaborated upon in specific industrial plans for the maritime, logistics, and shipbuilding sectors. The following sections detail these industry-specific plans and some of their major implementing policies for shipbuilding, marine equipment, maritime engineering equipment, high-technology ships, shipping, and logistics. During the past three decades of planning and targeting in these sectors, China issued approximately 30 industry-specific plans to develop these sectors, setting dozens of specific, quantitative targets for production, revenue, capacity, market share, exports, and domestic content.

1. 10th Five-Year Plan Period (2001-2005)

China's rise as a shipbuilder accelerated during the 10th five-year plan period, around the time it acceded to the WTO.

a. 10th Five-Year Plan

The 2001 *Outline of the 10th Five-Year Plan for National Economic and Social Development* ("*10th FYP*") designated the maritime, logistics, and shipbuilding sectors for more detailed treatment in an industry-specific plan, stipulating that China aimed to develop civilian ships, improve port infrastructure, and exploit maritime resources.[129] In 2002, then-Premier Zhu Rongji expressed China's ambitions, stating that "China has the hope of becoming the world's largest shipbuilding country" and ordering Chinese government agencies to "support the development of the shipbuilding industry."[130]

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[127] *Outline of the National Innovation-Driven Development Strategy* at Art. 4.1, 5. *See also*, Barry Naughton, THE RISE OF CHINA'S INDUSTRIAL POLICY: 1978 TO 2020, 72-74 (National Autonomous University of Mexico 2021).
[128] *Accelerate the Implementation of the Innovation-Driven Development Strategy* [Chinese], COMMUNIST PARTY OF CHINA NEWS (Oct. 22, 2022), http://cpc.people.com.cn/20th/n1/2022/1022/c448334-32549357.html.
[129] *Outline of the 10th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Art. 4.1, 7.2, 14.2 (National People's Congress [hereinafter "NPC"], [2001] No. 12, issued Mar. 15, 2001), https://www.gov.cn/gongbao/content/2001/content_60699.htm.
[130] *Three Generations of Leaders, Three Generations of Love: A Record of Three Generations of Leaders of the Republic Caring About the Shipbuilding Industry* [Chinese], HUBEI PARTY HISTORY (Sep. 2, 2016), http://www.hbdsw.org.cn/dsyj/201609/t20160902_107933.shtml.

b. National Marine Economy Development Plan

Accordingly, in 2003, China's State Council issued the *Outline of the National Marine Economy Development Plan*, which characterized both shipbuilding and ocean shipping as "pillar industries" and directed the government to "provide resource reserves and guarantees for the development of [maritime] related industries."[131] The plan included targets for the "marine industry" to account for 5 percent of GDP by 2010 and 10 percent in coastal areas.[132] This plan contained some of the earliest articulations of China's Strong Maritime Nation, Strong Shipbuilding Nation, and Strong Shipping Nation strategies. It expressed ambitions for China to become a Strong Maritime Nation by optimizing the industrial structure of marine industries, increasing the contributions of S&T to marine economy development, developing pillar and emerging marine industries, and increasing the international competitiveness of China's marine industries.[133] It sought for China to become a Strong Shipbuilding Nation by focusing on the development of high-technology ships like ultra-large oil tankers, LNG ships, liquefied petroleum gas (LPG) ships, and large roll-on/roll-off ships and by developing shipbuilding industrial bases around the Bohai Sea, East China Sea, and South China Sea.[134] The plan aimed to "establish a shipping fleet with a reasonable structure, ranking among the best in the world, and gradually build a Strong Shipping Nation."[135]

The plan also discussed the security aspects of the industry so that "marine economic development and national defense construction can promote each other and develop in a coordinated manner."[136] It goes on to state that, "[t]he marine shipbuilding industry should focus on the main business, diversified operations, military-civil integration, and steadily develop from a major shipbuilding country to a Strong Shipbuilding Nation."[137] China has expressed ambitions to more closely integrate military and civilian industrial and S&T development for decades, and following 2015 when Xi Jinping elevated Military-Civil Fusion to a "national strategy," this trend only intensified.[138]

c. China's Shipbuilding Growth Takes Off

Between 2000 and the end of the *10th FYP* period in 2005, China's share of the global shipbuilding market more than doubled from nearly 5 percent to 14.3 percent.[139] In the next

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[131] *Outline of the National Marine Economy Development Plan* at Art. 2.1.5. Pillar industries refer to economically and strategically important industries that make up a large share of the economy, have high levels of output, and are an important source of government tax revenue. The plan characterizes the "ocean fishery industry, maritime transportation industry, offshore oil and gas industry, coastal tourism industry, coastal shipbuilding and repair industry, etc." as "pillar industries."
[132] *Id*. at Art. 2.2.2, 2.2.3.
[133] *Id*. at Art. 2.2.1
[134] *Id*. at Art. 3.5.
[135] *Id*. at Art. 3.2.
[136] *Id*. at Art. 2.1.6.
[137] *Id.* at Art. 3.5.
[138] Huang Yue & Wang Xue, *Since the 18th CPC National Congress, Xi Jinping Has Deployed Military-Civilian Integration in This Way* [Chinese], XINHUA (Jul. 26, 2017), http://www.xinhuanet.com//politics/2017-07/26/c_1121380152.htm.
[139] *See* Figure 4.

five-year period, China's targeting for dominance would pay off, as it became the world's largest shipbuilder.

2. 11th Five-Year Plan Period (2006-2010)

At the outset of this five-year period in 2006, China continued its drive towards dominance through plans including the *Outline of the 11th Five-Year Plan for National Economic and Social Development* ("*11th FYP*"), which expanded the previous national five-year plan's coverage of maritime, logistics, and shipbuilding sectors in this otherwise broad economic and social development plan.

a. 11th Five-Year Plan

The *11th FYP* included goals for "indigenous design capabilities" for ships and related equipment with a focus on developing "high tech, high value-added new ships and maritime engineering equipment".[140] It reiterated the 2003 *Outline of the National Marine Economy Development Plan*'s goals for shipbuilding bases in the Bohai Bay, Yangtze River Delta, and Pearl River Delta, which continued to appear in other industrial plans throughout the *11th FYP* period.[141] The *11th FYP* also included the goal to "strengthen the development and utilization of new logistics technologies, and promote logistics informatization."[142] LOGINK was launched the following year in 2007 and has since evolved into a global logistics data management platform.[143]

b. Shipbuilding MLP

Following the rollout of the overarching *2006-2020 MLP*, the NDRC and China's regulator for defense industrial base S&T innovation, the State Administration of Science, Technology, and Industry for National Defense (SASTIND), issued the *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* ("*Shipbuilding MLP*"). This plan, issued in September 2006, outlined industry-specific goals in further detail. The plan covered the period from 2006-2015 and outlined specific production, and domestic content targets, among others, for 2015. These included developing an annual shipbuilding capacity of 28 million deadweight tons (DWT)[144] with an annual output of 22 million DWT and an annual industry income of $28.7 billion (RMB 180 billion, including 15 million DWT for export worth $16 billion). These targets would have increased China's global market share of shipbuilding

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[140] *Outline of the 11th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Art. 11.3 (NPC, [2006] No. 12, issued Mar. 14, 2006), https://www.gov.cn/gongbao/content/2006/content_268766.htm.

[141] *Id.*; *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* at Art. 1.6.31; *Ship Industry Revitalization Plan* at Art. 2.3.3.

[142] *Outline of the 11th Five-Year Plan for National Economic and Social Development of the People's Republic of China* at Art. 16.2.

[143] U.S.-CHINA ECON. & SEC. REV. COMM., LOGINK: RISKS FROM CHINA'S PROMOTION OF A GLOBAL LOGISTICS MANAGEMENT PLATFORM 3 (Sept. 20, 2022) (hereinafter "LOGINK: RISKS FROM CHINA'S PROMOTION OF A GLOBAL LOGISTICS MANAGEMENT PLATFORM").

[144] Deadweight ton. A measure expressed in metric tons (1,000 kg) or long tons (1,016 kg) of a ship's carrying capacity, including bunker oil, fresh water, crew, and provisions. This is an important commercial measure of vessel capacity. *See dwt*, CLARKSONS RESEARCH, https://www.clarksons.com/glossary/.

production in DWT from 19 percent to 29 percent in 2006 terms.[145] The plan also aimed to achieve an annual production capacity of low and medium-speed marine diesel engines reaching 6 million kW and 1,200 units by 2015 and install domestically-produced marine equipment on over 80 percent of Chinese-built ships by value.[146]

The *Shipbuilding MLP* included a goal to "actively introduce advanced foreign ship equipment manufacturing technology, [and] encourage international ship equipment manufacturing enterprises with international power to come invest."[147] At the same time, it required foreign companies to form a joint venture limited to 49 percent ownership in order to manufacture ships and medium- or low-speed diesel engines in China.[148] This requirement was also reflected in China's *Catalogue of Industries for Guiding Foreign Investment*, which restricted foreign investment in specific sectors at the time.[149] This combination of encouraging foreign companies in targeted sectors to invest in China while forcing them into joint ventures to access the market is a strategy that China has used across industries to force technology transfer with the aim of displacing foreign competitors in the Chinese and global markets.[150]

The *Shipbuilding MLP* called for the government to "implement macro-control policy measures in finance, funding, taxation, leasing, insurance, etc.," to "support the structural adjustment of the shipbuilding industry, technological innovation, and *localization of important product manufacturing*".[151] These measures included support for large shipbuilding companies to raise funds through public listings and corporate bonds, tax incentives for ship design companies, credit support, export financing and insurance, and ship leasing support.[152]

c. National Oil, Nationally Carried

Around the beginning of the *11th FYP* period, China also began implementing a "national oil, nationally carried" strategy to both improve supply chain security and strengthen its shipping

[145] USTR calculations based on data from Clarksons Research.
[146] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* Art. 1.1.2 (NDRC, SASTIND, issued Sep. 18, 2006), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/200710/P020191104623363865929.pdf.
[147] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* at Art. 1.5.21.
[148] *Id*. at Art. 2.7.37.
[149] *Catalogue of Industries for Guiding Foreign Investment (2004 Revision)* (NDRC, Ministry of Commerce [hereinafter "MOFCOM"], [2004] No. 24, issued Nov. 30, 2004, effective Jan. 1, 2005), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/200506/t20050628_960644.html.
[150] OFFICE OF THE U.S. TRADE REPRESENTATIVE, FINDINGS OF THE INVESTIGATION INTO CHINA'S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE TRADE ACT OF 1974 (Mar. 22, 2018). China removed joint venture requirements for ship design, manufacture, and repair in 2018, *see Special Administrative Measures (Negative List) for the Access of Foreign Investment (2018)* (NDRC, MOFCOM, [2018] Order No. 18, issued Jun. 28, 2018, effective Jul. 28, 2018), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/201806/t20180628_960861.html.
[151] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* at Art. 2.8.40 (emphasis added).
[152] *Id.* at Art. 2.8.40-48. For an enumeration of different financial support tools outlined in shipbuilding and shipping sector industrial plans over time, *see* Appendix D.

industry.[153] This strategy aimed for 50 percent of Chinese oil imports to be transported on Chinese-owned ships by 2010 and 80 percent by 2015.[154] Significantly, China is dependent on oil imports and Chinese-owned ships provide China with more control over these vessels and greater ability to direct their commercial interactions.[155]

d. Ship Industry Revitalization Plan

The global financial crisis in 2008 was a pivotal moment for China's shipbuilding industry. As global demand for goods and ships to transport them plummeted, in June 2009, the State Council issued the *Ship Industry Adjustment and Revitalization Plan* ("*Ship Industry Revitalization Plan*"), covering the period through 2011.[156] This plan introduced China's market share targets for shipbuilding, aiming to capture 35 percent of global shipbuilding output, 20 percent market share for high-technology and high value-added ships, and 10 percent market share for maritime engineering equipment.[157] The plan also significantly expedited and expanded production targets for marine diesel engines and other marine equipment from the 2006 *Shipbuilding MLP*.[158]

As noted, numerical targets have been used to implement and supplement the indigenization and import substitution directives, and can have dramatic impacts on the trade flows of specific products. Marine diesel engines provide a potent example of indigenization and market share targets for a product in the marine equipment subsegment. China's imports of marine diesel engines surged from less than $250 million in 2003 to a peak of over $2.5 billion in 2010, according to Chinese Customs data, as China's shipbuilding capacity grew dramatically. In the 2009 *Ship Industry Revitalization Plan*, China set a target of installing domestically-produced low- and medium-speed marine diesel engines in 80 percent of Chinese-built ships.[159] Chinese regulators and shipbuilders accordingly appear to have systematically given preference to home-grown engines. By 2018, China's imports for this high value-added input had dropped

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[153] In Chinese: " ". *China Changjiang Shipping and Sinopec Formally Sign a Long-Term Transportation Agreement for Imported Crude Oil* [Chinese], STATE COUNCIL (Jul. 27, 2006), https://www.gov.cn/jrzg/2006-07/27/content_347388.htm.

[154] While no official policy documents outlining National Oil, Nationally Carried are publicly available, state media reports discuss some of the strategy's goals, *see The Reorganization of Two Major Central Shipping Enterprises Will Help National Oil, Nationally Carried During the "Thirteenth Five-Year Plan"* [Chinese], CHINA ENERGY NEWS (Jan. 4, 2016), http://paper.people.com.cn/zgnyb/html/2016-01/04/content_1645401.htm.

[155] Andrew Erickson & Gabe Collins, *Beijing's Energy Security Strategy: The Significance of a Chinese State-Owned Tanker Fleet*, 51 ORBIS 665 (2007) (Exhibit 74).

[156] *Ship Industry Revitalization Plan*.

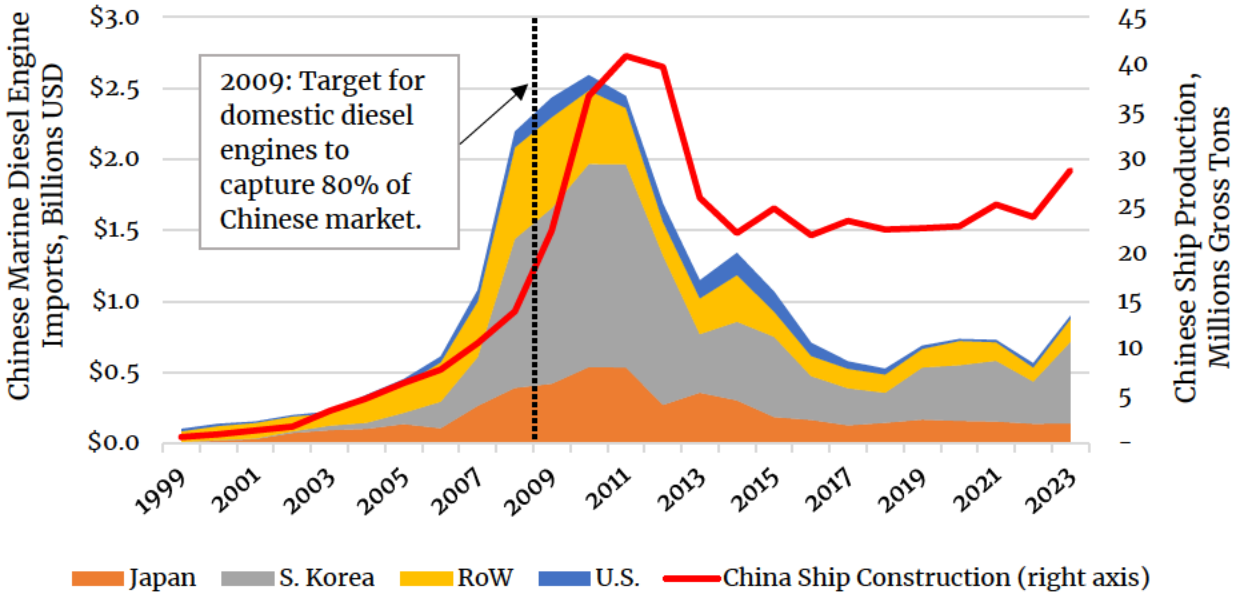
[157] *Id*. at Art. 2.3.2.

[158] The *Ship Industry Revitalization Plan* aimed to achieve a shipbuilding output of 50 million tons and low-speed marine diesel engine output of 12 million horsepower by 2011, while the *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)*'s targets had been for 22 million DWT and 8 million horsepower (6 million kW) by 2015. The plan also expedited the timeline for achieving domestic content targets by four years. It aimed to achieve an 80 percent installation rate for domestic low-speed marine diesel engines, medium-speed diesel engines, and deck machinery in mainstream ships by 2011, compared to the *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)*'s target of 80 percent for all marine equipment in ships broadly by 2015. *Id*. at Art. 2.3.1, 2.3.3; *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* at Art. 1.1.2.

[159] *Ship Industry Revitalization Plan* at Art. 2.3.3.

by approximately 80 percent to around $500 million.[160] While Chinese ship production (and associated demand for diesel engines) also dipped during this time, the drop in engine imports was sharper than the drop in ship production, indicating domestic content targets likely contributed to indigenization.

Figure 5: China's Domestic Market Share Target Appears to Drive Import Substitution of Marine Diesel Engines[161]



Over Time, China Moves from Production to Market Share Targets, Reflecting Its Dominance Goals

China began setting market share targets in the shipbuilding sector following the global financial crisis, and intensified their use following the launch of MIC2025. China published its first domestic content targets for shipbuilding even earlier in 2006, and intensified with MIC2025.[162] Older shipbuilding sectoral plans had focused on industrial targeting metrics such as production, capacity, and revenue, which make industrial targets easier to set and enforce. Market share targets are more complex, as they presuppose greater knowledge of the market, including the ability to accurately measure and forecast capacity, prices, and output.

China set shipbuilding and marine equipment targets earlier on, and as a result, these tended to be for production. Later maritime engineering equipment and high-technology ship targets tended to be for market share as China was still working to address technological bottlenecks

[160] Data from China Customs for HS code 8408.10.
[161] Data from China Customs for HS code 8408.10. Gross tonnage of self-propelled ocean-going cargo vessels greater than or equal to100 gross tons, based off Maritime Administration analysis of data from Lloyds Register and S&P Global.
[162] For a summary of industrial targets in the shipbuilding sector, *see* Appendix A.

in 2015 when maritime engineering equipment and high-technology ships became a priority industry targeted under MIC2025.

Both market share and domestic content targets have broader supply chain implications, encouraging the concentration of supply chains in China and Chinese control of global supply chains. In addition to increasing the commercial competitiveness of Chinese companies, these supply chain goals also serve a geopolitical purpose. As Xi Jinping said in a 2020 speech, "[We must] tighten international industrial chains' dependence on our country, forming powerful countermeasures and deterrent capabilities against artificial supply cuts by foreign parties."[163]

The *Ship Industry Revitalization Plan* also encouraged companies to "acquire well-known overseas marine supporting equipment enterprises, R&D institutions, and marketing networks."[164] Overseas mergers and acquisitions—often at the direction of the Party-state—is a tool that China has used to acquire and absorb foreign technology across sectors to displace foreign producers and capture market share.[165]

Furthermore, the plan supported coordination between shipbuilders, suppliers, and shipping companies. It called for China to "promote large shipbuilding enterprises to form strategic alliances with upstream and downstream enterprises, support each other, and develop together."[166] Such practices can provide advantages for Chinese shipbuilders such as below-market-cost raw materials and guaranteed customers.

To support these goals, the plan called for credit financing support for shipbuilders and owners, export financing, purchases of abandoned ships, tax breaks and government ship purchases to stimulate domestic demand, support for mergers, and R&D investment.[167] It also called for the creation of the Ship Industry Investment Fund,[168] which investors established later that year following NDRC approval and now has $392.1 million in registered capital (RMB 3.24 billion).[169]

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[163] *General Secretary Xi Jinping: Industrial Chains and Supply Chains Must Not Fall Apart at Critical Moments* [Chinese], QIUSHI (Nov. 3, 2020), http://www.qstheory.cn/zhuanqu/2020-11/03/c_1126690768.htm.
[164] *Ship Industry Revitalization Plan* at Art. 3.4.
[165] *See generally* OFFICE OF THE U.S. TRADE REPRESENTATIVE, FINDINGS OF THE INVESTIGATION INTO CHINA'S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE TRADE ACT OF 1974 (Mar. 22, 2018).
[166] *Ship Industry Revitalization Plan* at Art. 3.4.
[167] *Id*. at Art. 4.1-8.
[168] *Id*. at Art. 4.1.
[169] *Ship Industry Investment Fund (Limited Partnership)* [Chinese], QICHACHA (May 23, 2024), https://m.qcc.com/firm/d5ab94.
26bde77495a65c927a1da4bdfb.html; Currency conversion based on rates of July 5, 2024. *See Foreign Exchange Rates – H.10 Weekly,* FEDERAL RESERVE (May 23, 2024), https://www.federalreserve.gov/releases/h10/current/; *Industry Fund Demonstrates Leverage Effect for the First Time, Shipbuilding Fund Leverages 3 Billion Into 15 Billion*, ECONOMIC OBSERVER ONLINE (Jun. 18, 2010), http://www.eeo.com.cn/eobserve/eeo/jjgcb/2010/06/21/173104.shtml.

e. China Becomes World's Largest Shipbuilder

China implemented its *Ship Industry Revitalization Plan* during a time of increased cyclical overcapacity in the shipbuilding sector following the global financial crisis, demonstrating its ability to use state direction and support to take advantage of counter-cyclical opportunities by incentivizing higher levels of production than could be sustained by market-oriented actors under market conditions. Unsurprisingly, during the *11th FYP* period, China grew from a global shipbuilding market share of 14.3 percent at the end of 2005 to become the world's largest shipbuilder by 2010, capturing 39.5 percent of the global market for ship production by gross ton. Between 2009 and 2010 alone, China's global shipbuilding market share jumped nearly 10 percentage points.[170]

3. 12th Five-Year Plan Period (2011-2015)

In the 12th five-year plan period, China cemented its status as a major global shipbuilder.

a. 12th Five-Year Plan

The 2011 *Outline of the 12th Five-Year Plan for National Economic and Social Development* ("*12th FYP*") identified shipbuilding as one of nine key manufacturing industries and emphasized high-technology, high value-added ships and supporting equipment that meets international standards.[171] The plan highlighted LNG and LPG carriers, distant water fishing vessels, and cruise ships, as well as the indigenous design and manufacture of offshore platforms and support ships and equipment, as key areas of development in the shipbuilding sector.[172] It called for the development of industries including maritime engineering equipment and ocean shipping, as well as maritime technology R&D.[173]

b. Shipbuilding 12th FYP

China articulated more specific goals for the shipbuilding industry in the *12th Five-Year Plan for the Development of the Shipbuilding Industry* ("*Shipbuilding 12th FYP*"). The plan outlined China's objective to maintain its lead in global shipbuilding market share through 2015 and "become a Strong Shipbuilding Nation in the world." Specific targets included:

- **Revenue and market share targets:** By 2015, the plan aimed for the revenue of China's maritime engineering equipment manufacturing industry to reach over $31.8 billion (RMB 200 billion) and for its international market share to exceed 20 percent. It also set a target for the revenue of China's shipbuilding industry to reach $191 billion (RMB 1.2 trillion) with an export volume of over $80 billion.

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[170] *See* Figure 4.
[171] *Outline of the 12th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Art. 9.1 (NPC, issued Mar. 16, 2011), https://www.ndrc.gov.cn/fggz/fzzlgh/gjfzgh/201109/P020191029595702423333.pdf.
[172] *Id*. at Table 4.
[173] *Id*. at Art. 14.1. The plan also includes offshore oil and gas, ocean fishing, and port infrastructure improvements.

- **Domestic content target:** The plan reiterated the target from the *Shipbuilding MLP* of installing domestic marine equipment in 80 percent of Chinese-built ships by 2015.
- **R&D spending target:** In an effort to drive technology development, the plan required companies above a designated size to spend at least two percent of revenue on R&D.
- **Industry consolidation target:** By 2015, the plan aimed for the shipbuilding output of China's top 10 shipbuilding companies to account for more than 70 percent of the national total, and for at least five companies to enter the ranks of the top 10 shipbuilding companies globally.[174]

To support these targets, similar to the *11th FYP* period, the *Shipbuilding 12th FYP* directed R&D, financial, and talent support.[175] It promoted activities associated with forced technology transfer such as encouraging foreign-invested enterprises to set up shipbuilding, maritime engineering equipment, and diesel engine R&D centers in China and encouraging Chinese companies to acquire overseas manufacturing companies and research organizations.[176] It also contained further emphasis on military-civil integration, urging actors to "use the resources of the whole society" to "vigorously develop an integrated military-civil ship research and production system" and "accelerate the mutual conversion of military and civilian dual-use technologies".[177]

China's Military-Civil Fusion Strategy

China's Military-Civil Fusion (MCF) strategy aims to develop the People's Liberation Army (PLA) into a "world class military" by 2049.[178] As described by the U.S. Department of Defense:

> The PRC's MCF strategy includes objectives to develop and acquire advanced dual-use technology for military purposes and deepen reform of the national defense S&T industries and serves a broader purpose to strengthen all the PRC's instruments of national power. . . . The PRC's MCF Development Strategy encompasses six interrelated efforts: (1) fusing the PRC's defense industrial base to its civilian technology and industrial base, (2) integrating and leveraging S&T innovations across military and civilian sectors, (3) cultivating talent and blending military and civilian expertise and knowledge, (4) building military requirements into civilian infrastructure and leveraging civilian construction for military purposes, (5) leveraging civilian service and logistics capabilities for military purposes, and (6) expanding and deepening the PRC's national defense mobilization system to include all relevant aspects of its society and economy for use in competition and war.[179]

[174] *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 3 (MIIT, issued Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm.
[175] *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 6.1-6.3 (MIIT, Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm.
[176] *Id*. at Art. 6.4.
[177] *Id*. at Art. 2.2.
[178] *Military-Civil Fusion and the People's Republic of China*, U.S. DEP'T OF STATE (May 2020), https://www.state.gov/wp-content/uploads/2020/05/What-is-MCF-One-Pager.pdf.
[179] MILITARY & SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA, U.S. DEP'T OF DEF. (Dec. 18, 2024).

Under MCF, the CCP is systematically reorganizing the Chinese science and technology enterprise to ensure that new innovations simultaneously advance economic and military development.[180]

Chinese policy has expressed these ambitions for decades, but in 2015, Xi Jinping elevated MCF to a "national strategy,"[181] and in 2016, the CCP Central Committee, State Council, and Central Military Commission jointly issued *Opinions on the Integrated Development of Economic Construction and National Defense Construction* ("*Opinions*"). The *Opinions* are notable for being the first policy document from the highest levels of the Party-state to articulate MCF development priorities, including supportive special programs and measures.[182]

The *Opinions* led to both overarching industrial policies and sector-specific plans that promoted MCF within China's shipbuilding industry. Just months after the *Opinions* were issued, the *SEI 13th FYP* promoted MCF to help in "transforming the country into a Strong Maritime Nation" by "carrying out general standardization projects for the military and civilians and promoting the two-way transfer of military and civilian technologies."[183] Less than a year after the *Opinions* were released, NDRC issued the *13th Five-Year Plan for National Marine Economy Development,* which generally promotes the development of MCF and specifically calls for the integrated research and production of "civilian shipbuilding equipment".[184] A few months later, China's Ministry of Industry and Information Technology (MIIT) and six other central ministries jointly released the *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020*). This plan prioritized implementing MCF in shipbuilding, including through the "two-way transfer and transformation of military and civilian technologies."[185] Many subsequent plans for the shipbuilding sector included language on MCF as well.[186]

The MCF strategy has had a tangible impact on China's commercial shipbuilding industry, according to informed observers. Economies of scale have allowed shipbuilders to lower costs

[180] Audrey Fritz, *China's Evolving Conception of Civil-Military Collaboration*, CEN. FOR STRAT. & INT'L STUDIES (Aug. 2, 2019), https://www.csis.org/blogs/trustee-china-hand/chinas-evolving-conception-civil-military-collaboration.

[181] Huang Yue & Wang Xue, *Since the 18th CPC National Congress, Xi Jinping Has Deployed Military-Civilian Integration in This Way* [Chinese], XINHUA (Jul. 26, 2017), http://www.xinhuanet.com//politics/2017-07/26/c_1121380152.htm.

[182] *The CPC Central Committee, the State Council and the Central Military Commission Issued the "Opinions on the Integrated Development of Economic Construction and National Defense Construction",* STATE COUNCIL (Jul. 21, 2016), https://www.gov.cn/zhengce/2016-07/21/content_5093488.htm; *see also Deeply Implement the Military-Civilian Integration Development Strategy* [Chinese], COMMUNIST PARTY MEMBER NETWORK (Dec. 12, 2017), https://news.12371.cn/2017/12/16/ARTI1513398715056369.shtml.

[183] *13th Five-Year National Strategic Emerging Industry Development Plan* at Art. 10.4.

[184] *13th Five-Year Plan for National Marine Economy Development* (NDRC, issued May 12, 2017), Art. 3.1,8.1, https://www.ndrc.gov.cn/fzggw/jgsj/dqs/sjdt/201705/P020190909487471217145.pdf.

[185] *Action Plan for Deepening Structural Adjustment and Accelerating Transformation and Upgrading of the Shipbuilding Industry 2016-2020* Sec. 2.5 (MIIT, Gong Xin Bu Lian Zhuang [2016] No. 447, issued Jul. 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828.html.

[186] For a collection of military-civil fusion language in China's shipbuilding and related industry plans, see Appendix E.

and undercut competitors and have contributed to increases in China's commercial shipbuilding capacity and technological development that support China's Navy.[187] For example, the state-owned China State Shipbuilding Corp. (CSSC) is considered the "linchpin of Beijing's military-civil fusion" strategy,[188] simultaneously accounting for nearly a quarter of the global commercial shipbuilding market, while being the largest military shipbuilder in the world.[189] Merely one CSSC shipyard has more shipbuilding capacity than all U.S. shipyards combined, and experts contend that that this capacity has been fueled by the concentration of military and commercial resources under MCF.[190]

c. Shipbuilding Structural Adjustment Implementation Plan

The *Implementation Plan for Accelerating Structural Adjustment and Promoting Transformation and Upgrading of the Shipbuilding Industry (2013-2015)* ("*Shipbuilding Structural Adjustment Implementation Plan*") reiterated and built upon targets from the *Shipbuilding 12th FYP*.[191] Issued by the State Council, this plan reiterated the international market share target for China to produce 20 percent of maritime engineering equipment consumed globally by 2015, and introduced a new market share target of producing 25 percent of all high-technology ships consumed globally.[192] The plan proposed new measures to reduce capacity such as promoting mergers and reorganizations, requiring outdated production capacity to withdraw from the market, and to "strictly control market access".[193]

To support these targets, the *Shipbuilding Structural Adjustment Implementation Plan* supported the construction of law enforcement and official ships to stimulate demand, encouraged financial institutions to increase credit and financing offered to shipowners that order ships and marine equipment from domestic shipyards, increased credit and financing support for mergers and reorganization of shipping companies, supported shipbuilders in issuing corporate bonds, and used export credit insurance to support ship exports. It also extended the "scrap and build" policy for two years, which provided subsidies to scrap ships before the end of their useful life to artificially accelerate demand and is detailed in Section III.C.1.[194] Furthermore, the plan included measures associated with forced technology transfer, such as support for overseas

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[187] Emily De La Bruyere, Nathan Picarsic, *Defusing Military Civil-Fusion*, FOUND. FOR DEF. OF DEMOCRACIES (May 26, 2021), https://www.fdd.org/analysis/2021/05/26/defusing-military-civil-fusion/.
[188] Matthew P. Funaiole, Brian Hart, & Joseph S. Bermudez Jr., *In the Shadow of Warships*, CEN. FOR STRAT. & INT'L STUDIES (Dec. 15, 2021), https://features.csis.org/china-shadow-warships/ (hereinafter "IN THE SHADOW OF WARSHIPS").
[189] *The SIPRI Top 100 Arms-Producing and Military Services Companies in the World, 2023*, STOCKHOLM INT'L PEACE RES. INSTIT (2023), https://www.sipri.org/visualizations/2024/sipri-top-100-arms-producing-and-military-services-companies-world-2023; STOCKHOLM INT'L PEACE RES. INSTIT. THE SIPRI TOP 100 ARMS-PRODUCING AND MILITARY SERVICES COMPANIES, 2021 (Dec. 2022) 5, https://www.sipri.org/sites/default/files/2022-12/fs_2212_top_100_2021.pdf.
[189] IN THE SHADOW OF WARSHIPS.
[190] Matthew P. Funaiole, *The Threat of China's Shipbuilding Empire*, CEN. FOR STRAT. & INT'L STUDIES (May 10, 2024), https://www.csis.org/analysis/threat-chinas-shipbuilding-empire.
[191] *Implementation Plan for Accelerating Structural Adjustment and Promoting Transformation and Upgrading of the Shipbuilding Industry (2013-2015)*.
[192] *Id.* at Art. 2.3.
[193] *Id*. at Art. 2.3, 3.3, 4.6.
[194] *Id*. Art. 4.1-4.

mergers and acquisitions and "industrialization projects that introduce, digest, absorb, and re-innovate [foreign] technology."[195]

d. Maritime Engineering Equipment

In addition to shipbuilding, China also issued policies for related industries during the *12th FYP* period. In 2011, China issued a *Maritime Engineering Equipment Industry Innovation Development Strategy (2011- 2020)* pursuant to the 2010 *SEI Decision*. It identified 2011 as the beginning of a "key period for rapid development" of the sector and aimed to be able to indigenously design and produce main types of maritime engineering equipment by 2015 and cutting-edge equipment by 2020.[196] The strategy focused on equipment used in the exploration, mining, processing, storage, transportation, and logistics services needed to exploit marine resources. To achieve these technological development targets, the policy called for increased state investment, supportive tax policies, R&D investment, improved credit guarantee methods, financial leasing, public listings, and corporate bonds. Notably, it encouraged practices associated with forced technology transfer such as overseas acquisitions and joint ventures.[197]

e. Shipping

Shipbuilding and shipping are closely linked, as the expansion of China's shipbuilding sector supports expansion in China's shipping sector. In September 2012, the Ministry of Transport issued *Guiding Opinions on Accelerating Water Transport Structural Adjustment in the 12th Five-Year Plan Period*, which sought to improve the comprehensive competitiveness of China's shipping industry by 2015. The plan aimed to "expand the scale of the national fleet, and improve the modernization level of the fleet".[198] It ordered authorities to "actively support port and shipping companies to implement the 'going out' development strategy", leverage the advantages of "backbone" Chinese shipping companies,[199] and encourage cooperation between shipping companies and large cargo owners.[200]

The plan was explicit about how China's objectives in developing its shipping industry extended beyond commercial competitiveness and included strategic concerns, stating that China would "enhance the national fleet's ability to transport and guarantee important strategic materials such as imported energy and raw materials".[201] Also in September 2012, the State Council issued the *12th Five-Year Plan for National Marine Economy Development* ("*Marine*

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[195] *Id*. at Art. 4.4, 4.5.
[196] *Maritime Engineering Equipment Industry Innovation Development Strategy (2011- 2020)* Art. 2 (NDRC, MOST, MIIT, National Energy Administration [hereinafter "NEA"], Fa Gai Gao Ji [2011] No. 1675, issued Aug. 5, 2011), https://www.gov.cn/zwgk/2011-09/16/content_1949317.htm.
[197] *Id*. at Art. 6.1-3.
[198] *Guiding Opinions on Accelerating Water Transportation Structural Adjustment in the 12th Five-Year Plan Period* Art. 3.3 (MOT, Jiao Shui Fa [2012] No. 424, issued Sep.10, 2012), https://www.gov.cn/gongbao/content/2012/content_2283039.htm (hereinafter "*Water Transportation 12th FYP Opinions"*).
[199] In Chinese: " ", referring to large, often state-owned companies.
[200] *Water Transportation 12th FYP Opinions* at Art. 3.3.
[201] *Id*. at Art. 2.

Economy 12th FYP"), which included similar goals to "cultivate a group of large-scale and competitive shipping enterprises and enhance ocean-going shipping capacity." [202]

In September 2014, the State Council issued *Several Opinions on Promoting the Healthy Development of the Shipping Industry* ("*Shipping Industry Healthy Development Opinions"*), which reiterated strategic goals to expand fleet size and secure critical supply chains, but on a longer time horizon.[203] It laid out 2020 goals for China's shipping industry, including to "moderately advance" fleet size and to "improve the transportation guarantee capacity of key materials such as crude oil, iron ore, LNG, coal, and grain", reiterating China's strategic goal of leveraging its shipping industry to improve supply chain security.[204]

The plan promoted the creation of internationally competitive shipping, port construction and operation, and global logistics companies and the establishment of shipping centers with international influence.[205] It laid out goals including implementing China's "going out" strategy and encouraging Chinese shipping companies to invest overseas. The plan encouraged Chinese companies to "actively participate in international shipping matters and related infrastructure investment, construction, and operation."[206]

The *Shipping Industry Healthy Development Opinions* also encouraged companies to "accelerate mergers and reorganizations" to "promote large-scale and professional operations" and enhance international competitiveness.[207] A year later in 2015, China Merchants Group Ltd. acquired Sinotrans and CSC Holdings Co. Ltd. to create the world's largest port management and logistics company.[208]

Furthermore, the plan encouraged the development of shipping services to support China's shipping industry, including shipping finance and shipping information services, and aimed to accelerate the establishment of an international shipping transaction and pricing center.[209] Later in 2014, The Ministry of Transport issued *Opinions on Accelerating the Development of a Modern Shipping Services Industry* to provide further detail. This policy encouraged the development of shipping financing, leasing, and insurance to increase investment in the shipping industry, as well as to "form a freight index system with international influence".[210]

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[202] *12th Five-Year Plan for National Marine Economy Development* Ch. 6, Sec. 1 (State Council, Guo Fa [2012] No. 50, issued Sep. 16, 2012), https://www.gov.cn/zwgk/2013-01/17/content_2314162.htm.
[203] *State Council Several Opinions on Promoting the Healthy Development of the Shipping Industry* (State Council, Guo Fa [2014] No. 32, issued Sep. 3, 2014), https://www.gov.cn/zhengce/content/2014-09/03/content_9062.htm.
[204] *Id.* at Art. 1.3, 3.11.
[205] *Id*. at Art. 1.3, 2.9, 3.11.
[206] *Id*. at Art. 2.5, 2.6.
[207] *Id*. at Art. 2.6.
[208] OECD, REPORT ON CHINA'S SHIPBUILDING INDUSTRY at 53 (Apr. 2021); *China Merchants Group Ltd. and Sinotrans and CSC Holdings Co. Ltd. Implement Strategic Restructuring* [Chinese], STATE-OWNED ASSETS SUPERVISION AND ADMIN. COMM. [hereinafter "SASAC"] (Dec. 29, 2015), http://www.sasac.gov.cn/n2588030/n2588924/c4297070/content.html.
[209] *State Council Several Opinions on Promoting the Healthy Development of the Shipping Industry* at Art. 2.7, 2.9.
[210] *Opinions on Accelerating the Development of a Modern Shipping Services Industry* Art. 3, 6, 9 (MOT, Jiao Shui Fa [2014] No. 262, issued Dec. 26, 2014), https://www.gov.cn/gongbao/content/2015/content_2843788.htm.

f. Logistics

In July 2012, the State Council issued the *12th Five-Year Comprehensive Transportation System Plan*, which laid out a vision for China to develop its ports, helping to expand its influence in international trade. It called for China to create port clusters around the Bohai Rim, Yangtze River Delta, southeast coast, Pearl River Delta, and southwest coast. It also called for the creation of international shipping centers in Shanghai, Tianjin, and Dalian and inland shipping centers in Chongqing and Wuhan.[211] It targeted an expansion of the number of deep-water berths in coastal ports from 1,774 in 2010 to 2,214 in 2015.[212] The *Marine Economy 12th FYP* targeted the cargo throughput of coastal ports to reach 7.8 billion tons by 2015.[213]

The *Marine Economy 12th FYP* also included goals that guided the expansion of LOGINK from a domestic program to a regional logistics data platform. It promoted the construction of port logistics public information platforms and aimed to "gradually build a regional logistics public information platform".[214] In 2014, the State Council issued the *Medium and Long-Term Plan for the Development of the Logistics Industry (2014-2020)*, which expressed ambitions to create an international logistics information platform. Among "major projects" outlined in the plan was a "logistics information platform project", which involved integrating existing logistics information service platforms to form a cross-industry and cross-regional logistics information platform.[215] It aimed to "accelerate the construction of the National Transportation and Logistics Public Information Platform" (which is branded as LOGINK), and help it integrate with regional logistics platforms like the Northeast Asia Logistics Information Service Network.[216]

g. Ship Production Falls Though China's Global Market Share Remains Steady

During the *12th FYP* period, China experienced a sharp drop in ship production from a peak of 40.9 million gross tons in 2011 to 24.8 million gross tons at the end of 2015. However, China's market share of global ship production remained relatively stable, only shifting one percentage point from 39.5 percent in 2010 to 38.5 percent by the end of 2015.[217]

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[211] *12th Five-Year Comprehensive Transportation System Plan* Art. 4.1.1.3 (State Council, issued Jul. 23, 2012), https://www.ndrc.gov.cn/fggz/zcssfz/zcgh/201207/t20120723_1145674_ext.html (hereinafter "*12th Five-Year Comprehensive Transp. Sys. Plan")*. The goal of creating international shipping centers in Shanghai, Tianjin, and Dalian is reiterated in a separate plan, see: *12th Five-Year Plan for the Development of the National Marine Economy* Sec. 1 (State Council, Guo Fa [2012] No. 50, issued Sep. 16, 2012), https://www.gov.cn/zwgk/2013-01/17/content_2314162.htm (hereinafter "*12th Five-Year Plan for the National Marine Econ.*").

[212] *12th Five-Year Comprehensive Transp. Sys. Plan* at Box 5. This target is also repeated in a separate plan, *see 12th Five-Year Plan for the National Marine Econ*. at Sec. 1.

[213] *12th Five-Year Plan for the National Marine Econ*. at Ch. 6, Sec. 1.

[214] *Id*.

[215] *Medium and Long-Term Plan for the Development of the Logistics Industry (2014-2020)* Art. 5.9 (State Council [2014] No. 42, issued Oct. 4, 2014), https://www.gov.cn/zhengce/content/2014-10/04/content_9120.htm.

[216] *Id.*; U.S.-CHINA ECONOMIC AND SECURITY REVIEW COMMISSION, LOGINK: RISKS FROM CHINA'S PROMOTION OF A GLOBAL LOGISTICS MANAGEMENT PLATFORM 3, 6 (Sep. 20, 2022).

[217] *See* Figure 4.

4. 13th Five-Year Plan Period (2016-2020)

In the 13th five-year plan period, China's continued implementation of its industrial policy objectives allowed it to further consolidate its position in the global shipbuilding market.

a. 13th Five-Year Plan

The *Outline of the 13th Five-Year Plan for National Economic and Social Development* ("*13th FYP*") reinforced support for both MIC2025 and SEIs. It also promoted the Belt and Road Initiative (BRI), which was first introduced in 2013 and refers to a collection of global development and infrastructure initiatives designed to reinforce China's economic leadership.[218]

Shipbuilding and China's Maritime Silk Road

BRI is one of China's signature global economic development and foreign policy programs. BRI is a collection of infrastructure and development projects around the globe, designed to secure China's global economic and development leadership, especially vis-à-vis countries in Latin America, Africa, and the Middle East. According to the U.S. Department of State, the CCP leverages BRI for Chinese companies' own economic benefit in markets abroad and as a political means of "drawing nations… into Beijing's geopolitical orbit. BRI infrastructure projects — ports, railroads, highways, dams, industrial parks, civil nuclear facilities and other energy related initiatives, and more — typically rely on imported Chinese workers rather than local labor, and sometimes involve 50 to 100-year business relationships that entrench China's long-term access to local elites and confer power over key parts of the host country's critical infrastructure."[219]

Xi Jinping first introduced the 21st Century Maritime Silk Road and the Silk Road Economic Belt in 2013, which are collectively referred to as BRI.[220] BRI is a two-pronged program: the land-based Silk Road Economic Belt, originating in China and crossing over Central Asia, the Middle East, and ending in Europe; and the Maritime Silk Road, traversing the oceans and sea lanes around Southeast Asia, South Asia, the Middle East, Africa, and Latin America. As of December 2023, 151 countries have signed Memoranda of Understanding to join China's BRI.[221]

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[218] *Outline of the 13th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Ch. 22, 23, 51 (NPC, issued Mar. 17, 2016), https://www.gov.cn/xinwen/2016-03/17/content_5054992.htm; *China's Massive Belt and Road Initiative*, COUNCIL ON FOREIGN RELATIONS (Feb. 2, 2023), https://www.cfr.org/backgrounder/chinas-massive-belt-and-road-initiative.

[219] U.S. DEPARTMENT OF STATE, THE ELEMENTS OF THE CHINA CHALLENGE (Nov. 2020) (accessed Jan. 2025).

[220] *Vision and Action for Jointly Building the Silk Road Economic Belt and the 21st Century Maritime Silk Road*, p. 3 (NDRC, Ministry of Foreign Affairs, MOFCOM, issued Mar. 2015), https://www.mee.gov.cn/ywgz/gjjlhz/lsydyl/201605/P020160523240038925367.pdf. *See also Xi Jinping: China is willing to build the 21st Century "Maritime Silk Road" with ASEAN countries* [Chinese], XINHUA (Oct. 3, 2013), http://www.xinhuanet.com//world/2013-10/03/c_125482056.htm. Sometimes "Belt and Road" is translated as "One Belt, One Road."

[221] In December 2023, Italy withdrew from BRI. *See also* Christoph Nedophil, *Countries of the Belt and Road Initiative*, FUDAN U. OF SHANGHAI, GREEN FIN. & DEV. CEN. (Dec. 2023), https://greenfdc.org/countries-of-the-belt-and-road-initiative-bri/.

Building out maritime transportation infrastructure, promoting shipbuilding, and coordinating on ship R&D in these regions are essential elements of the Maritime Silk Road. BRI-related shipbuilding and shipping goals have since appeared in many of China's industrial policies. Deals signed with BRI participant countries afford great benefits to Chinese shipping and shipbuilding SOEs, such as building port infrastructure, operating ports, increased demand for Chinese-built ships, and easier export of Chinese ships. Since BRI's launch, Chinese SOEs have acquired a presence in a large number of global ports: a 2022 report shows Chinese firms own stakes in or operate at least 96 overseas ports (36 of which are among the world's top 100 ports by container throughput), including 65 where SOEs own stakes or operate the ports.[222] As of September 2023, research shows China holds majority ownership in 13 ports outside of China, the majority of which have the potential for PLA naval use and also are located in the Global South.[223] To implement these projects, Chinese state-owned banks and policy banks provide massive lines of credit to state-owned, -invested, or -controlled shipbuilding and shipping enterprises. For example, in 2023, China Export and Credit Insurance Corporation ("Sinosure"), China's state-owned export credit insurance institution, coordinated major domestic banks to provide favorable financing for China's shipbuilding industry in BRI projects, and has "supported the export of ships worth $5.37 billion in the past 10 years."[224]

The *13th FYP* highlights maritime engineering equipment and high-technology ships as one of eight industries for high-end equipment innovation and development. By this time, China had effectively achieved dominance in commoditized commercial ships like bulk carriers, tankers, and container ships, with production market shares of 52 percent, 29 percent, and 53 percent in 2015,[225] respectively, so its goals shifted towards moving up the value chain and further integrating the domestic supply chain. Specifically, the *13th FYP* aimed to:

> Develop equipment and systems for deep-water exploration, ocean drilling, seafloor resource exploration and development, and marine operations support; promote the development and engineering of deep-sea stations and large floating structures and launch projects in this regard; focus on breakthroughs in technologies for cruise ships and other high-technology vessels, as well as for the integrated, intelligent, and modular design and manufacturing of key accessory equipment for such vessels.[226]

The *13th FYP* also encouraged "more of China's equipment, technology, standards, and services to go global" through "overseas investment, project contracting, technology cooperation, equipment exporting, and other means" and highlighted shipbuilding and maritime engineering equipment as focus sectors for overseas expansion.[227] These goals aligned with China's

[222] Kardon & Leutert, *Pier Competitor: China's Power Position in Global Ports* at 12, 27.
[223] Zongyuan Zoe Liu, *Tracking China's Control of Overseas Ports*, COUNCIL ON FOREIGN RELATIONS (Nov. 6, 2023), https://www.cfr.org/tracker/china-overseas-ports.
[224] *Sinosure Helps "One Belt, One Road" Financing Channels* [Chinese], LUJIAZUI FIN. (Oct. 19, 2023), https://www.ljzfin.com/info/76062.jspx.
[225] USTR calculations based off Maritime Administration analysis of data from Lloyds Register and S&P Global.
[226] *Outline of the 13th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Box 7 (NPC, issued Mar. 17, 2016), https://www.gov.cn/xinwen/2016-03/17/content_5054992.htm (hereinafter "*13th FYP*").
[227] *Id*. at Ch. 49.2.

international market share targets and reflect goals outlined in the *Guiding Opinions on Promoting Cooperation in International Production Capacity and Equipment Manufacturing*, which the State Council issued in 2015 towards the end of the previous five-year planning period. These opinions also highlighted high-technology shipbuilding and maritime engineering as priority sectors for international expansion. [228]

To support the shipping industry, the *13th FYP* laid out a goal to "actively advance the construction of strategic maritime hubs along the 21st Century Maritime Silk Road, participate in the building and operation of major ports along the road, and promote the joint development of industrial clusters around these ports to ensure that maritime trade routes are clear and free-flowing" and "develop the Maritime Silk Road Index into an influential international shipping indicator."[229] This index is currently issued by the Shanghai Shipping Exchange, an influential body in global freight rates.[230]

b. Ship Accessory (Marine Equipment) Action Plan

In the area of marine equipment, in 2015, MIIT issued the *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* ("*Ship Accessory Action Plan*"), which fed into some of the broad shipbuilding-related goals discussed in the *13th FYP*. This plan explained how marine equipment comprises 40-60 percent of the cost of most ships and how this area was a "bottleneck" constraining China from its goal of becoming a "Strong Shipbuilding Nation".[231]

To overcome these bottlenecks, the plan set goals for developing "indigenous" capabilities and supply chains in the core technologies for ship power, deck machinery, cabin equipment, and communications systems and equipment and cultivating leading enterprises in these technologies. Accordingly, it included a series of domestic content targets, aiming for over 80 percent of marine equipment installed in Chinese bulk carriers, tankers, and container ships to be Chinese-made, and 60 percent of marine equipment intended for high-technology ships to be produced by Chinese manufacturers by 2020. For key components of marine equipment, it sought for 80 percent to be sourced domestically. By 2025, the plan included a target for domestically-produced marine equipment to be installed in 85 percent of ships and for China to "become a main marine equipment Strong Manufacturing Nation in the world."[232]

As with previous plans, this plan outlined tools to leverage foreign technology in support of its goals: "Through multiple methods like joint venture cooperation, introducing patents and

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[228] *State Council Guiding Opinions on Promoting Cooperation in International Production Capacity and Equipment Manufacturing* Art. 18 (State Council, Guo Fa [2015] No. 30, issued May 16, 2015), https://www.gov.cn/govweb/zhengce/content/2015-05/16/content_9771.htm.
[229] *13th FYP* at Ch. 51.2.
[230] *Maritime Silk Road Freight Index*, SHANGHAI SHIPPING EXCHANGE, https://en.sse.net.cn/indices/srfinew2.jsp (last visited Dec. 12, 2024).
[231] *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* Preamble (MIIT, Gong Xin Bu Zhuang [2015] No. 486, issued Dec. 30, 2015), https://jxt.sc.gov.cn/scjxt/uploadfiles/20191106152016115 85.pdf.
[232] *Id*. at Art. 2.

technology, acquiring specialized companies, indigenous innovation, etc., increase the R&D and manufacturing capability of the weak areas in shipbuilding accessories."[233]

To achieve its goals, the plan laid out supporting measures such as R&D support, tax and financial policy support, demand alignment, and an improved global services network.[234] It also expressed support for "industry organizations to issue a catalogue of ship accessory products that have been certified by technical institutions to conform to ship installation requirements", and in December 2017, five of China's largest shipbuilding associations and companies[235] issued the *Catalogue of High-Quality Ship Accessory Products (2017)*. This catalogue recommended 137 high-speed diesel engine models from five companies and 70 marine crane models from five companies.[236] Creating such a catalogue of preferred products from a handful of companies established an informal barrier to market access for companies outside the list. It put foreign companies at a particular disadvantage by allowing their Chinese competitors to designate the products on the list.

c. Updated Shipbuilding Action Plan

In July 2017, MIIT, NDRC, and other departments published the *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* ("*Updated Shipbuilding Action Plan*") to provide broader guidance for the shipbuilding sector. It included targets for market share, domestic content, R&D spending, and industry consolidation, many of which were reiterated from previous plans, though some were new or had increased in ambition. One new target was for China to increase its share of global ship production by five percentage points compared to the *12th FYP* period.[237] It reiterated targets for the international market shares of maritime engineering equipment and high-technology ships to reach 35 percent and 40 percent, respectively, by 2020.[238] The plan also increased the percentage of revenue that companies of a designated scale were required to spend on R&D from 2 percent to 2.5 percent.[239] It reiterated the *Shipbuilding 12th FYP*'s target of China's top 10 shipbuilding companies accounting for more than 70 percent of the national total shipbuilding completion, but with a later target date of 2020, aiming to maintain industry consolidation for another five years.[240]

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[233] *Id*. at Art. 1.2.
[234] *Id*. at Art. 4.1-4.
[235] The China Shipbuilding Engineering Academy, China Association of the National Shipbuilding Industry [hereinafter "CANSI"], the China Classification Society, China COSCO Shipping Corp. Ltd., and China Merchants Group Ltd.
[236] *2017 Catalogue of High-Quality Ship Accessory Products Issued* [Chinese], CANSI (Dec. 8, 2017), http://www.cansi.org.cn/cms/document/11075.html.
[237] *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* Art. 1.3 (MIIT, NDRC, MOF, PBOC, CBRC, SASTIND, Gong Xin Bu Lian Zhuang [2016] No. 447, issued July 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828_ext.html.
[238] *Id*. The same high-technology ships and maritime engineering equipment goal also appears in the 2015 MIC2025 Technology Roadmap. *See* 2015 MIC2025 TECHNOLOGY ROADMAP at 73.
[239] *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* at Art. 1.3; *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 3 (MIIT, issued Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm.
[240] *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* at Art. 1.3.

