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Chapter 2

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STRUCTURE, OWNERSHIP AND REGISTRATION OF THE WORLD FLEET

CHAPTER 2

The year 2010 saw record deliveries of new tonnage, 28 per cent higher than in 2009, resulting in an 8.6 per cent growth in the world fleet. The world merchant fleet reached almost 1.4 billion deadweight tons in January 2011, an increase of 120 million dwt over 2010. New deliveries stood at 150 million dwt, against demolitions and other withdrawals from the market of approximately 30 million dwt. Since 2005, the dry bulk fleet has almost doubled, and the containership fleet has nearly tripled. The share of foreign-flagged tonnage reached an estimated 68 per cent in January 2011.

This chapter presents the supply-side dynamics of the world maritime industry. It covers the structure, age profile, ownership and registration of the world fleet. The chapter also reviews deliveries, demolitions, and tonnage on order.

A. STRUCTURE OF THE WORLD FLEET

1. World fleet growth and principal vessel types

Long-term trends in vessel types

The composition of the world fleet reflects the demands for seaborne trade of different commodities, including dry and liquid bulk and manufactured goods (see chapter 1). As manufactured goods are increasingly containerized, the containership fleet has increased its share from 1.6 per cent of the world fleet in 1980 to over 13 per cent in 2011. This has happened mostly at the expense of general cargo vessels, whose share has dropped from 17 to 7.8 per cent during the same period. Refrigerated cargo is also increasingly containerized, and very few new specialized reefer ships are being built. It is estimated that in 2010, only 35 per cent of seaborne perishable reefer cargo was transported by specialized reefer vessels, while 65 per cent was already containerized – a share which is forecast to grow to 85 per cent by 2015.[1] Most of the exporters of refrigerated cargo such as bananas, other fruit, beef and fish are developing countries, which need to adapt their supply chain to this trend of further containerization.

The share of dry bulk tonnage has gone up from 27 per cent to 38 per cent since 1980, while the share of oil tankers has decreased from almost 50 per cent to 34 per cent.

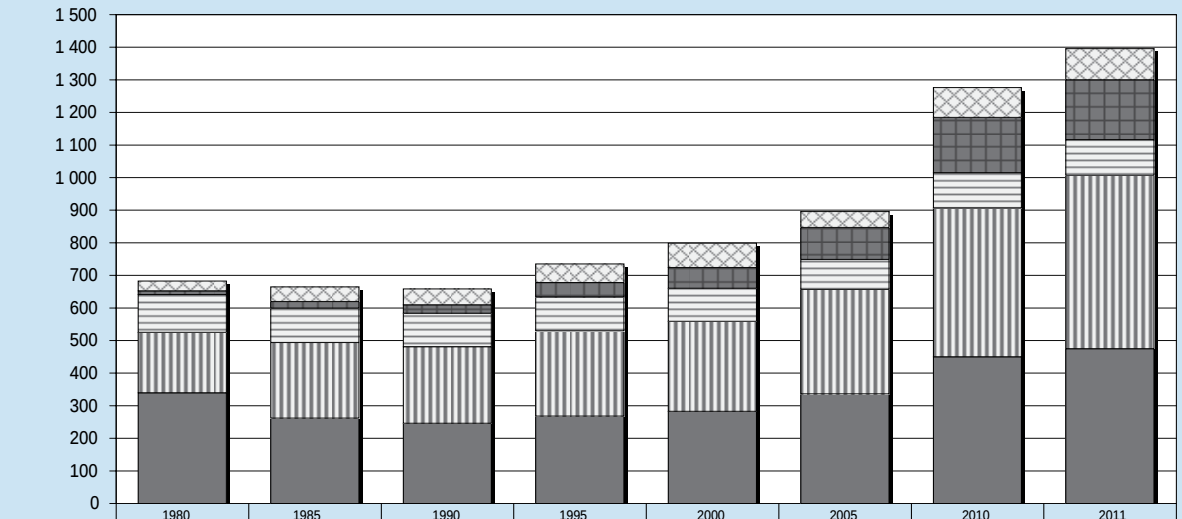
The world fleet in 2011

In January 2011, there were 103,392 seagoing commercial ships in service, with a combined tonnage of 1,396 million dwt. Oil tankers accounted for 475 million dwt and dry bulk carriers for 532 million dwt – an annual increase of 5.5 and 16.5 per cent respectively. Container ships reached 184 million dwt in January 2011, an increase of 8.7 per cent over 2010. The general cargo fleet remained stable, standing at 109 million dwt in January 2011.

Among other vessel types, tonnage of liquefied gas carriers continued to grow, reaching 43 million dwt by January 2011 – an increase of 6.6 per cent over the previous year (fig. 2.1 and table 2.1). Early 2011 saw growing interest in liquefied gas carriers, given that demand for LNG cargo is expected to grow as part of the search for alternative sources of energy.

Among oil tankers, it is estimated that about 26 million dwt of single-hulled ships are still active, although they were scheduled to be phased out by the end of 2010 to reduce the risk of oil spills. They are largely

Figure 2.1. World fleet by principal vessel types, selected years[a] *(beginning-of-year figures, millions of dwt)*



	1980	1985	1990	1995	2000	2005	2010	2011
Other	31	45	49	58	75	49	92	96
Container	11	20	26	44	64	98	169	184
General cargo	116	106	103	104	101	T92	108	109
Dry bulk	186	232	235	262	276	321	457	532
Oil tanker	339	261	246	268	282	336	450	475

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 100 gross tons and above.

Table 2.1. World fleet size by principal types of vessel, 2010–2011[a] *(beginning-of-year figures, thousands of dwt; market share in italics)*

Principal types	2010	2011	Percentage change 2011/2010
Oil tankers	450 053	474 846	5.5
	35.3	*34.0*	*-1.2*
Bulk carriers	456 623	532 039	16.5
	35.8	*38.1*	*2.3*
General cargo ships	108 232	108 971	0.7
	8.5	*7.8*	*-0.7*
Container ships	169 158	183 859	8.7
	13.3	*13.2*	*-0.1*
Other types of ship	92 072	96 028	4.3
	7.2	*6.9*	*-0.3*
Liquefied gas carriers	40 664	43 339	6.6
	3.2	*3.1*	*-0.1*
Chemical tankers	7 354	5 849	-20.5
	0.6	*0.4*	*-0.2*
Offshore supply	24 673	33 227	34.7
	1.9	*2.4*	*0.4*
Ferries and passenger ships	6 152	6 164	0.2
	0.5	*0.4*	*0.0*
Other/n.a.	13 229	7 450	-43.7
	1.0	*0.5*	*-0.5*
World total	1 276 137	1 395 743	9.4
	100.0	*100.0*	

Source: Compiled by the UNCTAD secretariat, on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 100 gross tons and above. Percentage shares are shown in italics.

deployed in developing countries, including intra-Indonesian traffic, and for exports from Saudi Arabia to India and Egypt.[2] Under exceptions permitted by IMO, single-hulled tankers are allowed to trade until 2015, so long as they are under 25 years old and are able to pass a condition assessment survey.

Enhancing fuel efficiency

Shipowners are confronted with the long-term prospect of higher fuel prices and stricter emission requirements. Nuclear-fuelled vessels are being considered, which, however, may not find public acceptance in view of recent discussions concerning nuclear energy. Increased attention is being paid to natural gas as a potential fuel for commercial shipping; in 2010, two European companies presented an 8,700 TEU containership concept that uses gas fuel and reportedly cuts CO2 emissions by as much as one third.[3]

In a similar vein, a shipyard in the Republic of Korea has announced that it has built a ship with lower operating costs, making use of an electronic ship area network.[4] In the medium term, analysts expect more technological advances – including concepts with modified hull forms; the use of air bubble lubrication, air cavity systems and new types of surface materials; and, possibly, ballast-free ships.[5]

New maximum vessel sizes

A classic approach to enhancing fuel efficiency is to increase vessel sizes in order to achieve economies of scale – assuming that the ships will be full. As the industry was recovering from the economic crisis, early 2011 saw orders and deliveries of ships of record-breaking size, in various dry cargo vessel categories.

At the beginning of 2011, the Danish shipping line Maersk announced that it had ordered twenty 18,000 TEU ships, which is a new record for containership size.[6] The cost per ship is reported to be $190 million. The size has been announced as being 400m long and 59m wide, with a draught of 14.5m and tonnage of 165,000 dwt. The new "Triple-E Class" ships will be the longest vessels in existence, as the oil tankers that previously held the record have been scrapped. Delivery of the first vessels is scheduled to take place in 2013. According to the carrier, Triple-E Class ships' CO2 emissions per transported container are 50 per cent below the current industry average on the Asia–Europe route. Instead of the traditional single propeller, the ships use two engines driving two propellers, with an estimated energy saving of 4 per cent. The Triple-E Class ships have a maximum service speed of 23 knots, which is 2 knots slower than the largest Maersk ships currently in use.

Also with a view to achieving economies of scale, the French carrier CMA CGM and the German owner Offen are reported to be in joint negotiation with shipyards in the Republic of Korea about enlarging five ships from their original specification of 12,800 TEUs to a new specification of 16,000 TEUs. In common with the Maersk E-class vessels, these ships are to be deployed on the Asia–Europe route.

A new vessel of record-breaking size has been launched in the roll-on roll-off (ro-ro) market. In early 2011, the Wilhelm Wilhelmsen company took delivery

of the first in a series of four 265-metre-long ships built in Japan by Mitsubishi Heavy Industries.

Containerized reefer capacity has increased too. Hamburg Süd took delivery of a 7,100 TEU container ship in December 2010 which has 1,600 slots for reefer containers – this is among the highest reefer capacity on the container ships that are currently available.

The year 2011 also saw delivery of a dry bulk carrier of record-breaking size, built in the Republic of Korea for the Brazilian conglomerate Vale. The Vale Brasil is 365m long, 66m wide, and has a draught of 23m. It has a capacity of 400,000 dwt – almost 10 per cent larger than the previous record holder. The Vale Brasil is the first in a series of ships called "chinamax" or also "valemax", planned to be deployed by Vale on the Brazil–China route, for iron ore. There are currently 30 chinamax dry bulk carriers on the order books. They are being built by STX and Daewoo Shipbuilding in the Republic of Korea and by Rongsheng in China.[7]

Are these record vessel sizes in various dry cargo shipping markets economically justified? In the 1970s, shipowners that had invested in record-size oil tankers able to carry 3 million barrels of oil lost most of their investment. As fuel prices unexpectedly fell, energy efficiency became less relevant and traders "preferred the 2m barrel parcel".[8] Could the same happen to those that now invest in huge new container ships, ro-ro vessels or dry bulkers? While it is impossible to foresee future downturns in demand, fuel efficiency will certainly remain on the agenda, and economies of scale will be achieved by, for example, reducing construction and labour costs per TEU. As regards the question of shippers' preferences for "parcel" sizes, container ships are different from tankers. Each voyage carries the cargo of thousands of traders who use the containerized liner shipping services. Unlike in oil or dry bulk shipping, no single trader would move an 18,000 TEU "parcel" on his own. It is thus unlikely that containership operators would be confronted by a lack of clients as oil tanker owners were in the 1970s.

In the case of Vale's large dry bulk carriers, the owner of the cargo and the owner of the ship are one and the same company. Again, it appears unlikely that the 1970s oil tanker story of insufficient demand will be repeated, as there is no risk of not finding a "client".

There are, however, other challenges that arise with ever-increasing vessel sizes. Ports and access channels may need to be dredged, cargo handling equipment needs to be able to cope with ever-higher volumes and the wider beam, and arrangements need to be in place to move cargo onwards by road, rail, barge, or feeder ships. If the unloading of a container ship takes several days, a consignee may not know if his box will be the first to be delivered or the last. Other vessels are likely to be pushed onto routes that may not yet be able to cater for larger ships, which include ports in many developing countries. There is also the issue of insurability, as "underwriters are worried about the accumulated level of exposures for mega vessels".[9]

As the first chinamax dry bulk vessels are being delivered to Vale from Brazil, they are confronted with the challenge of finding ports of call. In early 2011, China had not yet authorized them to enter Chinese ports fully loaded, and an iron ore distribution centre at the Chinese port of Qingdao had reportedly not yet been approved. Vale is considering calling in ports in Malaysia and then transshipping the iron ore from there to China, or entering Qingdao not fully loaded.[10]

The need to generate enough cargo for ever-larger ships may lead to further consolidation among shipping lines. Recent years have seen relative stability, but the new wave of large container ships entering service may force carriers to either strengthen their operational alliances or to pursue further growth through mergers and acquisitions.

Will container ships get much bigger than 18,000 TEUs? The possible plateau of 18,000 TEUs was already mentioned more than a decade ago, under the name of "malaccamax", as presented in the year 2000 by Professor Niko Wijnolst of Delft University of Technology. The dimensions of the malaccamax were different, as it had a draught of 21m. This would have required the dredging of the Suez Canal, and is the maximum draught to pass the Malacca Strait. In 2000, an article in Lloyd's List asked "what could happen if mad shipping companies decide to go down this road" of 18,000 TEU ships "in pursuance of lowest possible costs for the sea leg, with all the present ports furiously dredging to stay connected".[11] With a draught of 14.5m, the Triple-E class vessels will not face restrictions passing the Malacca Strait. Some shipyards in the Republic of Korea have presented designs for ships of up to 22,000 TEUs, which would be longer, but not significantly wider or deeper.[12] Although designs exist for malaccamax container ships of up to 35,000 TEUs, the depth and crane outreach in today's major container ports can only handle ships with a maximum capacity of between

18,000 and 22,000 TEUs. Any further significant growth in vessel sizes would require massive port investments. Probably a plateau has been reached.

