

Wide-ranging factors are shaping global shipping markets, including the supply of ship carrying capacity and fleet patterns. In 2022 and the first half of 2023, the supply of shipping capacity and services was affected by global economic developments, which determine the demand for shipping. The supply was also impacted by market sentiment and expectations, freight rates, financial liquidity, shipbuilding capacity and ship recycling activity. In 2022, the global fleet continued to grow but was ageing amid rising uncertainty about fleet renewal timelines. In 2022, global ship carrying capacity expanded at an annual rate of 3.2 per cent with overall tonnage hitting nearly 2.3 billion dead weight tons. On average the global fleet was two years older in 2023, compared to a decade earlier.

During the same period, freight markets were affected by a weakening in containerized trade, the easing of port congestion, increased volatility in dry bulk trade, and growth in tanker trade measured in ton-miles. In 2022, container freight rates reached all-time highs in the first half of the year amid the supply chain crisis, before falling in the second half, mainly due to economic pressures. The downward trend continued into 2023 bringing container freight rates back to their pre-pandemic levels.

Dry bulk freight rates followed a similar trend, showing high volatility and a decline in the second half of 2022 as demand for dry bulk commodities in China weakened. In 2023, dry bulk freight rates initially fell but then rose sharply. In contrast and moving away from the lows recorded two years into the pandemic, tanker freight rates recovered in 2022 across various segments, in particular Aframax<sup>1</sup>. This was a result of the war in Ukraine, shifts in energy flows and increased ton-miles. Tanker freight rates continued their upward trend in 2023. These are likely to increase further, and experience more fluctuations due to factors including geopolitical tensions and concerns surrounding energy security.

Looking forward, a range of regulatory, commercial, technological and geopolitical forces are adding complexity, volatility, and uncertainty to the industry's operating landscape and to freight markets. The question of how shipping will adapt to change while continuing to provide the requisite ship carrying capacity to effectively deliver global trade and ensuring stable and predictable shipping rates is a key theme facing the sector in 2023 and beyond. This question arises against the backdrop of potential overcapacity in container shipping, a relatively limited ship order book when set against the existing active capacity, subdued ship recycling activity and a tightening in ship building and yard capacity. Meanwhile, trends affecting supply and demand, combined with ongoing economic and trade uncertainties, geopolitical concerns, energy security requirements, changes in trade patterns and average distances travelled, supply-chain reconfiguration, more stringent environmental regulations and the energy transition imperative are all expected to affect trends in freight rates and shipping costs. Alleviating container freight rate volatility will likely be linked to carrier capacity management, operational cost reduction, efficiency enhancement, and mitigating potential risks such as those associated with fluctuations in fuel prices.

Strengthened collaboration across the maritime supply chain is crucial for the shipping industry to safely navigate this growing uncertainty and market volatility. Monitoring trends in shipping and freight markets is necessary; assessing their implications for the increasingly volatile and uncertain operating landscape is crucial.

# 2

## WORLD SHIPPING FLEET, SERVICES, AND FREIGHT RATES





## A. GLOBAL SHIPPING FLEET DEVELOPMENTS

### 1. 2022 was a mixed year for shipping and the sector faces operational complexities, uncertainty and volatility in 2023

Shipping continues to navigate the post COVID-19 pandemic trends, the legacies of the 2021–2022 crunch in global logistics, the softening in the container shipping market since the second half of 2022, and the shift in shipping and trading patterns arising from the war in Ukraine. The sector is facing growing operational complexities, volatility and uncertainty amid a global economic climate coming under stress and the impact of the ongoing war in Ukraine, as highlighted in chapter 1. The sector is also facing the need to shift to a more sustainable future, to decarbonize and take up digitalization.

By the second half of 2022 and after the historical boom of 2021, the container shipping market normalized and capacity levels shifted, with an influx of new container capacity in 2023. More capacity is expected to hit the water in 2024 and 2025. Liner operators used different tools to tackle overcapacity, including rerouting, blank sailing, reducing speeds, and idling ships (Drewry Maritime Research, 2023).

Liner operators are pursuing different strategies to build resilience and adjust to an ever-evolving operating context. Some, such as A.P. Moller Maersk are favouring an integrated approach to offer end-to-end service delivery, while others such as the Mediterranean Shipping Company (MSC) have shown a preference for ship ordering and capacity expansion. Meanwhile, some of the new operators who had entered the liner shipping market to take advantage of the high freight rates amid the global logistics crunch of 2021–2022 and who had stayed past the COVID-19 pandemic and subsequent logjam, have been increasing their market participation and deploying more capacity across various container shipping routes.

A major theme for shipping is the uncertainty regarding the best course of action to decarbonize and take up cleaner fuels. Carriers are facing the need to invest in ship carrying capacity to renew the global fleet and transition to a low carbon path amid high uncertainty and lack of visibility about the most suitable future fuel and green technologies for ships (see chapter 3).

### 2. The global fleet continued to grow at 3.2 per cent in 2022 but aged compared to a decade earlier

In January 2023, global maritime trade was transported on board 105,493 vessels of 100 gross tons (GT) and above, with oil tankers, bulk carriers, and container ships accounting for 85 per cent of total capacity.

Over time, world fleet capacity has expanded at varying rates reflecting booms and busts in the business and shipping cycles as well as trends in shipbuilding and ship financing capacity, among other factors. Growth in the global fleet dead weight tons (dwt) averaged a firm annual 7.1 per cent between 2005 and 2010. As the financial crisis which triggered consolidation in shipbuilding capacity and a downsizing of the ship financing market, the average annual growth decelerated to 4.9 per cent since 2011.

Since the COVID-19 pandemic and the uncertainties related to the future energy transition, fleet growth further decelerated. In 2022, global fleet capacity expanded by 3.2 per cent over the previous year. Overall tonnage totalled 2.27 billion dead weight tons (table 2.1 and figure 2.1). Oil tanker fleet capacity increased by 3.4 per cent, up from 1.6 per cent growth in 2021. For 2023 and 2024, tanker fleet expansion is expected to be limited given the small order book. Bulk carrier capacity increased at a moderate 2.8 per cent while the capacity of liquified gas carriers increased by 5.0 per cent.

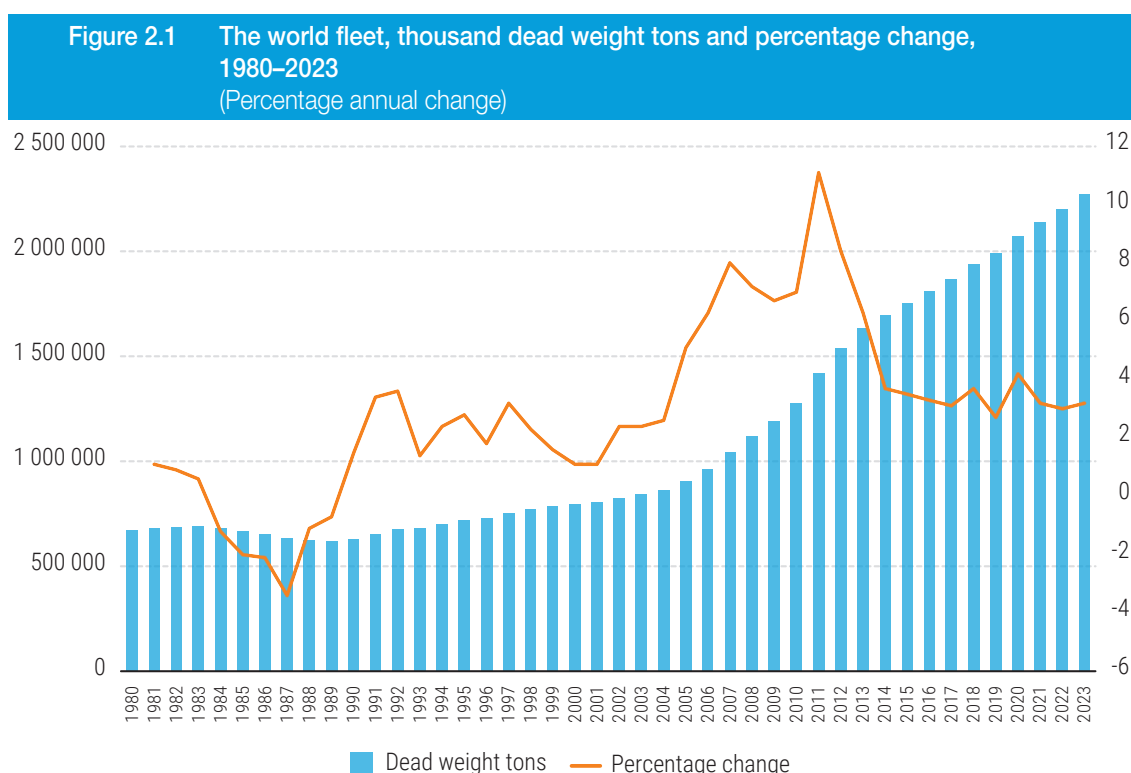
The global newbuilding capacity delivered in 2022 fell by 8.6 per cent, totalling 55.6 million GT, down from over 60 million GT in 2021. Dry bulk carriers accounted for the largest share (31.4 per cent) of tonnage delivered in 2022, followed by oil tankers and container vessels (table 2.2). The three leading shipbuilding countries of China, the Republic of Korea, and Japan, accounted for 93 per cent of the total tonnage delivered; China held the lion's share of 47 per cent.

The age profile of the global fleet has implications for fleet renewal and recycling patterns, which are key factors influencing compliance with growing environmental regulations. At the start of 2023, commercial ships averaged 22.2 years of age, a further increase over the previous year (table 2.3). On average, the global fleet was two years older in 2023 compared to a decade before, and more than half the fleet is over 15 years of age.

Principal types	Indicator	2022	2023	Percentage change 2023 over 2022
Bulk carriers	Thousand dead weight tons	947 121	973 743	2.8
	Percentage share	43.0	42.8	
Oil tankers	Thousand dead weight tons	629 890	651 348	3.4
	Percentage share	28.6	28.7	
Container ships	Thousand dead weight tons	293 790	305 313	3.9
	Percentage share	13.3	13.4	
Other types of ships	Thousand dead weight tons	252 489	260 554	3.2
	Percentage share	11.5	11.5	
Offshore supply	Thousand dead weight tons	84 541	86 472	2.3
	Percentage share	3.8	3.8	
Liquefied gas carriers	Thousand dead weight tons	83 841	88 064	5.0
	Percentage share	3.8	3.9	
Chemical tankers	Thousand dead weight tons	49 842	51 411	3.1
	Percentage share	2.3	2.3	
Other/n.a.	Thousand dead weight tons	25 964	26 079	0.4
	Percentage share	1.2	1.1	
Ferries and passenger ships	Thousand dead weight tons	8 300	8 528	2.7
	Percentage share	0.40	0.40	
General cargo	Thousand dead weight tons	79 670	81 815	2.7
	Percentage share	3.6	3.6	
<b>World total</b>	<b>Thousand dead weight tons</b>	<b>2 202 961</b>	<b>2 272 772</b>	<b>3.2</b>

Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing merchant vessels of 100 GT and above, as of 1 January 2023. Dead weight tons for some individual vessels have been estimated.



Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

**Table 2.2 Deliveries of newbuilt vessels by type and building country, thousands of gross tons, 2022**

	China	Japan	Republic of Korea	Philippines	Viet Nam	Europe	Rest of the world	World total	Percentage share
Bulk Carriers	11 233	5 360	443	344	98			17 477	31.4
Oil Tankers	4 203	1 745	8 294		318	157	10	14 727	26.5
Containerships	5 361	1 487	3 263	50			44	10 205	18.4
Gas Carriers	899	268	3 665			7		4 838	8.7
Ferries and Passenger Ships	391	84	4	2	5	2 028	65	2 580	4.6
General Cargo	1 793	216	52		1	75	118	2 255	4.1
Offshore	1 240	5	184	0	21	39	230	1 720	3.1
Chemical Tankers	614	326	343			26	36	1 345	2.4
Other	160	96	5		0	131	39	431	0.8
<b>Total</b>	<b>25 895</b>	<b>9 585</b>	<b>16 254</b>	<b>396</b>	<b>444</b>	<b>2 464</b>	<b>542</b>	<b>55 580</b>	<b>100.0</b>
<b>Percentage share</b>	<b>46.6</b>	<b>17.2</b>	<b>29.2</b>	<b>0.7</b>	<b>0.8</b>	<b>4.4</b>	<b>1.0</b>	<b>100.0</b>	

Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing merchant vessels of 100 GT and above. See also <http://stats.unctad.org/shipbuilding>.