The plan discussed goals for innovation, capacity optimization, smart and green manufacturing, brand building, "deep" Military-Civil Fusion, and "international cooperation" (including practices associated with forced technology transfer like overseas acquisitions, joint research, and targeted talent recruitment).[241] Regarding support measures to achieve the goals it outlines, the plan included "strengthening cooperation with steel and other upstream and downstream industries", financial support, insurance support, demand creation measures, and other tools.[242]

d. Maritime Engineering Equipment

In the maritime engineering equipment sector, eight departments led by MIIT issued the *Action Plan for the Continued Healthy Development of the Maritime Engineering Equipment Manufacturing Industry (2017-2020)*. This plan continued and expanded on goals set during the *12th FYP* period to move up the value chain and increase the international competitiveness of the industry, improve the level of R&D and design, and strengthen China's ability to produce critical systems and equipment.[243] As with other industrial plans, it encouraged activities associated with forced technology transfer like technical exchanges with foreign companies and supporting foreign companies to build R&D centers in China.[244] To achieve these goals, the plan outlined a range of financial support including support for paying back loans, domestic and international public listings, debt financing, debt-for-equity swaps, demand support measures like accelerated timelines for scrapping maritime engineering equipment, and equipment insurance premium subsidies.[245]

e. Shipping

China continued pursuing its goals of expanding its shipping fleet and ensuring supply chain security in the *13th FYP* period. In 2017, the Ministry of Transport issued the *13th Five-Year Plan for Water Transportation Development* (*Water Transportation 13th FYP*), which aimed to "accelerate the construction of a Strong Maritime Nation, focusing on enhancing international competitiveness and influence".[246] The plan set out a goal to "expand the scale of the red five-star [Chinese] flag fleet", and aimed to optimize the structure of China's shipping fleet, with a focus on developing capacity in oil, LNG, roll-on/roll-off, dry bulk, and cruise ships.[247] The 2017 *13th Five-Year Plan for National Marine Economy Development* ("*Marine Economy 13th FYP"*) contained similar goals to optimize China's shipping fleet structure and

[241] *Id*. at Art. 2.1-6.
[242] *Id*. at Art. 3.1-4.
[243] *Action Plan for the Continued Healthy Development of the Maritime Engineering Equipment Manufacturing Industry (2017-2020)* Art. 1.3 (MIIT, NDRC, MOST, MOF, PBOC, SASAC, CBRC, State Oceanic Administration [hereinafter "SOA"], [2017] No. 298, issued Jan. 5, 2018), https://www.gov.cn/xinwen/2018-01/05/content_5253494.htm.
[244] *Id*. at Art. 2.6.
[245] *Id*. at Art. 3.1-3.
[246] *13th Five-Year Plan for Water Transportation Development* Art. 3.1 (MOT, issued Jul. 19, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170719_1196842.html.
[247] *Id*. at Art. 3.1.2.

promoted industry consolidation as well, with a goal to "accelerate mergers and reorganizations, and promote large-scale and professional operations".[248]

The *Water Transportation 13th FYP* also directed shipping companies to pursue strategic supply chain security goals such as to "establish necessary transport capacity reserves" and "prioritize the transportation of key materials in a timely manner, and improve the guarantee capacity of our country's [China's] shipping fleet to carry key materials such as crude oil, iron ore, LNG, coal, and grain."[249] It explicitly called for an increased proportion of imports to be carried on Chinese ships.[250]

China also continued striving to develop its shipping services industry during the *13th FYP* period to support its shipping industry. The *Marine Economy 13th FYP* promoted the development of marine finance, shipping insurance, ship and shipping brokerage, and marine arbitration. It aimed to "strengthen the financing and leasing of ships and maritime engineering equipment" in order to support the shipbuilding industry.[251]

The 2020 *Guiding Opinions on Vigorously Promoting High-Quality Development of the Shipping Industry* ("*Shipping High-Quality Development Opinions*") reiterated many of these goals across a broader time horizon, aiming to "basically establish a high-quality development system for the shipping industry" by 2025, fully establish it by 2035, and have a development level among the highest in the world by 2050.[252] As with previous plans, it included goals to optimize the scale and structure of China's shipping fleet and increase its competitiveness,[253] as well as "further increase the proportion of key material transported".[254] The plan also alluded to the role that China's BRI investments in overseas ports play in China's shipping strategy, encouraging companies to "expand international routes with overseas investment ports as nodes".[255]

The plan included industrial consolidation goals, including to "encourage backbone shipping companies to become stronger, better, and bigger" and "encourage mergers and reorganizations of shipping companies" and promote large-scale and diversified operations, explaining that such measures would "enhance risk resistance and international competitiveness".[256]

To support the shipping industry, the plan outlined reiterated goals for shipping services development, including the construction of international shipping centers and services like

[248] *Id*. at Art. 3.1.
[249] *Id*. at Art. 3.1.2.
[250] *Id*. at Art. 2.3.3.
[251] *13th Five-Year Plan for National Marine Economy Development* at Art. 3.3.
[252] *Guiding Opinions on Vigorously Promoting High-Quality Development of the Shipping Industry* Art. 1 (MOT, Jiao Shui Fa [2020] No. 18, issued Feb. 3, 2020), http://shanghai.chinatax.gov.cn/zcfw/zcfgk/node92/202102/t456931.html.
[253] *Id*. at Art. 2.1.1.
[254] *Id*. at Art. 2.2.5.
[255] *Id*. at Art. 2.1.2.
[256] *Id*. at Art. 2.2.4.

shipping finance, insurance, and brokerage.[257] It outlined financial support measures, including regarding ships for international transportation as exports and providing export tax rebates, and implementing preferential personal income tax policies for ocean-going seafarers.[258]

Regarding the CCP's role in implementing the plan, it promised to "give full play to the Party's role in overseeing the overall situation and coordinating all parties . . . and integrate the Party's leadership throughout all aspects and segments of the development of the shipping industry" as to "provide a strong political guarantee for the high-quality development of the shipping industry".[259]

f. Logistics

In the *13th FYP* period, China also continued pursuing its ambitions of developing its own ports while beginning to build a network of footholds in overseas ports to expand its international shipping influence. The 2017 *13th Five-Year Modern Comprehensive Transportation System Development Plan* ("*Transportation System 13th FYP"*) included the goal of expanding the number of berths in coastal ports capable of handling 10,000 tons or more from 2,207 in 2015 to 2,527 by 2020.[260] The plan also aimed to "improve the layout of overseas strategic fulcrums and build a 21st Century Maritime Silk Road international transport channel that connects inland and radiates out into the world".[261] The *Marine Economy 13th FYP* provided additional detail on these goals, explaining that China would "strengthen cooperation among international ports, support large-scale port and shipping companies to implement international development strategies, and according to market demand, participate in overseas port management, waterway maintenance, and maritime rescue through acquisitions, equity participation, leasing, etc."[262] The 2020 *Shipping High-Quality Development Opinions* reiterated these goals under a longer timeframe.[263]

The Chinese government continued to promote the development of LOGINK in the *13th FYP* period as well. The *Transportation System 13th FYP* aims to "Enhance the service function of the National Transportation and Logistics Public Information Platform [LOGINK] and strive to promote the opening and sharing of transportation and logistics information across transportation modes, departments, regions, and borders".[264]

g. China's High-Level Transportation Strategy

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[257] *Id*. at Art. 2.2.5.
[258] *Id*. at Art. 2.5.14.
[259] *Id*. at Art. 3.1.
[260] *13th Five-Year Modern Comprehensive Transportation System Development Plan* Box 1 (State Council, Guo Fa [2017] No. 11, issued Feb. 3, 2017), https://www.gov.cn/zhengce/content/2017-02/28/content_5171345.htm. This target is reiterated in other plans. *See 13th Five-Year Plan for Water Transportation Development* Box 1 (MOT, issued Jul. 19, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170719_1196842.html.
[261] *Id*. at Art. 3.1.
[262] *13th Five-Year Plan for National Marine Economy Development* at Art. 6.1.
[263] *Guiding Opinions on Vigorously Promoting High-Quality Development of the Shipping Industry* Art. 2.5.13 (MOT, Jiao Shui Fa [2020] No. 18, issued Feb. 3, 2020), http://shanghai.chinatax.gov.cn/zcfw/zcfgk/node92/202102/t456931.html.
[264] *13th Five-Year Modern Comprehensive Transportation System Development Plan* Box 9 (State Council, Guo Fa [2017] No. 11, issued Feb. 3, 2017), https://www.gov.cn/zhengce/content/2017-02/28/content_5171345.htm.

In 2019, the CCP Central Committee and State Council issued the *Outline for Building a Strong Transportation Nation*, which laid out objectives to create a strong transportation network in China, aiming to "basically establish a Strong Transportation Nation" by 2035 and become a world class Strong Transportation Nation by 2050.[265] The plan covered infrastructure, technology, environmental impact, safety, governance, and other aspects for all major modes of transportation. Regarding shipbuilding, the plan reiterated indigenous innovation goals for key high-technology ships, aiming to ". . . strengthen the indigenous design and construction capabilities of large and medium-sized cruise ships, large liquefied natural gas ships, polar navigation ships, smart ships, and new energy ships".[266] It also sought to establish a world class international shipping center and promoted interconnectivity along the 21st Century Maritime Silk Road, calling to expand international shipping channels.[267] Only the highest level policy documents are issued by both the CCP Central Committee and State Council, indicating that indigenous innovation in shipbuilding and expanding shipping channels are priorities of the highest order. Numerous later industrial plans reference Strong Transportation Nation goals.

h. Joint Venture Requirements in the Maritime, Logistics, and Shipbuilding Sector

In conjunction with the forced technology transfer-associated activities encouraged in China's industrial plans, China uses investment catalogues to either prohibit foreign investment outright, require a joint venture, or encourage foreign investment (sometimes in the very sectors subject to joint venture requirements). Such joint venture requirements have been shown to force technology transfer.[268] China removed its joint venture requirement for foreign investors in maritime engineering equipment and diesel engines in 2017 and the ship design, manufacturing, and repair sector in 2018, but by then, domestic companies had already achieved dominance and the policy change had little practical impact in practice.[269] At the same time, China has encouraged foreign investment over the years in many types of high-technology ships and equipment and continues to encourage foreign investment in these sectors.[270] In shipping, regulators removed joint venture requirements for water transportation companies in 2018 for international water transportation but they remain for domestic water transportation. Regulators removed shipping agency joint venture requirements in 2019.[271]

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[265] *Outline for Building a Strong Transportation Nation* Art. 1.2 (CCP Central Committee, State Council, issued Sep. 19, 2019), https://www.gov.cn/zhengce/2019-09/19/content_5431432.htm.
[266] *Id*. at Art. 3.1.
[267] *Id*. at Art. 8.1.
[268] OFFICE OF THE U.S. TRADE REPRESENTATIVE, FINDINGS OF THE INVESTIGATION INTO CHINA'S ACTS, POLICIES, AND PRACTICES RELATED TO TECHNOLOGY TRANSFER, INTELLECTUAL PROPERTY, AND INNOVATION UNDER SECTION 301 OF THE TRADE ACT OF 1974 (Mar. 22, 2018).
[269] For a table outlining how China's joint venture requirements in shipbuilding and related industries have evolved over time, see Appendix F.
[270] *Catalogue of Encouraged Industries for Foreign Investment (2022 Revision)* (NDRC, MOFCOM, No. 52, issued Oct. 28, 2022, effective Jan. 1, 2023), http://www.mofcom.gov.cn/article/xwfb/xwrcxw/202210/20221003363087.shtml.
[271] *See* Appendix F.

i. China's Market Share of Global Shipbuilding Continues to Increase

During the *13th FYP* period, China's global ship production market share (by gross tonnage) increased from 38.5 percent at the end of 2015 to 41.2 percent in 2020.[272]

5. 14th Five-Year Plan Period (2021-2025)

China's plans during the 14th five-year plan period continue to demonstrate its targeted dominance of the maritime, logistics, and shipbuilding sectors.

a. 14th Five-Year Plan

In March 2021, China issued the *Outline of the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035* ("*14th FYP*").[273] Like previous five-year plans, the document outlined China's broad development goals over the next five-year period through 2025. However, unlike previous five-year plans, it also set objectives through 2035—the year China has targeted for "achieving socialist modernization" and the end of the second 10-year phase of its Strong Manufacturing Nation Strategy.[274] These objectives included "achieving major breakthroughs in key and core technologies" and emphasizing innovation and self-sufficiency in high-technology sectors.[275] The *14th FYP* emphasized efforts to "develop and expand strategic emerging industries", including maritime engineering equipment, dedicated an entire chapter to "deeply implementing the Strong Manufacturing Nation strategy", and reiterates goals to become a "Strong Maritime Nation".[276] The *14th FYP* also codified the new strategy of "Dual Circulation",[277] where China continues to expand production for exports while simultaneously seeking to create a domestic market to become self-sufficient and drive consumption.

The *14th FYP* characterized maritime engineering equipment as one of the "new pillars of the industrial system", indicating its continued prioritization.[278] It outlined the goal of "consolidating and enhancing the competitiveness of the entire industrial chain in sectors such as . . . ships"[279] based on the "advantage of industrial scale", which China had achieved through state intervention. It also laid out plans to establish advanced manufacturing clusters in the area

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[272] *See* Figure 4.
[273] *Outline of the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035 of the People's Republic of China* (NPC, issued Mar. 13, 2021), https://www.gov.cn/xinwen/2021-03/13/content_5592681.htm.
[274] *Xi Jinping Pointed Out, We Must Not Only Win a Decisive Battle in Building a Moderately Prosperous Society in All Respects, but Also Embark on a New Journey of Building a Modern Socialist Country in All Respects* [Chinese], XINHUA NEWS (Oct. 18, 2017), http://www.xinhuanet.com//politics/19cpcnc/2017-10/18/c_1121820451.htm.
[275] *Outline of the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035 of the People's Republic of China* Art. 3.1 (NPC, issued Mar. 13, 2021), https://www.gov.cn/xinwen/2021-03/13/content_5592681.htm.
[276] *Id*. at Art. 8, 9, 33.
[277] *Id*. at Art. 14.
[278] *Id*. at Art. 9.1.
[279] *Id*. at Art. 8.2.

of ships and maritime engineering equipment.[280] The plan doubled down on Military-Civil Fusion, aiming to "deepen military-civil S&T collaborative innovation and strengthen military-civil coordinated development", including in the maritime sector.[281]

In the maritime and logistics sectors, the *14th FYP* established goals to "build modern logistics systems" and "enhance the competitiveness of international shipping".[282] The plan aimed to "optimize international logistics channels and accelerate the formation of secure and efficient logistics networks with internal and external connections" and "cultivate a number of modern circulation enterprises with global competitiveness".[283] To enhance supply chain security, the plan mentioned that China will establish "emergency logistics systems with sufficient reserves, rapid response, and strong shock resistance".[284] To this end, the plan expounded on Belt and Road development, including the goal to "expand the influence of the silk road shipping brand",[285] and goals to create an Ice Silk Road in the arctic and participate more deeply in international maritime governance.[286]

b. Shipbuilding in National Industry Plans, Including Market Share Targets

Plans in the *14th FYP* period show continuity in China's ambitions to dominate the shipbuilding sector, and its setting of market share targets to promote these goals. As global efforts to reduce ship emissions have intensified, China has begun targeting green shipbuilding for dominance. In December 2023, five central government departments led by MIIT issued the *Shipbuilding Industry Green Development Action Outline (2024-2030)*. The plan aims to achieve a 50 percent international market share in ships using green power such as LNG or methanol by 2025 and maintain a leading market share through 2030.[287] It aims to support China's goals of becoming a Strong Manufacturing Nation, Strong Transportation Nation, and a Strong Maritime Nation.[288] To support its targets, the plan outlines support measures including leveraging an MIIT industry-financing cooperation platform, increased support by financial institutions, tax incentives for energy efficiency, water conservation, and comprehensive resource usage, and support for new-to market equipment and materials.[289] An August 2024 plan to accelerate the green transition issued jointly by the State Council and CCP Central Committee also encouraged tax incentives for clean energy ships, indicating support from the highest levels of the Chinese government.[290]

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[280] *Id*. at Art. 8.3.
[281] *Id*. at Art. 57.
[282] *Id*. at Art. 12.3.
[283] *Id*.
[284] *Id*.
[285] *Id*. at Art. 41.2.
[286] *Id*. at Art. 33.3.
[287] *Shipbuilding Industry Green Development Action Outline (2024-2030)* at Art. 3.
[288] *Id*. at Art. 1.
[289] *Id*. at Art. 19.
[290] *Opinions on Accelerating the Green Transition of Economic and Social Development* Art. 7, 11, 24 (State Council, CCP Central Committee, issued Aug. 11, 2024) https://www.gov.cn/zhengce/202408/content_6967665.htm.

Plans on shipbuilding-related industries also incorporate shipbuilding goals. For example, the April 2022 *14th Five-Year Plan for Transportation Sector Science and Technology Innovation* aimed to develop intelligent shipping and promote the "green transformation" of old ships.[291] In January 2022, the Ministry of Transport (MOT) issued a *14th Five-Year Plan for Water Transportation Development* ("*Water Transportation 14th FYP"*), which included goals for the upgrading of ship equipment technology and development of smart ships, high-power LNG engines and low-speed high-power diesel engines, and high-technology ships such as large cruise ships and LNG transport ships. It encouraged the use of clean energy such as LNG, electric, and hydrogen propulsion.[292]

c. Provincial Shipbuilding Targets

Industrial plans from China's major shipbuilding provinces during the *14th FYP* period also include detailed market share and other targets.

Provincial plans in the *14th FYP* period continue to contain market share targets. Jiangsu, China's largest shipbuilding province,[293] by 2025 aims to achieve 18 percent international market share for shipbuilding output, backlog orders, new orders, and maritime engineering equipment output.[294] Shandong province is aiming for a 35 percent international market share for one to two types of high-technology ships by 2025. [295] Other provinces set targets for industrial output, which can be a proxy for market share when put into context. For example, Shanghai aims to reach $14.1 billion (RMB 100 billion) in shipbuilding output by 2025 and "steadily increase the global market share of key shipbuilding enterprises".[296] Zhejiang province is aiming to "consolidate international market share" and reach an industrial scale of $9.3 billion (RMB 60 billion) and production capacity of 12 million DWT in shipbuilding by 2025.[297] Fujian province is aiming to achieve $12.4 billion (RMB 80 billion) in high-technology ships and maritime engineering equipment output by 2023. [298]

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[291] *14th Five-Year Plan for Transportation Sector Science and Technology Innovation* Art. 2.3, 4, 7 (MOT, MOST, issued Apr. 8, 2022), https://www.mot.gov.cn/zhuanti/shisiwujtysfzgh/202204/t20220408_3650006.html.
[292] *14th Five-Year Plan for Water Transportation Development* Art. 3.5.4, 3.6.3 (MOT, issued Jan. 29, 2022), https://www.mot.gov.cn/zhuanti/shisiwujtysfzgh/202201/P020220129656216621110.pdf.
[293] In 2022, China's largest shipbuilding provinces by number of ships completed were Jiangsu (322), Zhejiang (252), Guangdong (117), Liaojing (59), Shandong (54), Shanghai (48), and Fujian (42). *See* CHINA ASSOCIATION OF THE NATIONAL SHIPBUILDING INDUSTRY, 2023 CHINA SHIPBUILDING INDUSTRY YEARBOOK 215 (2023).
[294] *Notice on Issuing the 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry in Jiangsu Province* Art. 3.3.1, (Jiangsu Provincial Department of Industry and Informatization Technology, issued Mar. 16, 2022), https://smejs.cn/policy_show.aspx?id=ec754a090f8649548085689c7930862d.
[295] *Shandong Province 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry* Art. 2.3 (Shandong Industry and Informatization Department, issued Mar. 29, 2022), http://gxt.shandong.gov.cn/art/2022/3/29/art_103885_10301690.html.
[296] *Shanghai Action Plan for the High-Quality Development of the Shipbuilding and Maritime Engineering Equipment Industry (2023-2025)* Art. 2, (Shanghai Municipal Commission of Economy and Informatization Technology, et. al., issued Nov. 3, 2023), https://app.sheitc.sh.gov.cn/cyfz/695941.htm.
[297] *Zhejiang Province Advanced Equipment Manufacturing Industry Development "14th Five-Year Plan"* Art. 2.3 (Zhejiang Provincial Department of Economy and Informatization Technology, issued Apr. 23, 2021), https://jxt.zj.gov.cn/art/2021/4/23/art_1229123418_4629081.html.
[298] *Fujian Province Work Plan for Promoting the High-Quality Development of Shipbuilding and Marine Engineering Equipment (2021-2023)* Art. 1.2 (Fujian Provincial Industry and Informatization Department, Fujian

Provinces continue to set domestic content targets as well. Jiangsu province, for example, aims to be able to supply full sets of marine equipment to 80 percent of mainstream ships by 2025.[299] Shanghai set aggressive 2025 domestic content targets for a range of specific products.

Table 1: Shanghai 2025 Domestic Content Targets[300]

Product	Domestic Content Target
Marine power equipment	90%
LNG carrier equipment	80%
Key systems and associated equipment in mainstream ships	90%
Core equipment jointly promoted by developers and shipowners	80%
Cruise ship core systems	80%
Low-speed engine parts	95%
Underwater meters and valves	80%

Provinces also set market share targets with relation to one another. Jiangsu aims to remain China's largest builder of ships and maritime engineering equipment and for its domestic market share to exceed 40 percent by 2025.[301] Zhejiang aims to capture 10 percent of China's shipbuilding market, 25 percent of the ship repair market, and 10 percent of the maritime engineering equipment market by 2025.[302] Shandong aims to capture over 10 percent of China's shipbuilding market and over 30 percent of the maritime engineering equipment market by 2025.[303]

d. Shipping

Similar to the previous five-year plan period, the 2022 *Water Transportation 14th FYP* included goals to improve China's international competitiveness in shipping, such as to "actively

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Provincial Development and Reform Commission, Fujian Provincial Science and Technology Department, Fujian Provincial Finance Department, Fujian Provincial State-Owned Assets Supervision and Administration Commission, Min Gong Xin Lian Fa Gui [2021] No. 87, issued Aug. 17, 2021), https://gxt.fujian.gov.cn/zwgk/zfxxgk/fdzdgknr/gfxwj/202108/t20210819_5672794.htm.

[299] *Jiangsu Province 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry* Art. 3.3.5, (Jiangsu Provincial Department of Industry and Informatization Technology, issued Mar. 16, 2022), https://smejs.cn/policy_show.aspx?id=ec754a090f8649548085689c7930862d.

[300] *Shanghai Action Plan for the High-Quality Development of the Shipbuilding and Maritime Engineering Equipment Industry (2023-2025)* at Art. 2, 3.1, 4.1, 4.2, 4.4, 4.8.

[301] *Notice on Issuing the 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry in Jiangsu Province* at Art. 3.3.1.

[302] *Zhejiang Province Shipbuilding Industry Development "14th Five-Year" Plan* Art. 2.3 (Zhejiang Provincial Department of Economy and Informatization, issued Apr. 23, 2021), https://jxt.zj.gov.cn/art/2021/4/23/art_1229123418_4629081.html.

[303] *Shandong Province 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry* at Art. 2.3.

develop the LNG fleet, promote the development of domestic cruise ships, and further improve the international competitiveness of container, crude oil, dry bulk, and special transport fleets".[304] In an effort to improve supply chain security, it encouraged Chinese importers of "key materials such as oil, iron ore, and grain" to sign long term contracts and strategic partnership agreements with shipping companies to "increase the proportion of key materials transported".[305] The plan also called for building "overseas nodes, channels, and logistic networks" to "ensure the security of key materials and important transportation channels".[306]

The *Water Transportation 14th FYP* also continued to promote the development of shipping services like shipping finance, shipping insurance, shipping brokerage, and others.[307] It continued to promote the concept of shipping centers for these services, and a separate Shanghai shipping services action plan sought to build Shanghai into a shipping center "capable of allocating global shipping resources" by 2035.[308]

e. Logistics

China has also continued developing its network of interests in overseas ports in the *14th FYP* period. The 2021 *14th Five-Year Modern Comprehensive Transportation System Development Plan* called for cooperation with Maritime Silk Road countries to "construct and operate overseas ports, build a modern ocean shipping fleet, and maintain the safety and smooth operation of important international shipping routes".[309] The *Water Transportation 14th FYP* provided further detail, outlining the goal to, "encourage our country's [Chinese] enterprises to participate in the investment, construction, and operation of ports along the Maritime Silk Road, and cultivate a number of world-class terminal construction operators and comprehensive service providers".[310] It also called to develop shipping routes to "further enhance the connectivity between our ports and countries and regions along the Belt and Road".[311]

Chinese industrial plans also cover the port equipment sector. Shanghai Zhenhua Heavy Industries Co., Ltd. (ZPMC), a Shanghai-headquartered state-owned enterprise, produces approximately 80 percent of ship-to-shore cranes used in U.S. ports and has a 70 percent global market share.[312] According to one state media report, ZPMC is close to achieving its goal of "wherever there is a container port in the world, there will be cranes produced by ZPMC in

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[304] *14th Five-Year Plan for Water Transportation Development* at Art. 3.7.3.
[305] *Id*.
[306] *Id*. at Art. 3.7.2.
[307] *Id*. at Art. 3.7.1.
[308] *Action Plan to Enhance the Capacity of Shanghai's Shipping Services Industry and Support the Construction of an International Shipping Center* Art. 1 (Shanghai Municipal Government Office, Hu Fu Ban Fa [2023] No. 11, issued Jun. 29, 2023), https://www.shanghai.gov.cn/nw12344/20230721/85cde799f0d4499e803f648c0ab14b5f.html.
[309] *14th Five-Year Modern Comprehensive Transportation System Development Plan* Ch. 10 Sec. 5 (State Council, Guo Fa [2021] No. 27, issued Dec. 9, 2021), https://www.gov.cn/zhengce/content/2022-01/18/content_5669049.htm. The plan specifies particular foreign ports targeted for Chinese operation such as the Port of Piraeus in Greece, the Khalifa Port in the United Arab Emirates, and the Port of Kuala Tanjung in Indonesia.
[310] *14th Five-Year Plan for Water Transportation Development* at Art. 3.7.4.
[311] *Id*. at Art. 3.7.2.
[312] *Pentagon Sees Giant Cargo Cranes as Possible Chinese Spying Tools*, WALL ST. J. (Mar. 5, 2023), https://www.wsj.com/politics/national-security/pentagon-sees-giant-cargo-cranes-as-possible-chinese-spying-tools-887c4ade.

operation".[313] Chinese government plans help to support these objectives. The November 2023 *Shanghai Shipbuilding and Maritime Engineering Equipment Industry High-Quality Development Action Plan (2023-2025)* directed R&D on port cranes "equipped with indigenously produced core components and automation subsystems".[314] It also encourages Chinese stakeholders to participate in the "formulation of international and national standards for crane machinery equipment control systems, production management systems, etc.", seeking to establish a competitive edge for Chinese cranes.[315]

China also continues to promote logistics information platforms similar to LOGINK. The *14th Five-Year Modern Logistics Development Plan* seeks to "strengthen the construction of logistics public information service platforms" and promote government departments and companies to share data on third-party logistics service platforms.[316]

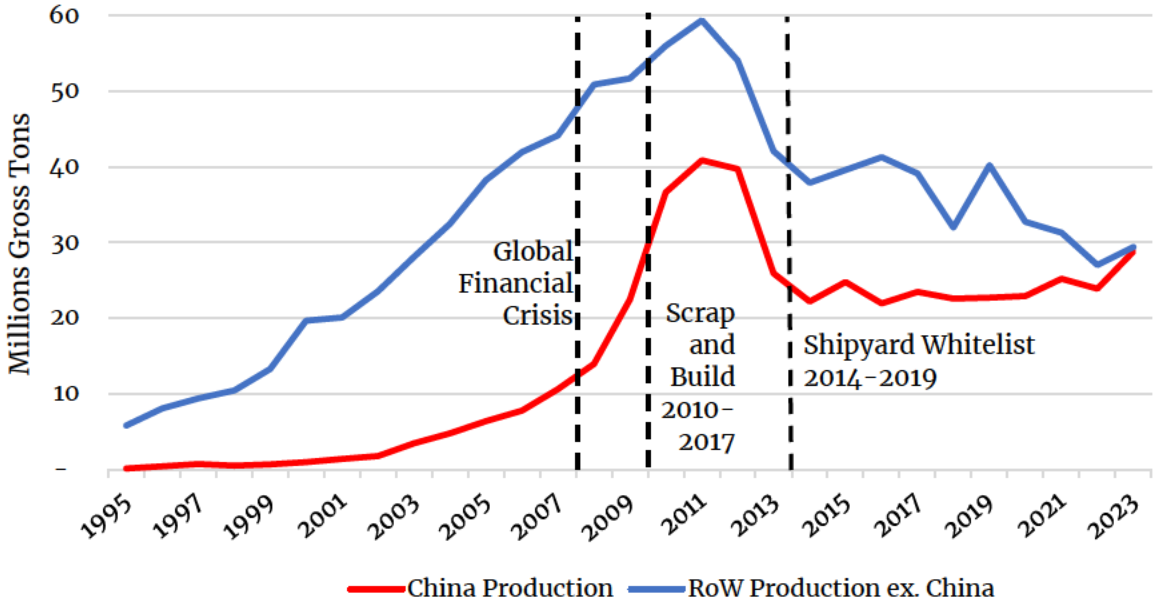
f. Industry Restructuring Catalogue

China has guided its industry restructuring towards priority sectors through the regular promulgation of catalogues such as the *Catalogue for Guiding Industry Restructuring*, which specifies "encouraged" sectors, "restricted" sectors, and "eliminated" sectors. In the latest edition, issued in 2024, China continued to retain priority sectors in its "encouraged" category, including high-technology vessels and equipment such as green and intelligent transport vessels, vessels powered by new energy, special purpose vessels (such as offshore wind installation, research vessels, ice breakers, and ocean fishing vessels), high performance vessels, maritime engineering equipment, green and intelligent shipbuilding equipment, and port construction equipment. It listed lower technology services and products like beach dismantling, single-piece vessel construction, old refitted ships, and single-hull oil tankers as sectors for elimination.[317]

[313] *Smart Manufacturing Upgrade of "Pillars of a Major Nation,"* ECON. DAILY (May 9, 2021), http://paper.ce.cn/jjrb/html/2021-05/09/content_442988.htm.
[314] *Shanghai Shipbuilding and Maritime Engineering Equipment Industry High-Quality Development Action Plan (2023-2025)* Art. 4.7 (Shanghai Municipal Commission of Economy and Information Technology, et al., issued Nov. 3, 2023), https://app.sheitc.sh.gov.cn/cyfz/695941.htm.
[315] *Id.*
[316] *14th Five-Year Modern Logistics Development Plan* Box 4 (State Council General Office, Guo Ban Fa [2022] No. 17, issued May 17, 2022), https://www.gov.cn/zhengce/content/2022-12/15/content_5732092.htm.
[317] *Catalogue for Guiding Industry Restructuring (2024 Version)* (NDRC, [2023] No. 7, issued Dec. 27, 2023, effective Feb. 1, 2024), https://www.gov.cn/zhengce/202401/content_6924187.htm.

g. China Captures Half of Global Shipbuilding Output

Figure 6: As Global Industry Reduces Production Post-Global Financial Crisis, China Captures Half of Global Shipbuilding Production[318]



In the *14th FYP* period, China's global market share of ship production increased to 49.5 percent in 2023.[319]

6. China Obscures Current Industrial Policymaking

In recent years, transparency in China's industrial policymaking has continued to worsen. For example, China has continued to fail to make public key planning documents that it had routinely released in the past and reduce the detail in what it does publish to obscure its industrial dominance goals. For example, the *2015 MIC2025 Technology Roadmap* contained more than 280 explicit market share targets, but following the strong reaction by trading partners to China's flagship industrial policy, MIC2025, China stripped the 2019 and 2023 *Technology Roadmaps* of most market share targets and removed references to MIC2025.[320] Further, in official documents and state media, China also began downplaying references to MIC2025: in June 2018, the CCP reportedly delivered a "Propaganda Oral Notice" to media outlets directing them not to "make further use of [the term] 'Made in China 2025,' or there will be consequences."[321]

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[318] Gross tonnage of self-propelled ocean-going cargo vessels greater than or equal to 100 gross tons, based off Maritime Administration analysis of data from Lloyds Register and S&P Global.

[319] *See* Figure 4.

[320] *Compare* 2015 MIC2025 TECHNOLOGY ROADMAP *with* 2019 TECHNOLOGY ROADMAP *and* 2023 TECHNOLOGY ROADMAP.

[321] *Minitrue: On U.S.-China Trade Tensions*, CHINA DIGITAL TIMES (Jun. 29, 2018), https://chinadigitaltimes.net/2018/06/minitrue-on-u-s-china-trade-tensions.
See also Raymond Zhong & Li Yuan, *As Trade Fight Looms, China Turns Censors on Its Own Policies*, N.Y. TIMES (Jun. 26, 2018), https://www.nytimes.com/2018/06/26/business/china-trade-censorship.html.

China has also not made public key documents for its next stage of industrial planning. For example, official references to the *Outline of the National Medium and Long-Term Science and Technology Development Plan (2021-2035)* ("*2021-2035 MLP*"), the successor to the *2006-2020 MLP* covering the next 15-year period from 2021 to 2035,[322] have all but disappeared over the past three years. According to some experts, the Chinese authorities have "thrown a cloak of secrecy around the program" and it will not be publicly released.[323] Similarly, in September 2020, MOST solicited comments from research institutions on a *National 14th Five-Year Plan for Scientific and Technological Innovation* plan.[324] Later policy announcements make reference to the final plan,[325] and many provinces published their own versions of the plan, but MOST has still not published the final five-year plan on its website.[326]

China's top-down economic system also continues to use terms of art to signal industrial policy priorities to government and industry stakeholders. In September 2023, Xi Jinping introduced the concept of "New Quality Productive Forces" (NQPF), referring to increasing economic productivity by emphasizing innovation.[327] NQPF focuses on three prongs: "industrial upgrading", "emerging industries", and "future industries". The term has since been associated with many of the sectors previously emphasized in MIC2025 and other industrial policies such as solar energy, new energy vehicles, and high-end equipment.[328] For example, state-affiliated experts and state media have drawn connections between NQPF and shipbuilding. A lengthy June 2024 Xinhua report on NQPF highlighted China's achievement of launching its first domestically-constructed cruise ship.[329] In April 2024, a scholar from the Xi Jinping Economic Thought Research Center also authored an article about the importance of NQPF in the ocean shipping industry.[330]

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[322] *2021-2035 National Medium- and Long-Term Science and Technology Development Plan Announcement on Major Issues Research by Soliciting Research Units from the Society* (MOST, issued Sep. 30, 2019), https://www.most.gov.cn/tztg/201909/t20190930_149075.html.

[323] Tai Ming Cheung, Barry Naughton, & Eric Hagt, CHINA'S ROADMAP TO BECOMING A SCIENCE, TECHNOLOGY, AND INNOVATION GREAT POWER IN THE 2020S AND BEYOND: ASSESSING ITS MEDIUM- AND LONG-TERM STRATEGIES AND PLANS 10 (Jul. 2022).

[324] *Announcement on the Solicitation of Research Units From the Society to Conduct Research on Major Issues in the "Fourteenth Five-Year Plan" for National Science and Technology Innovation* [Chinese], MOST (Sep. 28, 2020), https://www.most.gov.cn/tztg/202009/t20200928_159005.html; *Announcement of the Results of the Research Units From the Society to Conduct Research on Major Issues in the "Fourteenth Five-Year Plan" for National Science and Technology Innovation* [Chinese], MOST (Oct. 26, 2020), https://www.most.gov.cn/tztg/202010/t20201026_159401.html.

[325] *14th Five-Year Plan for Transportation Sector Science and Technology Innovation* (MOT, MOST, issued Apr. 8, 2022), https://www.mot.gov.cn/zhuanti/shisiwujtysfzgh/202204/t20220408_3650006.html.

[326] *Many Provinces and Cities Released the "14th Five-Year Plan" for Scientific and Technological Innovation* [Chinese], TIANJIN STRATEGIC PLANNING AND POLICY REGULATION DEPARTMENT (Jan. 10, 2022), https://kxjs.tj.gov.cn/ZWGK4143/KJGH20201119/202207/t20220711_5930693.html.

[327] *First Observation | General Secretary Xi Jinping Mentioned "New Quality Productivity" for the First Time* [Chinese], XINHUA NEWS (Sep. 10, 2023), http://www.news.cn/politics/leaders/2023-09/10/c_1129855743.htm.

[328] *Id*.

[329] *Full Text | Better Empowering China to Prosper the World – the Theoretical Contribution and Practical Value of New Productivity* [Chinese], XINHUA NEWS (Jun. 19, 2024), http://www.xinhuanet.com/politics/20240619/f3ca814ca7574e17bc24ca1114e48a20/c.html.

[330] *Give Full Play to the Important Role of Shipping in Building a Strong Maritime Nation* [Chinese], NDRC (Apr. 19, 2024), https://www.ndrc.gov.cn/xwdt/ztzl/NEW_srxxgcjjpjjsx/yjcg/zw/202404/t20240419_1365787.html.

Although China increasingly obscures its industrial policymaking and has deemphasized MIC2025, its own plans and statements demonstrate that its targeting of these sectors for dominance continues. China continues to call for the implementation of Strong Manufacturing Nation, Strong Maritime Nation, and Strong Transportation Nation, among others, which target the maritime, logistics, and shipbuilding sectors for dominance. China continues to refer to indigenization and self-sufficiency even as it has also begun using new terminology like NQPF to refer to industrial goals that target strategic sectors. The continuity in China's plans and pronouncements reveal that China's targeting of the maritime, logistics, and shipbuilding sectors for dominance has not changed.

III. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance Is Unreasonable

The following sections set out USTR's findings on actionability, that is, the reasons that China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable.

China's industrial targeting of the maritime, logistics, and shipbuilding sectors distorts nearly every aspect of the global maritime economy. These distortions tilt the marketplace in favor of Chinese companies and industries, and disfavor competitors in the United States and other market economies. As a result:

- In the shipbuilding sector: China increased its commercial vessel tonnage from just 5 percent in 1999 to over 50 percent of global tonnage by 2023;[331]
- In the shipping sector: China increased its ownership to 19.1 percent of the world's commercial fleet as of January 2024;[332] and,
- In the logistics sector: China has become the dominant provider of critical goods and services, supplying over 86 percent of the world's intermodal chassis, 95 percent of shipping containers, approximately 80 percent of the ship-to-shore cranes in the United States, and providing logistics data management for nearly 50 percent of the shipping containers in the world.[333]

China has not achieved these results through fair, market-oriented competition. As the following sections will detail, China's targeting the maritime, logistics, and shipbuilding sectors for dominance is unreasonable for the following reasons:

First, China's targeting of the maritime, logistics, and shipbuilding sectors for dominance displaces foreign firms, deprives market-oriented businesses and their workers of commercial opportunities, and lessens competition. China's plans, including as demonstrated by specific market share targets, are to achieve a long-term dominant position in these economic sectors. Its targeting of each sector for dominance necessarily means displacing foreign firms from existing markets, and taking new markets as they arise, diminishing competition. Foreign firms are not

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[331] *See* Mathew P. Funaiole, *The Threat of China's Shipbuilding Empire*, CEN. STRAT. & INT'L STUDIES (May 10, 2024), https://www.csis.org/analysis/threat-chinas-shipbuilding-empire; Stephen Gordon, *2023 Shipping Market Review*, CLARKSONS (Jan. 22, 2024), https://www.clarksons.com/home/news-and-insights/2024/2023-shipping-market-review/.

[332] *See* Figure 13 "Top 10 world shipowners, dead weight tons, share of world total, as at 1 January 2024" in UNCTAD, REVIEW OF MARITIME TRANSPORT 2024, 17 (including Hong Kong, China); *cf. China's maritime fleet sees shipping capacity growing*, CHINA DAILY (Oct. 15, 2024), https://www.chinadailyhk.com/hk/article/595371 (reporting that China's maritime fleet (not including Hong Kong) accounted for 18.7 percent of the world's total in dead weight tons as of September 2024).

[333] CARL W. BENTZEL, COMMISSIONER, U.S. FEDERAL MARITIME COMMISSION, ASSESSMENT OF P.R.C. CONTROL OF CONTAINER AND INTERMODAL CHASSIS MANUFACTURING, 3 (Mar. 2023), https://www.fmc.gov/wp-content/uploads/2022/03/ContainerandChassisManufacturingFinalReport.pdf; *see* Dustin Volz, *Espionage Probe Finds Communications Device on Chinese Cranes at U.S. Ports*, WALL ST. J. (Mar. 7, 2024), https://www.wsj.com/politics/national-security/espionage-probe-finds-communications-device-on-chinese-cargo-cranes-867d32c0; *see generally* COLLINS & BIANCHI.

able to compete with the resources of the Chinese state, resulting in lost sales, under-investment in capacity, diminished ability to attract financing, and lost jobs and lower wages.

China's objective is not to foster more competitive markets. Competition is a process of rivalry that incentivizes businesses to offer greater value and lower prices, improve wages and working conditions, enhance quality and resilience, innovate, and expand choice, among many other benefits. China does not seek market-based rivalry between Chinese enterprises and foreign enterprises. Rather, China frames its targeting for dominance in the maritime, logistics, and shipbuilding sectors in nationalistic terms as a zero-sum contest pitting companies it controls against all others. The dominant positions China seeks, and increasingly achieves, in each sector, give it market power over global supply, pricing, and access. In short, through its targeting of these sectors for dominance, China seeks to bring about unfair and non-market-oriented competition.

Second, China's targeting of the maritime, logistics, and shipbuilding sectors for dominance creates dependencies on China, increasing risk and reducing supply chain resilience. China's objective is to ultimately displace foreign competitors throughout the maritime value chain in domestic and foreign markets, which increases the world's dependence on its companies, products, services, and technology. Diminished choice, which creates dependencies, is itself an unfair, anti-competitive outcome. The creation of dependencies also increases risk for individual firms and their workers, for economic sectors (including workers' communities), and for supply chain resilience. These risks can relate to potential disruptions, whether natural, accidental, or geopolitical. China has demonstrated in the past its willingness to weaponize dependencies for purposes of economic coercion. China's targeting of these sectors for dominance is therefore unreasonable also due to the creation of dependencies and resulting vulnerabilities and risks.

Third, China's targeting of the maritime, logistics, and shipbuilding sectors is unreasonable because of China's extraordinary control over its economic actors and these sectors. China's exerts extraordinary control over the maritime, logistics, and shipbuilding sectors in order to achieve its targeted dominance of these sectors. Adherence to the objectives of China's industrial plans is effectively mandatory. Both state actors and Chinese companies move toward the goals set by the central government and have little discretion to ignore China's industrial targets. The Chinese Communist Party also exerts control through personnel and enterprise structures. Further, China's control over economic actors enables China to direct and influence their commercial behavior in pursuit of its targeted dominance, in ways that run counter to fair competition and market-oriented principles.

Through its control of economic actors and sectors, China directs non-market advantages to China's maritime, logistics, and shipbuilding sectors. Chinese industries and enterprises accrue non-market advantages from China's targeted dominance. China's industrial plans identify a matrix of mechanisms that are used to achieve China's goals, including government financial support, barriers for foreign firms, consolidation policies, measures associated with forced technology transfer and intellectual property theft, state-led investments, and government procurement. China's maritime, logistics, and shipbuilding sectors accrue a wide-range of other non-market advantages, such as artificially low costs or preferential supply from China's non-

market excess capacity, including in steel, China's lack of effective labor rights, and China's control over digital logistics services. China's targeted dominance of the maritime, logistics, and shipbuilding sectors also serves a broader purpose to strengthen all of China's instruments of national power through China's Military-Civil Fusion strategy.

A. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance Displaces Foreign Firms, Deprives Market-Oriented Businesses and Their Workers of Commercial Opportunities, and Lessens Competition

- China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable because it displaces foreign firms, deprives market-oriented businesses and their workers of commercial opportunities, and lessens competition.
- China frames its targeting for dominance in the maritime, logistics, and shipbuilding sectors in nationalistic terms as a zero-sum contest pitting companies it controls against all others.
- China's objective is to ultimately displace foreign competitors throughout the maritime value chain in domestic and foreign markets.
- China's objective is not to foster more competitive markets and fair competition between Chinese enterprises and foreign enterprises. Through its targeting of these sectors for dominance, China seeks to bring about unfair and non-market-oriented competition.

China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable because it displaces foreign firms, deprives market-oriented businesses and their workers of commercial opportunities, and lessens competition. China's plans, including as demonstrated by specific market share targets, are to achieve a long-term dominant position across key economic sectors. China frames its targeting for dominance in the maritime, logistics, and shipbuilding sectors in "nationalistic terms as a zero-sum contest pitting its own companies and economy against everyone else."[334]

China's targeting of each sector for dominance necessarily means displacing foreign firms from existing markets, and taking new markets as they arise, diminishing competition. Foreign firms are not able to compete with the resources of the Chinese state, resulting in lost sales, under-investment in capacity, diminished ability to attract financing, and lost jobs and lower wages.

China's objective is not to foster market-based competitive industries, allowing for rivalry that incentivizes businesses to offer lower prices, improve wages and working conditions, enhance quality and resilience, innovate, and expand choice, among many other benefits. China does not seek market-based rivalry between Chinese enterprises and foreign enterprises. Rather,

[334] Scott Kennedy, *China is the Wrong Industrial Policy Model for the United States*, CEN. STRAT. AND INT'L STUDIES (Aug. 9, 2022), https://www.csis.org/analysis/china-wrong-industrial-policy-model-united-states.

China's objective is to ultimately displace foreign competitors throughout the maritime value chain in domestic and foreign markets.