Container ships

The sizes of newly delivered container ships continued to grow in 2010, leading to an increase in the average container-carrying capacity per ship of 5.5 per cent between early 2010 and early 2011. Of the container ships delivered in 2010, twenty-nine units were larger than 10,000 TEUs, including seven 14,000 TEU ships operated by the Swiss carriers MSC, and owned by the German company Offen. The average container-carrying capacity of the 293 new fully cellular container ships delivered in 2010 was 4,810 TEUs – an increase of 20 per cent over 2009. The total container-carrying capacity of the fully cellular containership fleet reached more than 14 million TEUs (table 2.2).

Most new container ships are gearless. In 2010, only 4.4 per cent of TEU capacity on new vessels was geared – a further decrease from the 7.5 per cent share in 2009 (table 2.3). The share of geared ships is highest in the 2,000 to 2,499 TEU size range, where 63 per cent of the existing fleet is geared. Among the smallest ships, of 100 to 499 TEUs, the geared share is 31 per cent, whereas for ships larger than 4,000 TEUs, the share is practically zero.[13] Even smaller container ports in developing countries need to cater more and more for gearless vessels, leaving them with no choice but to invest in container cranes.

Containers

The importance of containerization for global trade is mirrored by the growth in the fleet of containers themselves. In early 1991, there were slightly under 7 million TEUs of containers in use for transporting seaborne trade; by January 2011, this figure had grown more than fourfold, to 29 million TEUs.

While the box fleet is growing, so is the efficiency of its deployment. In 1990, each container was loaded or unloaded approximately 14 times during the year. Thanks to more transshipment, faster ships, and improved port handling and customs clearance, this figure had gone up to about 19 port moves per container by 2010. A similar trend is observed when the box fleet is compared with the total slot capacity on container ships; the rate decreased from three to two boxes per slot between January 1991 and January 2011. This, however, is not only a reflection of the improved productivity of the containership fleet; it is also, to some extent, a result of the current oversupply of containership capacity against a shortage of empty containers.[14]

Generally, the production of containers reacts relatively quickly to shifts in demand. Unlike ship construction,

Table 2.2. Long-term trends in the cellular container ship fleet[a]

World total	1987	1997	2007	2008	2009	2010	2011	Growth 2011/2010 (per cent)
Number of vessels	1 052	1 954	3 904	4 276	4 638	4 677	4 868	4.08
TEU capacity	1 215 215	3 089 682	9 436 377	10 760 173	12 142 444	12 824 648	14 081 957	9.80
Average vessel size (TEU)	1 155	1 581	2 417	2 516	2 618	2 742	2 893	5.50

Source: Compiled by the UNCTAD secretariat, on the basis of data supplied by IHS Fairplay.

[a] Fully cellular container ships of 100 gross tons and above. Beginning-of-year figures (except those from 1987, which are mid-year figures).

Table 2.3. Geared and gearless fully cellular container ships built in 2009 and 2010

	Geared			Gearless			Total		
	2009	2010	Change %	2009	2010	Change %	2009	2010	Change %
Ships	45	30	-33.3	235	263	11.9	280	293	4.6
Percentage of ships	*16.1*	*10.2*		*83.9*	*89.8*		*100.0*	*104.6*	
TEU	84 436	61 694	-26.9	1 040 119	1 347 515	29.6	1 124 555	1 409 209	25.3
Percentage of TEU	*7.5*	*4.4*		*92.5*	*95.6*		*100.0*	*125.3*	
Average vessel size (TEU)	1 876	2 056	9.6	4 426	5 124	15.8	4 016	4 810	19.8

Source: Compiled by the UNCTAD secretariat on the basis of data on the existing containership fleet from Containerisation International Online, May 2010 (2009 data) and May 2011 (2010 data).

where order books usually deal with periods lasting several years, and construction easily takes a year (depending on the vessel type), container factories can increase or decrease production relatively easily, and the period between ordering a new standard container and its delivery can be just three months. Nevertheless, in early 2011, some carriers were expressing concerns about a shortage of containers, after production in 2009 practically came to a standstill, while today's demand has surged in line with new box ship deliveries and continued slow steaming. The latter further adds to the demand, because containers (empty and full) spend more time at sea. The March 2011 tsunami in Japan reportedly resulted in the loss of as many as 1 million TEUs.[15] Carriers have reacted by extending the life of older boxes and by deploying entire ships just to reposition empties. Maersk Line reportedly started manufacturing new containers on its own account, and lines may again impose "peak season surcharges" on shippers.[16]

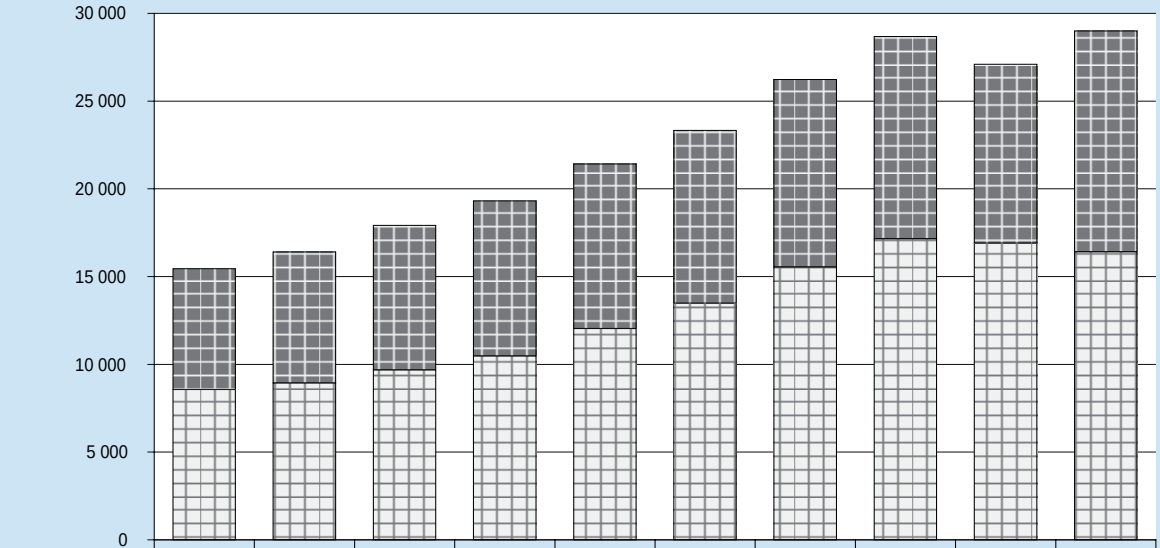
In 2009, following the economic crisis, lessors of containers had to adjust to a dramatic standstill in demand, as shipping lines returned their leased containers to them. When demand resumed, lessors reacted first by ordering new boxes. During 2010, lessors increased their fleet by 23 per cent, and now own 43.4 per cent of the global TEU capacity (fig. 2.2). As regards specialized reefer boxes, which account for about 6.4 per cent of the container fleet, lessors in 2010 took delivery of 55 per cent of new reefer containers, up from just 30 per cent in 2008.

2. Age distribution of the world merchant fleet

Container ships continue to be the youngest vessel type, with an average age per ship of 10.7 years, followed by bulk carriers (15.3 years), oil tankers (16.4 years), general cargo ships (24.2 years) and other types (25.1 years) (table 2.4). The average age of the world fleet continued to decrease during 2010, as a result of record deliveries of new tonnage. In particular, the age per deadweight ton decreased (compared to the age per ship), as the new ships tend to be larger than most of those in the existing fleet. Vessels built during the last four years are, on average, 6.5 times larger than those built 20 years earlier.

With regard to flags of registration, the open registry fleet is, on average, the youngest among the country groups depicted in table 2.4, with an average age per ship of 14.8 years and with 27 per cent of ships younger than five years. Among the ten major open registries, the Marshall Islands has the youngest fleet (with an average age per ship of 8.8 years), followed by the Isle of Man (10.4), Liberia (10.9) and Antigua and Barbuda (11.3). The oldest ships are those registered in Saint Vincent and the Grenadines (24.5

Figure 2.2. World container fleet, selected years (*mid-year figures, thousands of TEUs*)



	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Lessors	6 895	7 465	8 240	8 830	9 380	9 850	10 680	11 525	10 200	12 588
Sea carriers	8 560	8 940	9 685	10 480	12 035	13 485	15 555	17 160	16 900	16 412

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by *Containerisation International*.

years), among which general cargo vessels have the highest average age (29.1 years) (fig. 2.3).

Different registries specialize in different vessel types (see also below chapter 2.C). Accordingly, some registries focus on new general cargo ships, others on new bulk carriers, and yet others on new container ships. Antigua and Barbuda, for example, has the youngest fleet of general cargo ships (12.1 years), while the Marshall Islands has the youngest liquid and dry bulk vessels (7.0 and 8.5 years respectively). Liberia and Cyprus have the youngest fleets of container ships (8.2 years). For all four major vessel types, Saint Vincent and the Grenadines has the oldest ships.

B. OWNERSHIP AND OPERATION OF THE WORLD FLEET

1. Shipowning countries

As at early 2011, owners from Greece controlled an estimated 16.2 per cent of the world's deadweight tonnage – a record amount, equating to more than 202 million dwt. Next were Japan (15.8 per cent), Germany (9.2 per cent) and China (8.6 per cent) (table 2.5).[17] In terms of vessel numbers, owners from Germany, Japan and China have more ships than Greek owners. In terms of nationally flagged and nationally owned tonnage, the Greek fleet continues to be by far the world's largest, accounting for 65 million dwt, followed by the Chinese-

Table 2.4. Age distribution of the world merchant fleet, by vessel type, as at 1 January 2011
(percentage of total ships and dwt)

Country grouping Types of vessel		0–4 years	5–9 years	10–14 years	15–19 years	20 years and +	Average age (years) 2010	Average age (years) 2009	Change 2011/2010
WORLD									
Bulk carriers	Ships	25.1	14.6	13.2	11.6	35.5	15.29	16.58	-1.28
	dwt	32.0	17.4	14.0	13.1	23.5	12.49	13.77	-1.28
average vessel size (dwt)		75 607	70 918	63 151	67 114	39 294			
Container ships	Ships	28.2	24.4	19.7	14.8	12.9	10.70	10.56	0.15
	dwt	35.6	28.8	17.2	10.4	7.9	8.84	8.72	0.12
average vessel size (dwt)		47 516	44 240	32 751	26 509	23 117			
General cargo	Ships	10.4	9.0	8.4	11.0	61.1	24.15	24.63	-0.47
	dwt	18.9	11.4	12.6	9.6	47.6	20.27	21.40	-1.13
average vessel size (dwt)		9 221	6 399	7 601	4 453	3 962			
Oil tankers	Ships	25.1	18.5	10.1	11.7	34.6	16.37	17.03	-0.67
	dwt	33.6	29.2	16.4	11.6	9.1	9.74	10.13	-0.39
average vessel size (dwt)		57 414	67 739	69 451	42 595	11 322			
Other types	Ships	10.0	9.4	9.2	8.4	63.1	25.19	25.33	-0.14
	dwt	29.0	15.5	10.7	8.1	36.7	17.11	17.47	-0.37
average vessel size (dwt)		4 891	2 789	1 957	1 633	979			
All ships	Ships	13.9	11.4	10.0	9.9	54.8	22.49	22.93	-0.44
	dwt	31.8	22.3	14.9	11.6	19.3	12.59	13.35	-0.76
average vessel size (dwt)		30 935	26 356	20 161	15 927	4 760			
DEVELOPING ECONOMIES									
Bulk carriers	Ships	26.0	14.9	12.3	11.1	35.7	14.99	16.35	-1.36
	dwt	31.6	16.9	12.6	13.4	25.6	12.77	14.04	-1.26
average vessel size (dwt)		74 932	70 111	63 365	74 904	44 247			
Container ships	Ships	29.6	22.8	18.0	15.4	14.1	10.83	10.74	0.09
	dwt	38.3	27.6	14.9	10.9	8.3	8.71	8.59	0.12
average vessel size (dwt)		46 371	43 329	29 602	25 431	21 115			
General cargo	Ships	10.7	9.8	7.5	8.9	63.1	24.07	24.73	-0.66
	dwt	19.7	10.6	10.8	9.2	49.6	20.39	21.75	-1.36
average vessel size (dwt)		10 013	5 892	7 870	5 597	4 271			
Oil tankers	Ships	24.8	15.2	9.6	11.1	39.3	17.15	18.18	-1.03
	dwt	34.2	26.4	14.2	13.7	11.5	10.33	11.02	-0.70
average vessel size (dwt)		58 677	73 757	62 818	52 400	12 441			
Other types	Ships	12.8	10.0	7.6	8.3	61.2	24.33	24.66	-0.33
	dwt	25.2	13.0	9.6	8.7	43.5	19.06	19.16	-0.10
average vessel size (dwt)		3 777	2 503	2 432	2 025	1 368			
All ships	Ships	16.1	11.8	9.0	9.5	53.5	21.61	22.31	-0.70
	dwt	31.9	20.5	13.1	12.6	21.9	13.11	14.01	-0.90
average vessel size (dwt)		31 657	27 741	23 394	21 117	6 535			

