

This chapter covers 2021 and the first half of 2022, tracking freight rates and changes in demand and supply across key shipping markets. It considers the immediate outlook for freight markets and examines the impact on food prices of recent development in the bulk dry market.

In 2021, the COVID-19 pandemic continued to cause substantial fluctuations in demand, severely disrupting logistics for global supply chains, increasing port congestion and vessel waiting times and slowing hinterland transportation. Consequently, in 2021 there was a steep rise in freight rates in the container and dry bulk markets thus leading to a surge in carriers' earnings. In the tanker market on the other hand, freight rates were weak as a result of slow vessel supply and demand.

In 2021, supply disruptions led to an increase in the number of blank sailings. Carriers favoured the most profitable services and skipped certain ports, while also adding demurrage and detention charges, and thus had huge earnings. As a result, there have been calls for greater oversight of the global ocean shipping industry.

Higher dry bulk freight rates are likely to increase food prices for the middle-income economies which tend to rely more on dry bulk shipping for food imports.

In the first half of 2022, container and dry bulk market freight rates started to fall – though remained above pre-2019 levels. In the tanker market however, freight rates soared because of the war in Ukraine.

# 3

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## FREIGHT RATES AND TRANSPORT COSTS

## A. IN 2021, CONTAINER FREIGHT RATES ARE SKY-HIGH, BUT IN 2022 FALL AGAIN

In 2021, there was an enormous surge in global container shipping freight rates which peaked in January 2022. Rates subsequently fell yet remained above pre-2019 levels.

### 1. 2021 sees strong demand frustrated by logistics constraints

Throughout 2021, demand and supply conditions in the container shipping freight market were unusual. On the one hand, there was an 11 per cent increase in global containerized trade volumes, – a rebound that put additional pressures on carriers and ports. At the same time there was an increase in freight prices – a consequence of low growth in fleet supply and disruptions in supply chains, caused mainly by COVID-19, with greater port congestion and landside problems that reduced global container and logistics capacities. Global container fleet capacity expanded by only 4.5 per cent, much less than the growth in demand (figure 3.1). Nevertheless, due to the various disruptions the effective capacity decreased significantly – by more than 15 per cent at some times.

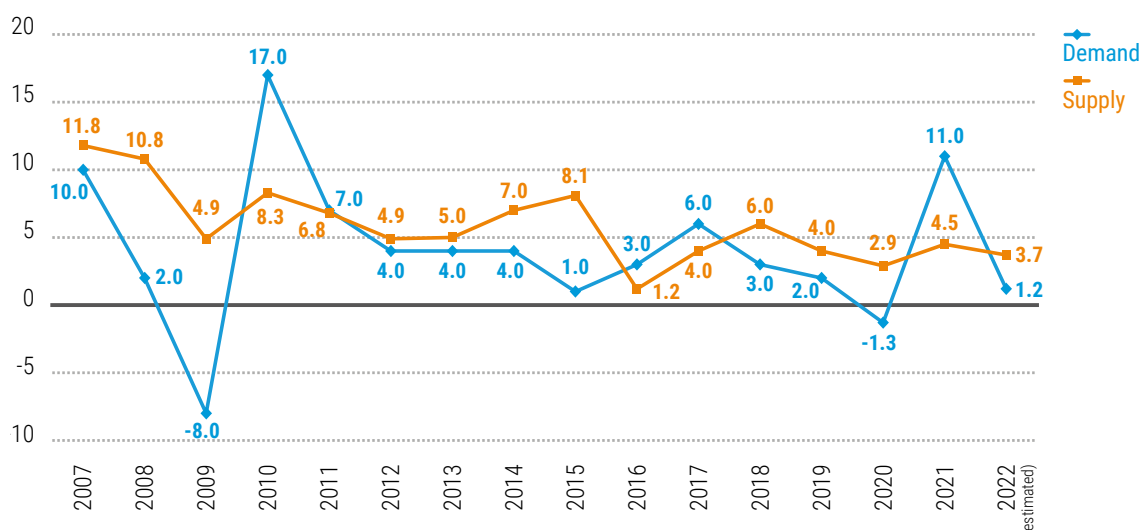
From late 2020, spot container freight rates started to rise spectacularly, reaching new highs at the end of 2021. This was reflected in the Shanghai containerized freight index (SCFI), which tracks rates on the major trade routes from Shanghai. In December 2019, the SCFI stood at 898 points, but by December 2020 was 2,455 and by in December 2021 was nearly 5,000 (figure 3.2).

In September 2019, on the Shanghai to New York (Asia – North America East Coast) route, the cost of shipping a large container per 40-foot-equivalent unit was \$2,325 and by September 2021 it surpassed \$10,000/FEU, reaching \$11,778.

Spot freight rates also surged across routes in developing regions. On the China to South America (Santos) route in December 2019, the average rate per TEU was less than \$2,000, but by December 2020 it had risen to \$6,543 and by December 2021 was \$10,196. Similarly, between December 2020 and December 2021, on the Shanghai to South Africa (Durban) route the rate per TEU increased from \$2,521 to \$6,450, and on the Shanghai to West Africa (Lagos) route from \$5,291 to \$7,452.

Overall freight levels for China's export container transport market, including spot and contractual rates, are reflected in the broader China containerized freight index (CCFI). In December 2019, this stood at 848 points, but by December 2020 had reached 1,492 points, and by December 2021 was 3,265 points (figure 3.3).

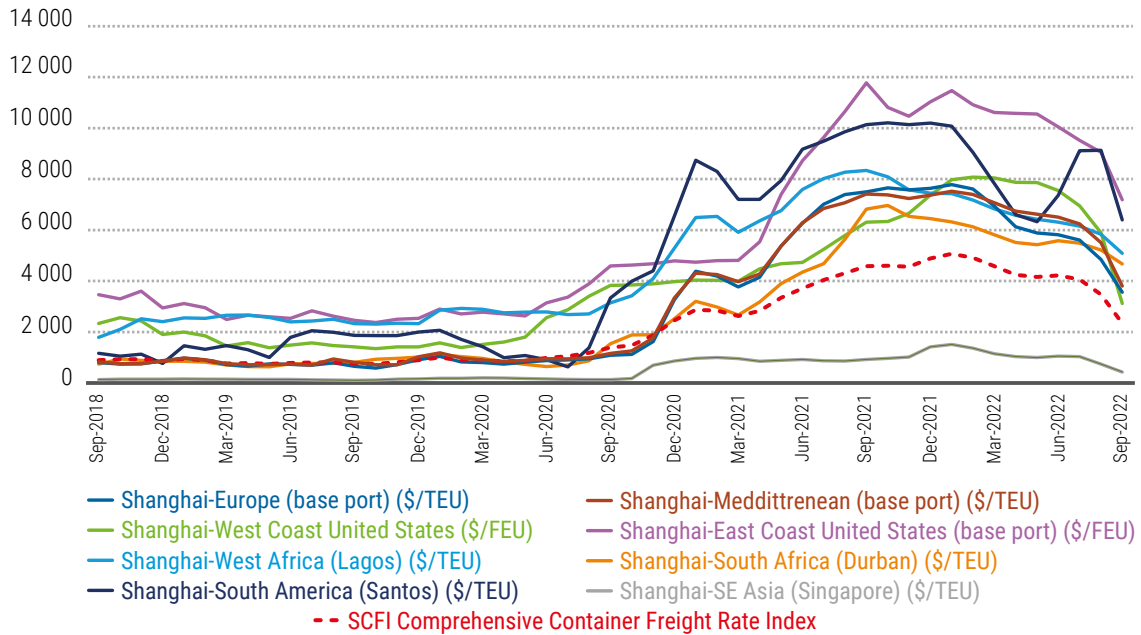
Figure 3.1 Growth of demand and supply in container shipping, 2007–2022, percentage change



Source: UNCTAD secretariat calculations. Demand is based on data from chapter 1, and supply is based on data from Clarksons Research, Container Intelligence Monthly, various issues.