**Table 2.3 Age of world merchant fleet, by vessel type and flag of registration, years and dead weight tons, 2022 and 2023**

Vessel type, country grouping by flag of registration and indicator		Years					Average age	
		0-4	5-9	10-14	15-19	More than 20	2022	2023
<b>World</b>								
Bulk carriers	Percentage of total bulk carriers	16.2	23.7	36.8	11.2	12.1	11.1	11.6
	Percentage of dead weight tons	19.5	25.3	36.6	10.8	7.9	10.0	10.6
	Average vessel size (dead weight tons)	88 699	78 908	73 524	71 798	48 486		
Container ships	Percentage of total container ships	14.5	16.0	24.4	23.8	21.3	13.7	14.2
	Percentage of dead weight tons	19.1	24.8	25.7	19.4	10.9	11.0	11.5
	Average vessel size (dead weight tons)	68 906	81 310	55 335	42 815	26 898		
General cargo	Percentage of total general cargo ships	6.4	8.1	16.2	12.1	57.2	26.8	27.4
	Percentage of dead weight tons	9.7	12.5	25.1	14.1	38.6	20.0	20.3
	Average vessel size (dead weight tons)	6 093	6 217	6 216	4 677	2 702		
Oil tankers	Percentage of total oil tankers	12.9	14.8	21.0	16.4	34.9	19.6	20.1
	Percentage of dead weight tons	21.2	18.9	29.2	20.6	10.1	11.2	11.6
	Average vessel size (dead weight tons)	91 094	70 285	76 700	69 584	16 084		
Other types of ships	Percentage of total other ships	10.1	14.1	18.2	10.7	47.0	23.7	24.2
	Percentage of dead weight tons	18.2	17.8	20.6	13.7	29.7	16.1	16.4
	Average vessel size (dead weight tons)	8 648	6 074	5 434	6 189	3 036		
All ships	Percentage of total all ships	10.7	14.3	20.8	12.4	41.8	21.7	22.2
	Percentage of dead weight tons	19.4	22.1	30.7	15.2	12.5	11.5	12.0
	Average vessel size (dead weight tons)	39 160	33 206	31 890	26 549	6 470		
Developing economies	Percentage of total all ships	10.6	14.7	21.6	12.6	40.4	20.8	21.2
	Percentage of dead weight tons	18.3	19.5	28.0	15.5	18.6	12.7	13.2
	Average vessel size (dead weight tons)	28 345	21 770	21 361	20 222	7 589		
Developed economies	Percentage of total all ships	12.2	14.4	21.3	12.4	39.7	20.9	21.4
	Percentage of dead weight tons	21.5	23.9	33.1	14.4	7.1	10.5	10.9
	Average vessel size (dead weight tons)	53 375	50 628	47 163	35 199	5 460		

Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing vessels of 100 GT and above, as of 1 January 2023.

Dead weight tons (dwt) for some individual vessels have been estimated. The average age of a dwt is calculated as the sum of all products of the age and dwt of a ship, divided by the sum of the dwt of all ships.

The fleet's age profile partly reflects modest recycling activity, as owners hold on to old tonnage, anticipating market recovery. It also reflects delays in investing in fleet renewal which stems from shipowners awaiting more clarity on future low carbon fuels, technologies, and regulation. Dry bulk carriers have the lowest average age, while general cargo vessels are much older.

In a separate development, operational complexities increased with the ongoing war in Ukraine. The conflict and related economic restrictions may have increased 'shadow' fleet activity. Since the war in Ukraine, oil exports from the Russian Federation have supported demand for 'shadow' tonnage (Bouissou J, Pravettoni R, Fattori F, 2023; ), thereby boosting the sales and purchase transactions and increasing the value of older vessels, in particular tankers (Galanopoulos J, 2023; Telling O, 2023). This trend may also be delaying recycling activity (VesselsValue, 2023). New ship owning entities such as in China, the United Arab Emirates and India have emerged, aiming to take advantage of the high premiums associated with the new trade routes (Galanopoulos J, 2023).

It should be noted that reference to 'shadow' fleet in this context refers to vessels carrying cargo sourced from the Russian Federation and which might be subject to restrictive economic measures. It is therefore not intended to presuppose whether this fleet fits the description known to the International Maritime Organization (IMO) and specifying that a shadow fleet refers to a fleet of ageing, more polluting vessels with opaque ownership that operates without proper identification, and which often turns off their locations.

### 3. The country of the flag is not necessarily connected to the nationality of the vessel's owner

In 2022, over 70 per cent of global ship capacity in dead weight tons was registered under a foreign flag with beneficial owners and registries being in different countries (table 2.4). For ship owning countries like Germany, Greece, Japan, the Republic of Korea and the United Kingdom, this share was even higher. In China, Denmark, Hong Kong, China, India, Indonesia, Kuwait, Norway, Singapore and the Islamic Republic of Iran, the share of foreign flagged tonnage was lower (table 2.5). The top 35 flag States accounted for 94.1 per cent of the world dead weight capacity, the majority of which was accounted for by nineteen developing countries.

The country of the flag is not necessarily connected to the nationality of the vessel's owner. A large share of the world tonnage is flagged under open registries. Increasingly, the top ten flag registries have strengthened their share of the total global fleet with individual shares and patterns of growth varying across the countries of the flag. This system allows developing countries to contribute to shipping services supply.

Vessel registration services, through open and international registries tend to be concentrated in developing regions like the small island developing States and the least developed countries. In 2022, seven within the top 10 flags of registration were open registers (Panama, Liberia, the Marshall Islands, Malta, the Bahamas, Hong Kong, China, and Singapore), and three were national registries (China, Greece and Japan). These ten leading flags represented 78.5 per cent of the world's dwt. The growth of open registries can be attributed to factors such as beneficial tax regimes and the ability to hire international crew, allowing owners to reduce costs.

The top three flag registration States were Panama, Liberia, and the Marshall Islands. Panama overtook Liberia as the top flag of registration in the mid-1990s, but the Liberian register has been growing rapidly since then. In 2022, Liberia surpassed Panama in terms of dead weight tons under its flag after about three decades. However, Panama continued to lead in the number of vessels, commercial value and gross tons. Growth in the dead weight capacity of Panama (4.2 per cent) was dwarfed by the increase in Liberia (12.7 per cent). The Chinese flag registered the second fastest growth (5.4 per cent) while tonnage registered in Greece declined by 4 per cent over the previous year.

Lack of qualified sea personnel is driving shipowners to consider the use of foreign/open registries (Meade, 2023). Mirroring trends in capacity shares, much of the value of the global fleet is concentrated in Panama (12.9 per cent), followed by Liberia (11.8 per cent) and the Marshall Islands (11.4 per cent) (table 2.6).

Shipowners tend to have more direct control over investment decisions related to their fleets, including vessel sizes and types, ship technology, fuels used, engines installed and propulsion systems. Today, shipowners are largely located in developed countries, although China and Singapore feature among the top 10 ship owning countries. This distinction in the shipping industry underscores the complexities associated with regulating the sector's environmental impact, as demonstrated by the ongoing greenhouse gas (GHG) emission reduction negotiating process at IMO.

Table 2.4 Leading flags of registration by dead weight tons, 2022

Rank	Flag of registration	Number of vessels	Share of world vessel total (percentage)	Dead weight tons (thousands dead weight tons)	Share of total world dead weight tons (percentage)	Average vessel size (dead weight tons)	Growth in dead weight tons 2022 to 2023
1	Liberia	4 821	4.6	378 346	16.6	78 479	12.7
2	Panama	8 174	7.8	365 096	16.1	44 666	4.2
3	Marshall Islands	4 180	4.0	299 170	13.2	71 572	3.2
4	Hong Kong, China	2 537	2.4	200 075	8.8	78 863	-3.7
5	Singapore	3 202	3.0	134 985	5.9	42 156	2.7
6	China	8 262	7.8	124 061	5.5	15 016	5.4
7	Malta	1 957	1.9	109 001	4.8	55 698	-5.0
8	Bahamas	1 274	1.2	72 674	3.2	57 044	-0.9
9	Greece	1 215	1.2	59 016	2.6	48 573	-4.3
10	Japan	5 229	5.0	41 726	1.8	7 980	4.2
11	Cyprus	1 005	1.0	31 164	1.4	31 009	-6.8
12	Indonesia	11 422	10.8	30 171	1.3	2 641	2.5
13	International Shipping Register of Madeira	729	0.7	26 850	1.2	36 832	3.7
14	Danish International Register of Shipping	590	0.6	25 259	1.1	42 811	-3.1
15	Norwegian International Ship Register	684	0.6	21 271	0.9	31 099	1.0
16	Islamic Republic of Iran	965	0.9	20 723	0.9	21 475	1.2
17	Isle of Man	269	0.3	20 109	0.9	74 755	-2.5
18	Republic of Korea	2 149	2.0	18 894	0.8	8 792	20.6
19	India	1 859	1.8	18 133	0.8	9 754	7.1
20	Saudi Arabia	433	0.4	13 406	0.6	30 961	-3.5
21	United States of America	3 531	3.4	12 586	0.6	3 564	0.9
22	Viet Nam	1 973	1.9	12 434	0.5	6 302	0.7
23	Russian Federation	2 910	2.8	11 270	0.5	3 873	3.0
24	United Kingdom excl. Channel Islands and Isle of Man	866	0.8	11 057	0.5	12 768	-2.5
25	Malaysia	1 750	1.7	9 406	0.4	5 375	2.0
26	Belgium	198	0.2	9 160	0.4	46 261	-6.3
27	Italy	1 276	1.2	9 121	0.4	7 148	-8.6
28	Germany	595	0.6	7 249	0.3	12 183	2.1
29	Cameroon	198	0.2	7 228	0.3	36 503	45.1
30	Bermuda	122	0.1	7 043	0.3	57 731	-10.7
31	Türkiye	1 170	1.1	6 651	0.3	5 684	8.5
32	Kingdom of the Netherlands	1 187	1.1	6 618	0.3	5 575	-0.6
33	Taiwan Province of China	465	0.4	6 445	0.3	13 859	-4.6
34	Antigua and Barbuda	614	0.6	6 347	0.3	10 336	2.0
35	Philippines	2 203	2.1	6 125	0.3	2 780	-5.7
<b>Top 35</b>		<b>80 014</b>	<b>75.9</b>	<b>2 138 866</b>	<b>94.1</b>	<b>26 731</b>	<b>3.1</b>
<b>World total</b>		<b>105 395</b>	<b>100.0</b>	<b>2 272 772</b>	<b>100.0</b>	<b>21 564</b>	<b>3.2</b>

Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing merchant vessels of 100 GT and above, as of 1 January 2023. For a complete list of countries, see <http://stats.unctad.org/fleet>. Dead weight tons for some individual vessels have been estimated.

Table 2.5 Ownership of the world fleet, by carrying capacity, national- and foreign-flagged fleet, dead weight tons, 2022

Country or territory of ownership	Number of vessels			Dead weight tons				
	National flag	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as a percentage of total	Total as a percentage of world dwt
1 Greece	598	4 332	4 936	51 976 486	341 036 573	393 033 425	86.8	17.4
2 China	5 997	2 791	8 839	121 809 591	179 066 943	301 997 355	59.5	13.4
3 Japan	950	3 069	4 023	37 438 045	200 224 252	237 673 376	84.2	10.5
4 Singapore	1 373	1 410	2 813	68 494 373	72 237 484	140 824 814	51.3	6.2
5 Hong Kong, China	842	979	1 842	72 339 321	44 542 059	117 287 467	38.1	5.2
6 Republic of Korea	816	869	1 696	17 588 035	79 517 595	97 144 236	81.9	4.3
7 Germany	184	1 971	2 156	6 834 385	70 143 305	76 980 906	91.1	3.4
8 Taiwan Province of China	151	892	1 054	6 279 703	52 197 018	58 549 256	89.3	2.6
9 United Kingdom	354	975	1 332	9 277 332	48 600 066	58 024 495	84.0	2.6
10 Norway	953	963	1 918	18 081 678	37 307 060	55 519 431	67.4	2.5
11 United States of America	771	978	1 758	10 113 981	40 386 816	51 194 895	80.0	2.3
12 Bermuda	NA	403	403	NA	50 220 307	50 220 307	NA	2.2
13 United Arab Emirates	125	1 152	1 285	577 123	39 125 947	39 732 861	98.5	1.8
14 Denmark	401	411	812	19 728 219	19 659 607	39 387 826	49.9	1.7
15 Switzerland	14	602	616	835 748	36 827 778	37 663 526	97.8	1.7
16 Türkiye	396	1 361	1 766	6 056 462	31 243 034	37 348 182	83.8	1.7
17 Monaco	NA	380	380	NA	36 770 160	36 770 160	NA	1.6
18 India	914	227	1 145	17 357 386	13 202 639	30 726 338	43.2	1.4
19 Indonesia	2 335	112	2 458	25 565 216	2 810 746	28 657 379	9.9	1.3
20 Cyprus	124	291	417	4 828 206	22 461 924	27 341 575	82.3	1.2
21 Belgium	87	210	297	8 453 189	18 243 329	26 696 518	68.3	1.2
22 Russian Federation	1 552	281	1 841	9 813 989	11 777 202	21 639 798	54.5	1.0
23 Islamic Republic of Iran	241	11	253	18 450 865	853 392	19 305 808	4.4	0.9
24 Kingdom of the Netherlands	663	527	1 190	5 396 634	12 290 136	17 686 770	69.5	0.8
25 France, Metropolitan	157	285	442	4 070 356	13 205 297	17 275 653	76.4	0.8
26 Saudi Arabia	172	121	295	13 140 826	3 497 829	16 642 449	21.0	0.7
27 Viet Nam	972	189	1 170	11 633 102	4 359 940	16 059 690	27.3	0.7
28 Italy	445	163	608	8 276 622	6 077 880	14 354 501	42.3	0.6
29 Brazil	297	84	382	4 688 557	9 592 958	14 287 015	67.2	0.6
30 Malaysia	432	161	607	6 664 042	3 248 351	9 959 308	32.8	0.4
31 Canada	220	155	376	2 703 233	7 014 300	9 718 017	72.2	0.4
32 Oman	4	59	64	5 558	8 049 447	8 055 151	99.9	0.4
33 Nigeria	210	75	291	3 953 197	3 973 143	7 947 869	50.1	0.4
34 Qatar	52	83	135	664 130	7 095 509	7 759 639	91.4	0.3
35 Kuwait	44	7	51	4 697 403	446 848	5 144 251	8.7	0.2
<b>Subtotal, top 35 shipowners</b>	<b>22 846</b>	<b>26 579</b>	<b>49 651</b>	<b>597 792 993</b>	<b>1 527 306 874</b>	<b>2 128 610 247</b>	<b>71.8</b>	<b>94.5</b>
<i>Rest of the world unknown</i>	<i>3 281</i>	<i>2 648</i>	<i>6 940</i>	<i>34 906 961</i>	<i>61 981 471</i>	<i>124 928 662</i>	<i>49.6</i>	<i>5.5</i>
<b>World</b>	<b>26 127</b>	<b>29 227</b>	<b>56 591</b>	<b>632 699 954</b>	<b>1 589 288 345</b>	<b>2 253 538 909</b>	<b>70.5</b>	<b>100</b>

Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing vessels of 1,000 GT and above, as of 1 January 2023.

Ships registered under the national flag are any ship where the registration and ownership are in the same country or territory of ownership. Ships in second registries of Brazil, China, Denmark, France, and Norway are considered to be under the national flag if they are owned in their respective country. Ships registered in the Isle of Man are considered as being registered under national flag if they are owned anywhere in a greater territory of United Kingdom including the Isle of Man and the Channel Islands. Likewise, for the purpose of determining national flag, Madeira and mainland Portugal are considered as one unit.

The totals include vessels for which the flag is unknown. Thus, the sum of national and foreign flags does not equal the total. Foreign flag as a percentage of total is calculated as share of vessels with known flag. See also <http://stats.unctad.org/fleetownership>.

Metropolitan France is the part of France located in Europe, including the island of Corsica. The term excludes overseas departments and territories.



Table 2.6 Ship owning countries and flags of registration by value, 1 January 2023

	Country or Territory of Ownership	Percentage share		Flag of Registration	Percentage share
1	Greece	11.80	1	Panama	12.86
2	China	11.04	2	Liberia	11.78
3	Japan	10.73	3	Marshall Islands	11.41
4	United States	7.41	4	Bahamas	7.44
5	Singapore	5.29	5	Malta	6.53
6	Norway	4.70	6	Hong Kong, China	6.27
7	United Kingdom	4.33	7	Singapore	6.07
8	Germany	3.67	8	China	5.69
9	Hong Kong, China	3.63	9	Greece	2.15
10	Republic of Korea	3.50	10	Japan	1.85
11	Switzerland	2.50	11	Norwegian International Ship Register	1.75
12	Denmark	2.09	12	Italy	1.73
13	Taiwan Province of China	1.99	13	Danish International Register of Shipping	1.37
14	Bermuda	1.98	14	Cyprus	1.31
15	Italy	1.83	15	Bermuda	1.30
16	Kingdom of the Netherlands	1.74	16	International Shipping Register of Madeira	1.15
17	Brazil	1.45	17	Indonesia	1.06
18	United Arab Emirates	1.39	18	United Kingdom	1.02
19	France	1.32	19	United States	0.95
20	Russian Federation	1.19	20	Isle of Man	0.91
21	Türkiye	1.18	21	Kingdom of the Netherlands	0.89
22	Monaco	1.14	22	Russian Federation	0.87
23	Indonesia	1.05	23	Republic of Korea	0.76
24	India	0.97	24	Norway	0.69
25	Belgium	0.81	25	France	0.68
26	Malaysia	0.81	26	Malaysia	0.66
27	Cyprus	0.78	27	India	0.63
28	Qatar	0.58	28	Nigeria	0.62
29	Canada	0.56	29	Australia	0.55
30	Nigeria	0.56	30	Brazil	0.55
31	Viet Nam	0.53	31	Viet Nam	0.41
32	Sweden	0.52	32	Germany	0.38
33	Australia	0.50	33	Türkiye	0.38
34	Saudi Arabia	0.50	34	Islamic Republic of Iran	0.35
35	Islamic Republic of Iran	0.35	35	Saudi Arabia	0.34
	<b>Top 35 countries or territories</b>	<b>94.48</b>		<b>Top 35 flags</b>	<b>93.31</b>
	<i>Rest of the World</i>	5.52		<i>Rest of the World</i>	6.69
	<b>Total</b>	<b>100.00</b>		<b>Total</b>	<b>100.00</b>

Source: UNCTAD calculations, based on data from Clarksons Research, 2023. Note: vessels of 1,000 GT and above.

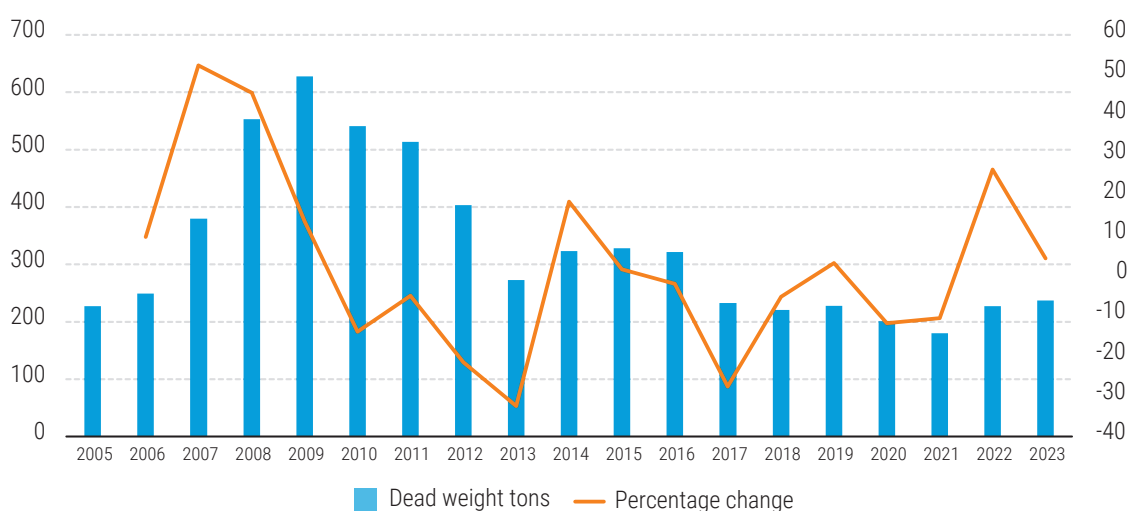
The leading 35 ship owning countries accounted for 94.5 per cent of the world shipping carrying capacity (table 2.5). On 1 January 2023, developed countries accounted for over half of the tonnage owned globally, with 19 developed nations among the leading 35 ship owning countries. Developing countries, particularly in Asia, led by China and Singapore, have been increasing their ownership share and are featured in the top 20 ship owning nations. Within the 35 ship owning economies, 15 were in Asia, 14 in Europe and four in the Americas. Nigeria stands as the largest ship owning country in Africa and Brazil tops the list in South America. The value of the global fleet reached \$1.26 trillion with the top ten owners accounting for nearly two-thirds of the total, with Greece leading, followed by China, and Japan (table 2.6).

## 4. Global fleet renewal and capacity growth faces uncertainty

The global shipbuilding industry witnessed a dynamic year in 2022, marked by an average increase of 15 per cent in shipbuilding prices (Hine, 2023). Owners are showing less appetite for ordering new ships, except for container and LNG vessels.

At the start of 2023, the orderbook stood at 4,029 vessels, totalling 237.3 million dead weight tons. This was down 2.1 per cent in terms of vessel numbers compared to the same period in 2022 but up 4.1 per cent in dead weight tons terms (figure 2.2). The global ship orderbook remains moderate at 10 per cent of the world's existing fleet (Clarksons Research, 2023a). The value of the orderbook increased by nearly 20 per cent in the first quarter of 2023, compared to the same quarter the previous year. This reflects a more sophisticated vessel product mix and a rising demand for green technology and alternative-fuelled vessels.

**Figure 2.2** World tonnage on order, million dead weight tons and percentage change, 2005–2023



Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing merchant vessels of 100 GT and above. Beginning of year figures.

The mix of ship types being ordered has evolved in recent years. By early May 2023, containerships represented the largest share of the orderbook (37.3 per cent) representing more than double the contribution of early May 2010, i.e. after the financial crisis (Clarksons Research, 2010). In early May 2023, LNG carriers accounted for 18.2 per cent, a significant increase from 1.1 per cent in the same period of 2010. In contrast, bulkier and tanker orders, which represented over 70 per cent of the capacity in early May 2010, only made up 27.2 per cent in May 2023. Uncertainty surrounding fuel technology and higher newbuild prices have played a role in limiting new orders for tankers and bulkers (Allen, 2023).

By early May 2023, the tanker orderbook was just 4 per cent of the existing global fleet, the lowest level for over 25 years. The order book for bulkers was also low, at 7 per cent of the existing fleet. In comparison, orders for containerships and LNG vessels reached 26 per cent and 46 per cent of global fleet respectively (Clarksons Research, 2023b). Europe's drive to source energy outside the Russian Federation has fuelled demand for LNG carriers and this trend is expected to continue. Improvements in global economic prospects are likely to support the orderbook for bulkers, while appetite for containerships remains strong despite a weakening market.

Shipowners find themselves in a dilemma: should they invest in ordering additional ship capacity and fleet renewal without clarity on the best alternative fuel and green technology options? Alternatively, should they wait until the alternative fuel pathway and regulatory regime become clearer and more established before making decisions? (See chapter 3).

Shipowners' investment decisions are further complicated by fleet renewal needs, concerns over shipbuilding yard capacity and higher building prices. This is unfolding against the backdrop of the Energy Efficiency Existing Ship Index (EEXI) and Carbon Intensity Indicator (CII) from IMO, which came into force

in November 2022. Complying with these new requirements will alter effective active supply due to operational limitations.

Ports and terminals are facing similar hurdles. They also require clarity about the future regulatory framework and the alternative fuels that will be in demand. Only then can they make informed investment decisions regarding equipment, terminal replacement, construction and, potentially, alternative fuel bunkering facilities.

Despite an ageing fleet, ship recycling remains low. With limited availability at shipyards and high newbuild prices, owners have been active in the sales and purchase market (second-hand), or preferred to make early debt repayments using profits generated since the pandemic (Clarksons Research, 2023c). The second-hand market remained highly active in 2022 and 2023, with slightly lower sales compared to the record-breaking year of 2021. Firm buyer demand and higher interest in older tonnage, partly due to demand for the 'shadow' fleet, underpinned this trend. Tanker sales and purchase transactions reached a record high in 2022, and Aframax experienced 15-year highs in February 2023 (VesselsValue, 2023).

In 2022, 7.5 million gross tons, representing less than 0.5 per cent of the total active fleet was sent for recycling (table 2.7). Tankers (36 per cent) accounted for most of the tonnage sold for scrap. Despite more stringent environmental rules and rising steel costs, market conditions took precedence, with shipowners eyeing the peaks in freight rates. Demand for older tonnage increased the average value of older vessels. Some disruption at ship recycling yards, including financial pressures in yards in Bangladesh and Pakistan have also constrained recycling activity. Bulker recycling accounted for 31 per cent of recycling, with gas carriers making up just 2 per cent and recycling of containerships limited to 3 per cent. In a parallel development of significance for ship recycling, was the coming into force of the Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships (the Hong Kong Convention) for Bangladesh and Liberia, which deposited their respective instruments of accession to the Convention in June 2023. The Convention will enter into force on 26 June 2026.

