

Report of Commissioner Carl W. Bentzel

Assessment of P.R.C. Control of Container and Intermodal Chassis Manufacturing

Final Report



This report presents the observations and views of Commissioner Bentzel as an individual Commissioner and is not an official publication of the Federal Maritime Commission.

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Finally, information for this report was obtained from news media, published statistics, stakeholder websites, and meetings with U.S. government officials, ocean carriers, intermodal equipment providers, marine terminals, port authorities, railroads, intermodal trucking lines, shippers, industry analysts, and foreign government officials.

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Executive Summary

The purpose of this report is to alert the public to the current market imbalances in global container manufacturing and to generate policy debate of the longer terms implications to the United States and other Asian trading partners on our complete reliance on China's manufacturing of containers. On December 7, 2020, during the height of concern about suppressed levels of container manufacturing in China, the People's Republic of China's (PRC) Ministry of Commerce (MOC), ostensibly took steps to assure the public of government control over production levels and price stability. As a government official stated:

“With regard to foreign trade logistics, due to the impact of COVID-19, many countries the world are facing similar problems now. The mismatch between supply demand of transport capacity is the direct cause why freight rates increase, and factors such as poor container turnover indirectly push up shipping costs and reduce logistics efficiency. On the basis of preliminary work, we will work with relevant departments to continue to increase transport capacity, support the acceleration of container return, improve operation efficiency, support container manufacturers to expand production capacity, strengthen market supervision, strive to keep market prices stable, and provide strong logistics support for the steady development of foreign trade. Thank you!”¹

This statement, coming from a MOC spokesmen, starkly illustrates the level of commercial control that the PRC exerts over container manufacture. The fact that the PRC controls an industry that has a near defacto worldwide monopoly in the production of shipping containers should be deeply concerning.

After a year of interviews, research and market observation, I have concluded the following:

- 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 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.
- The Department of Commerce has determined that Chinese container and chassis manufacturers are state-owned and controlled and are the recipients of large government subsidies.
- The level of control manifested by the PRC government and Chinese container manufacturers is mitigated by the interest of the PRC in supporting their exporters reach

¹ PRC Ministry of Commerce, *Press Conference Home Page/Foreign Trade*, english.mofcom.gov.cn (December 7, 2020) available at <http://english.mofcom.gov.cn/article/pressconferencehomepage/foreigntrade/202101/20210103028540.shtml>

overseas markets, especially the United States. However, the mitigating interest in carriage of Chinese exports does not extend to other trade markets in Asia, or other overseas markets that compete with Chinese exports, nor does it ultimately diminish the potential level of market manipulation.

It is the author's view that the global supply chain is too interdependent not to have broad access and manufacturing capabilities for intermodal operational equipment. The United States should assess whether given market dominance that further trade action be contemplated and whether to invest more aggressively in next generation container manufacturing technology.

How maritime operational equipment impacts the U.S. supply chain

The U.S. maritime intermodal shipping industry is complex, blending a mix of transportation modes (ocean, rail, and truck) with marine terminals, intermodal equipment providers, and warehousing and distribution facilities. The extreme level of interdependence that is required in the intermodal system requires constant coordination and communication, and breakdown of one element will cause gridlock.

Complexity increased with ocean shipping deregulation. In the early 1990s, prior to deregulation, there were well over 25 major ocean shipping carriers in the international liner shipping trade and market shares of those companies were all well less than 5% market.

Currently, there are 9 major ocean carriers in the international liner shipping trade operating through 3 vessel sharing alliances and multiple carriers have market share ranging between 2% to 30% in the transatlantic market shares of carriers and alliances, (first half of 2021) and 4% to 16% in transpacific market shares of carriers and alliances, (first half of 2021). ²

Traditionally, the international shipping market was characterized by chronic over-capacity culminating in relatively low shipping costs for shippers and low profits for carriers. From 1996 to present day, we have seen a gradual, yet consistent market consolidation in the ocean carrier segment, with fifteen mergers merging 31 carriers into 15. These entities must share, schedule, and move containers and chassis through increasingly congested shoreside infrastructure.³

The U.S. supply chain had become reliant on just-in-time delivery, which allowed shippers to leverage the efficient ocean shipping market and reduce warehouse and storage time and costs. However, the key for just-in-time delivery to work is reliability of service throughout the

² FMC 60th Annual Report Efficiency and Competition (BTA).

³ Drewry, Consolidation in the Liner Industry, White Paper (March 2016) available at: <http://www.truevaluemetrics.org/DBpdfs/Shipping/Drewry-WhitePaper-Liner-Industry-Consolidation-March-2016.pdf>

supply chain and imbalances such as the availability of operational equipment (intermodal chassis and containers) can upend the entire intermodal chain.

Chassis are the wheels of the supply chain. Prior to 2005, intermodal chassis were typically owned and operated by the ocean carriers, which allowed carriers to more accurately deploy sufficient chassis resources to cover intermodal shipping needs. When the carriers made the decision to disinvest in chassis, because of increasing concerns about safety and the imposition of regulatory requirements for safe management of chassis, it created another coordinating point in the supply chain, the intermodal equipment provider.

While the approach has worked and injected higher levels of safety and maintenance in chassis operations there have been other challenges as well. If chassis are not available, then containers do not move. By removing or delaying the use of one component of operational equipment, the entire supply chain will slow down. Movements from marine terminals to inland and destination points in the interior are heavily reliant on chassis for intermodal trucking services.

Another piece of intermodal equipment impacting the U.S. and global supply chain is the maritime container. Standardization of maritime freight through a 20-foot or 40-foot container allowed handling of maritime freight to become more streamlined, and provided massive benefits to manufacturers, retailers and consumers. The global container manufacturing base typically follows the manufacturing and retail product manufacturing base, and the manufacturing of maritime containers and intermodal chassis is entrenched in China with the aid and direction of the Chinese government.

The supply chain is much more diverse and touches many more regions and countries than ever before. It has spread and stretched the container fleet throughout the world, operating generally in a hub and spoke operational pattern, connecting smaller scale manufacturing in lower-cost production locations to larger distribution hubs and end-use product locations. If container flow is hindered by congestion or disruption, it slows the velocity of the supply chain.

The Impact of COVID-19 on Maritime Operations

The COVID-19 pandemic revealed many challenges facing the United States supply chain. U.S. ports have record volumes of cargo. Still, congestion has strained the intermodal transportation system to a breaking point.

While the maritime industry sustained the United States during the pandemic, there were interruptions along the way. Chassis shortages and the inability to reposition chassis to highly leveraged gateways early during prolonged cargo surges were an indicator that operation practices within the U.S. were not sustainable. This was followed by a limited flow of the manufacture of maritime containers, caused in part by the market manipulation of Chinese container manufacturers who jointly decided to reduce production.

In 2019, as the pandemic spread from China, and other countries implemented lockdowns, substantial amounts of manufacturing significantly slowed. Many factories closed temporarily, causing large numbers of containers to be stopped in temporary storage space and equipment was shifted to accommodate the volumes of commerce that continued to be produced. To stabilize operations, ocean carriers, authorized under agreements on file at the FMC and other carriers outside the FMCs agreements, reduced the number of vessels in service through cancellations (blanked sailings). Not only did this disruption put the brakes on import and export movements, but it also meant empty containers were not picked up and re-positioned, and that other intermodal equipment was left stranded in locations without normal return practices being followed. This was especially significant on cargoes originating from China, dependent on the return of empty containers from the U.S. and only served to exacerbate the severe imbalance of trade between the countries.