As evident in Table 2, China has ratcheted up global market share targets (as well as proxy targets like production, capacity, and revenue) for China's domestic industries over time, requiring displacement of foreign competitors:

Table 2: Production, Capacity, Revenue, and International Market Share Targets in China's Shipbuilding Sector[335]

Product		Target	Date Set	Target Date
Shipbuilding		Annual output 17 mn DWT	2006	2010
		$19.6 bn industry revenue	2006	2010
		Annual output 22 mn DWT	2006	2015
		$23.5 bn industry revenue	2006	2015
		Annual output 50 mn tons	2009	2011
		35% global completions	2009	2011
		$190 bn industry revenue	2012	2015
		Increase global market share by 5%	2016	2020
Marine equipment	Marine diesel engines	Production capacity 4.5 mn kW/1,100 units	2006	2010
		Production capacity 6 mn kW/1,200 units	2006	2015
		Output of 9 mn kW	2009	2011
	Ship accessories	$39.2 bn industry revenue	2012	2015
Maritime engineering equipment		10%	2009	2011
		20%	2012*	2015
		35%	2015*	2020
		40%	2015	2025
High-tech ships		20%	2009	2011
		25%	2013	2015
		40%	2015*	2020
		50%	2015	2025
Green power ships		50%	2023	2025
		World-leading market share	2023	2030

* Target repeated in later plans

China's industrial targets also extend down to the provincial level. For example, China has set two provinces on a path to capture a significant percentage of global shipbuilding market share:

- Jiangsu, China's largest shipbuilding province, aims to achieve 18 percent international market share for shipbuilding output, backlog orders, new orders, and maritime

[335] For full citations and sources, *see* Appendix A, Table A1.

engineering equipment output by 2025;[336] as well as to be able to supply full sets of marine equipment to 80 percent of mainstream ships by 2025;[337] and,

- Shandong province is aiming for a 35 percent international market share for one to two types of high-technology ships by 2025.[338]

These industrial targets have real results: Chinese state media outlets regularly report on China's dominance in the shipbuilding sector. Recently, China Daily said that "China will continue to uphold its dominant position in the global shipbuilding market this year, leveraging its robust supply chain capabilities and focusing on intelligent and green advancements."[339] Similarly, the Global Times declared that "China has been the leading country in annual new orders for the past three years. In 2021 and 2022, China's international market share was nearly 50.0 percent, and it reached 58.9 percent in 2023."[340] In the first quarter of 2024, China reportedly collected nearly 76 percent of new shipbuilding orders, globally.[341]

Market research data also confirms that China is increasingly dominant across nearly every segment of shipbuilding—in 2024, Chinese shipyards have won 90 percent of global contracts for containerships, 83 percent of global contracts for bulk carriers, 72 percent of global contracts for tankers, and 49 percent of global contracts for offshore platforms and equipment.[342] This degree of dominance drives dependence on Chinese shipbuilders, as other commercial players in market economies fall below viable scale.[343]

In the logistics sector, China has become the dominant provider of critical goods and services, including shipping containers, intermodal chassis, ship-to-shore cranes, and logistics service platforms. As summarized by one report:

> The three largest Chinese manufacturers control over 86% of the world's supply of intermodal chassis, and those same companies manufacture over 95% of containers

[336] *Notice on Issuing the 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry in Jiangsu Province* Art. 3.3.1, (Jiangsu Provincial Department of Industry and Informatization Technology, issued Mar. 16, 2022), https://smejs.cn/policy_show.aspx?id=ec754a090f8649548085689c7930862d.
[337] *Jiangsu Province 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry* Art. 3.3.5, (Jiangsu Provincial Department of Industry and Informatization Technology, issued Mar. 16, 2022), https://smejs.cn/policy_show.aspx?id=ec754a090f8649548085689c7930862d.
[338] *Shandong Province 14th Five-Year Plan for the Development of Shipbuilding and Maritime Engineering Equipment Industry* Art. 2.3 (Shandong Industry and Informatization Department, issued Mar. 29, 2022), http://gxt.shandong.gov.cn/art/2022/3/29/art_103885_10301690.html.
[339] *Nation to uphold dominant position in shipbuilding market*, CHINA DAILY (Jan. 16, 2024 8:48pm), http://english.www.gov.cn/news/202401/content_WS65a5d270c6d0868f4e8e31f4.html.
[340] Chen Qingrui, *China's shipbuilding sector sees steady Q1 growth, keeps leading market*, GLOBAL TIMES (May 20, 2024, 10:20pm), https://www.globaltimes.cn/page/202405/1312667.shtml.
[341] *Id*.
[342] Clarksons Research as of Aug. 12, 2024.
[343] *See*, *e.g.*, Liv Almer, *Historic Japanese shipyard shuts down after 125 years*, SHIPPING WATCH (Feb. 16, 2024), https://shippingwatch.com/suppliers/article16853811.ece (highlighting that "[t]he winding down reflects the increasing pressure that Japanese shipyards are subject to from foreign competitors in China and South Korea).

> in the world's market, including U.S. domestic train and truck intermodal containers.
>
> When demand for ocean containers increased, Chinese-based intermodal equipment manufacturers were notably slow in ramping up production, raising the question of whether this was part of a deliberate strategy to manipulate prices.[344]

With regard to ship-to-shore cranes: a single manufacturer ZPMC, which is a major Chinese state-owned enterprise, produces approximately 80 percent of U.S. container cargo-handling equipment.

China's dominance in the maritime supply chain is also illustrative of the zero-sum nature of China's industrial policies. China's industrial targets also induce the movement of supply chains to China under non-market conditions. As described in Section II, China initially set a target for 60 percent of marine equipment installed in all Chinese-built ships to be produced domestically by 2010,[345] and now aims to achieve 85 percent by 2025.[346] Similarly, China raised its target of 40 percent of maritime engineering equipment to be produced domestically by 2020 to 50 percent by 2025, and its target for 60 percent of key systems and equipment in high-technology ships to be sourced domestically by 2020 to 80 percent by 2025.[347]

The effect that domestic content goals have had on China's imports of marine equipment has been stark. In 2015, China sourced over 90 percent of inputs for ship production domestically, the highest among major shipbuilding economies.[348] In 2023, a report commissioned by the Chinese Academy of Engineering assessed that:

> The internal advantages of the development of our country's marine equipment industry chain include: national policy support, vast demand for marine equipment under the new development pattern, a relatively sound industrial system, and

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[344] BENTZEL.
[345] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* Art. 1.1.2 (NDRC, SASTIND, issued Sep. 18, 2006), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/200710/P020191104623363865929.pdf.
[346] *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* Art. 2 (MIIT, Gong Xin Bu Zhuang [2015] No. 486, issued Dec. 30, 2015), https://jxt.sc.gov.cn/scjxt/uploadfiles/2019110615201611585.pdf.
[347] 2015 MIC2025 TECHNOLOGY ROADMAP at 73; *see also* OECD, SHIP FINANCING PRACTICES IN MAJOR SHIPBUILDING ECONOMIES at 28 ("According to the 13th Five-year Plan of China Ship Accessory and Equipment Industry (2016-2020), by the end of 2020, the proportion of domestic equipment are expected to reach 80%, 60% and 40% respectively in three main ship models, high-tech ships and ocean engineering equipment.").
[348] OECD, GLOBAL VALUE CHAINS AND THE SHIPBUILDING INDUSTRY 25 (Aug. 2019). Chinese sources indicate that China may be further behind in localizing maritime engineering equipment and high-technology ships. In one 2016 official policy interpretation, China's industry and technology regulator estimated that the localization rate for maritime engineering equipment and high-technology ships was less than 30 percent while South Korea and Japan's marine equipment was 85 and 90 percent localized, respectively. *See Interpretation of Made in China 2025: Promoting the Development of Maritime Engineering and High-Technology Ships*, MIIT, May 12, 2016, https://www.gov.cn/zhuanti/2016-05/12/content_5072766.htm.

> indigenous and controllable capabilities in raw materials, and powerful final assembly construction and general supporting links.[349]
>
> [Further,] [t]he distribution area of [China's] marine equipment industry is relatively concentrated, and the equipment required for final assembly and construction can be purchased in the Yangtze River Delta region, achieving 'double low' logistics costs and warehousing costs. This is an *unparalleled advantage compared with shipyards in other countries*.[350]

There are also indications that this shift toward Chinese components and equipment may run counter to customer preferences. For example, one article notes that: "[t]o boost the subcomponents industry, Chinese yards often force ship buyers to source engines and other subcomponents in China when they order vessels. Otherwise, ship buyers interviewed by the authors indicate, they would favor Korean and Japanese made engines and other internal parts."[351] Ultimately, China's drive to dominate maritime global value chains is out of sync with global market dynamics. As the Organisation for Economic Co-operation and Development (OECD) observed: "[w]hile most of the economies record a decline of their domestic value-added shares between 2005 and 2015, China increased its share."[352]

This dynamic is playing out across the maritime economy in the United States and globally. Once China's dominance is established, barriers to entry can lock in China's dominance over the long term. As a result, markets all over the world are less fair and well-functioning than they otherwise should be, and the playing field is heavily skewed against U.S. and other market-oriented companies that seek to compete against Chinese companies, whether in China's market or markets outside of China.

Its targeting of each sector for dominance necessarily means displacing foreign firms from existing markets, and taking new markets as they arise. Foreign firms are not able to compete with the resources of the Chinese state, resulting in lost sales, under-investment in capacity, diminished ability to attract financing, and lost jobs and lower wages.

China's objective is not to foster more competitive markets. Competition is a process of rivalry that incentivizes businesses to offer greater value and lower prices, improve wages and working conditions, enhance quality and resilience, innovate, and expand choice, among many other benefits. China does not seek market-based rivalry between Chinese enterprises and foreign enterprises. Rather, China frames its targeting for dominance in the maritime, logistics, and shipbuilding sectors in nationalistic terms as a zero-sum contest pitting companies it controls against all others. The dominant positions China seeks, and increasingly achieves, in each sector, give it market power over global supply, pricing, and access. In short, through its

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[349] Rui Ma, Peng Cai & Cungen Liu, *The Development Needs and Strategic Planning of China's Marine Equipment Industry Chain* (Dec. 2023), http://www.haiyangkaifayuguanli.com/hykfygl/ch/reader/view_abstract.aspx?file_no=20231207&st=alljournals.
[350] *Id*. (emphasis added).
[351] ERICKSON & COLLINS at 675.
[352] OECD, GLOBAL VALUE CHAINS AND THE SHIPBUILDING INDUSTRY at 19.

targeting of these sectors for dominance, China seeks to bring about unfair and non-market-oriented competition.

Thus, China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable because it displaces foreign firms, deprives market-oriented businesses and their workers of commercial opportunities, and lessens competition.

B. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance Creates Dependencies on China, Increasing Risk and Reducing Supply Chain Resilience

- China's objective is to ultimately displace foreign competitors throughout the maritime value chain in domestic and foreign markets, thereby increasing the world's dependence on its companies, products, services, and technology.
- Diminished choice which creates dependencies is itself an unfair, anti-competitive outcome.
- The creation of dependencies also increases risk for individual firms and their workers, for economic sectors (including workers' communities), and for supply chain resilience. These risks can relate to potential disruptions, whether natural, accidental, or geopolitical. China has demonstrated in the past its willingness to weaponize dependencies for purposes of economic coercion.
- China's targeting of these sectors for dominance is therefore unreasonable due to the creation of dependencies and resulting vulnerabilities and risks for its trading partners.

China's targeting of the maritime, logistics, and shipbuilding sectors for dominance creates dependencies on China, increasing risk and reducing supply chain resilience. China's objective is to ultimately displace foreign competitors throughout the maritime value chain in domestic and foreign markets, which increases the world's dependence on its companies, products, services, and technology. Diminished choice which creates dependencies is itself an unfair, anti-competitive outcome.

As discussed in Section II, China has succeeded in achieving market concentration in maritime, logistics, and shipbuilding sectors. The risk that comes with such concentration is the creation of chokepoints, which provides China opportunities for exploitation and creates potential for volatility, harms to competition and innovation, and inflationary dynamics when the supply chain is manipulated or disrupted. As noted in the 2021-2024 Quadrennial Supply Chain Review, the dependency on foreign sources for inputs in the shipbuilding sector "exposes the industry to vulnerabilities, particularly during periods of geopolitical tension, where disruptions in the supply of critical components can result in production delays and increased cost."[353] Even if investors based in the United States or other market-oriented economies were to support these

[353] *See* NAT'L ECON. COUNCIL & NAT'L SEC. COUNCIL, 2021-2024 QUADRENNIAL SUPPLY CHAIN REV. 344 (Dec. 2024).

sectors, China's acts, policies, and practices may lead to the continued dominance of Chinese companies that benefit from these measures.

Dependence on Chinese companies exposes the supply chain to volatility and disruption compared to a more diverse supply chain. The risk of undue market concentration or chokepoints in a supply chain is also heightened when China's dominant companies in shipbuilding and related sectors benefit from vertical integration achieved through the systematic and targeted use of China's acts, policies, and practices, especially as many of these companies are treated as national champions.

China's dominant market positions are also significant because dominance implies that buyers of a good on international markets will find it difficult to replace their supplier with another.[354] The significance of China's dominant market positions is compounded by the facts that China is the second largest economy in the world and the largest goods trader among WTO Members.[355] When a trading partner with China's size pursues these types of non-market policies and practices, the distortions that it creates impose substantial costs on its trading partners. The Chinese state's decisions in the marketplace are not driven by market factors, but their effects on markets push U.S. and international companies out of sectors. As illustrated in one report:

- "If Country-A depends on port operators and shipping companies from Country-B to handle the bulk of its trade, then Country-A is dependent on Country-B for its prosperity, and maybe even for critical supply chains of goods it cannot produce."
- "If Country-A can also turn to Country-C for those services, it has less dependency risk. Dependency risks fall further if Country-A can also turn to D, E, and F."
- "However, if Country-B's shipping companies hold 50 percent of regional shipping market share, while countries C, D, E, F, and G's companies hold 10 percent each, then Country-B has considerable power as Country-A has little chance of replacing B's shipping services in a crisis."[356]

China's market concentration in the maritime, logistics, and shipbuilding sectors is particularly dangerous when possessed by state enterprises, rather than firms that are market-oriented and respond to market signals.[357] For example, China's largest shipbuilding company—CSSC—is a state-owned enterprise. China's control of these sectors, especially in shipbuilding, has provided it with unprecedented capacity that has come at the expense of market-oriented producers and suppliers. In turn, China uses the market power that comes from its dominance over investment, production, and potentially pricing with anti-competitive effects on the

[354] Sébastien Jean, Ariell Reshef, Gianluca Santoni & Vincent Vicard, *Dominance on World Markets: the China Conundrum*, CENTRE D'ÉTUDES PROSPECTIVES ET D'INFORMATIONS INTERNATIONALES (Dec. 2023).
[355] COLLINS & BIANCHI at 13-14.
[356] Clark Banach & Jacob Gunter, *How the BRI is shaping global trade and what to expect from the initiative in its second decade*, MERICS (Dec. 1, 2023), https://merics.org/en/tracker/how-bri-shaping-global-trade-and-what-expect-initiative-its-second-decade (emphasis added) (hereinafter BANACH & GUNTER).
[357] Promoting Competition in the American Economy, Exec. Order No. 14,036, 86 Fed. Reg. 36,987, 36,988 (July 14, 2021) (citing "unfair competitive pressures from . . . firms that are state-owned or state-sponsored, or whose market power is directly supported by foreign governments").

maritime, logistics, and shipbuilding sectors, as well as setting terms throughout non-Chinese supply chains, thus using its scale and vast capacity to further entrench its position.

In addition, China's targeting of the maritime, logistics, and shipbuilding sectors frustrates the United States' ability to maintain sufficient domestic shipbuilding, shipping, and logistics capacity to sustain U.S. commerce, as directed by U.S. law.[358]

Thus, the creation of dependencies increases risk for individual firms and their workers, for economic sectors (including workers' communities), and for supply chain resilience. These risks can relate to potential disruptions, whether natural, accidental, or geopolitical. China has demonstrated in the past its willingness to weaponize dependencies for purposes of economic coercion. China's targeting of these sectors for dominance is therefore unreasonable due to the creation of dependencies and resulting vulnerabilities and risks for the United States.

C. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors Is Unreasonable Because of China's Extraordinary Control Over Its Economic Actors and These Sectors

- China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable because of China's extraordinary control over its economic actors and these sectors.
- Adherence to the objectives of China's industrial plans is effectively mandatory.
- The Chinese Communist Party exerts control through personnel and enterprise structures.
- China's control over economic actors enables China to direct and influence their commercial behavior in pursuit of its targeted dominance, in ways that run counter to fair competition and market-oriented principles.
- Through its control of economic actors, China directs non-market advantages to China's maritime, logistics, and shipbuilding sectors.

China's exerts extraordinary control over the maritime, logistics, and shipbuilding sectors in order to achieve targeted dominance of these sectors. First, adherence to the objectives of China's industrial plans is effectively mandatory. China's national-level industrial targets drive the creation of hundreds of coordinated implementing plans across industries and at all levels of government. Both state actors and Chinese companies move toward the goals set by the central government and have little discretion to ignore China's industrial targets. Second, the CCP also exerts control through personnel and enterprise structures. For example, the Party has the ability to appoint senior management at state-owned firms, and most firms with more than three party members are required to maintain a CCP cell, which allows the CCP to review and provide

[358] 46 U.S.C. § 50101 (emphasis added); *see also* Merchant Marine Act, 1920, 41 Stat. 988 (Jun. 5, 1920).

guidance on major operational decisions.[359] The United States and other market-oriented economies do not exercise such control over their companies and sectors.

Furthermore, China's control over economic actors enables China to direct and influence their commercial behavior in pursuit of its targeted dominance, in ways that run counter to fair competition and market-oriented principles. This is unreasonable. Through its control of economic actors, China directs non-market advantages to China's maritime, logistics, and shipbuilding sectors. In other words, due to China's top-down control of its economy, when China sets as a goal the targeting for dominance of a specific industry, non-market advantages accrue to Chinese industries and enterprises in that sector, which is yet another unreasonable aspect of China's targeting for dominance.

China's control may take various forms and degrees, but its ability to move its public authorities, companies, banks, and other entities to implement industrial targets remain unprecedented in the global economy. As addressed in other reports, "[t]he CCP's control mechanisms may take somewhat different formats in the state-owned sector and in the private one. Nevertheless, the resulting control over the economic operators, in combination with the control over . . . state structures . . . allows the CCP to formulate and implement its economic policies by using a number of formalized and informal tools and channels."[360]

1. China's Binding Industrial Targets Allows the CCP to Direct and Mobilize Both State and Non-State Actors to Achieve China's Industrial Targets

- Under China's law, adherence to the objectives of China's industrial plans is effectively mandatory.
- China's industrial plans are recognized and addressed in the Constitution of the People's Republic of China, as well as in subordinate laws.
- China's national-level industrial targets drive the creation of hundreds of coordinated, implementing plans across industries and at all levels of government.
- Local governments are also directed to implement China's industrial plans.

China's industrial plans are a key feature in the economic governance of China. Under China's law, adherence to the objectives of China's industrial plans is effectively mandatory. The binding nature of China's industrial targets allows the CCP to direct and mobilize both state and non-state actors to achieve China's industrial targets.

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[359] *See also* Jeffrey Becker, *Fused Together: The Chinese Communist Party Moves Inside China's Private Sector*, CEN. NAVAL ANALYSES IN DEPTH (Sept. 6, 2024), https://www.cna.org/our-media/indepth/2024/09/fused-together-the-chinese-communist-party-moves-inside-chinas-private-sector ("Although People's Republic of China government officials dismiss accusations of party control over the private sector, the policy shift has long been recognized by some in China's business community.").

[360] Commission Staff Working Document on Significant Distortions in the Economy of the People's Republic of China for the Purposes of Trade Defense Investigations, EUR. COMM., SWD (2024) 91 (Apr. 10, 2024) (hereinafter EC – CHINA MARKET DISTORTIONS REPORT).

China's industrial plans are recognized and addressed in the Constitution of the People's Republic of China, as well as in subordinate laws. Under the Constitution of the People's Republic of China, the National People's Congress has the authority to approve the national FYP for Economic and Social Development, much like legislation: "[t]he National People's Congress shall exercise the following functions and powers: . . . reviewing and approving the plan for national economic and social development and the report on its implementation."[361] Further:

> The National People's Congress Standing Committee shall exercise the following functions and powers: . . . when the National People's Congress is out of session, reviewing and approving partial adjustments to the plan for national economic and social development and the state budget that must be made in the course of implementation[.][362]

The *Organic Law of the Local People's Congresses and Local People's Governments of the People's Republic of China* ("*Organic Law*") requires local Chinese government authorities to implement the FYPs. Article 11 states that:

> The local People's congresses at or above the county level shall exercise the following powers and functions: . . .
>
> (1) to ensure, within their respective administrative areas, the observance and execution of the Constitution, laws, administrative regulations and resolutions of the People's congresses at higher levels and their standing committees, and ensure the implementation of national plans and state budgets[.][363]

Further, China's national-level industrial targets drive the creation of hundreds of coordinated, implementing plans across industries and at all levels of government. For example, the *Organic Law* states that:

> The People's congresses of townships, ethnic townships, and towns shall exercise the following powers and functions. . . .
>
> (3) to decide, in accordance with national plans, on development plans and projects for the economy, cultural affairs, and public services within their respective administrative regions[.][364]

Local governments are also directed by the *Organic Law* to implement China's industrial plans:

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[361] XIANFA, art. 62 (1982) (last amended Mar. 11, 2018), https://english.www.gov.cn/archive/lawsregulations/201911/20/content_WS5ed8856ec6d0b3f0e9499913.html.
[362] *Id*. at Art. 67.
[363] *Organic Law of Local People's Congresses and Local People's Governments*, (NPC, amended Mar. 11, 2022), http://www.npc.gov.cn/rdxwzx/xwzx2024/xwzx2024018/202401/t20240129_434473.htm.
[364] *Id.* at Art. 12.

> The standing committee of a local people's congress at or above the county level shall exercise the following powers and functions: . . .
>
> (6) to supervise the implementation of the outlines of the plans for national economic and social development, plans for national economic and social development, and budgets of its administrative area, examine and approve the final accounts at its level, supervise the rectification of the problems identified through auditing, and examine and supervise government debt. . . .[365]

Likewise, Article 76 of the *Organic Law* states that: "[t]he People's government of a township, ethnic township, or town shall exercise the following powers and functions: . . . to implement the plan for economic and social development and the budget of its administrative area. . . ."[366]

In addition, China's industrial plans employ language that carries authority. For instance, the final chapter of the 14th FYP sets out the modalities for its implementation and calls on all recipient entities to ensure its successful application:

> We shall strengthen organization, coordination, and supervision of the implementation of this plan and establish and improve planning and implementation monitoring and evaluation, policy assurance, and assessment and supervision mechanisms. . . .
>
> All regions and departments shall divide work according to their responsibilities and formulate implementation plans to achieve the main goals and tasks herein. This plan sets out binding indicators, major engineering projects, and tasks in public services, environmental protection, safety assurance, and other fields. It clarifies the responsible parties and schedule requirements, reasonably allocates public resources, guides and controls social resources, and ensures completion as scheduled. This plan proposes expected indicators and tasks in the fields of industrial development and structural adjustment and mainly relies on the role of market players to achieve these tasks. Governments at all levels must create a favorable policy environment, institutional environment, and legal environment. Annual plans shall implement the development goals and key tasks proposed in this plan. The main indicators determined in this plan shall be broken down into an annual plan indicator system to set annual goals, strike a comprehensive balance between years, and reasonably determine the focus of annual work.[367]

China's government and other Chinese sources sometimes assert that China's industrial plans lack a binding force, in part because the FYP and other planning documents do not have a

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[365] *Id*. at Art. 50.
[366] *Id*. at Art. 76.
[367] *Outline of the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035 of the People's Republic of China* Ch. 65, Sec. 1-2 (NPC, issued Mar. 13, 2021), https://www.gov.cn/xinwen/2021-03/13/content_5592681.htm.

place in the hierarchy of authoritative legislative documents under China's Legislation Law.[368] However, this does not alter the Constitutional and legislative directives to abide by the FYPs.

2. CCP Control Over Companies Ensures Commercial Decision-Making Is Consistent with China's Industrial Targets

- The CCP exercises significant influence over state-owned and state-invested enterprises across the maritime, logistics, and shipbuilding sectors. It achieves this influence through Party committees, and in state-owned enterprises, personnel appointments.
- To an increasing extent, the CCP exercises significant influence over nominally private enterprises across the maritime, logistics, and shipbuilding sectors.
- In the shipping sector, China employs a system of political control aboard oceangoing vessels through ship Party branches and ship political commissars.

The CCP exercises significant influence over state-owned and state-invested enterprises across the maritime, logistics, and shipbuilding sectors. It achieves this influence through Party committees and, in state-owned enterprises, personnel appointments. As USTR has discussed in prior reports, China has taken steps:

> [I]ntended to strengthen the role of state-owned and state-invested enterprises in the economy and to protect them against foreign competition. China established the State-owned Asset Supervision and Administration Commission (SASAC) and adopted the Law on State-owned Assets of Enterprises in addition to numerous other measures that mandate state ownership and control of many important industrial sectors. The CCP also ensure[s] itself a decisive role in state-owned and state-invested enterprises' major business decisions, personnel changes, project arrangements and movement of funds. The fundamental premise of these measures was to enable the government and the Party to intervene in the business strategies, management and investments of these enterprises in order to ensure that they play a dominant role in the national economy in line with the overall objective of developing China's "socialist market economy" and China's plans for industrial domination. Over the past few years, Party leadership in state-owned and state-invested enterprises has been strengthened through practices such as appointing a person as both the chairman of the board and the Party secretary for a state-owned enterprise and requiring the establishment of party committees in state-owned enterprises.[369]

[368] *See*, *e.g.*, EC – CHINA MARKET DISTORTIONS REPORT at 93.

[369] OFFICE OF THE U.S. TRADE REPRESENTATIVE, 2023 USTR REPORT TO CONGRESS ON CHINA'S WTO COMPLIANCE 35 (Feb. 2024), https://ustr.gov/sites/default/files/USTR%20Report%20on%20China's%20WTO%20Compliance%20(Final).pdf (hereinafter "2023 REPORT ON CHINA'S WTO COMPLIANCE").

China exerts control over personnel appointments in SOEs through the CCP Organization Department and its name lists, or *nomenklatura*.[370] As is widely observed in other reports:

> [The CCP] exercises nearly complete control over personnel decisions throughout the state sector. This system. . . requires Communist Party committees to make appointments to a namelist, or nomenklatura of professional and managerial positions. It is not an exaggeration to say that the political power of the Communist Party is based on its control of job appointments.[371]

Through the control of personnel appointments, the CCP locks in key commercial posts with Party personnel. This system is referred to as "two-way entry, cross appointment", whereby the CCP Organization Department, sometimes in conjunction with the State-owned Assets Supervision and Administration Commission (SASAC), appoints cadres to lead both the company Party Committee and the company Board of Directors, integrating an SOE's political leadership and executive management.[372]

For example, in the shipbuilding sector, current and former senior shipbuilding executives have held the Party Committee secretaryship. These have included Hu Wenming, the former Chairman and Party Secretary of China Shipbuilding Industry Corporation (CSIC),[373] Xu Lirong, the former Chairman and Party Secretary of China COSCO Shipping,[374] and Wen Gang, current Chairman and Party Secretary for CSSC.[375] All of these individuals were appointed to their roles by the CCP Organization Department. These direct levers of control allow the CCP to ensure that a major state-owned shipbuilding and shipping enterprise, such as China COSCO Shipping, "follows the party's direction and sails for the motherland."[376]

Major SOE executives may also concurrently hold senior Party roles. For example, the current Chairman of CSSC, Wen Gang, is an alternate member of the CCP Central Committee. In addition, individuals are often promoted from commercial SOEs to high-ranking government and Party roles after successful company leadership tenures, such as Tan Zuojun, former General

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[370] These systems are well documented in other reports, such as the U.S. Department of Commerce's report on China's Status as a Non-Market Economy, and the EC – CHINA MARKET DISTORTIONS REPORT.
[371] Barry Naughton, "Top-Down Control: SASAC and the Persistence of State Ownership in China," Paper presented at the conference on "China and the World Economy," Leverhulme Centre for Research on Globalisation and Economic Policy (GEP), University of Nottingham, June 23, 2006, 4; *see also* EC – CHINA MARKET DISTORTIONS REPORT at 41 ("A key pillar of the CCP's power is its control of personnel appointments across all political institutions, the military, [state owned enterprises], and public institutions.").
[372] Xiankun Jin, Liping Xu, Yu Xin, and Ajay Adhikari, POLITICAL GOVERNANCE IN CHINA'S STATE-OWNED ENTERPRISES, 15 CHINA JOURNAL OF ACCOUNTING RESEARCH (2022), https://www.sciencedirect.com/science/article/pii/S1755309122000168.
[373] *Former chairman of China Shipbuilding Industry Co sentenced to 13 yrs in prision over graft, abuse of power charges* [Chinese], GLOBAL TIMES (Dec. 27, 2023), https://www.globaltimes.cn/page/202312/1304369.shtml.
[374] *Xu Lirong appointed as Chairman and Party Secretary of China COSCO Shipping Co., Ltd.* [Chinese], CPC NEWS (Jan. 5, 2016), http://renshi.people.com.cn/n1/2016/0105/c139617-28012409.html.
[375] *Position of "First-in-Command" has been vacant for half a year, Wen Gang takes up the posts of Chairman of CSSC* [Chinese], CAIXIN (Feb. 1, 2023), https://companies.caixin.com/2023-02-01/101993805.html.
[376] Didi Kirsten Tatlow, *China's Stake in World Ports Sharpens Attention on Political Influence,* NEWSWEEK (Oct. 9, 2022) https://www.newsweek.com/2022/10/14/chinas-stake-world-ports-sharpens-attention-political-influence-1749215.html.

Manager and Deputy Party Secretary of CSSC, who is now serving as deputy director of SASAC and Party Secretary of SASAC's Party Committee.[377]

Furthermore, to a lesser but increasing extent, the CCP exercises significant influence over nominally private enterprises across the maritime, logistics, and shipbuilding sectors. The line between private and state-owned enterprises is increasingly blurry, as China has made it more difficult for private enterprises to operate without some degree of Party involvement. The CCP Constitution mandates the formation of Party organizations at the grassroots level (such as in companies) when there are three or more Party members present.[378] Furthermore, China's *Company Law* builds on this requirement, stating that, "In companies, according to the provisions of the CCP Constitution, a Party organization shall be established and carry out Party activities."[379] In 2018, similar language was also added into a revised version of the *Corporate Governance Rules for Listed Companies* as a requirement for publicly-listed enterprises.[380] This development reflects a broader push by the CCP for some degree of political governance even in private enterprises. The effect is clear: in 2015, the CCP released statistics showing that 53.1 percent of all "non-public" enterprises had established Party organizations;[381] by 2017, the number had increased to 73.1 percent.[382] By 2021, state media confirmed that the CCP had obtained "full coverage" of Party organizations across the 500 largest private enterprises in China.[383]

In the shipbuilding sector, the presence of the CCP is evident in China's nominally private enterprises. One of China's largest private shipyards, Yangzijiang Shipbuilding, possesses both Party organizations at the grassroots level and a larger corporate Party Committee. Top corporate leadership Ren Yuanlin and Zhang Hongfei are both Party members and have a history of holding Party organization secretaryships within the company.[384] A shipping industry news site associated with China's Ministry of Transport stated in 2021 that Yangzijiang Shipbuilding has "always insisted on deeply integrating Party building work with enterprise development, focusing on giving gull play to the political core role of the enterprise's

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[377] *Tan Zuojun*, SASAC (accessed Dec. 18, 2024), http://renshi.people.com.cn/n1/2016/0105/c139617-28012409.html.
[378] *Constitution of the Chinese Communist Party (2022 Revision)*, Art. 30 (National Party Congress, amended Oct. 22, 2022), https://www.12371.cn/special/zggcdzc/zggcdzcqw/.
[379] *Company Law of the People's Republic of China (2023 Revision)*, Art. 18 (National People's Congress, amended Dec. 29, 2023, effective Jul. 1, 2024), https://www.gov.cn/yaowen/liebiao/202312/content_6923395.htm.
[380] *Corporate Governance Rules for Listed Companies*, Art. 5 (China Securities Regulatory Commission, Announcement (2018) No. 29, issued Sep. 30, 2018), https://www.gov.cn/gongbao/content/2019/content_5363087.htm.
[381] *Half of non-public enterprises have Party organizations* [Chinese], PEOPLE'S DAILY, Jun 30, 2015, http://dangjian.people.com.cn/n/2015/0630/c117092-27228197.html.
[382] *2017 Statistical Bulletin of the Chinese Communist Party* [Chinese], COMMUNIST PARTY MEMBER NET, Jun. 30, 2018, https://news.12371.cn/2018/06/30/ARTI1530340432898663.shtml. 2017 was the last year the CCP Organization Department publicly disaggregated Party organization data for "non-public" enterprises.
[383] *Promoting high-quality development of non-public enterprises with high-quality Party building (Striving for a hundred years, embarking on a new journey: The Party flag is flying high at the grassroots frontline)* [Chinese], PEOPLE'S DAILY, Jun. 10, 2021, http://politics.people.com.cn/n1/2021/0610/c1001-32127028.html.
[384] *Unlocking the "Party Building Code" of Yangzijiang Shipbuilding Group* [Chinese], CHINESESHIPPING.COM, Jun. 21, 2021, https://info.chineseshipping.com.cn/cninfo/News/202106/t20210621_1353947.shtml; *see also* YANGZIJIANG SHIPBUILDING (HOLDINGS) LTD., 2023 ANNUAL REPORT (Apr. 10, 2024), https://www.yzjship.com/Upload/ueditor/files/2024-04-10/YZJ_AnnualReports2023-de093a7097444dacbe6d9fa02c1e15a6.pdf.

Party organization, transforming the Party's political advantages into development advantages."[385] In another instance of Party building activities, a Yangzijiang company press release revealed that one local Party organization within Yangzijiang signed a "Party Building Agreement" with the Shanghai Pudong Development Bank's Party organization to deepen cooperation on "ideology" and "extending traditional credit business", with the Shanghai Pudong Development Bank's Party organization stating it will "make full use of [the bank's] financial resources to provide support to Yangzijiang Shipbuilding's production and operations."[386]

In the shipping sector, China also employs a system of political control aboard oceangoing vessels through ship Party branches and ship political commissars.[387] Ship political commissars are "a Party representative assigned to oceangoing merchant ships, particularly within state-owned shipping enterprises, to carry out political and administrative work in the management of ship crews."[388] CCP political ship commissars are able to achieve this level of control as they "share authority with a commercial ship's captain[.]"[389]

China's political commissars are also closely linked to China's military. As one report noted, "[m]ost ship political commissars are former PLA officers."[390] Additionally, shipboard political commissars have military responsibilities: "For example, a job advertisement posted in 2011 to fill 40 to 60 ship political commissar positions in China Shipping Group included 'militia armed work' among the post's responsibilities, whereby they would be responsible for leading the construction of militia organizations."[391] This report further explains that "[t]he maritime militia are a subset of the national militia that are trained to operate at sea in support of PRC maritime objectives and national security. Within shipping companies, personnel are trained and organized into militia transport units, leveraging existing commercial capabilities for government or military use."[392]

China's ship political commissars are widely utilized across China's commercial shipping sector. For example, COSCO Shipping—the world's fourth-largest ocean carrier comprising more than 10 percent of global container capacity—"implements the Party branch and ship

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[385] *Unlocking the "Party Building Code" of Yangzijiang Shipbuilding Group* [Chinese], CHINESESHIPPING.COM, Jun. 21, 2021, https://info.chineseshipping.com.cn/cninfo/News/202106/t20210621_1353947.shtml.
[386] *Party Building + Business, Enterprises and banks work together to deepen integration* [Chinese], YANGZIJIANG SHIPBUILDING (HOLDING) LTD., Sep. 23, 2020, https://www.yzjship.com/cn/newsdetails/26/58.html.
[387] Conor M. Kennedy, *Onboard Political Control: The Ship Political Commissar in Chinese Merchant Shipping*, CHINA MAR. STUDIES INSTIT. (Report No. 40, Aug. 2024) at 1, https://digital-commons.usnwc.edu/cgi/viewcontent.cgi?article=1040&context=cmsi-maritime-reports.
[388] *Id*. at 2.
[389] *Id.* at 3, *see also id.* at 4 ("Serving as secretary of the Party branch, with the captain as deputy Party secretary, the political commissar exercises significant influence on the ship and ashore with the enterprise's Party committee. This is especially due to their influence on promotions and evaluations of personnel, including the captain. Evaluations are conducted at the conclusion of every voyage, during which the captain and the political commissar will assess each other's performance and the performance of the crew. The political commissar, in their administrative capacity, can yield influence through their duties in crew management reporting, such as through the individual sailor review forms. This ability to supervise the captain's performance can have the effect of balancing out their authority.") (internal citations omitted).
[390] *Id*.
[391] *Id.* at 4.
[392] *Id*. at 17.

political commissar system today in its fleet of over 1,400 vessels."[393] As of 2021, COSCO Shipping was reported to have over 1,000 ship political commissars, supplemented by temporary commissars that were overseeing 768 ship Party branches.[394]

Chinese commercial ocean carriers also have a legal obligation "to provide support for the military and support economic development and national security."[395] As one report summarized, Chinese shipping companies "have long provided support for [military] operations and other nationally important tasks. These include supporting overseas evacuation of PRC nationals, *providing transportation services to PLA forces*, *supporting Belt and Road Initiative projects*, opening arctic navigational routes, and many other tasks."[396]

In sum, Chinese legal obligations and the "[t]he system of ship Party branches and ship political commissars . . . ensures [the ship and crew] are aligned with Party guidance."[397] This, in turn, provides the CCP with the unfettered ability to direct commercial enterprises to carry out non-market objectives at any moment.

3. China's Control of Commercial Actors Allows the CCP to Direct and Influence Commercial Behavior

- China's control over economic actors enables China to direct and influence their commercial behavior in pursuit of its targeted dominance, in ways that run counter to fair competition and market-oriented principles.

China's control over economic actors enables China to direct and influence their commercial behavior in pursuit of its targeted dominance, in ways that run counter to fair competition and market-oriented principles. As a result, the global marketplace experiences decreased competitiveness, increased non-market excess capacity, and fewer alternatives for customers.

China's relationship with commercial enterprises is fundamentally different than in the United States, in which companies have the freedom to voluntarily choose how to contract with their customers. To illustrate, in a U.S. court proceeding, the Chinese government acknowledged that "the Ministry [of Commerce] required [certain] exporting companies to coordinate among themselves on export price and production volume" and further explained that Chinese exporters of [certain products] "could neither 'ignore these policies' nor 'abstain from [mandated] coordination,' which constituted 'an integral part of the self-discipline process.'") (internal citations omitted).[398]

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[393] *Id*. at 6.
[394] *Id*.
[395] *See*, *e.g.*, *National Defense Transportation Law of the People's Republic of China* (NPC, passed Sep. 3, 2016), http://www.xinhuanet.com//politics/2016-09/03/c_1119506255.htm.
[396] KENNEDY at 16 (emphasis added).
[397] *Id.* at 17.
[398] *Animal Sci. Prods. V. Hebei Welcome Pharm. Co. (In re Vitamin C Antitrust Litig.)*, 8 F. 4th 136, 155 (USTR has previously found that "China maintains price controls on several products and services covering both state-owned enterprises and private enterprises. The price controls may be in the form of either absolute mandated prices or

China's control over commercial behavior on non-market terms in order to support the achievement of its industrial targets can manifest as state-owned, -invested, or -controlled enterprises favoring their own subsidiaries, associated enterprises, or other related parties. For example:

> In 2017, one of [COSCO Shipping's] listed subsidiaries, COSCO SHIPPING Holding, announced its intention to offer around 2 billion shares to fund the purchase of 20 ships that were then under construction by the state-owned shipyards with an expected 2018-19 delivery date. Under the direction of SASAC, eight SOEs purchased equity in the company totaling $1.09 billion. Again, while the sale of equity is a central feature of global capital markets, private companies do not enjoy a partner such as SASAC who can facilitate such a transaction, thereby directing individual SOEs to invest in other SOEs. By doing so, SASAC can essentially shift funds to companies or industries that are deemed strategically important or would otherwise struggle under prevailing market conditions.[399]

China's "National Oil, Nationally Carried" strategy aimed for 50 percent of Chinese oil imports to be transported on Chinese-owned ships by 2010 and 80 percent by 2015.[400] The ''National Oil, Nationally Carried'' oil transport concept parallels China's "Going Out" oil acquisition policy, where China has invested in oil and gas production abroad.[401] In support of China's "National Oil, Nationally Carried" policy, Chinese shipping companies and shipyards are constructing a tanker fleet capable of hauling a substantial portion of Chinese oil imports.[402] For

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specific pricing policy guidelines as directed by the government and include items such as … transportation (including freight transportation)." *See* USTR, 2003 REPORT TO CONGRESS ON CHINA'S WTO COMPLIANCE at 34-35 (Dec. 11, 2003), *available at* https://ustr.gov/archive/assets/Document_Library/Reports_Publications/2003/asset_upload_file425_4313.pdf).[399] *See* Jude Blanchette, Jonathan E. Hillman, Maesea McCalpin, and Mingda Qiu, HIDDEN HARBORS: CHINA'S STATE-BACKED SHIPPING INDUSTRY, CEN. FOR STRAT. & INT'L. STUDIES (Jul. 2020) (hereinafter HIDDEN HARBORS) at 5 (". . . China's shipping and shipbuilding SOEs have been active in capital markets, engaging in transactions that appear identical in form and substance to other major listed corporations. Y*et these SOEs can sell equity under the guidance of their ultimate owner and regulator*, the State-owned Assets Supervision and Administration Commission (SASAC), *who not only supports such moves, but more importantly, often initiates the investment or orchestrates the investors*.") (emphasis added).

[399] *See* Jude Blanchette, Jonathan E. Hillman, Maesea McCalpin, and Mingda Qiu, HIDDEN HARBORS: CHINA'S STATE-BACKED SHIPPING INDUSTRY, CEN. FOR STRAT. & INT'L. STUDIES (Jul. 2020) (hereinafter HIDDEN HARBORS) at 5 (". . . China's shipping and shipbuilding SOEs have been active in capital markets, engaging in transactions that appear identical in form and substance to other major listed corporations. Y*et these SOEs can sell equity under the guidance of their ultimate owner and regulator*, the State-owned Assets Supervision and Administration Commission (SASAC), *who not only supports such moves, but more importantly, often initiates the investment or orchestrates the investors*.") (emphasis added).

[400] While no official policy documents outlining National Oil, Nationally Carried are publicly available, state media reports discuss some of the strategy's goals, *see The Reorganization of Two Major Central Shipping Enterprises Will Help National Oil, Nationally Carried During the "Thirteenth Five-Year Plan"* [Chinese], CHINA ENERGY NEWS, Jan. 4, 2016, http://paper.people.com.cn/zgnyb/html/2016-01/04/content_1645401.htm.

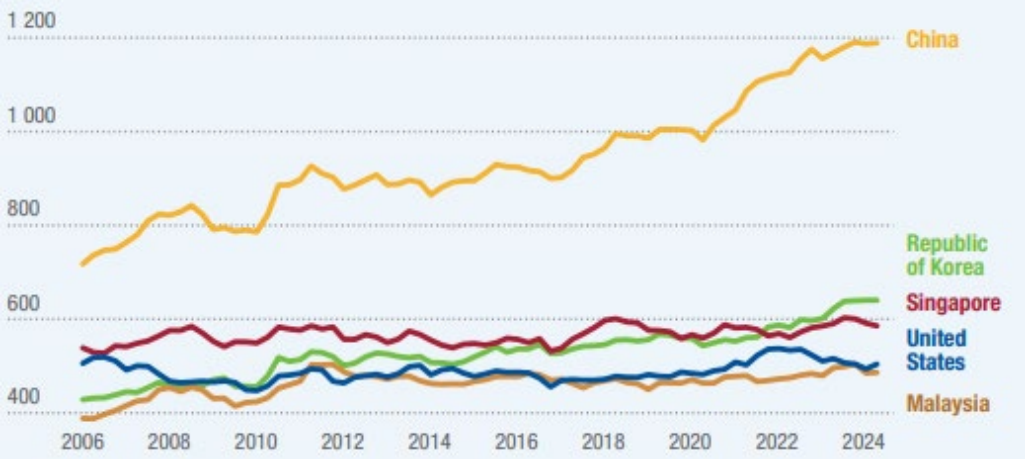
401 *See* Eurasia Group, *China's overseas investments in oil and gas production*, U.S.-CHINA ECON. AND SECURITY REV. COMM. (Oct. 16, 2006), https://www.uscc.gov/sites/default/files/Research/china%27s%20overseas%20investments%20in%20oil%20and%20gas%20production.pdf.

[402] Petition Exhibit 74.

example, in a deal by China Petrochemical Corporation (Sinopec) to ship LNG from Australia, it was a requirement for LNG vessels to be manufactured in China.[403]

Furthermore, one news source recently reported that three state-owned giants, China COSCO Shipping Corp. Ltd. (COSCO Shipping), China Merchants Group Ltd. (CMG), and CHN Energy Investment Group Co. Ltd. are "planning to significantly increase their shipping capacity, two of which intend to add about 100 ships to their fleets." [404] According to an employee of COSCO Shipping, the increase in capacity is in line with China's strategy of having Chinese shippers transport the country's "important strategic materials." This news source connected the order to a 2022 China's Ministry of Transport five-year plan aimed at expanding China's maritime fleet, improving its international competitiveness and increasing the percentage of "critical materials" transported by Chinese shippers. [405]

Figure 7: Top Five Economies in the Liner Shipping Connectivity Index[406]



As summarized by a non-governmental organization:

> First, COSCO, CMG, and COSCO Ports are all owned (directly or through a parent company) by a body that is directly under China's State Council, namely the State-owned Assets Supervision and Administration Commission (SASAC). They do not have a fiduciary responsibility to shareholders and their sole stakeholder can and does assign them strategic roles on a regular basis. Beijing also directs a wide range of state aid to SASAC-owned SOEs to support them in achieving national goals. This does not mean that firms like COSCO never act on commercial terms.

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[403] Citi, *Asian Shipbuilding: A Dynamic Market*, GLOBAL TRADE REV. EXPORT FINANCE SUPPL. (2014), https://www.citibank.com/tts/solutions/trade-finance/assets/docs/Asian-Shipbuilding-Dynamic-Market.pdf.
[404] Bao Zhiming & Wang Xintong, *Trio of Chinese Shipping Giants Splurge on Over 200 New Vessels*, CAIXIN GLOBAL (July 12, 2024), https://www.caixinglobal.com/2024-07-12/trio-of-chinese-shipping-giants-splurge-on-over-200-new-vessels-102215620.html.
[405] *Id*.
[406] UNCTAD REV. OF MARITIME TRANSP. 2024 at Fig. IV. 3, 98; *see also* UNCTAD, https://unctadstat.unctad.org/datacentre/dataviewer/US.LSCI.

In fact, the bulk of COSCO's operations may well be driven by market forces, *but at any moment, Beijing may mandate non-commercial goals*.

If Beijing sought to make a country's trade more dependent on COSCO, it could mandate shipping rates at lower margins, or even below profitability, to build market share, which could be weaponized at a later date. If Berlin tried to do this through Hapag-Lloyd, *the company could ignore the government: it would need shareholder approval to abandon profitability to build market share at a loss.*

Second, SASAC-owned firms' value chains include many similar SOEs, which can *empower them to undercut market prices*. CMG and COSCO Ports get state aid, while benefitting from state aid given to other Chinese SOEs in their value chain. If Beijing pushes CMG to build or expand a given port, it can do so with many friendly suppliers passing along state aid in favorable prices. For instance, CMG can depend on SOE construction giants like China Communications Construction Company (CCCC) or its subsidiary China Harbour Engineering Company who can source materials from SOE steelmakers like Baosteel, or harbor cranes from CCCC subsidiary Shanghai Zhenhua Heavy Industries Company Limited. Project finance would almost certainly come from China's state-run banks along the whole supply chain.[407]

In sum, China's targeting of the maritime, logistics, and shipbuilding sectors for dominance is unreasonable because China is able to achieve its industrial targets and dominance due to the extraordinary control it has over these sectors. China exerts an extraordinary level of control over both state and commercial enterprises. Furthermore, China's control of key commercial actors enables the CCP to direct and influence commercial behavior, even when market forces would dictate different commercial behavior.

4. Chinese Industries and Enterprises Accrue Non-Market Advantages from China's Targeted Dominance

- Through its control of economic actors and sectors, China directs non-market advantages to China's maritime, logistics, and shipbuilding sectors.
- China's industrial plans identify a matrix of mechanisms that are used to achieve China's goals, including government financial support, barriers for foreign firms, consolidation policies, state-led investments, and government procurement.
- China's maritime, logistics, and shipbuilding sectors accrue a wide-range of other non-market advantages, such as artificially low costs or preferential supply from China's non-market excess capacity, including in steel, China's lack of effective labor rights, and China's control over digital logistics services.

[407] *See* BANACH & GUNTER.

Through its control of economic actors and sectors, China directs non-market advantages to Chinese industries and enterprises that allow China to achieve its dominance and control of the maritime, logistics, and shipbuilding sectors. Chinese industries and enterprises accrue non-market advantages from China's targeted dominance. China's industrial plans identify a matrix of mechanisms that are used to achieve China's goals, including government financial support, barriers for foreign firms, consolidation policies, measures associated with forced technology transfer and intellectual property theft, state-led investments, and government procurement. China's maritime, logistics, and shipbuilding sectors accrue a wide-range of other non-market advantages, such as artificially low costs or preferential supply from China's non-market excess capacity, including in steel, China's lack of effective labor rights, and China's control over digital logistics services.

Two independent studies have attempted to assess the size and scale of the unfair non-market advantages accruing to Chinese enterprises in the maritime, logistics, and shipbuilding sectors. While such estimates are necessarily imprecise given China's opaqueness and non-market economic distortions, they nonetheless do suggest that China's non-market advantages to these sectors are massive in scale.

First, an empirical analysis by Barwick, Kalouptsidi, and Zahur attempted to estimate the size and scale of Chinese government support given to the Chinese shipbuilding industry during the period 2006 to 2013, after the 11th National Five-Year Economic Plan (2006-2010) designated the Chinese shipbuilding industry as a strategic industry. Barwick, Kalouptsidi, and Zahur estimated that Chinese government support "handed out to Chinese shipbuilders between 2006 and 2013 [was] close to RMB 624 billion ($91 billion)."[408] That is, government support "averaged $11.3 billion annually between 2006 and 2013, lowered freight rates by 6% and boosted China's trade volume by 5%, or $144 billion annually."[409] The authors concluded that the size of these support measures was "massive in comparison to the size of the domestic industry, whose revenue was around RMB 1360 billion [$197.6 billion] during the same period."[410]

Barwick, Kalouptsidi, and Zahur arrived at their estimates by comparing the per-unit cost of production of Chinese ships to those constructed in Japan and South Korea, both before and after China's shipbuilding support policies came into effect in 2006. They inferred that any difference in the per-unit cost of production between Chinese and Japanese and South Korean ships post-2006 is attributable to government provided financial support.[411] The authors further assessed that "[t]here are economies of scale in production with respect to the [Chinese industry's] backlog: it is cheaper to produce multiple ships at the same time. The effect of backlog on marginal cost is sizable: increasing backlog by 100,000 CGT reduces marginal cost

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[408] Panle Jie Barwick, Myrtro Kalouptsidi, & Nahim Bin Zahur, *Industrial Policy Implementation: Empirical Evidence from China's Shipbuilding Industry* 25 (Nat'l Bureau of Econ. Rsch., Working Paper No. 26075, 2023) (hereinafter "EMPIRICAL EVIDENCE FROM CHINA'S SHIPBUILDING INDUSTRY 2023").
[409] *Id*. at 5.
[410] *Id*.at 25.
[411] *See* Trade Talks, *Episode 194. Industrial policy detectives: China's subsidies for shipbuilding,* PETERSON INSTIT. FOR INT'L ECON. (Nov. 5, 2023), https://tradetalkspodcast.com/wp-content/uploads/2023/11/Episode-194-Transcript-Complete.pdf.

of production by 13% to 30% on average across ship types."[412] The authors acknowledged that "[a]lthough this approach of estimating subsidies has its own caveats, it is likely the only feasible strategy next to observing the subsidies directly."[413]

A second estimate by the Center for Strategic and International Studies (CSIS) sought to analyze government support provided to China's shipping sector. The study divided China's state support included direct subsidies, state financing, and other forms of state support.