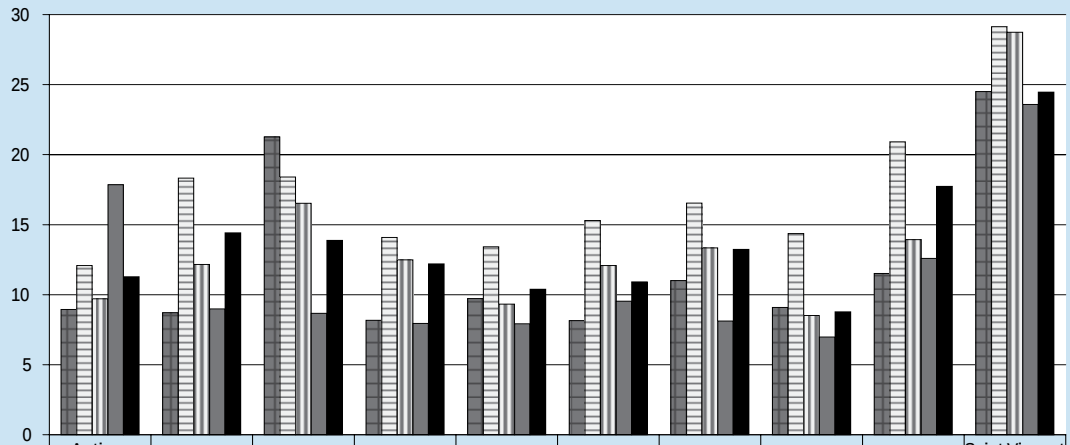
Table 2.4. Age distribution of the world merchant fleet, by vessel type, as at 1 January 2011 *(% of total ships and dwt)*

Country grouping Types of vessel		0–4 years	5–9 years	10–14 years	15–19 years	20 years and +	Average age (years) 2010	Average age (years) 2009	Change 2011/2010
DEVELOPED ECONOMIES									
Bulk carriers	Ships	16.9	11.8	15.3	17.1	38.9	18.13	19.18	-1.06
	dwt	30.5	18.8	19.0	14.4	17.3	12.06	13.42	-1.36
average vessel size (dwt)		94 405	83 519	65 207	44 002	23 204			
Container ships	Ships	21.3	32.1	25.0	13.5	8.1	10.28	9.91	0.37
	dwt	26.3	35.2	23.6	9.1	5.9	9.12	8.68	0.44
average vessel size (dwt)		60 730	54 058	46 475	33 221	35 477			
General cargo	Ships	15.3	11.6	15.2	21.3	36.6	19.66	20.84	-1.18
	dwt	25.6	17.1	20.6	11.8	25.0	15.19	16.68	-1.50
average vessel size (dwt)		7 032	6 152	5 684	2 318	2 864			
Oil tankers	Ships	22.8	27.9	12.8	18.6	17.9	13.67	13.82	-0.15
	dwt	29.6	38.6	21.3	8.0	2.6	8.18	7.87	0.30
average vessel size (dwt)		54 561	58 280	70 009	18 061	6 061			
Other types	Ships	7.9	10.4	12.9	9.2	59.6	24.91	25.29	-0.38
	dwt	23.3	21.9	17.4	10.2	27.3	15.49	16.36	-0.87
average vessel size (dwt)		*3 013*	2 168	1 381	1 136	469			
All ships	Ships	10.8	12.6	13.6	11.9	51.1	22.66	23.15	-0.49
	dwt	28.3	29.9	20.7	10.3	10.7	10.78	11.02	-0.24
average vessel size (dwt)		20 949	18 961	12 106	6 846	1 675			
COUNTRIES WITH ECONOMIES IN TRANSITION									
Bulk carriers	Ships	27.0	5.5	5.8	13.3	48.4	17.99	20.83	-2.83
	dwt	24.8	7.3	8.5	16.6	42.7	17.33	19.35	-2.03
average vessel size (dwt)		33 165	47 672	53 274	45 041	31 842			
Container ships	Ships	13.2	18.0	9.6	25.2	34.0	15.95	15.85	0.10
	dwt	24.6	29.7	3.9	17.5	24.3	12.35	12.23	0.12
average vessel size (dwt)		49 182	43 476	10 694	18 333	18 821			
General cargo	Ships	6.4	10.8	4.5	9.3	68.9	24.68	24.54	0.15
	dwt	6.9	7.9	4.5	6.4	74.2	25.68	25.59	0.09
average vessel size (dwt)		3 838	2 611	3 589	2 460	3 852			
Oil tankers	Ships	15.0	12.7	4.1	9.3	58.9	22.19	23.50	-1.32
	dwt	37.3	26.2	6.3	13.7	16.5	10.97	13.06	-2.08
average vessel size (dwt)		39 610	32 848	24 281	23 488	4 470			
Other types	Ships	6.5	5.7	3.5	8.6	75.7	25.71	25.76	-0.05
	dwt	36.4	25.3	6.8	11.3	20.2	11.55	13.93	-2.38
average vessel size (dwt)		25 024	19 799	8 588	5 854	1 189			
All ships	Ships	9.6	8.9	4.3	9.9	67.3	23.90	24.37	-0.47
	dwt	26.6	16.3	6.8	13.5	36.8	16.24	18.09	-1.85
average vessel size (dwt)		25 088	16 586	14 003	12 346	4 931			
TEN MAJOR OPEN AND INTERNATIONAL REGISTRIES									
Bulk carriers	Ships	30.0	17.1	13.8	10.3	28.8	13.08	14.33	-1.25
	dwt	34.9	18.4	13.1	11.8	21.8	11.49	12.65	-1.17
average vessel size (dwt)		80 152	74 256	65 540	78 864	52 092			
Container ships	Ships	32.0	25.2	19.3	14.0	9.5	9.61	9.61	0.00
	dwt	39.0	28.4	15.7	9.9	7.1	8.28	8.30	-0.02
average vessel size (dwt)		46 510	42 977	31 031	27 028	28 512			
General cargo	Ships	17.9	11.0	13.4	11.7	45.9	18.58	19.81	-1.22
	dwt	24.3	13.7	15.1	9.6	37.4	16.21	17.77	-1.56
average vessel size (dwt)		13 041	11 950	10 807	7 839	7 862			
Oil tankers	Ships	37.1	27.0	13.5	8.6	13.8	9.81	10.70	-0.89
	dwt	32.7	30.3	17.5	12.1	7.4	9.14	9.48	-0.34
average vessel size (dwt)		67 760	86 077	100 017	107 455	41 024			
Other types	Ships	21.6	11.5	11.1	6.9	49.0	20.49	21.23	-0.74
	dwt	35.3	14.5	9.5	5.7	35.0	15.84	15.88	-0.04
average vessel size (dwt)		19 604	15 188	10 297	9 890	8 565			
All ships	Ships	27.0	17.4	13.9	10.2	31.5	14.79	15.89	-1.09
	dwt	34.1	23.2	14.8	11.2	16.6	11.10	11.83	-0.73
average vessel size (dwt)		51 393	54 248	43 583	44 719	21 480			

Source: Compiled by the UNCTAD secretariat, on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 100 gross tons and above.

Figure 2.3. Average age per ship, by vessel type, 10 major open registries *(beginning of 2011, in years)*



	Antigua and Barbuda	Bahamas	Bermuda	Cyprus	Isle of Man	Liberia	Malta	Marshall Islands	Panama	Saint Vincent and the Grenadines
Container	8.9	8.7	21.3	8.2	9.7	8.2	11.0	9.1	11.5	24.5
General cargo	12.1	18.3	18.4	14.1	13.4	15.3	16.5	14.4	20.9	29.1
Dry bulk	9.7	12.2	16.5	12.5	9.3	12.1	13.3	8.5	13.9	28.7
Oil tanker	17.9	9.0	8.7	8.0	7.9	9.5	8.1	7.0	12.6	23.6
All ships	11.3	14.4	13.9	12.2	10.4	10.9	13.2	8.8	17.7	24.5

Source: Compiled and calculated by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

Table 2.5. The 35 countries and territories with the largest owned fleets (dwt), as at 1 January 2011[a]

Country or territory of ownership [b]	Number of vessels			Deadweight tonnage				
	National flag[c]	Foreign flag	Total	National flag[c]	Foreign flag	Total	Foreign flag as a percentage of total	Total as a percentage of world total, 1 Jan. 2011
Greece	758	2 455	3 213	64 659 201	137 728 951	202 388 152	68.05	16.17
Japan	724	3 071	3 795	18 942 573	178 287 143	197 229 716	90.40	15.76
Germany	442	3 356	3 798	17 149 221	97 623 425	114 772 646	85.06	9.17
China	2 044	1 607	3 651	46 207 468	61 762 042	107 969 510	57.20	8.63
Republic of Korea	736	453	1 189	18 135 391	29 317 780	47 453 171	61.78	3.79
United States	971	1 001	1 972	24 363 690	22 011 225	46 374 915	47.46	3.71
Norway	818	1 166	1 984	14 850 693	28 127 239	42 977 932	65.45	3.43
China, Hong Kong SAR	399	313	712	24 102 438	13 080 401	37 182 839	35.18	2.97
Denmark	383	592	975	13 998 073	21 113 253	35 111 326	60.13	2.81
China, Taiwan Province of	97	565	662	4 096 790	28 863 160	32 959 950	87.57	2.63
Singapore	659	362	1 021	18 693 547	12 939 490	31 633 037	40.90	2.53
Bermuda	17	268	285	2 297 441	28 252 207	30 549 648	92.48	2.44
Italy	616	220	836	16 556 782	6 774 107	23 330 889	29.03	1.86
United Kingdom	366	412	778	8 927 892	13 395 899	22 323 791	60.01	1.78
Turkey	551	648	1 199	7 869 898	11 914 688	19 784 586	60.22	1.58
Russian Federation	1 406	485	1 891	5 548 938	13 952 473	19 501 411	71.55	1.56
Canada	210	226	436	2 474 401	16 654 836	19 129 237	87.06	1.53
India	460	74	534	14 679 913	3 445 887	18 125 800	19.01	1.45

Table 2.5. The 35 countries and territories with the largest owned fleets (dwt), as at 1 January 2011[a] (concluded)

Country or territory of ownership [b]	Number of vessels			Deadweight tonnage				
	National flag[c]	Foreign flag	Total	National flag[c]	Foreign flag	Total	Foreign flag as a percentage of total	Total as a percentage of world total, 1 Jan. 2011
Malaysia	421	105	526	9 323 448	4 743 829	14 067 277	33.72	1.12
Belgium	91	158	249	6 119 923	6 835 060	12 954 983	52.76	1.04
Iran (Islamic Republic of)	62	80	142	628 381	12 024 439	12 652 820	95.03	1.01
Saudi Arabia	70	105	175	1 745 029	10 675 882	12 420 911	85.95	0.99
Brazil	128	44	172	2 227 804	8 400 258	10 628 062	79.04	0.85
Indonesia	868	85	953	8 203 079	1 757 088	9 960 167	17.64	0.80
Cyprus	129	158	287	4 016 022	5 462 113	9 478 135	57.63	0.76
Netherlands	522	320	842	4 357 102	5 076 376	9 433 478	53.81	0.75
United Arab Emirates	69	354	423	655 296	8 705 135	9 360 431	93.00	0.75
France	177	274	451	3 179 832	5 888 255	9 068 087	64.93	0.72
Viet Nam	476	86	562	4 723 669	2 249 774	6 973 443	32.26	0.56
Sweden	115	186	301	1 161 602	4 481 787	5 643 389	79.42	0.45
Kuwait	35	45	80	2 986 997	2 636 129	5 623 126	46.88	0.45
Isle of Man	-	33	33	-	5 456 847	5 456 847	100.00	0.44
Spain	163	226	389	1 508 173	3 482 572	4 990 745	69.78	0.40
Thailand	285	53	338	3 475 509	1 014 469	4 489 978	22.59	0.36
Qatar	46	32	78	878 634	3 315 599	4 194 233	79.05	0.34
Total top 35 countries	15 314	19 618	34 932	378 744 850	817 449 818	1 196 194 668	68.34	95.57
Other owners	2 077	1 838	3 915	20 509 703	34 945 087	55 454 790	63.02	4.43
Total of known country of ownership	17 391	21 456	38 847	399 254 553	852 394 905	1 251 649 458	68.10	100.00
Others, unknown country of ownership			6 815			126 581 435		
World total			45 662			1 378 230 893		

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Vessels of 1,000 GT and above, ranked by deadweight tonnage; excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets (which have a combined tonnage of 5.4 million dwt).

[b] The country of ownership indicates where the true controlling interest (i.e. parent company) of the fleet is located. In several cases, determining this has required making certain judgements. Thus, for instance, Greece is shown as the country of ownership for vessels owned by a Greek national whose company has representative offices in New York, London and Piraeus, although the owner may be domiciled in the United States.