During the early time frame of COVID-19, U.S. ports suffered heavy losses in the Pacific trades, due to the cessation of Chinese and Southeast Asian manufacturing, with losses of 20-30% at the Ports of Los Angeles and Long Beach. However, while the first months of the pandemic yielded heavy losses of manufactured cargo at most U.S. ports, losses at ports were not as heavy as airports due to the influx of cargoes to respond to COVID-19, such as cleaning and disinfecting products, Personal Protective Equipment (PPE), and other products intended to allow for at-home work adjustments. What was critical at this juncture was efforts by the port and maritime industry to push for clarifications to allow their industry to be classified as essential service providers, and the recognition of this designation by state and local governments, and the institution of workplace COVID-19 safety measures at U.S. ports.

While Congress passed legislation to provide stimulus to individuals, as well as targeted industries, U.S. ports were largely left to their own devices to keep cargo flowing, and governmental assistance was almost non-existent.⁴ To their great credit, management and longshoremen set up their own system of safety protocols to continue the movement of cargo even with depleted numbers of longshoremen.

As countries addressed their COVID-19 recovery, it generated massive opportunity for pent-up demand in the United States for e-commerce retail consumption. This new pent-up demand for retail imports, combined with the increased volumes of cargoes to respond to COVID-19, generated a cargo boom. This level of sustained import cargo demand remains unabated to present, tempered only recently by the fact that congestion has reduced the ability for cargo processing, as ships sit offshore waiting for space at U.S. ports.

This drastic swing in shipping occurred at precisely the wrong time, as intermodal equipment was not properly in place, and the longshore workforce was reduced due to COVID-19 health

⁴ According to Department of Transportation's Bureau of Transportation Statistics in the CARES Act, the **Aviation industry received \$88.3 billion, and the Transit industry received \$25 billion, and the Maritime industry received \$4.1 million** (Maritime received less than .04% than amounts received by Aviation and Transit combined).

impacts. By the early summer of 2020, reports were suggesting that the Ports of Los Angeles and Long Beach was slowing down substantially because intermodal chassis supplies were unavailable. According to the IEP industry representatives that were interviewed for this report, supply was low at this juncture because certain equipment had been shifted to other areas in the country where it could be used more productively, and other equipment was undergoing deferred maintenance during the early period of cargo reduction. This was the first major area of disruption in the supply chain.⁵

The initial congestion soon began to be felt on the ocean side as carriers were forced to wait for berth. Traditionally, ocean carriers can anchor at a marine terminal berth without delay, but by the summer of 2020, ocean carrier vessels were forced to rest at anchorage outside the ports to wait, sometimes for as long as two weeks. The number of vessels waiting for berth space at the Ports of Los Angeles and Long Beach ballooned to well over 100 in the Fall of 2021, and 150 nationwide.

Delays soon migrated to cargo containers. Early in the pandemic, an ocean carrier representative explained that benchmark service from Beijing to Chicago pre-pandemic averaged 32 days in transit was now averaging 72 days in transit. Reports from carrier executives later in the pandemic indicated that transits were approaching three times the pre-pandemic transit turn time. The delays in transit meant that container utilization went from 10-12 round trips across the Pacific to 3-5 round trips, which in turn means reduction in the availability of containers and market constriction. With products piled up in Chinese factories and traders bidding high prices for containers, a Reuters article claimed that the “average container turnaround times have ballooned to 100 days from 60 days previously”.⁶

Massive workforce disruptions due to COVID-19 in North America affected not only ports, but distribution centers, railroad intermodal facilities and warehouses across the country, as well as inland rail and truck transport lines. Without adequate staffing, containers started to pile up. In addition, there were rapid shifts in trade lane demands based on shifting commodity and cargo blends that were forced by changes in consumption patterns and the need for shippers to adjust trade flows because of the unavailability of shipping resources. These factors posed extraordinary challenges to ocean carriers.

In addition to the extreme challenges of COVID-19 on ocean shipping, the transpacific trade poses additional challenges because of the imbalance of the trade. It is estimated that for every 100 containers imported into the United States that only 40 are used for export. This problem is particularly acute in the ports of Los Angeles and Long Beach where it is estimated that the

⁵ Frankie Youd, *Global shipping container shortage: the story so far*, Ship Technology.com, (April 29, 2021), available at <https://www.ship-technology.com/features/global-shipping-container-shortage-the-story-so-far/>.

⁶ Stella Qiu, Shivani Singh, Roslan Khasawneh, *Boxed out: China's exports pinched by global run on shipping containers*, Reuters.com (Dec. 10, 2020) available at <https://www.reuters.com/article/us-global-shipping-container/boxed-out-chinas-exports-pinched-by-global-run-on-shipping-containers-idUSKBN28K0UA>.

container imbalance can be as high as 80-20% import/export and considering the China to USA trade route sustains on average 900,000 TEUs per month, means that in periods of normal shipping activity, that massive numbers of empty containers need to be re-positioned to Asia.

The shortage of shipping containers is yet another symptom of the havoc the pandemic has brought on international supply chains. As a result, freight costs are rising, which in turn leads to higher prices for consumer goods.

The United Nations Conference on Trade and Development (UNCTAD) reported that shipping rates have increased more than fourfold over the past decade, and this could increase the price for consumer products.⁷

There are some measures underway to help resolve the gridlock: ocean carriers are attempting to reduce free time and the detention periods to clear out built up cargo at ports, congested ports are developing programs to clear out cargo more efficiently such as pop-up port facilities, and shippers are considering the use of alternative, less congested port venues. Realistically, because of existing congestion and continued pent-up demand, we won't see the global container shortage crisis returning to normal within this year. While there are new shipbuilding contracts on order, they will not be completed until 2023, and even this will not ensure that we relieve shoreside congestion.

Container and Chassis Manufacturing and U.S. Trade Investigations

Currently, there are three major Chinese companies manufacturing almost all intermodal cargo containers in global use, as well a few smaller Chinese companies, comprising over 95% market share. The balance of container volumes produced are for certain regional markets, and unique-sized type containers, not used in regular international trade service. The three major container manufacturers are heavily subsidized by the Chinese government, and they are state-owned enterprises.

Coinciding with complete monopolization of container manufacturing is a formidable market dominance in the manufacture of intermodal trucking chassis, as approximately 85 percent of all intermodal truck chassis are also manufactured in China. These three companies have also been classified by the U.S. government as state-owned enterprises. The United States Department of Commerce (DOC) and the United States International Trade Commission (ITC) have reviewed the trade, and because of their determinations, the DOC has issued countervailing duties against Chinese manufactured chassis.

The consolidation of the maritime container and chassis manufacturing base to China did not happen accidentally. The Chinese government has long identified international maritime

⁷ Bryce Baschuk, *Shipping Rates to Boost Global Inflation by 1.5%, UN Says*, bloomberg.com, (Nov. 18, 2021) available at <https://www.bloomberg.com/news/articles/2021-11-18/shipping-rates-to-boost-global-inflation-by-1-5-un-says>.

transportation as a vital national interest, and as a government has increasingly exerted significant control over the industry and its many facets. Evidence of this initiative is available in the materials presented through the DOC and the ITC investigations on antidumping and countervailing duties on China International Marine Containers (CIMC), and this report uses the observations and determinations of the DOC and the ITC on the nature of governmental control and market interference.

