UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT
Geneva

REVIEW OF MARITIME TRANSPORT 2007

Report by the UNCTAD secretariat

UNITED NATIONS

New York and Geneva, 2007

Chapter 4

TRADE AND FREIGHT MARKETS

This chapter describes conditions and trends in trade and freight markets, covering the major liner and bulk cargo sectors; it gives liner freight rates as a percentage of selected commodity prices, and it estimates freight payments as a percentage of import value. Although 2006 was a good year for all tanker market segments, these remained below the impressive levels recorded during the two previous years. Fuelled mainly by buoyant steel production in Asia, the dry cargo freight market fared better, with steady improvements in the Cape-size sector and continued strong performances in the Panamax and Handy-size sectors. Despite the downward pressure on the containership market resulting from a large tonnage delivery and order book, the continuing strong demand helped maintain the rates at healthy levels.

A. CRUDE OIL AND PETROLEUM PRODUCTS SEABORNE FREIGHT MARKET[14]

1. Seaborne trade in crude oil and petroleum products

In 2006, the tanker freight market evolved against a background of high oil prices, increased geopolitical tensions, fears about oil supply disruptions, OPEC decisions to cut production and a growing demand for oil. The main driving force for tanker shipping in 2006 continued to be the growing demand for oil. While imports into the United States and Western Europe continued to grow moderately, demand in the expanding economies, especially China, has been growing exponentially. It would appear that sustained growth of oil prices over the past few years had, so far, a limited impact on demand.

Projections for 2007 point to further increases in the global oil demand (2 per cent in 2007 compared with 1 per cent in 2006), further cuts in OPEC supply, possible disruptions to production in Nigeria, Iraq and the Islamic Republic of Iran, further growth of the tanker fleet, and uncertainty about the progressive enforcement of Regulation 13G under MARPOL Annex 1 on the phasing-out, by 2010, of single-hulled tankers.[15]

2. Tanker freight rates

All five freight indices collected for tanker ships dropped during the year (see table 31). However, it is worth noting that the drop in tanker freight indices from January through December was less pronounced in 2006, except for smaller tonnage (25,000–70,000 dwt) and clean tankers.

Despite the downward trend observed, a closer look at the average spot rates and time charter equivalent earnings indicates that tanker owners operated at a profit. Table 32 presents the average freight rates measured in Worldscale (WS),[16] a unified measure for establishing spot rates in the tanker market. The table focuses on

Table 31

Tanker freight indices, 2005–2007

(monthly figures)

	Lloyd's Shipping Economist				Baltic Tanker		
	>200	120–200	70–120	25–70	Clean	Dirty Index	Clean Index
2005							
October	109	186	249	376	385	1 532	1 815
November	179	225	269	358	312	2 174	1 801
December	149	257	257	286	284	2 147	1 296
Average	**100**	**157**	**191**	**271**	**287**	**1 494**	**1 331**
2006							
January	112	163	193	314	342	1 945	1 565
February	116	168	176	267	282	1 672	1 378
March	86	127	163	204	225	1 098	979
April	63	108	133	208	213	985	818
May	79	132	158	217	241	1 090	1 118
June	100	138	150	225	233	1 154	1 038
July	114	148	173	232	271	1 377	1 076
August	114	171	170	231	256	1 330	1 244
September	109	139	140	212	234	1 391	1 249
October	87	147	190	213	217	1 281	1 095
November	74	118	133	199	194	1 223	853
December	66	136	189	210	251	996	931
Average	**93**	**141**	**164**	**228**	**247**	**1 295**	**1 112**
2007							
January	63	124	187	209	219	1 316	1 185
February	65	116	159	237	226	1 190	907
March	81	112	145	220	282	1 094	1 065
April	63	122	145	229	264	1 398	1 096
May	79	108	161	235	244	1 236	1 045
June	63	110	113	211	242	1 006	1 151
July	59	91	128	216	208	1 026	941
August	52	85	97	185	174	977	900

Source: Executive Summary in *Lloyd's Shipping Economist*, several issues; Baltic Tanker indices reported for the first working day of the month. Ship sizes are expressed in deadweight capacity.

Table 32

Tanker market summary: clean and dirty spot rates, 2006–2007

(Worldscale (WS))

Vessel type	Routes	2005	2006											
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec
VLCC/ULCC (150,000 dwt+)														
	Persian Gulf–Japan	126	110	104	83	56	74	101	112	120	109	69	68	58
	Persian Gulf–Republic of Korea	137	110	104	76	56	68	102	119	109	109	72	66	59
	Persian Gulf–Europe	122	94	100	77	60	69	80	90	95	95	75	0	58
	Persian Gulf–Caribbean/East Coast of North America	113	87	101	70	59	68	89	92	90	93	68	66	55
	Persian Gulf–South Africa	185	116	135	75	52	70	120	100	121	127	81	..	64
Suezmax (100,000–149,999 dwt)														
	West Africa–North West Europe	227	167	168	128	129	147	145	154	176	135	157	115	122
	West Africa–Caribbean/East Coast of North America	244	164	150	129	120	143	129	159	174	135	148	122	130
	Mediterranean–Mediterranean	285	178	179	125	119	144	137	150	168	146	155	130	161
Aframax (50,000–99,999 dwt)														
	North West Europe–North West Europe	243	148	154	126	101	144	123	155	140	122	180	120	151
	North West Europe–Caribbean/ East Coast of North America	264	171	197	154	175	174	175	173	191	181	173	..	200
	Caribbean–Caribbean/East Coast of North America	235	241	211	204	133	195	186	205	200	170	235	187	231
	Mediterranean–Mediterranean	271	195	148	149	149	165	154	187	176	144	197	115	178
	Mediterranean–North West Europe	257	149	137	137	145	159	138	177	182	146	202	121	207
	Indonesia–Far East	335	251	166	132	123	115	152	201	218	223	171	154	152
Handy-size (less than 50,000 dwt)														
	Mediterranean–Mediterranean	327	342	203	165	191	205	200	224	230	230	204	229	190
	Mediterranean–Caribbean/East Coast of North America	286	303	0	173	189	218	215	270	265	265	197	201	174
	Caribbean–East Coast of North America/Gulf of Mexico	272	267	228	217	216	219	231	221	238	166	211	179	243
All Clean Tankers														
70,000–80,000 dwt	Persian Gulf–Japan	298	297	167	112	146	218	180	174	227	240	165	121	172
50,000–60,000 dwt	Persian Gulf–Japan	316	355	210	157	165	229	225	202	260	255	160	155	194
35,000–50,000 dwt	Caribbean–East Coast of North America/Gulf of Mexico	248	294	251	223	211	215	220	263	258	211	202	170	282
25,000–35,000 dwt	Singapore–East Asia	398	438	399	226	208	382	298	255	406	381	222	223	302