[c] Includes vessels flying the national flag but registered in territorial dependencies or associated self-governing territories such as Gibraltar, Guernsey, Isle of Man or Jersey (United Kingdom), and in second registries such as DIS (Denmark), NIS (Norway) or FIS (France). For the United Kingdom, British-flagged vessels are included under the national flag, except for Bermuda.

owned and -flagged fleet which accounts for 46 million dwt. Eight of the top ten shipowning countries use foreign flags for more than half of their tonnage. The exceptions are the United States, which uses the national flag for 53 per cent of its nationally owned fleet, and owners from Hong Kong (China), who use the flag of Hong Kong (China) for 75 per cent of their tonnage. Together, the top 35 shipowning countries have an estimated market share of 95.6 per cent of the world tonnage. About a third of this tonnage is controlled by developing-country owners, about 66 per cent by developed-country owners, and 1.56 per cent by Russian Federation owners.[18] Of the top 35 shipowning countries and territories, 17 are developed, 17 are developing, and one is a transition economy. With regard to regional distribution, 17 countries or territories are in Asia, 14 are in Europe, and 4 are in the Americas, while none are in Africa or Oceania.

As regards flags of registration, 68.3 per cent of the world's tonnage is foreign-flagged. One of the motivations for shipowners to use a foreign flag is the possibility of employing foreign seafarers. This is of particular interest to companies based in countries with high wage levels – which is more likely to be the case in developed than in developing countries. It is, hence, not surprising that the percentage of foreign registration is higher for developed countries (where approximately 74 per cent of the nationally owned tonnage is foreign-flagged) than it is for developing countries (where about 65 per cent is foreign-flagged) (see also chapter 6 for a more detailed discussion on the participation of developing countries in different shipping businesses). The tonnage of owners from the Russian Federation grew by 23 per cent between 2005 and 2010. The Russian Federation increasingly uses foreign flags, and as a result, the nationally flagged Russian fleet effectively decreased by 20 per cent over the same period.[19]

2. Container shipping operators

Container shipping is an increasingly concentrated sector. The market share of the top 20 liner shipping companies continued to grow in 2010, reaching almost 70 per cent of TEU capacity in January 2011 (table 2.6). The highest year-on-year growth was recorded by Chilean carrier CSAV (see also chapter 6), followed by PIL from Singapore, and Israel's Zim.

Table 2.6. The 20 leading service operators of container ships, 1 January 2011
(number of ships and total shipboard capacity deployed (TEUs))

Ranking	Operator	Country/territory	Number of vessels	Average vessel size	TEU	Share of world total, TEU	Cumulated share, TEU	Percentage of growth in TEU over 2010
1	Maersk Line	Denmark	414	4 398	1 820 816	11.2%	11.2%	4.2%
2	MSC	Switzerland	422	4 176	1 762 169	10.8%	22.0%	16.9%
3	CMA CGM Group	France	288	3 715	1 069 847	6.6%	28.6%	13.2%
4	Evergreen Line	China, Taiwan Province of	162	3 666	593 829	3.7%	32.3%	0.2%
5	APL	Singapore	141	4 197	591 736	3.6%	35.9%	12.8%
6	COSCON	China	147	3 848	565 728	3.5%	39.4%	14.1%
7	Hapag-Lloyd Group	Germany	126	4 446	560 197	3.4%	42.8%	19.1%
8	CSCL	China	120	3 841	460 906	2.8%	45.7%	0.8%
9	Hanjin	Republic of Korea	98	4 565	447 332	2.8%	48.4%	11.8%
10	CSAV	Chile	119	3 217	382 786	2.4%	50.8%	95.4%
11	OOCL	China, Hong Kong SAR	85	4 408	374 714	2.3%	53.1%	29.1%
12	MOL	Japan	91	3 989	362 998	2.2%	55.3%	4.2%
13	NYK	Japan	85	4 152	352 915	2.2%	57.5%	-1.9%
14	K Line	Japan	84	4 143	347 989	2.1%	59.6%	7.0%
15	Hamburg Sud	Germany	98	3 423	335 449	2.1%	61.7%	18.2%
16	Yang Ming	China, Taiwan Province of	78	4 137	322 723	2.0%	63.7%	1.7%
17	HMM	Republic of Korea	60	4 753	285 183	1.8%	65.4%	9.7%
18	Zim	Israel	73	3 857	281 532	1.7%	67.2%	30.5%
19	PIL	Singapore	111	2 146	238 241	1.5%	68.6%	36.9%
20	UASC	Kuwait	47	3 800	178 599	1.1%	69.7%	1.1%
Total top 20 carriers			2 849	3 979	11 335 689	69.7%	69.7%	12.4%
Others			6 839	719	4 918 299	30.3%	30.3%	1.1%
World containership fleet			9 688	1 678	16 253 988	100.0%	100.0%	8.7%

Source: UNCTAD secretariat, based on Containerisation International Online, Fleet Statistics. Available at www.ci-online.co.uk.

Note: Includes all container-carrying ships. Not fully comparable to tables 2.2. and 2.3 above, which only cover the specialized fully cellular container ships.

Maersk Line from Denmark continues to occupy the top position, although the second and third carriers, MSC and CMA CGM, grew three to four times faster during the year, narrowing the gap. In terms of vessel numbers, the Geneva-based carrier MSC was effectively ahead of Maersk.

The top 20 liner companies have remained unchanged, for a second consecutive year since 2009. Asian economies dominate the list, with 14 companies from that region. One of the top 20 carriers is from Latin America, five are from Europe, and none are from Oceania or North America.

C. REGISTRATION OF SHIPS

1. Flags of registration

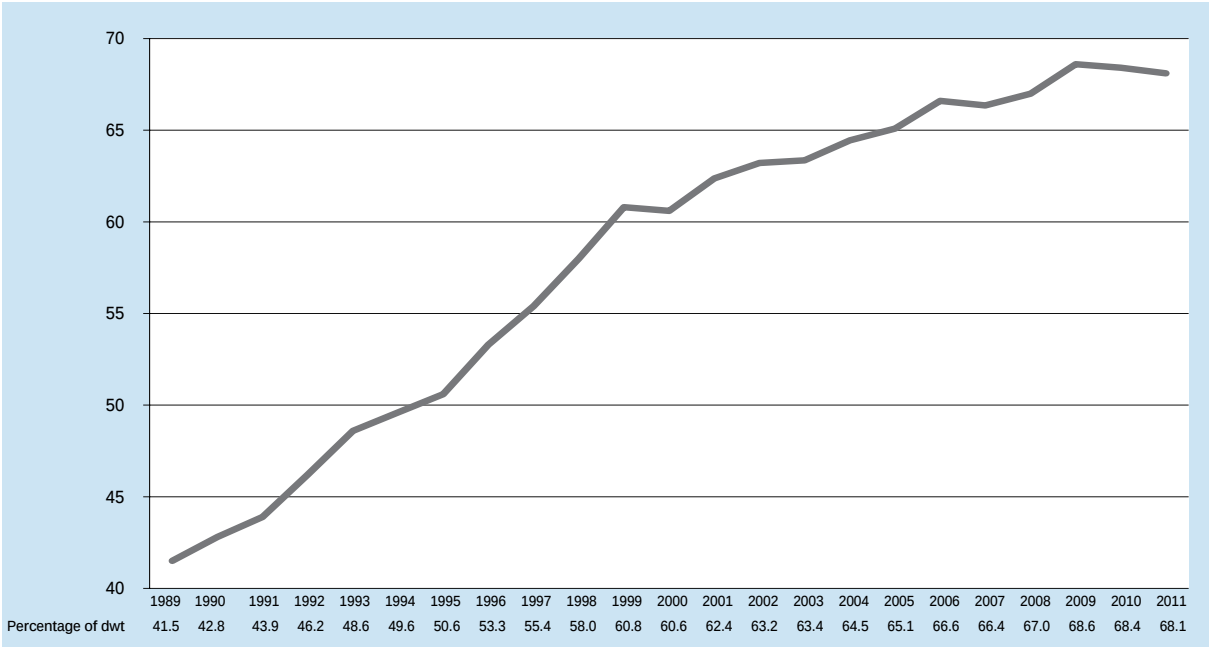
In 2011, more than 68 per cent of the world's tonnage is registered under a foreign flag (fig. 2.4). Most of the major flags of registration are not host to any significant national shipowning interests, but mainly provide their flag to vessels owned by nationals of other countries. This is the case for the three largest flags of registration, notably Panama, with 306 million dwt (21.9 per cent of the world fleet), Liberia (11.9 per cent) and the Marshall Islands (7.1 per cent).

In January 2011, the 35 largest flags of registration together accounted for 93.8 per cent of the world fleet, a further increase from the 93.2 per cent share of one year earlier (table 2.7).[20] The top five registries together accounted for 52.6 per cent of the world's dwt, and the top ten registries accounted for 72.7 per cent – both figures again showing increases over the previous year.

As regards the number of ships, the largest fleets are flagged in Panama (7,986 seagoing propelled merchant ships of 100 gross tons and above), the United States (6,371), Japan (6,150), Indonesia (5,763), China (4,080) and the Russian Federation (3,485). Except for Panama, these fleets include a large number of general cargo and work vessels that are employed in coastal, inter-island and waterway cabotage services.

Among the major open registries, the Marshall Islands recorded the highest year-on-year growth (+27 per cent), especially among Greek-owned tonnage (+35 per cent). Among the national flags that cater mostly for national owners, Thailand has made significant progress since 2009; its nationally registered tonnage grew by 22 per cent in 2010.

Figure 2.4. Share of foreign-flagged fleet[a] *(beginning-of-year figures, as a percentage of dwt, 1989–2011)*



	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011
Percentage of dwt	41.5	42.8	43.9	46.2	48.6	49.6	50.6	53.3	55.4	58.0	60.8	60.6	62.4	63.2	63.4	64.5	65.1	66.6	66.4	67.0	68.6	68.4	68.1

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Estimate based on available information of commercial seagoing vessels of 1,000 gross tons and above.

Table 2.7. The 35 flags of registration with the largest registered deadweight tonnage, as at 1 January 2011[a]

Flag of registration	Number of vessels	Share of world total, vessels	Deadweight tonnage, 1 000 dwt	Share of world total, dwt	Cumulated share, dwt	Average vessel size, dwt	Dwt growth 2011/2010 as %
Panama	7 986	7.72	306 032	21.93	21.93	38 321	5.98
Liberia	2 726	2.64	166 246	11.91	33.84	60 985	16.97
Marshall Islands	1 622	1.57	98 757	7.08	40.91	60 886	26.89
China, Hong Kong SAR	1 736	1.68	91 733	6.57	47.48	52 841	23.11
Greece	1 433	1.39	71 420	5.12	52.60	49 840	5.61
Bahamas	1 384	1.34	67 465	4.83	57.44	48 747	5.24
Singapore	2 667	2.58	67 287	4.82	62.26	25 230	9.13
Malta	1 724	1.67	61 294	4.39	66.65	35 553	9.15
China	4 080	3.95	52 741	3.78	70.43	12 927	16.79
Cyprus	1 014	0.98	32 321	2.32	72.74	31 875	3.25
Japan	6 150	5.95	22 201	1.59	74.33	3 610	25.38
Republic of Korea	2 913	2.82	20 155	1.44	75.78	6 919	-3.19
Italy	1 649	1.59	19 440	1.39	77.17	11 789	12.53
Isle of Man	385	0.37	19 422	1.39	78.56	50 447	16.22
Norway (NIS)	521	0.50	18 065	1.29	79.86	34 674	-3.12
Germany	931	0.90	17 566	1.26	81.11	18 867	-0.03
United Kingdom	1 638	1.58	16 999	1.22	82.33	10 378	-4.27
India	1 404	1.36	15 278	1.09	83.43	10 882	2.06
Denmark (DIS)	524	0.51	14 304	1.02	84.45	27 297	5.95
Antigua and Barbuda	1 293	1.25	13 892	1.00	85.45	10 744	6.59
United States	6 371	6.16	12 662	0.91	86.35	1 987	-1.02
Indonesia	5 763	5.57	12 105	0.87	87.22	2 100	15.61
Bermuda	158	0.15	10 860	0.78	88.00	68 732	7.45
Malaysia	1 391	1.35	10 725	0.77	88.77	7 710	4.89
Turkey	1 334	1.29	8 745	0.63	89.39	6 556	11.01
France (FIS)	160	0.15	7 880	0.56	89.96	49 253	-5.40
Russian Federation	3 485	3.37	7 400	0.53	90.49	2 123	1.61
Netherlands	1 302	1.26	7 036	0.50	90.99	5 404	-2.98
Philippines	1 946	1.88	6 946	0.50	91.49	3 570	-1.23
Belgium	245	0.24	6 800	0.49	91.98	27 755	3.42
Saint Vincent and the Grenadines	942	0.91	6 701	0.48	92.46	7 114	-8.57
Viet Nam	1 451	1.40	5 899	0.42	92.88	4 065	8.93
Thailand	888	0.86	4 564	0.33	93.21	5 139	21.80
China, Taiwan Province of	677	0.65	4 310	0.31	93.52	6 366	9.28
Cayman Islands	158	0.15	3 688	0.26	93.78	23 344	-6.87
Total: top 35 flags of registration"	70 051	67.75	1 308 939	93.78	93.78	18 686	10.02
World total	103 392	100.00	1 395 743	100.00	100.00	13 500	9.37

Source: Compiled by the UNCTAD secretariat, on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 100 gross tons and above, ranked by deadweight tonnage.