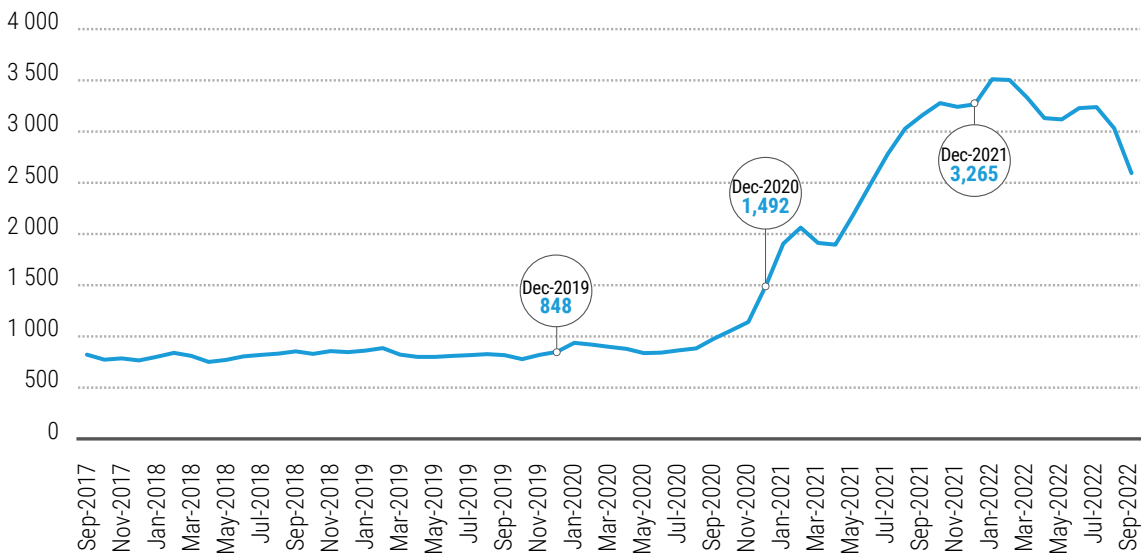
Notes: Supply data refer to total capacity of the container-carrying fleet, including multipurpose and other vessels with some container-carrying capacity.

**Figure 3.2 Shanghai Containerized Freight Index (SCFI) monthly spot rates, September 2018 to September 2022, selected routes**



Source: UNCTAD secretariat, based on data from Clarkson Shipping Intelligence Network.

**Figure 3.3 China Containerized Freight Index, Composite Index, September 2017–September 2022 (monthly)**



Source: Clarksons Shipping Intelligence Network Timeseries, Shanghai Shipping Exchange.

Note: The CCFI tracks spot and contractual freight rates from Chinese container ports for 12 shipping routes across the globe, based on data from 22 international carriers.

### How did we reach that point?

Maritime transport is embedded in a complex global supply chain system in which disruption in one part can rapidly cascade to many others. Since the start of the pandemic, the shipping industry has had to struggle with port closures, labour shortages, and congestion, as well as shortages of containers, and of storage and warehouse space, and constraints in hinterland transport. The situation worsened considerably in 2021 as demand for seaborne trade picked up on the main East-West trade lanes, just as supply-side disruptions increased congestion and reduced effective shipping capacity, causing delays and increasing vessel waiting times. Between 2020 and 2021, median vessel turnaround time in port increased by 14 per cent (see chapter 4).

### 3. FREIGHT RATES AND TRANSPORT COSTS

The resulting congestion reduced global container shipping capacity, which between December 2021 and September 2020 fell by 16 per cent.<sup>1</sup> Delays were longer and more persistent in some parts of the world than others.<sup>2</sup> Chinese export hubs such as Shanghai, Qingdao and Tianjin, were exceptionally congested, mainly due to China's zero-COVID policy. Congestion was also high at the United States import hubs, at Los Angeles and Long Beach, which are major gateways on the west coast trade lane, and cannot be circumvented – unlike in Asia or Europe, where carriers can skip congested ports.<sup>3</sup>

With container carriers unable to load and unload effectively, services and schedules became less reliable. Between the first quarter of 2020 and the last quarter of 2021 average global container schedule delays doubled.<sup>4</sup> The delays meant that more ships were needed to maintain schedules and to respond to shippers who wanted to ensure their cargo was loaded on ships on time, for which they had to pay surcharges. In July 2021, capacity on the two main East-West trade lanes represented 41.4 per cent compared to 34.6 per cent in the previous year. Between July 2020 and July 2021 the capacity on Far East to North America trade grew by 31 per cent, and the Far East to Europe trade by 20 per cent.<sup>5</sup>

Adding more ships further increased congestion since ports and storage, along with the hinterland connections, trucks, and trains, could not readily adapt to increases in traffic. Between the first quarter of 2020 and the last quarter of 2021 container schedule delays on the Far East and North America trade route increased from two days to 12.<sup>6</sup>

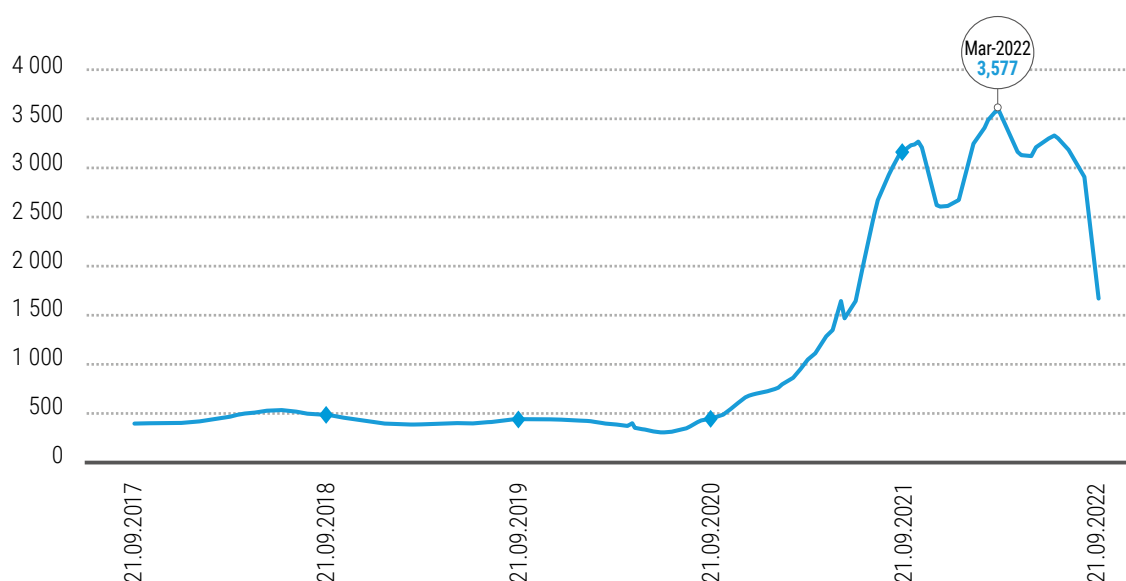
To address problems in the more profitable lanes, carriers withdrew capacity and empty containers from the smaller trade routes – with corresponding knock-on effects. In Africa, for example, between July 2020 and July 2021 average capacity fell by 6.5 per cent. This contributed to the increase in container freight rates, with one-way China-to-Africa rates increasing from \$2,000–2,500 to \$4,000–5,000 per TEU.<sup>7</sup> For Asia to Cameroon, the rate for 20-foot containers increased by 340 per cent, and for 40-foot containers by 244 per cent.<sup>8</sup>

These market dynamics in 2021 propelled freight rates to historic highs, with a severe impact on exports including those of many developing countries.<sup>9</sup>

#### **Record highs for container ship charter rates, with new players entering the market**

A surge in demand and limited vessel capacity also pushed container ship charter rates to record highs. In 2020, the New ConTex index for container ship chartering averaged 432 points, but in 2021 rose to an average of 1,974 and peaked in early 2022, at an all-time high (figure 3.4).

**Figure 3.4 New ConTex Index, September 2017–September 2022**



Source: UNCTAD secretariat, based on data from the New ConTex index for container ship chartering produced by the Hamburg Shipbrokers Association. See <http://www.vhss.de> (Accessed on 24 October 2022).

Notes: The New ConTex is based on assessments of the current day charter rates of six selected container ship types, which are representative of their size categories: Type 1,100 TEUs and Type 1,700 TEUs with a charter period of one year, and Types 2,500, 2,700, 3,500 and 4,250 TEUs with a charter period of two years.

Index base: October 2007 – 1,000 points.

Higher demand and a shortage of vessels pushed up time charter rates. At the end of 2020, the guideline of a 6–12 month time charter for a 4,400 TEU 'old Panamax' stood at \$25,000 per day, but by the end of 2021 it had reached \$100,000 per day.<sup>10</sup> In addition, contract fixture periods also lengthened, and in 2021 averaged 24 months, further reducing the availability of vessels.