Direct subsidies included "subsidies for exports, insurance, research and development, employment, and loan interest, as well as value-added tax rebates, income tax exemptions, and reduced port fees."[414] State financing included reducing the cost of borrowing, equity infusions, as well as lending and leasing practices.[415]

The report also identified other forms of state support, including state fundraising (referring to government-directed SOE support to other SOEs through "low-interest loans with preferential terms, debt forgiveness, government-mandated equity infusions, and low-interest bond issuance[s]"), indirect subsidies (referring to certain "subsidies and non-monetary support to adjacent industries (e.g., steel, oil, electricity, and real estate) that translate into reduced costs for shipping and shipbuilding companies), barriers for foreign firms (referring to domestic input requirements, import substitution, and export restrictions), consolidation policies, and forced technology transfer and intellectual property theft.

The report further identified areas of favorable regulatory and legal treatment, such as a government issuance "calling for Chinese companies to utilize 'cost, insurance, freight' (CIF) for export and 'free on board' for imports[,]" as well as citing a permissive regulatory environment for mergers and acquisitions that allows Chinese SOEs to scale without regard to possible anticompetitive outcomes.[416]

The report found that in the period of 2010 to 2018, China provided $5 billion in direct subsidies.[417] Specifically, the study found that 35 listed Chinese shipping and port management firms received $3.4 billion in total subsidies, while 12 listed Chinese shipbuilding companies received $2.1 billion in total subsidies.[418] Likewise, China's shipping industry received subsidies accounting for 1.2 to 1.4 percent of their annual total revenue in the period of 2007 to 2019.[419]

From 2010 to 2018, Chinese state-owned banks also provided $127 billion in financing to the shipping and shipbuilding sectors. In terms of lowering the cost of borrowing, the report calculated that favorable financing terms provided Chinese shipbuilding and shipping state-owned enterprises with more than $100 million in lower repayment costs each year, which is "an

[412] EMPIRICAL EVIDENCE FROM CHINA'S SHIPBUILDING INDUSTRY 2023 at 21.
[413] *Id.* at 21.
[414] HIDDEN HARBORS at 1.
[415] *Id*. at 5.
[416] *Id*. at 7.
[417] *Id*.
[418] *Id*. at 2.
[419] *Id*. at 3.

amount equal to 27 percent of the overall direct subsidies that China's listed SOEs in the shipping and shipbuilding industry received in 2019."[420] The report also assessed that Chinese banks' lending and leasing served "as an important pillar of support for China's largely state-owned domestic shipbuilding sector."[421] In total, China's state support equated to approximately $132 billion in just eight years.

Notably, neither study claimed to quantify the total value of China's wide-range of state-support mechanisms in the shipping or shipbuilding sectors. However, these studies do demonstrate that China's support of the maritime, logistics, and shipbuilding sectors is massive.

Although the above studies have attempted to estimate government support in China's shipbuilding sector, it is difficult to assess the full extent of government support. A frequent criticism is that there is a lack of data to fully assess China's government support due to the lack of transparency—from both the central and local governments, as well as the recipients. In a report, the OECD observed that more information is needed to understand which central SOEs and state-owned banks "substantiate China's industrial policies."[422] Further, China's major shipbuilding companies are opaque concerning their corporate governance structure, the total amount of subsidies received, and the extent to which they may benefit from government policies.[423] Therefore, the OECD stated:

> . . . given that government support may be provided at the central and local levels as well as at different segments of the value chain, and taken into account the network effects of key state-owned enterprises, the impact of the government support may be amplified. However[,] this report was unable to calculate the exact effect of this impact on the shipbuilding industry due to a lack of data. Therefore, more transparency is needed to promote a level playing field on government support.[424]

Other reports on China's shipbuilding industry have made similar observations. Barwick, Kaloptsidi, and Zahur similarly stated that "[t]he critical challenge in our analysis is the lack of information on the nature of government subsidies. . . 'systematic data are non-existent' and thus the presence and magnitude of such subsidies are often unknown."[425] CSIS also commented on the significant gaps in available and reliable data, noting the difficulty of quantifying when data is "hidden behind China's opaque lending and corporate reporting practices."[426]

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[420] *Id*. at 4.
[421] *Id*. at 6.
[422] OECD REPORT ON CHINA'S SHIPBUILDING INDUSTRY at 59.
[423] *Id.* at 59.
[424] *Id.* at 61. The OECD also stated, "the paucity of available data has restricted the Secretariat in undertaking a thorough evidence-based analysis. While drafting the report, it became clear that not all primary sources are publicly accessible. Additionally, only the companies that are listed on the stock market, and hence are required to issue public statements about their activities, were researched. Their parent companies are often not listed and were consequently not scrutinized in detail. This implies that the analysis may suffer from data gaps." *Id*. at 8.
[425] EMPIRICAL EVIDENCE FROM CHINA'S SHIPBUILDING INDUSTRY 2023 at 3.
[426] HIDDEN HARBORS at 3.

This opaqueness allows for China to hide the true extent of government support to the maritime, logistics, and shipbuilding sectors. For instance, the opaqueness of government support in below-market finance (e.g., preferential interest rates, government loan guarantees, government equity infusions, and below-market equity returns)[427] is particularly problematic in China. The OECD has remarked that it is difficult to obtain evidence on the magnitude of below-market finance, in particular government equity injections.[428] This is because of the way in which the financial support is provided—as both the provider and recipient are often state-owned, -invested, or -controlled enterprises. Specifically, China's shipping and shipbuilding state-owned enterprises "can sell equity under the guidance of their ultimate owner and regulator, SASAC, who not only supports such moves, but more importantly, often initiates the investment or orchestrates the investors."[429] This is problematic, however, because the fact that state-owned, -invested, or -controlled enterprises provide much of the support but are also recipients, "obscure[es] the actual extent of government assistance by giving what is in fact government policy the outward appearance of regular commercial transactions between two independent parties."[430] Indeed, of the 13 sectors reviewed by the OECD in assessing the use of below-market finance, the OECD found that the shipbuilding sector has the highest percentage of state entities in comparison with the other sectors.[431]

As a result of the data gaps, methodological issues arise as to how to identify and quantify below-market finance. The OECD has observed that below-market equity returns of government-invested firms are difficult to capture under existing SCM Agreement disciplines,[432] "which normally requires an *ex ante* subsidy assessment."[433] That is, it is difficult to capture "the recurring benefits that may stem from the behaviour of government shareholders, years after the initial government investment was made."[434] Further, it is difficult to quantify below-market equity returns "due to the inability to establish a clear counterfactual for firm profitability, *i.e.*, what would be the level of profit had shareholders behaved in a manner consistent with market principles."[435] On the other hand, an "*ex post* analysis is not practical or helpful for WTO Members, as it requires them to wait several years after a government has injected equity into a firm to determine the existence of a 'benefit'. By that time, the damage to trading partners may already be done."[436]

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[427] OECD Below Market Finance at 9-10.
[428] *Id*.
[429] HIDDEN HARBORS at 5.
[430] OECD Below Market Finance at 10.
[431] *Id*. at 28-29.
[432] The OECD has also questioned the ability of WTO Members to demonstrate the specificity of below-market finance programs. OECD Below Market Finance at 73-74 ("[I]t may be difficult for below-market borrowings to be deemed actionable under WTO provisions, in particular where legislation that instructs state banks or state funds to provide below-market finance to enterprises is opaque or non-existent. Moreover, given that government-invested banks routinely provide a myriad of loans to businesses, it might be challenging to identify how much of all loans provided were directed towards particular companies or sectors in order to demonstrate the *de facto* specificity of below-market borrowings. The challenges related to lack of information noted earlier in this section further compound these difficulties.").
[433] OECD Below Market Finance at 70.
[434] *Id.* at 70.
[435] *Id*.
[436] *Id.* at 71.

Therefore, although the studies by CSIS and Barwick, Kalouptsidi, and Zahur estimate a massive amount of support to the maritime, logistics, and shipbuilding sectors, the estimates are far from complete. China's opaqueness, its non-market economic structure, and its control of entities and sectors hides the true extent of support to the maritime, logistics and shipbuilding sectors, and makes it nearly impossible to fully assess the size and scale of the non-market advantages accruing to these sectors.

The following sections further detail below many of the non-market advantages that accrue to Chinese industries in the maritime, logistics, and shipbuilding sectors, and the implications that these advantages, as a whole, have for other economic sectors.

5. China's Targeting of These Sectors for Dominance Leads to the Accumulation of Non-Market Financial Support

- Through the expansion of ship financing and leasing by state-owned banks, China has tilted the global shipbuilding and shipping markets in its favor.
- China has also used financial support as a means to distort markets in its favor in other ways, including through China's "scrap and build" policy.
- China has implemented policies to leverage government financial support pursuant to its industrial restructuring goals through its "Whitelist."
- Beyond shipbuilding itself, the Chinese government provides upstream financial support for marine equipment.

China's industrial plans involving the maritime, logistics, and shipbuilding sectors involve a wide range of government-led financial support, including loans by state-owned banks, export credits, export insurance, ship financial leasing, tax incentives, investment funds, direct government grants, equity infusions and debt-for-equity swaps.

Through the expansion of ship financing and leasing by state-owned banks, China has tilted the global shipbuilding and shipping markets in its favor. After the 2008 Global Financial Crisis, Chinese banks took on the leading role in ship financing. As the OECD reported in 2019, Chinese shipping finance accounted for almost 40 percent of global new business since 2016.[437] While in 2008 there was no Chinese bank among the top 15 global shipping financiers, by 2018, three of the top 15 shipping portfolios were held by Chinese banks.[438] As of 2017, Bank of China, the Export-Import Bank of China (CEXIM) and the China Development Bank placed among the top 15 global shipping lenders.[439] In 2018, the first and fourth largest shipping lenders globally were the state-owned banks, CEXIM, and Bank of China, with portfolios totaling $33.5 billion.[440]

[437] OECD SHIP FINANCE PRACTICES IN MAJOR SHIPBUILDING ECONOMIES at 26.
[438] HIDDEN HARBORS at 6.
[439] OECD SHIP FINANCE PRACTICES IN MAJOR SHIPBUILDING ECONOMIES at 27.
[440] HIDDEN HARBORS at 6.

The OECD also reported in 2019 that, "[w]ith a wide variety of financing types such as [export credits], traditional debt financing, lease financing and private equity financing," China accounted for an estimated 20 percent of total ship finance volume since 2009." Furthermore, "[a]s of December 2017, … bilateral loans, ship mortgages and private placements of Chinese lenders including ICBC [Industrial and Commercial Bank of China], China Minsheng Banking Corp, Bank of Communications and China Merchants Bank accounted for as much as one-quarter of a ship-financing sector which is valued at USD200 billion a year, excluding leasing transactions."[441]

According to OECD reporting in 2019, since 2013, CEXIM's ship-related loans, alone, reached RMB 170 billion, accounting for 30 percent of the commercial value of China's ship export contracts. Among CEXIM's ship-related loans were $14 billion worth of shipping export buyer's credits, which facilitated the building of 365 ships and 24.37 million DWT offshore facilities ordered by 60 ship-owners worldwide at Chinese shipyard.[442]

CSIS has observed that financing through state-owned banks to the shipbuilding industry aligned with the banks' stated goals:

> Among the banks' stated goals are supporting China's foreign trade and investment and helping to "realize the Chinese dream of national rejuvenation," a signature slogan of Chinese leader Xi Jinping, underscoring their state-directed rather than purely commercially oriented approach. They provide financing for foreign-owned shipping companies as well, but those borrowers are required to purchase Chinese-built ships. This is a major benefit for companies, international and domestic, looking to expand their fleets, *but it also serves as an important pillar of support for China's largely state-owned domestic shipbuilding sector*.[443]

Additionally, as noted by the OECD, "Chinese leasing is continuing to expand in the global shipping industry."[444] China's top four financial leasing companies have combined shipping portfolios that went from $6 billion in 2011 to $32 billion in 2018.[445] CSIS estimated that between 2010 and 2018, the new business volume of China's state-owned, -invested, or -controlled banks and leasing companies totaled an estimated $127 billion.[446]

The growth of Chinese government support in ship financing and leasing has led to an increase in new orders to Chinese shipyards and an expansion of China's beneficial ownership of the world merchant fleet. As CSIS observed:

> Beijing's encouragement of domestic financial institutions to support its shipping sector through loans and financing channels new orders to Chinese shipbuilders and expands China's ownership of the world's merchant fleet. Between 2010 and 2019,

[441] OECD SHIP FINANCE PRACTICES IN MAJOR SHIPBUILDING ECONOMIES at 26-27.
[442] *Id*. at 28.
[443] HIDDEN HARBORS at 6 (emphasis added).
[444] SHIP FINANCE PRACTICES IN MAJOR SHIPBUILDING ECONOMIES.
[445] HIDDEN HARBORS at 6.
[446] *Id*. (observing that this was a conservative estimate).

> China's shipping capacity expanded four-fold . . . becoming the world's second-largest ship-owning country (in gross tons)."[447]

This conclusion is supported by the OECD, which also observed:

> [T]here are many examples of large orders made at Chinese state-owned yards that are commissioned by other Chinese state-owned enterprises, and that are financed by state-owned financial institutions such as export credit agencies and/or financial leasing houses. Some examples in 2019 were the newbuild orders at Marintec for the China State Shipbuilding Corporation (merger between CSIC and CSSC), accounting for USD 4 billion; the CSIC deal for 24 newbuilds and other projects, accounting for USD 2.8 billion; the order of 36 newbuild vessels by CSSC, corresponding to more than USD 1.5 billion; and the commissioning of 12 oil tankers for USD 650 million by the Bank of Communications Financial Leasing at Guangzhou and Shanghai Waigaoqiao shipyards.[448]

Several news reports indicate that foreign ship-owners have commissioned new orders at Chinese shipyards in exchange for favorable financing from the Chinese-backed financial institutions, despite the existence of technologically superior alternative suppliers.[449]

China has also used financial support as a means to distort markets in its favor in other ways. China's "scrap and build" policy subsidized the scrapping of ships before the end of their useful life to artificially accelerate demand during a period of market downturn. This policy helped Chinese shipbuilding companies gain market share. On top of mandatory scrapping requirements for transport ships and single-hull oil tankers,[450] China began offering subsidies to shipbuilding companies to voluntarily scrap eligible ships in 2010.[451] Originally envisioned to end in 2012, regulators extended the policy through 2015 and then 2017 before finally ending it.[452] In 2014, the payment structure of this policy was changed so that shipbuilding companies

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[447] *Id*. at 7.
[448] OECD SHIPBUILDING 2021 at 47.
[449] *See* Michael Herh, *Chinese Shipbuilders Likely to Win 1.35-Tril.-won Order from Hapag-Lloyd over Korean Companies*, BUS. KOR. (Apr. 8, 2020), https://www.businesskorea.co.kr/news/articleView.html?idxno=43893; John Snyder, *Chinese financing backs massive Qatar LNG carrier order, says analys*t, RIVIERA (May 29, 2020), https://www.rivieramm.com/news-content-hub/news-content-hub/chinese-financing-backs-massive-qatar-lng-carrier-order-says-analyst-59605. *See also* Virginia Marantidou, *Shipping Finance: China's New Tool in Becoming a Global Maritime Power*, JAMESTOWN FOUND. (Feb. 13, 2018), https://jamestown.org/program/shipping-finance-chinas-new-tool-becoming-global-maritime-power/ ("Chinese [export credit agency]-backed lenders prioritize lending to international firms who intend to build their ships in Chinese yards").
[450] *Announcement on Publishing the Implementation Plan for Early Elimination of Domestic Navigation Single-Hull Tankers* (MOT, [2009] No. 52, issued Dec. 8, 2009), https://xxgk.mot.gov.cn/2020/jigou/haishi/202006/t20200630_3318947.html; *Decision on Revising Administrative Rules for Old Transport Ships* (MOT, [2009] No. 14, issued Nov. 25, 2009), https://www.gov.cn/gongbao/content/2010/content_1620603.htm.
[451] *Central Fiscal Subsidies for Old Ships and Single-Hull Oil Tankers Early Retirement and Renewal* [Chinese], STATE COUNCIL (Jun. 28, 2010), https://www.gov.cn/gzdt/2010-06/28/content_1639098.htm.
[452] *Notice on Extending the Policy for the Early Retirement and Renewal of Old Ships and Single Hull Tankers* (MOT, MOF, NDRC, MIIT, Jiao Shui Fa [2015] No. 94, issued Jun. 23, 2015), https://xxgk.mot.gov.cn/2020/jigou/syj/202006/t20200623_3313539.html; *Implementation Plan for Accelerating Structural Adjustment and Promoting Transformation and Upgrading of the Shipbuilding Industry* (2013-2015) (State Council, Guo Fa [2013]

could receive subsidies before commissioning new ships, providing even greater incentive to scrap older vessels.[453] As a result, between 2012 and 2015, China outpaced the rest of world in both ship demolitions and new builds, according to the OECD.[454] By 2018, Chinese ship owners placed 90 percent of their orders with Chinese shipbuilding companies—a significantly higher rate of placing orders at domestic shipyards than shipowners from other major shipbuilders like Korea and Japan.[455] According to the OECD, this policy led to "the distortion of markets by favoring Chinese producers—especially SOEs—vis-à-vis foreign competitors."[456] While China never published the value of subsidies provided under the program, the OECD estimated the Chinese government spent $1.2 billion (RMB 8.59 billion) between 2010 and 2015.[457]

China continues to implement new programs similar to previous "scrap and build" policies. In March 2024, the State Council issued the *Action Plan for Promoting Largescale Equipment Upgrading and Consumer Goods Trade-Ins* to stimulate consumption in a slowing economy by providing tax incentives and other financial support to encourage companies to upgrade their equipment in shipbuilding, among other industries.[458] The plan aims to "accelerate the scrapping and upgrading of old ships with high energy consumption and high emissions" while promoting the development of clean energy-powered ships and associated infrastructure.[459] In July 2024, the NDRC and Ministry of Finance issued further details on implementation, specifying that they would arrange nearly $20.8 billion (RMB 150 billion) to further support the equipment upgrading policy.[460] The government will provide subsidies of $139 to $443 (RMB 1,000 to RMB 3,200) per gross ton for companies to scrap old inland and coastal ships and build clean energy ships.[461]

China has also implemented policies to leverage government financial support pursuant to its industrial restructuring goals. China issued a "Whitelist" of firms that received priority for government financial support to promote the concentration of the shipbuilding industry in the

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No. 729, issued Aug. 4, 2013), https://www.gov.cn/zhengce/content/2013-08/04/content_3027.htm; *Who Benefits Most from "Ship Scrapping Subsidies"* [Chinese], INT'L FIN. NEWS (Jul. 5, 2015), http://paper.people.com.cn/gjjrb/html/2015-07/06/content_1584156.htm.

[453] *Implementation Plan for the Early Retirement and Renewal of Old Ships and Single Hull Tankers* (MOT, MOF, NDRC, MIIT, Jiao Shui Fa [2013] No. 729, issued Dec. 9, 2013), https://xxgk.mot.gov.cn/2020/jigou/syj/202006/t20200623_3314113.html; *Subsidy Funds Front Loaded, Shipping Companies More Interested in Scrapping Than Shipbuilding* [Chinese], YICAI (Dec. 10, 2013), https://www.yicai.com/news/3202334.html.

[454] OECD, IMBALANCES IN THE SHIPBUILDING INDUSTRY AND ASSESSMENT OF POLICY RESPONSES 96 (Apr. 19, 2017).

[455] OECD, INTERNATIONAL TRANSPORT FORUM, MARITIME SUBSIDIES: DO THEY PROVIDE VALUE FOR MONEY? 44 (2019).

[456] OECD, REPORT ON CHINA'S SHIPBUILDING INDUSTRY AND POLICIES AFFECTING IT, OECD SCI., TECH., AND INDUS. POL'Y PAPERS NO. 105 (Apr. 2021) at 12 (hereinafter OECD REPORT ON CHINA'S SHIPBUILDING INDUSTRY).

[457] OECD, IMBALANCES IN THE SHIPBUILDING INDUSTRY AND ASSESSMENT OF POLICY RESPONSES 44.

[458] *Action Plan for Promoting Largescale Equipment Upgrading and Consumer Goods Trade-Ins* Art. 2.1 (State Council, Guo Fa [2024] No. 7, issued Mar. 7, 2024), https://www.gov.cn/zhengce/content/202403/content_6939232.htm.

[459] *Id.* at Art. 2.3.

[460] *Our Country Has Arranged About RMB 300 billion of Ultra-Long-Term Special Treasury Bonds to Support Large-Scale Equipment Upgrades and Consumer Goods Trade-Ins*, STATE COUNCIL (Jul. 27, 2024), https://www.gov.cn/zhengce/202407/content_6964708.htm.

[461] *Several Measures on Further Supporting Large-Scale Equipment Updates and Consumer Goods Trade-Ins* (NDRC, MOF, Fa Gai Huan Zi [2024] No. 1104, issued Jul. 24, 2024), https://www.gov.cn/zhengce/zhengceku/202407/content_6964409.htm.

wake of the Global Financial Crisis of 2008.[462] Specifically, the 2013 policy document, *Shipbuilding Industry Standards and Conditions* "instructed the government to periodically announce a list of selected firms that 'meet the industry standard.'"[463] The government evaluated enterprises based on their ability to meet technical standards, environmental standards, energy efficiency standards, safety standards, and spend at least two percent of revenue on R&D.[464] These standards helped to bolster China's most competitive shipbuilders in its drive to dominate the industry while creating a barrier for new market entrants. The Whitelist initially included 50 firms in 2014.[465] As shipyards consolidated and circumstances of shipyards changed, the composition of the Whitelist changed.[466] Between 2014 and 2019 when the policy was revoked, MIIT issued four lists containing a total of 77 shipbuilding firms eligible for support (though seven firms were later removed).[467]

Table 3: Foreign and State Ownership of Firms on China's Shipbuilding Whitelist[468]

Whitelist Batch	Dates Effective	Companies	% Foreign-Invested	% SOEs
1	Sep. 28, 2014	50	12%	58%
2	Dec. 31, 2014	60	10%	58%
3	Dec. 30, 2015	71	8%	56%
4	May 12, 2017	70	10%	57%

The effectiveness of China's Whitelist to promote consolidation of shipbuilding is evident as between 2010 and 2019 the number of active shipyards fell in China from 379 to

[462] OECD REPORT ON CHINA'S SHIPBUILDING INDUSTRY at 8; EMPIRICAL EVIDENCE FROM CHINA'S SHIPBUILDING INDUSTRY 2023 at 7.
[463] EMPIRICAL EVIDENCE FROM CHINA'S SHIPBUILDING INDUSTRY 2023 at 7.
[464] *MIIT Issues Interpretation of "Shipbuilding Industry Standards and Conditions* [Chinese], MIIT (Dec. 13, 2013), https://www.gov.cn/gzdt/2013-12/13/content_2547244.htm; *Shipbuilding Industry Standards and Conditions* (MIIT, [2013] No. 55, issued Nov. 13, 2013), https://www.gov.cn/govweb/zwgk/2013-11/13/content_2526496.htm.
[465] *List of Enterprises Compatible with "Shipbuilding Industry Standards and Conditions" (Batch 1)* (MIIT, issued Sep. 29, 2014), https://www.gov.cn/xinwen/2014-09/29/content_2758727.htm
[466] *See, e.g.*, *China white list shipyards set for reshuffling*, SEATRADE MARITIME NEWS (May 15, 2017), https://www.seatrade-maritime.com/asia/china-white-list-shipyards-set-reshuffling.
[467] *List of Enterprises Compatible with "Shipbuilding Industry Standards and Conditions" (Batch 1)* (MIIT, issued Sep. 29, 2014), https://www.gov.cn/xinwen/2014-09/29/content_2758727.htm; *List of Enterprises Compatible with "Shipbuilding Industry Standards and Conditions" (Batch 2)* (MIIT, [2014] No. 89, issued Dec. 31, 2014), https://www.miit.gov.cn/zwgk/zcwj/wjfb/gg/art/2020/art_c12fca9285664b098058dd5fc6216c80.html; *List of Enterprises Compatible with "Shipbuilding Industry Standards and Conditions" (Batch 3)* (MIIT, [2015] No. 94, issued Dec. 30, 2015), https://www.miit.gov.cn/zwgk/zcwj/wjfb/gg/art/2020/art_69dac6f1e63a4d5eaf22914658792db7.html; *MIIT Announcement* (MIIT, [2017] No. 22, issued May 12, 2017), https://www.miit.gov.cn/jgsj/zbes/cbgy/art/2020/art_bca908bc55f842e7a7111d5afdce0145.html; *MIIT Announcement* (MIIT, [2019] No. 13, issued Apr. 2, 2019), https://www.gov.cn/zhengce/zhengceku/2019-09/30/content_5435408.htm.
[468] Based on USTR analysis of China's shipbuilding whitelists. Batch 4 also includes a separate list of removed companies issued the same day. Company count and percentages are cumulative. The seven foreign-invested firms on the whitelist do not include the three Hong Kong-invested companies on the whitelist, though they are technically treated as foreign enterprises under mainland Chinese law. One of the foreign-invested companies is wholly foreign-owned while the others are all joint ventures.

117.[469] The number of private yards also fell—from 305 in 2009 to around 40 in 2019.[470] The OECD observed, "[a]pproximately 200 of the yards that were closed were in fact opened only 10 to 15 years before, raising the question why these shipyards were opened in the first place and suggesting the corresponding capacity expansion was not required by the market."[471] Further, although the Whitelist was terminated in March 2019, China remained the largest shipbuilding economy in 2019.

Until the termination of the Whitelist in 2019, "[i]n practice, favorable financing terms and capital market access [were] often limited to firms on the Whitelist post 2014."[472] Indeed, inclusion on the Whitelist gave shipyards access to "favorable policy support," including export tax rebates and better access to credit at state-owned banks.[473] On the other hand, shipyards not on the list could be targeted for closure, and "will not be able to get bank loans and may become a target for restructuring."[474] As one report remarked:

> As for those "unlisted" yards, even if they are actually decent and reliable, they could be forced to shut down if access to both bank loans and government support is totally cut off. To put it crudely, those that do not make it to the "white list" are in fact "blacklisted".[475]

Even following the termination of the Whitelist, the government continues to provide financial support to China's shipbuilding industry to ensure dominance in the sector. As the OECD observed, "[f]inancial policies are of particular importance in the shipbuilding sector as cheap financing is one of the key factors for concluding an order."[476] This is because financial support is critical to shipping companies to refinance their debts, sustain their working capital, and acquire vessels. Shipyards also need to finance their working capital before delivering orders and receiving full payments.[477] The OECD describes that there are two main sources of capital allowing shipping companies to finance their businesses; raising money through equity financing (sales of shares) or debt (loans and bonds).[478] In the case of shipbuilding, debt

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[469] OECD, Report on China's Shipbuilding Industry and Policies Affecting It at 10.
[470] *China Eliminates Shipyard "White List"*, MARITIME EXECUTIVE (Apr. 3, 2019), https://maritime-executive.com/article/china-eliminates-shipyard-white-list; Safety4Sea, *China Abolishes Shipyards White List*, April 4, 2019, https://safety4sea.com/china-abolishes-shipyards-white-list/.
[471] OECD, Report on China's Shipbuilding Industry and Policies Affecting It at 61.
[472] EMPIRICAL EVIDENCE FROM CHINA'S SHIPBUILDING INDUSTRY 2023 at 7 n. 4.
[473] *China publishes first "white list" of 51 shipyards,* REUTERS (Sept. 4, 2014) https://www.reuters.com/article/idUSL5N0R50N9/; *China Eliminates Shipyard "White List"*, THE MARITIME EXECUTIVE, April 3, 2019, https://maritime-executive.com/article/china-eliminates-shipyard-white-list.
[474] Shinjun Ko & Takeshi Shinoda, *Analysis of China Shipbuilding Policies*, Spring Meeting of Japan Society of Naval Architects and Ocean Engineers, March 24, 2017, https://www.jstage.jst.go.jp/article/conf/24/0/24_535/_pdf/-char/ja, at 536. *See also* Safety4Sea, *China Abolishes Shipyards White List*, April 4, 2019, https://safety4sea.com/china-abolishes-shipyards-white-list/ ("The list had received criticism from several private shipyards in China, claiming that it had eliminated them from favourable policies and had made it difficult to receive financing.").
[475] Lee Hong Liang, *Does China's shipbuilding 'white list' create a blacklist?*, SEATRADE MARITIME NEWS (Sept. 16, 2014), https://www.seatrade-maritime.com/shipyards/does-china-s-shipbuilding-white-list-create-a-blacklist-.
[476] OECD SHIPBUILDING 2021 at 46.
[477] OECD SHIP FINANCE PRACTICES at 8.
[478] *Ship Finance Practices in Major Shipbuilding Economies*, OECD Science, Technology and Industry Policy Papers, August 2019 (OECD Ship Finance Practices) at 13.

financing includes using leasing schemes, loans and bonds.[479] Given the fact that the maritime industry is highly capital intensive, and with the 2008 Global Financial Crisis' depressing effects on global economy and international trade, financing has become critical for the shipbuilding sector and shipping companies around the world. Further, as observed by Japanese shipbuilding experts, after the COVID-19 pandemic:

> Chinese financial institutions effectively supported Chinese shipyards to resume the production by rapidly issuing the guarantees, increasing credit support, lowering financing costs, and place new orders etc., to stabilize the development of China's shipbuilding industry and boost the confidence of Chinese shipyards. Chinese financial leasing institutions placed new orders around 4 million deadweight [tons] at Chinese shipyards, accounting for 32% of the total new orders.[480]

Beyond shipbuilding itself, the Chinese government also provides upstream financial support for marine equipment. For example, in 2015, China instituted an insurance premium subsidy policy to support maritime engineering equipment and high-technology ship equipment, among other kinds of "key technical equipment" related to MIC2025.[481] It subsidized insurance premiums for locally-developed, new-to-market technical equipment to encourage commercial adoption by reducing the risk of companies purchasing the equipment and supporting manufacturers if they had to repair or replace equipment. China continues to implement this policy and issued updated requirements in May 2024, which require companies to "possess indigenous intellectual property" to qualify for the subsidies.[482]

In sum, unfair, non-market government financial support accruing to the shipbuilding and related industries facilitates and continues to ensure China's targeting and dominance of these sectors. Importantly, use of government financial support is *one* of the non-market advantages that contributes to China's goal for dominance in the maritime, logistics, and shipbuilding sectors, but it is not the only advantage. As discussed throughout this report, it is the various non-market advantages, taken together, that accrue to Chinese industries, that are unreasonably utilized by China to achieve its targeting for dominance in the maritime, logistics, and shipbuilding sectors.

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[479] OECD Ship Finance Practices at 13.

[480] Shinjun Ko & Takeshi Shinoda, *An Update of China's Shipbuilding Industry*, Spring Meeting of Japan Society of Naval Architects and Ocean Engineers (May 24, 2021), https://www.jstage.jst.go.jp/article/conf/32/0/32_385/_pdf/-char/en, at 386.

[481] *Notice on Launching a Pilot Program for the Insurance Compensation Mechanism for the First Unit (Set) of Key Technical Equipment* (MOF, MIIT, CIRC, Cai Jian [2015] No. 19, issued Feb. 2, 2015), https://www.gov.cn/zhengce/2015-02/02/content_5023520.htm.

[482] *Opinions on Further Improving Insurance Compensation Policies for the First Unit (Set) of Major Technical Equipment and First Batch of New Materials*, Art. 2.1 (MIIT, MOF, NFRA, Gong Xin Bu Lian Zhong Zhuang [2024] No. 89, issued May 24, 2024), https://www.gov.cn/zhengce/zhengceku/202406/content_6956048.htm.

6. Non-Market Excess Capacity in China's Steel Sector Benefits its Maritime, Logistics, and Shipbuilding Sectors

- Non-market excess capacity in the Chinese steel sector boosts the price competitiveness of China's downstream manufacturing industries in international markets, including the shipbuilding sector, through the provision of artificially low-priced steel.

Because of its state-led approach to the economy, China is the world's leading source of non-market excess capacity, as evidenced by its creation of capacity in several industries well in excess of capacity generated by market-oriented actors under market conditions. In manufacturing industries such as steel, a critical input for China's shipbuilding industry, China's economic planners have contributed to massive non-market excess capacity through market-distorting government interventions and other non-market measures.[483] As USTR has previously summarized:

> From 2000 to 2022, China accounted for 72 percent of global steelmaking capacity growth, an increase well in excess of the increase in global and Chinese demand over the same period. Currently, China's capacity represents about one-half of global capacity and more than twice the combined steelmaking capacity of the EU, Japan, the United States, Canada, Mexico and Brazil.
>
> At the same time, China's steel production is continually reaching new highs, eclipsing demand. In 2020, China's steel production climbed above one billion metric tons for the first time, reaching 1,065 million metric tons, a seven percent increase from 2019, and remained high at 1,018 million metric tons in 2022, despite a significant contraction in domestic steel demand.[484]

Non-market excess capacity in the Chinese steel sector boosts the price competitiveness of China's downstream manufacturing industries in international markets, including the shipbuilding sector, through the provision of artificially low-priced steel or preferential supply. In the shipbuilding industry, steel constitutes a significant percentage of a vessel's cost. However, reports indicate that Chinese steel is substantially cheaper than in market-oriented economies. For example, the OECD has noted that "Chinese steel prices are significantly lower than Japanese and European ones . . . in some periods up to 50% compared to (South) European prices and 60% lower than Japanese prices."[485] Similarly, in April 2022, one news outlet reported that heavy steel plate used in shipbuilding produced in China for Chinese yards cost approximately $800 per ton, whereas Korean shipyards paid approximately $1,027 per ton (KRW 1.3 million).[486]

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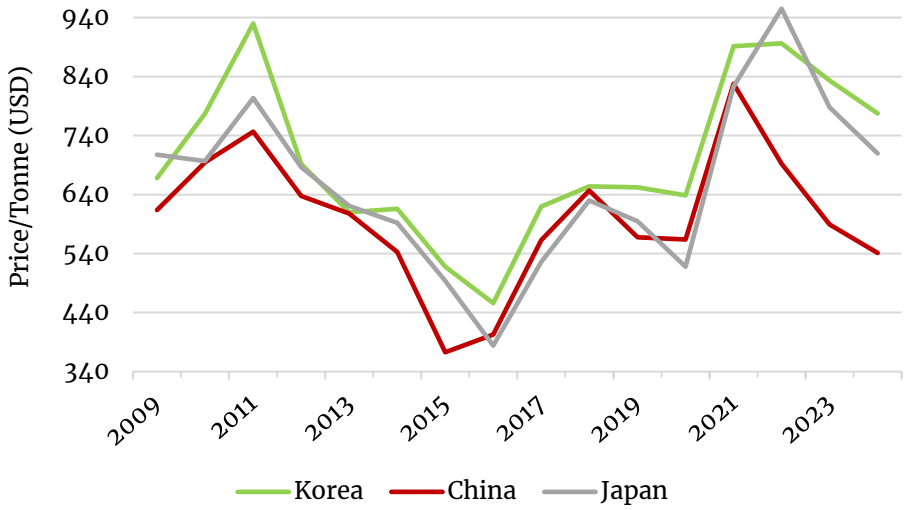
[483] 2023 REPORT ON CHINA'S WTO COMPLIANCE 35; ANTHONY DE CARVALHO & RODRIGO PAZOS, STEEL EXPORTS, TRADE REMEDY ACTIONS AND SOURCES OF EXCESS CAPACITY 6 (May 2024),
[484] 2023 REPORT ON CHINA'S WTO COMPLIANCE.
[485] OECD, AN ANALYSIS OF MARKET-DISTORTING FACTORS IN SHIPBUILDING (Apr. 12, 2019), https://www.oecd.org/en/publications/an-analysis-of-market-distorting-factors-in-shipbuilding_b39ade10-en.html8.
[486] Sam Chambers, *Asian shipyards contend with spiralling steel plate costs*, SPLASH 247 (April 28, 2022), https://splash247.com/asian-shipyards-contend-with-spiralling-steel-plate-costs/.

Figure 8: Steel Ship Plate Commodity Price[487]



While state-directed mergers and acquisitions in the Chinese steel sector have been framed as a means for increasing efficiency and reducing excess capacity, they have rather been contributing factors. In 2009, China's State Council issued the *Steel Industry Adjustment and Revitalization Plan*, which set a target of China's five largest steel groups controlling 45 percent or more of total national production capacity, with at least 40 percent of production capacity concentrated along rivers and in coastal regions. This plan and other industry policy measures including the *14th Five-Year Plan for Development of Raw Materials Industries* (2021), the *Guiding Opinion Regarding Promoting High Quality Development in the Steel Industry* (2022), and the *Work Plan for Stable Growth in the Steel Industry* (2023) also refer to "capacity replacement policy support" for steel firms engaging in mergers and reorganizations, which effectively exempted these firms from otherwise stated prohibitions on new projects without elimination of an equal or greater amount of existing capacity.[488] Despite an acknowledgement in 2009 by the State Council of the significant growth in "surplus production capacity" and the preceding announced policy measures to address it, China's crude steelmaking capacity continued to increase, rising from 980 million metric tons in 2009 to 1.142 billion metric tons in 2023.[489] During this period, Chinese state-owned steel producers increased production and consolidated Chinese and global market share. Between 2009 and 2023, the top four Chinese

[487] Based on data from Clarksons Research.

[488] Alan H. Price, Robert E. DeFrancesco, III and Adam M. Teslik, *Shell Game: Case Studies in Chinese Steel Subsidies*, WILEY REIN LLP (2024), https://www.wiley.law/assets/htmldocuments/Wiley_Shell%20Game%20Case%20Studies%20in%20Chinese%20Steel%20Subsidies_2024.pdf.

[489] *Iron and Steel Industry Restructuring and Revitalization Plan* Art. 1 [English] (State Council", issued Mar. 20, 2009), https://www.industry.gov.au/sites/default/files/adc/public-record/009-application_attachment-b-3.1.2-onesteel_manufacturing_pty_ltd_0.pdf; *OECD Data Explorer-Archive-Steelmaking Capacity*, OECD (Mar. 21, 2024), https://data-explorer.oecd.org/vis?tenant=archive&df[ds]=DisseminateArchiveDMZ&df[id]=DF_STI_STEEL_MAKINGCAPACITY&df[ag]=OECD&dq=..&pd=2007%2C&to[TIME_PERIOD]=false; Anthony de Carvalho & Nasanobu Nakamizu, OECD, LATEST DEVELOPMENTS IN STEELMAKING CAPACITY AND OUTLOOK UNTIL 2026 (Jun. 12, 2024)(hereinafter "OECD STEEL OUTLOOK UNTIL 2026").

steel SOEs' share of domestic and global crude steel production alone increased from 14.1 percent to 25.8 percent and from 6.5 percent to 13.9 percent, respectively.[490]

In its 2023 Results Report, the Global Forum on Steel Excess Capacity (GFSEC), a multilateral body facilitated by the OECD, found that "excess capacity in the Chinese steel industry is depressing domestic prices for crude steel products and encouraging production and indirect exports of steel-containing goods". The Results Report also noted that "a situation where steel excess capacity starts to build in downstream sectors of the steel market. . . and artificially boost(s) the price competitiveness of those sectors is an additional cause of concern".[491] Additional research by the OECD acknowledges that China's exports of indirect steel products, including boats and floating structures classified under Harmonized Tariff Schedule Chapter 89, have increased steadily in the last decade while exports of similar products from major steel-making economies such as India, Japan, and the EU have remained stable or declined in the case of the United States and South Korea. A rapid increase in Chinese exports of these products in 2017 coincided with a significant buildup of Chinese capacity and reduction in Chinese direct steel exports, leading the OECD to conclude that a substitution effect along the Chinese steel value chain may have taken place. Chinese exports of steel intensive products continued to increase significantly in volume terms over the last five years.[492]

Excess capacity in the steel sector has grown following China's withdrawal from the GFSEC in 2019.[493] The OECD projects that excess capacity will expand in the coming years as Chinese steel producers, including state-owned enterprises, continue to invest in new capacity in China and abroad despite a weak demand outlook.[494] This non-market excess capacity will continue to benefit Chinese manufacturers, including shipbuilders, through artificially lower input costs, which will in turn result in their products undercutting prices in competitive international markets.

[490] Centrally state-owned Baosteel's production increased from 31.3 million metric tons (MMT) in 2009 to 131.8 MMT in 2023 while state-owned Ansteel's and Shougang Group's production increased from 21.1 and 15.1 MMT to 55.7 and 33.8 MMT, respectively. China's fourth largest steel SOE in 2009, Wuhan, is now a subsidiary of Baosteel and HBIS is now China's fourth largest steel SOE, producing 41.3 MMT in 2023. *Top-steel producing companies 2023/2022*, WORLD STEEL ASS'N, https://worldsteel.org/data/top-producers/ (undated).
[491] THE GLOBAL FORUM ON STEEL EXCESS CAPACITY, 2023 GFSEC RESULTS REPORT 3, https://www.steelforum.org/GFSEC-results-report-2023.pdf.
[492] OECD, STEEL TRADE AND TRADE POLICY DEVELOPMENTS 18-19 (Jan. 12, 2024), https://one.oecd.org/document/DSTI/SC(2023)15/FINAL/en/pdf.
[493] Multilateral efforts to address excess capacity in the steel sector remain ongoing.
[494] OECD STEEL OUTLOOK UNTIL 2026 at 4, 7.

7. China's Unfair Labor Practices in the Maritime, Logistics, and Shipbuilding Sectors Provide Non-Market Advantages to Chinese Industries and Enterprises

- China lack of effective labor rights harms Chinese workers and provides non-market advantages to China's maritime, logistics, and shipbuilding industries and enterprises.
- Anecdotal media and non-governmental organization reports indicate that workplace accidents in the maritime, logistics, and shipbuilding sectors in China were recurrent.
- Chinese companies in the maritime global value chain have been found to be complicit in China's labor transfer schemes.
- A number of institutional constraints, such as China's hukou system, limit the extent to which market forces contribute to wage formation in China.
- These labor practices provide substantial support to Chinese companies and create significant competitive disadvantages for competitors in the United States and other market-oriented economies.

China's lack of effective labor rights across the maritime, logistics, and shipbuilding sectors result in unfair non-market advantages to these sectors due to China's targeting of these sectors for dominance. The International Labour Organization (ILO) recognizes that freedom of association and the effective recognition of the right to collective bargaining; the elimination of all forms of forced or compulsory labor; and a safe and healthy working environment, are all fundamental principles and rights at work.[495] As a member of the ILO, China has an obligation to respect, promote and realize these principles in good faith. However, under Chinese law workers are not free to organize or join unions of their own choosing, and so lack an effective right to freedom of association, nor does Chinese law provide for a legal obligation for employers to negotiate in good faith, or at all, with respect to collective bargaining. As a result, China does not effectively recognize workers' right to collective bargaining, including in the maritime, logistics, and shipbuilding sectors.

Furthermore, as a member of the ILO, China has an obligation to promote and to realize, in good faith, the principles concerning the fundamental right to a safe and healthy working environment, but anecdotal media and non-governmental organization reports indicate that workplace accidents in the maritime, logistics, and shipbuilding sectors in China were recurrent.

China's state-sponsored labor transfer schemes are also complicit in the use of forced labor, in contravention of their obligations under the ILO. Chinese companies in the maritime global value chain have been found to be complicit in China's labor transfer schemes.

Lastly, a number of institutional constraints, such as China's hukou system, limit the extent to which market forces contribute to wage formation in China.

[495] ILO Declaration on Fundamental Principles and Rights at Work and its Follow-up, as amended in 2022.

These labor practices provide substantial support to Chinese companies and create significant competitive disadvantages for competitors in the United States and other market-oriented economies.

a. Lack of Freedom of Association and the Effective Recognition of the Right to Collective Bargaining

The ILO recognizes freedom of association and the effective recognition of collective bargaining as a fundamental principle and right at work.[496] In the labor context, freedom of association is the right of workers and employers to organize to defend their interests, including for the purpose of negotiating salaries, benefits, and other conditions of work. The right to strike is linked to the right to freedom of association, which cannot be realized without protecting the right to strike. The ability of worker to collectively bargain is an essential element of freedom of association, as it helps to ensure that workers and employers have an equal voice in negotiations and provides workers the opportunity to seek to improve their living and working conditions. These rights are fundamental and underpin worker representation and governance.[497]

China's law does not provide for freedom of association and the effective recognition of collective bargaining as workers are not free to organize or join unions of their own choosing and there is no obligation for employers to negotiate in good faith with respect to collective bargaining. The All-China Federation of Trade Unions (ACFTU), which is subject to CCP control, has a legal monopoly on all trade union activities in China. The ACFTU has been China's sole official trade union since the founding of the People's Republic of China in 1949. The CCP continues to effectively maintain the primacy of the ACFTU and prevents the emergence of independent labor organizations.[498] Under Chinese law, workers are not allowed to organize or join unions that are not approved by the state.

Moreover, the ACFTU and the CCP use a variety of mechanisms to influence the selection of trade union representatives. Although the law states that trade union officers at each level should be elected, ACFTU-affiliated unions appoint most factory-level union officers, often in coordination with employers. Official union leaders are often drawn from the ranks of management. Direct election by workers of union leaders is rare, occurs only at the enterprise level, and is subject to supervision by higher levels of the union or the CCP. In enterprises where direct election of union officers takes place, regional ACFTU officers and local CCP authorities retain control over the selection and approval of candidates.[499]

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[496] *Id*.

[497] *Id.; see also What Are Workers' Rights?* U.S. DEP'T OF LABOR, https://www.dol.gov/agencies/ilab/our-work/workers-rights.

[498] *See*, *e.g.*, 2022 COUNTRY REPORTS ON HUMAN RIGHTS PRACTICES: CHINA (INCLUDES HONG KONG, MACAU, AND TIBET), U.S. DEP'T OF STATE, https://www.state.gov/reports/2022-country-reports-on-human-rights-practices/china/; *see also Trade Union Law of the People's Republic of China* (Standing Committee of the NPC, Order No. 107 of the President of the PRC, issued Dec. 24, 2021), https://www.mohrss.gov.cn/xxgk2020/fdzdgknr/zcfg/fl/202011/t20201102_394624.html.

[499] Even in these cases, workers and non-governmental organizations have expressed concern regarding the credibility of elections.

Chinese law gives the ACFTU financial and administrative control over constituent unions empowered to represent employees in negotiating and signing collective contracts with enterprises and public institutions. Chinese law provides for industrial sector-wide or regional collective contracts, and enterprise-level collective contracts are generally compulsory throughout the country. There is no legal obligation for employers to negotiate or to bargain in good faith, and some employers refuse to do so. Most collective contracts simply restate wage and hour terms already established by law.

China's law does not protect the right to strike. The only legally specified roles for the ACFTU in strikes are to participate in investigations and to assist the Ministry of Human Resources and Social Security in resolving disputes.[500] Likewise, China's law does not protect workers who request or take part in collective negotiations with their employers independent of the officially recognized union. As a result, workers who try to exercise their rights outside of the official unions are subject to penalties.[501]

As a result, limited collective bargaining power constrains real wage growth and frustrates worker efforts to secure a fair wage.[502]

b. Inadequate Safe and Healthy Working Environments

As recognized by the ILO, a safe and healthy working environment is a fundamental principle and right at work.[503] As a member of the ILO, China has an obligation to promote and to realize, in good faith, the principles concerning the fundamental right to a safe and healthy working environment.

As a preliminary matter, it should be noted that China does not make data on worker deaths and injuries by industry publicly available, unlike the United States.[504] The opacity on worker injury data and low reliability of what is reported signifies the Chinese government's lack of concern for workers' welfare and safety. Yet despite China's opacity, anecdotal media and non-governmental organization reports indicate that workplace accidents in the maritime, logistics, and shipbuilding sectors were recurrent. For example, just in the last four years:

- Four people died of suffocation in a cargo ship in Yichun, Jiangxi province;
- 12 people died and 13 people were injured in a ship rollover in Lulong, Hebei province;

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[500] *See*, *e.g.*, U.S. DEP'T OF STATE, COUNTRY REPORTS ON HUMAN RIGHTS PRACTICES: CHINA (INCLUDES HONG KONG, MACAU, AND TIBET) (2023).
[501] *See Id*. ("In cases where local authorities cracked down on strikes, they sometimes charged leaders with vague criminal offenses, such as 'inciting subversion of state power,' 'picking quarrels and provoking trouble,' 'gathering a crowd to disturb public order,' or 'damaging production operations,' or detained them without charges.").
[502] *See* U.S. DEP'T OF COMM., CHINA NON-MARKET ECONOMY REVIEW 26 (Oct. 26, 2017).
[503] ILO *Declaration on Fundamental Principles and Rights at Work and its Follow-Up (1998),* as amended in 2022. *See A safe and healthy working environment is a fundamental principle ond right at work*, INT'L LABOUR ORG., https://www.ilo.org/topics/safe-and-healthy-working-environment-fundamental-principle-and-right-work.
[504] For the United States, see *Average Annual U.S. Maritime Employment and Fatal/Nonfatal Injury and Illness Rates, 2011–2017*, NAT'L INST. FOR OCCUPATIONAL SAFETY & HEALTH (May 2, 2024), https://www.cdc.gov/niosh/maritime/about/index.html.

- Three people died when a gantry crane collapsed in a ship factory in Anhui province;[505]
- Four people died during a shipyard fire;
- Seven people died and five people were injured in a ship manufacturing accident in Hebei province;
- Nine people died and three people were injured when a ship sunk near Shandong province;
- 16 people were injured when a ship caught fire near Shandong province;
- Three people died in a shipyard accident in Tianjin;
- Three people died and two people were injured while working a shipyard in Zhejiang province; and,
- Three people died in a shipyard explosion in Sichuan province.[506]

These incidents do not count the numerous deaths and injuries prevalent in mining and heavy industries supporting China's maritime, logistics, and shipbuilding sectors. Media and NGO reports have attributed occupational safety and health incidents in China to a lack of safety checks, weak enforcement of laws and regulations, ineffective supervision, and inadequate emergency responses.[507]

c. The Use of Forced or Compulsory Labor

The ILO recognizes the elimination of all forms of forced or compulsory labor as a fundamental principle and right at work that all members of the ILO have an obligation to respect, promote, and realize, in good faith.[508] In addition to this obligation, China has ratified the *Forced Labour Convention, 1930* (No. 29) and the *Abolition of Forced Labour Convention, 1957* (No. 105), undertaking the specific obligations within those conventions, including the obligation to "suppress the use of forced or compulsory labour in all its forms within the shortest possible period" (No. 29) and "not to make use of any form of forced or compulsory labour" in particular circumstances. These circumstances include the use of forced labor: "as a means of political coercion or as a punishment for holding or expressing political views or views ideologically opposed to the established political, social, or economic system"; as "a method of mobilizing and using labour for purposes of economic development; and "as a means of racial, social, national or religious discrimination."[509] As is discussed further below, China's state-sponsored labor transfer schemes are complicit in the use of forced labor, in contravention of their obligations under the ILO.