Table 32 (continued)

Vessel type	Routes	% change 2005/2006	2007 Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep
VLCC/ULCC (150,000 dwt+)											
	Persian Gulf–Japan	-54.0	58	59	82	50	81	63	63	56	54
	Persian Gulf–Republic of Korea	-57.0	58	55	81	53	72	60	55	53	52
	Persian Gulf–Europe	-52.4	54	52	66	45	69	60	50	45	43
	Persian Gulf–Caribbean/East Coast of North America	-51.3	53	48	73	49	63	60	45	45	43
	Persian Gulf–South Africa	-65.4	57	..	..	55	97	..	..	54	..
Suezmax (100,000–149,999 dwt)											
	West Africa–North West Europe	-46.2	130	107	126	128	105	108	96	78	79
	West Africa–Caribbean/East Coast of North America	-46.7	129	116	116	113	108	112	99	79	79
	Mediterranean–Mediterranean	-43.5	154	113	136	124	110	113	87	78	75
Aframax (50,000–99,999 dwt)											
	North West Europe–North West Europe	-41.2	169	168	138	139	129	105	128	87	104
	North West Europe–Caribbean/ East Coast of North America	-24.2	167	185	130	170	178	124	126	97	..
	Caribbean–Caribbean/East Coast of North America	-1.7	174	211	187	156	170	140	170	105	115
	Mediterranean–Mediterranean	-34.3	231	121	157	146	173	107	117	94	106
	Mediterranean–North West Europe	-19.4	188	110	161	140	142	103	115	91	117
	Indonesia–Far East	-54.6	149	124	125	156	142	143	129	112	120
Handy-size (less than 50,000 dwt)											
	Mediterranean–Mediterranean	-41.9	281	273	247	216	233	150	230	..	156
	Mediterranean–Caribbean/East Coast of North America	-39.2	200	213	195	203	..	..	200	167	148
	Caribbean–East Coast of North America/Gulf of Mexico	-10.7	212	205	214	207	198	161	176	161	158
All Clean Tankers											
70,000–80,000 dwt	Persian Gulf–Japan	-42.3	156	133	146	135	133	132	137	153	140
50,000–60,000 dwt	Persian Gulf–Japan	-38.6	185	161	182	172	185	168	184	188	175
35,000–50,000 dwt	Caribbean–East Coast of North America/Gulf of Mexico	13.7	209	222	288	233	223	242	201	155	133
25,000–35,000 dwt	Singapore–East Asia	-24.1	303	257	276	223	313	246	292	294	302

Source: *Drewry Shipping Insight*, various issues.

Note: Two dots (..) means that no rate was reported.

traditional benchmark routes and is not intended to be exhaustive. For example, the growing West Africa to China route, relying on large ships, has not been included in the table. The main loading areas indicated in the table are the Persian Gulf, West Africa, the Mediterranean, the Caribbean and Singapore, while the main unloading areas are in the Far East, South Africa, North-West Europe, the Mediterranean, the Caribbean and East Coast of North America.

Tables 31 and 32 show a great volatility in rates and highlight an unusual counter-seasonal trend in all market segments. While the usual seasonal trend was observed during the first quarter, this was not the case for the last quarter. Average freight rates increased during the first quarter due owing to winter demand but peaked during the summer, especially in August, and slipped when a seasonal increase during the last quarter of the year would normally have been expected. The counter-seasonal peaks observed during the summer were the result of speculation about another hurricane season in the Gulf of Mexico, precautionary stockpiling in the light of concerns about potential oil supply disruptions and the opportunity offered by the relatively high production quotas maintained by OPEC.

Freight markets during 2007

At the beginning of 2007, all tanker sectors were characterized by persistent average spot rates volatility. The overall picture that emerges from table 32 is one where average spot earnings continued to weaken in January, recovered slightly on some routes in February, dipped on almost all routes in April and started recovering in May on most of the routes. Rates continued to fluctuate during the following months while showing an overall negative trend. By September rates for various tanker sectors were lower than their January 2007 levels. While average spot earnings followed a declining trend and were interrupted by sharp fluctuations, the time charter equivalent earnings fared better and maintained their levels with fewer variations, and not necessarily downwards.

The downward pressure on spot rates reflected, among other things, the reduced activity resulting from a weaker winter demand (milder temperature), excess tonnage supply in the Persian Gulf loading areas and, more specifically, single-hull tankers in the East of Suez market, refinery outages, restricted cargo supplies due to the OPEC cuts and extended refinery maintenance periods. Meanwhile, recorded increases resulted from cuts in supply together with a decline in inventory levels. Developments during the first quarter followed a seasonal trend (end of winter demand), with activity declining in April due to refinery turnarounds in Asia–Pacific and Europe. The increase in summer demand in May (driving season in the United States and air-conditioning units) resulted in increased demand for gasoline, which in turn increased refineries' demand for crude oil.

More detailed information about developments in 2006 in relation to the various categories of tanker segments is provided in the following sections.

Very large (VLCC) and ultra large (ULCC) crude carriers

As previously noted, 2006 was marked by considerable variations in freight rates and by average returns lower than in the two previous years. On all routes, the dip in April reflected the seasonal trend, which saw the end of the winter season and the increased maintenance activity of refineries. In addition to seasonal factors, other elements have been at play. For example, rate increases recorded during the year reflected supply and demand variations. The peak recorded in August may have been linked to speculation about another hurricane season in the Gulf of Mexico and the political tensions in Western Asia, triggered by the shutdown of the BP-led Prudhoe Bay oilfield in Alaska in early August. The dip seen in October reflected VLCCs' tonnage oversupply in the Persian Gulf, while the November performance also reflected cuts announced by OPEC, higher stocks of products and refining turnarounds.

During 2006 the spread of earnings varied markedly with peaks right at the beginning of the year and during the summer and troughs at the start of the second quarter, especially in April and at the end of the year. For example, in the route from the Persian Gulf to Japan, average rates closed 2005 at WS126 and hit a dip of WS56 in April before peaking at WS120 in August and slipping back to WS58 in December. In terms of returns, the annual average time charter equivalent earnings for owners of VLCCs on this route were $51,550 compared with $59,070 in 2005 and $95,250 in 2004.