It should be alarming that of the 44.2 million maritime container global inventory, over 95 percent are manufactured in China, and the balance of containers manufactured were manufactured for specialized markets, and not commonly used for international trading. Manufacturers in China also produce all the 53-foot intermodal shipping containers used by U.S. domestic intermodal rail and trucking market.

While the United States government has spent the past 40 years deregulating their transportation industry, the Chinese government has utilized industrial policy planning to support Chinese firms in strategic sectors, including marine shipping, and specifically to support its state-owned companies and, ultimately, entire industries. Over 85% of the intermodal chassis are manufactured in China, and almost every marine and domestic intermodal container used in the U.S. has been made in China, and according to UNCTAD, in 2020, over 40% of the world's commercial ship order book were built in China.

China early in the development of intermodalism in the 1970s, through SOEs such as China Merchants Group Limited (CMG) and China Ocean Shipping Company Limited (COSCO), developed policies supported by the government to aggressively pursue control of maritime assets, and they have achieved worldwide market dominance.

Establishing a socialist market economy system means enabling markets to play a fundamental role in the allocation of resources under the overall control of the state. As outlined in the United States Trade Representative's Section 301 Report, the Government of China (GOC) laid out its economic roadmap as "various economic elements developing together with state ownership structures as the primary part." This approach has developed into a system where "China maintains an extensive state sector and uses state-invested enterprises and other mechanisms as instruments to achieve the government's economic objectives."⁸ Increasingly, this takes the form of increased party influence over the SOE's corporate governance.⁹ Further,

⁸ *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*, Office of the U.S. Trade Representative (Mar. 22, 2018) at 164, available at <https://ustr.gov/sites/default/files/Section%20301%20FINAL.PDF> ("USTR Section 301 Report").

⁹ Scott Livingston, *The New Challenge of Communist Corporate Governance*, CSIS (Jan. 2021), available at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/210114_Livingston_New_Challenge.pdf.

as recently reported, current Chinese President Xi Jinping is steering China's economy even further into socialism and increasing Chinese government control over the economy overall.¹⁰

China also controls economic growth by promoting “national champions”—large companies in strategic industries that receive favorable treatment through close government ties or outright state ownership.¹¹ To produce these large state champions in desired sectors, the GOC has mandated consolidation through mergers and acquisitions, creating large conglomerates or business groups, such as container shipping company COSCO.¹²

National champions in strategic industries, such as the shipping industry, and companies in “heavyweight industries,” such as iron and steel production, “receive land and energy subsidies, favorable tax policies, and below-market interest rate loans issued from state banks with reduced or no expectation of repayment.”¹³ As a result, in 2020, 96 of the 500 largest global companies (almost one-fifth) were Chinese SOEs, accounting for more than \$63 trillion in combined assets.¹⁴ Fortune's Global 500 includes Chinese national champions in the shipping industry, such as CMG and COSCO, both shareholders of major Chinese shipping container producer CIMC. This also includes Chinese steel companies providing steel inputs to producers in the shipping industry, such as China Baowu Steel Group, HBIS Group, and Ansteel Group, among others.

These national champion steel companies can establish prices that force downstream companies to act accordingly. Through the *Notice Regarding Further Implementing the Policy of Supporting Some and Restricting Others to Promote Stable Operation of the Steel Products Market*, Chinese policy instructs large, state-owned steel makers to play a signaling role, and to proceed according to the interests of the entire industry, to scientifically set steel product prices, actively guide prices to reasonable levels, and realize the role of large steel enterprises as ‘bellwethers’ and ‘stabilizers.’ This direction to set prices has downstream effects on the ability of steel-consuming industries, such as container manufacturing, to aggressively pursue market dominance, in large part in harmony with subsidized steel.

The world's largest producer of intermodal shipping containers, CIMC, is a key link in a chain of shipping-related Chinese companies ultimately owned by China's State-owned Assets

¹⁰ See, e.g., Lingling Wei, *Xi Jinping Aims to Rein In Chinese Capitalism, Hew to Mao's Socialist Vision*, Wall Street Journal (Sept. 20, 2021), available at <https://www.wsj.com/articles/xi-jinping-aims-to-rein-in-chinese-capitalism-hew-to-maos-socialist-vision-11632150725>.

¹¹ *The National Security Implications of Investments and Products from the People's Republic of China in the Telecommunications Sector*, U.S.-China Economic and Security Review Commission (Jan. 2011) at 10-11, available at https://www.uscc.gov/sites/default/files/Research/FINALREPORT_TheNationalSecurityImplicationsofInvestmentsandProductsfromThePRCintheTelecommunicationsSector.pdf (U.S.-China Comm'n Report).

¹² See Letter from Gary Taverman through P. Lee Smith, James Maeder, Robert Heilferty & Albert Hsu to Leah Wils-Owen, re: *China's Status as a Non-Market Economy* (Oct. 26, 2017) at 78-79, available at www.access.trade.gov; barcode number 3634494-01) (“DOC China NME Status Memo”).

¹³ U.S.-China Comm'n Report at 10.

¹⁴ Jude Blanchette, *Confronting the Challenge of Chinese State Capitalism*, CSIS (Jan. 22, 2021), available at <https://www.csis.org/analysis/confronting-challenge-chinese-state-capitalism>.

Supervision and Administration Commission of the State Council (SASAC). SASAC describes itself as “an ad hoc ministerial-level organization directly subordinated to the State Council” that “performs the responsibilities mandated by the Chinese Communist Party.”¹⁵ The DOC recognizes that the Chinese government controls the operations of state-owned entities through “control pyramids,” “in which SASAC controls a group of enterprises, which in turn controls its own subsidiaries.”¹⁶ Because SASAC exists to serve the Chinese Communist Party (CCP), “these corporate structures allow the Chinese government and the CCP to exert control over large segments of China’s economy, influencing economy-wide resource allocation, rates of innovation, and economic growth.”¹⁷ Chinese container production is subsumed in a control pyramid supporting the container shipping industry supply chain—which includes SASAC-owned logistics management conglomerate CMG and SASAC-owned marine container transportation company COSCO. The companies, in turn, are major shareholders of CIMC, which produces shipping containers and owns subsidiaries that produce other products used in container shipping.

As the Office of the U.S. Trade Representative recognized in its March 2018 Section 301 China Report, the State Council of the People’s Republic of China’s (PRC) policies superficially reference market-oriented principles while affirming government intervention.¹⁸ China’s notice of its “Made in China 2025” policy reaffirmed the government’s central role in economic planning; called on all facets of society to mobilize behind the plan; leveraged state resources, policy support, and regulatory systems; and heralded certain Chinese enterprises in key industries to dominate international competition. Among these prioritized industries, the Chinese government identifies “maritime vessels and marine engineering equipment.” China’s overall goal is to achieve 70% “self-sufficiency” in this area by 2025. The GOC’s 14th Five-Year Plan also identifies policy objectives of “enhancing the competitiveness of international shipping,” “optimizing international logistics channels,” “accelerating the formation of safe and efficient logistics networks with internal and external connections,” and “consolidating and enhancing the competitiveness of the entire production chain in shipping.”¹⁹

The DOC indicates that government measures used to support Chinese maritime transportation include:

- **Direct Subsidies:** A July 2020 briefing from the Center for Strategic International Studies (“CSIS”) calculates that China provided direct subsidies to develop its shipping industry

¹⁵ *What We Do*, SASAC (last updated July 17, 2018), available at http://en.sasac.gov.cn/2018/07/17/c_7.htm.