In February 2024, the ILO offered a new definition of "state-imposed forced labor" when it stated that the term "refers to forms of forced labor imposed by state authorities, agents acting on behalf of state authorities, and organizations with authority similar to the state."[510] Their

[505] *High Winds Topple Gantry Crane at Wuhu Shipyard, Killing Three,* MARITIME EXECUTIVE (Jun. 12, 2023), https://maritime-executive.com/article/high-winds-topple-gantry-crane-at-wuhu-shipyard-killing-three
[506] China Labor Bulletin, Accident Map, https://maps.clb.org.hk/?i18n_language=en_US&map=2&startDate=2022-06&endDate=2022-06&eventId=20220707132548476 86&keyword=ship (last visited Jan 16 2025).
[507] *See*, *e.g.*, *Work safety*, CHINA LABOUR BULLETIN (Sep. 12, 2021), https://clb.org.hk/en/content/work-safety.
[508] ILO *Declaration on Fundamental Principles and Rights at Work and its Follow-Up (1998),* as amended in 2022
[509] Abolition of Forced Labour Convention, 1957 (No. 105).
[510] ILO, HARD TO SEE, HARDER TO COUNT: HANDBOOK ON FORCED LABOUR SURVEYS 148 (3d ed. 2024), https://www.dol.gov/agencies/ilab/hard-see-harder-countsurvey-guidelines-estimate-forced-labour-adults-and-children.

guidance continues to delineate the means of coercion typical of state-imposed forced labor: "state-imposed forced labor operates through a pervasively coercive wider social context marked by a general lack of civic freedoms and a state apparatus that generates powerful coercive pressures through an extensive grassroots apparatus consisting of state and non-state institutions. Non-cooperation entails a systemic risk that is often more implicit than overt. Those who fail to comply risk a broad range of ramifications by the state, including loss of income, harassment, violence, or detention."[511] The ILO guidance identifies indicators of forced labor that reveal state leverage in the imposition of forced labor:

- Evidence of a state policy or state-sanctioned custom, as expressed in laws, high-level policy documents, administrative instructions, or institutional mandates that directly or indirectly legitimizes the use of involuntariness or coercion (alternatively: coercive pressures by state authorities) in human resource allocation;
- Evidence of a state policy that instrumentalizes employment or work for political objectives such as aligning political views with those of the established political, social, or economic system, altering the population composition in particular areas or enhancing national security;
- Evidence of a state policy that restricts job or geographical mobility for economic, social, cultural, or political purposes;
- The presence of a coercive environment (a significantly reduced civic space manifested in systemic restrictions of fundamental freedoms and enhanced surveillance), a comprehensive mechanism for pressure-driven labor mobilization, or a state policy mandating work or production targets for targeted populations;
- Evidence of a state policy or state-sanctioned practice that causes or perpetuates the disadvantaged position or vulnerabilities of racial, social, national, or religious groups.

These indicators are present in the state-sponsored labor transfer schemes in the Xinjiang Uyghur Autonomous Region. Further, Chinese companies in the maritime global value chain have been found to be complicit in China's labor transfer schemes.

For example, China Baowu Steel Group ("Baowu Steel") is the world's largest steel producer by output in 2023[512], and is a central state-owned enterprise completely owned by China's SASAC.[513] Public reporting shows that Baowu Steel acts as a primary supplier of steel plates for major Chinese shipbuilders:

- In December 2023, Baowu Steel and CSSC signed a strategic cooperation agreement to deepen communication and cooperation.
- In August 2023, Baowu Steel was awarded a supplier order from Xiamen Shipbuilding Heavy Industries, a subsidiary of provincial SOE Fujian Shipbuilding Group, to

[511] *Id*. at 149.
[512] *World Steel Statistics 2024 – Major steel producing companies in 2023*, WORLD STEEL ASSOCIATION (accessed on Jun. 26, 2024), https://worldsteel.org/zh-hans/data/world-steel-in-figures-2024/.
[513] *List of Central Enterprises* [Chinese], SASAC (accessed on Jun. 26, 2024), http://wap.sasac.gov.cn/n2588045/n27271785/n27271792/c14159097/content.html.

manufacture a large batch of single-rolled high-strength steel plates. These plates were to be used to construct six 500-car roll-on/roll-off LNG-powered ships.[514]

- In July 2023, Jiangnan Shipyard (Group) Co., a wholly-owned subsidiary of central SOE CSSC, launched a new medium-sized refrigerated LNG ship, completely constructed from Baowu Steel's cryogenic steel plates.[515] According to the article, Baowu Steel has supplied more than 160,000 tons of cryogenic steel to Jiangnan Shipyard.
- In March 2023, Baowu Steel celebrated the launch and naming of a new ultra-large container ship built by Nantong COSCO KHI Ship Engineering Co., a joint-venture between COSCO Shipping Heavy Industries and Japan's Kawasaki Heavy Industries, headquartered in Nantong.[516] The article states that the ship was manufactured exclusively with Baowu Steel's advanced crack arrest steel plates.
- In September 2021, Caixin reported that Baowu Steel signed long-term purchase and supplier agreements for ship steel plates with COSCO Shipping Heavy Industries and its two affiliated shipyards.[517]

As outlined above, Baowu Steel is a major supplier to China's state-owned and private shipbuilding enterprises across many steel and ship types. Baowu Steel and one of its subsidiaries, Xinjiang Bayi Iron and Steel Co. Ltd. ("Xinjiang Bayi"), are both engaged in forced labor practices and state-sponsored labor transfer schemes that target Uyghurs and other ethnic minorities in Xinjiang province. Xinjiang Bayi was acquired by Baowu Steel in 2007, and has since listed on the Shanghai Stock Exchange; experts estimate that Xinjiang Bayi ranks as the province's largest producer of iron and steel, accounting for more than 50 percent of the province's steel output.[518] According to Xinjiang Bayi's website, the company currently possesses more than 10 million tons of production capacity and can produce more than 2,400 different specifications of metal products, including cold- and hot-rolled steel, high-performance light-weight steel, medium thickness steel plates, and steel bars and wires.[519] In addition to Xinjiang Bayi's headquarters in Xinjiang, the company's facilities include two blast furnaces in Bayingolin Mongol Autonomous Prefecture and another two furnaces in Ili Kazakh Autonomous Prefecture in Xinjiang.

In 2022, Xinjiang Bayi celebrated its achievements of the previous year, stating:

> As a central enterprise in Xinjiang, Bayi Iron and Steel has fully, completely, and accurately implemented the Party's strategy for governing Xinjiang in the new era,

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[514] *Six ships! Bao Steel won a batch of ship plate orders*, SOHU NEWS (Aug. 23, 2023), https://www.sohu.com/a/714090191_121426516. Roll-on, roll-off ships are cargo ships designed to transport wheeled cargo, such as automobiles, trucks, trains, and buses.

[515] *Bao Steel Co., Ltd. completes the supply of all cryogenic steels, helping our country's shipbuilding industry achieve a new zero-carbon breakthrough* [Chinese], CHINA STEEL NEWS (Jul. 26, 2023), http://www.csteelnews.com/qypd/ywjx/202307/t20230726_77516.html.

[516] *Bao Steel Co., Ltd. successfully enters the high-end market for crack arrest steel plates for ultra-large ships* [Chinese], COAL INTERNATIONAL NET (Mar. 16, 2023), https://coal.in-en.com/html/coal-2625895.shtml.

[517] *Three major central shipbuilding enterprises signed long-term contracts for the purchase of ship steel to avoid the risk of steel cost*, CAIXIN (Sep. 24, 2021), https://companies.caixin.com/2021-09-24/101777338.html.

[518] Laura Murphy, Kendyl Salcito, Yalkun Uluyol, & Mia Rabkin, SHEFFIELD HALLAM UNIVERSITY, DRIVING FORCE: AUTOMOTIVE SUPPLY CHAINS AND UYGHUR FORCED LABOR 16 (Dec. 2022).

[519] *Company Profile* [Chinese], XINJIANG BAYI IRON AND STEEL CO., LTD. (accessed Jun. 27, 2024), http://www.bygt.com.cn/gsjj.

consciously fulfilled its political, economic, and social responsibilities, *resolutely implemented the Autonomous Region's deployment of poverty alleviation work, and continued to increase Fang Hui Ju and targeted poverty alleviations efforts*.[520] (emphasis added)

China's "poverty alleviation" program is a broad set of measures targeted at Xinjiang Uyghur Autonomous Region's ethnic minorities, including Uyghurs, to control, stabilize, and, in China's view, de-radicalize the population. These measures include expropriating traditional Uyghur farmland for SOE-run agricultural cooperatives, forcing transfers of minority individuals to industrial sectors for work, and political indoctrination through coercing vocational skills training and Mandarin language education carried out by groups of Party cadres called "Fang Hui Ju" teams.[521] More often than not, the poverty alleviation program is interwoven with even more extreme policies to detain minority populations, such as mass incarceration without trial, destruction of traditional Muslim gathering places, and forced labor. The ultimate aim is for ethnic minorities to enter factory work and "assimilate by acquiring the mindset and attributes of the mainstream Han Chinese culture,"[522] and "poverty alleviation" is one tool China uses to achieve this aim.

The state-run labor transfer program is one piece of China's poverty alleviation and Xinjiang Bayi is an active participant in it. In 2017, China Youth Daily, one of the Chinese Communist Party's media mouthpieces, published an article detailing labor transfers to Xinjiang Bayi with the aid of the Xinjiang Uyghur Autonomous Region government:

> Recently, 264 ethnic minority urban and rural surplus laborers from Kashgar and Hotan prefectures in Xinjiang arrived at the new passenger station in Urumqi. *This is another achievement of the organized transfer of urban and rural surplus laborers from Kashgar and Hotan prefectures to state-owned enterprises launched by the Human Resources and Social Security Department and the State-Owned Assets Supervision and Administration Commission of the Xinjiang Uygur Autonomous Region in April. A total of 264 laborers were transferred to state-owned enterprises, including 247 men, 17 women, and 12 couples. … The transferred laborers will be employed by Baowu Bayi [Iron and] Steel Company*, Shenhua Xinjiang Company, Xinjiang Investment Development Group, Xuefeng Technology Group, Xinliang Group, and PetroChina Urumqi Petrochemical.[523] (italic emphasis added).

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[520] *[Preview] Bayi Steel's 2021 Annual Performance Briefing will be held on May 9th on Panorama Net*, PANORAMA NET (May 8, 2022), https://archive.ph/bfdaA#selection-487.0-487.31.

[521] Fang Hui Ju teams of Party cadres are present throughout the Party and state apparatuses in Xinjiang, including within SOEs. The Chinese for "Fang Hui Ju" is , which is shorthand for " ," meaning "appeal to public sentiment, benefit people's livelihoods, and gather the people's hearts."

[522] Amy Lehr, CENTER FOR STRATEGIC AND INTERNATIONAL STUDIES, ADDRESSING FORCED LABOR IN THE XINJIANG UYGHUR AUTONOMOUS REGION: TOWARD A SHARED AGENDA 1-2 (Jul. 2020).

[523] *264 urban and rural surplus laborers from Kashgar and Hotan were transferred to work in state-owned enterprises* [Chinese], CHINA YOUTH DAILY (Jun. 9, 2017), https://archive.ph/MdgKj#selection-209.0-209.22.

Xinjiang Bayi admitted their participation in the labor transfer program and political indoctrination activities through its internal Fang Hui Ju Party cadre teams in its 2018 financial disclosures:

> In 2018, the company fully implemented the Party Central Committee's Xinjiang governance strategy and major measures on the overall goal of Xinjiang work, earnestly carried out the 'Fang Hui Ju' village work, and continued to select cadres to go to Yopurga County and Yengisar County in southern Xinjiang to set up village work teams. … [The company] Absorbed transferred labor from southern Xinjiang.[524]

Due to Xinjiang Bayi's clear participation in China's state-sanctioned labor transfer program targeting Xinjiang's ethnic minorities, in October 2024, the U.S. Forced Labor Enforcement Task Force added Xinjiang Bayi to the UFLPA Entity List.[525]

Shougang Group Co., Ltd. ("Shougang") is one of China's major state-owned steel producers, wholly-owned by the Beijing Municipal SASAC. Among the world's largest steel-producing companies, Shougang ranked ninth in terms of total output in 2023.[526] Shougang both supplies steel for shipbuilding in China, and is also participating in the state-sponsored labor transfer and mass incarceration of Uyghurs in Xinjiang.

One of Shougang's Hebei-based subsidiaries, Shougang Jingtang United Iron & Steel[527] ("Shougang Jingtang"), produces and supplies steel plates for China's shipbuilding industry. In June 2023, Shougang Group showcased in a press release that Shougang Jingtang received an honorary award for "National Shipbuilding Plate Quality Production Enterprise in 2022-2023."[528] According to the press release, by June 2023, Shougang Jingtang had cumulatively sold over 1.5 million tons of medium-thickness steel plates for shipbuilding and marine engineering projects in China. Corporate documents on some of Shougang's steel manufacturing processes showcase two of Shougang Jingtang's production lines, one producing 3300-3500mm medium-thickness steel plates and another producing 4300mm wide and heavy steel plates.[529] The corporate document discloses that both of these production lines supply shipbuilding and marine engineering-grade steel.

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[524] Xinjiang Bayi Iron and Steel Co., Ltd., 2018 Annual Report 36 [Chinese] (Mar. 26, 2019).
[525] Notice Regarding the Uyghur Forced Labor Prevention Act Entity List, 89 Fed. Reg. 80586 (Oct. 3, 2024).
[526] *World Steel Statistics 2024 – Major steel producing companies in 2023*, WORLD STEEL ASSOCIATION (accessed on Jun. 26, 2024), https://worldsteel.org/zh-hans/data/world-steel-in-figures-2024/.
[527] The Chinese name of Shougang Jingtang United Iron & Steel is . The company is wholly-owned by one of Shougang Group's enterprises, Beijing Shougang Co., Ltd., which is publicly listed on the Shenzhen Stock Exchange. Shougang Group owns 57 percent of Beijing Shougang Co., Ltd., and acts as the controlling shareholder.
[528] *Shougang Jingtang wins the title of National Shipbuilding Plate Quality Production Enterprise*, SHOUGANG GROUP (Jun. 12, 2023), https://www.shougang.com.cn/sgweb/html/sgyw/20230612/9629.html.
[529] BEIJING SHOUGANG CO., LTD., MANUFACTURING PROCESSES AND MARKETING SYSTEM OF BEIJING SHOUGANG CO., LTD. 9 (accessed Jul. 11, 2024), https://www.sggf.com.cn/cpyfw/cpmc/aae850df6ed94b72b8f76d6783250b02/3b2776ade7be4e2ca76a9f1ef28de070.pdf.

Another Shougang subsidiary, Xinjiang-based Shougang Ili Iron & Steel Co.,[530] participates in the state-sponsored labor transfer program of Xinjiang's ethnic minorities to its own facilities. In a March 2020 post to its own WeChat (China's most popular social media platform) account, Shougang Ili stated:

> On March 27, Shougang [Ili] Co. received and settled 136 ethnic minority employees from the 'deeply impoverished area' of Pishan County in Hotan Prefecture. … In the following month, the employees from southern Xinjiang will receive Chinese language training, production safety skills training, and corporate culture training to lay a good language and technical skills foundation for them to quickly take up new jobs, and help them complete the transformation from ordinary farmers to modern industrial workers as soon as possible…[531]

According to official population statistics from the Xinjiang Uyghur Autonomous Region Statistics Bureau, Hotan Prefecture in southern Xinjiang is over 98 percent Uyghur.[532] This social media post shows Shougang Ili's own admission in its participation in the state-sponsored labor transfer program, and also states that the transition away from traditional agriculture to modern industrial work for the transferred employees will make them "useful talent for the country." It has been well-documented and publicly reported that government of China leverages its network of Xinjiang-based SOEs to carry out its repressive policies against ethnic minorities,[533] and the Party-state, including SOEs, obfuscate them with innocuous and bland euphemisms, like "vocational skills training", which can refer to mass incarceration.[534]

d. China's Hukou System Contributes to and Reinforces China's Non-Market Advantages in the Maritime, Logistics, and Shipbuilding Sectors

Under the hukou system administered by the Chinese government, every Chinese citizen is classified at birth as either an "agricultural" (rural) or "non-agricultural" (urban) resident and registered with a local jurisdiction (a city, town, or village) that is considered that person's official and only place of "permanent residence." This local hukou typically passes from mother to child and entitles the holder to services including education, housing, healthcare, and social welfare provided by the local jurisdiction. Transferring the place of registration of one's hukou is a difficult bureaucratic process. Rapid economic growth and urban expansion have created a

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[530] The Chinese name of Shougang Ili Iron & Steel Co., Ltd. is . Ili denotes that the subsidiary is based and operates in Ili Kazakh Autonomous Prefecture in northern Xinjiang.

[531] *One hand grasping epidemic prevention, and another hand focusing on poverty alleviation: Shougang Yigang Company overcomes difficulties to receive and place a deeply impoverished labor force from southern Xinjiang into re-employment* [Chinese], WECHAT (Mar. 28, 2020), https://archive.ph/HPxbw#selection-141.0-141.46. "Shougang Yigang" is shorthand for the Shougang Ili Steel (in pinyin: Shǒugāng Yígāng gǔfèn yǒuxiàn gōngsī). pinyin for Ili. " is

[532] *3-7 Population by Ethnic Group by Each Region, State, City, and County (City)* [Chinese], STATISTICS BUREAU OF XINJIANG UYGHUR AUTONOMOUS REGION (Jun. 10, 2020), https://tjj.xinjiang.gov.cn/tjj/rkjyu/202006/3b1eef1049114b0c9cf9e81bf18433ef.shtml.

[533] *See* Laura Murphy, Nyrola Elima, & David Tobin, "UNTIL NOTHING IS LEFT": CHINA'S SETTLER CORPORATION AND ITS HUMAN RIGHTS VIOLATIONS IN THE UYGHUR REGION, SHEFFIELD HALLAM UNIVERSITY (Jul. 2022).

[534] Adrian Zenze, VICTIMS OF COMMUNISM MEMORIAL FOUNDATION, *Written Testimony*, *U.S. House of Representatives Hearing of the Congressional Executive Commission on China* (Oct. 17, 2019), https://www.cecc.gov/sites/chinacommission.house.gov/files/documents/Beyond%20the%20Camps%20CECC%20testimony%20version%20%28Zenz%20Oct%202019%29.pdf.

demand for labor that was met by migration from rural to urban areas and from central to coastal regions. Over time, the persistence of the hukou system has resulted in an acute imbalance: over half of China's population now lives in urban areas, but only one-third of the urban population holds an urban hukou.

Access to low-cost migrant labor contributed to China's emergence as a low-cost production center in the global economy. As one scholar has noted, the hukou system has created a "huge class of super-exploitable, yet highly mobile or flexible industrial workers for China's new economy, now closely integrated into global trade networks."[535]

Several hukou-related factors continue to limit labor mobility.[536] First, rural hukou holders have shown reluctance to transfer their hukou to an urban location because it requires them to relinquish their increasingly valuable rural land-use rights, which in many cases represents the only retirement security that rural residents and their families have. Second, rural residents that migrate outside the geographical area of their hukou registration may not have access to public services, healthcare benefits, housing, the educational system and formal employment under a written labor contract. This can inure to the benefit of enterprises in the maritime, logistics, and shipbuilding sectors.

Non-governmental research organizations have also assessed that worker mobility restrictions, such as China's hukou system, provide indirect non-market advantages that increase costs for migrant workers by depriving them of local social benefits, and benefit producers, as businesses indirectly benefit from reduced labor costs as a result of reduced social welfare costs.[537]

In sum, China's systemic labor practices effectively deny workers in the maritime, logistics, and shipbuilding sectors the ability to organize or join unions of their own choosing, collectively bargain, and strike. Chinese workers are regularly subjected to unsafe working conditions in the maritime logistics, and shipbuilding sectors. Chinese companies in the shipbuilding supply chain also engage in forced or compulsory labor. A number of institutional constraints, such as China's hukou system, limit the extent to which market forces contribute to wage formation in China. This creates a system whereby workers in the maritime, logistics, and shipbuilding sectors are unable to effectively defend their interests, including for the purpose of negotiating salaries, benefits, and other conditions of work. These labor practices provide substantial support to Chinese companies and create significant competitive disadvantages for competitors in the United States and other market-oriented economies.

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[535] Kam Wing Chan, *The Chinese Hukou System at 50*, 50 EURASIAN GEOGRAPHY & ECO. 206-207 (2009).

[536] The Chinese government has recently taken steps to modify the hukou system. However, these changes represent a modification of the hukou system rather than its elimination, and many aspects of the hukou system continue to limit official labor mobility in China.

[537] *See* Michael Pettis & Erica Hogan, *Trade Intervention for Freer Trade*, CARNEGIE ENDOWMENT FOR INT'L PEACE (Oct. 2024), https://carnegie-production-assets.s3.amazonaws.com/static/files/Pettis_Hogan_Trade%20Intervention%20for%20Freer%20Trade_final.pdf.

8. China's Industry Restructuring Drives Market Dominance and Undermines Competition

- Many of China's largest enterprises in the maritime, logistics, and shipbuilding sectors are the result of China's non-market-oriented, state-directed industry restructuring.

- By manipulating the structure of key Chinese enterprises, China is able to exert control, through these enterprises, over global market dynamics in the maritime, logistics, and shipbuilding sectors—driving market dominance and undermining competition.

Over the last three decades, China has engaged in state-directed systemic re-organization of the maritime, logistics, and shipbuilding sectors in order to realize its industrial targets.

As noted in Section II, China's industrial plans also set industrial consolidation targets. For example, in 2012, China set a target for its top 10 shipbuilding companies to account for more than 70 percent of the national annual output.[538] Such targets create access barriers for new market entrants, which can, among other things, create barriers for foreign companies to access the Chinese market. Further, this non-market-oriented industry restructuring results in conglomerates that wield significant market power, drive non-market excess capacity, and frequently gain dominant market positions at the expense of foreign competitors. This fundamentally alters global market dynamics, tilting markets in favor of Chinese-owned, -invested, or -controlled enterprises and disadvantaging companies in the United States and other market-oriented economies.

First, many of China's largest enterprises in the maritime, logistics, and shipbuilding sectors are the result of China's non-market-oriented, state-directed industry restructuring. For example:

In September 2024, China CSSC Holdings and China Shipbuilding Industry Company Ltd. (CSICL) announced plans to merge in order to "further focus on major state strategy."[539] According to reporting by Xinhua, this merger was directed pursuant to SASAC's Work Plan for Improving the Quality of Central Enterprises' Listed Companies and to "implement the three-year action plan for deepening reform."[540] Reporting on the transaction noted that even though these companies' parent entities had merged in 2019, these two entities, China CSSC Holdings and CSICL, "survived as separate, publicly traded companies".[541] As separate entities, their

[538] This target later appears in a separate shipbuilding action plan with a target date of 2020. *See Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* Art. 1.3 (MIIT, NDRC, MOF, PBOC, CBRC, SASTIND, Gong Xin Bu Lian Zhuang [2016] No. 447, issued Jul. 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828.html.
[539] Kenji Kawase, *Chinese state shipbuilders plan merger with eye on 'strong military'*, NIKKEI ASIA (Sept. 3, 2024), https://asia.nikkei.com/Business/Companies/Chinese-state-shipbuilders-plan-merger-with-eye-on-strong-military.
[540] *See China Shipbuilding and China Heavy Industry will merge to create the world's largest flagship shipbuilding listed company* [Chinese], XINHUA (Sept. 3, 2024), http://www.xinhuanet.com/20240903/cf15bb4316e94414a2efe50fd970c144/c.html.
[541] KAWASE.

businesses overlapped, however, reporting indicated that the merger "could end competition between them[.]"[542] As Chinese shipyards' orderbooks are increasingly dominant, this has the potential to have significant competitive consequences for purchasers in the U.S. and other market-oriented economies.

In 2022, 10 leading Chinese state-owned enterprises, including CSSC, China International Marine Containers Group, China National Petroleum Corporation, Sinopec Group, China National Offshore Oil Corporation, China COSCO Shipping Corporation, China Communications Construction Group, and others, established the China Marine Engineering Equipment Technology Development Corporation, in an effort to "integrate China's marine equipment construction capabilities and build the world's largest [marine engineering equipment] manufacturer."[543] Observers noted that this "government-supported consolidation of state-owned enterprises . . . engaged in the [marine engineering equipment] industry is likely to help [them] gain greater market power."[544]

In 2021, China combined five companies, China Railway Materials, China National Materials Storage and Transportation Group, Huamao International Freight Limited Company Shenzhen Branch, China Logistics, and China National Packaging Corporation, to create a new state-owned logistics group: China Logistics Group.[545] This entity was created to achieve non-market aims, specifically: "to be a global supply chain organizer" and with purpose that "the company should strive to ensure smooth flows of production factors under the dual circulation development paradigm and forge a secure, reliable and highly efficient modern logistics system."[229]

In 2019, the two largest state-owned Chinese shipbuilders, CSSC and CSIC, merged to become the world's largest shipbuilding company by sales and backlog. The two firms had previously been split in 1999 to increase productivity through competition, but re-merged as the government began encouraging SOE consolidation. The merged entities name became China Shipbuilding Group Corporation, although the merged entity continues under the banner CSSC, which as of 2019 controlled $110 billion in assets, more than 300,000 employees, and 20 percent of global market share—offering CSSC significant market power.[546]

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[542] *Id*.
[543] Hu Zhang, Qiuwen Wang, & Jiabei Huang, *China's policy for the marine engineering equipment industry and potential challenges: An appraisal of the new developments under the 14th five-year plans*, 9 FRONT. MAR. SCI. 1 (2022).
[544] *Id*.
[545] Eduardo Baptista, *China Forms New State-owned China Logistics Group*, MARITIME LOGISTICS PROF. (Dec. 6, 2021), https://www.maritimeprofessional.com/news/china-forms-state-owned-china-372538; *China Logistics Group Co., Ltd. Was Established to Strive to Build a World-Class Modern Logistics Enterprise and Better Serve the Construction of a New Development Pattern* [Chinese], SASAC (Dec. 6, 2021), http://www.sasac.gov.cn/n2588025/n2643314/c22091559/content.html.
[546] *CSIC-CSSC Re-Merger Completed*, THE MARITIME EXECUTIVE, Nov. 26, 2019, https://maritime-executive.com/article/csic-cssc-re-merger-completed. *See also* OECD REPORT ON CHINA'S SHIPBUILDING INDUSTRY at 12; Meia Nouwens, *Is China's shipbuilding merger on course?*, INT'L INST. FOR STRAT. STUDIES MIL. BALANCE BLOG (Sept. 4, 2020), https://www.iiss.org/en/online-analysis/military-balance/2020/09/china-shipbuilding-merger; *China State Shipbuilding Corporation and China Shipbuilding Industry Corporation Implement Joint Restructuring* [Chinese], SASAC (Oct. 25, 2019), http://www.sasac.gov.cn/n2588030/n2588924/c12397252/content.html.

In 2016, state-owned COSCO Group and China Shipping Group merged to create the world's then-third largest shipping firm.[547] As a result of the restructuring, the company was renamed to COSCO Shipping and established the shipbuilder COSCO Shipping Heavy Industries (merging COSCO Shipyard, COSCO Shipbuilding Industry Company, and China Shipping Industry Company).[548]

In 2015, state-owned CMG acquired Sinotrans and CSC Holdings Co. Ltd. to create the world's largest port management and logistics company.[549]

The CCP-directed merger of several state enterprises created shipping and shipbuilding behemoths that are the largest companies in this sector. By manipulating the size of key Chinese enterprises, China is able to exert control, through these enterprises, over global market dynamics in the maritime, logistics, and shipbuilding sectors.

SASAC owns or controls large enterprises that "have amassed large pools of internal retained funds generated through monopoly rents and a policy of low dividend payments to the state" and have:

> . . . significant indirect adverse effects on allocative efficiency and market competition beyond the regulated industries they control. Their monopolistic and monopsonistic position in industries critical to the rest of the economy, together with instances where they have regulatory power to set industrial, technical, and other standards, allows them to exercise market power over suppliers and customers in upstream and downstream industries. SOEs often favor their own subsidiaries, associated enterprises, or other related parties. . . . [550]

For example, in July 2024, state-owned CSSC, announced a $570.5 million (RMB 4.04 billion) acquisition of Tianjin Xingang Shipbuilding Heavy Industry Company's assets in Lingang New Area, the Shanghai Free Trade Zone.[551] Tianjin Xingang was a CSSC group subsidiary that ran into financial difficulties in 2019 and went bankrupt in 2021, with $2.015 billion (RMB 13 billion) in total debts.[552] As of 2021, worker contracts at Tianjin Xingang were

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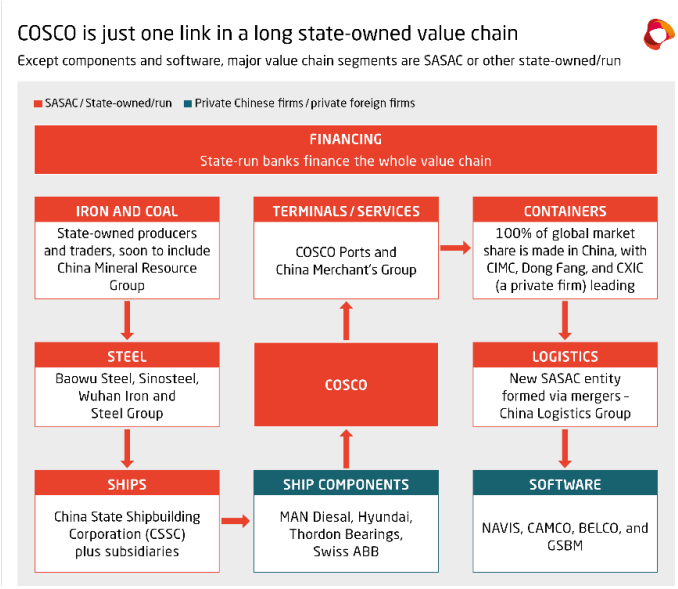
[547] HIDDEN HARBORS at 1; *COSCO Group and China Shipping Group Reorganize and Integrate to Create a Professional Shipping Service Cluster* [Chinese], SASAC (Dec. 14, 2015), http://www.sasac.gov.cn/n2588030/n2588924/c4297088/content.html.
[548] OECD REPORT ON CHINA'S SHIPBUILDING INDUSTRY at 53.
[549] *Id*.; *China Merchants Group Co., Ltd. and China Shipping (Group) Co., Ltd. Implement Strategic Restructuring* [Chinese], SASAC (Dec. 29, 2015), http://www.sasac.gov.cn/n2588030/n2588924/c4297070/content.html.
[550] *Id*.
[551] Li Rongqian & Han Wei, *China's Giant Invests $690 Million in Dry Docks as Tide Turns for Shipbuilding*, CAIXIN GLOBAL (Jul. 30, 2024), https://www.caixinglobal.com/2024-07-30/chinas-giant-invests-690-million-in-dry-docks-as-tide-turns-for-shipbuilding-102221205.html.
[552] *CSSC Tianjin Adds Two Drydocks With Purchase of Neighboring Yard*, MARITIME EXEC. (Jul. 30, 2024), https://maritime-executive.com/article/cssc-tianjin-adds-two-drydocks-with-purchase-of-neighboring-yard; Shin Watanabe, *Chinese state-owned shipbuilder lets shipyard go under in rare move*, NIKKEI ASIA (Dec. 2, 2021), https://asia.nikkei.com/Business/Companies/Chinese-state-owned-shipbuilder-lets-shipyard-go-under-in-rare-move.

supposed to terminate by the end of 2023.[553] Public details of the transaction suggests that CSSC sought to discharge the debts and re-purchased the assets.[554] This pattern of boosting capacity by resurrecting dormant shipyards and extending existing shipyards appears to continue to exist.[555]

In market economies, entities such as this that are in financial distress would likely cease operations and wind up, removing an inefficient market player and production capacity from the market. However, the manner in which this transaction was conducted in China suggests that China sought to maintain the production capacity while discharging debts, leaving the resulting entity with fewer financial burdens—in effect, a providing an unfair competitive edge compared to competitors in market economies. This suggests that China changed the competitive dynamic of the shipyard on the global market, while aligning the shipyard to achieve China's industrial targets.

As a result of China's non-market-oriented industry restructuring, Chinese enterprises dominate nearly the entire maritime, logistics, and shipbuilding value chain beginning with financing, through vessel construction, and across the global logistics system:

Figure 9: China's Domination of the Maritime, Logistics, and Shipbuilding Value Chain[556]



Source: MERICS

[553] Shin Watanabe, *Chinese state-owned shipbuilder lets shipyard go under in rare move*, NIKKEI ASIA (Dec. 2, 2021), https://asia.nikkei.com/Business/Companies/Chinese-state-owned-shipbuilder-lets-shipyard-go-under-in-rare-move.
[554] RONGQIAN & WEI.
[555] *See*, *e.g.*, Rob Willmington, *Shipbuilding: Capacity ramps up as China extends its dominance*, LLOYD'S LIST (Dec. 12, 2024), https://www.lloydslist.com/LL1151592/Shipbuilding-Capacity-ramps-up-as-China-extends-its-dominance.
[556] BANACH & GUNTER.

In sum, China's state-directed systemic re-organization has resulted in increasing vertical and horizontal control over maritime, logistics, and shipbuilding sectors. This places Chinese state-owned, -invested, or -controlled enterprises in pivotal positions in the market, with a greater ability to exercise market power—a non-market advantage.

9. China's Network of Ports and Terminals Changes Trading Patterns

- China's network of port, terminal, shipping and logistics services is both vertically and horizontally linked, which creates both the market power and the incentive to exclude competition.
- Such market power can manifest as changes in international trade flows.

China designs policies to create a coordinated system of incentives and financial capacity that facilitate Chinese firms' acquisition, operation, and development of port and terminal infrastructure as well as supporting logistics services. As a result, China's targeting of ports and terminal networks has led to rapidly expanding investments across at least 96 ports and terminals in 53 countries as of 2023.[557] This includes projects in the United States.[558] These efforts to increase investment and control over ports, terminals, and logistics services networks spread distortions stemming from China's maritime economic model and create potential dependencies and influence risks.

China's network of port, terminal, shipping and logistics services is both vertically and horizontally linked, which creates both the market power and the incentive to exclude competition. Such market power can manifest as changes in international trade flows. As reported by one independent study: "[w]here Chinese firms operate ports, they appear to modify the host countries' trade toward China and away from former trade partners."[559] Specifically:

- Total trade with China is expected to increase about 21 percent after a terminal operating contract is signed and exports to China usually increase more than imports.
- Expected increases are magnified if Chinese firms have a controlling interest in all terminals, in at least one port in the country. In these cases, over a 12-year period, exports to China would be expected to increase by 76 percent, whereas imports from China would be expected to increase by 36 percent.
- Host countries that allow Chinese firms to operate all terminals in at least one port saw a 19 percent reduction in exports to the rest of the world (RoW) during the analysis period.

[557] *See* Genevieve Donnellon-May, *China's Overseas Ports Acquisition Program*, AUSTRALIAN OUTLOOK (Apr. 6, 2023), https://www.internationalaffairs.org.au/australianoutlook/chinas-overseas-ports-acquisition-program/; Isaac B. Kardon and Wendy Leutert, *Pier Competitor: China's Power Position in Global Ports*, 46(4) INT'L SEC. 9 (2022).
[558] BANACH & GUNTER.
[559] *Id*.

- Chinese firms buy more goods than they sell to the host countries after operating agreements are signed and much of the cost savings go to the Chinese.[560]

This point is illustrated by a separate independent research report that examined COSCO's control of the Greek port, Piraeus:

> COSCO's foray into Mediterranean shipping ports began in 2009, when a predecessor company (Cosco Pacific) won a bid to upgrade and operate one terminal at the Port of Piraeus through a thirty-year concession. COSCO subsequently bought a 51 percent controlling stake in the Piraeus Port Authority in 2016. This purchase included a provision allowing the SOE the right to purchase an additional 16 percent on the condition it completes a promised €300 million investment program within five years. Despite failing to reach its promised investment goals by the 2021 deadline, the Greek state and parliament allowed the sale to go through.
>
> COSCO has since made notable investments in rail transport and is a vital operator in Southeastern Europe. The connections emanating from Piraeus—the port is now among the top six in Europe by cargo throughput—are part of the China-Europe Land-Sea Express Line ( ), which coincides with the pan-European Corridor X running through Macedonia, Serbia, and Hungary. Through its subsidiary Ocean Rail Logistics (established in 2017), COSCO acquired a 60 percent stake in the Greek railway company Piraeus-Europe-Asia Rail Logistics (PEARL) in 2020. In addition to its Greek network, PEARL operates in Bulgaria, Serbia, and North Macedonia. According to Ocean Rail's website, PEARL is the only rail operator running freight trains from Piraeus via North Macedonia and Serbia to Central and Eastern Europe. In North Macedonia, PEARL accounted for around a third of total cargo volume transported by Macedonian Railways Transport, the public enterprise that operates all domestic lines, from 2019 to 2021 and 68 percent of total throughput in 2021.
>
> Ocean Rail also serves as an intermodal operator for Rijeka, a deepwater port in Croatia. In 2019, COSCO established a direct vessel shuttle between Piraeus and Croatia's Adriatic Gate Container Terminal (owned by Filipino port operator ICTSI), and Ocean Rail has since introduced the Rijeka Land Sea Express, providing freight services to the hinterland markets of Hungary, Serbia, and others. Croatia, however, has expressed concern about Chinese involvement in Rijeka, ultimately cancelling a (non-COSCO) Chinese bid for the planned construction and operation of a new terminal for fear *that China did not plan to actively use the facility and instead merely hoped to prevent others from doing so*. . . .
>
> Even without preferential access to Rijeka, Chinese companies—and COSCO specifically—hold a significant position in logistics networks in Southeastern

[560] *Id*.

> Europe. COSCO's controlling position in Piraeus and intermodal connections in Rijeka and throughout the region offer the conglomerate alternative shipping routes into Central and Eastern Europe. *Not only are these countries increasingly dependent on COSCO for the shipment of goods and at risk of losing business associated with their transport, but COSCO then gains the credible ability to threaten to switch shipping routes and potentially allows China to hide strategic intent in commercial decisions*. For example, COSCO could scale up shipping volumes through the Rijeka Land Sea Express at the expense of the countries in the overland PEARL connections.
>
> *This intertwining network—particularly if including COSCO's connections in northern Europe—offers the SOE an increasing market share through which COSCO can manage trade flows through preferred channels*. This growing dependence on COSCO could prove a significant pressure point for countries in Southeastern Europe and even the EU more broadly, and these logistics networks would not be easily replaced.[561]

In sum, China's "unfair advantages and hidden support to capture market share and build dependencies apply to China's expansion everywhere within global maritime infrastructure and shipping networks."[562]

10. China Leverages the Maritime, Logistics, and Shipbuilding Sectors to Provide Unfair Advantages to Other Strategic Sectors and Emerging Industries

- China targeting the maritime, logistics, and shipbuilding sectors for dominance has been a key enabler of China's export-led economy.
- China leverages the maritime sector as a tool to support China's vehicle industry and flood global markets with Chinese-made electric vehicles.
- China's targeting of the maritime, logistics, and shipbuilding sectors for dominance has also led to Chinese enterprises' dominance in the engineering, construction, and sale of offshore wind turbine installation vessels (WTIVs).
- China's control of digital maritime logistics networks and the lack of separation between government and commercial interests in China incur a high risk that maritime trade data may be used to provide unfair competitive advantages to Chinese enterprises.
- China co-opts global shipbuilding and shipping sectors to support China's Military-Civil Fusion strategy.

[561] William Piekos, *Investigating China's economic coercion: The reach and role of Chinese corporate entities*, ATLANTIC COUNCIL (Nov. 3, 2023), https://www.atlanticcouncil.org/in-depth-research-reports/report/investigating-chinas-economic-coercion/ (emphasis added).
[562] *Id*.

China employs shipbuilding, shipping, and logistics as tools to support other economic industries that it considers to be strategically important, such as manufacturing exports, electric vehicles, and offshore wind power. Its control of digital maritime logistics networks also means that there is a high risk that China may use maritime trade data to provide unfair competitive advantages to Chinese enterprises. Finally, China leverages its dominance in the maritime, logistics, and shipbuilding sectors to support its Military-Civil Fusion strategy.

a. The Use of Shipbuilding and Shipping to Support Exports

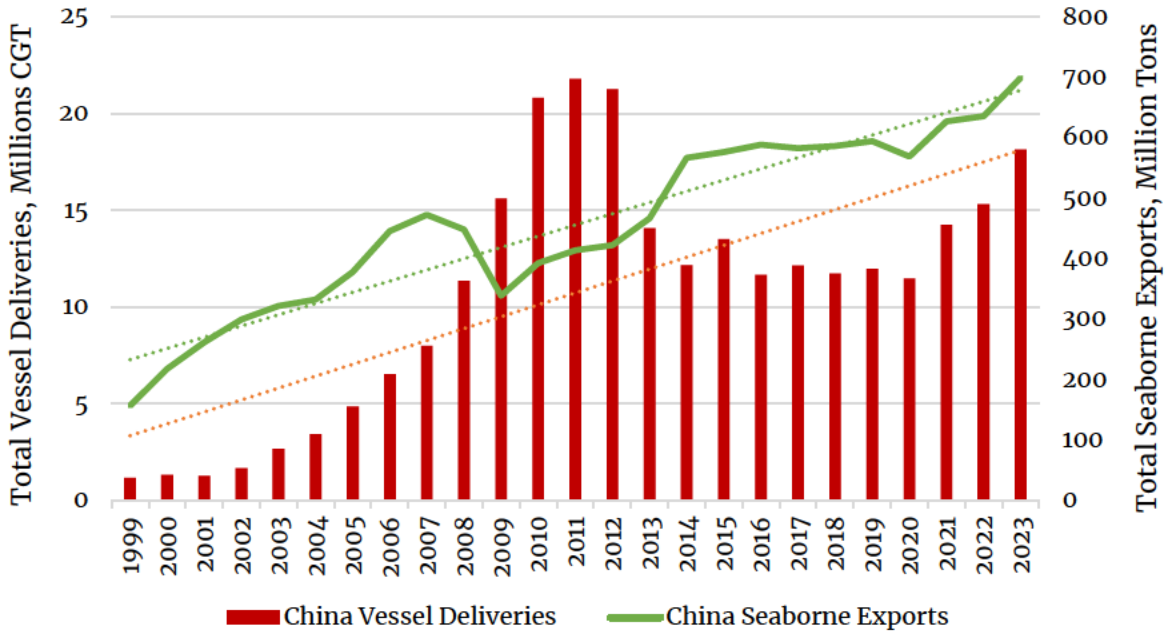
China targeting the maritime, logistics, and shipbuilding sectors for dominance has been a key enabler of China's export-led economy. China is now the second largest economy in the world, and it is also the largest goods trader—and the largest exporter—among WTO Members. As USTR has previously described, China:

> . . . . touts the importance of China continuing to participate in international trade, while simultaneously seeking to become self-sufficient domestically. What this means in reality is that, for now, China will continue to export to the world (often at predatory prices), including the negative externalities from its industrial policies, and China will continue to welcome foreign companies operating in China and continue to import products needed by Chinese companies, especially in technology products. However, once Chinese companies are capable of displacing the foreign competition in any particular industry in the China market, the Chinese state will no longer welcome foreign companies and their products.
>
> Another by-product of China's drive for domestic self-sufficiency, of course, is the non-market excess capacity that it inevitably creates, to the detriment of foreign producers and efficient investment around the world. Indeed, in 2022, China accounted for the largest global trade surplus in the history of the world, totaling $877.6 billion[.][563]

China's global exports, driven by non-market excess capacity, also drive demand for ships to carry those exports. The rise in China's seaborne exports has generally corresponded with the rise of its shipbuilding industry. Other than a brief period following the Global Financial Crisis, when global demand for goods and ships to transport them plummeted yet China's counter cyclical policies led to an increase in vessel deliveries, China's seaborne exports have generally tracked China's deliveries of vessels. As the following chart illustrates, China's vast and increasing seaborne exports are closely correlated to China's increasing its ship deliveries:

[563] *See generally* 2023 REPORT ON CHINA'S WTO COMPLIANCE.

Figure 10: China's Seaborne Exports Increase with China's Vessel Deliveries[564]



Because "[s]hips transport more than 80% of world trade by volume and about 70% of trade value[,]"[565] ships are a key enabler of exports.

China's leverage of its maritime, logistics, and shipbuilding sectors in support of its export industries tilts the competitive playing field in favor of its own exports at the expense of other nations' competing goods.[566] By achieving market dominance in the maritime, logistics, and shipbuilding sectors, China has the capability to give preference to its own exports at the expense of those exports from competing nations that may rely on the Chinese shipping apparatus to reach their export markets—as some contemporaneous reporting indicated occurred to the United States and agricultural exports during and after the pandemic.[567] Furthermore, the increasing consolidation of China's exports on Chinese-built ships, owned and operated by Chinese shippers, which in turn are increasingly being consolidated into a handful of state-owned, -invested, or -controlled enterprises, lessens competition for the maritime transport of

[564] Based on data from Clarksons Research.
[565] Myrto Kalouptsidi, *The Role of Shipping in World Trade*, ECONFACT (Jun. 9, 2021), https://econofact.org/the-role-of-shipping-in-world-trade.
[566] *See* Brancaccio, Kalouptsidi, Papageorgiou, *Geography, Transportation, and Endogenous Trade Costs*, ECONOMETRICA (Mar. 2020) at 686-687 (demonstrating that as freight revenue to China decreases, Chinese exports decline, leading to decline in world exports and decline in exports of leading trading partners with China, and ships reallocate to other parts of the world (outside of Southeast Pacific), pushing up exports there) ("This underscores the importance of being close to a large net importer like China: exporting countries in that 'pocket' of the world gained not just by directly exporting to China, but also indirectly from the increased supply of ships in that region").
[567] *See* Lori Ann LaRocco, *Carriers rejected at least $1.3 billion in potential U.S. agricultural exports from July to December*, CNBC (Mar. 15, 2021), https://www.cnbc.com/2021/03/15/carriers-rejected-at-least-1point3-billion-in-potential-us-agricultural-exports.html; Lori Ann LaRocco, *Chinese ships carry more empty containers than full ones out of West Coast ports*, CNBC (Apr. 13, 2022), https://www.cnbc.com/2022/04/13/chinese-ships-carry-more-empty-containers-than-full-ones-out-of-west-coast-ports.html ("Chinese carriers are shipping more empty containers than full ones out of U.S. West Coast ports").

Chinese-made goods, decreases supply chain resilience, and creates engineered scarcity during times of need.[568] During the COVID-19 pandemic, for example, the United States dependency on critical goods manufactured in China was exposed.[569]

b. The Use of Shipbuilding and Shipping to Dominate the Electric Vehicle Industry

China leverages the maritime sector as a tool to support China's vehicle industry and flood global markets with Chinese-made electric vehicles. In recent years, China has sought to rapidly increase its production and market share of electric vehicles. In the *2017 MIC2025 Technology Roadmap*, China set targets of having two Chinese new energy vehicle enterprises in the global top 10 for sales volume, with their foreign sales accounting for at least 10 percent of their total sales volume by 2025, and exports of domestically produced new energy vehicles with indigenous intellectual property reach 30 percent of total output by 2030.[570] To achieve these targets, industry experts have noted that Chinese companies have employed loss-leader tactics to flood the market with cheap electric vehicles.[571] As a result, "overproduction of electric vehicles in China has led to a saturated domestic market, resulting in a flood of exports."[572]

A significant constraint on China's achieving these targets, however, has been the lack of commercial vessels capable of moving those vehicles to overseas markets. During the COVID-19 pandemic, many commercial car and truck carriers were sent to scrapyards.[573]

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[568] *See* Matthew Rochat, *China's Growing Dominance in Maritime Shipping* THE DIPLOMAT (Dec. 18, 2021) ("Chinese control over the shipping industry has the potential to expose vulnerabilities in access to critical goods."); *see also* Sébastien Jean, Ariell Reshef, Gianluca Santoni & Vincent Vicard, *Dominance on World Markets: the China Conundrum*, CENTRE D'ÉTUDES PROSPECTIVES ET D'INFORMATIONS INTERNATIONALES (Dec. 2023) at 8 ("When an exporter accounts for an overwhelming share of world exports of a specific product, it implies that it would be difficult for more importers to substitute this supplier for another, at least in the short term. Such dominant positions may raise concerns about the vulnerability of importers, while exporters enjoying such a strong export position may be given substantial leverage.").

[569] *See* Tinglong Dai, Ge Bai, & Gerard F. Anderson, *PPE Supply Chain Needs Data Transparency and Stress Testing*, J. OF GENERAL INTERNAL MED. (Jun. 30, 2020), *available at* s11606-020-05987-9.pdf ("Specialized PPE is particularly dependent on imports. For example, an estimated 90% of N95 masks are imported, mostly from China. This heavy dependence on foreign-made specialized PPE makes its supply chain vulnerable and exposes health care workers and patients to substantial risks."); *see also* Liz Alderman, *As Coronavirus Spreads, Face Mask Makers Go Into Overdrive*, N.Y. TIMES (Feb. 6, 2020), https://www.nytimes.com/2020/02/06/business/coronavirus-face-masks.html. ("With China's pipeline to the outside world running dry, medical suppliers around the globe, including giants like Honeywell and 3M, are scrambling to find alternative sources. Both companies said through representatives that they were experiencing a surge in demand and were moving to ramp up production wherever they could.")