Faced with a severe shortage of charter ships throughout the year, most container liner operators were unable to meet their tonnage requirements or start new services. To address this situation several shipping lines purchased their own vessels. MSC, for example, bought over 140 ships, and CMA CGM bought around 50.<sup>11</sup> This extraordinary situation also prompted logistics companies and shippers to charter ships directly –as with Home Depot, Walmart, Costco, Target, and Ikea. This was generally on a short-term basis and for vessels less than 5,000 TEU.<sup>12</sup>

### **Complaints about high shipping charges prompt government action**

In the three months to September 2021, eight of the largest carriers increased their demurrage and detention fees by 50 per cent in the United States, compared to the previous three-month period, to a total of \$2.2 billion.<sup>13</sup> Globally, for standard containers these fees increased by 39 per cent, and were sometimes charged even when shippers could not get access to their containers to move them. The fees declined in 2022 in many ports as global supply chains started to recover, but were still 12 per cent higher than in 2020.<sup>14</sup>

Shippers and governments have been concerned about other practices by carriers, such as blank sailings and cancelling port calls. These were due not to a lack of demand but because carriers concentrated on the more profitable Asia-to-North America routes and often chose not to call at ports in European or Sub-Saharan Africa, or in Oceania where between 2019 and 2021 container ship port calls saw a double-digit percentage decrease.<sup>15</sup>

Complaints about these practices led to government action. In June 2022, aiming to promote an ocean transportation system that is efficient, competitive, and economical, the United States Congress passed the Ocean Shipping Reform Act.<sup>16</sup> Also in 2022, in response to excessive freight rates, the Korea Fair Trade Commission filed anti-monopoly lawsuits against dozens of shipping companies, large and small, including HMM.<sup>17</sup> In Europe, ten organizations representing shippers, freight forwarders, terminal operators, and others have demanded an immediate review of the European Union's Consortia Block Exemption Regulation which exempts container shipping lines from many of the checks and balances of EU competition law and permits them to exchange commercially sensitive information that enables them to manage the number and size of ships deployed and the frequency and timing of sailings on trade routes around the world.<sup>18</sup> The Regulation was last renewed in April 2020 and will expire in April 2024. In China, following repeated complaints from shippers, consultations have been held with shipping lines to assess the justification for surcharges. And shipping companies in the Common Market for Eastern and Southern Africa, have been questioned about the way they have raised freight rates in a concerted manner.<sup>19</sup>

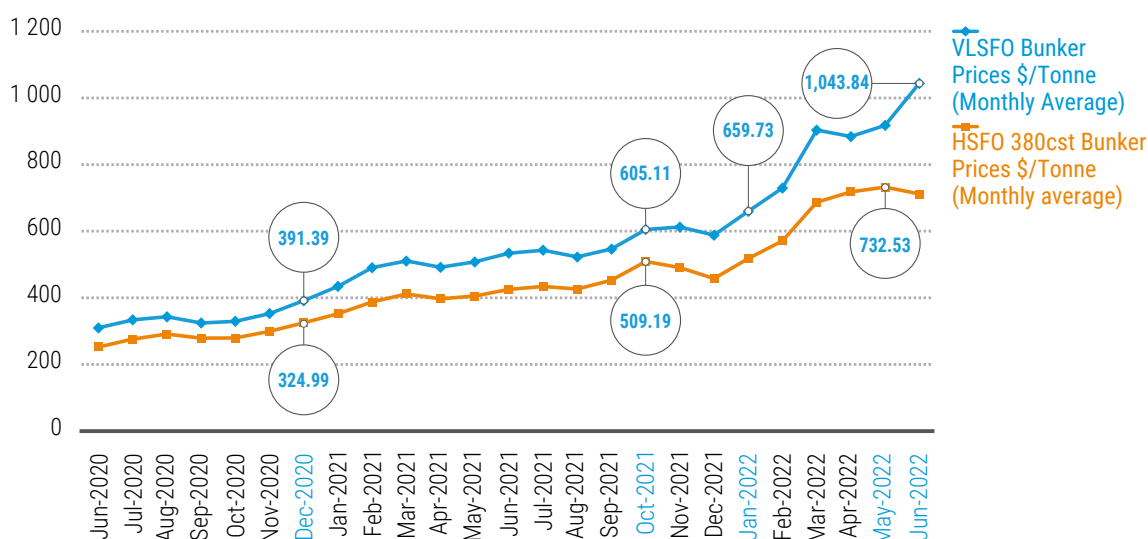
Greater regulation and monitoring of shipping and carriers' behaviour will support transparency, fairness and competitiveness. But the fundamental cause of high freight rates and transport costs is inefficiency and a lack of resilience along supply chains.<sup>20</sup>

## **2. Despite higher costs, container carriers made astronomical profits in 2021**

Since the beginning of the pandemic, container carriers have had to deal with logistical constraints and higher fuel prices (figure 3.5), but have benefited from massive hikes in freight rates which have boosted their profits. Overall in 2021, carriers moved similar volumes to the previous year, nevertheless the industry's full-year operating profits (earnings before interest and taxes, EBIT) soared to around \$240 billion (table 3.1).<sup>21</sup> Between 2020 and 2021, the Danish-based shipping company, A P Moller-Maersk, for example, increased its volume by only 3.6 per cent but its revenues by 56 per cent, from \$39.7 billion to \$61.8 billion, and its EBIT by 370 per cent from \$4.2 billion to \$19.7 billion.<sup>22</sup>

Similarly, the French ocean carrier, CMA CGM, increased its volume by five per cent but its revenue by 78 per cent, to \$56 billion, and its EBIT by more than 400 per cent, to \$19.6 billion.<sup>23</sup> And the Singapore-based container carrier, Ocean Network Express (ONE), increased its volume by only 0.4 per cent but doubled its revenue to \$30 billion and boosted its profits from \$3.8 billion to \$17.2 billion.<sup>24</sup>

Figure 3.5 Bunker prices, heavy fuel oil and very low sulphur fuel oil, monthly averages, from June 2020 to June 2022



Source: UNCTAD, based on data provided by Clarksons Research Shipping Intelligence Network.

Table 3.1 Revenues, profits, and volumes, selected container shipping lines, 2021

Carrier	Revenue 2021	Revenue 2020	Change	EBITDA 2021	EBITDA 2020	Change	EBIT 2021	EBIT 2020	Change	Volume 2021	Volume 2020	Change
	Billion (\$)	Billion (\$)		(%)	Billion (\$)		Billion (\$)	Billion (\$)		(%)	Million (TEU)	
A P Moller – Maersk	61.8	39.7	55.7	24	8.2	193	19.7	4.2	369.0	26.2	25.2	3.6
CMA CGM	56	31.5	77.8	23.1	6.1	279	19.6	3.6	444.4	22.0	21.0	5.0
Hapag-Lloyd*	26.4	14.6	80.1	12.8	3.1	313	11.1	1.5	640.0	11.9	11.8	0.3
Hyundai Merchant Marine (HMM)**	12.1	5.4	124.1	N.A.	N.A.		6.4	831	670.2	3.8	3.9	-2.1
Ocean Network Express (ONE)	30.1	14.4	109.0	18.3	4.9	274	17.2	3.8	352.6	12	11.9	0.4
COSCO Shipping***	49.1	24.6	99.6	9.2	1.9	384	19.8	2.1	842.9	26.9	26.3	2.3
Evergreen Marine Corp**	17.7	7.5	136.0	N.A.	N.A.		10.3	1.3	692.3	N.A.	N.A.	

Source: UNCTAD, based on various companies' financial reports, and various statistics, sector specialized and news websites.

Abbreviations: EBITDA: earnings before interest, taxes, depreciation and amortization and EBIT: Earnings before interest and taxes.

Note:

\* Original Value in EUR – Conversion rate 31 December 2021.

\*\* Assumption: EBIT = Operating Income (for HMM & Evergreen Marine Corp).

\*\*\* Original Value in Chinese Yuan – Conversion rate 31 December 2021.

### 3. Independent regional container operators enter the main East-West trade lanes

High freight rates on the East-West trade lanes attracted smaller regional container operators into the market, including the Chinese regional carriers CULines, BAL Container Line, and Shanghai Jin Jiang Shipping (SJJ), which started ad hoc Asia-North America, Asia-Europe, Asia-South America or Asia-Australia services.<sup>25</sup>

This resulted in a drop in market share for three main container shipping alliances, 2M (Maersk and MSC), the Ocean Alliance (CMA CGM, COSCO Shipping and Evergreen Marine Corp.), and THE Alliance (Hapag-Lloyd, HMM, Ocean Network Express/ONE and Yang Ming).

On the Asia-North America West Coast non-alliance services amounted to around 30 per cent of all deployed capacity – higher than for 2M and THE Alliance shares and nearly as much as that of the Ocean Alliance.<sup>26</sup> Non-alliance services were less significant on the Asia-North America East Coast trade route with only a 10 per cent market share, and on the Asia-Europe routes with less than 1 per cent.