Although this is not indicated in table 32, it should be noted that average rates on the West Africa to the Gulf of Mexico or from West Africa to the East performed

better than on the traditional VLCC routes as increasing volumes on those routes continue to drive up the average freight rates. For example, although displaying a declining trend, time charter equivalent earnings for ships of 260,000 dwt on the West Africa to the Gulf of Mexico route were $43,400 per day in December 2006 which is higher than the level at which rates for trades from the Persian Gulf to Japan and the Republic of Korea and to Europe closed the year. The increased south–south trade between Africa and China due to China's increased imports of West African oil drives demand for VLCCs. The weakness seen on the VLCC spot and charter market rates was due, inter alia, to a decline in OECD demand, cuts in OPEC exports and mild weather in the Northern Hemisphere.

The evolution of freight rates on those routes for the coming years is difficult to predict given the uncertainty about what position the main importers such as China and India will adopt with respect to the IMO rules on the phasing-out of single-hull tankers by 2010. The VLCC/ULCC sector is likely to be the most affected by the phasing-out of such tankers. At the end of 2006, the fleet of VLCCs was estimated to total slightly over 500 ships. About 65 per cent of those ships were double-hulled and already in service — a 4.3 per cent increase over 2005. Orders are estimated at approximately 35 per cent of the existing fleet, with the majority expected to be delivered in 2008 and 2009. While exporting areas, including the Persian Gulf countries, are expected to strictly enforce the new regulations after the 2010 deadline, the situation is less clear as regards importers in the East. The United States and the European Union[17] have already taken measures to ban the trading of single-hull tankers.

Suezmax tanker tonnage

A particular feature of Suezmax ships is the advantage of their size, especially in size-restricted ports such as those in the United States. Suezmax ships require less lightering than VLCCs and are therefore able to attract more cargo when destinations are size-restrictive. This tonnage is deployed for trading from West Africa to North-West Europe and West Africa to the Caribbean/East Coast of North America, as well as across the Mediterranean. Rates on those routes dropped at the beginning of 2006 and fluctuated significantly during the remainder of the year, with peaks occurring in January, February and August. As in the VLCC/ULCC sector, rates in the Suezmax market were affected by seasonal variations, dropping in March and April when the winter peak demand ended and picking up in May as the summer season took over (air-conditioning units, US summer driving season, etc). Unlike the VLCC/ULCC sector, the Suezmax market is less likely to be affected by the 2010 deadline for the phasing-out of single-hull tankers in accordance with IMO regulations. This is because the sector has fewer single-hull ships; also, the sector is less influenced by markets in the west (the United States and European Union), where single-hull tankers are already being banned from trading. Demand for Suezmax tonnage is expected to increase, especially in West Africa, the Black Sea and the Mediterranean owing to increased oil production. Average rates for trade from West Africa to Europe started the year at WS167, reached their lowest point in November (WS115) and ended the year at WS122.

On the West Africa–Caribbean/East Coast of North America route, the annual average time charter equivalent earning were $46,000 per day in 2006 compared with $47,550 per day in 2005, and $64,800 per day in 2004. During 2006, the highest average rates were at the beginning of the year and the lowest point was in April. For West Africa–Caribbean/East Coast of North America traffic, average rates varied from WS164 in January, peaked at WS174 in August and dipped during the last quarter when they reached WS130 in December.

Equivalent time charter earnings for a 40,000 dwt ship were $56,300 per day in January, $59,500 per day in August and $42,000 per day in December. Although at lower levels than during the two previous years, average earnings remained healthy, despite potential competition from VLCC tankers for cargo loaded in West Africa and potential disruption of production in the region due to political conflicts. Except for the North Sea, where production is declining, future demand for Suezmax tonnage may be expected to increase, especially in view of increased oil exports from West Africa.

Voyages for trade across the Mediterranean followed a similar trend, with average rates peaking at the start of the year, reaching a low of WS119 in April and recovering gradually to reach WS161 in December. These levels were lower than those achieved in 2005 due to, among other things, the fluidity of traffic in the Turkish Straits, where unlike in 2005, traffic moving through those transit points during the 2006 winter season did not encounter major disruptions or delays.

Aframax tanker tonnage

Aframax ships are usually deployed for trading along the following routes: (i) North-West Europe to other destinations in the region, as well as the Caribbean and the East Coast of North America; (ii) the Caribbean to other destinations in the region, as well as to destinations on the East Coast of North America; (iii) across the Mediterranean and from the Mediterranean to destinations in North-West Europe; and (iv) Indonesia to destinations in the Far East.

As shown in table 32, the seasonal impact during the preceding years in the Aframax sector was not observed in 2006. The strong peaks observed in 2004 and 2005 on the North Sea routes did not occur in 2006 owing to milder temperatures and the introduction of a number of ice-class ships for the carriage of Russian oil from the Baltic Sea. In the Mediterranean, more fluid traffic in the Turkish Straits kept rates at a lower level.

The average rates on all routes except for trade from the Caribbean to the US East Coast started the year at lower levels compared with the end of 2005. In line with the characteristics of the Aframax market, changes in freight rates were sudden and acute. In terms of earnings, the two previous years remained exceptional compared with 2006. For example, average annual time charter equivalent earnings on the cross-Mediterranean route dropped from $43,915 in 2004 to $39,000 in 2005 and $31,750 in 2006.

During the year, average rates fluctuated, with voyages within the North-West Europe route registering the lowest level in April (WS101) and their highest level in October (WS180). For a ship of 80,000 dwt, these were equivalent to time charter earnings of $21,600 per day in April and $66,000 in October. Average rates for traffic from the Caribbean to other destinations in the Caribbean and to the East Coast of North America peaked at WS241 in January and bottomed at WS133 in April. These translated into time charter equivalent earnings moving down from $47,000 per day in January to $17,000 per day in April. The highest average rate for traffic across the Mediterranean was WS197 in October, while the lowest point (WS115) was reached immediately during the following month. This corresponded to a drop in time charter equivalent earnings from $44,100 per day to $17,000 per day for a ship of 70,000 dwt.

Handy-size tanker tonnage

These ships are usually deployed for trades across the Mediterranean, for trades originating in the Mediterranean with destinations in the Caribbean and the East Coast of North America, and trades from the Caribbean to the Gulf of Mexico and the East Coast of North America.