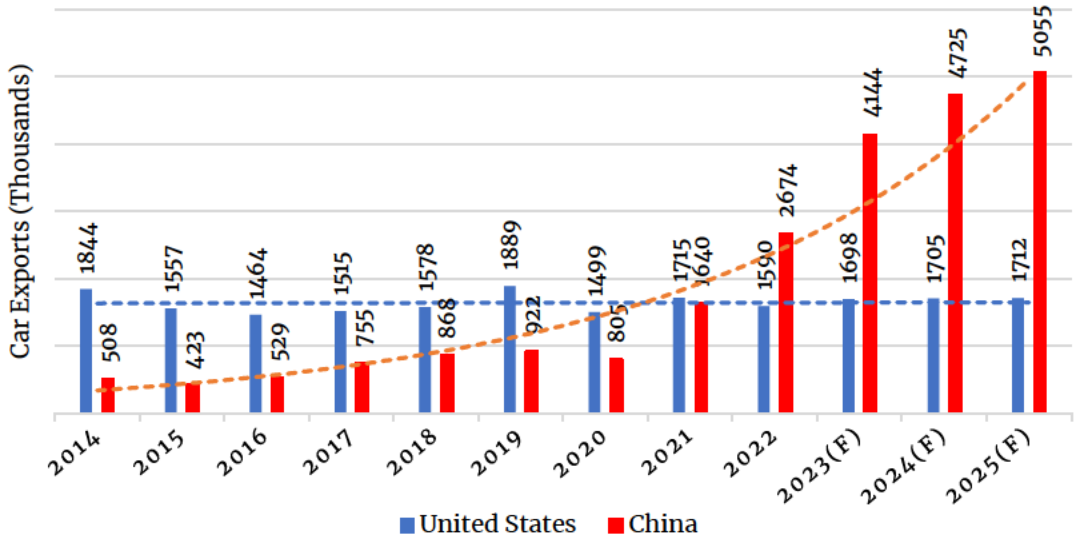
[570] 2017 TECHNOLOGY ROADMAP at 163.

[571] Charlie Bartlett, *Car-carrier bonanza set to continue as China 'floods' the market*, THE LOADSTAR (Apr. 12, 2023), https://theloadstar.com/car-carrier-bonanza-set-to-continue-as-china-floods-the-market/.

[572] Robert Wright, *The mounting strains on global shipping*, FINANCIAL TIMES (May 28, 2024), https://www.ft.com/content/a03da8f6-b468-4a86-8db5-83838f7d6409.

[573] Martina Li, *Orders for car and truck carriers hit $14bn – highest since 2008*, THE LOADSTAR (Jun. 22, 2023), https://theloadstar.com/orders-for-car-and-truck-carriers-hit-14bn-highest-since-2008/.

Figure 11: Seaborne Car Exports[574]



In order to achieve China's targets for electric vehicles, Chinese carmakers established in-house shipping companies, which began to order their own ships.[575] In the first half of 2023, Chinese shipbuilding companies took orders for 43 car carriers, accounting for 97.7 percent of the global market share during that period.[576] By mid-December 2023, orders for new car carriers increased to 80, representing a carrying capacity of approximately 677,000 vehicles.[577] In 2023, nearly 85 percent of the newbuild capacity on order was placed with Chinese shipyards.[578]

Notably, this increase in capacity far outstrips demand—as one source reported: "the car-carrying fleet to grow in size by about 12% next year [2025], whereas demand for the vessels is only likely to expand by 1%."[579]

[574] Clarksons Research, CAR CARRIER TRADE & TRANSPORT, 28 (2023) (as of start Nov. 2023).
[575] Martina Li, *Tighter PCTC supply restricts China's car-building boom*, THE LOADSTAR (Mar. 14, 2023), https://theloadstar.com/tighter-pctc-supply-restricts-chinas-car-building-boom/.
[576] Nadia Hakirevic Prevljak, *Hyundai Glovis orders six dual-fuel LNG car carriers in China*, OFFSHORE ENERGY (May 29, 2024), http://www.offshore-energy.biz/hyundai-glovis-orders-six-dual-fuel-lng-car-carriers-in-china/.
[577] Nick Blenkey, *Clarksons looks at car carrier trade trends,* MARINE LOG (Dec. 11, 2023), https://www.marinelog.com/news/clarksons-looks-at-car-carrier-trade-trends/.
[578] *Id.*
[579] Alex Longley, *A Boom in Earnings for Car-Carrying Ships Is Starting to Fade*, BLOOMBERG (Dec. 10, 2024), https://www.bloomberg.com/news/articles/2024-12-10/a-boom-in-earnings-for-car-carrying-ships-is-starting-to-fade.

Table 4: Car Carrier Fleet and Orderbook by Builder Country, Ranked by Fleet Capacity[580]

	Fleet		*Orderbook*	
	No.	Cars, thsd.	No.	Cars, thsd.
Japan	408	2,028.8	23	153.0
South Korea	151	1,014.2	8	60.8
China	108	564.8	139	1089.5
United States	1	3.0	-	-

These large vessel orders have allowed Chinese shipyards to tilt the market dynamics and become dominant in the car carrier segment, so much so that a logistics company for Hyundai Motor Group placed orders for six new 10,800 car equivalent unit (CEU) dual-fueled car carriers with Chinese shipbuilders instead of Korean shipyards.[581] As a result, China's shipyards have become an extension of the vehicle production process, enabling the vertical integration of the Chinese electric vehicle industry, from production, through shipping, and into export. Thus, China's employs its shipbuilding and shipping sectors to provide unfair non-market advantages to China's EV industry.

c. China's Dominance of the Offshore Wind Installation Vessel Fleet

China's targeting of the maritime, logistics, and shipbuilding sectors for dominance has also led to Chinese enterprises' dominance in the engineering, construction, and sale of offshore WTIVs. In 2021-2022, China produced 50 WTIVs, accounting for 92.6 percent of global production.[582] At the end of 2023, Chinese shipyards were building 33 of the 37—nearly 90 percent—of WTIVs on order globally.[583] One source notes that China has over 30 shipyards that have experience building or refitting WTIVs, including vessels under construction.[584]

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[580] Clarksons Research, CAR CARRIER TRADE & TRANSPORT, 28 (2023) (as of start Nov. 2023).
[581] Nadia Hakirevic Prevljak, *Hyundai Glovis orders six dual-fuel LNG car carriers in China*, OFFSHORE ENERGY (May 29, 2024), https://maritime-executive.com/article/why-is-offshore-wind-soaring-in-china-when-it-s-struggling-in-the-westhttps:/www.offshore-energy.biz/hyundai-glovis-orders-six-dual-fuel-lng-car-carriers-in-china.
[582] *Bottleneck! There Are Only Five Domestic Installation Vessels for 15MW Offshore Wind Turbines*, CHINA ENERGY INDUSTRY DEVELOPMENT NET (Jun. 7, 2023), https://www.ccedia.com/Urban_detail/c-_detailId%3D1666388486996123648.html (hereinafter "BOTTLENECK").
[583] Xu Yihe, *Dominance: China building 90% of wind installation vessels*, UPSTREAM ONLINE (Nov. 30, 2023), https://www.upstreamonline.com/energy-transition/dominance-china-building-90-of-wind-installation-vessels/2-1-1562904.
[584] *Wind Turbine Installation Vessel Market Evolution*, CHINA ENERGY INDUS. DEV. NET (Jun. 7, 2023), https://www.ccedia.com/Urban_detail/c-_detailId%3D1666387891594309632.html.

Table 5: Top Five Chinese Shipyards for WTIVs by Number of Orders on Hand, 2021-2022[585]

Shipyard	No. of Vessels
Jiangsu Dajin Heavy Industry	7
Yantai CIMC Raffles	7
China Merchants Heavy Industry (CMHI)	6
Jiangsu New Hantong Shipbuilding Heavy Industry	6
COSCO Shipping Heavy Industry	4

Industry research indicates that China's WTIV fleet has grown from near zero in 2010 and 2011, to over 60 vessels by 2023, and accounts for approximately 70 percent of the global WTIV fleet as of February 2024.[586]

Experts note a constellation of non-market advantages that contribute to this outcome, including that China's non-market policies and practices in key sectors, including steel and shipbuilding, "offer enormous structural advantages in the offshore wind sector[,]" and that "Chinese firms appear to enjoy access to lower real interest rates" in comparison to financing costs in the United States or Europe.[587] Similarly, Chinese firms benefit from low-cost shipping and state-directed coordination. For example, in July 2024, SASAC assigned the CCCC to set up a marine engineering innovation consortium of 10 central SOEs, 14 universities, and a number of institutions and private companies "aiming to foster scientific breakthroughs and break technological bottlenecks", including for WTIVs. At the inauguration ceremony, Wang Tongzhou, chairman of CCCC, said that "marine engineering technologies are the key pillars in supporting efforts to build the country into a strong marine power." He also "identified a number of initial objectives such as mastering technologies for key equipment for large-scale offshore wind farms."[588] Together, the non-market advantages contribute to China's employment of its offshore wind vessels in other countries, such as Vietnam.[589] In sum, China's dominance in the construction and ownership of offshore wind installation, a key emerging environmental industry, is enabled through China's unreasonable targeting of the maritime, logistics, and shipbuilding sectors for dominance.

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[585] BOTTLENECK.

[586] Based on reporting from Clarksons Research.

[587] *Why is Offshore Wind Soaring in China When it's Struggling in the West?*, MARITIME EXEC. (Nov. 24, 2023), https://maritime-executive.com/article/why-is-offshore-wind-soaring-in-china-when-it-s-struggling-in-the-west; Joeseph Webster, *China's wind industrial policy "succeeded" – but at what cost?* ATLANTIC COUNCIL (May 1, 2023), https://www.atlanticcouncil.org/blogs/energysource/chinas-wind-industrial-policy-succeeded-but-at-what-cost/.

[588] Chu Daye, *Central SOEs form marine engineering consortium for technological breakthroughs*, GLOBAL TIMES (Jul. 15, 2024), https://www.globaltimes.cn/page/202407/1316066.shtml (also stating that the consortium is set up "to transcend peer-to-peer competition that thwarts R&D efficiency", which could imply that the intention is to reduce competition).

[589] Ashima Sharma, *PowerChina completes its largest offshore wind project in south-east Asia*, POWER TECH. (Apr. 13, 2023), https://www.power-technology.com/news/power-china-completes-largest-offshore-windfarm-vietnam/.

d. China's Control of Digital Logistics Networks Provides an Information Advantage

China's control of digital maritime logistics networks and the lack of separation between government and commercial interests in China incur a high risk that maritime trade data may be used to provide unfair competitive advantages to Chinese enterprises.

China's LOGINK began as a Chinese provincial initiative in 2007,[590] became part of a regional network in Northeast Asia in 2010, and has since entered the global market as a platform after 2014. The platform has now expanded to partner with over 20 ports worldwide as well as numerous Chinese and international companies.[591] LOGINK is designed to provide users with a "one-stop shop" for logistics data management, shipment tracking, and information exchange between businesses as well as from business to government.

China's government encourages global ports, freight carriers and forwarders, and other countries and entities to adopt LOGINK by providing it free of charge. In addition to offering LOGINK itself, China promotes logistics data standards that would support the platform's widespread use.[592] LOGINK also allows access to shared data on the platform by third parties, like information services that offer supply chain data analytics.[593] This aggregation of data from a wide range of sources likely provides the most comprehensive picture available of the world's logistics activities, which China can leverage with its ownership of shipping and industry output.[594] As one independent report assesses:

> LOGINK offers Beijing a means to monitor and shape the international logistics market, increase foreign strategic dependency on China, and exploit the vulnerabilities of LOGINK users for economic and geostrategic purposes. Within the logistics market, LOGINK helps consolidate Beijing's influence over the global maritime transport system, which moves an estimated 90% of the global goods trade. . . . LOGINK also increases foreign dependency on China.
>
> LOGINK has a monopoly position in an economy that accounts for nearly 20% of global GDP and an even larger share of global manufacturing. If LOGINK can leverage this giant "anchor" market and use its data to extract insights about goods flows, timing, and pricing at a commercially competitive pace and level, the network would become more attractive and potentially yield a self-fulfilling attractiveness as it displaces competitors without its scale, state sponsorship, and massive data stockpile.

[590] USTR notes that a public comment alleged that the intellectual property underlying LOGINK was misappropriated from a U.S. inventor and company. *See* Comment Number: USTR-2024-0005-00106730. USTR continues to investigate this concern.
[591] U.S.-China Economic and Security Review Commission, "LOGINK: Risk from China's Promotion of a Global Logistics Management Platform" (Sept. 20, 2022) at 4 (hereinafter "USSC REPORT").
[592] USSC REPORT at 3, 6.
[593] USSC REPORT at 4.
[594] COLLINS & BIANCHI at 2.

> LOGINK's direct relationship with the Chinese state insulates it from normal commercial pressures. In a world where global connectivity remains vital but information flows are increasingly crimped and siloed by political forces, platforms that can focus on capturing customers and offer low or no direct cost services during periods of economic turmoil can entrench disproportionate commercial and strategic advantages.[595]

Stakeholders note that LOGINK's aggregation of global commercial data could provide an informational edge, enabling Chinese firms to compete on unfair footing. As one report identified:

> Governments in an open digital trade system are not embedded in the commercial decision-making systems of private enterprise. China on the other hand has the Party with a direct involvement in all businesses with Chinese interest. Compounding the concerns is the national security and data ownership laws and regulations that de-facto gives ownership of all data generated by China business to Beijing. Ownership captures all business whether onshore or offshore the mainland.[596]

For example, stakeholders are concerned that LOGINK's capacity to look up information such as cargo location or price quotes from freight carriers would enable China to feed insights from LOGINK to preferred China's logistics firms.[597] Giving Chinese enterprises such an information edge would help them to systematically underbid foreign competitors and would drive even more data flow over at the expense of other systems.[598] Stakeholders are further concerned that China's government may use insights gleaned from LOGINK to expand and more precisely target its use of economic coercion.[599]

LOGINK also raises data security concerns. As discussed by the U.S.-China Economic and Security Review Commission:

- The security of LOGINK is unclear, and the sponsorship of the platform by the state raises significant concerns. The platform could share data without users' permission, including confidential business data. China's 2017 Intelligence Law requires any Chinese citizen or organization to "support, provide assistance, and cooperate in national intelligence work," suggesting the Chinese government could legally compel the platform to share data it deemed a matter of national intelligence . . . . Moreover, the law forbids disclosing that any support was provided to Chinese intelligence services . . . . Additionally, since at least 2015, CCP media and commissions have called for the inclusion of "reserved interfaces," or backdoors, that could provide access to transportation, information, and communication infrastructure . . . .

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[595] *Id*. at 13-14.
[596] Andre Wheeler, *China's Logink platform as an economic weapon?*, ASIA POWER WATCH (Apr. 22, 2024), https://asiapowerwatch.com/chinas-logink-platform-as-an-economic-weapon/.
[597] COLLINS & BIANCHI at 13-14.
[598] *Id.*
[599] USSC REPORT at 10; COLLINS & BIANCHI at 12-14.

- In gaining a bigger market share and taking an active role in standards-setting bodies, LOGINK is also positioning the Chinese government to have greater influence in data governance norms. . . . China's promotion of LOGINK within Asia has been more assertive in attempting to steer regional development. The growing predominance of LOGINK and related technical standards may allow the Chinese government to advance its restrictive approach to data governance.[600]

In sum, China's control of digital maritime logistics networks and the lack of separation between government and commercial interests in China create a risk that maritime trade data may be used to provide unfair competitive advantages to Chinese enterprises.

e. Non-Market Advantages Accrue to China's Military-Civil Fusion Strategy

China's targeted dominance of the maritime, logistics, and shipbuilding sectors serves a broader purpose to strengthen all of China's instruments of national power through China's Military-Civil Fusion (MCF) strategy. As discussed in section II, China's MCF strategy aims to develop the PLA into a "world class military" by 2049. Under MCF, the CCP is systematically reorganizing the Chinese science and technology enterprise to ensure that the PLA can acquire advanced technologies and expertise developed by Chinese companies, universities, and research programs that appear to be civilian entities.

China co-opts global shipbuilding and shipping sectors to support China's MCF strategy. One non-governmental organization assessed that "the shipyards at the heart of modernizing the Chinese navy also attract billions of dollars of revenue and technology transfers from companies around the world. China's opaque business ecosystem offers limited transparency into the flow of capital within its shipbuilding industry, but available evidence indicates that profits from foreign orders likely lower the costs of upgrading China's navy."[601] Namely, "Chinese shipbuilders produce far more than just container ships, bulk carriers, and tankers. They also build warships for the People's Liberation Army Navy (PLAN)."[602] China co-opts global shipbuilding and shipping sectors to support China's MCF strategy.

By controlling a dominant level of global shipbuilding, China creates dependencies by shipping companies that ensures that foreign capital and technology flow into Chinese dual-use shipyards and can be leveraged for military benefit.[603] For instance, in 2021, CSIS reported that CSSC controlled 21.5 percent of the global shipbuilding market and "received orders for at least 211 commercial vessels between 2019 and 2021." Yet, while "CSSC's public filings offer little to no insight into how much foreign sales help buoy China's naval buildup, but commercial satellite imagery suggests there is a direct sharing of resources between military and civilian operations at China's key shipyards." This is consistent with CSSC's declaration that it is "the

[600] USSC REPORT at 11 (citations omitted).
[601] *See* IN THE SHADOW OF WARSHIPS.
[602] Matthew P. Funaiole, *The Threat of China's Shipbuilding Empire*, CEN. FOR STRAT. & INT'L STUDIES (May 10, 2024), https://www.csis.org/analysis/threat-chinas-shipbuilding-empire.
[603] *See id.*

'main force' in furthering the development of naval weapons and equipment in support of national defense."[604]

In general terms: the high flow capital of into Chinese shipyards increases economies of scale, allows shipyards to spread both capital and administrative costs over a much larger number of vessels, and transfer know-how. As observers have noted: "[a]ll Chinese naval construction shipyards also build commercial ships, which provide additional revenue and support shipyard design, workforce, and infrastructure development while reducing overhead costs for naval construction."[605] The decreases in costs per vessel affecting not only commercial shipbuilding, but military shipbuilding as well, lowering costs for military vessels that are produced nearly side-by-side to commercial vessels.[606] As one report illustrates:

> The efforts of CSSC and CSIC to access the domestic and global capital markets could significantly boost the quantity of financial resources available for modernizing and expanding China's navy. Every dollar or renminbi (RMB) that CSSC and CSIC can raise on the market and plough into upgraded yard infrastructure, staff and warship equipment frees up state-granted military budget funds for other uses. To put this dollar figure in perspective, each Type 054A frigate delivered to the People's Liberation Army Navy (PLAN) likely costs approximately US$350 million—US$375 million. Each billion dollars raised on the market thus effectively funds activity equivalent to the delivered cost of nearly three Type 054As—a substantial impact.[607]

In this manner, China's absorption of global commercial shipbuilding orders co-opts the global civilian, commercial maritime sector in support of China's military development, precludes independent commercial decision-making, and serves to dramatically accelerate China's ongoing naval buildup.[608] Likewise, many Chinese companies in the maritime, logistics, and shipbuilding sectors have been identified as "Chinese military companies" by the U.S. Department of Defense.[609] Thus, China's dominance of the maritime, logistics, and shipbuilding sectors has national security implications.

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[604] *Id*.

[605] Sens. Jack Reed & Jim Inhofe, *To Provide and Maintain a Navy: Understanding the Business of Navy Shipbuilding*, U.S. NAVAL INSTIT. (Jul. 2021), https://www.usni.org/magazines/proceedings/2021/july/provide-and-maintain-navy-understanding-business-navy-shipbuilding.

[606] *See* IN THE SHADOW OF WARSHIPS ("This blurring of military and commercial activity is best exemplified at Jiangnan Shipyard. Nestled on the mouth of the Yangtze River near central Shanghai, Jiangnan is where China's third and most capable aircraft carrier, known as the Type 003, is being constructed. Right next to the warship, work is underway on a commercial container ship that bears a distinctive green hull, the hallmark of Taiwan's Evergreen Marine Corporation.").

[607] Gabe Collins and Eric Anderson, *Resourcing for China's State Shipbuilders: Now Including Global Capital Markets* in CHINESE NAVAL SHIPBUILDING, 63 (Naval Instit. Press, Andrew S. Erickson, ed. 2017).

[608] Matthew McMullan, *AAM President Scott Paul Testifies Before USTR on China's Shipbuilding Practices*, ALLIANCE FOR AM. MANUFACTURING (May 29, 2024), https://www.americanmanufacturing.org/blog/aam-testifies-to-ustr-on-chinas-shipbuilding-practices/; *See also* MILITARY & SECURITY DEVELOPMENTS INVOLVING THE PEOPLE'S REPUBLIC OF CHINA, U.S. DEP'T OF DEF., 128 (Dec. 18, 2024).

[609] N*otice of Chinese military companies operating in the United States*, 90 Fed. Reg. 1,105 (Jan. 7, 2025) (identifying, among others: China COSCO SHIPPING Corporation Limited (COSCO SHIPPING); COSCO

IV. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance Burdens or Restricts U.S. Commerce

The unreasonable act, policy, or practice of a foreign country must also burden or restrict U.S. commerce to be actionable under Section 301. China's targeting the maritime, logistics, and shipbuilding sectors for dominance burdens or restricts U.S. commerce.[610]

A. China's Targeted Dominance Burdens or Restricts U.S. Commerce Because It Undercuts Business Opportunities for and Investments in the U.S. Maritime, Logistics, and Shipbuilding Sectors

- China's dominance contributes to the diminished state of the U.S. maritime, logistics, and shipbuilding sectors and chronic underinvestment in these sectors, constituting a burden and restriction on U.S. commerce.
- China's dominance—achieved through targeting, control, and nonmarket advantages—means that its companies could almost always outbid their competitors with low pricing.
- Chinese shipbuilders are insulated from commercial pressures, in part because shipbuilding is a strategic sector in China heavily permeated by CCP control, direction, and support.

China's targeting of these sectors for dominance burdens or restricts U.S. commerce because it undercuts business opportunities for and investments in the U.S., maritime, logistics and shipbuilding sectors. China has targeted the maritime, logistics, and shipbuilding sectors for dominance for nearly three decades, and increasingly dominates these sectors globally.[611] Indeed, China continues to build upon its dominance and seeks to expand into new segments of those markets.

For China to achieve its targeted dominance, including as demonstrated by explicit global market share targets, Chinese companies must displace foreign companies in existing markets and take new markets as they develop. Such displacement affects China's current top competitors in Korea and Japan, as well as U.S. shipbuilders, which continue to see their small

SHIPPING (North America) Inc.; COSCO SHIPPING Finance Co., Ltd.; China International Marine Containers (Group) Co., Ltd.; (CIMC) China Shipbuilding Trading Co., Ltd. (CSTC); China State Shipbuilding Corporation Limited (CSSC); CSSC Offshore & Marine Engineering (Group) Company Limited (COMEC); Guangzhou Wenchong Shipyard Co., Ltd.; Huacheng (Tianjin) Ship Leasing Co., Ltd.; and Sinotrans & CSC Holdings Co., Ltd.

[610] *See also* 19 U.S.C. § 2411(d)(2) ("An act, policy, or practice of a foreign country that burdens or restricts United States commerce may include the provision, directly or indirectly, by that foreign country of subsidies for the construction of vessels used in the commercial transportation by water of goods between foreign countries and the United States.").

[611] As discussed in Section I.E, the United States maintained a robust shipbuilding and related sectors for approximately 30 years after World War II, but the industry declined in the 1970s and 1980s because of, among other reasons, increased foreign competition and the end of the Construction Differential Subsidies. The industry was already significantly diminished by the time China began its targeting efforts in the 1990s, but China's policies currently result in burden and restriction to the U.S. industry, workers, and commerce, as set out above.

market share decline and are unable to compete with China's artificially low prices and massive scale.[612] That is, there is little to no business opportunities for U.S. shipbuilders where Chinese producers are active given Chinese non-market excess capacity (resulting in massive supply and artificially low prices) that is the product of China's targeted dominance. U.S. shipbuilders are effectively foreclosed from future commercial opportunities due to these unfair, anti-competitive market conditions and are not able to invest in capacity and attract financing to support expanding operations. As the Shipbuilder's Council of America has stated:

> Shipyard businesses in the U.S. operating under free enterprise compete aggressively for domestic commercial and government shipbuilding and ship repair contracts. However, because of China's heavy subsidization of its commercial shipbuilding and ship repair sectors there has been no ability for private-industry U.S. shipyards to compete for contracts to build or repair ships for international commerce.[613]

Similar dynamics exist in other industries in the maritime and logistics sectors that China has targeted for dominance. China produces over 70 percent of ship-to-shore cranes, 86 percent of intermodal chassis, 95 percent of shipping containers, and increasing shares of other components and products.[614] Given China's dominance, U.S. companies face similar obstacles with respect to loss of business opportunities and difficulties in attracting potential investments.

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[612] Mike Schuler, *China Dominates Global Containership Construction as Korean Shipyards Face Decline*, GCAPTAIN (Dec. 17, 2024), https://gcaptain.com/china-dominates-global-containership-construction-as-korean-shipyards-face-decline/. ("Chinese shipyards have solidified their dominance in the construction of containerships, commanding an impressive 68.5% of the global boxship orderbook capacity, according to Alphaliner. This transformation marks a dramatic reversal from historical norms, with South Korea, the former industry leader, now holding just 23.3% of the market. The change in rankings hasn't been sudden. China first took the lead in 2015 with orders totaling 900,000 TEU, though those years saw relatively low overall activity.").

[613] Ltr of Matthew Paxton, President, Shipbuilders Council of America, Mar. 11, 2024.

[614] CARL W. BENTZEL, COMMISSIONER, U.S. FEDERAL MARITIME COMMISSION, ASSESSMENT OF P.R.C. CONTROL OF CONTAINER AND INTERMODAL CHASSIS MANUFACTURING, 3 (Mar. 2023), https://www.fmc.gov/wp-content/uploads/2022/03/ContainerandChassisManufacturingFinalReport.pdf; *see* Dustin Volz, *Espionage Probe Finds Communications Device on Chinese Cranes at U.S. Ports*, WALL ST. J. (Mar. 7, 2024), https://www.wsj.com/politics/national-security/espionage-probe-finds-communications-device-on-chinese-cargo-cranes-867d32c0; *see generally* COLLINS & BIANCHI.

Figure 12: Indicative Prices for New Vessels by Build Country[615]
(as of September/December 2023)

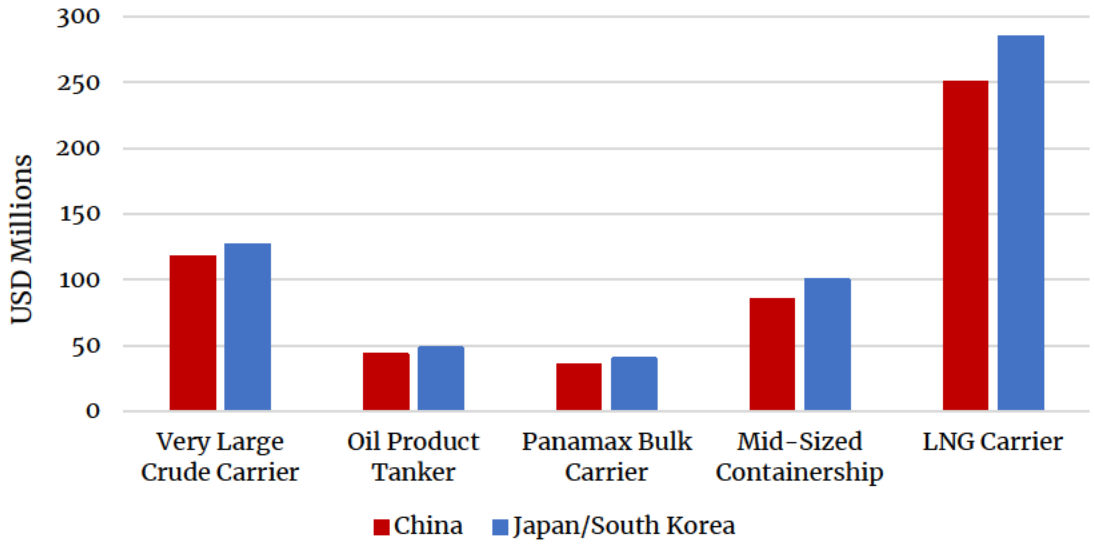
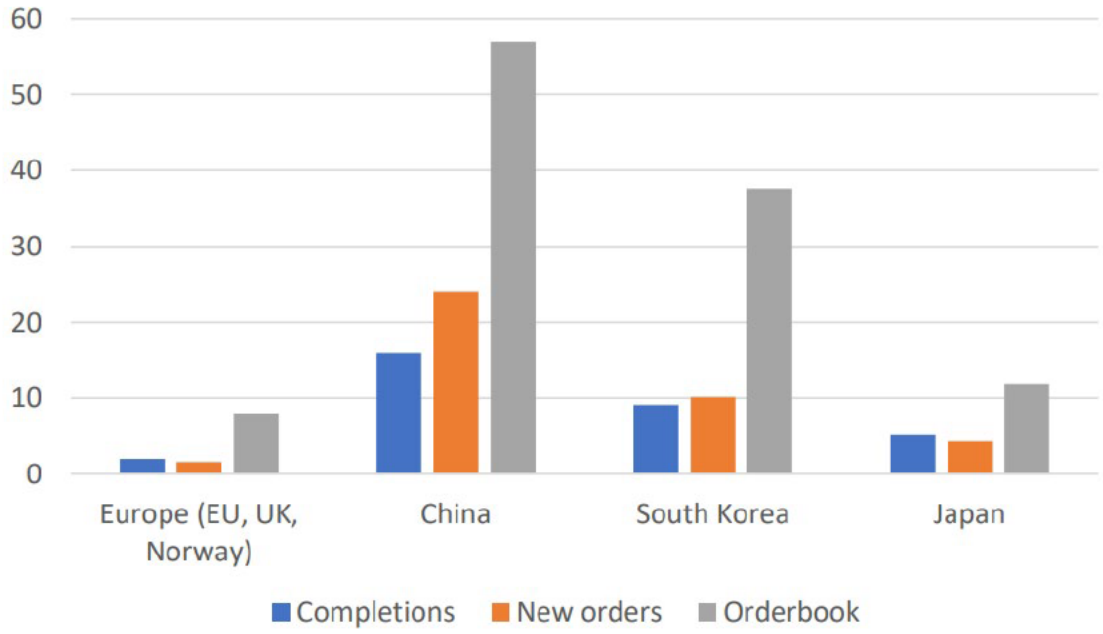


Figure 13: Overview of Shipbuilding Activity in 2023[616]
(in mCGT)



This dynamic contributes to the diminished state of the U.S. sectors and chronic underinvestment in these sectors. No matter how a U.S. company restructures, improves its efficiency, or revises its business plan, it cannot fairly and effectively compete internationally

[615] *Compare Written Comments of China Association of the National Shipbuilding Industry* (May 21, 2024) (arguing that the prices for certain ship orders in 2021 and 2022 were higher for Chinese suppliers than Korean suppliers).
[616] SEA EUROPE, 2023 SHIPBUILDING MARKET ANALYSIS, (Apr. 2024), https://www.seaeurope.eu/images/2023_Shipbuilding_Market_Analysis_April_2024.pdf.

when purchasers, investors, and suppliers view China controlling 50 percent or more of global production capacity. China's targeting of these sectors for dominance, including its extraordinary control of economic actors and direction of non-market advantages to these sectors, means that China's companies may outbid their competitors with low pricing, expand capacity and set prices without regard for market signals, and generally seek to gain market share without regard to returns.

As the industry group Alliance for American Manufacturing summarized in its testimony to the U.S. House of Representatives Select Committee on the Chinese Communist Party: "[w]e cannot expect our companies or our workers to compete against countries[,]"in addition "U.S. shipbuilding production has declined as artificially low prices of ships flood the market. China's unfair production practices have made it impossible for American shipbuilders to compete on an even playing field."[617]

1. Shipbuilding

- China's targeting of the shipbuilding sector for dominance is hindering any public or private efforts to revitalize the U.S. shipbuilding industry.

- U.S. companies are severely constrained to compete for businesses in the global recapitalization of the commercial fleet. Low-priced Chinese ships which result from China's targeted dominance are among the constraints U.S. companies face to compete for business.

The U.S. commercial shipbuilding industry faces many longstanding problems, but China's targeting of the sector for dominance is hindering any public or private efforts to revitalize this sector. Indeed, U.S. industries are severely constrained to compete for business in the global recapitalization of the commercial fleet. Low-priced Chinese ships which result from China's targeted dominance are among the constraints U.S. companies face to compete for business.

Industry analysts have assessed that more than 3,500 ships need to be built or refitted globally each year until 2050 in order to meet new International Maritime Organization emissions standards.[618] That number far exceeds the number of ships built in the most recent shipbuilding boom, during which the global shipbuilding industry produced approximately 2,700 vessels a year.[619] This transition and the concordant demand represent a significant opportunity for shipbuilders and the global maritime economy. Yet despite this strong demand signal, China is absorbing a disproportionate amount of fleet renewal investments—and as demonstrated, seeks to absorb ever higher global market share.

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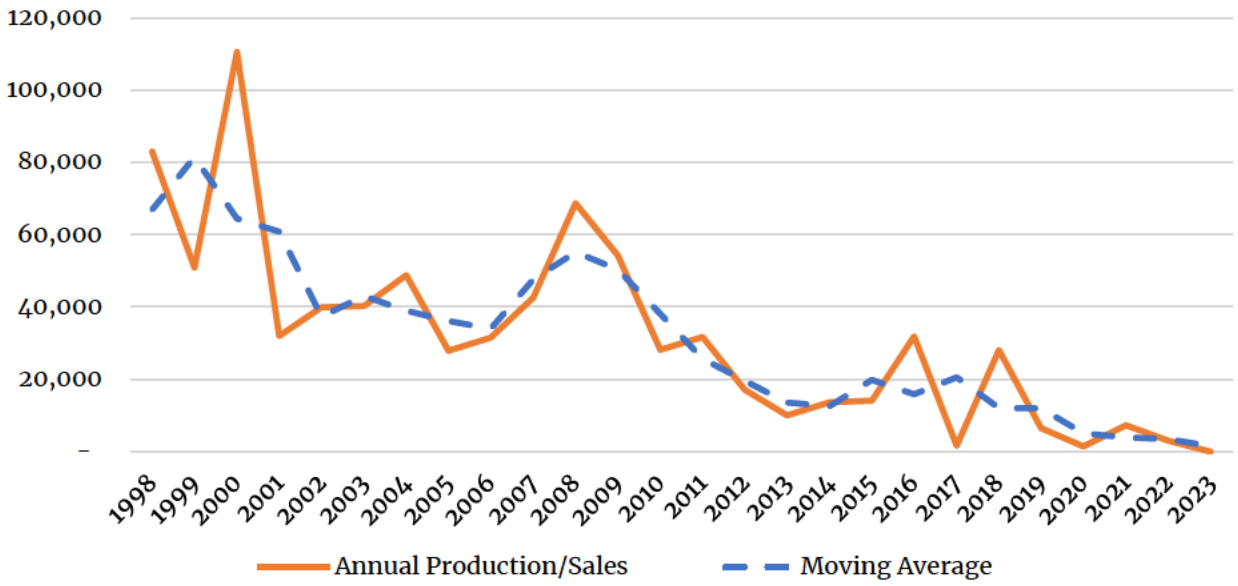
[617] Scott N. Paul, President, All. for Am. Mfg., From High Tech to Heavy Steel: Combatting the PRC's Strategy to Dominate Semiconductors, Shipbuilding, and Drones, before the Select Committee on the Chinese Communist Party, 118th Cong. (Jun. 26, 2024).
[618] Sam Chambers, *Owners Face Severe Yard Bottleneck*, SPLASH 247 (May 2, 2023), https://splash247.com/owners-face-severe-yard-bottleneck/.
[619] *Id.*

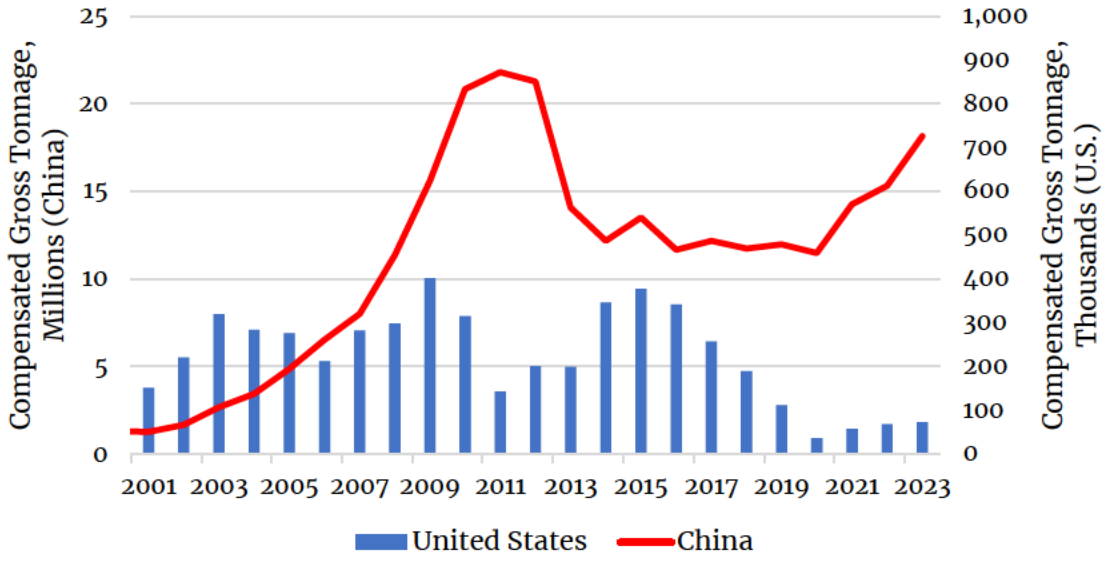
Figure 14: U.S. Built Ships in Use by Foreign Operators (CGT)[620]



China's market share targets imply substitution by Chinese companies at the expense of foreign competitors—for Chinese companies to gain market share, they must displace foreign companies in existing markets. This contributes to the current market situation where U.S. shipyards are receiving few orders associated with the recapitalization of the global commercial fleet. The relative weakness of U.S. shipyards is often attributed in part to the lack of scale, technology, and the large volume "series building" order books.[621] But U.S. companies that operate according market-oriented principles and subject to market disciplines are unable to compete and make significant investments in the distorted, anti-competitive global market dominated by Chinese companies. No matter how a U.S. company restructures, improves its efficiency, or revises its business plan, it cannot fairly and effectively compete internationally when purchasers, investors, and suppliers view China controlling 50 percent or more of global production capacity. U.S. companies are severely constrained or unable to invest in capacity and attract financing to support expanding operations. Even South Korea, the second largest shipbuilding country in the world, has ceded most of its container ship and bulker order to focus on high-value orders as China moves to reopen dormant shipyards and expand existing capacity.[622]

[620] Based on data from Clarksons Research (100 GT and greater).
[621] Testimony of Mark H. Buzby, Administrator, Maritime Administration, U.S. Department of Transportation before the Committee on Transportation and Infrastructure, U.S. House of Representatives (Mar. 6, 2019).
[622] *Forecast: China is Taking Steps to Dominate Shipbuilding for Decades*, MARITIME EXECUTIVE (Dec. 6, 2024), https://maritime-executive.com/article/forecast-china-is-taking-steps-to-dominate-shipbuilding-for-decades.

Figure 15: Total Vessel Deliveries (CGT)[623]



The effects of China's dominance extend to markets for highly specialized, advanced ships, such as offshore wind installation vessels. Offshore wind is a critical piece of the equitable transition to net-zero emissions in the United States. The United States is seeking to deploy 30 gigawatts of offshore wind electricity generation by 2030 and to be on path to 110 gigawatts of offshore wind electricity generation by 2050.[624] As described by the National Renewable Energy Laboratory, critical aspects of the domestic offshore wind energy supply chain include "significant development of manufacturing facilities, ports, vessels, and a trained workforce to produce, transport, and install the major components required for an offshore wind energy project." The National Renewable Energy Laboratory report assessed that a minimum viable supply chain would require:

Table 6: Minimal Requirements for a Viable Offshore Wind Energy Supply Chain[625]

Asset Type	Number
Fixed-bottom wind marshaling ports	8
Floating wind integration ports	2
Dedicated wind turbine installation vessels	4-6
Dedicated heavy-lift vessels	4-6
U.S.-flagged specialized feeder barges	4-8
Manufacturing facilities	34

[623] Based on data from Clarksons Research.
[624] Fact Sheet: Biden-Harris Administration Continues to Advance American Offshore Wind Opportunities, The White House (Mar. 29, 2023), https://www.whitehouse.gov/briefing-room/statements-releases/2023/03/29/fact-sheet-biden-harris-administration-continues-to-advance-american-offshore-wind-opportunities/.
[625] Matt Shields, et al., *A Supply Chain Road Map for Offshore Wind Energy in the United States*, NAT'L RENEWABLE ENERGY LAB., https://www.nrel.gov/docs/fy23osti/84710.pdf at xi.

In total, the report assessed that this would require an investment of approximately $11 billion in ports and vessels.

Despite this strong demand signal, few U.S. vessels are in development or construction. For example, while the report indicates that four to six wind turbine installation vessels are needed, only one purpose-built offshore wind installation vessel has been launched in the United States.[626] This is in part due to China's flooding the market with offshore wind installation vessels, which decreases U.S. shipyards' perceived cost-competitiveness and artificially restricts the ability of shipowners to compete for available work.

For example, the U.S.-built offshore wind installation vessel capable of installing the largest wind turbines is reportedly expected to cost approximately $715 million.[627] By contrast, a European vessel operator has contracted a similar vessel to be built in China for only $400 million, due in part from cost savings from building two similarly designed vessels in China.[628] This initial contract price provides an indication of the impact of China's unreasonable acts, policies, and practices. From an initial cost perspective, the Chinese-built wind tower installation vessel was 25 percent less expensive than a wind tower installation vessel built in United States. Yet, as detailed above, the non-market advantages that flow from China's targeting of this sector for dominance confer artificial cost advantages to Chinese shipyards through related party transactions, labor rights violations, mispriced and misallocated financing, underpriced steel and other inputs, and others.[629] With cost reductions from matured vessel designs, and costs and pricing reflecting series orders, U.S. shipbuilding could be considerably more competitive.

A wind tower installation vessel is a capital-intensive investment. One report estimated that the construction of five such vessels at a cost of $500 million, and:

> . . . could support approximately 9,825 direct jobs, 11,175 indirect jobs and another 11,275 jobs as a result of induced economic activity. This does not include estimates for the thousands of jobs that will be supported by demand for supply and other related vessels. It also may underestimate the supply chain and induced effects, as MARAD estimates that each direct shipbuilding job supports another 3.67 jobs. This figure would translate to as many as 36,000 additional jobs in supply chains and induced activity supported by these investments.

The failure to realize the benefits of such construction illustrates a manner in which reduced business opportunities and under-investment burdens or restricts U.S. commerce.

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[626] *First U.S. wind turbine vessel installation vessel launched*, WORKBOAT (Apr. 15, 2024), https://www.workboat.com/wind/first-u-s-wind-turbine-installation-vessel-launched.
[627] Ros Davidson, *Price tag for first US-built offshore wind turbine installation vessel hits $715m*, WINDPOWER MONTHLY (Aug. 6, 2024), https://www.windpowermonthly.com/article/1883317/price-tag-first-us-built-offshore-wind-turbine-installation-vessel-hits-715m.
[628] Press Release, Cadeler A/S, Cadeler places order to build its third state-of-the-art A-class vessel (May 22, 2024), https://www.cadeler.com/news/cadeler-places-order-to-build-its-third-state-of-the-art-a-class-vessel.
[629] *See generally* Section III.C; *see also* Myrto Kalouptsidi, *Detection and Impact of Industrial Subsidies: The Case of Chinese Shipbuilding*, 85 REV. OF ECON. STUDIES, 1111 (2017) (finding "strong evidence consistent with China having intervened and reducing shipyard costs by 13–20%").

China's targeting of the shipbuilding sector for dominance has also contributed to under-investment in U.S. shipyards and their supply chains that are essential to the construction of naval vessels. As Senator Reed and Senator Inhofe observed in 2021:

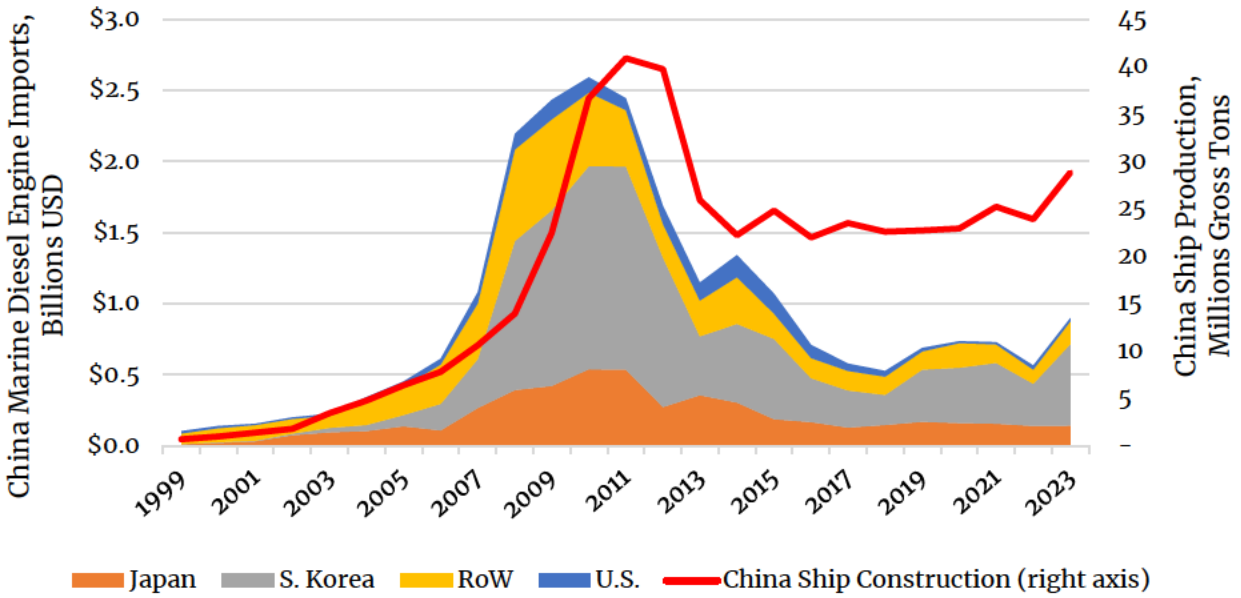
> Since the 1960s, 14 U.S. shipyards that construct ships for the Navy have closed, and three have left the defense industry. Only one new shipyard has opened. As a result, just seven shipyards, owned by four prime contractors, build large Navy warships today. By comparison, China has more than 20 shipyards supporting its naval surface ship expansion, with dozens of commercial shipyards that dwarf the largest U.S. shipyards in size and throughput. All Chinese naval construction shipyards also build commercial ships, which provide additional revenue and support shipyard design, workforce, and infrastructure development while reducing overhead costs for naval construction.[630]

As U.S. commercial shipbuilding has declined, so too has the availability and viability of shipyards for naval shipbuilding. Fewer U.S. shipyards means less competition to produce naval vessels. This in turn contributes to higher prices and growing costs. Beyond shipbuilding, the maritime and logistics sectors are essential to supply the U.S. defense industrial base.

Finally, as described in sections II and III of this report, China has increased requirements that Chinese-built vessels contain Chinese-made inputs, components, and equipment over time. These requirements effectively drive U.S. producers of inputs, components, and equipment out of the global market as China absorbs a greater percentage of the world's market share. For example, China's imports of marine diesel engine followed the trend of China's ship production closely before 2013, but since then, as China accelerated the indigenization of the production of upstream marine diesel engines, imports of these components from the world, including the United States continued to decline:

[630] REED & INHOFE.

Figure 16: China's Indigenization of Marine Diesel Engines Drives Down Imports[631]



As the Shipbuilders Council of America has assessed, "[i]ndeed, as a direct result of China's policies, preferences and practices in its commercial shipbuilding and ship repair industries, U.S. businesses big and small have exited this manufacturing sector significantly reducing the overall shipyard industrial base." [632]

The decline in the shipbuilding upstream industrial base has forced the U.S. Navy to rely on single sources for key inputs such as forged shafts, which poses risks in terms of capacity shortfalls, lack of competition, and reduced workforce skills.[633]

In sum, as the petitioners noted, "while the domestic commercial shipbuilding industry has been in decline for many years due to an array of factors, the headwinds facing the industry since 2000 have been due primarily to unfair competition from China, which now dominates the global market for new commercial vessels."[634] As long as China targets the shipbuilding for dominance, U.S. companies will continue to struggle to compete globally and suffer from diminished business opportunities and underinvestment.

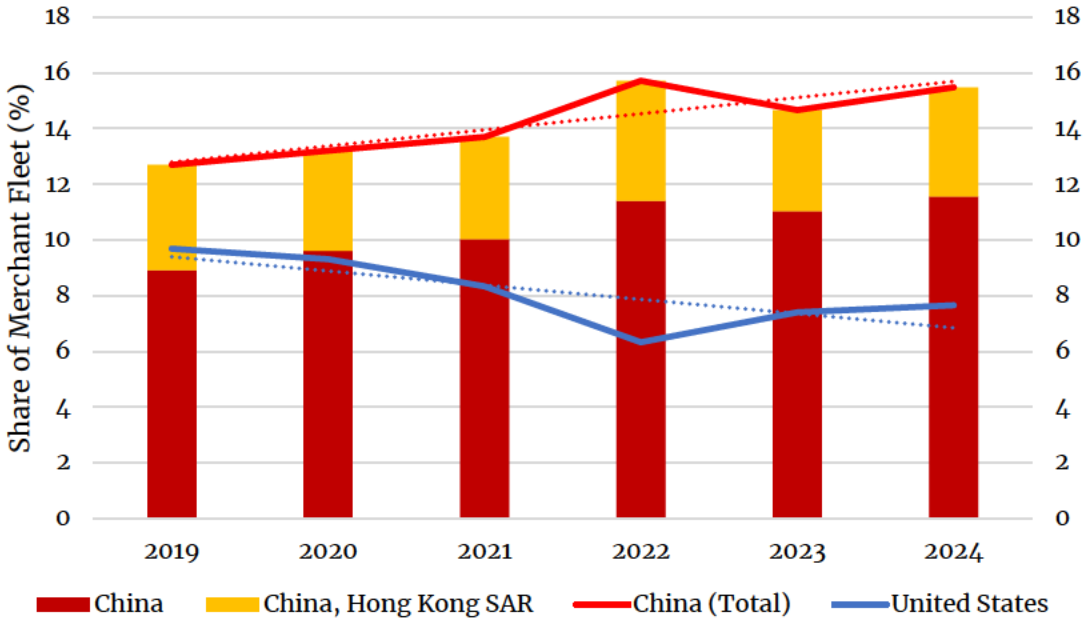
[631] Data from China Customs for HS codes 8408.10. Gross tonnage of self-propelled ocean-going cargo vessels greater than or equal to 100 gross tons, based off Maritime Administration analysis of data from Lloyds Register and S&P Global.
[632] Ltr of Matthew Paxton, President, Shipbuilders Council of America, Mar. 11, 2024.
[633] U.S. DEP'T OF DEF., ASSESSING AND STRENGTHENING THE MANUFACTURING AND DEFENSE INDUSTRIAL BASE AND SUPPLY CHAIN RESILIENCY OF THE UNITED STATES 79 (2018).
[634] Petition at 97-98.