<b>Vessel type</b>	<b>Bangladesh</b>	<b>Pakistan</b>	<b>India</b>	<b>Türkiye</b>	<b>China</b>	<b>Rest of the world</b>	<b>World total</b>	<b>Percentage share</b>
Oil tankers	1 411	649	533	57	28	37	2 715	36.1
Bulk carriers	1 148	513	578		131	0	2 369	31.5
General cargo ships	31	12	33	20		141	237	3.1
Container ships	15	0	156		7	0	178	2.4
Liquefied gas carriers	13	0	104	2		20	138	1.8
Chemical tankers	53	34	204	3	13	5	313	4.2
Offshore supply	22	45	568	43		128	806	10.7
Ferries and passenger ships	55	15	239	335		31	676	9.0
Other/n.a.	52	0	18	16	0	12	98	1.3
<b>Total gross tons</b>	<b>2 801</b>	<b>1 270</b>	<b>2 432</b>	<b>477</b>	<b>179</b>	<b>374</b>	<b>7 531</b>	<b>100.0</b>
<b>Percentage share</b>	<b>37.2</b>	<b>16.9</b>	<b>32.3</b>	<b>6.3</b>	<b>2.4</b>	<b>5.0</b>	<b>100</b>	

Source: UNCTAD calculations, based on data from Clarksons Research, 2023.

Notes: Propelled seagoing vessels of 100 GT and above. Estimates for all countries available at <http://stats.unctad.org/shiprecycling>.

In 2023, interest in ship recycling picked up as shipping market conditions softened and issues relating to letters of credit in Bangladesh eased. More recycling is anticipated in 2023 as shipowners renew and upgrade their fleets to comply with new IMO GHG emission regulations. More containerships are likely to be recycled in anticipation of the massive influx of new builds expected in the coming years, and reflecting lower freight rates. The ship recycling market is expected to become more volatile, influenced by the IMO EEXI and CII regulations, and their impact on market dynamics. Factors such as speed reduction and removal from service for ship retrofitting will play a role in shaping the market. Some shipowners may postpone recycling tonnage or investing in tonnage retrofitting until 2026, when the CII will be revised.

## 5. Shipbuilding yard capacity and prices will also shape ship tonnage supply

Shipyard capacity is currently facing constraints. Tanker and dry bulk owners are anticipating long waiting times and high building prices. Increasing shipbuilding capacity is crucial to ensure that shipping meets global demand and its sustainability goals. Global shipyard capacity has decreased dramatically since the global financial crisis (Chambers, 2023b).

Over 3,500 ships needed to be built or refitted annually until 2050 (Splash 247.com, 2022). At its peak in 2010, the global shipbuilding industry built 2,700 vessels a year (Chambers, 2023b). With consolidation, the number of shipyards fell from about 700 in 2007 to about 300 by 2022 (BRS Group, 2023). A total of 68 per cent, 92 per cent and 71 per cent of the shipbuilding capacity in China, the Republic of Korea and Japan, respectively, is in the hands of only three shipbuilding groups (Chambers, 2023c). These three economies are responsible for constructing nearly the entire world dead weight capacity on order.

Tighter environmental regulations, new ship energy saving technologies, and the transition towards alternative fuels are driving reliance on a small group of builders in each vessel segment. At the same time, many yards are struggling to attract orders. Changes in ordering patterns over the years have resulted in a lopsided impact on the industry. Unlike smaller players, large shipyards are fully booked for three years and competition for space by some ship types is putting pressure on yards to diversify and reactivate existing capacity. For example, in 2022, a few additional Chinese yards entered the LNG carrier segment (BRS Group, 2023).

Ship financing has also changed since the 2010 financial crisis, with a reduction in capacity of the overall ship finance market (Clarksons Research, 2023c). While shipping has traditionally relied on bank debt, other financial structures include equity, debts, and leasing (Stopford, 1997). There has also been a geographical move eastward with many western banks reducing their exposure to shipping. In 2021 and 2022, shipping finance activity remained modest with shipowners relying less on debt for liquidity and more on operations, thanks to a strong market and high freight rate environment. Banks saw repayment activity increase, especially in container shipping (Clarksons Research, 2023c). The financing landscape is also influenced by the rise in green finance, which requires ships to comply with conditions such as the Poseidon Principles, the Climate Bonds Initiative, the European Union Taxonomy or the Green Shipping Programme.

More recently, the collapse of three banks in the United States and the rescue of Credit Suisse have added uncertainty to this capital-intensive industry. Credit Suisse is the world's 10th largest shipping lender with about half its portfolio involving Greek shipowners. UBS Group AG will likely shrink the \$10 billion shipping portfolio it inherited from Credit Suisse Group AG after its emergency takeover in March 2023 (Paris C, 2023). Speculation about the future of shipping portfolios, underscoring the importance for shipowners to continue diversifying their sources of finance.

## 6. Container shipping is adjusting to normalized market conditions

In 2022, container ship carrying capacity expanded at a relatively moderate rate of 3.9 per cent compared with 4.1 per cent in 2021. The fleet stood at 5,852 ships at the start of 2023 totalling 25.8 million 20-foot equivalent units (TEU). Container capacity is forecast to grow by 6.3 per cent in 2023 and 8.1 per cent in 2024. However, effective supply is expected to grow at a double-digit rate, reflecting fleet productivity gains with the easing of congestion (Drewry Maritime Research, 2023).

To manage capacity amid a softer market, liner operators implemented blank sailing, lowered sailing speed, rerouted some ships on backhaul legs and idled some capacity. In the first quarter of 2023, the average sailing speed slowed down by 4 per cent year-on-year and could drop by 10 per cent before 2025 (Chambers, 2023a). Layups and recycling are also likely to increase. By the first quarter of 2023, idle containership capacity reached 3.2 per cent of the fleet, up from 2.2 per cent in the previous quarter (Clarksons Research, 2023d).

Depending on whether operators will seek to delay delivery or cancel some new builds and whether speeds will fall due to the new IMO rules, effective supply remains uncertain. Compliance with EEXI and CII requirements as stipulated by IMO is expected to result in lower sailing speeds and a change in effective supply. The time needed to retrofit vessels will also play a role. Maersk, for example, announced that it



could require up to 15 per cent more vessels to maintain service levels, while Hapag-Lloyd estimates an increase of 5–10 per cent (Mandra, 2023).

In recent times, new market entrants and operators have emerged in the logistics market, including in liner shipping. Some small operators who arrived at the height of the pandemic have since left the market. For example, in June 2022, the two Chinese container carriers, BAL Container Line and CULines suspended operations on their Pacific routes, indicating a shift in the shipping industry. By December 2022, CULines had also ended its joint China-Europe service with T.S. Lines. In September 2022, the United Kingdom-based Allseas Shipping discontinued its Asia-United Kingdom service. In the United States, the wholesaler Costco, which had chartered seven containerships through the Pasha Hawaii operator, faced a \$93 million charge in November 2022 due to the early termination of its charter agreements (BRS Group, 2023). Others, more strategic in their approach, such as e-commerce platforms (e.g., Amazon) who have expanded their logistics service offering, as well as digital freight forwarders and marketplaces such as Flexport and Fortos/Freighthub continue to operate today. Table 2.8 shows how new entrants active on the specified routes have evolved over the past three years. Their share of container capacity across regions increased more than threefold between the second quarter of 2020 and the second quarter of 2023.

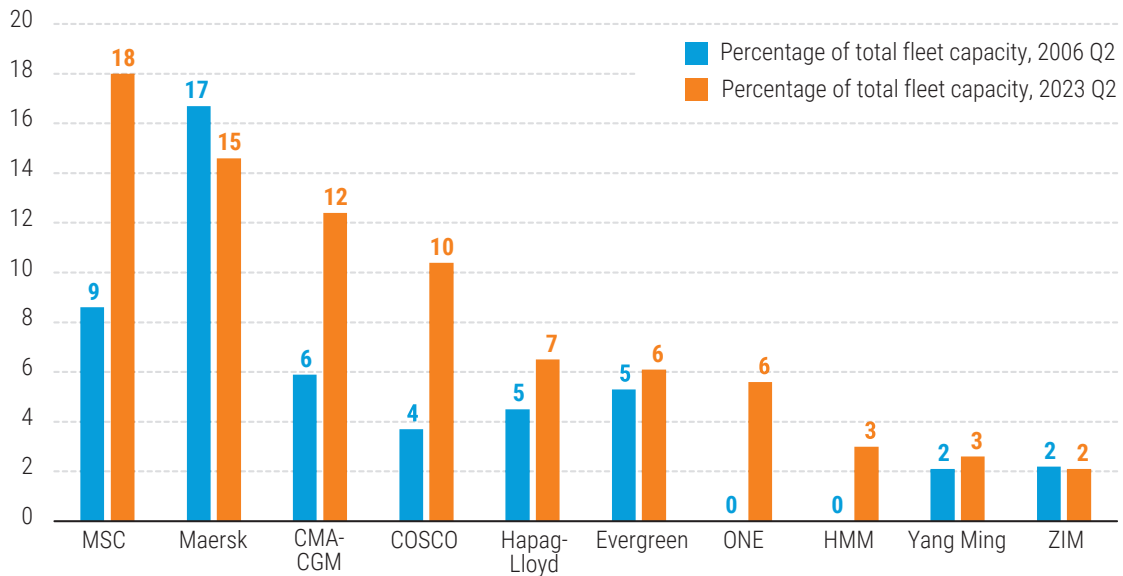
	Q2 2020	Q2 2021	Q2 2022	Q2 2023
Gulf and Indian subcontinent	2.7	4.0	7.2	23.9
Latin America	0.1	0.1	2.9	11.5
Far East	1.8	1.8	4.9	5.4
Gulf and Indian subcontinent - Far East	0.5	1.2	1.8	3.7
Europe and Mediterranean	0.8	0.5	1.6	3.5
Europe and Mediterranean - North America				2.8
Europe and Mediterranean - Far East		0.3	1.4	2.7
Gulf and Indian subcontinent - Sub-Saharan Africa		0.6		1.5
North America - Latin America				1.2
Europe and Mediterranean - Gulf and Indian subcontinent		0.3	0.2	1.0
Far East - Australasia and Oceania		0.1	2.2	0.9
Europe and Mediterranean - Sub-Saharan Africa		0.8	0.8	0.8
North America			0.7	0.8
Europe and Mediterranean - Gulf and Indian subcontinent - Far East			0.8	0.7
Far East - North America			1.1	0.2
Europe and Mediterranean - Latin America				0.2
<b>Grand Total - based on regions where new entrants are active</b>	<b>5.5</b>	<b>5.1</b>	<b>10.8</b>	<b>16.8</b>
<b>Grand Total - based on level of capacity scheduled on all deepsea routes</b>	<b>0.7</b>	<b>0.8</b>	<b>2.1</b>	<b>3.6</b>

Source: UNCTAD based on MDS Transmodal data. May 2023. <https://www.mdst.co.uk>.

Meanwhile, traditional ocean carriers are aiming to strengthen their position and mitigate the effect of downturns in business cycles by creating additional revenue streams (Bhonsle, 2023) and investing in new assets and broader logistics. Figure 2.3 features the top ten liner operators by capacity market share between 2006 and 2023. These leading operators have been investing in end-to-end solutions to emerge as service integrators. They have been diversifying their portfolio to focus on more profitable sectors. For example, CMA CGM has created its air cargo business, acquired freighter aircrafts and is in the process of acquiring the logistics part of Bolloré. MSC purchased African ports operated by Bolloré. Hapag Lloyd acquired a terminal business in order to own and operate terminals located in the Americas and Africa.

Meanwhile and as shown in figure 2.3, most carriers increased their ocean shipping capacity, except for Maersk and, to some extent Zim, which saw their shipping capacity decline slightly. In 2022, MSC surpassed Maersk as the largest global liner operator.

**Figure 2.3** Fleet capacity of the top 10 liner operators, percentage share, Q2 2023 and Q2 2006



Source: UNCTAD based on MDS Transmodal data. May 2023.

## 7. Liner shipping operators diverge in their strategies

Vertical integration involving liner operators and terminals can promote the development of transshipment hubs, attract volumes and stimulate feeder services. The full benefits of integration in logistics will need to be assessed within context and take into account the balance of costs and benefits to stakeholders, including smaller shippers and users from developing countries. Governments and port authorities will need to assess whether the potential of additional business compensates for the risks associated with greater vertical integration.

A recurrent concern is that integration may create dominant market positions when the carrier controls upstream and/or downstream activities. This can reduce competition with nonintegrated competitors (ITF, 2022). Gathering experiences from shippers and cargo owners of different sizes and across regions to document the gains and pains that may have been generated by integration is needed to fully appreciate the full costs and benefits of this industry trend.

A significant development in the liner shipping industry occurred in early 2023 when MSC and Maersk announced the end of the 2M alliance, with the termination set to take effect at the start of 2025. Table 2.9 maps out the fleet capacity of the top 10 shipping lines in the second quarter of 2023 versus the equivalent quarter in 2006. Over the past 17 years, the leading liner operators expanded capacity, with COSCO, CMA CGM and MSC recording the largest increases. For COSCO and Maersk, capacity increase also reflects merger and acquisition activities (e.g. Hamburg Sud and OOCL), growth in vertical integration and the need to service new markets (e.g. COSCO/Piraeus).