¹⁶ DOC China NME Status Memo at 80-81, (available at www.access.trade.gov; barcode number 3634494-01).

¹⁷ DOC China NME Status Memo at 80-81, (available at www.access.trade.gov; barcode number 3634494-01).

¹⁸ USTR Section 301 Report at 14-16.

¹⁹ *Outline of the People’s Republic of China 14th Five-Year Plan for National Economic and Social Development and Long Range-Objectives for 2035*, translated by the Center for Security and Emerging Technology (May 12, 2021) at 20, 34, available at https://cset.georgetown.edu/wp-content/uploads/t0284_14th_Five_Year_Plan_EN.pdf (GOC 14th Five-Year Plan).

of up to \$5 billion between 2010 and 2018.²⁰ This includes “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.”

- **Indirect Subsidies:** The Chinese government provides subsidies to related and upstream industries necessary for intermodal container production (e.g., steel, electricity, and land). This decreases the cost of container production and empowers CIMC to provide containers at below fair value. As discussed below, the DOC has previously found that CIMC’s subsidiaries benefited from the provision of land use rights at below market value.
- **State-Owned Banks:** China’s largest banks are also state-owned and constitute the largest lenders to shipping companies. These banks offer preferential financing terms to Chinese companies, and Chinese SOEs have been found to pay lower interest rates on outstanding bonds than their private counterparts.²¹ The Department of Commerce has twice found that CIMC or its subsidiary received benefits from programs in this category.²²
- **Ownership Requirements:** The Chinese government requires any international maritime transport company to be a joint venture with a Chinese investor, and a Chinese investor must control the joint venture.²³ In practice, this means that most Chinese maritime transportation companies and their sprawling network of subsidiaries are majority-owned and controlled by the Chinese government.
- **Industry Consolidation:** The GOC encourages consolidation of its shipping companies to promote market dominance. A 2015 merger made CMG the largest logistics company in the world, and a 2016 merger created COSCO, which is now the world’s third largest shipping company. Both companies are container producer CIMC’s shareholders.
- **SOE “Feedback Loops”:** Support for one Chinese SOE inflates demand for products that can be satisfied with production from another SOE. For example, CIMC describes its business relationship with state-owned COSCO Shipping as “reliable” and “long-term,”

²⁰ Jude Blanchette, Jonathan E. Hillman, Maesea McCalpin & Mingda Qiu, *Hidden Harbors, China’s State-Backed Shipping Industry*, CSIS (July 2020) at 2, available at https://csis-website-prod.s3.amazonaws.com/s3fs-public/publication/207008_Blanchette_Hidden%20Harbors_Brief_WEB%20FINAL.pdf (Hidden Harbors Brief).

²¹ Hidden Harbors Brief at 2.

²² See Memorandum from Christian Marsh to Ronald K. Lorentzen, re: *Countervailing Duty Investigation of 53-Foot Domestic Dry Containers from the People’s Republic of China: Issues & Decision Memorandum for the Final Determination* (Apr. 10, 2015) at 16, (available at <https://enforcement.trade.gov/frn/summary/prc/2015-08904-1.pdf>) (“DOC China Container CVD Determination”); Memorandum from James Maeder to Christian Marsh, re: *Issues and Decision Memorandum for the Final Determination in the Countervailing Duty Investigation of Certain Chassis and Subassemblies thereof from the People’s Republic of China* (Mar. 15, 2021) at 8-9 available at <https://enforcement.trade.gov/frn/summary/prc/2021-05815-1.pdf>) (“DOC China Chassis CVD Determination”).

²³ USTR Section 301 Report at Appendix D.

and notes that continued transactions with this company are in its financial interests and the interests of its shareholders, which include COSCO Shipping itself.²⁴

These actions led to consolidated Chinese government control of container shipping companies and producers of related products, as well as growing international dominance throughout the supply chain. The Department of Commerce has found that CIMC and its subsidiaries have benefited from many of these subsidies to gain an advantage in international markets, including the United States.

Antidumping and Countervailing Duty Investigations into CIMC's State-Owned Status

On four separate occasions, the DOC has made findings in antidumping (AD) and countervailing duty (CVD) investigations relating to CIMC's status as a state-owned entity. In each of these investigations, the DOC conducted an in-depth analysis of public and proprietary information to determine whether CIMC should be considered a state-owned entity. Ultimately, the DOC found in each instance that CIMC is government-owned and-controlled through a chain of state-owned enterprises under the umbrella of SASAC. The results and record of the DOC's investigations concluded the world's largest container manufacturers operates pursuant to GOC direction and receives significant subsidization.

The Department of Commerce has twice found that CIMC is an SOE based on its level of ultimate state ownership in AD and CVD proceedings, once in respect to 53-foot intermodal containers, and once with respect to intermodal chassis. In the case, of intermodal chassis, the ITC found that U.S. chassis manufacturers were materially injured by reason of imports of chassis, requiring the implementation of protective tariffs.

A company's level of state-ownership and state-control is relevant in CVD proceedings to determine whether a Chinese company qualifies for benefits provided exclusively to state-owned enterprises. CVD investigations attempt to measure the benefits companies receive from their governments to produce the merchandise under investigation. Duties will then be imposed to counteract the unfair advantage these government subsidies provide. While production and export subsidies saturate the Chinese economy, there are certain subsidies for which only SOEs qualify. Again, the DOC will base its decision on the level of government ownership and any other indication of control. Review of these cases provide insight into how China maintains control over its container shipping supply chain.

Likewise, a company's level of government ownership is relevant in nonmarket economy AD investigations. The DOC has found CIMC to be *de facto* controlled by the GOC in two separate AD investigations. In general terms, antidumping proceedings determine the level at which foreign products are sold in the U.S. market at a price lower than in the producer's home market or in a third-country market. Because of the extreme level of government control by the

²⁴ CIMC 2020 Annual Report at 118, available at https://portalvhds1fxb0jchzgiph.blob.core.windows.net/press-releases-attachments/1304426/HKEX-EPS_20210430_9746277_0.PDF.

GOC throughout the Chinese economy, the DOC applies a non-market economy methodology and considers all companies to be controlled by the GOC, unless an individual company affirmatively demonstrates it operates independently of the Chinese government. The DOC considers majority ownership of a company “in and of itself” to preclude a finding that a company is autonomous.²⁵ Therefore, the DOC will undertake a rigorous examination of a company’s corporate ownership structure to decide of state-ownership, especially given the prevalence of control pyramids.

53-Foot Container Countervailing Duty Investigations²⁶

On April 10, 2015, the DOC found that CIMC was a state-owned enterprise that qualified for special subsidies provided only to SOEs. During the CVD investigation period, the DOC found that CIMC was an SOE due to its 53.45% aggregate share of ownership through entities ultimately owned by SASAC. This included the shares of COSCO and CMG—two companies ultimately owned by SASAC and qualified as CIMC’s ultimate shareholders. This also included shares of Hony Capital Management Limited—shares that CIMC reported were “controlled by the substantial shareholder” (*i.e.*, under the control of an SOE).²⁷ As a result, the DOC found that CIMC benefited from an SOE-specific benefit when it received loans from state-owned commercial or policy banks.²⁸ The Department of Commerce ultimately found that CIMC received a benefit equivalent to 10.54% from these preferential loans. In total, CIMC benefited from subsidies of up to 28% to produce containers destined for the United States.