2. Maritime Shipping

- China's targeting for dominance means that Chinese companies are gaining market share at the expense of foreign competitors.
- China continues to capture a greater share of the transportation market, negatively impacting U.S. vessels and shipowners.

Similar to the burden and restriction posed by China's dominance in shipbuilding, China's expanding control over the global shipping market undercuts U.S. shipping companies. As described in sections II and III of this report, China's dominance and control in the maritime, logistics, and shipbuilding sectors accumulates non-market advantages that lead to increases in China's merchant fleet, and decreases in the U.S. merchant fleet.[635] That is, Chinese shippers place orders with Chinese shipbuilders, enhancing economies of scale and lowering costs. Artificially low-cost Chinese ships, in turn, abet expansion of Chinese shippers and offering of low-price shipping services. As a result, China is now reported to have the second-largest merchant fleet by value, worth nearly $204 billion. In contrast, the United States has the fourth-largest merchant fleet by value, worth over $99 billion.[636]

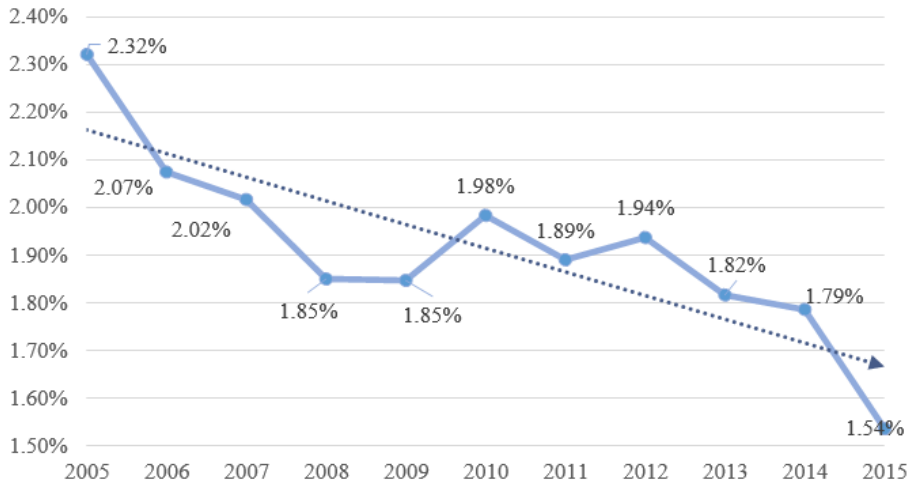
Figure 17: Share of World Merchant Fleet Value by Country of Beneficial Ownership, Annual[637]



[635] *See also* HIDDEN HARBORS at 2 ("This funnels new orders to Chinese shipbuilders and expands China's ownership of the world's merchant fleet.").
[636] *Top 10 Shipowning Nations by Total Asset Value for 2024*, VESSEL VALUE BLOG (Feb. 29, 2024), https://blog.vesselsvalue.com/top-10-shipowning-nations-2024/.
[637] UN Trade & Development Statistics.

China's targeting for dominance means that Chinese companies are gaining market share at the expense of foreign competitors. China is expanding to capture a greater share of the transportation market, negatively impacting U.S. vessels and shipowners. On an aggregate scale, the U.S.-flag carried share of international trade fell from 2.32 percent in 2005 to 1.54 percent in 2015.[638] Given China's expanding control of the global shipping market, and the artificial price advantages of Chinese-built ships, U.S. companies are further disincentivized from investing in this market.

Figure 18: U.S.-Flag Share of Foreign Trade (2005-2015) Based on Cargo Weight[639]



3. Logistics

- China's state-sponsored and -supported logistics services platform, LOGINK, continues to gain global dominance and impede the development of a fair and competitive market for such platforms, including at the expensive of a now defunct provider of similar services.

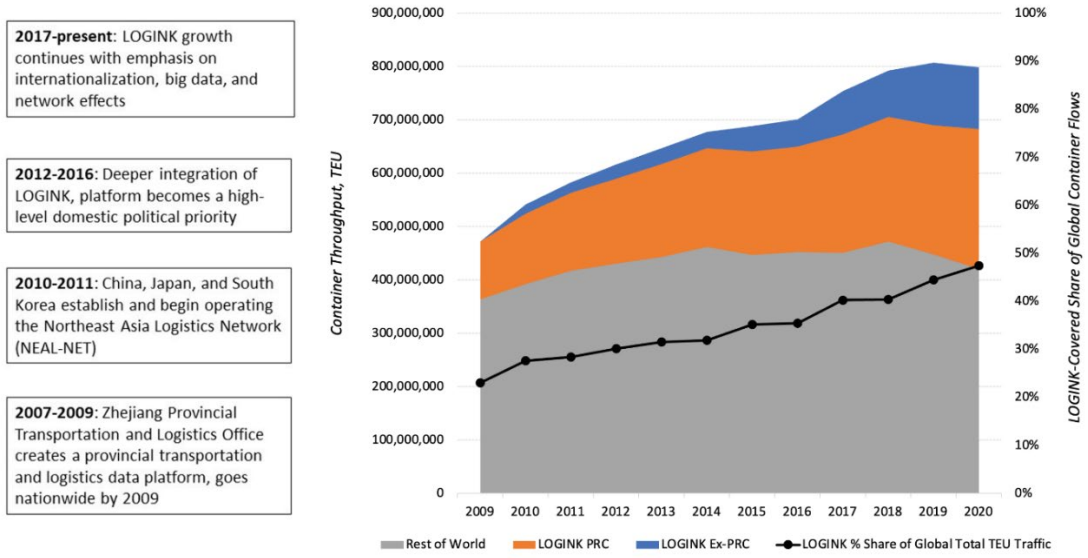
- This has altered the competitive dynamics for logistics management and data as China continues to capture a greater share of the transportation market, negatively impacting U.S. vessels and shipowners.

China's unreasonable targeting of the logistics sector for dominance leads to burdens or restrictions on U.S. commerce, such as by contraction of competition for logistics services. Specifically, China's state-sponsored and -supported logistics services platform, LOGINK, continues to gain global dominance and impede the development of a fair and competitive

[638] Statement of Mark H. Buzby, Administrator, Maritime Administration (Jan. 17, 2018) before the U.S. House of Reps. Comm. on Transp. & Infrastructure (Figure 1).
[639] *See* BUZBY.

market for such platforms. This has altered the competitive dynamics for global logistics and data management. As of 2023, LOGINK's market share (as measured by the service's coverage of container throughput) reached approximately 40 percent, making LOGINK the dominant firm in the global market:

Figure 19: Market Share of LOGINK[640]



Source: Rice University's Baker Institute for Public Policy

LOGINK has been able to achieve this market position not only by virtue of it being state-sponsored and -supported, and therefore insulated from market pressures, but also because it has been offered free of charge to all users who agree to share their supplier, shipper, and other data.[641] The real-world effect of this has been a reduction in competition: in 2023, LOGINK's main U.S.-Danish competitor, TradeLens, discontinued operations.[642]

TradeLens was a joint venture between IBM and Maersk that launched in January 2018 to develop a digital platform designed "to bring together all global maritime logistics in a single system to achieve total traceability and digitalization of cargo" by using open standards.[643] By November 2018, IBM announced that TradeLens was being adopted by "more than 100 organizations, including four ocean carriers, three inland carriers, more than 40 worldwide ports and terminals, large freight forwarders, and eight customs authorities spanning the globe from

[640] COLLINS & BIANCHI.
[641] U.S. China Economic and Security Review Commission, LOGINK: RISKS FROM CHINA'S PROMOTION OF A GLOBAL LOGISTICS MANAGEMENT PLATFORM.
[642] *A.P. Moller – Maersk and IBM to Discontinue TradeLens, a Blockchain-enabled Global Trade Platform*, MAERSK (Nov. 29, 2022), https://www.maersk.com/news/articles/2022/11/29/maersk-and-ibm-to-discontinue-tradelens.
[643] *Fantasy Football Trades: How IBM Granite Foundation Models Drive Personalized Explainability for Millions*, IBM (Oct. 15, 2024), https://www.ibm.com/blogs/think/2018/11/tradelens-how-ibm-and-maersk-are-sharing-blockchain-to-build-a-global-trade-platform/; https://piernext.portdebarcelona.cat/tecnologia/el-cierre-de-tradelens/.

Rotterdam to Bahrain."[644] In 2019, two other major shipping liners, CMA CGM and Mediterranean Shipping Company, joined Maersk on TradeLens.[645] Despite this, the company was unable to gain adoption by two other key players: shippers and freight forwarders.[646] One independent expert assessed that two reasons may have been "the cost, that certain document management was sufficiently attractive economically speaking[,]" and other competitors offered access to information for the same or lower prices.[647] The clear implication is that LOGINK, which was the main competitor of TradeLens, was able to drive out its competitor by offering its service for free. In this manner, LOGINK engages in practices that limit market-based competition and alternatives for customers, distorting the market.

In addition, stakeholders and industry experts have observed that through its "monopoly position," LOGINK could "leverage [this position] to extract insights about goods flows, timing, and pricing" and that "[p]referred access to data would enable [China] to maintain a subtle but decisive competitive edge", thereby shaping international markets.[648] Further, LOGINK's dominant market position also allows it to employ market power that "creates strategic-level foreign dependence on China."[649]

Stakeholders are also concerned that a second generation of LOGINK, now under development, would offer a cloud-based suite of enterprise software applications, such as advanced data analytics and business partner relationship management tools.[650] Such services would potentially put LOGINK in competition with many private sector firms, including U.S. freight forwarders, supply chain visibility platforms, and various logistics data analytics and enterprise resource planning (ERP) startups.[651]

4. Wages and Workforce

- Chinese entities, pursuing China's dominance goals, utilize unfair labor practices severely and artificially suppress China's labor costs in the maritime, logistics, and shipbuilding sectors.

- The artificially low labor costs in China create suppressive effects on U.S. labor in the maritime, logistics, and shipbuilding sectors.

China's unreasonable targeting of the maritime, logistics, and shipbuilding sectors for dominance facilitates negative pressure on wages globally and in the United States, contributing

[644] *Id.*
[645] Maersk, Press Release, Maor Ocean Carriers CMA CGM and MSC to Join TradeLens Blockchain-enabled Digital Shipping Platform, May 28, 2019, https://www.maersk.com/news/articles/2019/05/28/cma-cgm-and-msc-to-join-tradelens-digital-shipping-platform.
[646] *Maersk and IBM Abandon Blockchain TradeLens Platform*, MARITIME EXECUTIVE (Nov. 30, 2022), https://maritime-executive.com/article/maersk-and-ibm-abandon-blockchain-tradelens-platform.
[647] *TradeLens Shutdown: When Technology isn't Enough*, PIERNEXT (Jan. 26, 2023), https://piernext.portdebarcelona.cat/tecnologia/el-cierre-de-tradelens/.
[648] COLLINS & BIANCHI.
[649] *Id*.
[650] LOGINK: RISKS FROM CHINA'S PROMOTION OF A GLOBAL LOGISTICS MANAGEMENT PLATFORM at 3.
[651] *Id*.

to the loss of U.S. jobs, fewer working hours, and negative pressure on U.S. wages, as well as other adverse impacts on U.S. commerce.

As discussed in section III.C.3 of this report, Chinese entities, pursuing China's dominance goals, utilize a number of unfair labor practices that severely and artificially suppress China's labor costs. One examination of the impacts of China's unfair labor practices assessed that:

> By lowering wages by between 47 and 85 percent, China's labor repression also diverts millions of manufacturing jobs from countries where labor rights are not so comprehensively denied, increasing unemployment and poverty among workers in developed and developing countries. Highly conservative methodologies show that China's labor repression displaces approximately 727,000 manufacturing jobs in the United States alone, and perhaps many more.[652]

This analysis used four different methodologies, based on conservative assumptions, to calculate the impact:

> The first methodology aggregates firm-level data on U.S. corporations that move pre-existing U.S. jobs to China. The second methodology aggregates product and sectoral data on jobs displaced by increases in imports from China. The third uses the COMPAS model of the U.S. International Trade Commission to estimate the displacement of U.S. jobs by the cost advantage conferred by China's persistent denial of workers' rights. The fourth uses bilateral trade elasticities to estimate the same phenomenon.[653]

To illustrate this impact in the maritime context, others have observed that:

> The reasons behind China's massive advantages in the commercial maritime industry are no mystery. Entry-level mariners on the Chinese-built, foreign-registered ships that dominate global trade earn $8,000 per year for 11 months at sea, a small fraction of what an American mariner might reasonably expect. Shipbuilders in China enjoy labor and material costs that are half as much as those in U.S. and EU shipyards.[654]

Unfair labor practices also contributes to low wages in China's shipbuilding sector in comparison to the United States. For example, the Economic Research Institute estimated that the average annual salary of a shipyard laborer in China is approximately $10,640 (RMB 75,346),[655] and unofficial accounts from workers at Dalian Shipbuilding Industry Co. Ltd., a subsidiary of CSSC,

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[652] *See* comment USTR-2024-0005-00106903.
[653] *Id*.
[654] Bryan Clark & Michael Roberts, *How America Can Rebuild Its Fleet to Counter China's Maritime Dominance*, HUDSON INSTIT. (Jan. 14, 2025), https://www.hudson.org/defense-strategy/how-america-can-rebuild-its-fleet-counter-chinas-maritime-dominance-bryan-clark-michael-roberts.
[655] *Shipyard Laborer Salary*, ECON. RES. INSTIT. (Sept. 11, 2024), https://www.erieri.com/salary/job/shipyard-laborer/china.

put the annual salary of a normal shipyard worker at approximately $11,410 (RMB 80,800).[656] By comparison, U.S. shipyard workers, who are protected by more fair labor, safety, and environmental standards, earn approximately $67,140—nearly six times greater.[657] [658]

China's exploitive system obstructs fair competition in the global maritime, logistics, and shipbuilding sector. Artificially lower labor costs also contribute to lower production costs, which enable Chinese firms to charge lower prices for their products, and in turn enable these firms to gain market share to the disadvantage of foreign competitors, including U.S. businesses.

As domestic production declined and yards closed, shipyard employees, production workers, and production worker hours all fell.[659] From 2008 to 2021, the number of shipbuilding and repair production workers in the United States fell by 14.9 percent and the number of production hours worked fell by 19.5 percent.[660] The Maritime Administration estimates that each direct job in the U.S. private shipbuilding and repair industry is associated with 2.67 jobs in other parts of the U.S. economy.[661]

China's dominance of the maritime shipping sector also suppresses U.S. employment opportunities for seafarers. As the U.S. ocean-going commercial fleet decreases, U.S. seafarers have fewer employment opportunities with competitive wages, benefits, and labor protections.[662]

B. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance Burdens or Restricts U.S. Commerce by Restricting Competition and Choice

- When China's state-owned, -invested, or -controlled enterprises achieve dominance, they are under less competitive pressure to innovate, and competitors and consumers become susceptible to market abuses by the dominant player.

China's targeting of the maritime, logistics, and shipbuilding sectors for dominance burdens or restricts U.S. commerce by restricting competition and choice in the marketplace. In addition to diminished opportunities and investments for U.S. producers, China's targeted dominance results in diminished choice for U.S. firms. High levels of market concentration in

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[656] *Regular Salary of 5,400, Actual Salary of 80,800, Dalian Shipbuilding Industry Employee Salaries Exposed*, NETEASE (Mar. 24, 2024), https://www.163.com/dy/article/IU1IP7F405566U7J.html.
[657] Petitioners note that China's unfair labor practices contribute to wage depression by 47 to 85 percent across many industries, including in manufacturing.
[658] Bryan Clark & Michael Roberts, *How America Can Rebuild Its Fleet to Counter China's Maritime Dominance*, HUDSON INSTIT. (Jan. 14, 2025), https://www.hudson.org/defense-strategy/how-america-can-rebuild-its-fleet-counter-chinas-maritime-dominance-bryan-clark-michael-roberts.
[659] *See* Petition at Exhibit 126.
[660] U.S. Census Bureau, "Annual Survey of Manufactures for NAICS 336611, Shipbuilding and Repair"
[661] MARAD, THE ECONOMIC IMPORTANCE OF THE U.S. PRIVATE SHIPBUILDING REPAIRING INDUSTRY 2 (Mar. 30, 2021).
[662] *See* Ann C. Phillips, Maritime Administrator, Assessing the Shortage of United States Mariners and Recruitment and Retention in the United States Coast Guard, before the U.S. House of Representatives Committee on Transportation and Infrastructure (May 11, 2023), https://www.transportation.gov/assessing-shortage-united-states-mariners-and-recruitment-and-retention-united-states-coast-guard.

the hands of few suppliers mean less incentives for innovation, decreased diversity of supply, greater barriers to entry, and less purchaser or consumer choice.

China's targeted dominance results in diminished choice for U.S. firms. U.S. shipping companies enjoy less choice for supply of vessels and for logistics software and services; U.S. importers, exporters, and producers face less choice for shipping options. In other words, U.S. firms cannot realize the benefits – such as the incentives for companies to offer lower prices, enhanced quality and resilience, and innovation, among others – that fair market competition would be expected to provide. Less competition and choice may deny to purchasers and consumers the benefits of innovation, such as enhanced performance, features, or efficiency, that might have resulted from more market-oriented competition.

For example, China's entrenchment as the world's dominant shipbuilder means that U.S. shipping companies enjoy less choice for supply of vessels. In October 2024, China's Association of the National Shipbuilding Industry (CANSI), reported that during the first nine months of 2024:

- Chinese shipyards had received nearly 75 percent of all orders placed globally in 2024 or a total of 87.11 million DWT;
- The order volume was up nearly 52 percent over 2023; and,
- Chinese companies accounted for 61.4 percent of the global newbuilding orders or a total of 193.3 million DWT.[663]

Chinese shipyards not only exceeded their annual targets, but also added additional capacity that contributed to China's growing its shipbuilding output by over 18 percent during this period.[664] In 2023, China led the orders for 14 out of the 18 major types of shipbuilding projects.[665]

Similarly, China's entrenchment in the logistics services market translates into fewer choices for logistics software and services. In maritime transportation markets, U.S. importers, exporters, and producers have fewer shipping options than they would under fair, market-oriented conditions. In other words, U.S. firms cannot realize the benefits of competition—such as the incentives for companies to offer lower prices, enhanced quality and resilience, and innovation, among others.[666]

In addition, less competition and choice may reduce innovation and resulting benefits to purchasers or consumers. When state-owned, -invested, or -controlled enterprises achieve dominance, they are under less competitive pressure to innovate. Indeed, research on the solar sector has shown that once China achieved dominance, research and development intensity, start-

[663] "*China Dominates Shipbuilding in 2024 Booking Three-Quarters of Orders",* MARITIME EXECUTIVE (Oct. 10, 2024), https://maritime-executive.com/article/china-dominates-shipbuilding-in-2024-booking-three-quarters-of-orders; *In the First Three Quarters of 2024, Our Country's Three Major Shipbuilding Indicators Achieved Year-on-Year Growth*, CANSI (Oct. 12, 2024), https://www.cansi.org.cn/cms/document/19487.html.
[664] *Id.*
[665] *China's Shipbuilding Industry Continues to Improve* [Chinese], PEOPLE'S DAILY (Oct. 14, 2024), http://paper.people.com.cn/rmrb/html/2024-10/14/nw.D110000renmrb_20241014_3-03.htm.
[666] US Department of Justice and Federal Trade Commission, Merger Guidelines, December 18, 2023, 1, https://www.ftc.gov/system/files/ftc_gov/pdf/P234000-NEW-MERGER-GUIDELINES.pdf.

up activity, and patenting were significantly reduced.[667] As a result, purchasers and consumers are denied the benefits of innovation, such as enhanced performance, features, or efficiency, that might have resulted from more market-oriented competition.

Thus, China's targeting of these sectors for dominance results in restrictions on choice and competition, and negative effects flowing from those, which burden or restrict U.S. commerce.

C. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance Burdens or Restricts U.S. Commerce Because It Creates Economic Security Risks from Dependence and Vulnerabilities in Sectors Critical to the Functioning of the U.S. Economy

- China's targeted dominance of the maritime, logistics, and shipbuilding sectors has created dependencies for shipbuilding, logistics, and a substantial portion of U.S. international shipping and vulnerabilities across the U.S. economy.
- China has also revealed the capacity and willingness to weaponize dependencies and vulnerabilities through economic coercion.
- The resulting economic security risks of over-relying on a single economy, especially that of a strategic competitor, for maritime, logistics, and shipbuilding burden or restrict U.S. commerce.

China's targeting of the maritime, logistics, and shipbuilding sectors for dominance burdens or restricts U.S. commerce because it creates economic security risks from dependence and vulnerabilities in sectors critical to the functioning of the U.S. economy. China's targeted dominance has created dependencies for U.S. companies and over-reliance on China for shipbuilding, logistics, and a substantial portion of U.S. international shipping, creates potential vulnerabilities across the U.S. economy. A shock to Chinese-provided shipping, shipbuilding, or logistics would create massive disruptions and impose significant costs on U.S. commerce, at the enterprise and economy-wide level. Over-reliance on a single economy, especially that of a strategic competitor, for shipping, shipbuilding, and logistics increases the cost of any disruption. As noted, China has also revealed the capacity and willingness to weaponize dependencies and vulnerabilities through economic coercion—to influence policies in China's favor or to punish other countries for policies that offend China. Thus, the economic security risks U.S. firms and the U.S. economy bear from these dependencies and vulnerabilities, through their potential for disruption and coercion, are a burden or restriction on U.S. commerce.

Maritime transport is the backbone of international trade, as well as a critical capacity for national security, including economic security. In 2022, ships moved 44.6 percent of U.S. international goods trade by value ($2.3 trillion) and 78.6 percent of U.S. international goods

[667] *See* David M. Hart, *The Impact of China's Production Surge on Innovation in the Global Solar Photovoltaics Industry*, INFORMATION TECHNOLOGY & INNOVATION FOUNDATION (OCT. 2020), https://www2.itif.org/2020-china-solar-industry.pdf.

trade by weight (1.6 billion tons).[668] Ships move 61 percent of U.S. international goods trade with Asia and 45 percent of U.S. international goods trade with Europe.[669] In 2023, ships moved an overall 65.9 percent of imports by value.

As China has targeted the maritime, logistics, and shipbuilding sectors for dominance, and effectively achieved dominance for shipbuilding, logistics, and a substantial portion of U.S. international shipping, Chinese ships have become increasingly prevalent at U.S. ports. For example, 2,889 Chinese-built ships entered U.S. ports in 2022 with a total of 13,684 entrances. Chinese-built ships made up 29 percent of the non-U.S. flagged ships, which totaled 9,958, and 22 percent of the non-U.S. flagged ship entrances, which totaled 63,244.[670]

U.S. law has long reflected the importance of U.S. shipbuilding, shipping, and logistics to U.S. economic security. The Merchant Marine Act of 1936, 46 U.S.C. § 5101, states that it is the policy of the United States to maintain sufficient domestic shipbuilding, shipping, and logistics capacity to sustain U.S. commerce:

> *It is necessary* for the national defense and the development of the domestic and foreign commerce of the United States *that the United States have a merchant marine—*
>
> (1) *sufficient to carry* the waterborne domestic commerce and *a substantial part of the waterborne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of the waterborne domestic and foreign commerce at all times*;
> (2) capable of serving as a naval and military auxiliary in time of war or national emergency;
> (3) *owned and operated as vessels of the United States by citizens of the United States*;
> (4) *composed of* the best-equipped, safest, and most suitable types of *vessels constructed in the United States* and manned with a trained and efficient citizen personnel; and
> (5) supplemented by efficient facilities for building and repairing vessels.[671]

China's targeted dominance of the maritime, logistics, and shipbuilding sectors is a key factor that contributes to the United States not being able to achieve shipbuilding and shipping sectors of the magnitude or size necessary to "carry the waterborne domestic commerce and a substantial part of the waterborne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of the waterborne domestic and foreign commerce at all times."[672] Likewise, China's control over ports, logistics, and maritime shipping creates risks for competitors, potential competitors, and customers alike. China's

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[668] *Int'l Freight Gateway*, BUREAU OF TRANSP. STATISTICS, U.S. DEP'T OF TRANSP., https://data.bts.gov/stories/s/International-Freight-Gateways/4s7k-yxvu.
[669] *Id*.
[670] Based on data from the U.S. Army Corps of Engineers.
[671] 46 U.S.C. § 50101 (emphasis added); *see also* Merchant Marine Act, 1920, 41 Stat. 988 (Jun. 5, 1920).
[672] 6 U.S.C. § 50101

targeting for dominance continues to impede the development of U.S. maritime, logistics, and shipbuilding sectors, which imposes a burden on the "development of the domestic and foreign commerce of the United States" as envisioned in the statute, as amended.

China's dominant position in the shipbuilding sector allows Chinese enterprises to exercise market power to the detriment of shipping industry customers, limiting their choices and making them more vulnerable to supply disruptions. As one study of Chinese dominant market positions explains: "a supplier that enjoys a dominant position has more leverage over its buyers. . . . At the same time, a buyer that relies on imports of a product where one of the exporters holds a dominant position is vulnerable to disruptions from a dominant source."[673] In other words, "[a] dominant position . . . is significant because it implies that buyers of a good on international markets will find it difficult to replace their supplier with another."[674] China's dominance in the shipbuilding sector leaves few competitive alternatives for U.S. customers. This dynamic provides Chinese shipyards with various means of leverage; for instance, the shipyards could opt to prioritize Chinese and other shipowners' orders over those of U.S. shipowners, leaving the latter with little to no recourse.

With respect to logistics, stakeholders and industry experts have observed that through its dominant position LOGINK could "leverage [this position] to extract insights about goods flows, timing, and pricing" and that "[p]referred access to data would enable [China] to maintain a subtle but decisive competitive edge", thereby shaping international markets.[675] Further, "Beijing can quietly feed insights from LOGINK to preferred PRC logistics firms at preferential prices, a key competitive advantage in a third-party logistics market that a recent study by the U.S. China Security and Economic Review Commission estimates to be worth $1 trillion annually."[676]

LOGINK's dominant market position also allows it to employ market power that "creates strategic-level foreign dependence on China."[677] "Foreign logistics firms, ports, and other users dependent on LOGINK may be incentivized to conform to Beijing's wishes or lobby for PRC interests." "Beijing could selectively restrict foreign access to LOGINK to punish or coerce foreign users or governments or use the system's detailed datasets to implement logistics-oriented sanctions."[678]

China's network of ports and terminals also creates risks for competitors and dependent host nations. As reported by one independent study: "Where Chinese firms operate ports, they appear to modify the host countries' trade toward China and away from former trade partners." "Host economies may gain from greater trade, increased commerce and cheaper goods but the price tag includes institutional lock-in and loss of diversity in trade partners."[679] Another commentary assessed:

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[673] *See* JEAN, RESHEF, SANTONI & VICARD.
[674] *Id*.
[675] *See* COLLINS & BIANCHI.
[676] *Id.*
[677] *Id*.
[678] *Id.*
[679] *See* BANACH & GUNTER.

> [T]he CPC and the government can . . . influence global trade and logistics. China's heavy investment in the world's most-connected ports highlights its strong influence over the supply chains of global trade. . . . China's leverage is in its varied degrees of investment and ownership in the world's busiest and most-connected ports, which underpin the global flow of goods.[680]

A Congressional report also assessed that China "could restrict or manipulate the supply of critical components or materials essential to U.S. maritime infrastructure, including [ship-to-shore] cranes. Such actions could severely disrupt U.S. commercial activities and hinder the [Department of Defense]'s ability to deploy supplies and resources to the Indo-Pacific region."[681]

Over-reliance on China for shipbuilding, logistics, and a significant portion of U.S. international shipping creates dependencies and vulnerabilities across the U.S. economy. A shock to Chinese-provided shipping, shipbuilding, or logistics would generate massive effects on U.S. commerce, at the enterprise and economy-wide level.

For instance, one independent research organization explained how China has leveraged dominant positions in the maritime and shipbuilding sectors "to serve specific policy goals and economic interests":

> When Brazilian iron ore giant Vale, a key exporter to China began establishing its own dry bulk fleet of 14 ships, it contracted the majority of the work to Chinese shipyards with Chinese banks financing the construction. However, during their first return voyage to China loaded with ore, Valemax carriers were forbidden from docking in Chinese ports on safety grounds due to their large size. Sources claim that Vale was targeted by private Chinese shipping firms under an extension of the "national oil, nationally carried" campaign and with the blessings of the Chinese government. In the end Vale sold the unprofitable ships to Chinese shipping firms and banks. Twelve of them were then leased back to Vale on long-term contracts, and Chinese ports opened for the now-Chinese-owned Valemax carriers.[682]

Over-reliance on a single economy for shipping, shipbuilding, and logistics increases the cost of any disruption. As one analysis summarizes in relation to the Red Sea shipping disruption:

> The direct impacts of increased shipping time and fuel costs have captured the attention of market watchers and policymakers—but these are just the tip of the iceberg. As the disruption continues, firms will face challenges with increased insurance costs, decreased ship security, and wider [environmental, social, and

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[680] *See* LIU.
[681] MAJORITY STAFF REPORT, THE SELECT COMMITTEE ON THE CCP, HANDLING OUR CARGO: HOW THE PEOPLE'S REPUBLIC OF CHINA INVESTS STRATEGICALLY IN THE U.S. MARITIME INDUSTRY (Sept. 2024).
[682] Virginia Marantidou, *Shipping Finance: China's New Tool in Becoming a Global Maritime Power*, JAMESTOWN FOUND. (Feb. 13, 2018), https://jamestown.org/program/shipping-finance-chinas-new-tool-becoming-global-maritime-power/ (internal citations omitted).

> governance] impacts, among others. The longer it lasts and the wider the area covered, the more numerous the challenges become.[683]

Further, disruptions have greater consequences the longer they continue. A short-term shipping disruption that lasts from one week to one month can have significant consequences for ship availability:

> As ships reroute or take alternative routes, the delays create a knock-on effect at the ports. When ships do not arrive at their berths on time, containers and goods fill the ports waiting for onward shipment. By rerouting or anchoring vessels, not only are supply chains slowed, but availability of transport options from ports is disrupted. Rerouted ships can overwhelm alternative ports, leading to back-ups at berths and clogged passage in/out of the ports.[684]

In turn, supply chains reliant on just-in-time strategies become easily stressed during short-term disruptions.[685] To illustrate: "A container full of chemicals that arrives late to its destination spells delayed production for factories waiting for those ingredients. Ships jammed at ports wreak havoc on the flow of goods, clogging warehouses and putting pressure on the trucking and rail industries."[686]

Disruptions associated with geo-political conflicts can also raise insurance premiums for vessels transiting a conflict area. Vessels may turn off transponders connected to tracking systems in order to evade attacks, however, this increases the risk of accidents between vessels that cannot see one another.[687]

Longer disruptions that last from one to three months can increase shipping costs, as "[b]acklogs in ports, diversions, a decrease in ship availability, and the increase in insurance and other running costs will trigger pricing pressures." If vessel capacity is reduced—either from damaged vessels being unable to operate or by company orders—it further places pressure on pricing. Vessel rerouting can also increase shipping costs and availability of goods, as vessels seek safer, and likely longer, routes. In addition to costs, this dynamic contributes to increases in emissions.[688] Finally, disruptions that last three months or more can lead to structural changes in supply chains.[689]

Independent analyses assess that there is a "real risk" of significant or intentional disruptions in shipping and logistics with impact to a great swath of U.S. commerce. For example:

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[683] Alex Mills, *The Long Shadow of the Red Sea Shipping Disruption*, ATLANTIC COUNCIL (Jan. 8, 2024), https://www.atlanticcouncil.org/blogs/econographics/the-long-shadow-of-the-red-sea-shipping-disruption/.
[684] *Id*.
[685] *Id*.
[686] Peter S. Goodman, *'It's All Happening Again.' The Supply Chain Is Under Strain.*, N.Y. TIMES (Jun. 24, 2024), https://www.nytimes.com/2024/06/24/business/global-shipping-rates.html.
[687] MILLS.
[688] *See id*.
[689] *Id*.

> An area of similar, if not larger, risk [than the Red Sea disruptions] would be a repeat of these actions in the South China Sea. It carries up to a third of all trade by volume and is a main energy transport route; any redirection there would have massive effects on global trade. Unlike the Red Sea, which acts as a funnel towards the Suez Canal, a high concentration of South China Sea routes require transport through the relatively narrow Strait of Malacca. Acting as a strategic chokepoint, this area is incredibly vulnerable. Though alternative routes exist, the physical limitations of these waterways make it a practical impossibility for the vast majority of ships. The combination of high volume and narrow passage means a disruption of this route of comparable scale could easily trigger a global economic crisis.[690]

A separate analysis assessed that a shock to shipping in the region, in addition to other factors, could contribute to a decrease in global GDP of approximately $5 trillion.[691]

Absent a U.S. maritime sector with a capacity "sufficient to carry the waterborne domestic commerce and a substantial part of the waterborne export and import foreign commerce of the United States and to provide shipping service essential for maintaining the flow of the waterborne domestic and foreign commerce at all times,"[692] U.S. firms and the U.S. economy bear undue and excessive economic security risks. China's targeting of the maritime, logistics, and shipbuilding sectors for dominance burdens or restricts U.S. commerce by creating economic security risks from dependence and vulnerabilities. As the petitioners have noted, the entrenchment of China's dominance means that U.S. international trade would be "carried out on vessels made in China, financed by state-owned Chinese institutions, owned by Chinese shipping companies, and reliant on a global maritime and logistics infrastructure increasingly dominated by China."[693] Thus, the economic security risks that the U.S. economy, including U.S. firms, bear from these dependencies and vulnerabilities, through their potential for disruption and coercion, are a burden or restriction on U.S. commerce.

D. China's Targeting of the Maritime, Logistics, and Shipbuilding Sectors for Dominance Burdens or Restricts U.S. Commerce by Undermining Supply Chain Resilience

- The undermining of supply chain resilience, and undue costs associated with seeking more diverse supply, imposes a burdens or restriction on U.S. commerce.

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[690] *Id*. *See also* Lincoln F. Pratson, *Assessing Impacts to Maritime Shipping from Marine Chokepoint Closures*, COMMUNICATIONS IN TRANSPORTATION RESEARCH (Dec. 2023), https://www.sciencedirect.com/science/article/pii/S2772424722000336?ref=pdf_download&fr=RR-2&rr=8db627b3bd2b505a (finding that combined imports and exports moving through the South China Sea and East China Sea equates to 42 percent of global trade by value and 40 percent of trade by tonnage in 2019, which "suggests that even a short-term disruption in shipping through the South China Sea and East China Sea region could significantly impact both supply and demand for key goods worldwide and have a far greater impact on global supply chains than the 2021 temporary shutdown of the Suez Canal").

[691] Malcolm Scott, *A War Over Taiwan Is a $10 Trillion Risk*, BLOOMBERG (Jan. 9, 2024), https://www.bloomberg.com/news/newsletters/2024-01-09/economy-risks-latest-taiwan-war-would-cost-world-10-trillion.

[692] 46 U.S.C. § 50101.

[693] Petition at 112.

China's targeting of the maritime, logistics, and shipbuilding sectors for dominance also burdens or restricts U.S. commerce by undermining supply chain resilience. As noted, China's targeting has created dependencies and vulnerabilities in these sectors.[694] The creation of dependencies increases risk for individual firms, their workers, and communities. While one firm may wish to improve its resilience to shocks by diversifying its sourcing (whether ships, or shipping services, or logistics software, from another supplier) because markets (including the firm's customers) might not adequately reward the firm for reducing risk, for example, through a price premium for its goods or services or increased purchases. Further, if a firm wishes to diversify its sourcing, it might incur significant perceived costs for doing so due to China's artificially low prices. If its competitors do not also seek to diversify, the firm would be absorbing increased cost and put at a competitive disadvantage. If the firm does not, therefore, diversify its supply, it is forced to absorb undue and unwanted risk. This reduces the resilience of the firm and the supply chains in which it participates.[695] And if the risk materializes, through disruption of supply or even the exercise of coercion, the economic costs are borne by the firm, its workers, and ultimately the communities in which workers live and which rely on the firm's goods or services.

The concentration of supply and lack of alternative suppliers means that a disruption can bring about supply chain failure that extends to entire economic sectors bringing significant economic stress. For example, during the pandemic, disruption in personal protective equipment supply, semiconductors supply, or availability of shipping led to scarcity, price spikes, and severe downstream economic consequences.[696] High levels of market concentration in a segment of the supply chain, particularly at a chokepoint, can also put a country at risk of others' weaponization of that market power to compel compliance with political objectives, including through the use of economic coercion. Indeed, command of a supply chain chokepoint may itself be a primary goal of a foreign government seeking to dominate a sector. The maritime, logistics, and shipbuilding sectors are key to ensuring the flow of U.S. commerce. Dependencies and potential disruption of these sectors therefore undermine supply chain resilience, increasing risks and potential costs.

For these reasons, China's targeting of the maritime, logistics, and shipbuilding sectors burdens or restricts U.S. commerce by undermining supply chain resilience. A lack of resilience increases risks and potential costs to sectors and firms, and firms seeking to avoid those risks through more diverse supply must absorb increased costs and competitive disadvantages.

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[694] *Cf.* Sections IV.B and IV.C.

[695] OFFICE OF THE U.S. TRADE REPRESENTATIVE, ADAPTING TRADE POLICY FOR SUPPLY CHAIN RESILIENCE 3 (Jan. 7, 2025) ("… within individual product supply chains, diversifying supply chain participants, including through re-shoring and growing existing domestic capacity where feasible, can mitigate risks presented by over-concentration and dependencies.").

[696] *Id*., at 1 ("the Covid-19 pandemic and attendant disruptions to global trade revealed the terrifying and destructive effects of fragility in our supply chains.")

V. China's Targeted Dominance of the Maritime, Logistics, and Shipbuilding Sectors Also Threatens the Competitiveness of U.S. Allies and Partners' Industries

- Allies and partners' industries share U.S. concerns over China's dominance in the maritime, logistics, and shipbuilding sectors.

The challenges posed by China's targeted dominance across the maritime, logistics, and shipbuilding sectors is not limited to the United States. These concerns have been shared by industry associations in many other market-oriented economies. For example:

In August 2024, SEA Europe, an industry association representing the European shipbuilding industry, identified that "China's agenda is to have dominance in maritime industries. This is not only a risk for shipowners but is also a big risk for equipment manufacturers that are forced to transfer technology to China through local joint venture manufacturing."[697]

In April 2024, SEA Europe observed that:

> Because of substantial price differentials of 30% to 40%, combined with advantageous financial incentives – *especially offered by Chinese banks* –, European shipowners have increasingly opted for Asian shipbuilders. As a result, European shipyards have seen a significant decline in orders. This trend not only poses a substantial economic risk but also undermines Europe's strategic autonomy, particularly amidst current geopolitical tensions.[698]

In August 2024, the Canadian Marine Industries and Shipbuilding Association (CIMSA) issued a statement highlighting that "Chinese-built ships . . . present an even greater strategic and ethical threat" than Chinese-made electric vehicles. CIMSA identified that:

> China's shipbuilding industry operates under the doctrine of Civil-Military Fusion whereby commercial ship exports are subsidized to strengthen the country's military capabilities. The very shipyards that produce ferries and cargo vessels for the global market are also used to construct warships for the Chinese People's Liberation Army Navy (PLAN), fueling its rapid and aggressive naval expansion. As China's navy continues to grow, it increasingly uses its fleet to challenge Canadian interests and those of our allies in regions extending even to our own Arctic waters.
>
> Leaving aside the concerns that the working conditions and environmental standards in Chinese shipyards are notoriously poor, [CIMSA] would note

[697] Rob Wilmington, *EU shipbuilding strategy advancing as Europe boosts industrial policies to counteract Chinese might*, LLYOD'S LIST, https://www.lloydslist.com/LL1150304/EU-shipbuilding-strategy-advancing-as-Europe-boosts-industrial-policies-to-counteract-Chinese-might.

[698] Press Release, SEA Europe, Setting Sail to Build in Europe 10,000 Sustainable and Digitalised Vessels by 2035: SEA Europe's Call for a European Maritime Industrial Strategy (Apr. 8, 2024), https://www.seaeurope.eu/images/SEA_Europe_Press_Release_European_Maritime_Industrial_Strategy1.pdf.

> that Canada has an exceptional workforce and strong companies who are ready and capable of building high-quality ships for Canadians. We owe it to Canadians to ensure that our critical infrastructure is built and maintained domestically, especially in light of the issues that global supply chains have been facing of late.[699]

CIMSA also highlighted the opaque manner in which China's targeted dominance can impact purchasing decisions around the world:

> Indeed, it is more than disappointing that a Canadian government-owned, government-funded Crown corporation, Marine Atlantic, has leased a ferry from the Swedish shipowner Stena, which they purpose- built in Weihai, China, for service on Canada's Atlantic coast. This ship has recently been delivered and commenced its five-year lease.
>
> This complex lease structure involving an option for Marine Atlantic to purchase the ship at a later date, appears designed to evade public scrutiny and ethical concerns. Few Western governments would support the construction of a taxpayer-owned ship in China, yet a Canadian Crown corporation has done so indirectly through this lease.[700]

As these comments recognize, China's targeting of the maritime, logistics, and shipbuilding sectors undermines fair and competitive markets, both domestically and internationally. China's industrial capacity and production in the maritime, logistics, and shipbuilding sectors is now so large that it vastly exceeds the capacity of not just the United States, but the combined output of our Asian and European allies as well. This undermines the viability of investments by market-oriented industries in the United States and other like-minded partners.

VI. Results of the Investigation

The results of this investigation indicate that:

(1) China's targeting the maritime, logistics, and shipbuilding sectors for dominance is unreasonable.

(2) China's targeting the maritime, logistics, and shipbuilding sectors for dominance burdens or restricts U.S. commerce.

The results of this investigation provide a basis for finding that responsive action is appropriate.

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[699] Press Release, Canadian Marine Industries and Shipbuilding Association, Government Must Address Chinese Shipbuilding with the Same Urgency as Chinese-Built EVs (Aug. 28, 2024), https://www.newswire.ca/news-releases/cmisa-government-must-address-chinese-shipbuilding-with-the-same-urgency-as-chinese-built-evs-853210077.html.

[700] *Id*.

Appendix A: China's Industrial Targets in the Shipbuilding Sector

Table A1: Production, Capacity, Revenue, and International Market Share Targets in China's Shipbuilding Sector[1]

Product		Target	Date Set	Target Date
Shipbuilding		Annual output 17 mn deadweight tons (DWT)	2006	2010
		$19.6 bn industry revenue	2006	2010
		Annual output 22 mn DWT	2006	2015
		$23.5 bn industry revenue	2006	2015
		Annual output 50 mn tons	2009	2011
		35% global completions	2009	2011
		$190 bn industry revenue	2012	2015
		Increase global market share by 5%	2016	2020
Marine equipment	Marine diesel engines	Production capacity 4.5 mn kW/1,100 units	2006	2010
		Production capacity 6 mn kW/1,200 units	2006	2015
		Output of 9 mn kW	2009	2011
	Ship accessories	$39.2 bn industry revenue	2012	2015
Maritime engineering equipment		10%	2009	2011
		20%	2012*	2015
		35%	2015*	2020
		40%	2015	2025
High-tech ships		20%	2009	2011
		25%	2013	2015
		40%	2015*	2020
		50%	2015	2025
Green power ships		50%	2023	2025
		World-leading market share	2023	2030

* Target repeated in later plans

[1] For full citations and sources, *see* Appendix A, Table A3.

Table A2: Domestic Content Targets in China's Shipbuilding Sector[2]

Product		Target	Date Set	Target Date
Marine equipment	Marine equipment for all ships	60%	2006	2010
		80%	2006*	2015
		85%	2016	2025
	Marine equipment for mainstream ships	65%	2009	2011
		80%	2016*	2020
	Marine diesel engines and deck machinery	80%	2009	2011
	Marine equipment key components	80%	2016	2020
Maritime engineering equipment		40%	2015*	2020
		50%	2015	2025
High-tech ships		60%	2015*	2020
		80%	2015	2025

* Target repeated in later plans

[2] For full citations and sources, *see* Appendix A, Table A3.