These groups varied in terms of schedule reliability. Overall, 2M were likely to offer more reliable schedules than non-alliance services. But non-alliance services were more reliable than those of Ocean Alliance and THE Alliance on the transatlantic westbound trade lane.<sup>27</sup>

While these companies boost competition, this may not last. Given market uncertainties and volatile freight rates, the niche carriers may not remain competitive on long-haul trades, as their smaller ships are far less cost-effective than the larger ones of the alliance carriers.

#### 4. Surging spot rates boost contracted rates

Between 2020 and 2021, there were significant variations in freight rates across different routes (table 3.2).<sup>28</sup> For the Asia-Europe leg, contracted rates increased more than 70 per cent, for the Asia-North America routes by 41 per cent, and for the intra-Asia routes by 46 per cent. These increases were driven by greater demand for container shipping and equipment, shortages of carrying capacity at Asian ports, temporary blockages of the Suez Canal, and COVID-19-related disruption at major Chinese ports.

These variations are also reflected in the Xeneta shipping index (XSI) that indicates what shippers are paying for long-term contracts (figure 3.6).

Table 3.2 Contract freight rates, inter-regional, 2018–2021, \$ per 40-foot container (FEU) (July rates)									
From	To	2018	2019	2020	2021	2020/19	2020/18	2021/2020	2021/2018
Africa	Africa	1 812	1 849	1 924	2 013	4.1%	6.2%	4.6%	11.09%
	Asia	748	750	775	664	3.2%	3.6%	-14.3%	-11.19%
	Europe	1 431	1 643	1 747	1 487	6.3%	22.1%	-14.8%	3.96%
	South America	2 010	1 860	1 979	1 616	6.4%	-1.5%	-18.3%	-19.59%
Asia	Africa	1 800	1 927	2 112	2 733	9.6%	17.4%	29.4%	51.89%
	Asia	737	747	821	1 194	9.8%	11.4%	45.5%	62.00%
	Europe	1 782	1 847	1 916	3 285	3.8%	7.5%	71.4%	84.39%
	North America	2 426	2 603	2 711	3 820	4.1%	11.8%	40.9%	57.48%
	Oceania	1 770	1 790	1 850	2 800	3.4%	4.6%	51.3%	58.24%
	South America	2 290	2 075	2 230	3 589	7.5%	-2.6%	61.0%	56.74%
Europe	Africa	1 595	1 650	1 858	1 727	12.6%	16.5%	-7.1%	8.23%
	Asia	967	870	1 004	1 225	15.4%	3.8%	22.0%	26.61%
	Europe	804	881	976	1 077	10.7%	21.3%	10.3%	33.84%
	North America	1 518	1 742	2 256	2 304	29.5%	48.7%	2.1%	80%
	Oceania	1 996	1 933	2 077	2 319	7.4%	4.1%	11.7%	16.18%
	South America	1 019	1 302	1 376	1 465	5.6%	35.0%	6.5%	43.79%
North America	Africa	2 890	3 112	2 981	2 639	-4.2%	3.2%	-11.5%	-8.66%
	Asia	1 009	1 111	1 269	1 385	14.2%	25.8%	9.17%	37.29%
	Europe	858	1 109	1 323	1 053	19.3%	54.2%	-20.4%	22.75%
	North America	1 534	1 429	1 584	1 362	10.8%	3.2%	-14.0%	-11.22%
	Oceania	2 538	2 634	2 996	2 475	13.8%	18.1%	-17.4%	-2.47%
	South America	1 254	1 318	1 486	1 064	12.7%	18.5%	-28.4%	-15.15%
South America	Africa	1 778	1 951	2 000	2 187	2.5%	12.5%	9.3%	22.99%
	Asia	1 623	1 963	1 802	1 841	-8.2%	11.0%	2.2%	13.42%
	Europe	1 313	1 977	1 961	1 767	-0.8%	49.3%	-9.9%	34.52%
	North America	1 521	1 882	1 745	1 969	-7.3%	14.7%	12.9%	29.50%
	South America	1 349	1 699	1 539	1 243	-9.4%	14.1%	-19.2%	-7.84%

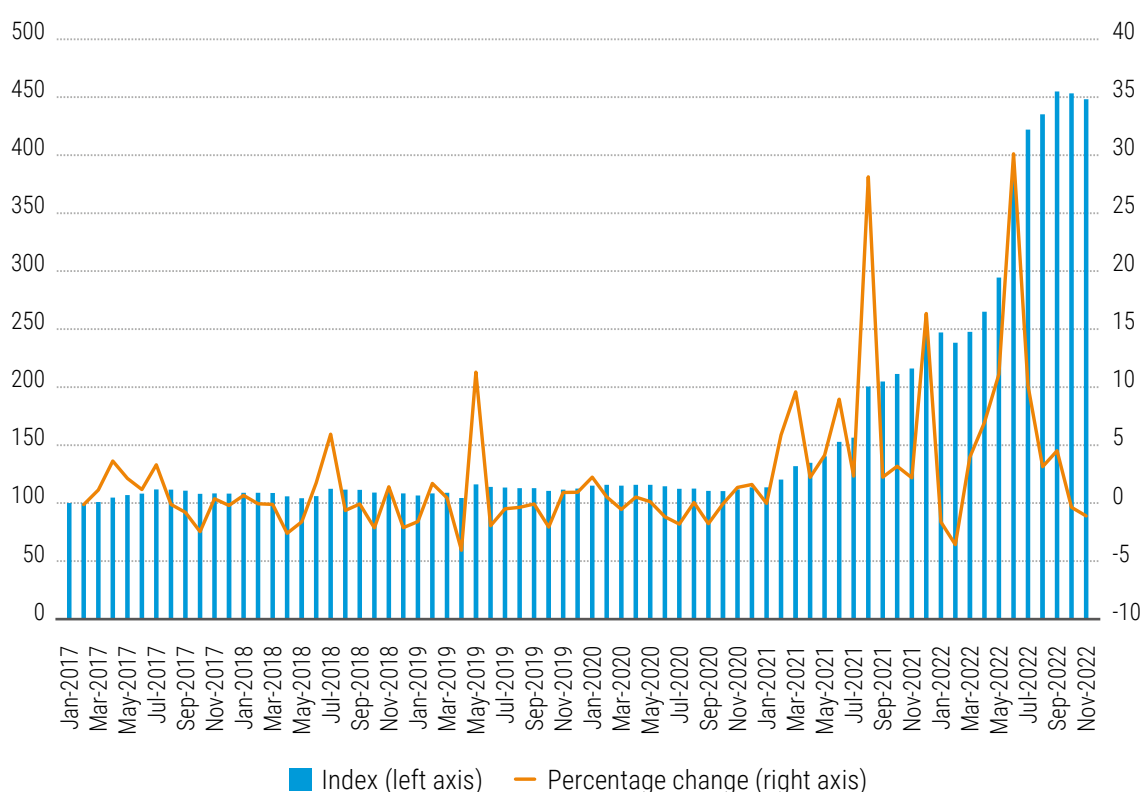
Source: UNCTAD, based on data provided by Transporeon/TIM Consult Market Intelligence data, www.transporeon.com.

Note: The data set provides regional averages for forty-foot container dry cargo freight, as negotiated for routes where rates were available for at least five shippers and at least 500 TEU per year on port-pair basis.

Rates are "gate-in gate-out", i.e., including terminal handling charges and all charges and surcharges of ocean transport. Not included are pre- and on-carriage as much as classical administrative services of forwarders (customs clearance, booking and invoice control fees, etc.).

The average is unweighted, based on representative main ports.

Figure 3.6 Xeneta Shipping Index (XSI) – Global



Source: UNCTAD, based on data provided by [www.xeneta.com](http://www.xeneta.com).

## 5. Amid continuing uncertainties, container freight rates remain volatile

In the first two months of 2022, container freight rates continued to increase, but from March 2022, they started to fall, primarily due to slower demand and the impacts of COVID-19 lockdowns in China, compounded by the effects of the war in Ukraine. In January 2022, the SCFI index set a new high record at 5,067 points before falling back, but was still higher than the pre-COVID average (figure 3.2). The lower spot rates also helped to bring down longer-term contract rates. Container ship charter rates followed the same pattern. In March 2022, the ConTex index for container ship chartering had reached a high of 3,525 points before experiencing downtrend as of April 2022 (figure 3.4).

The war in Ukraine has led to higher fuel costs and marine bunker prices. Prices for very low sulphur fuel oil, which in February 2022 were \$730 per ton, reached record highs of more than \$1,000 per ton in June 2022. Prices also rose for heavy sulphur fuel oil, which is used by the 30 per cent of container ships that are fitted with scrubbers<sup>29</sup> – increasing from an average of \$571 to \$712 per ton (figure 3.5). In response container shipping lines increased fuel surcharges by around 50 per cent, and could increase them further.<sup>30</sup>

### Looking ahead

Future prospects are uncertain, depending on changes in demand, congestion at ports and other supply-chain disruptions, as well as the fallout from the war in Ukraine with economic and other restrictive measures on Russia-related cargoes, and the need to reposition ships and containers. All these uncertainties either singly or in combination, would evidently influence freight rates development in one way or another, very much depending on the scenarios discussed in chapter 1.