The same day, the DOC also determined in the parallel antidumping investigation that CIMC could not prove independence from the GOC. The Department of Commerce explained that CIMC’s 2013 annual report listed CMG and COSCO as CIMC’s two largest shareholders—collectively controlling 48.62 percent of CIMC’s shares.²⁹ This level of ownership meant that these two companies—both 100-percent-owned by SASAC—were CIMC’s only “substantial shareholders.”

²⁵ The Department of Commerce has also found companies with minority government-ownership to be *de facto* controlled by the government where there is some other indication of control over company operations.

²⁶ *53-Foot Domestic Dry Containers from the People’s Republic of China: Issues and Decision Memorandum for the Final Determination of Sales at Less Than Fair Value* (Apr. 10, 2015), available at <https://enforcement.trade.gov/frn/summary/prc/2015-08903-1.pdf>.

²⁷ Hony Capital’s website indicates that it was founded and sponsored by Legend Holdings. *See About Us*, Hony Capital (last accessed September 23, 2021), available at https://www.honycapital.com/aboutus_en/index.aspx?nodeid=2017. Legend Holding’s major shareholder is, in turn, state-owned Chinese Academy of Sciences Holdings Co., Ltd. *Corporate Governance*, Legend Holdings (last accessed September 23, 2021), available at http://www.legendholdings.com.cn/Manage_en/index.aspx?nodeid=1040.

²⁸ The Department of Commerce China Container CVD Determination at 16.

²⁹ The antidumping investigation covered a longer period than the countervailing duty investigation, resulting in a slightly different set of facts and ownership shares. The conclusion regarding GOC control was the same in each investigation.

According to Article 62 of CIMC's Articles of Association, this made SASAC—through CMG and COSCO Shipping—the controlling shareholder of CIMC. The controlling shareholder was responsible for controlling management decisions for CIMC, such as selecting the board of directors and the supervisory committee. SASAC used this control to install former employees from COSCO Shipping and CMG to CIMC's board of directors and select CIMC's senior management positions. Based on this record evidence, the DOC concluded that CIMC's operations were ultimately controlled by the Chinese government through SASAC.

However, in June 2015, the ITC determined that pursuant to the Tariff Act of 1930 ("the Act"), that the establishment of an industry in the United States is not materially retarded by reason of imports of 53-foot domestic dry containers from China.³⁰ Essentially, the ITC determined that since U.S. manufacturers had not been in the domestic market for such a long period of time that it did not satisfy the Tariff Act requirements to justify implementation of tariff protection. While this decision reflects the ITC jurisdictional authority to order tariff protection to U.S. industry for unfair competition, it also stands to show that Chinese container manufacturers were functioning under control of an SOE, and that the government was subsidizing manufacturing to help control the market. The decision did not consider the issue of the over 95% market dominance of the Chinese manufacture of containers, as the ITC jurisdiction is confined to trade distortion and impacts on U.S. manufacturing, and in this case, could not act since U.S. manufacturers were no longer involved in the container manufacturing market.

Chassis Countervailing Duty Investigation³¹

Six years later, the DOC again issued an affirmative final determination that CIMC, the world's largest container manufacturer, is owned and controlled by the GOC. The CVD investigation into chassis involved CIMC Vehicles, a CIMC subsidiary that produces intermodal chassis. Ultimately, the DOC concluded that CIMC Vehicles was directly controlled by CIMC and CIMC was ultimately owned and controlled by the SASAC. This finding was necessary to determine whether CIMC Vehicles was eligible for three SOE-specific benefits: (1) the government provision of land to SOEs for less than fair value, (2) government directed debt restructuring, and (3) capital injections and other payments to SOEs from the State Capital Operating Budget. Evidence in the investigation showed that CMG and COSCO remained CIMC's largest shareholders, holding 24.56%, and 22.70% of shares, respectively. Despite requests from the DOC, CIMC Vehicles withheld information about its other shareholders. Therefore, the DOC again considered CIMC's other shareholders to be SOEs as well, based on available record evidence. In total, CIMC received subsidies of 13.93% under the SOE-specific programs and

³⁰ *53-foot Domestic Dry Containers from China, Investigation Nos. 701-TA-514 and 731-TA-1250*, (USITC Pub. 4537), (Final).

³¹ *Certain Chassis and Subassemblies Thereof from the People's Republic of China: Issues and Decision Memorandum for the Final Affirmative Determination of Sales at Less Than Fair Value* (May 11, 2021) at 27-32, available at <https://enforcement.trade.gov/frn/summary/prc/2021-10346-1.pdf>.

overall subsidies of up to 44.32%. That is, the Chinese government footed nearly half of the costs of producing CIMC's chassis and gave CIMC's subsidiary a significant price advantage over domestic chassis producers.

Finally, in May 2021, the DOC issued a final determination in the antidumping investigation into chassis from China—once again finding that CIMC was not independent from GOC control. As in the container case, CIMC's subsidiary asked the DOC to assign it an individual dumping rate—rather than the higher rate applicable to companies owned and controlled by the GOC—on the grounds that it was not majority-owned by companies ultimately owned by SASAC. When asked specific questions about its ownership structure and shareholders, however, CIMC failed to respond again. The Department of Commerce ultimately relied on information already on the record in CIMC's 2019 Annual Report that identified its other shareholder's shares as ultimately being controlled by China Merchants Group and COSCO Shipping (both of which also held shares in CIMC directly).

On July 1, 2021, the ITC announced, in contrast to the determination on containers, that pursuant to the Tariff Act of 1930, that an industry in the United States, that had been assessed as selling at less than fair market value by the DOC, was materially injured by reason of imports of chassis and subassemblies from China.³² On July 8, 2021, the International Trade Administration of the DOC, instructed the U.S. Customs and Border Protection to require cash deposits equal to weighted-average dumping margins from imported chassis and subassemblies from China.³³

Federal Maritime Commission Jurisdiction and other Legal Authority

I would be remiss, if this report did not touch on potential avenues for regulatory or trade actions to counter the monopolistic market control in container manufacturing. Seemingly the DOC and the ITC have acted to the full extent of their jurisdiction, and subject to future modifications, or in the case of container manufacturing, U.S. market development that would authorize the re-assessment of the determination on 53-foot containers, have concluded their role.

The Department of Justice, through its Antitrust Division, has plenary authority over competition impacts affecting the U.S. consumer. To date, the author is unaware of any public action that has been taken to review the container market, however, it should be noted that in the case of China, recent developments aimed at blocking the extra-territorial application of

³² *Chassis and Subassemblies from China* (Inv. No. 731-TA-1537 (Final), USITC Publication 5211, (June 2021) available at, http://pubapps.usitc.gov/applications/publogs/qry_publication_loglist.asp.