During 2010, the 10 major open and international registries further increased their combined market share, reaching 56.1 per cent of dwt in January 2011. Their highest market share is among dry bulk carriers (61 per cent), followed by oil tankers (56 per cent).

Among the remaining registries, the share of developed countries decreased by a further 0.94 per cent, while developing countries increased slightly (by 0.27 per cent), now accounting for 25.5 per cent of the world's tonnage. Developed countries' fleets have their highest shares among container ships (24 per cent), while developing countries provide their flag above all to general cargo vessels (35 per cent of the world fleet in this vessel category). Among the developing countries, Asia has by far the largest share, with 23 per cent of the world fleet (table 2.8).

Different registries specialize in different market segments as regards vessel types, sizes, country of ownership and age (for age of vessels, see also fig. 2.3). As different vessel types and countries of ownership require different services and certificates, registries tend to adjust their pricing and service structure accordingly. Among the top 10 open registries, Antigua and Barbuda has the highest

Table 2.8. Distribution of dwt capacity of vessel types, by country group of registration, 2011[a]
(percentage change 2011/2010 in italics)

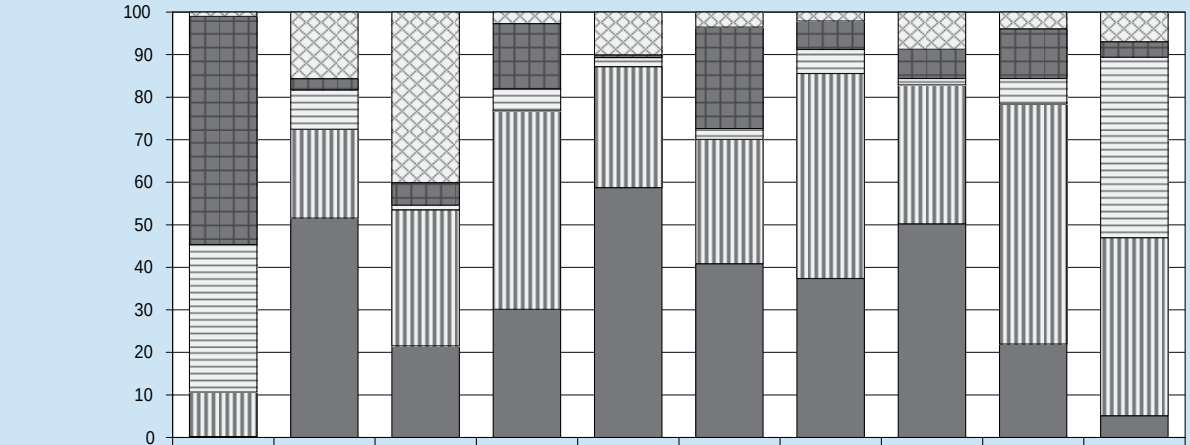
	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
World total	100.00	100.00	100.00	100.00	100.00	100.00
Developed countries	16.96	19.42	10.95	17.68	23.98	23.81
	-0.94	*-0.81*	*-0.05*	*-0.16*	*-2.36*	*-1.36*
Countries with economies						
in transition	0.93	0.81	0.41	4.53	0.09	1.96
	-0.07	*-0.03*	*-0.03*	*-0.02*	*-0.01*	*-0.10*
Developing countries	*25.50*	*23.50*	*27.17*	*35.04*	*20.61*	*24.67*
	0.27	*0.27*	*0.17*	*-0.53*	*0.80*	*0.62*
of which:						
Africa	0.68	0.72	0.35	2.09	0.11	1.78
	0.00	*-0.01*	*0.05*	*0.21*	*-0.01*	*-0.13*
America	*1.64*	*1.83*	*1.06*	*4.18*	*0.37*	*3.49*
	-0.11	*-0.04*	*-0.18*	*-0.04*	*0.10*	*-0.08*
Asia	*22.80*	*20.78*	*25.30*	*27.97*	*20.11*	*18.26*
	0.44	*0.46*	*0.39*	*-0.71*	*0.71*	*0.61*
Oceania	*0.38*	*0.18*	*0.45*	*0.80*	*0.02*	*1.14*
	-0.06	*-0.14*	*-0.09*	*0.02*	*0.00*	*0.22*
Other, unallocated	*0.51*	*0.24*	*0.30*	*2.61*	*0.13*	*1.33*
	0.07	*0.02*	*0.03*	*0.52*	*0.02*	*0.34*
10 major open and						
international registries[b]	56.10	56.03	61.17	40.14	55.18	48.24
	0.66	***0.55***	***-0.12***	***0.19***	***1.55***	***0.50***

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 100 gross tons and above.

[b] No clear definition exists of "open and international registries". UNCTAD has grouped the 10 major open and international registries to include the 10 largest fleets with more than 90 per cent foreign-controlled tonnage. See annex III or figure 2.5 for the list of registries.

Figure 2.5. Vessel types registered in 10 major open registries 2011 ***(as a percentage of dwt)***



	Antigua and Barbuda	Bahamas	Bermuda	Cyprus	Isle of Man	Liberia	Malta	Marshall Islands	Panama	St. Vincent and the Grenadines
Other	1.0	15.7	40.1	2.7	10.1	3.5	2.1	8.8	4.0	7.0
Container	53.6	2.7	5.3	15.4	0.6	23.8	6.7	6.9	11.7	3.6
General cargo	34.7	9.2	1.1	5.2	2.1	2.6	5.7	1.5	6.0	42.4
Dry bulk	10.5	20.9	32.0	46.6	28.4	29.2	48.2	32.7	56.4	41.8
Oil tankers	0.2	51.5	21.5	30.1	58.7	40.8	37.3	50.2	21.9	5.1

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

share in container ships; the Bahamas, the Isle of Man and the Marshall Islands have more than half of their tonnage in oil tankers; Bermuda caters largely for "other" vessels, including passenger ships such as ferries and cruise ships; Panama provides its flag above all to dry bulk carriers; and Saint Vincent and the Grenadines has the largest share in general cargo vessels (fig. 2.5).

2. Nationality of controlling interests

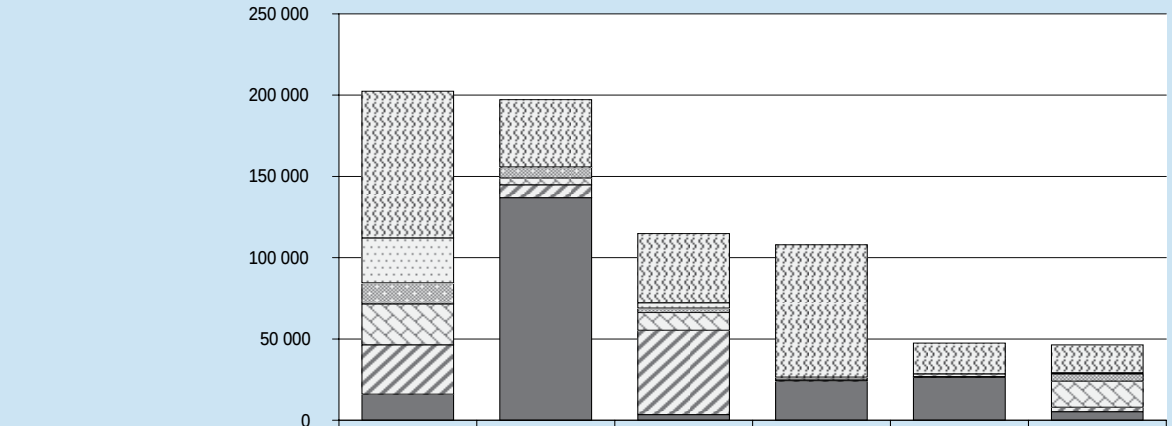
Figures 2.6 and 2.7 and annex IV combine data on the top 35 shipowning countries (table 2.5) with information on the top 20 flags of registration (table 2.7). This allows us to identify in more detail (a) which flags cater mostly for national owners; and (b) which open and international registries specialize in which countries of ownership.

Among the top 20 registries, seven are "national" registries, catering mostly for owners from the same country. These are the flags of China, Germany, Greece, India, Italy, Japan and the Republic of Korea. Some of the national registries also provide their national flag to foreign owners. Within the European Union especially, it is increasingly common for owners from partner countries to register their ships under other members' flags. In the case of Italy, the Lloyd Triestino company is effectively owned by Evergreen Line from Taiwan Province of China, and it deploys ships owned by Greek as well as Taiwanese interests; indeed, 4.7 per cent of the tonnage registered in Italy belongs to Greek and Taiwanese owners (annex IV).

Two of the top 20 flags can be called "international registries" – notably DIS (the Danish International Ship Register) and NIS (the Norwegian International Ship Register). These international registries cater mostly for owners from their respective countries, albeit under conditions that are more favorable than those of the more classic national registries, which, for example, place stricter limitations on the employment of foreign seafarers. Danish owners account for 98.8 per cent of the tonnage under the DIS registry, whereas in the case of NIS, 25 per cent of the owners are from other countries. These foreign owners include Bermuda-based companies, whose shareholders, in turn, include Norwegian nationals.

Eight of the top 20 flags of registration are major "open registries", catering almost entirely for foreign owners. These are Antigua and Barbuda, the Bahamas, Cyprus, the Isle of Man, Liberia, Malta, the Marshall Islands and Panama. German owners account for more than 90 per cent of the tonnage registered in Antigua and Barbuda. Cyprus has a much broader portfolio of owners among its clients, including

Figure 2.6. Major countries of ownership and their flags of registration, 2011[a], *(beginning-of-year figures, thousands of dwt)*



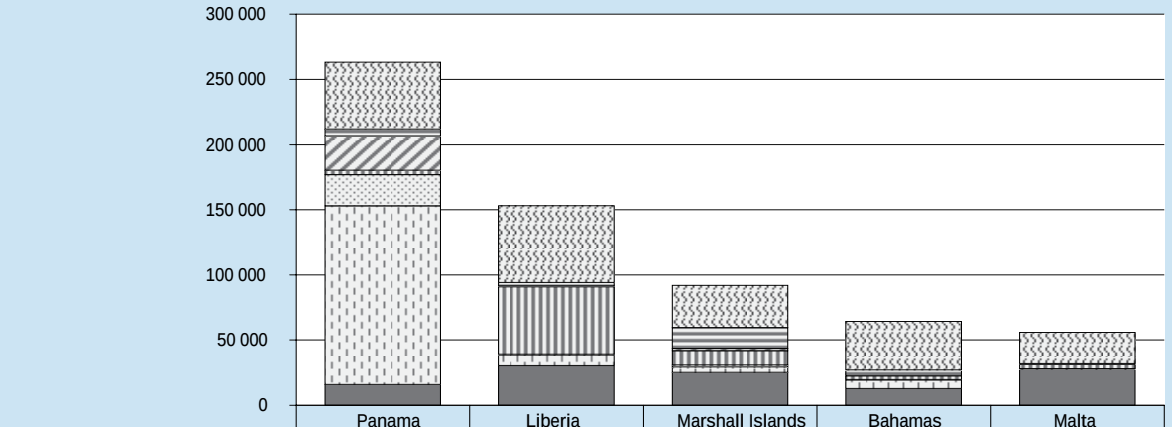
Flag of registration	Greece	Japan	Germany	China	Republic of Korea	United States
National and all other flags	90 237	41 485	42 532	81 484	18 953	17 249
Malta	27 702	200	3 280	106	8	655
Bahamas	12 887	6 587	2 777	242	6	4 532
Marshall Islands	25 198	4 180	10 939	1 425	1 682	16 033
Liberia	30 417	7 889	51 875	735	513	2 728
Panama	15 947	136 889	3 370	23 978	26 292	5 178

Country of ownership

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 1000 gross tons and above.

Figure 2.7. Major open and international registries and the countries of ownership, 2011[a] *(beginning-of-year figures, thousands of dwt)*



Country of ownership	Panama	Liberia	Marshall Islands	Bahamas	Malta
All other owners	51 503	58 833	32 526	37 229	23 839
United States	5 178	2 728	16 033	4 532	655
Republic of Korea	26 292	513	1 682	6	8
Germany	3 370	51 875	10 939	2 777	3 280
China	23 978	735	1 425	242	106
Japan	136 889	7 889	4 180	6 587	200
Greece	15 947	30 417	25 198	12 887	27 702

Flags of registration

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Cargo-carrying vessels of 1,000 gross tons and above.

more than 4 million dwt of tonnage registered by Cypriot nationals. The single largest flag/ownership combination in the world fleet is the 137 million dwt of Japanese-owned tonnage registered in Panama; Japanese owners account for 45 per cent of the fleet of the world's largest registry.

Some registries have historical or other special relations with the countries where the shipowning companies are domiciled. The Marshall Islands, for example, has an agreement with the United States that the United States Coast Guard also acts as coast guard for the Marshall Islands. Liberia has a double tax agreement with Germany, which makes the registry more attractive for an owner who wants to employ German officers. European registries such as Cyprus, the Isle of Man and Malta benefit from the European common market, which allows European-flagged ships to provide certain cabotage services in EU member countries.