In 2021, the container ship orderbook grew by 121 per cent. More vessels entering the market may push down freight rates, but effective supply can be reduced by operational and logistical problems. In addition, the IMO's Energy Efficiency Existing Ship Index (EEXI) regulation and Carbon Intensity Indicator (CII) measures will come into force in 2023.<sup>31</sup> This will require retrofitting and recycling of vessels, and lower average sailing speeds which will reduce capacity.



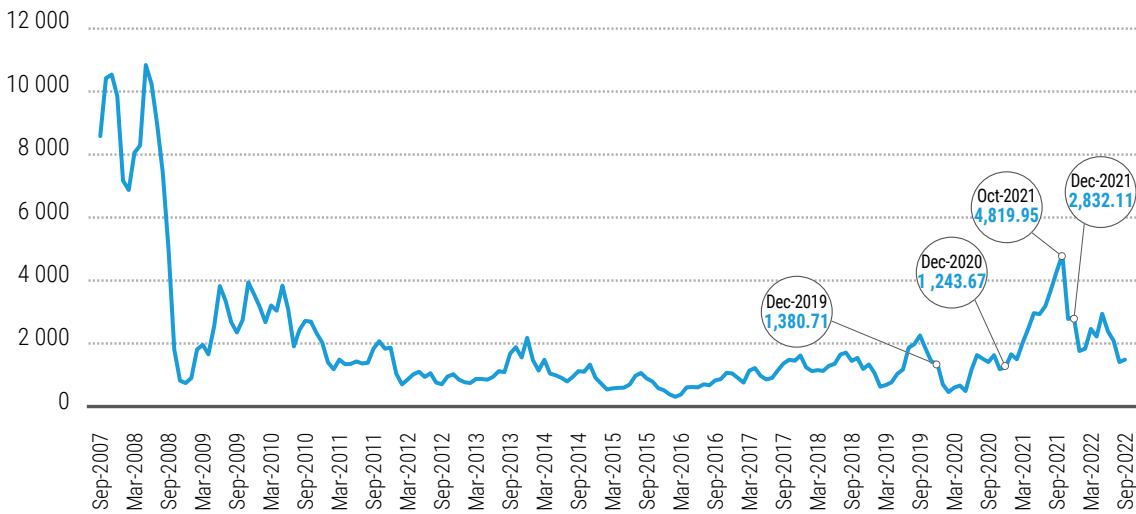
## B. DRY BULK FREIGHT RATES REACH RECORD HIGHS

### 1. Market changes and congestion push dry bulk freight rates to new levels

Robust demand and limited supply have driven up dry bulk freight rates. Steady economic recovery and fiscal stimuli have boosted industrial activity and increased demand for most dry bulk commodities such as grains, iron ore and coal. But vessel availability has been constrained by COVID-19 restrictions and port congestion. In 2021, the time spent in port increased by 2.3 per cent for dry bulk carriers and 2.1 per cent for dry breakbulk carriers. There was also a 21 per cent decline in the delivery of new vessels.<sup>32</sup>

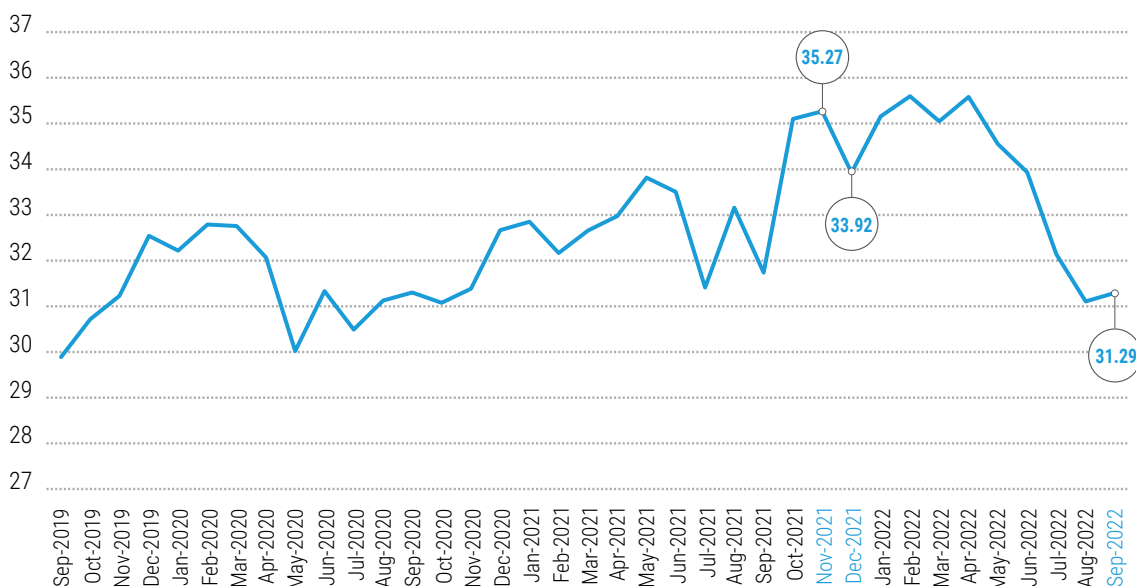
The average cost to ship raw materials such as grains, coal and iron ore is tracked by the Baltic Exchange dry index (BDI) which from October 2019 to October 2021 tripled to a record high of almost 5,000 points (figure 3.7). The surge in freight rates in October coincided with the growth in coal demand and prices. Ports also became more congested as a result of quarantine requirements and the ban on the import of Australian coal by the Government of the China which blocked coal-carrying vessels at China’s ports for months.<sup>33</sup> In October 2021, the Clarksons dry bulk port congestion index increased to 35 per cent (figure 3.8).<sup>34</sup>

Figure 3.7 Baltic Exchange dry index, September 2017–September 2022



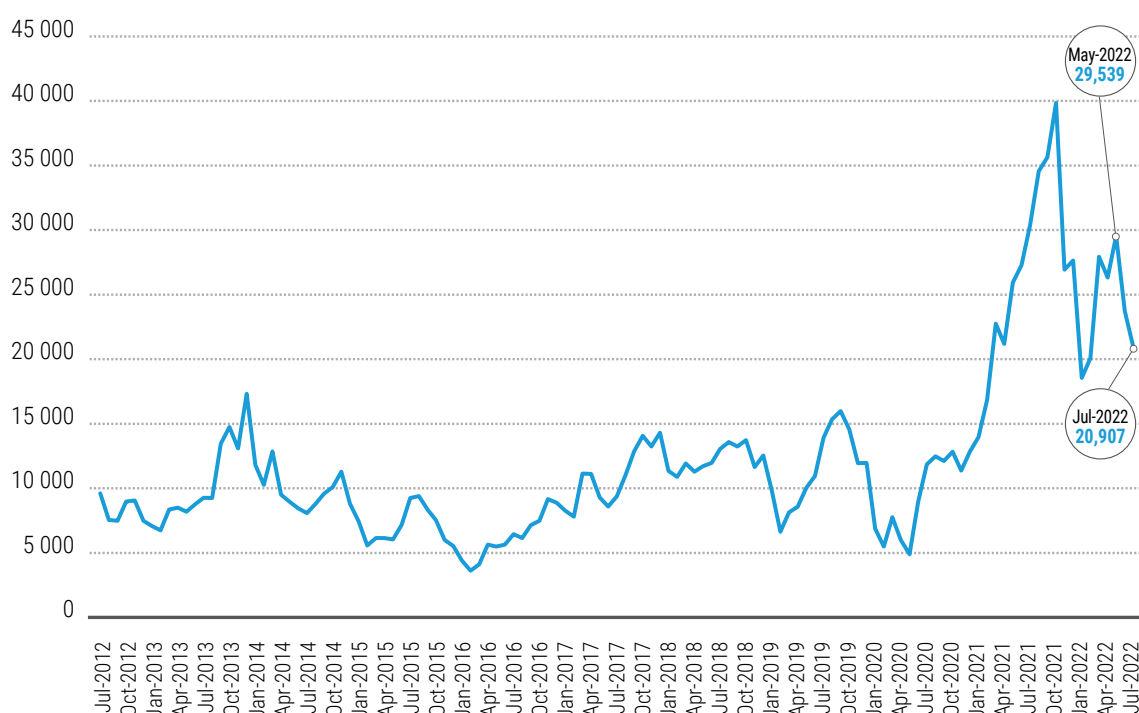
Source: UNCTAD, based on data from Clarkson Shipping Intelligence Network.