Fluctuations observed in the VLCC, Suezmax and Aframax sectors were also evident in the Handy-size sector. At the end of 2006, average rates for routes from the Mediterranean and the Caribbean were at lower levels than during the previous year. Average rates started on a stronger note in January but immediately started fluctuating, reaching their lowest point in March for trades from the Mediterranean and in September for cargoes loaded from the Caribbean. For all routes, the highest rates were observed at the start of the year. For example, the time charter equivalent earnings for the Caribbean to the East Coast of North America were, for a ship of 60,000 dwt, $40,900 per day in December 2005 (WS272), $42,800 per day in January 2006 (WS267) and $22,300 per day in September 2006 (WS166). These fluctuations reflected the seasonal trend, whereby rates strengthened during the first quarter of the year as a result of the winter demand, dipped in March and April due to the end of the peak winter demand and the start of refineries' maintenance activities, and increased during the summer with the start of the driving season. Estimated 1-year time charter rates for a 5-year Suezmax vessel (95,000–110,000 dwt) were $36,000 per day in January 2005 and $32,500 per day in December 2006. Rates started at $32,100 per day in January 2007 and reached $33,000 per day in May.

All clean tankers

Increasing transport needs resulting from the economic expansion in Asia, especially China and India, underpinned the overall positive performance in the clean tanker sector. That being said, the average time charter equivalent earnings for product tankers decreased, compared with the two previous years. For example, average annual time charter equivalent earnings on the Caribbean–East Coast of North America/Gulf of Mexico route were $21,400 per day in 2006 compared with $25,240 per day in 2005 and $24,550 in 2004.

Rates fluctuated in line with seasonal trends as well as because of variations in demand. Rates on all routes

peaked in January, reflecting the seasonal high winter demand and declined slowly during the year. March saw the lowest average rate on the Persian Gulf–Japan route for vessels of between 70,000 and 80,000 dwt (WS112), while the lowest rate for smaller clean tankers (50,000 to 60,000 dwt) trading on the same route was WS155 in November. The higher rates recorded by ships in the 70,000–80,000 dwt range reflected the building of stocks in the East and the increased demand for kerosene in Japan. At the end of 2006, average rates for voyages from the Persian Gulf to Japan and from Singapore to East Asia declined compared with their levels during the same period in 2005. For example, for ships in the range of 50,000 to 60,000 dwt, trading from the Persian Gulf to Japan, average spot rates were WS194 in December 2006 compared with WS316 in December 2005. This decline translated into lower time charter equivalent earnings for ships of 55,000 dwt of $24,700 per day in December 2006 compared with $45,900 per day in December 2005.

The exception to the declining trend seen on other clean tanker routes was the performance of rates on the Caribbean to the East Coast of North America/Gulf of Mexico, where average spot rates increased to WS282 in December 2006, up from the WS248 recorded in December 2005.

Consumption of gasoline is forecast to grow faster in China, where modern refineries with a capacity of 90 million tons per year are expected to come into service. This is likely to increase demand for tanker transport. In the Atlantic area, while demand for gasoline in the United States and for gas oil in Europe continues to grow, refinery capacities are limited and expansion is subject to restraints, including those related to environmental considerations. As a result, demand for tanker transport of products is expected to grow in the future with likely effects on freight rates.

Tanker-period charter market

In 2006, total chartering activity reached 27.26 million dwt with January, February April, August and December respectively recording less than 2 million dwt, and March, May, July, September and October registering more that 2 but less than 3 million dwt. Chartering activity in July and November was particularly impressive, with total monthly chartering activity approaching 4 million dwt. The peak month was November with 3.94 million dwt, while the weakest performance was at the beginning of the year with 1.1 million dwt in January. Compared with the chartering activity during the previous year, the 2006 performance was quite strong. In some months, such as January and May, the 2006 levels were almost double the levels achieved during the corresponding months of the previous year. While in November 2006 chartering activity was more than double that of November 2005, chartering activity in June 2006 was more than four times that of June 2005.

About 58 per cent of total chartering activity in 2006 was made up of long-term charters of 24 years or more, followed by charters of less than 6 years (24 per cent) and those with a duration of 2–24 years (14 per cent). The remaining share was made up of charters lasting between 6 and 12 years. Very large tankers (ULCC/VLCC) accounted for about 54 per cent of total chartering activity. Tankers at the lower end of the range (10,000–50,000 dwt) accounted for over 11 per cent. Chartering activity in the first half of 2007 maintained its pace, with activity reaching 3.8 million dwt — or more than three times the January 2005 level. Chartering activity grew faster in February and March, reaching respectively about 4.2 and 4.3 million dwt. Chartering slowed down in April and May, reaching about 2.3 and 1.9 million dwt respectively. Chartering activity fluctuated up and down during the following months before reaching levels below 1 million dwt in September.

Rates varied throughout the year. For example, estimated tanker 1-year time charter rates for a 5-year-old ship of 280,000 dwt went from $56,500 per day in December 2005 to $55,000 per day in January 2006, fluctuated during the following months and reached a high of $64,500 per day in September, ending the year at $54,400 per day. During the first half of 2007, those rates declined gradually, reaching a low of $50,500 per day in February, March and April and a high of $54,000 per day in May. Rates remained steady during the following months but dropped slightly in September to reach $53,000 per day.

B. DRY BULK SHIPPING MARKET[18]

1. Dry bulk trade

During 2006 the dry market benefited from growth in bulk trade, with various ship sizes being deployed to service that trade. The driving force behind Capesize demand was the growth in world steel production, especially in China, which in turn stimulated iron ore trade. Demand for Panamax tonnage benefited from the steady growth of grain shipments and strong coal

trade, also driven by steel output growth and energy requirements of China and India. The demand for Handymax ships was also supported by steel products trade with, as noted in chapter 1, China becoming the largest producer and the United States and the European Union remaining the major steel-importing regions. Other cargoes stimulating the Handymax market included soybean and oilseed, bauxite and aluminium trades. Smaller ships, such as Handy-size ones, benefited from increased steel output since used to carry raw materials related to steel production, including coke and pig iron, as well as agriculture-related commodities such as rice. Reflecting the increased demand for bulk trade, at the end of 2006 shipping capacity increased, with the world dry bulk fleet growing by 8 per cent (25.3 million dwt) to reach 345.9 million dwt.

2. Dry bulk freight rates

At the end of 2006, freight rates for dry bulk carriers improved considerably in compared with the start of the year. The Baltic Dry Index more than doubled, moving up from its lowest performance of 2,081 in January to its highest level of 4,397, recorded in December. The average Baltic Dry Index for 2006 was 3,239, about 0.4 per cent lower than the 2005 average. Panamax and Capesize tonnage both benefited from higher rates, with the former recording the higher increase (123.5 per cent increase).