Finally, there are three registries among the top 20 flags that include both national owners and a significant share of owners from other countries or territories. These are Hong Kong (China), Singapore, and the United Kingdom. Owners from China and from Hong Kong (China) together account for about three fifths of the tonnage registered in Hong Kong (China), the remainder belonging mostly to owners from Canada, Japan, Norway and the United States. About 28 per cent of Singapore's nationally registered fleet belongs to owners from Singapore, with the largest foreign fleets owned by nationals of Denmark and Japan. The flag of the United Kingdom (not including the registries of Gibraltar, Guernsey, the Isle of Man and Jersey) is used mostly by owners from other European countries – especially Denmark, France and Germany.

D. SHIPBUILDING, DEMOLITION, AND OUTLOOK ON VESSEL SUPPLY

1. Deliveries of newbuildings

The year 2010 set a new record in the history of shipbuilding, which was the result of vessel orders that had been placed before the 2008 economic crisis. The deliveries recorded amounted to 3,748 ships, with a total gross tonnage of 96,433,000 GT (table 2.9). Although this is a historic record, it is lower than was expected in early 2010, because owners and shipyards continued to defer some deliveries. In the container sector especially, "non-deliveries" amounted to an estimated 39 per cent of the order book.[21]

In terms of gross tonnage, 45.2 per cent of the deliveries made in 2010 were of dry bulk carriers, and 27.7 per cent were of tankers. The latter included 467 chemical and products tankers, with a total tonnage of 7.8 million GT. New fully cellular container ships accounted for 15.2 per cent of the gross tonnage delivered in 2010.

Dry bulk carriers have continued to dominate deliveries in 2011, too. During the first quarter of the year, the dry bulk fleet grew by 2.7 per cent, resulting from the delivery of 222 new vessels and the demolition of only 67.[22] Containership deliveries in early 2011 included a large number of vessels of 10,000 TEUs and above; monthly deliveries amounted to more than 200,000 TEUs.[23]

The time lag between ordering a vessel and having it delivered is two to three years. After the peak in the vessel order book in 2008 (see fig. 2.10), 2010 marked a historic peak in vessel deliveries. In terms of deadweight tonnage, deliveries in 2010 amounted to 11.7 per cent of the existing fleet at the beginning of the same year. The previous historic peak was in 1974, when deliveries amounted to approximately 11 per cent of the existing fleet.

The peak in the mid-1970s was followed by a severe slump. Given the lessons from history, and awareness of the upcoming deliveries, it could perhaps be expected that such a slump will not be repeated. In fact, since 2010, the industry has seen resumed vessel ordering in all major markets, although there is no guarantee that this will suffice to cater for the upturn in demand. Already there are warnings that 2013 might see a shortage of oil tankers.[24] In the dry bulk and container sectors, however, the voices that are prevailing are those that expect an oversupply of tonnage in the coming years. In both dry sectors, the recent and upcoming record-sized newbuildings pose a further challenge to owners, who will need to find cargo to fill their ships.

For all vessel types, the expansion of yard capacities suggests that shipbuilding countries may build ships beyond the market's requirements, being more concerned about employment in shipbuilding. In practice, constructing more ships than required amounts to a subsidy on world trade, as this causes a fall in vessel prices, and consequently in freight costs too (see also chapter 3).

Table 2.9. Deliveries of newbuildings, different vessel types *(2010)*

	1 000 GT	Percentage	Units	1 000 TEU	1 000 dwt
Tankers					
Crude oil tanker	13 357	13.85	121	0	25 431
Chemical/products tanker	4 424	4.59	300	0	7 136
Products tanker	3 354	3.48	167	0	5 763
LNG tanker	2 790	2.89	26	0	2 263
Crude/oil products tanker	1 568	1.63	28	0	2 856
LPG tanker	869	0.90	61	0	991
Chemical tanker	96	0.10	21	0	154
Other tankers	296	0.31	19	0	435
Subtotal tankers	26 755	27.74	743	0	45 028
Bulk carriers					
Bulk carrier	40 276	41.77	949	1	73 424
Ore carrier	2 078	2.15	15	0	4 078
Ore/oil carrier	861	0.89	5	0	1 599
Woodchip carrier	239	0.25	5	0	302
Bulk carrier, self-discharging	48	0.05	3	0	73
Cement carrier	47	0.05	6	0	69
Aggregates carrier	1	0.00	2	0	2
Subtotal bulk carriers	43 549	45.16	985	1	79 547
Other dry cargo/passenger					
Container ship (fully cellular)	14 648	15.19	260	1 361	16 470
Vehicle carrier	3 088	3.20	64	2	998
General cargo ship	2 388	2.48	350	93	3 267
Passenger/cruise	1 245	1.29	17	0	102
Open hatch cargo ship	899	0.93	32	8	1 437
Ro-ro cargo ship	514	0.53	19	4	230
Passenger/ro-ro ship (vehicles)	461	0.48	46	0	111
Heavy load carrier, semi-submersible	89	0.09	4	2	80
Refrigerated cargo ship	54	0.06	6	2	55
Other dry cargo/passenger	182	0.19	76	2	203
Subtotal other dry cargo/passenger	23 568	24.44	874	1 474	22 952
Miscellaneous					
Tug	165	0.17	464	0	80
Trailing suction hopper dredger	150	0.16	14	0	208
Research survey vessel	113	0.12	22	0	51
Hopper, motor	28	0.03	10	0	41
Crane ship	26	0.03	2	0	0
Cutter suction dredger	23	0.02	3	0	8
Fishing vessels	43	0.04	66	0	31
Other miscellaneous	111	0.11	95	- 0	61
Subtotal miscellaneous	657	0.68	676	0	480

Table 2.9. Deliveries of newbuildings, different vessel types (2010) *(concluded)*

	1 000 GT	Percentage	Units	1 000 TEU	1 000 dwt
Offshore					
Drilling ship	612	0.64	11	0	596
Anchor handling tug supply	538	0.56	235	0	441
Platform supply ship	223	0.23	92	0	265
Offshore support vessel	129	0.13	18	0	88
Pipe layer crane vessel	90	0.09	4	0	38
Offshore tug/supply ship	79	0.08	43	0	74
Diving support vessel	67	0.07	10	0	42
Crew/supply vessel	14	0.01	47	0	8
Other offshore	151	0.16	10	0	186
Subtotal offshore	1 904	1.97	470	0	1 739
Total deliveries in 2010	96 433	100.00	3 748	1 475	149 746

Source: Compiled by the UNCTAD secretariat on the basis of data from IHS Fairplay.

2. Demolition of ships

Total ship-recycling activity in 2010 was similar to that in 2009, albeit with a change of vessel types. Demolitions of tankers more than doubled, whereas demolitions of container ships decreased by more than half. Tankers accounted for 41.5 per cent of the gross tonnage demolished in 2010, followed by container and other dry cargo and passenger ships (36 per cent) and dry bulk carriers (15 per cent) (table 2.10).

Figure 2.8 illustrates the age profile of the fleet demolished in 2010. Above all, the fleet demolished consisted of oil tankers built in the 1980s and early 1990s, dry bulk vessels built in the early 1980s, and general cargo ships built in the 1970s and 1980s. The trend in the average age of demolished tonnage by vessel type is illustrated in figure 2.9. While the average age went down between 2007 and 2009 during the economic crisis, in 2010 it remained mostly stable. The age differences between vessel types when demolished broadly reflect the age differences of the existing fleet (see also table 2.4).

If we compare cargo-carrying capacity in terms of the number of deadweight tons delivered and demolished, there were 15 times more deliveries of dry bulk tonnage than demolitions. For the remainder of the fleet, the ratio was only 3:1.

3. Tonnage on order

By the end of 2010, the world order book for new ships had been reduced by about 28 per cent since its peak before the 2008 economic crisis, and newbuildings now by far outnumber new vessel orders. Compared to the peak time, the reduction amounted to 45 per cent for container ships, 34 per cent for tankers, and 18 per cent for dry bulk carriers (table 2.11 and fig. 2.10).

As demand has picked up, new orders have resumed. The orders placed with Japanese shipyards as at January 2011 had more than tripled compared to one year earlier.[25] End-of-2010 data for China suggest that new orders in Chinese shipyards increased fourfold in the space of one year.[26] Many of the new orders are for container ships, with the value of the vessels ordered during the first three months of 2011 reportedly amounting to $7 billion – compared to orders worth $2.8 billion for dry bulk ships and just $0.5 billion for tankers.[27]

4. Surplus tonnage

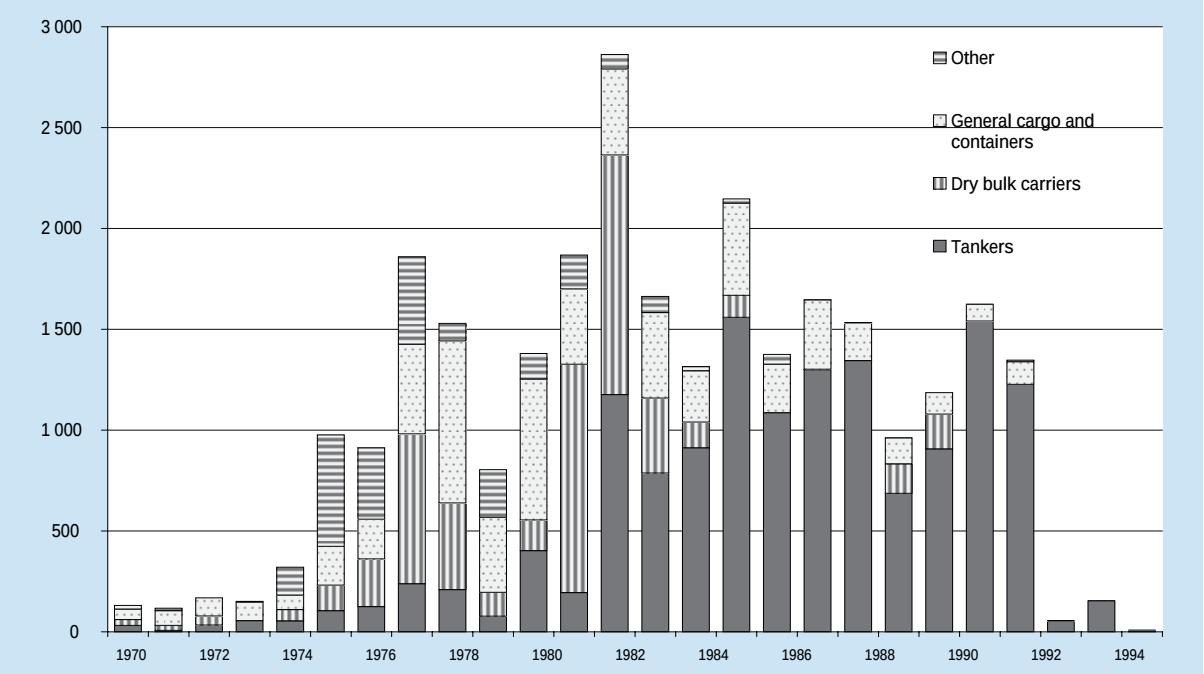
The combined idle tonnage of large tankers, dry bulk carriers and conventional general cargo ships at the end of 2010 stood at 14.1 million dwt, equivalent to 1.4 per cent of the world merchant fleet of these vessel types (table 2.12 and fig. 2.11). The overtonnage was

Table 2.10. Tonnage reported sold for demolition, different vessel types *(2010)*

		1 000 GT	Per cent	Units	1 000 TEU	1 000 dwt
Tankers						
	Crude oil tanker	3 785	18.72	50	0	6 888
	Crude/oil products tanker	1 454	7.19	38	0	2 555
	Products tanker	975	4.82	62	0	1 577
	Chemical/products tanker	927	4.58	79	0	1 528
	LPG tanker	453	2.24	24	0	545
	Chemical tanker	361	1.79	35	0	575
	LNG tanker	72	0.36	1	0	51
	Other tankers	355	1.76	28	0	599
	Subtotal tankers	8 382	41.45	317	0	14 316
Bulk Carriers						
	Bulk carrier	2 783	13.76	95	4	4 953
	Cement carrier	67	0.33	9	0	106
	Ore carrier	60	0.30	1	0	115
	Aggregates carrier	0	0.00	1	0	1
	Other bulk carriers	89	0.44	5	0	140
		2 999	14.83	111	4	5 315
Other Dry Cargo/ Passenger						
	Container ship (fully cellular)	1 995	9.87	82	146	2 214
	Vehicles carrier	1 694	8.37	45	2	662
	General cargo ship	1 587	7.85	320	43	2 210
	Ro-ro cargo ship	787	3.89	50	25	521
	Passenger/ro-ro ship (vehicles)	408	2.02	44	2	107
	Refrigerated cargo Ship	305	1.51	39	1	318
	Heavy load carrier	75	0.37	3	0	107
	Passenger/cruise	74	0.37	7	0	22
	Open hatch cargo ship	21	0.10	1	1	32
	Other dry cargo/passenger	305	1.51	29	10	307
	Subtotal dry cargo/passenger	7 252	35.86	620	231	6 500
Miscellaneous						
	Fishing vessel	106	0.52	120	0	70
	Research survey vessel	24	0.12	8	0	10
	Trailing suction hopper dredger	19	0.09	6	0	19
	Tug	7	0.04	22	0	3
	Other miscellaneous and vessel type not reported	747	3.17	88	6	1 060
	Subtotal miscellaneous	903	3.94	244	6	1 162
Offshore						
	Anchor handling tug supply	10	0.05	8	0	11
	Pipe layer	8	0.04	1	0	5
	Platform supply ship	5	0.02	6	0	5
	Offshore tug/supply ship	4	0.02	6	0	5
	Other offshore	659	3.26	11	0	1 318
	Subtotal offshore	685	3.39	32	0	1 344
Total demolished in 2010		20 221	100.00	1 324	241	28 637