³³ *Certain Chassis and Subassemblies Thereof from the People's Republic of China: Antidumping Duty Order*, 86 FR 36093, (July 8, 2021) available at, <https://www.federalregister.gov/documents/2021/07/08/2021-14561/certain-chassis-and-subassemblies-thereof-from-the-peoples-republic-of-china-antidumping-duty-order>.

laws on vital Chinese interests have been implemented.³⁴ Additionally, action could be taken by the Office of the United States Trade Representative at the World Trade Organization should it be deemed to be a GATT covered trade activity.

The FMC's jurisdiction over intermodal container usage includes authority to prohibit certain actions by common carriers to refuse to deal or restrict access to intermodal equipment. The FMC also has expansive authority to take actions against the activities of foreign governments, foreign carriers, and foreign maritime service providers for restrictive trade practices that adversely affect U.S. carriers in foreign trade.

Vessel-Operating Common Carriers (VOCCs) and Marine Terminal Operators (MTOs) are authorized to enter into agreements for cooperative or joint working arrangements under the provisions of 46 U.S.C. § 40301 et., seq., and have done so for joint pooling of intermodal equipment such as chassis. The FMC is required to review these agreements filed with the agency to determine whether action pursuant to the agreement is, "likely, by a reduction in competition, to produce an unreasonable reduction in transportation service or an unreasonable increase in transportation cost or to substantially lessen competition in the purchasing of certain covered services." Upon finding an unreasonable increase in cost or decrease in service the FMC may take action to enjoin the operation of the agreement in District Court.³⁵

While the provisions authorizing agreements under the Shipping Act of 1984, arguably, allow for joint working arrangements to facilitate efficiencies, 46 U.S.C. et., seq., outlines and enumerates actions that are prohibited from being undertaken by VOCCs and MTOs. The general requirement governing both VOCCs and MTOs is 41102(c), requires regulated entities³⁶ to "not fail to establish, observe, and enforce just and reasonable regulations and practices related to or connected with the receiving, handling, storing, or delivering property." In a similar vein, VOCCs under section 41104(a)(10) may not "unreasonably refuse to deal," and VOCCs under section 41105(2), acting in concert, are prohibited from engaging "in conduct that unreasonably restricts the use of intermodal services or technological innovations."

The two FMC statutes that authorize trade actions are Section 19 of the Merchant Marine Act, 1920 (Section 19), and the Foreign Shipping Practices Act (FSPA). FSPA is the most pertinent to the container manufacturing market situation. The FSPA addresses conditions created by foreign governments or the practices of foreign carriers or foreign maritime-service providers that adversely affect the operations of U.S. carriers in U.S. ocean borne trade that do not exist for foreign carriers operating in the U.S.³⁷ The Commission is authorized to investigate those

³⁴ Order No. 1 of 2021: *Rules on Counteracting Unjustified Extra-Territorial Application of Foreign Legislation and Other Measures*, MOFCOM (Jan. 9, 2021) available at <http://english.mofcom.gov.cn/article/policyrelease/questions/202101/20210103029708.shtml>.

³⁵ 46 U.S.C. § 41307(b)(1).

³⁶ VOCC's and MTO's, but also includes Non-Vessel-Operating Common Carriers (NVOCCs)

³⁷ 46 U.S.C. § 42302 et. seq.

conditions, gather information, make determinations, and impose or request sanctions against the responsible government or party. The FSPA was enacted in 1988, as part of the Omnibus Trade and Competitiveness Act of 1988, to expand the Commission's authority to address trade restrictions imposed by foreign governments or resulting from the practices of foreign carriers or maritime-service providers.

The FSPA defines maritime services as port-to-port transportation of cargo by vessels operated by an ocean common carrier.³⁸ Maritime related services is defined by the FSPA to include "intermodal operations, terminal operations, cargo solicitation, agency services, ocean transportation intermediary services and operations," as well as "all other activities and services integral to total transportation systems of ocean common carriers and their foreign domiciled affiliates for themselves and others."

After appropriate due process consideration and a FMC determination that conditions do adversely affect U.S. carriers in foreign commerce, the FMC can impose sanctions against a foreign carrier to include: (1) limiting sailings to and from U.S. ports or restricting the amount or type of cargo carried; (2) totally or partially suspending some or all of the foreign carrier's tariffs and service contracts (which suspends its right to trade); (3) totally or partially suspending its right to operate under any agreement filed with the Commission; (4) imposing a fee not to exceed \$1 million per voyage; and (5) refusal of entry or departure clearance. Before imposing any of these sanctions, the Commission can consult with, request the cooperation of, or make recommendations to other appropriate U.S. government agencies. Further, before a determination under § 42304 becomes effective, it must be submitted to the President who has 10 days to disapprove the Commission's determination on national defense or foreign policy grounds.³⁹

The FSPA is a broad trade remedy and has not been employed often or recently. Additionally, it should be noted that the international ocean shipping industry has shifted drastically in the last thirty years; characterized as a fiercely competitive market with many companies, many acting with government support or control, to now with less than ten companies representing 95% of the market share.

Container Manufacturing Market

Compounding COVID-19 impacts, congestion and trade imbalances was the slowdown in production of newly manufactured containers. The rate of production was already down in 2019 and dropped even further in 2020, especially in Q1. At this point in time, the scrapping of older containers, and the repurposing of marine containers for other purposes exceeded the building of new ones, and inventories in the Chinese factories were exceedingly low.

³⁸ 46 U.S.C. § 42301(b)(2).

³⁹ 46 U.S.C. § 42306.