Monthly indices for dry cargo tramp time and trip charters, showing a substantial rise over the course of the year, are presented in table 33. In December 2006, the dry cargo tramp time-charter reached 484 — an increase of 60 per cent from its January 2006 level. The dry cargo tramp trip-charter also rose significantly, doubling between January and December, reaching 594. However, despite the growth recorded, both the average indices for 2006 were significantly lower than in the two preceding years.

Dry bulk time-charter (trips)

In January 2006, freight rates continued to drop for *Capesize* tonnage chartered for transatlantic round trips. Compared with the previous month, this rate was about

Table 33

Dry cargo freight indices, 2004–2007

Period	Dry cargo tramp time-charter (1972 = 100)				Dry cargo tramp trip-charter (1985 = 100)			
	2004	2005	2006	2007	2004	2005	2006	2007
January	536	505	302	491	553	677	294	632
February	585	481	298	480	613	715	292	577
March	579	530	327	550	451	565	321	644
April	519	507	326	576	558	624	325	707
May	439	440	323	671	533	552	304	
June	385	373	331		401	412	359	
July	416	313	360		478	342	421	
August	458	290	417		562	285	475	
September	471	328	447		514	352	518	
October	499	379	450		503	391	522	
November	538	346	447		544	376	463	
December	592	320	484		701	332	594	
Annual average	501	401	376	554	534	469	407	640

Source: Compiled by Maritime Research and published by Institute of Shipping Economics and Logistics in *Shipping Statistics and Market Review*, March, 2007.

Note: All indices have been rounded to the nearest whole number

13 per cent lower. Rates moved up in February and March to reach $35,330 per day and $37,910 per day respectively and down again to reach $29,180 per day in May, their lowest level during the January–June period. In June, the rate was $33,370 per day — 19 per cent higher than in January. Rates improved during the second half of the year, rising to $41,100 per day in July and peaking in August with earnings above $60,000 per day. They dropped slightly in September and in October before rising again and ending the year at $67,420. Rates at the end of the year were more than double the January 2006 level.

The strong upward trend that characterized rates on this route during the second half of year continued into 2007, resulting in significantly higher earnings for owners of Capesize tonnage. In January 2007, rates for the transatlantic trades increased by about 9.2 per cent to $73,628 per day. During the following months, growth continued, before reaching a high of $109,380 per day in May. Rates fluctuated slightly during the following months before reaching $140,370 per day in September.

Rates on the Singapore–Japan to Australia route showed a trend similar to that observed on the transatlantic route. For Capesize tonnage deployed on the Singapore–Japan to Australia route, freight rates declined in January 2006, with owners of relevant ships receiving $25,840 per day — a 25 per cent decline compared with the previous month. Rates rose in February and reached their highest level — $37,440 — in March before slipping again in April and May. In June, ships trading on this route secured $32,090 per day — 24 per cent higher than the January earnings. Rates improved during the second half of the year, increasing by approximately one-quarter in July to $39,850 per day. From that point onward, earnings moved up, and peaked in November at $66,625 per day — about 46 per cent higher than in the corresponding month in 2005. Rates ended the year at a slightly lower level of $64,930, corresponding to more than double the rates at the start of the year.

In 2007, the evolution of rates on the Singapore–Japan to Australia route mirrored that of the transatlantic route: they increased to $66,630 per day in January and fell back in February before moving up and reaching their highest level in May when earnings were $102,570 per day — almost four times those secured in May of the previous year. Rates fell to $78,505 per day in June before increasing again and reaching $135,870 per day in September.

Rates for *Panamax* tonnage deployed on routes from Northern Europe to the East Coast of South America and from the Far East to Australia deteriorated at the start of 2006. In January, trade on the transatlantic route to the East Coast of South America fetched $14,380 per day, while on the Far East to Australia route it was slightly higher, at $16,800 per day. This rate decreased in February to a low of $13,620 and bounced back in the following months, reaching a high of $20,540 per day in June. On the Far East to Australia route, earnings improved in the following months reaching $21,880 per day in June. During that month, *Alabama* was chartered by Bunge to carry 71,002 tons from Amsterdam to the East Coast of North America for $20,000 per day.

Rates for the transatlantic route maintained steady growth during the third quarter of 2006 before weakening at the start of the fourth quarter and rising again by the end of the year. Earnings were respectively $22,550 per day in July, $31,700 per day in September, $25,927 per day in October and $32,370 per day in December.

During the first half of 2007, rates on the transatlantic route improved steadily, starting at $34,560 per day in January and reaching a peak at $51,945 per day in May. During the following months, rates expanded gradually to reach $70,470 per day in September.

Earnings on the Far East–Australia route increased significantly during the second half of 2006, starting at $23,250 per day in July, and reaching a high of $37,400 per day in November before ending the year at slightly lower level of $36,240 per day in December. The chartering in early November of *CMB Italia* by China Steel to carry a parcel of 76,000 tons from Japan to Australia at $38,500 per day illustrates the improved earnings. In January 2007, rates on the Far East–Australia route dropped by about 7 per cent and in February by a further 3 per cent: they were respectively $33,700 and $32,630 per day. Starting March, rates went on an upward trend before reaching $73,985 per day in September.

In January 2006, earnings for *Handymax* tonnage chartered on Far East–Australia round trip routes improved slightly over the previous month at rates of $16,280 per day. Except in February, when there was a slight decline in rates, earnings improved steadily and reached a peak of $31,635 at the end of the year. In early 2007, rates weakened slightly, dropping by more than 8 per cent in January, before increasing during the following months and reaching a new high of $40,105

per day in May 2007. During the following month, rates expanded gradually and reached $54,845 per day in September.

At the beginning of 2006, rates for *Handy-size* tonnage trade from Northern Europe to the West Coast of Africa dropped, starting at the lower rates of $12,800 per day. Improvements were recorded over the following two months when earnings amounted to $14,500 per day in February and $15,150 per day in March. Rates fluctuated for the remainder of the year before reaching a peak of $17,000 per day in December — about 21 per cent higher than the 2005 December rate. During the first half of 2007, rates maintained a positive trend, growing faster in April and reaching $25,000 per day in May, almost double the earnings achieved in May of the previous year. During the following months, rates improved and reached $34,000 in September.