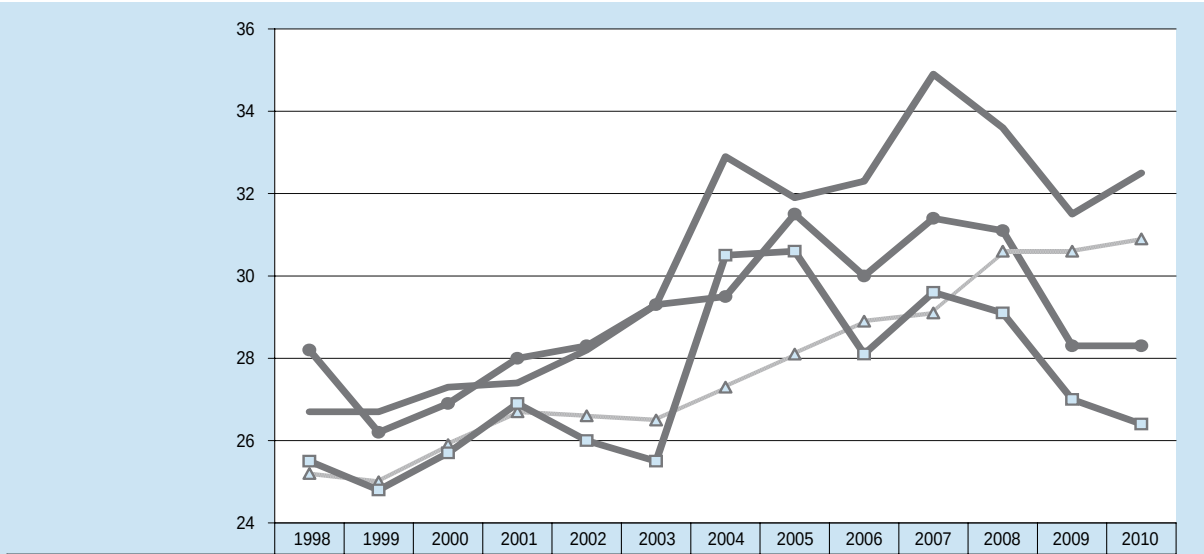
Source: Compiled by the UNCTAD secretariat on the basis of data from IHS Fairplay.

Figure 2.8. Tonnage reported sold for demolition in 2010, by year of built *(thousands of dwt)*



Source: Compiled by the UNCTAD secretariat on the basis of data from IHS Fairplay.

Figure 2.9. Average age of broken-up ships, by type, 1998 to 2010[a] *(years)*



	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Tankers	28.2	26.2	26.9	28.0	28.3	29.3	29.5	31.5	30.0	31.4	31.1	28.3	28.3
Dry bulk carriers	25.2	25.0	25.9	26.7	26.6	26.5	27.3	28.1	28.9	29.1	30.6	30.6	30.9
Container ships	25.5	24.8	25.7	26.9	26.0	25.5	30.5	30.6	28.1	29.6	29.1	27.0	26.4
General cargo ships	26.7	26.7	27.3	27.4	28.2	29.3	32.9	31.9	32.3	34.9	33.6	31.5	32.5

Source: Compiled by the UNCTAD secretariat, on the basis of data from the Institute of Shipping Economics and Logistics presented in *Shipping Statistics and Market Review*, vol. 53, no. 1/2 – 2011, table 2.2.

[a] Ships of 300 gross tons and over.

Table 2.11. World tonnage on order, 2000–2010[a] *(in millions of dwt)*

Beginning of month	Tankers			Bulk carriers			General cargo ships		
	1 000 dwt	Number of ships	Average vessel size, dwt	1 000 dwt	Number of ships	Average vessel size, dwt	1 000 dwt	Number of ships	Average vessel size, dwt
December 2000	40 328	284	142 001	31 208	486	64 214	3 966	446	8 892
March 2001	44 361	319	139 061	27 221	439	62 007	3 963	441	8 986
June 2001	45 123	339	133 105	26 103	400	65 258	4 154	419	9 914
September 2001	48 386	381	126 998	21 944	337	65 115	3 967	393	10 094
December 2001	51 894	399	130 060	22 184	353	62 845	3 826	372	10 286
March 2002	47 836	404	118 405	19 027	300	63 425	3 758	357	10 525
June 2002	49 564	425	116 622	18 132	283	64 069	3 932	353	11 139
September 2002	47 774	431	110 845	18 869	283	66 676	3 979	369	10 782
December 2002	47 591	488	97 523	28 641	391	73 251	2 832	257	11 018
March 2003	50 284	515	97 639	32 019	441	72 605	2 958	263	11 249
June 2003	55 771	540	103 279	33 408	455	73 425	2 592	250	10 368
September 2003	57 856	580	99 752	41 499	575	72 172	2 841	269	10 562
December 2003	61 123	631	96 867	46 732	640	73 019	3 068	295	10 400
March 2004	62 096	615	100 969	48 761	671	72 670	3 021	312	9 683
June 2004	66 652	649	102 699	50 545	696	72 623	2 838	317	8 954
September 2004	66 969	661	101 314	52 768	703	75 061	2 921	323	9 043
December 2004	71 563	701	102 087	62 051	796	77 953	3 306	370	8 935
March 2005	68 667	679	101 129	63 404	792	80 055	3 312	388	8 536
June 2005	70 520	686	102 799	65 326	801	81 556	4 079	456	8 945
September 2005	68 741	693	99 193	63 495	788	80 578	4 777	521	9 170
December 2005	70 847	724	97 855	66 614	805	82 750	5 088	584	8 712
March 2006	83 385	791	105 417	63 829	784	81 415	5 798	634	9 145
June 2006	93 277	887	105 160	69 055	859	80 390	7 370	683	10 791
September 2006	106 912	987	108 321	73 226	898	81 543	7 602	715	10 632
December 2006	118 008	1 078	109 470	79 364	988	80 328	8 004	737	10 860
March 2007	120 819	1 113	108 553	100 256	1 204	83 269	9 561	843	11 342
June 2007	122 429	1 107	110 595	143 795	1 657	86 781	10 782	885	12 184
September 2007	124 758	1 149	108 580	183 574	2 137	85 903	12 042	956	12 597
December 2007	124 845	1 134	110 093	221 808	2 573	86 206	13 360	1 035	12 908
March 2008	128 128	1 139	112 492	243 600	2 804	86 876	15 097	1 195	12 633
June 2008	142 333	1 202	118 413	262 452	3 009	87 222	15 911	1 255	12 678
September 2008	151 423	1 245	121 625	288 959	3 316	87 141	16 787	1 332	12 603
December 2008	140 504	1 154	121 754	292 837	3 347	87 492	17 849	1 374	12 991
March 2009	130 777	1 088	120 200	289 763	3 303	87 727	17 439	1 363	12 795
June 2009	119 709	986	121 409	280 102	3 194	87 696	16 684	1 296	12 874
September 2009	114 460	934	122 548	269 558	3 050	88 380	16 354	1 264	12 939
December 2009	109 310	884	123 654	258 343	2 918	88 534	15 018	1 179	12 738
March 2010	104 062	849	122 570	250 383	2 890	86 638	14 199	1 139	12 466
June 2010	103 245	824	125 297	257 229	2 951	87 167	13 480	1 095	12 311
September 2010	106 599	791	134 765	252 924	2 887	87 608	12 361	1 023	12 083
December 2010	100 442	741	135 549	239 898	2 823	84 980	13 487	989	13 637
Percentage of total, December 2010	23.8	9.5		56.9	36.1		3.2	12.6	

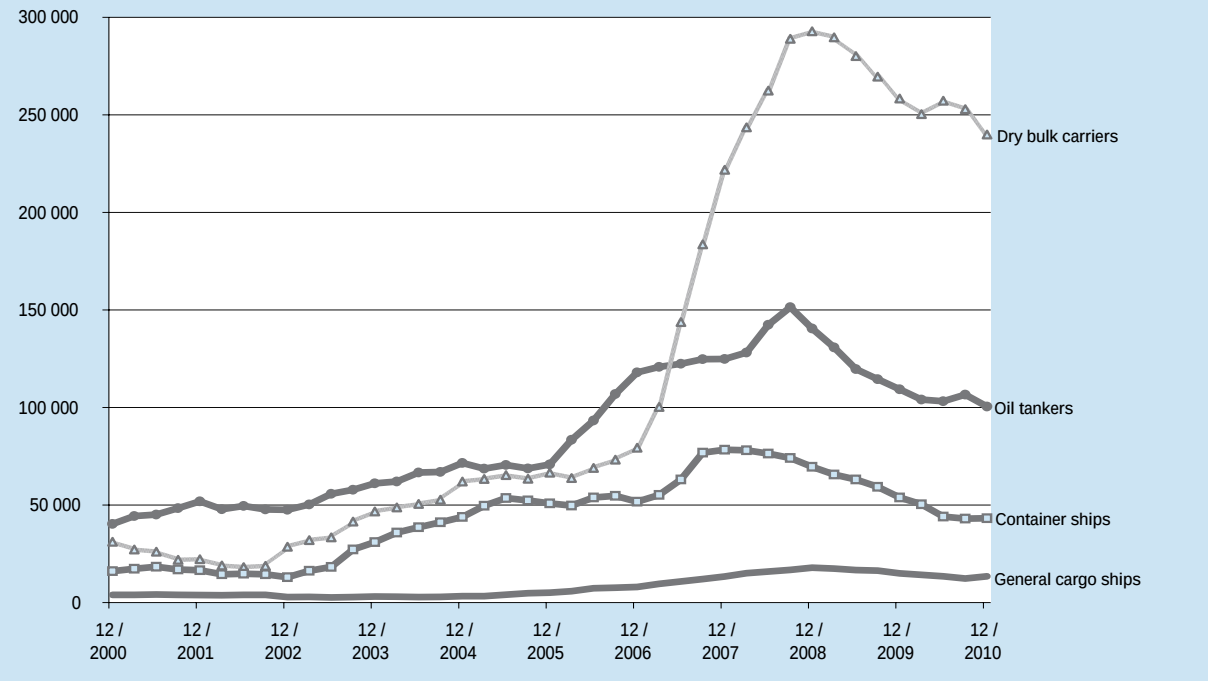
Table 2.11. World tonnage on order, 2000–2010[a] *(in millions of dwt) (concluded)*

Container vessels			Other ships			Total			Beginning of month
1 000 dwt	Number of Ships	Average vessel size, dwt	1 000 dwt	Number of Ships	Average vessel size, dwt	1 000 dwt	Number of Ships	Average vessel size, dwt	
16 140	394	40 964	8 870	1 087	8 160	100 513	2 697	37 268	**December 2000**
17 350	435	39 884	10 154	1 132	8 970	103 048	2 766	37 255	**March 2001**
18 393	441	41 708	11 790	1 138	10 360	105 563	2 737	38 569	**June 2001**
16 943	413	41 025	12 181	1 153	10 564	103 421	2 677	38 633	**September 2001**
16 550	393	42 111	13 501	1 201	11 242	107 955	2 718	39 719	**December 2001**
14 476	355	40 776	12 839	1 200	10 700	97 936	2 616	37 437	**March 2002**
14 793	362	40 865	15 415	1 324	11 643	101 836	2 747	37 072	**June 2002**
14 509	338	42 927	15 342	1 292	11 875	100 473	2 713	37 034	**September 2002**
13 000	296	43 919	16 174	1 386	11 669	108 238	2 818	38 409	**December 2002**
16 281	326	49 943	16 199	1 365	11 868	117 742	2 910	40 461	**March 2003**
18 296	367	49 853	17 085	1 367	12 498	127 152	2 979	42 683	**June 2003**
27 216	503	54 107	18 062	1 484	12 171	147 475	3 411	43 235	**September 2003**
30 974	580	53 403	19 277	1 492	12 920	161 174	3 638	44 303	**December 2003**
35 840	658	54 468	20 068	1 520	13 203	169 786	3 776	44 965	**March 2004**
38 566	724	53 268	22 833	1 682	13 575	181 434	4 068	44 600	**June 2004**
41 172	808	50 956	24 368	1 714	14 217	188 198	4 209	44 713	**September 2004**
43 904	880	49 891	27 361	1 898	14 416	208 185	4 645	44 819	**December 2004**
49 624	1 006	49 328	27 328	1 940	14 087	212 335	4 805	44 190	**March 2005**
53 605	1 101	48 688	29 884	2 002	14 927	223 414	5 046	44 275	**June 2005**
52 378	1 132	46 271	31 209	2 158	14 462	220 600	5 292	41 686	**September 2005**
50 856	1 124	45 245	33 147	2 285	14 506	226 551	5 522	41 027	**December 2005**
49 749	1 130	44 026	36 750	2 373	15 487	239 512	5 712	41 931	**March 2006**
53 876	1 185	45 465	39 768	2 522	15 768	263 347	6 136	42 918	**June 2006**
54 676	1 199	45 601	42 322	2 714	15 594	284 738	6 513	43 718	**September 2006**
51 717	1 143	45 247	45 612	2 962	15 399	302 706	6 908	43 820	**December 2006**
55 144	1 229	44 869	49 245	3 327	14 802	335 025	7 716	43 420	**March 2007**
63 063	1 305	48 324	52 382	3 562	14 706	392 451	8 516	46 084	**June 2007**
76 804	1 412	54 394	56 767	3 864	14 691	453 945	9 518	47 693	**September 2007**
78 348	1 435	54 598	56 947	3 876	14 692	495 309	10 053	49 270	**December 2007**
78 042	1 419	54 998	58 304	4 174	13 968	523 171	10 731	48 753	**March 2008**
76 388	1 352	56 500	57 574	4 302	13 383	554 657	11 120	49 879	**June 2008**
74 090	1 322	56 044	56 563	4 442	12 734	587 823	11 657	50 427	**September 2008**
69 593	1 209	57 563	52 088	4 256	12 239	572 871	11 340	50 518	**December 2008**
65 610	1 121	58 528	48 131	4 117	11 691	551 720	10 992	50 193	**March 2009**
63 064	1 028	61 346	43 989	3 796	11 588	523 548	10 300	50 830	**June 2009**
59 314	948	62 567	40 947	3 591	11 403	500 632	9 787	51 153	**September 2009**
53 903	813	66 301	37 434	3 428	10 920	474 008	9 222	51 400	**December 2009**
50 416	732	68 874	34 804	3 396	10 248	453 864	9 006	50 396	**March 2010**
44 071	628	70 176	30 135	3 137	9 606	448 160	8 635	51 900	**June 2010**
43 060	600	71 766	26 003	2 849	9 127	440 946	8 150	54 104	**September 2010**
43 180	566	76 289	24 888	2 702	9 211	421 895	7 821	53 944	**December 2010**
10.2	7.2		5.9	34.5		100.0	100.0		**Percentage of total, December 2010**

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 100 gross tons and above.