Figure 3.8 Clarksons port congestion index – percentages of deep-sea cargo bulk carriers in port, September 2019–September 2022



Source: UNCTAD, based on data from Clarkson Shipping Intelligence Network.

Figure 3.9 Average weighted earnings all bulkers (\$/day), July 2012–July 2022



Source: UNCTAD, based on data from Clarkson Shipping Intelligence Network.

Dry bulk freight markets were further affected by severe weather events in Asia and North America which pushed up prices. In the United States at the end of August 2021, hurricane Ida caused severe disruption to exports and loading operations.<sup>35</sup> In Asia in early September 2021, typhoon Chanthu forced the temporary closure of China's two largest ports.

As a result, dry bulk vessel earnings jumped across all vessel sizes, reaching \$39,850 per day (figure 3.9). Smaller bulkers were also in demand for container cargo transportation due to capacity shortages in the container ship market.

## 2. Dry bulk rates face volatility at the end of 2021 and into 2022

Towards the end of 2021 bulker freight rates fell steeply – reflecting seasonal variations, and the economic situation in China as well the spread of COVID-19. From the end of October 2021 to the end of December 2021, the BDI declined by 40 per cent to 2,832 points and in January 2022 fell to 1,760 points, with the downturn continuing through the early months of 2022. Port congestion remained an issue, with the dry bulk port congestion index still at around 35 per cent. Since then, the markets have seen increasing demand. Lower shipments of grain because of the war in Ukraine were offset by increased grain exports from Brazil, and by exports of coal from Indonesia when the export ban was lifted and demand from Europe increased.<sup>36</sup> By May 2022, the BDI was up to 2,943 (figure 3.7).

### *Increased dry bulk freight rates and consumer food prices*

Grain prices and shipping costs have been on the rise since the onset of the war in Ukraine. Between February and May 2022, the BDI increased by 60 per cent. Since then it has declined but in July 2022 was still 13 per cent higher than in February 2022. According to UNCTAD, the increase in global dry bulk freight rates and grain prices will increase consumer food prices by 1.2 per cent globally (figure 3.10).<sup>37</sup> Food price increases are expected to be slightly higher in middle-income countries whose economies rely more on dry bulk shipping (figure 3.11). Smaller, low-income economies which have less food processing capacity tend to import processed foods which are mainly transported by container (figure 3.12).

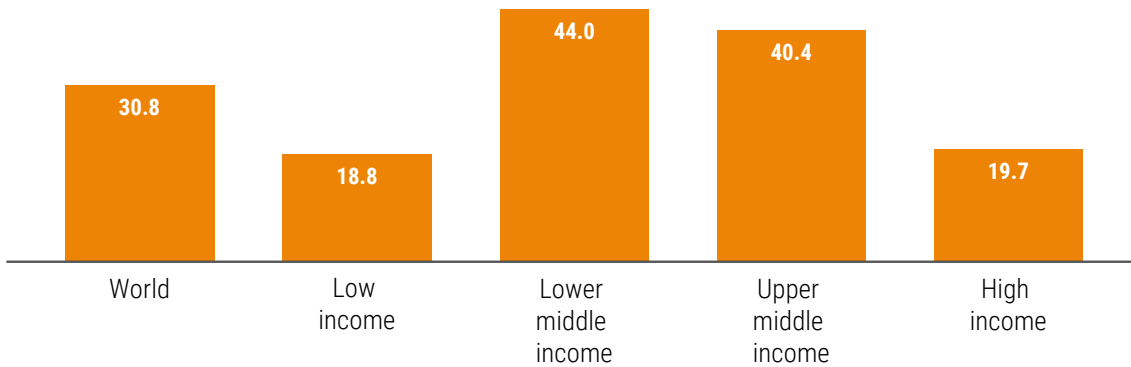
UNCTAD has estimated that consumer prices would be 1.5 per cent higher in 2023 than they would have been without the container freight rate surge.<sup>38</sup> Higher freight rates overall hit hardest at the least developed countries and small island developing states which rely more on imports of containerized goods.

**Figure 3.10** Impact of higher dry bulk freight rates and global grain prices on consumer food prices, selected country groups (percentage)



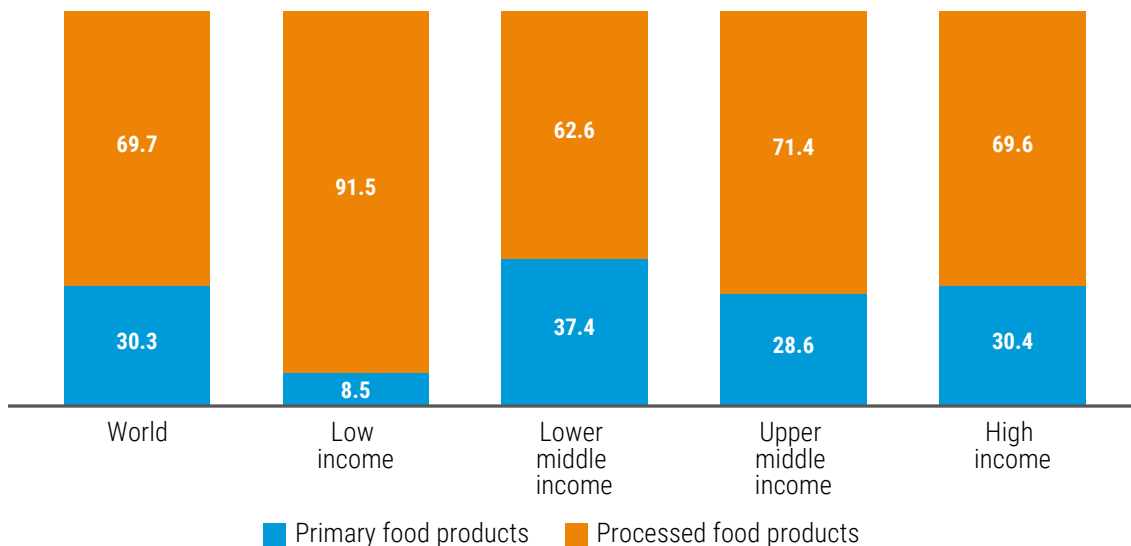
Source: UNCTAD calculations based on data provided by Clarksons Research, Shipping Intelligence Network, the IMF, International Financial Statistics, Direction of Trade Statistics and Consumer Price Index, UNCTADstat, and the World Bank, World Integrated Trade Solution, Commodity Price Data (The Pink Sheet) and A Global Database of Inflation<sup>39</sup> (accessed August 2022).<sup>40</sup>

**Figure 3.11** Share of grains imported by bulk ships in total food imports, selected country groups, 2019



Source: UNCTAD calculations based on data provided by Sea/ (www.sea.live) and Food and Agriculture Organization, Food Balances.

**Figure 3.12** Share of primary and processed food products in food imports mainly for household consumption, selected country groups, 2020



Source: UNCTAD calculations based on data provided by World Bank, World Integrated Trade Solution.

#### *Looking ahead*

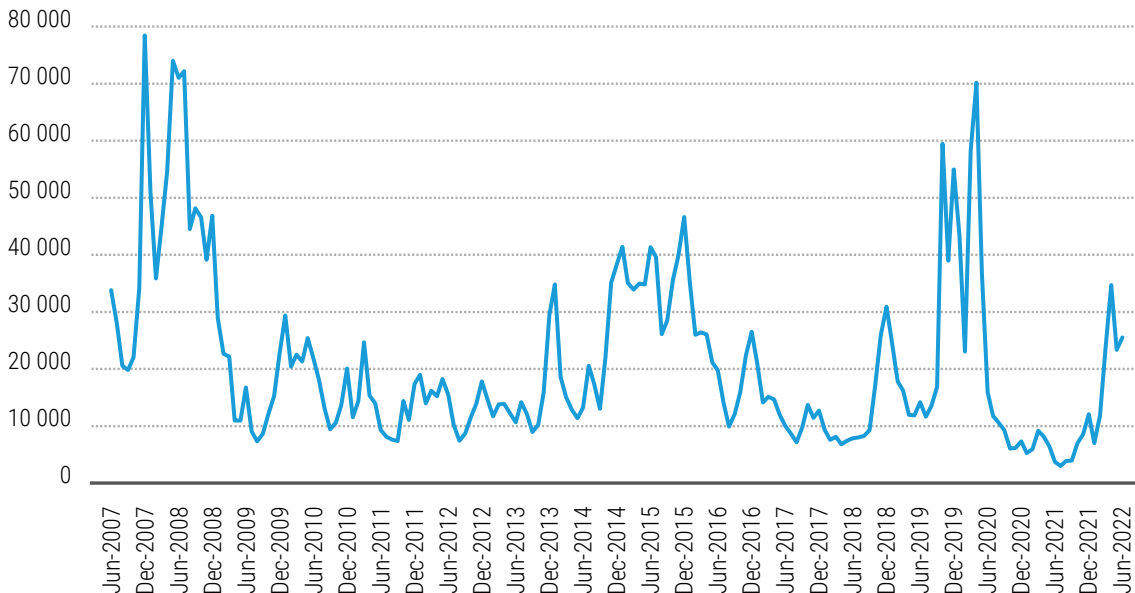
The dry bulk freight market will continue to be affected by the war in Ukraine and the COVID-19 pandemic, especially in China which accounts for around 35 per cent of global dry bulk cargo demand. Demand will also be affected by a slower global economic recovery, commodity price fluctuations, and limited fleet deliveries which for 2022 are estimated at only 3.6 per cent.<sup>41</sup>