Dry bulk time-charter (periods)

Estimates of rates for 12-month period charters (prompt delivery) indicate that rates for the first half of 2006 weakened, before recovering significantly during the second half of the year. For all ship sizes, rates fluctuated up and down throughout the year, but were significantly above the 2005 levels, in some cases by about 50 per cent. *Capesize* ships of 170,000 dwt aged 1–5 years fetched $34,000 per day in January 2006 and $35,000 per day in June before rising to almost double these levels ($62,000 per day) in September. Earnings ended the year at $61,500 per day — almost double the rate that prevailed in December 2005. Smaller ships in the range of 150,000 to 170,000 dwt with ages between 5 and 10 years started the year at $24,000 per day, hit a low of $23,100 per day in May before recovering to $26,000 per day in June and doubling in September to reach $54,000 per day. Earnings pointed downwards in the two following months closing the year at $50,000 — almost double the December 2005 level.

Freight rates for *Panamax* ships in the range 70,000 to 75,000 dwt aged 1–5 years started at $17,800 per day in January, dropped in February before moving up to $17,000 per day in March, a rate sustained until May. June saw earnings increase by about 11 per cent, with rates reaching a peak of $31,000 per day in September. Rates dropped slightly during the remaining months, ending the year at $30,000 per day, a rate more than 50 per cent higher than for the corresponding month of the previous year. Rates for Panamax tonnage aged 5 to 10 years followed a similar trend, whereby the respective rates started the year at modest levels, fluctuated during the second quarter of the year before achieving a strong recovery in the third quarter, maintained until the year's end. Rates were $15,600 per day in January, $27,000 per day in September and $29,250 per day in December. Rates for tonnage aged 10–15 years were at the start of the year $12,500 per day and peaked at $24,000 per day in September before ending the year at $21,250 per day.

Rates also improved for *Handymax* tonnage aged 5 to 10 years, with rates at the beginning of 2006 slightly lower than in December of the previous year. Earnings were $14,000 per day in January before dropping in February. After that, rates experienced some recovery, which lasted until the end of the third quarter when the highest earnings were achieved. Rates were $26,500 per day in September and fluctuated before ending the year at $24,000 per day. The trend in rates for 1–5 year-old ships of this size mirrored that of ships aged 5–10. Rates fell to $16,000 per day in January and $15,750 per day in February. During the following months rates increased gradually and reached their highest level of $28,500 per day in September before falling again in October and November and ending the year at $27,250 per day in December.

Handysize tonnage aged 10–15 years followed a similar trend, with earnings at the beginning of the year dropping below the levels recorded at the end of the previous year and experiencing a good recovery from March through September, before dropping slightly during the last quarter of 2006. Rates for tonnage in the range 35,000–37,000 dwt were $12,100 per day in January, $21,000 per day in September and $18,250 per day in December.

During the first half of 2007, earnings for all ship sizes, and irrespective of age, continued to grow, reaching levels that are in some cases more than double the corresponding rates achieved in 2005.

Dry bulk trip-charter

Despite some monthly fluctuations, *Capesize* tonnage recorded a positive performance in 2006, especially during the third quarter. Iron ore freight rates from Brazil to China started the year at $22 per ton — about 7 per cent lower than the previous month — and stood at or over the $22 per ton level throughout the year, with the highest rate of $35.21 per ton recorded in August. The best performance was from June through September,

after which rates started to decline, while remaining at levels above those that prevailed at the beginning of the year. Rates for coal trade from Richards Bay (South Africa) to Western Europe started at $11.15 per ton in January and improved marginally in February and March before falling again in April and May, at which time rates were, in the same order, $12.70 and $11.90 per ton. Rates recovered again during the following months and reached their highest level of $23 per ton in November before ending the year at $21.60 per ton.

In January 2006, rates for *Panamax* tonnage engaged in grain trading between North America and Western Europe dropped slightly from their previous level. Rates started to improve in the middle of the second quarter and experienced gradual and uninterrupted growth from May through September. Earnings dropped slightly in October before rising again in November and ending the year at $32.30 in December — more than 50 per cent higher than the December 2005 level. Rates for *Handysize* tonnage carrying scrap from the US West Coast to the Republic of Korea continued the negative trend observed at the end of the previous year. Rates on this route and for this type of trade dropped to $37.30 per ton in January and continued until March, started to recover in May when they were $36.50 and peaked in October at $57.25 per ton. They fell slightly again before ending the year at $57.5 per ton.

During the first half of 2007, all these rates increased, with *Capesize* tonnage engaged in coal trade from South Africa to Western Europe and *Handysize* tonnage deployed on the US West Coast–Republic of Korea route experiencing a slight decline in February. As of May 2007, rates for *Capesize* tonnage engaged in iron ore trade from Brazil to China and coal trade from South Africa to Western Europe were more than double the May 2006 levels for both trades and tonnage types. May 2007 rates for Panamax tonnage carrying grain from North America to Western Europe and for Handy-size ships moving scrap from the US West Coast to the Republic of Korea were double the corresponding rates that prevailed in May of the previous year. During the following months, rates for Capsize tonnage engaged in coal trade from South Africa to Western Europe dropped to $23.6 per ton in June before increasing and reaching $37.5 per ton in September - more than double the levels achieved in September 2006. With respect to iron trade from Brazil to China, rates dropped slightly in June before increasing to reach $71.75 per ton in September — more than double the rates achieved in September of the previous year. Starting June, rates for Panamax tonnage engaged in grain trading between North America and Western Europe increased gradually before reaching $71.4 per ton in September.

C. THE LINER SHIPPING MARKET[19]

1. Developments in liner markets

General developments

Overall, 2006 was characterized by supply growth (13.1 per cent) exceeding demand growth (11.2 per cent) and an important order book of container capacity. At the end of 2006, total seaborne container carrying capacity, including fully cellular capacity, increased by 1.63 million TEUs over the previous year and reached 11.72 million TEUs — an increase of 13.1 per cent. The fully cellular containerships increased to 9.43 million TEUs, this increased the share of these ships to 80.7 per cent of the world container carrying capacity — over two percentage points higher than their share in 2005. The share of general cargo ships was 13.9 per cent, with single-deck ships accounting for 1.04 million TEUs — 8.9 per cent — while multi-deck ships accounted for 0.59 million TEUs or 5 per cent. Capacity generated by ro-ro cargo and ro-ro passenger ships remained almost unchanged, accounting for about 0.3 million TEUs or 2.5 per cent. While in absolute terms, bulk carriers maintained their container carrying capacity of about 0.20 million TEUs, expressed as a proportion of the total world container carrying capacity, their share dropped from 1.9 per cent in 2005 to 1.6 per cent in 2006. The balance of the world container carrying capacity was supplied by reefer, tanker, specialized and passenger ships.