The end of 2M has implications for MSC and Maersk, their customers, and the shipping industry. Changes in pricing could result as they pursue service differentiation goals. As CMA CGM and COSCO are also set to expand their fleet through 2024, some observers maintain that both carriers will be in a better position to compete with MSC and Maersk in a post-2M landscape. This may add uncertainty to Evergreen's future while some small- and mid-sized carriers could exit an increasingly aggressive market (S&P Global, 2023).

More carriers could break ranks from alliances. A reshuffle would redefine the competitive landscape and market shares. Some operators may prefer to cluster on preferred port-pairs, which could reduce options for shippers (Drewry Maritime Research, 2023). A look at the top 100 ports in 2021 featured on the Lloyd's List and, more specifically the 84 deep-sea ports, reveals that MSC, Maersk and COSCO deployed their highest capacity in over two-thirds of these 84 ports (table 2.10).

**Table 2.9** Fleet capacity of the top 10 liner operators, 20-foot equivalent unit capacity and percentage change, Q2 of 2006 and Q2 of 2023

Fleet capacity in Q2 2006 of the 10 liner operators ranked as top 10 in Q2 2023	Alliances (Q2 2023)	Total capacity	Fleet capacity in Q2 2023 of the 10 liner operators ranked as top 10 in Q2 2023	Alliances (Q2 2023)	Total capacity	Top 10 liner operators in Q2 2023	Percentage change over Q2 2006
Maersk	2M Alliance	1 618 539	MSC	2M Alliance	4 919 889	MSC	490
MSC	2M Alliance	833 375	Maersk	2M Alliance	3 991 414	Maersk	147
CMA-CGM	Ocean Alliance	574 884	CMA-CGM	Ocean Alliance	3 387 627	CMA-CGM	489
Evergreen	Ocean Alliance	518 292	COSCO	Ocean Alliance	2 848 919	COSCO	697
Hapag-Lloyd	THE Alliance	439 523	Hapag-Lloyd	THE Alliance	1 767 951	Hapag-Lloyd	302
COSCO	Ocean Alliance	357 266	Evergreen	Ocean Alliance	1 657 307	Evergreen	220
ZIM		209 704	ONE	THE Alliance	1 536 945	ONE	
Yang Ming	THE Alliance	204 285	HMM	THE Alliance	814 147	HMM	
All others		4 950 934	Yang Ming	THE Alliance	715 390	Yang Ming	250
			ZIM		565 435	ZIM	170
			All others		5 062 962	All others	2
<b>Total TEU capacity</b>		<b>9 706 802</b>	<b>Total TEU capacity</b>		<b>27 267 986</b>	<b>Total</b>	<b>181</b>

Source: UNCTAD based on MDS Transmodal data. May 2023.

**Table 2.10** Number of ports where carriers offer the highest level of capacity, 2019 and 2023

	Number of ports where the carrier offers the highest level of capacity 2023	Number of ports where the carrier offers the highest level of capacity 2019	Percent change 2019–2023	Median market share, 2023	Median market share, 2019	Percentage change 2019–2023
MSC	29	20	9	31.5	29.2	2.3
Maersk	16	21	-5	30.5	40.9	-10.4
COSCO	10	16	-6	26.3	24.5	1.8
CMA-CGM	9	7	2	29.1	27.1	2.0
ONE	5	8	-3	25.8	30.1	-4.3
Evergreen	4	4	0	52.7	42.1	10.6
Hapag-Lloyd	3	3	0	18.4	23.9	-5.4
Akkon Lines	1			34.9		
Ethiopian	1			59.8		
FESCO	1			100.0		
HMM	1			94.5		
IRISL	1			100.0		
Torgmoll	1			32.6		
TS Lines	1			28.3		
Yang Ming	1	1	0	45.2	23.5	21.7

Source: UNCTAD based on MDS Transmodal data. May 2023.

Notes: Median refers to the share within the market of the ports in which the carrier offers the highest capacity.

In 2023, the leading three carriers, Maersk, MSC and COSCO, deployed the highest level of capacity in 55 out of a total of 84 deep-sea ports. The past four years has seen these lines shift their presence in ports. While MSC increased the number of ports where it deployed capacity compared to 2019, Maersk and COSCO reduced the number of ports. MSC closed the gap with Maersk, who held the market leader position in terms of capacity across 38 out of the 153 countries served by the leading container shipping lines in 2019. As of early 2023, MSC has surpassed Maersk and now leads in 36 countries, while Maersk maintains its lead in 30 countries. MSC has overtaken Maersk in key markets such as India and the United States of America (Financial Times, 2023a).

The port business of various shipping lines is highlighted in table 2.11 which also shows the relation between several global port terminals and leading liner operators. At ports, the presence of shipping lines and the capacity of the ships served are key sub-indicators for liner shipping connectivity. It will be important to continue to monitor relevant trends and how ports adjust their business relations with large liner shipping companies and keep an eye on how the alliances and industry continue to evolve. An important development to monitor is the regulatory landscape, with liner shipping businesses moving into the sharp focus of regulators. A case in point is the recent proposed Ocean Shipping Antitrust Enforcement Act in the United States of America, which is seeking to abolish the antitrust exception for maritime carriers. While the future of the proposed legislation remains uncertain, the passing of any such legislation has ripple effects that require further monitoring.

Table 2.11 Top three liner operators' presence in selected world port terminals, 2021				
Terminal Operator	Terminal	Capacity in 20-foot equivalent unit	Throughput in 20-foot equivalent unit	Shareholding in percentage
<b>MSC/TIL</b>				
Rotterdam	Delta MSC Terminal	1 900 000	1 150 000	50 JV
Antwerp	MPET PSA- DGD	9 000 000	6 380 000	50 JV
Gioia Tauro	Medcenter Container Terminal	4 200 000	3 020 000	100 owned
Freeport	Freeport Container Port	1 900 000	1 650 000	49 JV
Singapore	MSC-PSA Asia Terminal Pte Limited	7 700 000	6 710 000	49 JV
<b>Maersk/APMT</b>				
Rotterdam	APM Terminals Rotterdam Maasvlakte II	2 260 000	2 742 000	100 owned
Algeciras	APM Terminals Algeciras	4 214 000	3 677 000	100 owned
Tangier	APM Terminals Tanger-Med	2 519 000	2 252 000	90 owned
Tangier-Med II	APM Terminals MedPort Tangier	2 829 000	2 688 000	80 owned
Port Said	Suez Canal Container Terminal	3 900 000	3 648 000	55 JV
Salalah	Salalah Port Services	5 222 000	4 512 000	30.1 owned
Tanjung Pelepas	Port of Tanjung Pelepas	11 330 000	11 200 000	30 owned
<b>CMA/CGM</b>				
Malta	Malta Freeport Terminals	3 600 000	2 968 000	50 owned
Tangier Med	Eurogate Tanger	1 600 000	1 244 000	40 owned
Kingston	Kingston Freeport Terminal Limited	3 200 000	1 836 000	100 owned
La Réunion	SAMR	230 000	188 000	70 owned
Singapore	CMA CGM PSA Lion Terminal (CPLT)	4 900 000	4 651 000	49 owned

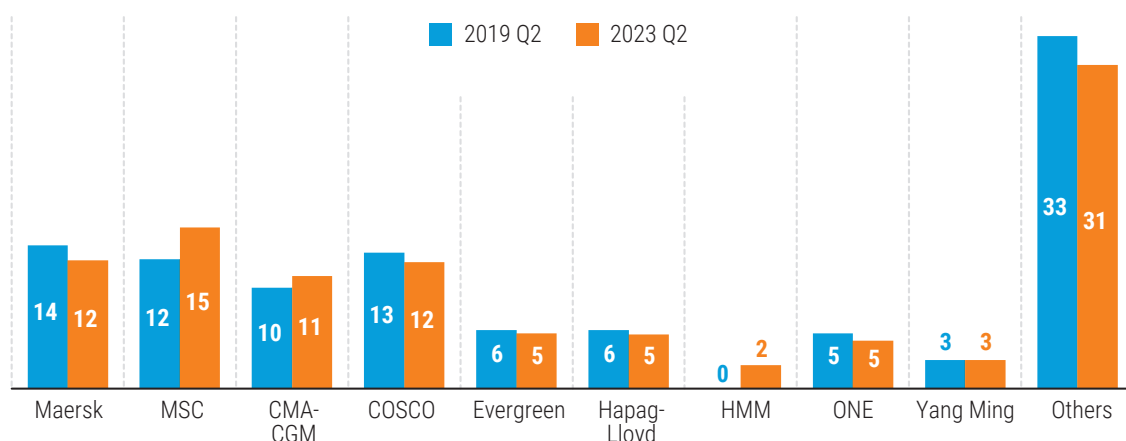
Source: UNCTAD, based on Drewry - Global Container Terminal Operators Annual Review and Forecast Annual Report 2022/23, tables 5.2, 5.7, and 5.12.

Market shares change over time in tandem with changes in the structure of the market and the diversity of its players (figure 2.4). For example, the share in terms of capacity scheduled to be deployed by carriers alone (i.e., not within their own alliance or in collaboration with other alliances or independent carriers) increased from 59 per cent to 67 per cent between the second quarter of 2019 and the equivalent quarter in 2023 (figure 2.5).



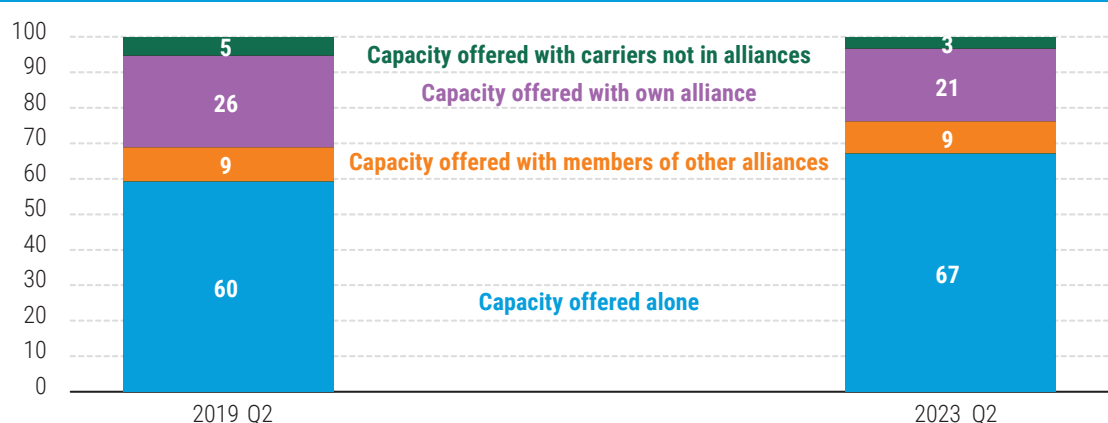
Over the same period, the share of capacity scheduled to be deployed by independent carriers as well as carriers as part of their own alliance or in collaboration with other alliances, declined from 35 to 30 per cent. Meanwhile individual liner operators have seen their market shares change. Maersk, for example, took 12 per cent of the market during the second quarter of 2023, down from 13 per cent during the same period in 2019. By contrast MSC and CMA CGM increased their shares.

**Figure 2.4** Scheduled capacity of leading liner operators, percentage share, Q2 2019 and Q2 2023



Source: UNCTAD based on MDS Transmodal data. May 2023.

**Figure 2.5** Capacity offered alone or as part of consortium by leading liner operators, percentage share, Q2 2019 and Q2 2023



Source: UNCTAD based on MDS Transmodal data. May 2023.

In a separate development, new patterns in the configuration of liner services and capacity deployment may be in the making. While not necessarily drawing any conclusions as to whether these changes may be caused by shifts in manufacturing, material sourcing and procurement decisions, it will be important to monitor these trends to ascertain whether supply chain diversification and resilience-building efforts could be driving these market share and port presence developments.