The war in Ukraine could in addition affect port calls and dry bulk shipping patterns and the use and positioning of vessels.<sup>42</sup> Moreover, sourcing cargos from further afield will increase transport ton-miles, all of which add to freight rates.<sup>43</sup> Similar to container shipping, vessel supply and operating costs will be affected by energy and sustainability factors, including the IMO regulations.

## C. TANKER FREIGHT RATES WEAK IN 2021 BUT RISE IN 2022

In 2021, seaborne oil-trading volume remained below pre-pandemic levels, with a sharp decline in long-haul crude oil exports from the Middle East and the United States.<sup>44</sup> But at the same time, tanker supply continued to grow, with more vessels delivered than scrapped, particularly for larger crude carriers. As a result, there has been a steep fall in freight rates. Between 2020 and 2021, average annual daily tanker earnings fell from \$24,877 to \$6,416, the lowest level ever, though they started to rise towards the end of the year with increases for crude oil (figure 3.13).<sup>45</sup>

**Figure 3.13 Average earnings, all tankers, June 2007–June 2022**  
(\$ per day)



Source: UNCTAD, based on data from Clarkson Shipping Intelligence Network.

Compared with the market for crude oil tankers, the markets for oil product tanker freight were better. During the first half of 2021, exports from China were robust, while in India long-haul product exports also increased temporarily during the second quarter of 2021 as lockdowns severely reduced domestic consumption. In 2021, supply capacity was reduced by increased scrapping.<sup>46</sup>

### *The war in Ukraine boosts tanker freight rates*

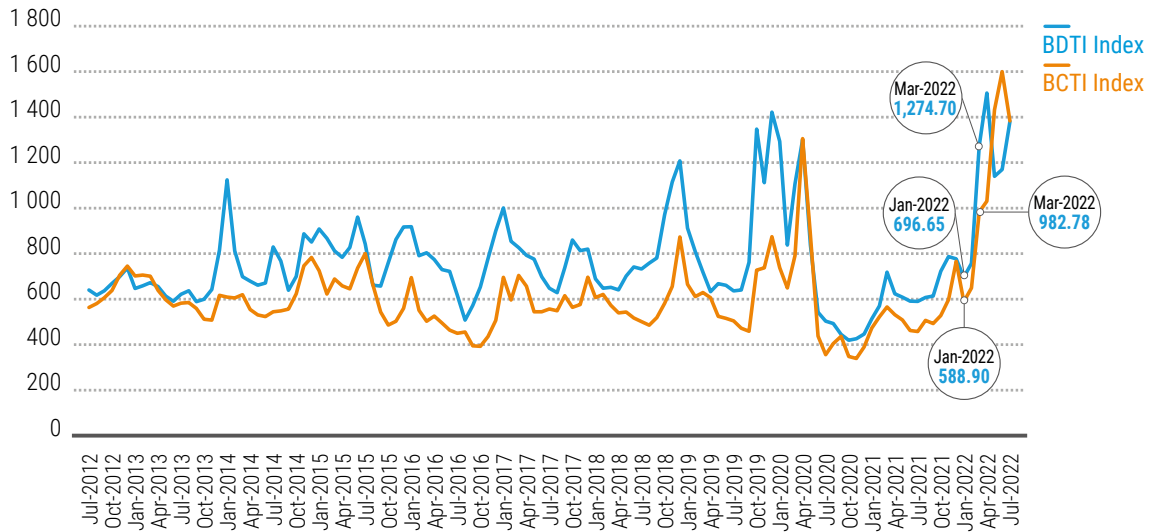
Earnings remained low into early 2022, but in February 2022 the war in Ukraine led to major spikes on some routes, and some prices were also pushed up by shifts in oil trade flows.<sup>47</sup> Between January and March 2022, the cost of moving crude oil, as tracked by the Baltic dirty tanker index (BDTI), increased by more than 80 per cent, while the Baltic Exchange clean tanker index (BCTI) increased by more than 60 per cent (figure 3.14).

The war in Ukraine is having a range of impacts. The economic and other restrictive measures have cut crude oil flows from the Russian Federation to Europe, to be replaced by oil from the United States and the Middle East. This has reduced the demand for very large crude carriers (VLCCs) but increased the demand for the smaller Aframax and Suezmax tankers. At the same time the Russian Federation has increased crude oil exports from the Black Sea and Baltic Sea ports to Asia, replacing oil from the United States, Latin America, and the Middle East. This too has reduced demand for VLCCs and increased the use of smaller vessels.<sup>48</sup>

As a result, daily earnings for Aframax c. 2015-built (Eco) which in January 2022 were \$13,733, in April 2022 jumped to a record \$79,343 (figure 3.15). Over the same period average Suezmax c. 2015-built (Eco) daily earnings jumped from \$10,146 to \$55,791. There were also huge premiums for shipowners willing to take the risk of transporting Russian oil.

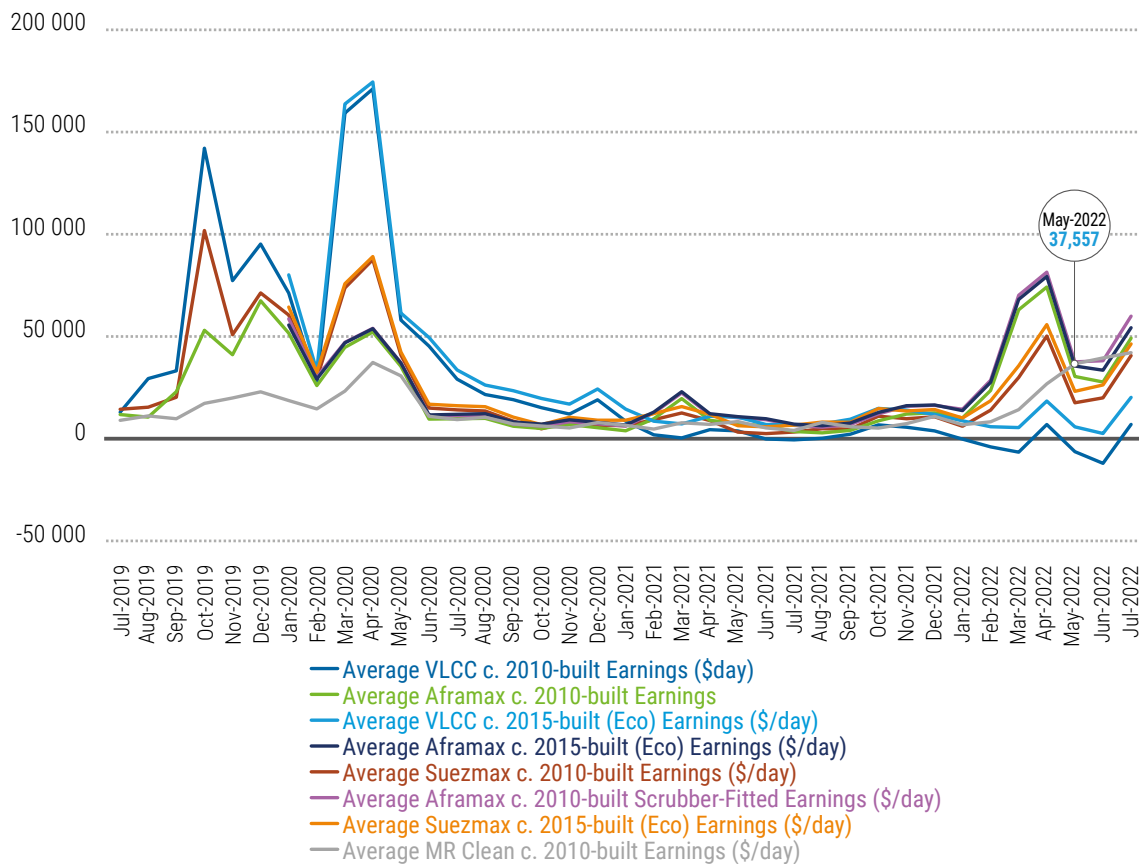
Geopolitical tensions that increased imports to Europe from the United States, the Middle East and Asia boosted freight rates for oil product tankers. Average clean petroleum products MR tanker spot rates jumped from \$6,822 per day to \$14,184 per day, the highest level since mid-2020. As a result, oil product tankers went from being loss-making, to slightly profitable.