Table 34 shows that additions to the cellular container fleet during 2006 totalled 1.3 million TEUs and very little broken-up tonnage was reported. The growth of the world container cellular fleet is expected to continue with 4.36 million TEUs, representing close to 50 per cent of the existing fleet, being on order on 1 January 2007. At the end of 2006, 78.5 per cent of the capacity on order was made up of 621 cellular containerships with over 3,000 TEU capacity. Only 3.4 per cent of the capacity ordered was scheduled to be delivered in 2006, while 26.1 per cent is scheduled to be delivered in 2007 and 70.5 per cent is expected for delivery in or after 2008. In 2006, orders seemed to focus on the higher end of containership sizes. At the end of 2006, post-Panamax ships accounted for 24.5 per cent of the total number of cellular containerships on order. September 2006 saw

Table 34

Growth of the world cellular container fleet

(In thousands of TEU at the beginning of the year)

Year	Broken up	Additions	Fleet as of 1 January	Orders as of 1 January
2005	0	778	7 165	1 652
2006	0	955	8 120	4 259
2007	17	1 316	9 436	4 360

Source: UNCTAD secretariat on the basis of *Containerisation International*, March 2007, and data supplied by Lloyd's Shipping Register – Fairplay. World fleet and additional capacity include ships of 100 GT and above.

the entry into service of the largest containership afloat, *Emma Maersk*, for trading between China and Europe. This ship is reported to have a capacity of 14,300 TEUs, with stowage for 22 rows across; stowage for the next-largest existing container ships is 18 rows across.

Concentration in liner shipping

Over the course of 2006, the carrying capacity of the top 10 global containership operators increased by 26.5 per cent to 5.7 million TEUs — 48.5 per cent of the world's total container capacity deployed at the end of 2006 (see table 35). The share of the top 20 liner operators increased by 19.6 per cent and reached 7.6 million TEU. Together, the 20 leading operators held about 65 per cent of the total container capacity deployed. Maersk Line, MSC and CMA-CGM Group maintained their position at the top of the list. The collective share of these three leading lines was about 26.5 per cent of the world's total container capacity deployed at the end of 2006. Maersk Line continued to lead, with an individual share of 13.4 per cent, while MSC and CMA-CGM continued to strengthen their positions by taking on ships that others were discharging or subletting in 2006. Improved positions were recorded by Hapag-Lloyd (up by 8 places), COSCON (up by 3 places) and CSAV NORASIA (up 1 place). Carriers that lost ranks included Evergreen (down 3 places), APL, CSCL, Hanjin, MOL, NYK, OOCL and Wan Hai. The remaining six operators, namely Hamburg Sud, HMM, K Line, PIL, Yang Ming and ZIM, maintained their positions.

The financial impact of important consolidation in 2005 (i.e. A.P. Moller and P&O Nedlloyd, and Hapag-Lloyd and CP Ships) is reported to be more pronounced than expected. Maersk reported a loss of about $607 million on its container services during the first half of 2006. This was attributed to, inter alia, integration issues concerning P&O Nedlloyd, higher bunker prices and lower freight rates. Equally, K-Line reported that weaker freight rates and high bunker costs had led to a significant decrease in profits, while OOIL, the parent company of OOCL, reported a decline of $28.2 million between the first half of 2005 and the corresponding half of 2006. OOCL itself reported a 3.9 per cent fall in average revenues per TEU in the first quarter of the year and Evergreen reported a net loss during the first nine months of the year of about $70 million.

On the regulatory front, developments that might have a bearing on liner shipping operations included those in relation to the antitrust immunity conferred to liner conferences and the IMO work on air emissions from ships. It has been reported that Singapore had decided to issue a block exemption from section 34 of its Competition Act for liner conferences with retroactive effect from 1 January 2006, while Malaysia is expected to adopt a similar approach. In a separate development, Australia decided to maintain the antitrust immunity for liner shipping companies under its Trades Practices Act with discussion agreements being removed from the Act. Meanwhile India is reported to be preparing legislation on antitrust immunity for liner shipping. In contrast, at the European Union level, Council Regulation 4056/86 has been repealed, with the block exemption thus being abolished with effect from October 2008.[20] While a replacement for that Regulation is not envisaged, the European Liner Affairs Association (ELAA) has put forward a proposed alternative to the antitrust exemption mainly in the form of a trade association model.[21] Meanwhile, in the United States, the Antitrust Modernization Commission was reported to be reviewing options on how to proceed with existing protection for liner shipping.

Table 35

Leading 20 service operators of containerships at the end of 2006
(Number of ships and total shipboard capacity deployed (TEUs))

Ranking	Operator	Country/territory	No. of ships in 2006	TEU capacity in 2006
1	Maersk Line	Denmark	484	1 573 551
2	MSC	Switzerland	320	1 019 725
3	CMA-CGM Group	France	167	517 213
4	Hapag Lloyd	Germany	136	454 526
5	COSCO	China	134	390 354
6	CSCL	China	122	387 168
7	Evergreen	Taiwan Province of China	127	377 334
8	APL	Singapore	105	342 461
9	Hanjin	Republic of Korea	78	337 378
10	NYK	Japan	85	283 109
Subtotal			**1 758**	**5 682 819**
11	MOL	Japan	91	281 967
12	OOCL	Hong Kong (China)	71	275 057
13	K Line	Japan	86	267 988
14	Yang Ming	Taiwan Province of China	82	240 433
15	Zim	Israel	74	203 228
16	Hamburg Sud	Germany	73	159 039
17	HMM	Republic of Korea	36	157 208
18	PIL	Singapore	67	123 084
19	CSAV	Chile	29	117 873
20	Wan Hai	Taiwan Province of China	69	113 532
Total 1-20			**2 436**	**7 622 228**
World container cellular fleet at 1 January 2007			**8 331**	**11 720 000**

Source: UNCTAD secretariat, *Containerisation International Online*, Fleet Statistics, www.ci-online.co.uk.