Figure 2.10. World tonnage on order, 2000–2010[a] *(thousands of dwt)*



Source: Compiled by the UNCTAD secretariat on the basis of data supplied by IHS Fairplay.

[a] Seagoing propelled merchant ships of 100 gross tons and above..

Table 2.12. Tonnage oversupply in the world merchant fleet, selected years *(end-of-year figures)*

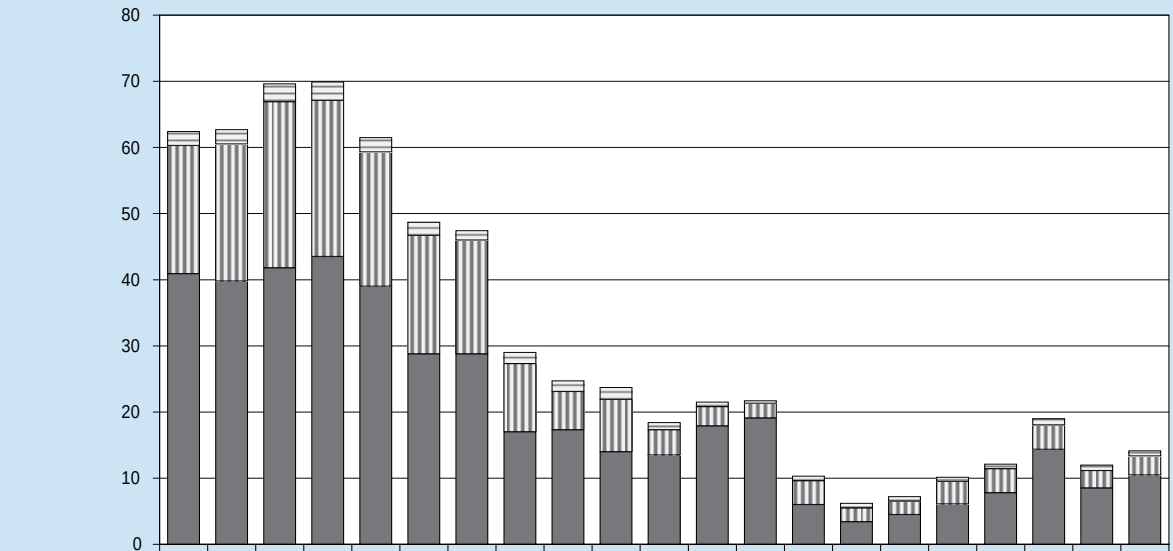
	1990	2000	2005	2006	2007	2008	2009	2010
				Millions of dwt				
Merchant fleet, three main vessel types[a]	558.5	586.4	697.9	773.9	830.7	876.2	930.3	1 023.3
Idle fleet[b]	62.4	18.4	7.2	10.1	12.1	19.0	12.0	14.1
Active fleet	496.1	568.0	690.7	763.7	818.6	857.2	918.3	1 009.1
				Percentages				
Idle fleet as a percentage of merchant fleet	11.2	3.1	1.0	1.3	1.5	2.2	1.3	1.4

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by *Lloyd's Shipping Economist*, various issues.

[a] Tankers and dry bulk carriers of 10,000 dwt and above, and conventional general cargo vessels of 5,000 dwt and above.

[b] Surplus tonnage is defined as tonnage that is not fully utilized because of slow steaming or lay-up status, or because it is lying idle for other reasons.

Figure 2.11. Trends in surplus capacity by main vessel types, selected years



	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
General cargo	2.1	2.2	2.7	2.8	2.2	2.0	1.4	1.7	1.6	1.8	1.1	0.7	0.4	0.7	0.7	0.7	0.6	0.7	1.0	0.8	0.8
Dry bulk	19.4	20.7	25.1	23.6	20.3	17.9	17.2	10.3	5.8	7.9	3.8	2.9	2.2	3.6	2.1	2.0	3.4	3.6	3.7	2.6	2.9
Tankers	40.9	39.8	41.8	43.5	39.0	28.8	28.8	17.0	17.3	14.0	13.5	17.9	19.1	6.0	3.4	4.5	6.1	7.8	14.4	8.5	10.5

Source: Compiled by the UNCTAD secretariat on the basis of data from *Lloyd's Shipping Economist*, various issues.

highest for ro-ro vessels (3.21 per cent of the world fleet), followed by LNG carriers (2.99 per cent), oil tankers (2.34 per cent) and general cargo ships (1.47 per cent). It was lowest in the dry bulk sector, where idle tonnage accounted for only 0.55 per cent of the existing fleet (table 2.13).

The idle tonnage in the container market had been significantly reduced by early 2011. As a result of slow steaming, increased demand, and delays in new deliveries, only a few container ships remained idle by this time. By the same token, demand for LNG tankers had increased by early 2011, with very few vessels available for the spot market.[28]

With the aim of reducing fuel expenditure and vessel overcapacity, container lines in 2010 and 2011 continued to deploy ships at reduced operating speeds (i.e. "slow steaming"). Oil tankers, too, have been reported to reduce their speeds from as fast as 24 knots to under 12 knots on the empty return leg, achieving savings of up to $22,000 per day.[29]

In container shipping, the majority of Asia–Europe services run at only 17 to 19 knots (or nautical miles per hour, equivalent to 31.5–35 kilometres per hour), compared to the normal speeds of 21 to 25 knots. Depending on fuel prices, this is estimated to save the shipping line up to $100 per delivered TEU on major East–West routes. For the owner of the cargo, however, the additional inventory costs and requirements for safety stocks can far outweigh the savings made on the transport costs.[30]

In the longer term, it can be expected that demands from importers and exporters will put pressure on shipping lines to increase service speeds. While lines will be able to charge higher freights for faster services, the released containership capacity will put downward pressure on overall freight levels. From the perspective of the importer or exporter, this could be one more reason to insist on faster services.

Carriers may complain that there is an overcapacity of ships, however importers and exporters are happy about the resulting spare transport capacity to cater for the reviving international trade. In 2009 and 2010, shipyards delivered record levels of new tonnage – not only in absolute terms, but even in relative terms, as a percentage of the existing fleet. As has been shown in this chapter, throughout and after the economic crisis, the shipping industry has provided the supply of vessels that has been necessary to carry the growing demand from seaborne trade (see chapter 1). Matching supply with volatile demand will continue to be a challenge for the industry; this is dealt with in chapter 3.

Table 2.13. Analysis of tonnage surplus by main type of vessel, selected years[a] *(in millions of dwt or m³)*

(In millions of dwt or m³)	1990	2000	2005	2006	2007	2008	2009	2010
World tanker fleet (dwt)	266.2	279.4	312.9	367.4	393.5	414.04	435.25	447.64
Idle tanker fleet (dwt)	40.9	13.5	4.5	6.1	7.8	14.35	8.51	10.48
Share of idle fleet in tanker fleet (%)	15.4	4.8	1.4	1.7	2.0	3.47	1.96	2.34
World dry bulk fleet (dwt)	228.7	247.7	340.0	361.8	393.5	417.62	452.52	522.52
Idle dry bulk fleet (dwt)	19.4	3.8	2.0	3.4	3.6	3.68	2.64	2.86
Share of idle fleet in dry bulk fleet (%)	8.5	1.5	0.6	0.9	0.9	0.88	0.58	0.55
World conventional general cargo fleet (dwt)	63.6	59.3	45.0	44.7	43.8	44.54	42.53	53.10
Idle conventional general cargo fleet (dwt)	2.1	1.1	0.7	0.6	0.7	0.97	0.83	0.78
Share of idle fleet in general cargo fleet (%)	3.3	1.9	1.6	1.4	1.6	2.18	1.95	1.47
World ro-ro fleet (dwt)	n.a.	n.a.	n.a.	n.a.	n.a.	11.37	10.93	10.28
Idle ro-ro fleet (dwt)	n.a.	n.a.	n.a.	n.a.	n.a.	0.89	0.73	0.33
Share of idle fleet in ro-ro fleet (%)	n.a.	n.a.	n.a.	n.a.	n.a.	7.83	6.68	3.21
World vehicle carrier fleet (dwt)	n.a.	n.a.	n.a.	n.a.	n.a.	11.27	11.20	11.48
Idle vehicle carrier fleet (dwt)	n.a.	n.a.	n.a.	n.a.	n.a.	0.24	0.55	0.13
Share of idle fleet in vehicle carrier fleet (%)	n.a.	n.a.	n.a.	n.a.	n.a.	2.13	4.91	1.13
World LNG carrier fleet (m³)	n.a.	n.a.	n.a.	n.a.	n.a.	44.43	46.90	51.15
Idle LNG carrier fleet (m³)	n.a.	n.a.	n.a.	n.a.	n.a.	5.87	1.29	1.53
Share of idle fleet in LNG fleet (%)	n.a.	n.a.	n.a.	n.a.	n.a.	13.21	2.75	2.99
World LPG carrier fleet (m³)	n.a.	n.a.	n.a.	n.a.	n.a.	11.56	18.50	19.42
Idle LPG carrier fleet (m³)	n.a.	n.a.	n.a.	n.a.	n.a.	0.94	0.10	0.13
Share of idle fleet in LNG fleet (%)	n.a.	n.a.	n.a.	n.a.	n.a.	8.13	0.54	0.67

Source: Compiled by the UNCTAD secretariat on the basis of data from *Lloyd's Shipping Economist*, various issues.

[a] End-of-year figures, except for 1990 and 2000 which are annual averages. This table excludes tankers and dry bulk carriers of less than 10,000 dwt and conventional general cargo/unitized vessels of less than 5,000 dwt.

ENDNOTES

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6 The nominal capacity may vary if empties are included. According to one estimate, the new Maersk ships could reach up to 20,000 TEUs. Source: The Motorship (2011), quoting Alphaliner. 25 January. http://www.motorship.com.

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12 *Seatrade* (2011). Issue 2. Colchester. April.

13 Clarkson Research Services (2011). *Container Intelligence Monthly*. London. April.

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15 *Cargo Systems* (2011). 19 May. http://www.cargosystems.net.

16 *Journal of Commerce* (2011). 8 March. http://www.joc.com.

17 Information in this section is based on data on commercial seagoing vessels of 1,000 GT and above.

18 Please refer to annex I for the classification of countries.

19 *Shipping and Finance* (2010). Athens. October.

20 Information in this section is based on data on vessels of 100 GT and above (see also annex III.(b), except where the country of vessel ownership is considered. In the latter case, the data are for vessels of 1,000 GT and above.

21 *Containerisation International*, www.ci-online.co.uk, 6 April 2011, quoting Trevor Crowe of Clarkson Research Services.

22 *Hellenic Shipping News*, www.hellenicshippingnews.com, 12 April 2011, quoting BIMCO.

23 *ifw*, www.ifw-net.com, May 2011, quoting Alphaliner.

24 *Fairplay*, www.fairplay.co.uk, 17 March 2011.

25 *Journal of Commerce* (2011). 21 February. http://www.joc.com.

26 *Bloomberg* (2011). 6 January. http://www.bloomberg.com.

27 *Lloyd's List* (2011). 26 April. http://www.lloydslist.com.

28 *Lloyd's List (*2011). 8 February. http://www.lloydslist.com.

29 *Lloyd's Lis*t (2011). 22 February. http://www.lloydslist.com.

30 DNV (2010). Container Ship Update. No. 2. Oslo.