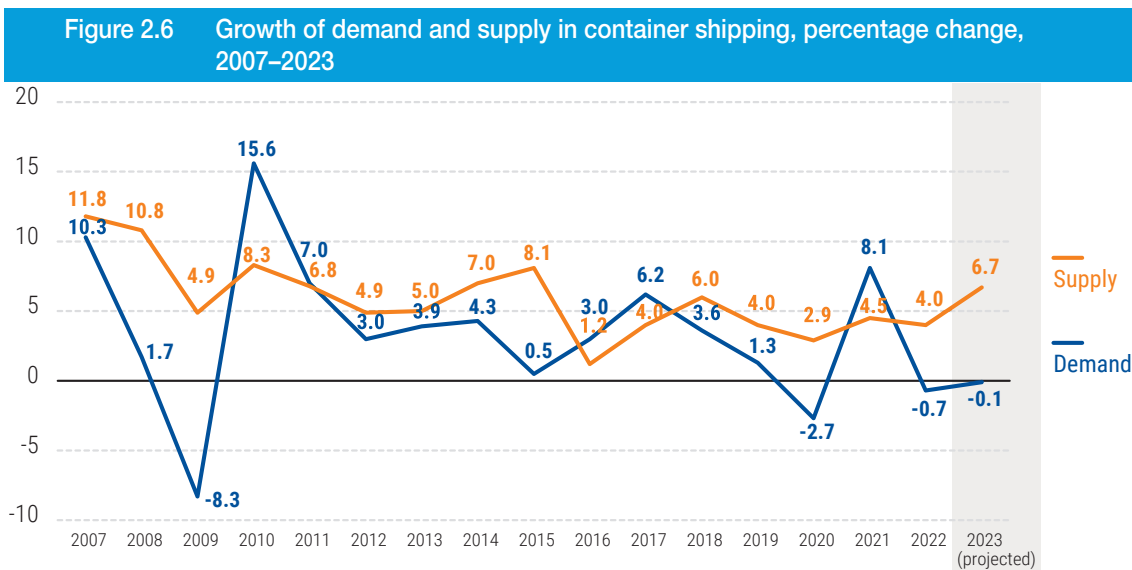
In 2022, and partly reflecting a weakening in containerized trade volumes on the main East-West routes, transatlantic services and capacity deployed increased. As an example, Hapag-Lloyd suspended the China–Germany Express service and redeployed ships on the transatlantic service. COSCO and OOCL launched a Southeast Asia–India–United States East Coast service in December 2022 after closing a China–Viet Nam–United States East Coast loop (Borghain and Kapoor, 2023). Other developments relate to the Indian sub-continent and the Middle East services, as CMA CGM announced the launch of the new Bangladesh India Gulf Express service, while Maersk integrated services to form a new combined loop for the Indian sub-continent, Middle East, and Africa region. Target markets include Cameroon, Côte d'Ivoire, Ghana, India, Kenya, Nigeria, Pakistan, Saudi Arabia, Senegal, South Africa and the United Arab Emirates.

## B. TRENDS IN FREIGHT MARKETS

### 1. Container freight rates: shifting tides in 2022 and stabilization in 2023

Container freight rates rose to record levels by the end of 2021 and continued to rise into early 2022. In the third quarter of 2022, spot container freight rates on most major trade lanes decreased significantly, away from the extremes seen earlier in the year and in 2021. By the end of 2022, container rates approached pre-pandemic levels before stabilizing in early 2023.

Supply and demand rebalancing and reduced port congestion have played an important role in resetting container freight rate levels (figure 2.6). Global containerized trade fell by 0.7 per cent in 2022, a marginal decline compared to the contraction of 2009 (-8.4 per cent) and 2020 (-2.7 per cent). Meanwhile, container ship carrying capacity, as noted in section A of this chapter, expanded by 3.9 per cent in 2022, creating a gap in demand and raising the prospect of supply overcapacity with an expected influx in container capacity in 2023 through 2025. In this context, spot container freight rates continued to ease in the first half of 2023, with rates returning to similar pre-COVID-19 levels and potentially falling below historical averages.



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.

### 2. Container freight rates fall in the latter half of 2022, yet liner operators register record profits

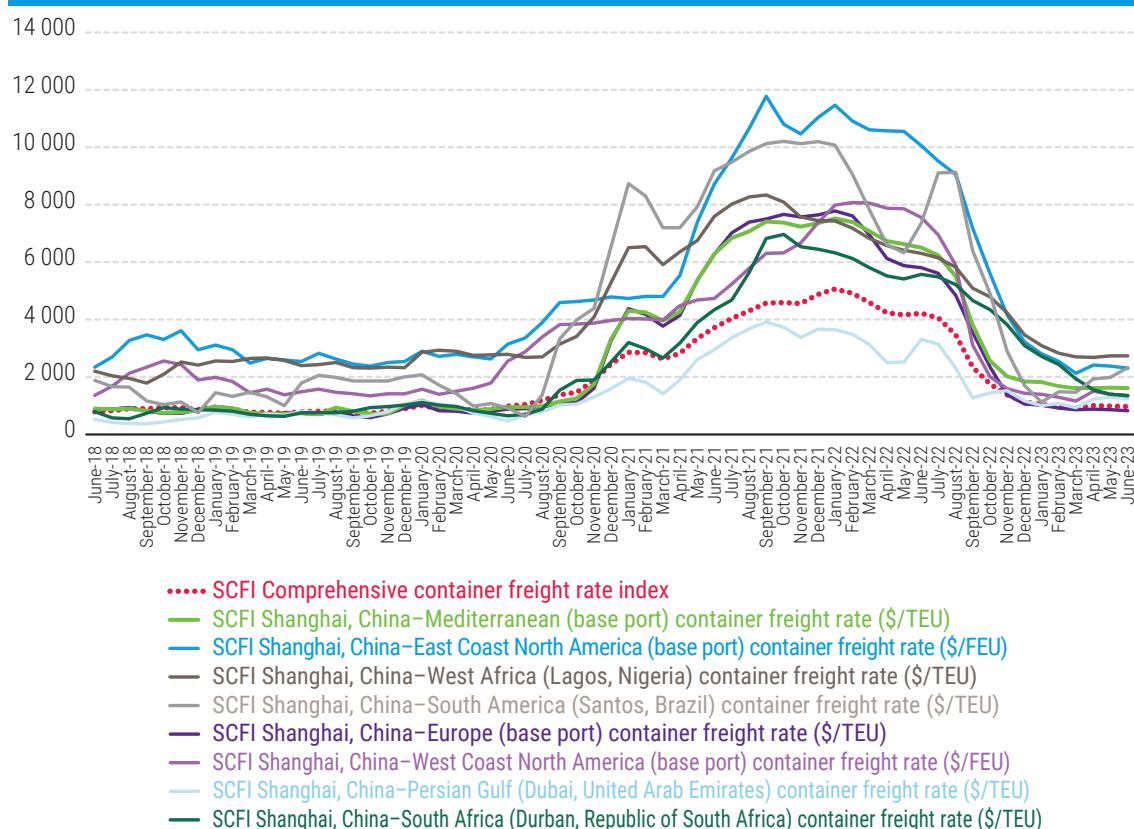
The year 2022 started at very high levels for container freight rates, a continuation of the 2021 trend. This was primarily driven by sustained pandemic-related demand and port congestion, which held up containership capacity and reduced effective supply. The war in Ukraine has also had some impact, amplifying operational complexity and congestion at European ports. However, the supply and demand dynamics shifted in the second half of the year, altering the balance and the rate levels. An easing from the pandemic-induced disruption and inventory adjustments, particularly in Europe and the United States of America resulted in a normalization in demand and trade volumes, especially on the main East—West trade.

As demand decreased, logistical disruptions eased, and port congestion improved as shown in the Clarksons port congestion index, which measures port congestion tying up fleet capacity.<sup>2</sup> The index was around 35 per cent in January 2022, peaking at about 37 per cent in July 2022, before falling to about 33 per cent in December 2022, i.e., close to the pre-COVID-19 averages. Improved port congestion resulted in increased availability of supply capacity in the face of slower demand, which exerted downturn pressure on freight rates. In the second half of 2022, the median time in port for container ships worldwide was about 0.77 days, an improvement from 0.8 days in the first half of 2022 (see also chapter 4).

Against this backdrop and ongoing shifts in supply and demand patterns, spot containerized freight rates approached pre-COVID-19 levels by the end of 2022. The Shanghai Containerized Freight Index (SCFI), a measure for spot container freight rates from China, illustrates this trend. Starting in June 2022, the SCFI slumped by 78 per cent, reaching an average of 1,129 points in December 2022, down from its peak of 5,067 points in January 2022 which was five times higher than its level before COVID-19, in January 2019 (see figure 2.7), and reaching 967 points in June 2023.

Spot rates dropped significantly across all shipping routes, particularly on main lanes. In December 2022, the SCFI for the Shanghai—Europe route fell to an average of 1,062 points, an 86 per cent drop from its January average (7,784 points). Similarly, the average SCFI for the Shanghai—West Coast America route dropped to 1,426 points (an 82 per cent decline from 7,980 points in January 2022).

**Figure 2.7** Shanghai Containerized Freight Index monthly spot rates, selected routes, June 2018–June 2023



Source: UNCTAD secretariat, based on data from Clarksons Shipping Intelligence Network, 2023.

The average SCFI for the Shanghai—West Africa route was 3,469 points in December 2022, compared to 7,430 points in January 2022. The average SCFI for the Shanghai—South Africa route was 3,095 points in January 2022, compared with 6,322 points in December 2022, representing declines of 53 per cent and 51 per cent respectively.

Despite the challenges faced in the second half of 2022 and market weakening, container carriers are estimated to have generated a record-breaking profit of \$296.3 billion in earnings in 2022 before interest and taxes, due to the high freight rates and strong demand in the first half of the year. This represents a significant increase of about 38 per cent compared to the \$214 billion accumulated in 2021 (Drewry Maritime Research, 2023).

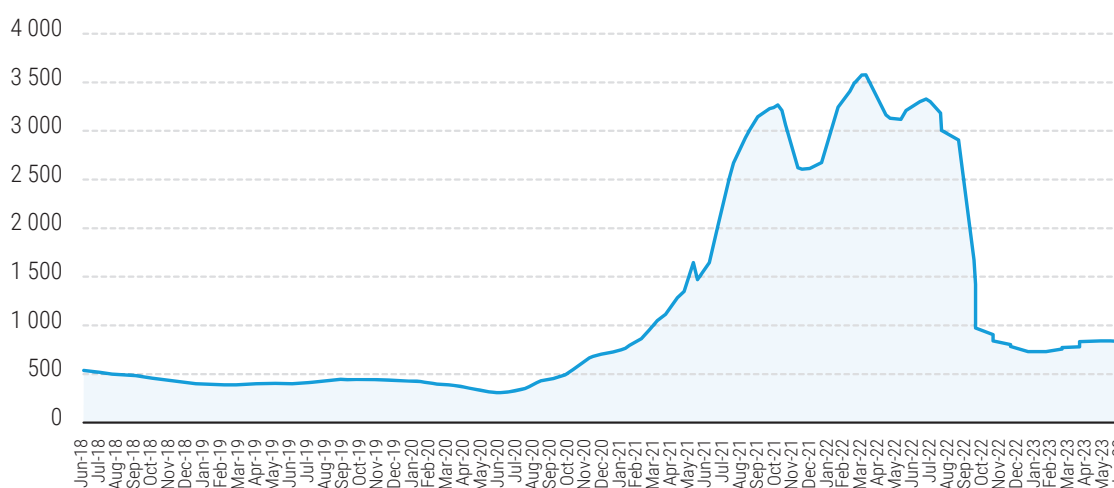
However, this was not the case for the newly established small carriers that had recently entered the market to take advantage of high rates and robust demand. These carriers suspended or terminated some operations or withdrew from the markets, as remarked in section A of this chapter.

### 3. Charter rates declined significantly in 2022, in line with the decline in spot freight rates but not entirely in synch

Container charter rates declined in tandem with spot rates in 2022 but at varying speeds. The gradual decline in charter rates that began in the second quarter of 2022 was more than a simple correction. Instead, it highlighted a return to more normal levels after the exceptionally high levels of 2021 and early 2022.

The New ConTex index, a benchmark for assessing the time charter rates of containerships, averaged 792 points by the end of 2022 (figure 2.8). This was over three times lower than the levels observed in December 2021 (2,610 points) and much lower than the record highs attained in March 2022 (3,577 points).

Figure 2.8 New ConTex index, June 2018–June 2023



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 26 June 2023). Index base: October 2007 – 1,000 points.

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.

Spot and charter rates moved in the same direction but not in entirely in synch. In comparison with spot rates, when the SCFI peaked at 5,109 points in January 2022, time charter rates, as illustrated by the New ConTex reached historic high two months later, in March (3,577 points). At the same time, while spot rates fell significantly between January and September 2022, the fall in charter rates was delayed until September 2022. The lower spot rates helped to reduce the high long-term contract rates that shippers were willing to pay at the beginning of 2022 to guarantee space on containerships. Unlike spot freight rates, in mid-2023, average charter rates remain above their pre-pandemic levels.

### 4. Contracted freight rates and associated costs surged in 2022

In 2022, contracted freight rates, which include additional charges such as terminal handling fees, which can vary depending on the specific terms negotiated between the shipper and the shipping line, experienced a significant increase. This is consistent with trends shaping the spot rates and reflects similar driving factors including the demand and ship supply mismatch, disruptions in the supply chain, port congestion, inflation and cost pressure, as well as trade imbalances.

When carriers and shippers negotiate contracts, they also consider the fact that there is a head haul (full container) and a backhaul (less than full container). The costs associated with the return of empty containers from imbalances in container shipping also impact contract price. Table 2.12 provides a comprehensive overview of the actual base freight rates on various routes, including inter-regional routes, and how they have changed over time.