**Figure 3.14** Baltic dirty tanker index and the Baltic Exchange clean tanker index July 2012–July 2022



Source: UNCTAD, based on data from Clarkson Shipping Intelligence Network.

**Figure 3.15** Average earnings, selected tankers, July 2019–July 2022 (\$ per day)



Source: UNCTAD, based on data from Clarkson Shipping Intelligence Network.

### Looking ahead

In the near future, freight rates may continue to increase in the crude oil and product tanker markets. This would partly be due to a recovery in oil demand and the reshuffling of global oil flows in the aftermath of the war in Ukraine, but also to a tightening of supply with slow growth of vessel supply and the removal of old tankers following the entry into force of the IMO’s EEXI and CII regulations.<sup>49</sup>

## D. SUMMARY AND POLICY CONSIDERATIONS

### *Main issues*

The COVID-19 pandemic has increased freight rates due to the surge in seaborne trade combined with disruptions at ports, and reduced landside transport, warehouse and storage capacity. This has reduced capacity, tied up ships for longer than usual and increased delays and surcharges.

Higher freight rates and profits have attracted smaller regional container operators on East-West trade lanes, but these services may not be sustainable in the longer term, given market uncertainties and volatile freight rates.

Shippers and governments are concerned about rising costs and the increases in blank sailings, port call cancellations, and rising demurrage and detention charges. They have called for public authorities to monitor and regulate shipping and carrier behaviour, to ensure transparency, fairness and competitiveness in maritime transport. But the core problems are inefficiency and disruptions. Longer-term solutions would be to boost port performance and productivity, and improve transport infrastructure, landside transport and connectivity, and storage facilities, while reducing labour shortages, and making supply chains more robust and resilient.

According to UNCTAD, the increase in global dry bulk freight rates and grain prices will increase global consumer food prices by 1.2 per cent. The effects would be greater in the middle-income economies that import more primary food products than in the low-income economies that import more processed food. The world can also expect regular disruption in supply chains which will need to be more resilient and agile.

Freight rates are likely to fluctuate in the face of the ongoing COVID-19, the war in Ukraine, economic policy uncertainties, geopolitical risks, energy and food security, energy and sustainability regulations and decarbonization. Soaring freight rates will drive up food and energy prices.

### *Policy recommendations*

- **Supply chains** – Developing countries will need support to invest in more robust, resilient and sustainable supply chains. Transport and trade facilitation solutions should accelerate the transition to smart and green trade logistics and enhance transport infrastructure, including port and hinterland, and logistics services.
- **Finance** – Increased finance and investment and resource mobilization should be based on a long-term vision for resilient and sustainable maritime transport supply chains.
- **Mitigating impact on vulnerable countries** – High shipping costs hit hardest at import-dependent countries. There is a need for a response mechanism to mitigate the impact on the most vulnerable countries, including net food importing countries, SIDS, LLDCs, and LDCs.
- **Regional solutions** – High transport costs can be addressed by fleet and shipping services at the regional and sub-regional levels. This could include regional maritime indices, and regional freight observatories to collect data and monitor key performance indicators.<sup>50</sup>
- **Technical assistance** – Vulnerable countries will need technical assistance and support to mitigate the impact of rising prices and to develop sustainable and resilient transport systems and value chains.

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## END NOTES

- 1 McKinsey & Company (2022).
- 2 IMF (2022).
- 3 See also chapters 1, 2 and 4.
- 4 McKinsey & Company (2022). See also chapter 4 for further information on container port performance.
- 5 Hellenic Shipping News (2021a).
- 6 McKinsey & Company (2022).
- 7 The Maritime Executive (2022).
- 8 UNCTAD (2022a).
- 9 See the discussion in chapter 1.
- 10 Clarksons Research (2022a).
- 11 BRS Group (2022).
- 12 Insider (2021).
- 13 Shipping and Freight Resource (2022).
- 14 Container xChange (2022).
- 15 See also chapter 4.
- 16 <https://www.congress.gov/bill/117th-congress/senate-bill/3580/text/enr>.
- 17 See also: <https://www.offshore-energy.biz/south-korea-23-shipping-firms-fined-81m-for-price-fixing/>.
- 18 Feport (2022). See also chapters 1 and 7.
- 19 UNCTAD (2022a).
- 20 See also chapters 1, 4 and 6.
- 21 Drewry (2022a).
- 22 Maersk (2022).
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### 3. FREIGHT RATES AND TRANSPORT COSTS

- <sup>24</sup> One (2022).
- <sup>25</sup> BRS Group (2022).
- <sup>26</sup> Sea-Intelligence (2021); Sea-Intelligence (2022a).
- <sup>27</sup> Sea-Intelligence (2022b).
- <sup>28</sup> TIM Market Intelligence Initiative Global Ocean Transport. Overview & Methodology: Transporeon / TIM Consult Market Intelligence are operating the Market Intelligence Initiative (MII) in global ocean transport (Full Container Load and Less Than Container Load) in support of a Community (consortium) of world-class enterprises (shippers only). The analyses cover ocean transport on more than 12,000 port pairs, pre- and on-carriage (all modes) and door-door-transport. The benchmarking as well as the monitoring of freight indices and service levels is updated on a monthly, quarterly, and annual basis. All input data is provided by shippers and represents actual agreements and volume allocations. No unnegotiated or not actually allocated rate information is included. Continuous data input is equivalent to approximately five per cent of world container transport. Data input is carefully cleansed by an expert team plus all strategic and operative drivers of rate and service levels as much as procurement performance clarified. The analyses and assessment of shippers' agreements are conducted by accurate segmentation (by box type, box size, port pair, process setup) and harmonization (normalization), taking into account all cost and service level drivers in full transparency. The rate benchmarking and the index information provided to UNCTAD are given on gate-in-gate-out level including all ocean transport-related charges and surcharges. Not included are pre- and on-carriage as much as classical administrative services of forwarders (customs clearance, booking and invoice control fees, etc.). MII members range from 1,000 TEU to 500,000 TEU per year. [www.transporeon.com](http://www.transporeon.com).
- <sup>29</sup> Lloyds List (2022).
- <sup>30</sup> UNCTAD (2022b).
- <sup>31</sup> <https://www.imo.org/en/MediaCentre/PressBriefings/pages/MEPC76.aspx>.
- <sup>32</sup> See also chapters 1, 2, and 4.
- <sup>33</sup> Drewry (2022b).
- <sup>34</sup> The normal level of Clarkson Port Congestion Index is around 30 per cent.
- <sup>35</sup> Fastmarkets (2022).
- <sup>36</sup> BIMCO (2022).
- <sup>37</sup> See also UNCTAD (2022b).
- <sup>38</sup> UNCTAD (2021).
- <sup>39</sup> Ha, Jongrim, M. Ayhan Kose, and Franziska Ohnsorge (2021). "One-Stop Source: A Global Database of Inflation." Policy Research Working Paper 9737. World Bank, Washington DC.
- <sup>40</sup> Scenario with a 13 per cent dry bulk freight rate increase and a 4 per cent global grain price increase compared to no increase (i.e., same freight rate and grain price levels as February 2022) as a percentage of the consumer food price level. The assumptions are based on a 13 per cent increase in the Baltic Dry Index between February 2022 and July 2022 and a 4 per cent increase in global grains price index between February 2022 and July 2022. The simulation methodology is similar to the one used in chapter 3 of the *Review of Maritime Transport 2021*.
- <sup>41</sup> See also chapter 1 and chapter 2.
- <sup>42</sup> See also chapter 4.
- <sup>43</sup> See also UNCTAD (2022a).
- <sup>44</sup> Drewry (2022b).
- <sup>45</sup> Clarksons Research (2022b).
- <sup>46</sup> Hellenic Shipping News (2021b).
- <sup>47</sup> See also chapter 1.
- <sup>48</sup> Drewry (2022c).
- <sup>49</sup> See also chapter 1 and 2.
- <sup>50</sup> See also UNCTAD (2022a) and UNCTAD (2022b).