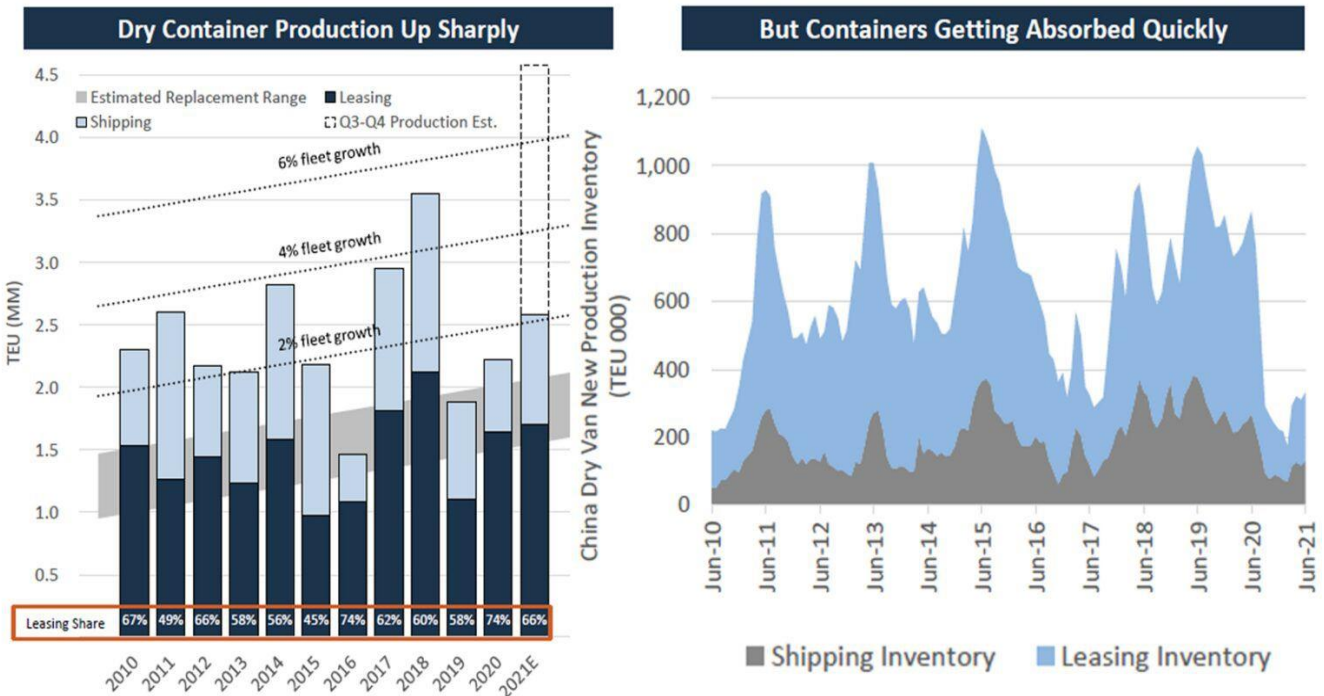


Figure 1 Triton International, 2021, p.6

Note: excludes non-leasing and non-shipping purchasers, published in Freightwaves

The prices for Chinese manufactured containers increased from \$1,600 to \$2,500 between 2019 and 2021.⁴⁰ Likewise, container leasing rates increased, up by around 50% in the space of just six months, as reported on November 11, 2020. By 2021, reports were that container prices had risen to \$6,500 or close to 400% higher than the pre-pandemic time frame.⁴¹

Since the initiation of trade actions at the DOC and the ITC, the Chinese government has tightened its control over CIMC and the container industry at large. In May 2019, another Chinese container producer, Singamas, announced that it was selling its interest in four container manufacturing subsidiaries to SASAC-owned COSCO.⁴² In doing so, Singamas sold off all its production units of standardized containers to the Chinese government, pivoting to logistic services and the manufacturing of specialized containers.⁴³ COSCO's takeover of Singamas, a major Chinese container producer at the time, helped it consolidate the total

⁴⁰ Sam Chambers, *Acute container shortages roil global supply chains*, Splash 247.com, (Nov. 11, 2020) available at <https://splash247.com/acute-container-shortages-roil-global-supply-chains/>.

⁴¹ Michal Pakulniewicz, *Container production surges by over 200% as prices hit record high*, trans.info, (Oct. 8, 2021) available at <https://trans.info/en/container-production-surges-by-over-200-as-prices-hit-record-highs-250010>.

⁴² *Very Substantial Disposal in Relation to the Disposal of 100% Equity Interest in Target Companies*, Singamas Container Holdings Limited (May 6, 2019) at 9, available at https://www.singamas.com/files/e_VSD_Announcement_20190506_clean.pdf.

⁴³ Jason Jiang, *Singamas Sells Four Container Manufacturing Units to Cosco*, Splash247.com (May 7, 2019), available at <https://splash247.com/singamas-sells-four-container-manufacturing-units-to-cosco/>.

amount of container production COSCO ultimately owned—through its own producer, Shanghai Universal Logistics Equipment,⁴⁴ and through CIMC. This acquisition was announced shortly after Danish manufacturer Maersk Container Industry indicated it would no longer make dry, non-refrigerated trailers in China.⁴⁵ Thus, in one year, a significant portion of Chinese container production was ultimately consolidated under control of the Chinese government.

In August 2020, CIMC announced that shareholders including COSCO Shipping would transfer their shares to SASAC.⁴⁶ These shareholders transferred a total of 29.74% shares to Shenzhen Capital Group, while SOE CMG retained 24.49% of shares and COSCO decreased its shares to 4.69%⁴⁷ and replaced COSCO as a substantial shareholder of the company.⁴⁸

As a result, SASAC consolidated its direct ownership of CIMC and now owns a majority of CIMC's shares, with SASAC acting as its largest direct shareholder. CIMC explained in its 2020 Annual Report that it "looks forward to closer cooperation with the Shenzhen/SASAC in the future and the start of CIMC's second growth curve."⁴⁹ CIMC's chairman further explained that SASAC's acquisition was "in-line with the national 14th Five-Year Plan and the Long-Range Objectives Through the Year 2035."⁵⁰ Indeed, these actions to consolidate CIMC under SASAC align with the Chinese government's general plan to "accelerate the centralized and unified supervision of state-owned assets in operation."⁵¹

In the shipping industry, CIMC is China's "national champion" for containers and a variety of other shipping-related products, such as trailers and chassis. CIMC is now the largest container manufacturer in the world and produces approximately 40% of the world's shipping containers. The top three global manufacturers—CIMC, Dong Fang, and CXIC—are all located in China, and they produce an estimated 82% of containers globally.⁵² The China Container Industry Association (CCIA), reports that Chinese companies, led by state-owned CIMC, now produce **more than 95%** of the world's shipping containers.⁵³ The majority of the balance of containers are manufactured for specialty markets are to address regional variances, so effectively the Chinese government-controlled container manufacturers control all major world-wide manufacture. Industry experts explain that Chinese container manufacturers increasingly are

⁴⁴ Shanghai Universal Logistics Equipment Co. Ltd. Website, available at <http://en.cshuanyu.com/>.

⁴⁵ Chris Dupin, *Maersk Container Industry Will Focus on Reefers*, Freightwaves – American Shipper (Jan. 3, 2019), available at <https://www.freightwaves.com/news/maersk-container-industry-will-focus-on-reefers>.

⁴⁶ Jason Jiang, *SASAC Takes Over CIMC*, Splash247.com (Sept. 2, 2020), available at <https://splash247.com/sasac-takes-over-cimc/>.

⁴⁷ CIMC 2020 Annual Report at 234.

⁴⁸ CIMC 2020 Annual Report at 234.

⁴⁹ CIMC 2020 Annual Report at 22.

⁵⁰ CIMC 2020 Annual Report at 25.

⁵¹ GOC 14th Five-Year Plan at 48.

⁵² Greg Miller, *How Three Chinese Companies Cornered Global Container Production*, Freightwaves American Shipper (May 24, 2021), available at <https://www.freightwaves.com/news/how-three-chinese-companies-cornered-global-container-production>.

⁵³ *Introduction to China Container Industry Association*, CCIA, (last accessed Sept. 23, 2021), available at <http://ccia.chinaccia.com/index.php?id=298>.

aware of their market dominance and have taken coordinated steps through CCIA to suppress manufacture of containers, facilitating price increases, and perhaps more alarmingly, effecting overall capacity to provide transportation service.⁵⁴ The shipping lines that were reviewed for this report all indicated severe frustration, and experienced both delays in orders, and increases in price that they admitted were impacting service ability and reliability.

The good news is that Chinese container manufacturers substantially ramped up production in 2021. However, the price of containers is an indication of ongoing scarcity, in part attributable to the slowdown in production in 2019-20, and in part attributable to congestion. The price for a new container is now \$3,500 per cost equivalent unit (CEU, a measure of the value of a container as a multiple of a 20-foot dry cargo unit) versus \$1,800 per CEU in early 2020 and \$2,500 per CEU in late 2020. The price has remained roughly steady at \$3,500 per CEU for the past three months.

The rise in production in 2021 comes after a period when orders were below market replacement requirements. According to Triton CEO Brian Sondey, a leading company in the container leasing industry, “A lot of the container production that’s happened this year, to some extent, is making up for low production volumes in 2019 and the first part of 2020.” Added O’Callaghan, “We’re still playing catch-up.” (Miller, 2021).