Specifically, and compared with 2021, contract rates in 2022 covering intra-South American trade saw a drastic escalation of 397 per cent, while rates from Africa to Asia also increased by 248 per cent, and rates from Asia to Africa grew by 160 per cent compared to the rates in 2021. The increased rates were



primarily influenced by imbalances in supply and demand, where the demand was strong while the supply capacity fell short. Compared with 2019, the highest increases in contract rates were seen across routes originating from Asia and destined to South America. Asia–South America rates surged by 389 per cent in 2022 compared with 2019. Higher rates in these developing regions are compounding existing challenges undermining their transport and logistics.

Furthermore, the trade imbalances in these regions continue to have a significant influence on contracted freight rates, and the substantial increase in transport costs has the potential to engender inflationary pressures on the broader economy.

Table 2.12 Annual Full Container Load Gate-in/Gate-out rates, in \$/40-foot equivalent unit 2018–2022								
From	To	2018	2019	2020	2021	2022	Change 2022 vs. 2021	Change 2022 vs. 2019
Africa	Africa	1 812	1 849	1 924	2 013	3 382	68	83
Africa	Asia	748	750	775	664	2 313	248	208
Africa	Europe	1 431	1 643	1 747	1 487	2 463	66	50
Africa	South America	2 010	1 860	1 979	1 616	2 388	48	28
Asia	Africa	1 800	1 927	2 112	2 733	7 094	160	268
Asia	Asia	737	747	821	1 194	2 214	85	196
Asia	Europe	1 782	1 847	1 916	3 285	8 880	170	381
Asia	North America	2 426	2 603	2 711	3 820	9 610	152	269
Asia	Oceania	1 770	1 790	1 850	2 800	8 241	194	360
Asia	South America	2 290	2 075	2 230	3 589	10 154	183	389
Europe	Africa	1 595	1 650	1 858	1 727	2 907	68	76
Europe	Asia	967	870	1 004	1 225	2 109	72	142
Europe	Europe	804	881	976	1 077	1 757	63	99
Europe	North America	1 518	1 742	2 256	2 304	6 340	175	264
Europe	Oceania	1 996	1 933	2 077	2 319	6 795	193	251
Europe	South America	1 019	1 302	1 376	1 465	4 026	175	209
North America	Africa	2 890	3 112	2 981	2 639	3 972	50	28
North America	Asia	1 009	1 111	1 269	1 385	2 646	91	138
North America	Europe	858	1 109	1 323	1 053	1 742	65	57
North America	North America	1 534	1 429	1 584	1 362	2 589	90	81
North America	Oceania	2 538	2 634	2 996	2 475	6 060	145	130
North America	South America	1 254	1 318	1 486	1 064	2 153	102	63
South America	Africa	1 778	1 951	2 000	2 187	5 432	148	178
South America	Asia	1 623	1 963	1 802	1 841	4 106	123	109
South America	Europe	1 313	1 977	1 961	1 767	4 369	147	121
South America	North America	1 521	1 882	1 745	1 969	7 397	276	293
South America	South America	1 349	1 699	1 539	1 243	6 179	397	264
<b>Unweighted average</b>		<b>1 569</b>	<b>1 691</b>	<b>1 789</b>	<b>1 937</b>	<b>4 716</b>	<b>143</b>	<b>201</b>

Source: UNCTAD, based on data provided by Transporeon Market Intelligence, [www.transporeon.com](http://www.transporeon.com).

Notes: The data set provides regional averages for 40-foot container dry cargo freight, as negotiated for routes on representative main ports. All rates are "gate-in gate-out", i.e., including terminal handling charges and all charges and surcharges of ocean transport. The rates also include (temporal) surcharges for contract rates during the reporting year to represent paid rates. Not included are pre- and on-carriage or classical administrative services of forwarders (customs clearance, booking and freight audit fees, etc.).

### 5. After record profits in 2021 and 2022, container carrier revenues decline in early 2023

After a year of high profits, the decline in freight rates is creating financial challenges for carriers. A case in point is HMM from the Republic of Korea, which saw revenues drop by 58 per cent to \$1.6 billion in the first quarter of 2023, from \$3.7 billion in the same period last year (Journal of Commerce, 2023). Maersk's ocean segment also saw revenues fall by \$5.7 billion to \$9.9 billion in the first quarter of 2023, a drop of approximately 37 per cent from the first quarter of 2022 (Maersk, 2023). Orient Overseas International (OOIL) which operates Overseas Orient Container Line (OOCL), reported revenues of \$2.18 billion for the first quarter of 2023, a decrease of around 58 per cent from the same period in 2022, largely due to falling container freight rates (SeaTrade Maritime, 2023).

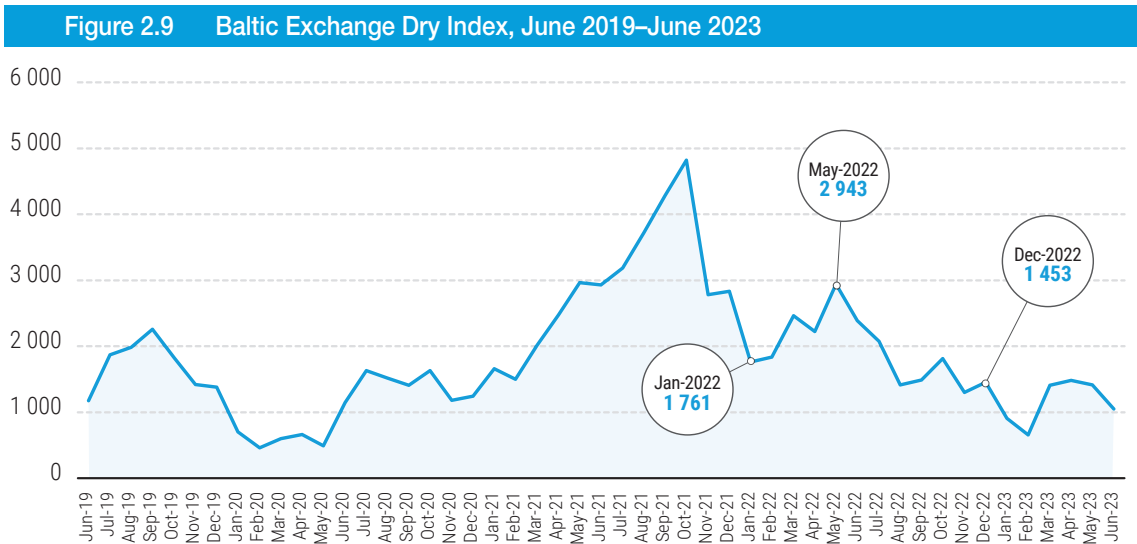
Smaller carriers, including those that entered the market to take advantage of high freight rates, are confronted with even more significant challenges which can impact their profitability and sustainability. These companies, already grappling with declining freight rates, may be forced to reduce their supply capacities, which could involve reducing the number of ships or services they offer. They may also consider mergers and consolidations to enhance their competitiveness and viability in a challenging market. Consequently, as competition decreases, this could lead to higher rates in the long-term (Shipping and Freight Resource, 2023).

### 6. Dry bulk rates marked by volatility in 2022 and a downturn in the second half

Dry bulk freight rates fluctuated during most of 2022 before returning close to their pre-COVID-19 pandemic levels by the end of the year. Until May 2022, there was a surge in dry bulk freight rates caused by a rise in demand for dry bulk cargo (namely coal) and port congestion, limiting the effective supply. However, this upward trend reversed in the latter part of the year due to a combination of factors, including a deceleration in macroeconomic conditions, weak trends in China, namely reduced demand for steel, weather-induced disruptions (notably in Brazil), escalating geopolitical tensions, and the normalization of port congestion, which subsequently led to an increase in available tonnage. This, in turn, had a further downward impact on freight rates.

Dry bulk ship carrying capacity increased at a moderate 2.8 per cent year-on-year in 2022, (see table 2.1) while demand dropped by 2.9 (chapter 1). Irrefutably, the war in Ukraine was the dominant factor in impacting trade patterns. As shown in chapter 1, maritime trade flows have shifted since the war in Ukraine, with cargo travelling longer distances and driving ton-miles growth. This was the case with coal, which experienced a significant increase of 2.3 per cent in ton-miles in 2022.

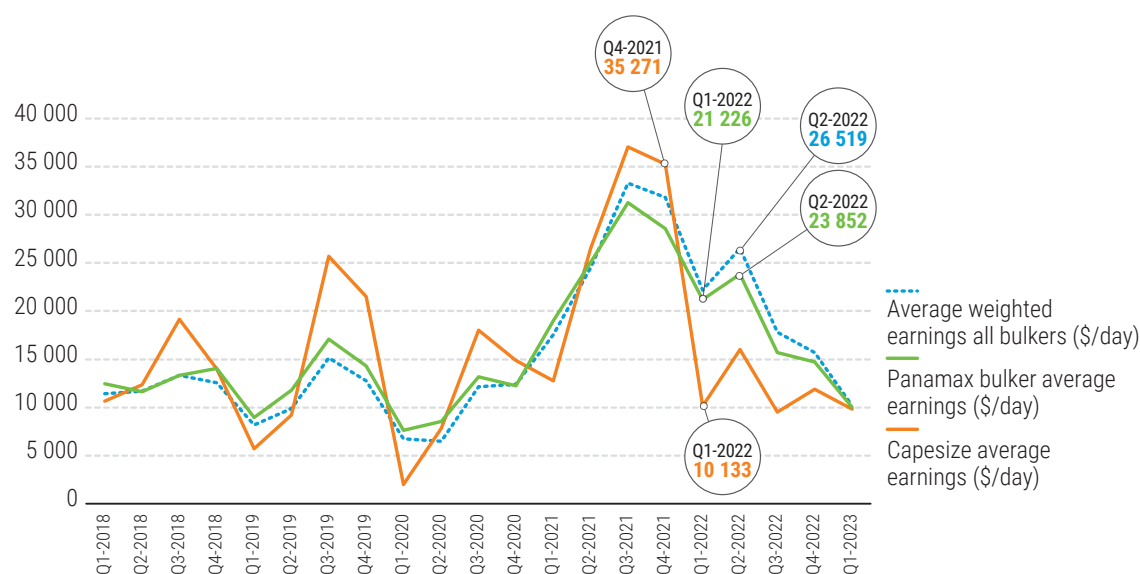
These factors collectively led to substantial volatility and a subsequent decline in freight rates later in 2022. The Baltic Dry Index (BDI), a key indicator of shipping prices, averaged 1,761 points in January 2022 but fluctuated, averaging a peak of 2,943 points in May 2022 and a low of 1,453 points in December 2022 (figure 2.9). Within six months, the BDI returned to levels comparable to pre-COVID-19 pandemic averages.



Source: UNCTAD, based on data from Clarksons Shipping Intelligence Network, 2023.

Revenues in most segments of the dry bulk shipping industry remained higher than pre-COVID-19 levels during the beginning of the year. A spike in earnings for all bulkers was observed in the second quarter, reaching an average of \$26,519 per day, before declining thereafter, as illustrated in figure 2.10. Among the different segments, Panamax showed a more substantial performance in the first half of 2022. This was driven by the energy crisis triggered by the war in Ukraine and the search for new markets and suppliers by the Russian Federation and Europe, which drove up coal shipments. Meanwhile, demand for Capesize vessels fell, reflecting lower demand for iron ore and a weakening in the Chinese economy, in particular the steel manufacturing and real estate sectors. As a result of these developments, Capesize earnings fell by to \$11,891 per day in the last quarter of 2022 compared to \$35,271 per day in the last quarter of 2021, a 66.3 per cent drop.

**Figure 2.10 Dry bulk average weighted earnings all bulkers, Capesize, and Panamax (\$/day), 2018–2023**



Source: UNCTAD, based on data from Clarksons Shipping Intelligence Network, 2023.

## 7. Dry bulk freight rates remained volatile in 2023 with a notable surge in the latter half of the year

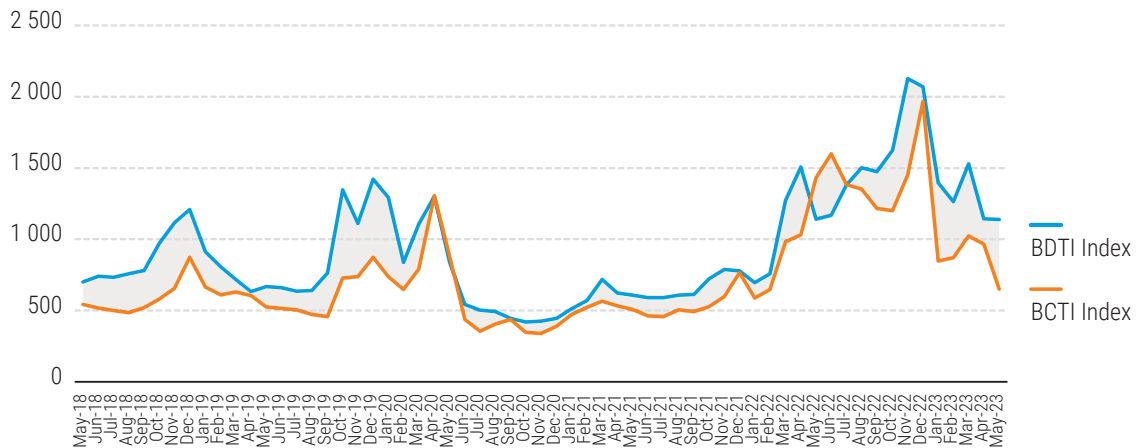
Dry bulk freight rates continued to decline in early 2023, mainly due to the seasonal slowdown resulting from the celebration of the Chinese New Year, which led to reduced demand for dry bulk vessels. Moreover, adverse weather conditions disrupted commodity production, contributing to a further decrease in shipments. These fluctuations were reflected in the BDI, which dropped to 658 points in February 2023, marking a 55 per cent decrease from its levels in December 2022.