Table A3: Detailed Summary of China's Industrial Targets in the Shipbuilding Sector

Target	Industrial Plan	Target Set	Target Date	Target Type
Added value of the marine industry accounting for about 4% of GDP.	Marine Economy Development Plan[3]	2003	2005	GDP
Added value of the marine industry accounting for about 5% of GDP.	Marine Economy Development Plan[4]	2003	2010	GDP
Added value of the marine industry in coastal areas accounting for more than 8% of GDP.	Marine Economy Development Plan[5]	2003	2005	GDP
Added value of the marine industry in coastal areas accounting for more than 10% of GDP.	Marine Economy Development Plan[6]	2003	2010	GDP
Annual shipbuilding capacity of 23 million DWT; annual output of 17 million DWT; annual income of $19.6 billion[7] (RMB 150 billion, including 12 million tons for export worth $12 billion).	Shipbuilding MLP[8]	2006	2010	Capacity/ Production/ Revenue/ Export
Annual low and medium-speed marine diesel engine production capacity of 4.5 million kW and 1,100 units.	Shipbuilding MLP[9]	2006	2010	Capacity
Average installation rate of over 60% by value for domestically-produced marine equipment.	Shipbuilding MLP[10]	2006	2010	Domestic Content

[3] *Outline of the National Marine Economy Development Plan* Art. 2.2.2 (State Council, Guo Fa [2003] No. 13, issued May 9, 2003), https://www.gov.cn/gongbao/content/2003/content_62156.htm.
[4] *Id.*
[5] *Id.* at Art. 2.2.3.
[6] *Id.*
[7] Unless citing a value provided by a footnoted source, currency conversions are based on the U.S. Federal Reserve Bank's average annual exchange rate for the relevant year. *See Chinese Yuan Renminbi to U.S. Dollar Spot Exchange Rate,* FEDERAL RESERVE BANK OF ST. LOUIS, https://fred.stlouisfed.org/series/AEXCHUS (last visited: Jul. 11, 2024).
[8] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* Art. 1.1.2 (NDRC, SASTIND, issued Sep. 18, 2006), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/200710/P020191104623363865929.pdf.
[9] *Id.*
[10] *Id.*

Target	Industrial Plan	Target Set	Target Date	Target Type
Annual shipbuilding capacity of 28 million DWT; annual output of 22 million DWT; annual income of $23.5 billion (RMB 180 billion, including 15 million tons for export worth $16 billion).	Shipbuilding MLP[11]	2006	2015	Capacity/ Production/ Revenue/ Export
Annual low and medium-speed marine diesel engine production capacity of 6 million kW and 1,200 units.	Shipbuilding MLP[12]	2006	2015	Capacity
Average installation rate of over 80% by value for domestically-produced marine equipment.	Shipbuilding MLP[13]	2006	2015	Domestic Content
15 man-hours/compensated gross ton (CGT) for key enterprises; average construction period of nine months for conventional ships above 30,000 DWT	Shipbuilding MLP[14]	2006	2015	Efficiency
Shipbuilding output of 50 million tons; low-speed marine diesel engine output of 9.0 million kW (12 million horsepower).	Ship Industry Revitalization Plan[15]	2009	2011	Production
35% of global shipbuilding completion volume; 20% market share for high-tech and high value-added ships; 10% market share for maritime engineering equipment.	Ship Industry Revitalization Plan[16]	2009	2011	Market Share
Domestically-produced marine equipment installed in 65% of mainstream ships; domestically-produced low and medium-speed diesel engines and deck machinery installed in 80% of mainstream ships.	Ship Industry Revitalization Plan[17]	2009	2011	Domestic Content
Average construction period for bulk carriers, tankers, and container ships less than 10 months; reduce energy consumption per unit of industrial added value by 15%.	Ship Industry Revitalization Plan[18]	2009	2011	Efficiency

[11] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* at Art. 1.1.2.
[12] *Id.*
[13] *Id.*
[14] *Id.*
[15] *Ship Industry Adjustment and Revitalization Plan* Art. 2.3.2 (State Council, issued Jun. 9, 2009), https://www.gov.cn/zwgk/2009-06/09/content_1335839.htm.
[16] *Id.*
[17] *Id.*
[18] *Id.*

Target	Industrial Plan	Target Set	Target Date	Target Type
Shipbuilding completion volume of China's top 10 shipbuilding companies more than 70% of the national total; at least five companies entering the ranks of the top 10 shipbuilding companies globally.	Shipbuilding 12th FYP[19]	2012	2015	Industrial Structure
R&D expenditure of enterprises above a designated size no less than 2% of revenue.	Shipbuilding 12th FYP[20]	2012	2015	R&D Spending
Maritime engineering equipment manufacturing industry revenue of over $31.8 billion (RMB 200 billion); international market share exceeding 20%.	Shipbuilding 12th FYP[21]	2012	2015	Revenue/ Market Share
Shipbuilding industry revenue of $190 billion (RMB 1.2 trillion); export volume of over $80 billion.	Shipbuilding 12th FYP[22]	2012	2015	Revenue/ Export
Increase industrial added value by three percentage points compared to the end of the *11th FYP* period; increase labor productivity by 15% annually; 15 man-hours/CGT for key enterprises; average one-time steel utilization rate of 90%; decrease energy consumption per unit of industrial added value by 20%.	Shipbuilding 12th FYP[23]	2012	2015	Efficiency
Ship accessory industry revenue of $39.2 billion (RMB 300 billion).	Shipbuilding 12th FYP[24]	2012	2015	Revenue
Average installation rate of over 80% for major marine equipment; over 30% for branded marine equipment; over 30% for marine oil and gas development.	Shipbuilding 12th FYP[25]	2012	2015	Domestic Content

[19] *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 3 (MIIT, issued Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm.
[20] *Id.*
[21] *Id.*
[22] *Id.*
[23] *Id.*
[24] *Id.*
[25] *Id.*

Target	Industrial Plan	Target Set	Target Date	Target Type
International market share of maritime engineering equipment of 20%; market share for high-tech ships of 25%.	Shipbuilding Structural Adjustment Implementation Plan[26]	2013	2015	Market Share
Increase labor productivity by 15% annually; 15 man-hours/CGT for key enterprises; average one-time steel utilization rate of 90%; decrease energy consumption per unit of industrial added value by 20%.	Shipbuilding Structural Adjustment Implementation Plan[27]	2013	2015	Efficiency
International market share of indigenously designed and built maritime engineering equipment and equipment for high-tech ships of 35% and 40%, respectively.	2015 MIC2025 Technology Roadmap[28]	2015	2020	Market Share
Indigenous proportion of maritime engineering equipment and high-tech ship critical systems and equipment of 40% and 60%, respectively.	2015 MIC2025 Technology Roadmap [29]	2015	2020	Domestic Content
International market share of indigenously designed and built maritime engineering equipment and high-tech ships of 40% and 50%, respectively.	2015 MIC2025 Technology Roadmap [30]	2015	2025	Market Share

[26] *Implementation Plan for Accelerating Structural Adjustment and Promoting Transformation and Upgrading of the Shipbuilding Industry (2013-2015)* Art. 2.3 (State Council, Guo Fa [2013] No. 29, issued Aug. 4, 2013), https://www.gov.cn/zhengce/content/2013-08/04/content_3027.htm.
[27] *Id.*
[28] NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, "MADE IN CHINA 2025" GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2015) 73 (Publishing House of Electronics Industry 2015) (hereinafter "2015 MIC2025 TECHNOLOGY ROADMAP"). The 2017 MIC2025 Technology Roadmap contained the same main targets for shipbuilding, *see* NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, "MADE IN CHINA 2025" GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2017) 111 (Publishing House of Electronics Industry 2018). Most quantitative targets for shipbuilding and other industries were removed from the 2019 edition of the Technology Roadmap, and the 2023 edition removed maritime equipment and high-technology ships as a sector, though still includes discussion of related industries such as manufacturing equipment, design software, and high-technology steel used in shipbuilding, *see* NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, CHINESE MANUFACTURING INDUSTRY GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2019) 94 (Publishing House of Electronics Industry Nov. 2020); NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, CHINESE MANUFACTURING INDUSTRY GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2023) 271 (Publishing House of Electronics Industry Dec. 2023).
[29] 2015 MIC2025 TECHNOLOGY ROADMAP at 73.
[30] *Id.*

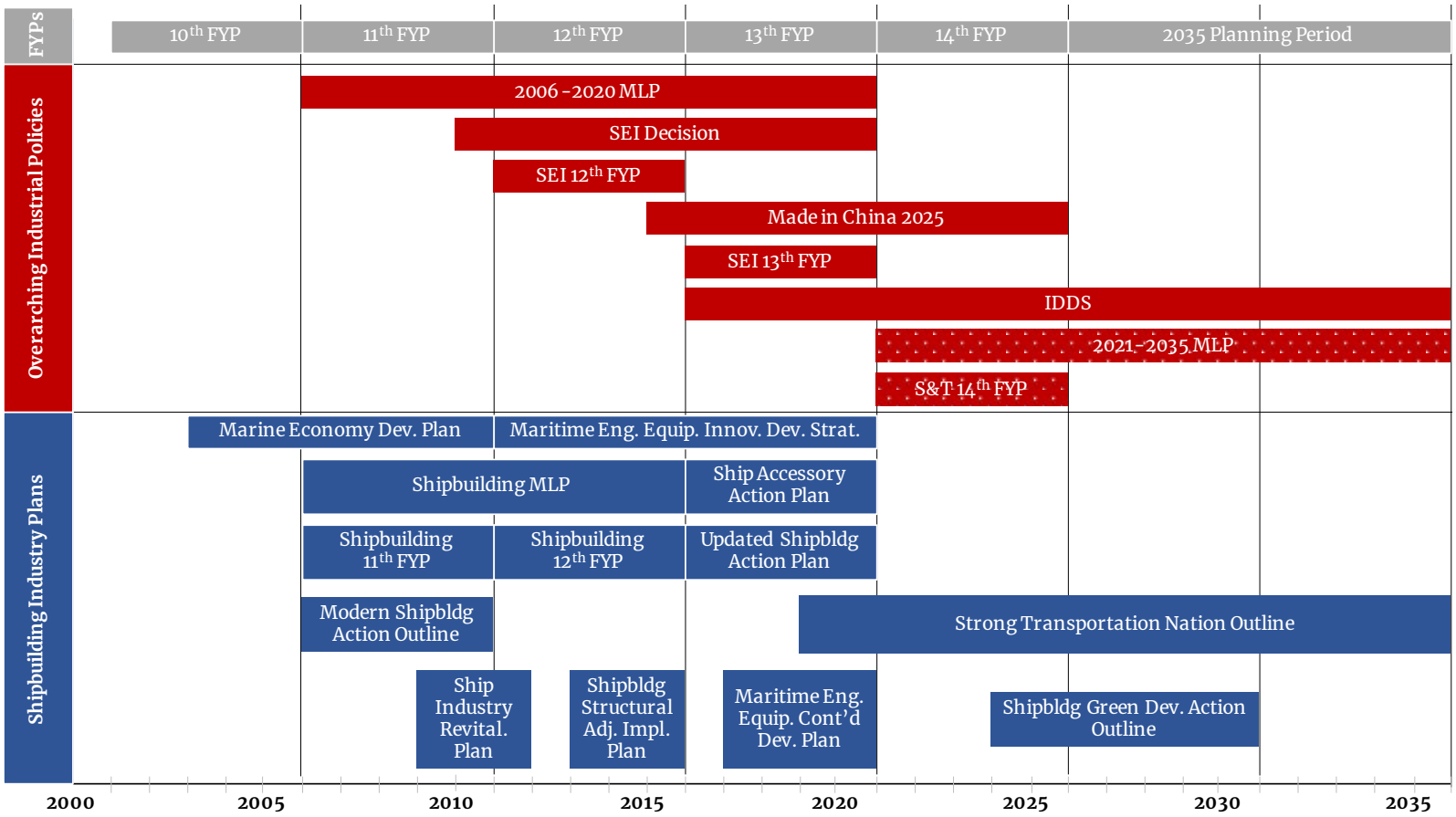
Target	Industrial Plan	Target Set	Target Date	Target Type
Indigenous proportion of maritime engineering equipment and high-tech ship critical systems and equipment of 50% and 80%, respectively.	2015 MIC2025 Technology Roadmap [31]	2015	2025	Domestic Content
Over 80% of ship accessories installed in Chinese bulk carriers, tankers, and container ships and 60% of ship accessories for high-tech ships produced by Chinese manufacturers; 80% of ship accessory key components sourced domestically.	Ship Accessory Action Plan[32]	2016	2020	Domestic Content
Domestically-produced ship accessories installed in 85% of ships.	Ship Accessory Action Plan[33]	2016	2025	Domestic Content
Increase market share of global ship production by five percentage points compared to the *12th FYP* period; international market share of maritime engineering equipment and high-tech ships of about 35% and 40%, respectively.	Updated Shipbuilding Action Plan[34]	2016	2020	Market Share
China's top 10 shipbuilding enterprises accounting for more than 70% of the country's total shipbuilding completions.	Updated Shipbuilding Action Plan[35]	2016	2020	Industrial Structure
Localized equipment installed in Chinese bulk carriers, tankers, and container ships; high-tech ships; and maritime engineering equipment of 80%, 60%, and 40%, respectively.	Updated Shipbuilding Action Plan[36]	2016	2020	Domestic Content
R&D expenditure of enterprises above a designated size no less than 2.5% of revenue.	Updated Shipbuilding Action Plan[37]	2016	2020	R&D Spending

[31] *Id.*
[32] *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* Art. 2 (MIIT, Gong Xin Bu Zhuang [2015] No. 486, issued Dec. 30, 2015), https://jxt.sc.gov.cn/scjxt/uploadfiles/20191106152016115 85.pdf.
[33] *Id.*
[34] *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* Art. 1.3 (MIIT, NDRC, MOF, PBOC, CBRC, SASTIND, Gong Xin Bu Lian Zhuang [2016] No. 447, issued Jul. 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828.html.
[35] *Id.*
[36] *Id.*
[37] *Id.*

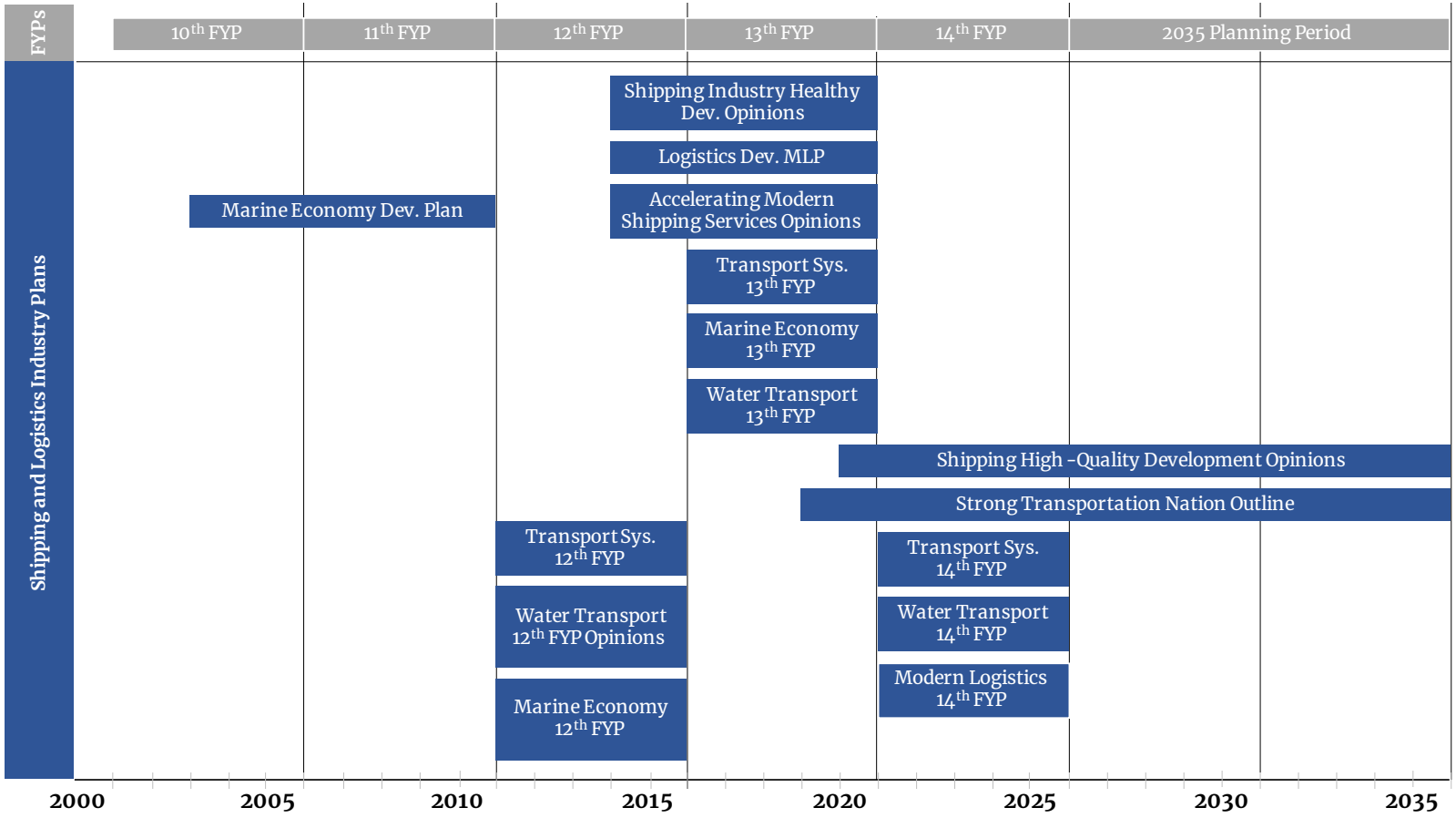
Target	Industrial Plan	Target Set	Target Date	Target Type
Shipbuilding efficiency of whitelisted enterprises of 15-20 man-hours/CGT.	Updated Shipbuilding Action Plan[38]	2016	2020	Efficiency
International market share of green power ships of 50%.	Shipbuilding Green Development Outline[39]	2023	2025	Market Share
World-leading market share of green power ships.	Shipbuilding Green Development Outline[40]	2023	2030	Market Share

[38] *Id.*
[39] *Shipbuilding Industry Green Development Action Outline (2024-2030)* Art. 1.3 (MIIT, NDRC, MOF, MEE, MOT, Gong Xin Bu Lian Zhong Zhuang [2023] No. 254, issued Dec. 28, 2023), https://wap.miit.gov.cn/zwgk/zcwj/wjfb/tz/art/2023/art_3c718652a49b4c0dbf8f2079567cb742.html.
[40] *Id.*

Appendix B: Timeline of China's Overlapping Policies in the Maritime, Logistics, and Shipbuilding Sectors



Note: Diagram displays plans lasting through the end of their last year and beginning at the start of the year during which they were issued.



Note: Diagram displays plans lasting through the end of their last year and beginning at the start of the year during which they were issued.

Appendix C: Subsectors Covered in China's Shipbuilding, Shipping, and Logistics Industrial Plans

			Industry					
Plan Type	**Plan**	**Dates Covered**	**Shipbldg.**	**Marine Equip.**	**Maritime Eng. Equip.**	**High-Tech Ships**	**Shipping**	**Logistics**
National FYP	10th FYP[1]	2001-2005	✓				✓	✓
	11th FYP[2]	2006-2010	✓	✓	✓	✓	✓	✓
	12th FYP[3]	2011-2015	✓	✓	✓	✓	✓	✓
	13th FYP[4]	2016-2020	✓	✓	✓		✓	✓
	14th FYP[5]	2021-2025	✓	✓	✓		✓	✓
Overarching Plans	2006-2020 MLP[6]	2006-2020	✓	✓	✓	✓		✓
	SEI Decision[7]				✓			✓

[1] *Outline of the 10th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Ch. 4.1, 7.2 (NPC, [2001] No. 12, issued Mar. 15, 2001), https://www.gov.cn/gongbao/content/2001/content_60699.htm.
[2] *Outline of the 11th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Ch. 11.3, 16.2, 16.2 (NPC, [2006] No. 12, issued Mar. 14, 2006), https://www.gov.cn/gongbao/content/2006/content_268766.htm.
[3] *Outline of the 12th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Ch. 9.1, 14.1 (NPC, issued Mar. 16, 2011), https://www.ndrc.gov.cn/fggz/fzzlgh/gjfzgh/201109/P020191029595702423333.pdf.
[4] *Outline of the 13th Five-Year Plan for National Economic and Social Development of the People's Republic of China* Ch. 41.1, 49.2, 51.2, Box 10 (NPC, issued Mar. 17, 2016), https://www.gov.cn/xinwen/2016-03/17/content_5054992.htm.
[5] *Outline of the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035 of the People's Republic of China* Ch. 8.2, 9.1, 12.3, 33 (NPC, issued Mar. 13, 2021), https://www.gov.cn/xinwen/2021-03/13/content_5592681.htm.
[6] *National Medium and Long-Term Science and Technology Development Plan Outline (2006-2020)* Ch. 3.5.30, 3.6.34, 3.6.37, 3.6.38, 5.6 (State Council, [2006] No. 9, issued Dec. 26, 2005), https://www.gov.cn/gongbao/content/2006/content_240244.htm.
[7] *State Council Decision on Accelerating the Cultivation and Development of Strategic Emerging Industries* Art. 3.4, 4.5 (State Council, Guo Fa [2010] No. 32, issued Oct. 18, 2010), https://www.gov.cn/zwgk/2010-10/18/content_1724848.htm.

	SEI 12th FYP[8]	2011-2020			h			
	MIC2025[9]	2015-2025			h	h		
	2015 MIC2025 Technology Roadmap [10]	2015-2025		h	h	h		
	IDDS[11]	2015-						
	SEI 13th FYP[12]	2016-2020		h	h			
Sector-Specific Plans	Marine Economy Development Plan[13]	2001-2010		h	h	h	h	h
	Shipbuilding MLP[14]	2006-2015		h	h	h	h	
	Modern Shipbuilding Action Outline[15]	2006-2010		h		h		
	Ship Industry Revitalization Plan[16]	2009-2011		h	h	h	h	

[8] *12th Five-Year National Strategic Emerging Industry Development Plan* Art. 3.4.4, 4.16 (State Council, Guo Fa [2012] No. 28, issued Jul. 9, 2012), https://www.gov.cn/zwgk/2012-07/20/content_2187770.htm.
[9] *State Council Notice on Issuing "Made in China 2025"* Ch. 3.6.4 (State Council, Guo Fa [2015] No. 28, issued May 19, 2015), https://www.gov.cn/zhengce/content/2015-05/19/content 9784.htm.
[10] NATIONAL MANUFACTURING STRATEGY ADVISORY COMMITTEE, "MADE IN CHINA 2025" GREENBOOK FOR TECHNOLOGY INNOVATION KEY AREAS—TECHNOLOGY ROADMAP (2015) 73 (Publishing House of Electronics Industry 2015).
[11] *Outline of the National Innovation-Driven Development Strategy* Art. 4.1.2, 4.1.9 (CCP Central Committee, State Council, issued May 19, 2016), https://www.gov.cn/zhengce/2016-05/19/content_5074812.htm.
[12] *13th Five-Year National Strategic Emerging Industry Development Plan* Art. 3.5 (State Council, Guo Fa [2016] No. 67, issued Nov. 29, 2016), https://www.gov.cn/zhengce/content/2016-12/19/content 5150090.htm.
[13] *Outline of the National Marine Economy Development Plan* Art. 2.2, 3.2, 3.5 (State Council, Guo Fa [2003] No. 13, issued May 9, 2003), https://www.gov.cn/gongbao/content/2003/content_62156.htm.
[14] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* Art. 1.2.4, 1.3.8, 1.3.10, 1.5.22, 1.6.30, 2.7.35, 2.8.48 (NDRC, SASTIND, issued Sep. 18, 2006), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/200710/P020191104623363865929.pdf.
[15] *Action Outline for the Comprehensive Establishment of a Modern Shipbuilding Model (2006-2010)* Art. 2, 3.1 (SASTIND, issued Oct. 11, 2007, published Nov. 11, 2007), https://www.gov.cn/ztzl/2007-10/15/content 776977.htm.
[16] *Ship Industry Adjustment and Revitalization Plan* (State Council, issued Jun. 9, 2009), https://www.gov.cn/zwgk/2009-06/09/content_1335839.htm.

	Maritime Engineering Equipment Innovation Development Strategy[17]	2011-2020			h			
	Shipbuilding 12th FYP[18]	2011-2015		h	h	h	h	
	Transportation System 12th FYP [19]	2011-2015					h	h
	Water Transportation 12th FYP Opinions[20]	2011-2015					h	h
	Marine Economy 12th FYP[21]	2011-2015		h	h		h	h
	Shipbuilding Structural Adjustment Implementation Plan[22]	2013-2015	h	h	h	h	h	
	Shipping Industry Healthy Development Opinions[23]	2014-2020					h	h
	Logistics Development MLP[24]	2014-2020						h

[17] *Maritime Engineering Equipment Industry Innovation Development Strategy (2011- 2020)* (NDRC, MOST, MIIT, NEA, Fa Gai Gao Ji [2011] No. 1675, issued Aug. 5, 2011), https://www.gov.cn/zwgk/2011-09/16/content 1949317.htm.

[18] *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 3 (MIIT, Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm.

[19] *12th Five-Year Comprehensive Transportation System Plan* Art. 1.1.2, 4.1.1.3, 4.2 (State Council, issued Jul. 23, 2012), https://www.ndrc.gov.cn/fggz/zcssfz/zcgh/201207/t20120723_1145674_ext.html.

[20] *Guiding Opinions on Accelerating Water Transport Structural Adjustment in the 12th Five-Year Plan Period* Art. 2, 3.3 (MOT, Jiao Shui Fa [2012] No. 424, issued Sep. 10, 2012), https://www.gov.cn/gongbao/content/2012/content_2283039.htm.

[21] *12th Five-Year Plan for National Marine Economy Development* Ch. 4.2, Ch. 5.1, Ch. 6.1 (State Council, Guo Fa [2012] No. 50, issued Sep. 16, 2012), https://www.gov.cn/zwgk/2013-01/17/content_2314162.htm.

[22] *Implementation Plan for Accelerating Structural Adjustment and Promoting Transformation and Upgrading of the Shipbuilding Industry (2013-2015)* (State Council, Guo Fa [2013] No. 29, issued Aug. 4, 2013), https://www.gov.cn/zhengce/content/2013-08/04/content_3027.htm.

[23] *State Council Several Opinions on Promoting the Healthy Development of the Shipping Industry* (State Council, Guo Ban Fa [2014] No. 32, issued Sep. 3, 2014), https://www.gov.cn/zhengce/content/2014-09/03/content_9062.htm.

[24] *Medium and Long-Term Plan for the Development of the Logistics Industry (2014-2020)* Art. 1.1, 4.6, 5.1, 5.5, 5.9 (State Council [2014] No. 42, issued Oct. 4, 2014), https://www.gov.cn/zhengce/content/2014-10/04/content_9120.htm.

	Accelerating Modern Shipping Services Opinions[25]	2014-2020					h	
	Ship Accessory Action Plan[26]	2016-2020		h	h	h	h	
	Transportation System 13th FYP[27]	2016-2020			h		h	h
	National Marine Economy 13th FYP[28]	2016-2020		h	h	h	h	h
	Updated Shipbuilding Action Plan[29]	2016-2020		h	h	h		
	Water Transportation 13th FYP[30]	2016-2020					h	h
	Maritime Engineering Equipment Continued Dev. Plan[31]	2017-2020		h	h			

[25] *Opinions on Accelerating the Development of a Modern Shipping Services Industry* (MOT, Jiao Shui Fa [2014] No. 262, issued Dec. 26, 2014), https://www.gov.cn/gongbao/content/2015/content_2843788.htm.

[26] *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* (MIIT, Gong Xin Bu Zhuang [2015] No. 486, issued Dec. 30, 2015), https://jxt.sc.gov.cn/scjxt/uploadfiles/2019110615201611585.pdf.

[27] *13th Five-Year Modern Comprehensive Transportation System Development Plan* Box 1, Box 5, Box 9, Box 12, Art. 2.3, 3.1, 3.2, 4.1, 4.4, 5.5 (State Council, Guo Fa [2017] No. 11, issued Feb. 3, 2017), https://www.gov.cn/zhengce/content/2017-02/28/content_5171345.htm.

[28] *13th Five-Year Plan for National Marine Economy Development* Box 1, Box 3, Art. 2.1, 2.2, 2.3, 3.1, 3.3, 4.1, 6.2, 8.2 (NDRC Marine Department, Fa Gai Di Qu [2017] No. 861, issued May 4, 2017), http://www.mofcom.gov.cn/article/b/g/201709/20170902640261.shtml.

[29] *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* (MIIT, NDRC, MOF, PBOC, CBRC, SASTIND, Gong Xin Bu Lian Zhuang [2016] No. 447, issued July 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828_ext.html.

[30] *13th Five-Year Plan for Water Transportation Development* (MOT, issued Jul. 19, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170719_1196842.html.

[31] *Action Plan for the Continued Healthy Development of the Maritime Engineering Equipment Manufacturing Industry (2017-2020)* (MIIT, NDRC, MOST, Gong Xin Bu Lian Zhuang [2017] No. 298, issued Nov. 27, 2017), https://www.gov.cn/xinwen/2018-01/05/content_5253494.htm.

	Strong Transportation Nation Outline[32]	2019-2035		h		h	h	h
	Shipping High-Quality Development Opinions[33]	2020-2035		h		h	h	h
	Transportation System 14th FYP[34]	2021-2025				h	h	h
	Water Transportation 14th FYP[35]	2021-2025		h		h	h	h
	Modern Logistics 14th FYP[36]	2021-2025					h	h
	Shipbuilding Green Development Action Outline[37]	2024-2030	h	h		h	h	

[32] *Outline for Building a Strong Transportation Nation* Art. 3.1, 3.3, 4.2, 8.1 (CCP Central Committee, State Council, issued Sep. 19, 2019), https://www.gov.cn/zhengce/2019-09/19/content_5431432.htm.

[33] *Guiding Opinions on Vigorously Promoting High-Quality Development of the Shipping Industry* (MOT, Jiao Shui Fa [2020] No. 18, issued Feb. 3, 2020), http://shanghai.chinatax.gov.cn/zcfw/zcfgk/node92/202102/t456931.html.

[34] *14th Five-Year Modern Comprehensive Transportation System Development Plan* Ch. 7.2, Ch. 10.5 (State Council, Guo Fa [2021] No. 27, issued Dec. 9, 2021), https://www.gov.cn/zhengce/content/2022-01/18/content_5669049.htm.

[35] *14th Five-Year Plan for Water Transportation Development* (MOT, Jiao Gui Hua Fa [2022] No. 99, issued Jan. 29, 2022), https://xxgk.mot.gov.cn/2020/jigou/zhghs/202204/t20220407_3649837.html.

[36] *14th Five-Year Modern Logistics Development Plan* Art 1.1, 4.1, 4.3, 5.1, Box 4 (State Council General Office, Guo Ban Fa [2022] No. 17, issued May 17, 2022), https://www.gov.cn/zhengce/content/2022-12/15/content_5732092.htm.

[37] *Shipbuilding Industry Green Development Action Outline (2024-2030)* (MIIT, NDRC, MOF, MEE, MOT, Gong Xin Bu Lian Zhong Zhuang [2023] No. 254, issued Dec. 12, 2023), https://wap.miit.gov.cn/zwgk/zcwj/wjfb/tz/art/2023/art_3c718652a49b4c0dbf8f2079567cb742.html.

Appendix D: Types of Financial Support Outlined in China's Shipbuilding, Shipping, and Logistics Industrial Plans

Industrial Plan	Date Range	Grants	Loan/ Credit	Tax Incent.	Insurance	Export Financing	Export Insurance	Corp. Bonds	Financial Leasing	Public Listing	R&D Inv.	Inv. Fund	Gov't Proc.
Shipbuilding MLP[1]	2007-2015		✓	✓	✓	✓	✓	✓	✓	✓			
Ship Industry Revitalization Plan[2]	2009-2011		✓	✓		✓		✓	✓	✓	✓	✓	✓
Shipbuilding 12th FYP[3]	2011-2015			✓	✓	✓			✓	✓	✓	✓	
Maritime Eng. Equip. Innovation Dev. Strategy[4]	2011-2020		✓	✓	✓			✓	✓	✓	✓	✓	
Transportation System 12th FYP[5]	2011-2015				✓			✓					
Water Transportation 12th FYP Opinions[6]	2011-2015	✓		✓									
Marine Economy 12th FYP[7]	2011-2015				✓			✓				✓	

[1] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* Art. 40, 41, 42, 44, 45, 46, 47, 48 (NDRC, SASTIND issued Sep. 18, 2006), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/200710/P020191104623363865929.pdf.
[2] *Ship Industry Adjustment and Revitalization Plan* Art. 4.1, 4.2, 4.3, 4.4, 4.8 (State Council, issued Jun. 9, 2009), https://www.gov.cn/zwgk/2009-06/09/content_1335839.htm.
[3] *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 4.2.3, 6.1, 6.2, 6.3, 6.4 (MIIT, Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm.
[4] *Maritime Engineering Equipment Industry Innovation Development Strategy (2011- 2020)* 6.1, 6.2, 6.3 (NDRC, MOST, MIIT, NEA, issued Aug. 5, 2011), https://www.gov.cn/zwgk/2011-09/16/content_1949317.htm.
[5] *12th Five-Year Comprehensive Transportation System Plan* Art. 4.1.3, 5.4 (NDRC, Jul. 23, 2012), https://www.ndrc.gov.cn/fggz/zcssfz/zcgh/201207/t20120723_1145674_ext.html.
[6] *Guiding Opinions on Accelerating Water Transport Structural Adjustment in the 12th Five-Year Plan Period* Art. 3.3, 4.2 (MOT, Jiao Shui Fa [2012] No. 424), https://www.gov.cn/gongbao/content/2012/content_2283039.htm.
[7] *12th Five-Year Plan for National Marine Economy Development* Art. 6.1, 6.4, 10.3 (State Council, Guo Fa [2012] No. 50, issued Sep. 16, 2012), https://www.gov.cn/zwgk/2013-01/17/content_2314162.htm.

Shipbuilding Struct. Adjust. Impl. Plan[8]	2013-2015		h			h	h	h	h				h
Shipping Industry Healthy Development Opinions[9]	2014-2020			h	h							h	
Shipbuilding Financial Support Opinions[10]	2014		h			h	h	h	h				
Logistics Development MLP[11]	2014-2020		h	h				h		h		h	
Accelerating Modern Shipping Services Opinions[12]	2014-2020				h				h				
Ship Accessory Action Plan[13]	2016-2020		h	h	h						h	h	
Updated Shipbuilding Action Plan[14]	2016-2020	h	h		h		h	h		h			

[8] *Implementation Plan for Accelerating Structural Adjustment and Promoting Transformation and Upgrading of the Shipbuilding Industry (2013-2015)* Art. 4.2, 4.3, 4.4, (State Council, Guo Fa [2013] No. 29, issued Aug. 4, 2013), https://www.gov.cn/zhengce/content/2013-08/04/content_3027.htm.

[9] *State Council Several Opinions on Promoting the Healthy Development of the Shipping Industry* Art. 2.7, 3.12, 3.14 (State Council, Guo Ban Fa [2014] No. 32, issued Sep. 3, 2014), https://www.gov.cn/zhengce/content/2014-09/03/content_9062.htm.

[10] *Opinions on Financial Support to Accelerate Structural Adjustment and Promote Transformation and Upgrading of the Shipbuilding Industry*, Art. 1- 5 (PBOC, NDRC, MIIT, MOF, MOT, CBRC, CSRC, CIRC, SAFE, Yin Fa [2014] No. 390, issued Dec. 24, 2014), https://td.gd.gov.cn/attachment/0/211/211207/2615608.PDF.

[11] *Medium and Long-Term Plan for the Development of the Logistics Industry (2014-2020)* Art. 6.5, 6.6 (State Council, Guo Fa [2014] No. 42, issued Oct. 4, 2014), https://www.gov.cn/zhengce/content/2014-10/04/content_9120.htm.

[12] *Opinions on Accelerating the Development of Modern Shipping Services* Art. 2.6 (MOT, Jiao Shui Fa [2014] No. 262, issued Dec. 26, 2024), https://www.gov.cn/gongbao/content/2015/content_2843788.htm.

[13] *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* Art. 4.1, 4.2 (MIIT, Gong Xin Bu Zhuang [2015] No. 486, issued Dec. 30, 2015), https://jxt.sc.gov.cn/scjxt/uploadfiles/201911061520161158 5.pdf.

[14] *Shipbuilding Industry Deepening Structural Adjustment, Accelerating Transformation, and Upgrading Action Plan (2016-2020)* Art. 3.2, 3.3 (MIIT, NDRC, MOF, PBOC, CBRC, SASTIND, Gong Xin Bu Lian Zhuang [2016] No. 447, issued Jul. 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828.html.

Transportation System 13th FYP[15]	2016-2020		h		h							h	
Marine Economy 13th FYP[16]	2016-2020		h		h				h			h	
Maritime Eng. Equip. Cont'd Dev. Plan[17]	2017-2020				h			h	h	h		h	
Shipping High-Quality Development Opinions[18]	2020-2035			h	h								
Transportation System 14th FYP[19]	2021-2025			h									
Water Transportation 14th FYP[20]	2021-2025	h			h							h	
Modern Logistics 14th FYP [21]	2021-2025			h							h	h	

[15] *13th Five-Year Modern Comprehensive Transportation System Development Plan* Art. 9.3 (State Council, Guo Fa [2017] No. 11, issued Feb. 28, 2017), https://www.gov.cn/zhengce/content/2017-02/28/content_5171345.htm.
[16] *13th Five-Year Plan for National Marine Economy Development* Art. 2.1, 2.2, 3.3, 6.4, 8.3 (NDRC, SOA, Fa Gai Di Qu [2017] No. 861, issued May 4, 2017), http://m.mofcom.gov.cn/article/b/g/201709/20170902640261.shtml.
[17] *Action Plan for the Continued Healthy Development of the Maritime Engineering Equipment Manufacturing Industry (2017-2020)* Art. 2.2, 2.3, 3.1 (MIIT, NDRC, MOST, Gong Xin Bu Lian Zhuang [2017] No. 298, issued Nov. 27, 2017), https://www.gov.cn/xinwen/2018-01/05/content_5253494.htm.
[18] *Guiding Opinions on Vigorously Promoting High-Quality Development of the Shipping Industry* Art. 2.2.6, 2.5.14 (MOT, NDRC, MIIT, MOF, MOFCOM, GACC, SAT, Jiao Shui Fa [2020] No. 18, issued Feb. 3, 2020), https://shanghai.chinatax.gov.cn/zcfw/zcfgk/node92/202102/t456931.html.
[19] *14th Five-Year Modern Comprehensive Transportation System Development Plan* Art. 6.2 (State Council, Guo Fa [2021], No. 27, issued Dec. 9, 2021), https://www.gov.cn/zhengce/content/2022-01/18/content_5669049.htm.
[20] *14th Five-Year Plan for Water Transportation Development* Art. 3.7.1, 4.4 (State Council, issued Jan. 29, 2022), https://xxgk.mot.gov.cn/jigou/zhghs/202204/P020220407576099539088.pdf.
[21] *14th Five-Year Modern Logistics Development Plan* Art. 4.2, 7.3 (State Council, Guo Ban Fa [2022] No. 17, issued May 17, 2022), https://www.gov.cn/zhengce/content/2022-12/15/content_5732092.htm.

Shipbuilding Green Development Action Outline[22]	2024-2030				h						h		

[22] *Shipbuilding Industry Green Development Action Outline (2024-2030)* Art. 6.19, (MIIT, NDRC, MOF, MOT, MEE, Gong Xin Bu Lian Zhong Zhuang [2023] No. 254, issued Dec. 28, 2023), https://www.gov.cn/zhengce/zhengceku/202312/content_6923175.htm.

Appendix E: China's Military-Civil Fusion Goals in the Shipbuilding Sector

Industrial Plan	Date Range	Military-Civil Fusion Goal
Marine Economy Development Plan	2003-	"Adhere to the overall consideration of marine economic development and national defense construction to ensure national defense security. Marine economic development must be compatible with strengthening national defense power, safeguarding marine rights and interests, and improving the marine environment. Adhere to the consideration of both military and civilian [sectors], and the combination of peacetime and wartime, so that marine economic development and national defense construction can promote each other and develop in a coordinated manner. Ensure the use of the sea for national defense construction and protect maritime military facilities."[1] "The marine shipbuilding industry should focus on the main business, diversified operations, military-civil integration, and steadily develop from a major shipbuilding country to a Strong Shipbuilding Nation."[2]
Modern Shipbuilding Action Outline	2006-2010	"The entire industry should establish a three-level organizational system with the State Administration of Science, Technology, and Industry for National Defense taking the lead, the shipbuilding industry association in charge of promotion, and grassroots enterprises in charge of implementation, to form a working mechanism of 'top-level decision-making, strong implementation, and continuous promotion.'"[3]
Shipbuilding MLP	2006-2015	"The shipbuilding industry is a modern and comprehensive industry that provides technical equipment for water transportation, marine development, and national defense construction… It plays a significant role in promoting labor employment, developing export trade, and ensuring maritime defense security."[4]

[1] *Outline of the National Marine Economy Development Plan* Art. 2.1.6 (State Council [2003] No. 13, issued May 9, 2003), https://www.gov.cn/gongbao/content/2003/content_62156.htm.
[2] *Id.* at Art. 3.5.
[3] *Action Outline for the Comprehensive Establishment of a Modern Shipbuilding Model* (2006-2010) Art. 2, 4.1 (SASTIND, issued Oct. 11, 2007, published Nov. 11, 2007), https://www.gov.cn/ztzl/2007-10/15/content_776977.htm.
[4] *Medium and Long-Term Development Plan for the Shipbuilding Industry (2006-2015)* Introduction (NDRC, SASTIND issued Sep. 18, 2006), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/200710/P020191104623363865929.pdf.

Industrial Plan	Date Range	Military-Civil Fusion Goal
Ship Industry Revitalization Plan	2009-2011	"The shipbuilding industry is a comprehensive industry that provides technical equipment for the shipping industry, marine development, and national defense construction."[5]
Shipbuilding 12th FYP	2011-2015	"Adhere to promoting Military-Civil Fusion as a strategic guideline for industrial development. Fully utilize the entirety of societal resources, vigorously develop an integrated military-civil ship research and production system, improve the interaction mechanisms between military and civilian sectors, accelerate the mutual conversion of military and civilian dual-use technologies, significantly improve the industrial foundation of military-civil integration, and enhance dynamic military support capabilities."[6]
Shipbuilding Structural Adjustment Implementation Plan	2013-2015	"Promote the conditions, resources, and result sharing of military and civilian research; promote the cooperative development of advanced technologies in the design and manufacturing of ships for both military and civilian use; strengthen the overall arrangement and integrative development of basic technologies and products for military and civil use; and promote the interflow and mutual use of military standards and civilian standards. Guide shipbuilding enterprises to give full play to [their] technological advantages and actively explore the market for civilian specialized and dedicated ships. Based on the foundation of the shipbuilding industry for civil use and relying on the major development projects of civilian products, make a breakthrough in the construction bottlenecks of key products, materials, processing, and manufacturing of equipment, and other military capacity"[7]
Ship Accessory Action Plan	2016-2020	"Military-Civil Fusion: Vigorously develop military-civil dual-use marine equipment and technologies and strengthen the sharing of military and civilian resources in the field of ship accessory equipment. Comprehensively promote Military-Civil Fusion in research and development, design, manufacturing, services, and other areas. Create a positive interactive Military-Civil Fusion development system, and promote the high-

[5] *Ship Industry Adjustment and Revitalization Plan* Introduction (State Council, issued Jun. 9, 2009), https://www.gov.cn/zwgk/2009-06/09/content_1335839.htm.

[6] *12th Five-Year Plan for the Development of the Shipbuilding Industry* Art. 2.2 (MIIT, Mar. 12, 2012), https://www.gov.cn/gzdt/2012-03/12/content_2089877.htm.

[7] *Implementation Plan for Accelerating Structural Adjustment and Promoting Transformation and Upgrading of the Shipbuilding Industry (2013-2015)* Art. 3.6 (State Council, Guo Fa [2013] No. 29, issued Aug. 4, 2013), https://www.gov.cn/zhengce/content/2013-08/04/content_3027.htm.

Industrial Plan	Date Range	Military-Civil Fusion Goal
		technology military-civil two-way transformation, application, and industrialization. Drive the simultaneous improvement of military-civil independent supporting capabilities."[8]
SEI 13th FYP	2016-2020	"Construct a strategic emerging industry system for Military-Civil Fusion. Promote mutual compatibility and coordinated development of military and civilian science and technology innovation systems and promote the development of the Military-Civil Fusion industry. Relying on national Military-Civil Fusion innovation demonstration zones, promote the industrialization of military-civil dual-use technology. Construct a number of Military-Civil Fusion and innovation platforms. In areas where military units are concentrated and industries have good industrial bases, promote the two-way transfer of military and civilian technologies and their transformation and application. Support military enterprises in giving full play to their advantages in new fields such as new energy, civil aerospace, and the Internet of Things, guide private enterprises to enter the field of national defense scientific research, production, and maintenance, and build a policy environment for fair competition among enterprises." "In transforming the country into a Strong Maritime Nation, adapt to military marine resource surveys, sea use, ocean observation and forecasting, marine environmental protection, and island reef construction needs and develop military and civilian high-performance equipment and materials technology. Carry out general standardization projects for the military and civilians and promote the two-way transfer of military and civilian technologies."[9]
Updated Shipbuilding Action Plan	2016-2020	"Promote military-civil joint innovation. Promote the construction of a scientific and technological collaborative innovation platform for Military-Civil Fusion. Further strengthen the scientific research work on military-civil conversion and military-civil dual-use ship technology, and support the two-way transfer and transformation of military and civilian technologies. Improve the national Military-Civil Fusion public

[8] *Action Plan for Boosting the Capability of the Ship Accessory Industry (2016-2020)* Art. 1.2 (MIIT, Gong Xin Bu Zhuang [2015] No. 486, issued Dec. 30, 2015), https://jxt.sc.gov.cn/scjxt/uploadfiles/20191106152016115 85.pdf.

[9] *13th Five-Year National Strategic Emerging Industry Development Plan* Art 10.4 (State Council, Guo Fa [2016] No. 67, issued Nov. 29, 2016), https://www.gov.cn/zhengce/content/2016-12/19/content_5150090.htm.

Industrial Plan	Date Range	Military-Civil Fusion Goal
		service platform, and promote information sharing and technical exchanges in Military-Civil Fusion." "Promote the sharing of military and civilian resources. Further strengthen the sharing and use of R&D design, test and verification facilities, production, and associated resources in the field of ships. Support the coordinated development of comprehensive test facilities such as water tanks, marine environments, communications, and navigation for both military and civilian use, and the construction of major integrated military-civil industrialization projects; promote the application of Beidou navigation; and improve the efficiency of resource allocation. Establish a collaborative support system for military and civil products. Accelerate the construction of common military-civil standards for the shipbuilding industry, and promote the unification of military standards and specifications with civilian use in several fields."[10]
13th FYP for National Marine Economy Development	2016-2020	"Promote the integrated development and sharing of scientific research and production of military and civilian ship equipment."[11] "Promote the sharing of marine information resources: Establish a cross-domain, cross-industry, and cross-regional marine information sharing mechanism and military-civil joint action mechanism, promote the integration of marine information within marine-related departments and industries, and the interconnection of core business systems between departments."[12] "Improve the connection between central and local marine economy management work, improve and perfect the cross-regional coordination mechanism, and establish a working mechanism to promote the development of Military-Civil Fusion."[13]

[10] *Action Plan for Deepening Structural Adjustment and Accelerating Transformation and Upgrading of the Shipbuilding Industry 2016-2020* Sec. 2.5 (MIIT, Gong Xin Bu Lian Zhuang [2016] No. 447, issued Jul. 7, 2017), https://www.ndrc.gov.cn/fggz/fzzlgh/gjjzxgh/201707/t20170707_1196828.html.
[11] *13th Five-Year Plan for National Marine Economy Development* Art. 3.1 (NDRC, issued May 12, 2017), https://www.ndrc.gov.cn/fzggw/jgsj/dqs/sjdt/201705/P020190909487471217145.pdf.
[12] *Id.* at Art. 7.4.
[13] *Id.* at Art. 8.1.

Industrial Plan	Date Range	Military-Civil Fusion Goal
Strong Transportation Nation Outline	2019-2035	"Strengthen the leadership of the Party. Adhere to the overall leadership of the party and give full play to the role of the Party in overseeing the overall situation and coordinating all parties. Establish an overall and coordinated implementation working mechanism for building a Strong Transportation Nation, strengthen departmental coordination, upper and lower [departmental] linkages, and military-civil interaction, and advance the work of building a Strong Transportation Nation in an overall and orderly manner."[14]
14th FYP	2021-2025/2035	"Deepen military-civil S&T collaborative innovation, strengthen military-civil coordinated development in areas such as maritime, aerospace, cyberspace, biology, new energy, artificial intelligence, and quantum technology; promote military-civil scientific research facilities and resources sharing; and promote the two-way transfer and application of military-civil scientific research results and the development of key industries."[15]

[14] *Outline for Building a Strong Transportation Nation* Art. 11.1 (CCP Central Committee, State Council, issued Sep. 19, 2019), https://www.gov.cn/zhengce/2019-09/19/content_5431432.htm.

[15] *Outline of the 14th Five-Year Plan for National Economic and Social Development and Long-Range Objectives for 2035 of the People's Republic of China* Art. 57 (NPC, issued Mar. 13, 2021), https://www.gov.cn/xinwen/2021-03/13/content_5592681.htm.

Appendix F: Changes in China's Foreign Investment Joint Venture Requirements in the Shipbuilding and Shipping Sectors, 2002-2021

Year	Sector				
	Ship Equipment	Maritime Engineering Equipment	Repair, Design, and Manufacture of Ships	Water Transportation Companies	Vessel/Shipping Agencies
2002[1]	Chinese party must be the controlling shareholder for design and manufacture of medium- and high-speed diesel engines, auxiliary engines, wireless communications, navigation equipment and accessories for ships.†	N/A	Chinese party must be the controlling shareholder for the manufacture of special and high-performance ships.†	Chinese party must be the controlling shareholder and foreign ownership must not exceed 49%.*	Chinese party must be the controlling shareholder and foreign ownership must not exceed 49%.*
2004[2]	No change.	N/A	No change.	No change.	No change.
2007[3]	Removed the Chinese controlling shareholder requirement for the design and	Added JV or cooperation requirement for design of maritime	Removed requirement that the Chinese party must be the controlling shareholder for the manufacture of special	No change.	No change.

[1] *Catalogue of Industries for Guiding Foreign Investment (2002)* (State Planning Commission, State Economic and Trade Commission, and the Ministry of Foreign Trade and Economic Cooperation, [2002] No. 21, issued Mar. 11, 2002, effective Apr. 1, 2002), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/200507/t20050707_960602.html.
[2] *Catalogue of Industries for Guiding Foreign Investment (2004 Revision)* (NDRC, MOFCOM, [2004] No. 24, issued Nov. 30, 2004, effective Jan. 1, 2005), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/200506/t20050628_960644.html.
[3] *Catalogue of Industries for Guiding Foreign Investment (2007 Revision)* (NDRC, MOFCOM, [2007] No. 57, issued Oct. 31, 2007, effective Dec. 1, 2007), https://www.ndrc.gov.cn/fggz/lywzjw/zcfg/200711/t20071107_1046937.html.

Year	Sector				
	Ship Equipment	Maritime Engineering Equipment	Repair, Design, and Manufacture of Ships	Water Transportation Companies	Vessel/Shipping Agencies
	manufacture of medium- and high-speed diesel engines for ships while still requiring JV or cooperation.† Added JV or cooperation requirement for the design of low-speed diesel engines, and for design and manufacture of parts and components of ship diesel engines.† Added Chinese controlling shareholder requirement for the design and manufacture of low- and medium-speed diesel engines and crankshafts for ships, and for the design and manufacture of cabin	engineering equipment.†	and high-performance ships.† Added Chinese party must be the controlling shareholder for the repair, design, and manufacture of ordinary ships.* Added JV and cooperation requirement for design and manufacture of distant water fishing vessels and yachts, and for design of high-tech ships.†		

Year	Sector				
	Ship Equipment	Maritime Engineering Equipment	Repair, Design, and Manufacture of Ships	Water Transportation Companies	Vessel/Shipping Agencies
	machinery and deck machinery for ships.†				
2011[4]	No change.	Added Chinese party controlling shareholder requirement for manufacture and repair of maritime engineering equipment.† Added JV or cooperation requirement for the design of deep-water (3,000 meters or more) maritime engineering equipment.†	Expanded Chinese party controlling shareholder requirement to the repair, design, and manufacture of all ships.* Removed JV or cooperation requirement for the design of high-tech ships, and for the design and manufacture of distant water fishing vessels.† Added JV or cooperation requirement for the design of luxury cruise ships.†	No change.	No change.

[4] *Catalogue of Industries for Guiding Foreign Investment (2011 Revision)* (NDRC, MOFCOM, [2011] No. 12, issued Dec. 24, 2011, effective Jan. 30, 2012), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/201112/t20111229_960737.html.

Year	Sector				
	Ship Equipment	Maritime Engineering Equipment	Repair, Design, and Manufacture of Ships	Water Transportation Companies	Vessel/Shipping Agencies
2015[5]	Removed JV or cooperation requirements for the design of low-speed diesel engines, design and manufacture of medium- and high-speed diesel engines for ships, and design and manufacture of parts and components of ship diesel engines.† Removed Chinese controlling shareholder requirement for the manufacture of cabin machinery and deck machinery.†		No change to Chinese party controlling shareholder requirement for the repair, design, and manufacture of all ships.* Removed JV or cooperation requirements for design of luxury cruise ships and yachts.†	No change.	No change.

[5] *Catalogue of Industries for Guiding Foreign Investment (2015 Revision)* (NDRC, MOFCOM, [2015] No. 22, issued Mar. 10, 2015, effective Apr. 10, 2015), https://www.ndrc.gov.cn/fggz/lywzjw/zcfg/201503/t20150313_1046968.html.

Year	Sector				
	Ship Equipment	Maritime Engineering Equipment	Repair, Design, and Manufacture of Ships	Water Transportation Companies	Vessel/Shipping Agencies
2017[6]	Removed Chinese controlling shareholder requirements for the manufacture of low- and medium-speed ship diesel engines and crankshafts.†	Removed Chinese controlling shareholder requirements for the manufacture and repair of maritime engineering equipment.†	No change.	Edited into two distinct items: • Domestic water transportation companies must be controlled by the Chinese party. • International maritime transportation companies must be limited to JV or cooperation.*	No change.
2018[7]	N/A	N/A	Removed ownership restriction for the repair, design, and manufacture of ships.	Removed requirement for international water transportation companies.	Specified that the Chinese controlling shareholder requirement was for domestic shipping agency companies.
2019[8]	N/A	N/A	N/A	No change.	Removed.

[6] *Catalogue of Industries for Guiding Foreign Investment (2017 Revision)* (NDRC, MOFCOM, [2017] No. 4, issued Jun. 28, 2017, effective Jul. 28, 2017), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/201706/t20170628_960838.html.
[7] *Special Administrative Measures (Negative List) for the Access of Foreign Investment (2018)* (NDRC, MOFCOM, [2018] Order No. 18, issued Jun. 28, 2018, effective Jul. 28, 2018), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/201806/t20180628_960861.html.
[8] *Special Administrative Measures (Negative List) for the Access of Foreign Investment (2019)* (NDRC, MOFCOM, [2019] Order No. 25, issued Jun. 30, 2019, effective Jul. 30, 2019), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/201906/t20190628_960873.html.

Year	Sector				
	Ship Equipment	Maritime Engineering Equipment	Repair, Design, and Manufacture of Ships	Water Transportation Companies	Vessel/Shipping Agencies
2020[9]	N/A	N/A	N/A	No change.	N/A
2021[10]	N/A	N/A	N/A	No change.	N/A

* Requirement appears in the *Catalogue of Encouraged Industries for Foreign Investment*, a subsection of the *Catalogue of Industries for Guiding Foreign Investment*.
† Requirement appears in the *Catalogue of Restricted Industries for Foreign Investment*, a subsection of the *Catalogue of Industries for Guiding Foreign Investment*.
Note: Shipbuilding and shipping have never appeared in the prohibited section of China's *Catalogue of Encouraged Industries for Foreign Investment* or *Special Administrative Measures (Negative List) for the Access of Foreign Investment*.

[9] *Special Administrative Measures (Negative List) for the Access of Foreign Investment (2020)* (NDRC, MOFCOM, [2020] Order No. 32, issued Jun. 23, 2020, effective Jul. 23, 2020), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/202006/t20200624_1231938.html.
[10] *Special Administrative Measures (Negative List) for the Access of Foreign Investment (2021)* (NDRC, MOFCOM, [2021] Order No. 47, issued Dec. 27, 2021, effective Jan. 1, 2022), https://www.ndrc.gov.cn/xxgk/zcfb/fzggwl/202112/t20211227_1310020.html.