The one levelling element in the competitive situation with Chinese government-controlled container manufacture is the fact that the Chinese container manufacturers need to manufacture enough containers to help sustain their own national export policy. While this might operate as a market deterrent for manipulation into the United States with an 80-20% imbalance of trade, it is not prevalent in trade between other markets in Asia, such as South Korea, Thailand, Malaysia, and Vietnam, where Chinese manufacturers are competing with other Asian nations.⁵⁵ This dynamic has provided the specter that the Chinese government could exert substantial control over the movement of goods to, from, and within those other Asian nations and the U.S., or in fact, any nation other than China and the U.S.

Our Nation faces a fundamental policy question: should the shipping container be considered an essential piece of equipment by our country instead of being seen as a fungible commodity? The PRC has already considered this question and answered that the container is essential and has promoted the Chinese container manufacturing industry to status as a “national champion.” Seemingly, our Nation recognizes the need and value of certain types of products like semi-conductors, but in this author’s view, has not yet recognized our Nation’s absolute

⁵⁴ Miller, *How Three Chinese Companies Cornered Global Container Production*, Freightwaves – American Shipper.

⁵⁵ Cynthia Kim, *South Korea’s container squeeze throws exporters into costly gridlock*, reuters.com, (July 11, 2021) available at <https://www.reuters.com/business/south-koreas-container-squeeze-throws-exporters-into-costly-gridlock-2021-07-09/>.

reliance on containerized shipping, and therefore our complete and utter reliance on the lowly shipping container.

Chassis Manufacturing Market Impact

The chassis manufacturing market is also extremely concentrated, with over 85% of the world's market share being provided by Chinese SOEs. Unlike the market for containers, there are pockets of chassis manufacturing outside of China, such as Hyundai's operations in Mexico, and a growing number of smaller domestic chassis manufacturing operations. The timing of the determinations of the DOC and the ITC that China was subsidizing and the implementation of tariffs of Chinese manufactured could not have been worse because of the COVID-19 pandemic-related cargo surges and congestion. However, the long-term value of not having to rely on monopolistic control in the market for chassis manufacture will outweigh the temporary short-term costs.

Hopefully, this action will help avoid the situation that we face in the market dominance of containers. There is positive evidence that all major U.S. domestic chassis manufacturing are in the process of ramping up production and one of the Chinese manufacturers of chassis has opened business to build in the United States. According to interviews, the industry has been adversely impacted in ramping up manufacturing because of supply chain challenges, and that has blunted immediate production capacity. However, there is firm evidence of domestic chassis manufacturing growth, for instance, Stoughton Trailers recently announced the establishment of a new chassis manufacturing facility in Texas, and other companies have announced resumption of business or bought and are planning to expand facilities.⁵⁶

Ocean Shipping Costs

The primary causes of supply chain disruption were the massive swing of cargo in the spring and summer of 2020, the challenge in handling cargo volumes with existing intermodal chassis, and supply limitations on containers. This in turn caused the surge in rates for container shipping on most all east to west cargoes since May 2020. The Drewry World Container Index, which reflects a composite score of a number of services benchmarking rates, indicated that the latest composite rate for shipping a container from Shang Hai to Los Angeles was at \$8,470.00, down slightly from a benchmark rate of over \$10,000.00, that was quadruple the composite rate prior to the outbreak of COVID-19, and the rate for shipping for the spot market for smaller shippers without shipping contract leverage is breaking all records.⁵⁷ While rates

⁵⁶ Ari Ashe, *Stoughton expanding chassis production to Texas*, (Jan. 4, 2022), [joc.com](https://www.joc.com/trucking-logistics/trucking-equipment/stoughton-expanding-chassis-production-texas_20220104.html). available at https://www.joc.com/trucking-logistics/trucking-equipment/stoughton-expanding-chassis-production-texas_20220104.html.

⁵⁷ <https://www.drewry.co.uk/supply-chain-advisors/supply-chain-expertise/world-container-index-assessed-by-drewry>

are higher than ever before, it should also be mentioned that historically, despite the value of service provided by the container carrier industry, that the industry was unprofitable in 8 of the 10 years leading up to COVID-19.

While price increases in ocean shipping costs can be catastrophic for low value or low margin products, many retailers are less impacted by cost since the per unit shipping costs for most retail products are marginal compared to profit level per unit of sale. However, it is the author's view that the level of outsourcing of components and materials throughout the U.S. economy, and our Nation's dependence on just-in-time delivery for almost every facet of production of goods (durable and perishable) require a stable and reliable system of overseas intermodal and domestic intermodal transport. It is the level of interconnectivity itself that poses the greatest threat to economic welfare. Through the course of this investigation, numerous shippers have explained the need to increase product pricing, because of the absence of products instrumental to final delivery, be it an additive, a subcomponent, or equipment necessary for manufacture or packaging.

An example provided to the author that graphically illustrates the economic challenges with the current supply chain disruption was provided to me by a home builder in Utah that had market plans to build over 200,000 residential housing units in the Salt Lake City region in 2021, but that had been forced to ultimately sell just over 140,000 units, not because of the market, but because they were not receiving adequate building supplies. Perhaps even more concerning than price increases, is the failure to secure certain commodities, or delays that result in the absence of vital commodities such as healthcare products, chemical additives that contribute to safer or cleaner products, or products used in the water purification process.

Next Generation of Containers

In the U.S., Global Secure Shipping, Inc. is commercializing a new smart container manufactured using composite shipping materials using technology developed through research of the University of Maine and Georgia Institute of Technology, and containers are being built in Old Town, Maine. Similar efforts are underway in Europe, but efforts to adopt high technology containers built with state-of-the-art tracking, security, and longer lasting materials are still in their infancy. Other U.S. manufacturers are also eyeing the market for the potential opportunity to jump start container technology and manufacturing processes. However, the challenge of competing with dominant producers who are receiving government subsidies is daunting. Marine container technology has changed little since inception, and the path to develop this market will be rooted in next generation technology. Inevitably, this crisis, and the supply chain disruption, would hopefully generate positive impact in this area and provide impetus for future efforts to support the development of next generation technology and jump start a U.S. market in container production.

Conclusion

It is clear to the author that the issue of Chinese state control of manufacture of containers and chassis issue needs much closer review. The current supply chain disruption provides illumination on the larger issues related to monopolistic control of critical elements needed to facilitate international trade in containers. As a Nation, we need to be more aware of the value and importance of this trade to all sectors of economy, and to the welfare of the U.S. people. Further, consideration should be given to whether to consider further actions to combat market domination, or to provide economic stimulus to incent the production of U.S. intermodal chassis and containers.

Given the potential economic consequence of market disruption or market manipulation. The following facts should be reiterated:

- 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 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.
- The Department of Commerce has determined that Chinese container and chassis manufacturers are state-owned and controlled and are the recipients of large government subsidies.
- The level of control manifested by the PRC government and Chinese container manufacturers is mitigated by the interest of the PRC in supporting their exporters reach overseas markets, especially the United States. However, the mitigating interest in carriage of Chinese exports does not extend to other trade markets in Asia, or other overseas markets that compete with Chinese exports, nor does it ultimately diminish the potential level of market manipulation.

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