In the second quarter of 2023, several factors contributed to a surge in the demand for dry bulk cargo, while the supply remained limited, leading to an increase in freight rates across all dry bulk segments. In China, reopening post-COVID-19 and increased industrial activity played a significant role in driving up the demand for iron ore and coal in the country. Demand for coal experienced an impressive year-on-year increase of 151 per cent, the largest growth seen since January 2020 (Hellenic Shipping News, 2023). Brazil also observed a substantial surge in soybean shipments due to favourable weather conditions and the beginning of the export season. Additionally, the renewal of the Black Sea Initiative in March 2023 fostered grain trade (UNCTAD, 2023).

## 8. Strong revival of the tanker market in 2022 and into 2023

In 2022, the tanker market experienced an extraordinary surge due to increased global oil trade disruptions and ton-miles. The Baltic Dirty Tanker Index (BDTI) and Baltic Clean Tanker Index (BCTI) annual averages reached peak levels of 1,394 and 1,238 points respectively. This marked a significant recovery from 2021, a historically challenging year for the tanker market, with the annual BDTI and BCTI averages falling to low levels of 644 and 534, respectively (figure 2.11).

**Figure 2.11 Baltic Dirty Tanker Index and the Baltic Exchange Clean Tanker Index, May 2018–May 2023**



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

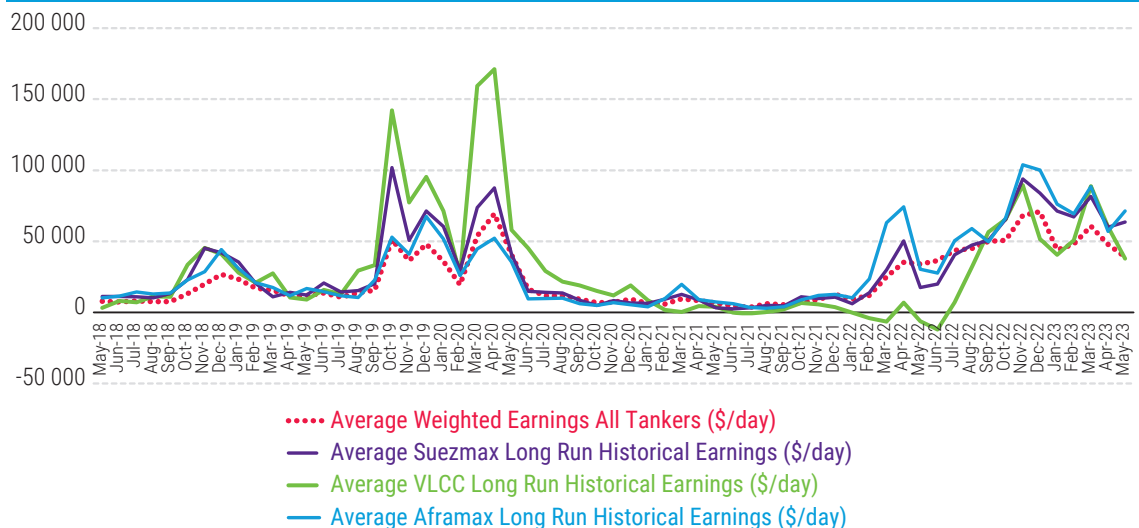
Throughout the year, there was a marked increase in ton-miles, a key freight transport metric, as the Russian Federation, a major oil exporter, redirected its shipments of oil and gas oil away from Europe, its typical short haul import destination, to Asia, requiring longer haul shipping. Crude oil trade in ton-miles witnessed a growth of 8 per cent in 2022 (see chapter 1). This shift led to longer travel distances and a reduction in the effective ship supply capacity, impacting supply-demand imbalances.

As tanker fleet capacity expanded by 3.4 per cent in 2022, namely at a slower rate compared to demand, crude tanker earnings across all segments jumped. This was particularly the case for Suezmax and Aframax tankers, which benefited from the increased ton-mile trade between the Russian Federation and Asia. In 2022, Aframax spot earnings reached an average of \$55,967 per day, surpassing \$100,000 per day for the first time in November. Similarly, Suezmax spot earnings averaged \$44,324 per day in 2022. However, Very Large Crude Carriers (VLCCs) had a comparatively lesser advantage due to weaker Chinese import demand, coupled with China using its own capacity (figure 2.12).

The product tankers market witnessed the same high rates scenario, with earnings supported by longer distances between Europe and the Russian Federation and the Middle East, Asia and Latin America. The average weighted product tanker earnings reached \$38,053 per day (Clarksons Research, 2023e). While ton-mile trade for petroleum products increased by 5 per cent (see chapter 1), the ship carrying capacity in dead weight tonnage increased by 2 per cent.

Tanker market rates witnessed fluctuating conditions in early 2023, but continued the trend of strong earnings that started with the onset of the war in Ukraine and the subsequent increase in ton-miles.

**Figure 2.12 Average earnings, selected tankers, \$ per day, May 2018–May 2023**



Source: UNCTAD, based on data from Clarksons Shipping Intelligence Network, 2023.

## C. OUTLOOK AND POLICY RECOMMENDATIONS

### Outlook

Shipping is currently navigating economic headwinds, trade policy tensions, geopolitical risks, changes in globalization patterns, increases in shipping distances, growing environmental regulation and a heightened sustainability and resilience-building agenda. Together, these forces are adding complexity, volatility, and uncertainty to the industry's operating landscape and shipping freight markets. The question of how shipping will adapt to change while continuing to provide the requisite ship carrying capacity that effectively delivers global trade and ensures stable and predictable shipping rates are among the key themes facing the sector in 2023 and beyond.

With shipping networks being reconfigured and trade patterns altered by the legacies of the COVID-19 pandemic and the war in Ukraine, among other factors, the industry needs to rethink its role and business strategies. The sector must continue to monitor trends in shipping and freight markets and assess how these are affecting an increasingly volatile and uncertain operating landscape.

Ship carrying capacity management is growing in importance as a softer container shipping market is met with a pending influx of vessel capacity in the coming few years. Without the congestion of 2021–2022, and with the fleet expected to expand at firm rates in 2023 through 2025, the actual effective supply of the global container ship carrying capacity is expected to grow at a double-digit rate in 2024. Liner operators will aim to manage capacity using all strategies at hand, including slippage, idling of vessels, and recycling.

As container tonnage supply increases during a period of low and uncertain demand, it would likely lead to lower freight rates. The implications of this situation are mixed. For shippers, cheaper rates can make spot rates shipping more appealing, allowing them to choose the most suitable carrier offering. Carriers, amidst uncertainty, may focus on risk mitigation through capacity management and operational efficiency improvement. Strategies applied by container carriers to manage capacity and sustain freight rate levels are likely to support rate levels. However, they are also amplifying unpredictability of shipping schedules and creating planning issues and inventory management challenges to shippers. Overall, and particularly during times of low freight rates, it is crucial for carriers to explore mechanisms that can enhance further efficiency, reduce costs, and promote a more resilient and sustainable shipping industry. This can be achieved by optimizing operations, managing and mitigating risk, adopting advanced technologies, and sustainable practices, which can help address the challenges faced by both container carriers and shippers. Trade facilitation efforts can further enhance sector efficiency and lower costs by reducing barriers and improving customs processes (see chapter 4).

Elsewhere, market conditions for the LNG sector are firm and the outlook is positive. The war in Ukraine, the drive towards energy security in key regions, the energy security goals in Europe, rapid expansion of LNG projects and an expected firm growth in Asian demand are key support factors (Gordon, 2023).

Dry bulk freight rates are expected to remain highly volatile and largely determined by the dynamics of ship supply and demand. Higher dry bulk freight rate levels may stimulate new vessel orders which are currently modest, although uncertainty is also shaping shipyard capacity and the ability to expand the fleet within the coming years. Compliance with IMO EEXI and CII requirements is also likely to alter dry bulk carrier effective capacity given the associated implications for sailing speeds and removal of capacity to undergo necessary retrofits.

High tanker freight rates are likely to be sustained by the demand and supply imbalance. The war in Ukraine and geopolitical developments will continue to impact ton-miles demand, while overall supply of tonnage is expected to remain modest and could remain low due to uncertainties arising from the pace of the energy transition and future oil mix. Like other shipping segments, compliance with the EEXI and CII will also constrain effective tanker capacity.

Shipbuilding activity should pick up in the years to come as the need for fleet renewal intensifies. However, by mid-2023, uncertainty about trends in the global fleet remain. The global ship orderbook is still relatively low, which could limit fleet growth in the coming years while vessels are ageing. To comply with the IMO EEXI and CII requirements, ships are expected to reduce speed and take time off for retrofitting, which in turn will reduce the active supply. At the same time, capacity at the large leading shipbuilding yards is declining and uncertainty about future fuels is amplifying concerns about a potential supply crunch in ship carrying capacity.



## Policy recommendations

To effectively address the fast-evolving operating environment and emerging challenges in shipping, stakeholders must consider a number of priority actions. These should include responding to heightened market uncertainty and volatility while ensuring sustainability, resilience, and the continued efficient delivery of global trade. Actions include the following:

### *Improve the industry's capacity to better navigate through uncertainty, which undermines timely investment in fleet renewal and ship carrying capacity*

- Improve understanding of issues at stake and identify solutions by conducting feasibility studies, monitoring market trends, and consulting with experts.
- Promote information sharing and provide timely access to relevant data to inform decisions and policies pertaining to fleet capacity investment, renewal, resale, and recycling. Data in particular can enable reliable forecasting, predictive analysis, and informed planning.
- Strengthen cooperation among countries, shipyards, and maritime supply chain stakeholders to share information about shipyard capacity and resources and ways to avoid bottlenecks in shipbuilding.

### *Support fleet renewal by enabling sustainable ship recycling*

- As more ship scrapping can be expected in the coming years, enforce global regulations for ship recycling, including guidelines for environmentally sound practices and labour safety. In this respect, the recent triggering of the coming into force of the Hong Kong Convention on sustainable ship recycling by Bangladesh and Liberia is an important step in the right direction.

### *Build capacity and promote cooperation to enable a sustainable and resilient shipping*

- Build countries' capacity to create an enabling environment for sustainable shipping and enhance resilience to withstand and recover from volatile shipping market conditions. In this respect, the particular needs of developing countries will require special attention.
- Build institutional capacity and expertise and strengthen maritime administrations to effectively monitor and enforce compliance with international maritime regulations.
- The international community needs to invest in the capacity of developing countries and facilitate access to finance to develop sustainable and resilient transport systems, including shipping. This should include new sources of finance such as blended finance, public-private partnerships, and climate/sustainable finance.

### *Ensure competitive liner shipping services*

- International development partners should provide capacity building and strengthen the capacity of national competition authorities in the area of maritime transport, and provide platforms for international cooperation and coordination.
- Governments need to provide a conducive framework to encourage private sector investments in terminals and intermodal connectivity.
- Competition regulation in liner shipping needs to take into account the potential impacts of cooperative agreements among shipping lines on market behaviour, while also recognizing the potential savings and efficiency gains from vessel sharing. Competition needs to ensure that potential gains are passed on to the clients.

### *Support developing countries to mitigate freight rate volatility and unpredictability*

- Support research and analysis on freight rates and market dynamics, including at regional level. Studies should focus on improving the forecasts of demand and supply to gain better insights into the factors influencing freight rate fluctuations and market behaviour and should assess the impact of freight rates on transport and trade, with a focus on developing countries.
- Establish advisory mechanisms, at national and regional levels, to monitor and assess how freight rates and surcharges are formulated and clarify the basis for their calculations. This entails strengthened collaboration between carriers, shippers and other relevant stakeholders across the maritime supply chain. This will help improve the understanding among industry players of freight rate levels, promote transparency in setting rates and charges and foster trust among key stakeholders.

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## END NOTES

- <sup>1</sup> See vessel groupings used in the *Review of Maritime Transport* at the beginning of this report.
- <sup>2</sup> Data based on the proportion of vessels (in terms of TEU) in the fleet in a defined port or anchorage location based on vessel's closest to midday AIS signal on the date specified. Where a vessel has not transmitted on a particular day, the last position transmitted within the previous 30 days is used. Excludes vessels last seen 30 or more days ago from the date specified.