Another regulatory development that could have a bearing on container lines operations is the current work, under the auspices of the IMO, on Annex VI of MARPOL, dealing with rules on air emission from ships, and setting limits on sulphur oxide and nitrogen oxide emissions from ship exhausts.[22] A number of options are being considered, including a proposal sponsored by INTERTANKO, which favours the application of an overall global cap on sulphur emissions of 1 per cent by 2010 and of 0.5 per cent by 2015, in addition to an industry-wide shift from residual distillate fuels.[23]

2. Freight level of containerized services

Chartering of containerships

Global liner shipping market developments are best reflected in movements of the containership charter market. This market is dominated by German owners, with Hamburg brokers controlling about 75 per cent of containership charter tonnage available in the market. Since 1998, the Hamburg Shipbrokers' Association (VHSS)[24] has published the "Hamburg Index", which

provides a market analysis of containership time charter rates with a minimum of three months. Table 36 presents the average yearly and monthly charter rates for containerships published by VHSS.

In 2006, charter rates for all types of containerships fell overall by between approximately 16 and 37 per cent, although the decline was somewhat moderated by the strong demand. The largest fall in rates has been for geared/gearless containerships in the range 1,000–1,299 TEU. The containership sector that recorded the smallest drop was in the smaller gearless type in the range 200–299 TEU, with a decrease of 15.9 per cent.

During the first quarter of 2007, monthly average rates continued to fluctuate up and down. However, despite the declining trend that may characterize some of these rates, overall, with the exception of rates for gearless ships of 200–299 TEU and geared/gearless ships in the 300–500 TEU range, rate levels achieved in May were above the levels achieved at the beginning of the year. With the exception of geared/gearless ships in the range 600–799 TEU, monthly averages in September for other containership categories were higher that their May levels.

Freight rates on main routes

By the end of 2006, the level of all-in freight rates of the three main containerized routes (Pacific, Asia–Europe and Transatlantic) were all below the end-2005 levels, with the exception of the eastward leg of the transatlantic route (see table 37). During the last quarter of 2006, freight rates for transatlantic traffic from the United States to Europe increased by 5.6 compared with the same quarter in 2005. Rates for container trade moving in the opposite direction decreased by 2.9 per cent and reached $1,762 per TEU.

The trans-Pacific and the Europe–Asia routes are the primary container trade routes that link the East to the West. On the trans-Pacific route, rates dropped for both the dominant eastbound leg (linking Asia to North America) and the westbound leg, although the latter saw some recovery in the middle of the year. During the fourth quarter of 2006, freight rates on the dominant eastbound leg of the trans-Pacific route, dropped by 11 per cent as compared with the fourth quarter of 2005. Freight rates for trade moving in the opposite direction decreased by 5.8 per cent to reach $777 per box. Factors

Table 36

Containership time charter rates

($ per 14-ton slot/day)

Ship type	Yearly averages							
	1999	2000	2001	2002	2003	2004	2005	2006
Gearless								
200–299	16.70	15.71	15.74	16.88	19.57	25.02	31.71	26.67
300–500	13.96	14.52	14.72	15.14	17.48	21.73	28.26	21.67
Geared/Gearless								
2,000–2,299	6.92	10.65	7.97	4.90	9.75	13.82	16.35	10.51
2,300–3,400[a]				5.96	9.29	13.16	13.04	10.18
Geared/Gearless								
200–299	17.23	17.77	17.81	17.01	18.93	27.00	35.35	28.04
300–500	12.76	14.60	14.90	13.35	15.55	22.24	28.82	22.04
600–799[b]				9.26	12.25	19.61	23.70	16.62
700–999[c]				9.11	12.07	18.37	21.96	16.73
1,000–1,299	8.24	11.87	8.78	6.93	11.62	19.14	22.58	14.28
1,600–1,999	7.54	10.35	7.97	5.67	10.04	16.08	15.81	11.77

Table 36 (continued)

Ship type	Monthly averages for 2006											
	1	2	3	4	5	6	7	8	9	10	11	12
Gearless												
200–299	27.18	26.75	28.33	26.08	28.72	28.60	26.10	27.00	26.90	24.30	22.80	27.40
300–500	22.13	23.94	17.04	17.04	20.17	21.79	26.10	18.40	25.40	23.00	23.60	20.90
Geared/Gearless												
2,000–2,299	9.88	10.92	10.73	10.86	10.55	10.98	11.00	10.70	10.80	10.40	10.40	9.00
2 300–3,400[a]	12.01	9.88	9.88	10.92	10.35	8.87	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Geared/Gearless												
200–299	19.13	32.37	30.94	28.75	31.10	28.67	27.80	28.70	27.60	27.60	27.60	26.30
300–500	28.12	23.23	20.69	21.47	19.75	23.47	18.90	21.20	23.00	21.10	19.80	23.70
600–799[b]	16.08	17.60	15.85	17.30	18.22	17.00	16.80	16.60	16.60	17.30	15.00	15.00
700–999[c]	16.86	17.05	17.08	15.98	17.80	18.41	18.70	18.00	15.70	15.10	15.40	14.80
1,000–1,299	15.04	15.54	14.42	15.46	15.89	15.91	14.40	14.30	14.30	13.50	11.30	10.50
1,600–1,999	12.32	10.67	10.99	12.25	13.19	13.91	11.70	11.70	12.10	12.10	10.50	10.50

Ship type	Monthly averages for 2007								
	1	2	3	4	5	6	7	8	9
Gearless									
200–299	26.52	28.35	28.01	27.76	27.08	26.90	27.58	25.92	28.25
300–500	19.29	21.91	22.59	24.23	20.83	21.80	23.20	23.17	24.84
Geared/Gearless									
2,000–2,299	8.96	9.60	10.06	10.84	11.21	11.15	12.92	12.92	12.44
2 300–3,400[a]	9.15	9.51	10.50	10.95	9.98	10.18	11.04	11.04	10.82
Geared/Gearless									
200–299	26.43	28.96	29.34	30.08	28.27	28.71	31.05	29.75	32.66
300–500	21.42	19.88	20.38	19.07	21.32	19.91	21.23	24.63	23.49
600–799[b]	13.97	15.66	16.54	15.43	16.94	17.56	16.60	16.65	16.44
700–999[c]	14.20	15.70	15.86	16.18	16.55	17.17	16.79	18.08	17.33
1,000–1,299	11.52	12.72	13.24	12.70	13.03	14.08	14.21	15.11	14.98
1,600–1,999	10.43	10.99	11.56	11.87	11.97	12.82	14.06	14.05	14.05

Source: Hamburg Shipbrokers' Association, www.vhss.de/englisch/hax.html.

[a] This category was created in 2002. Data for the first half of the year correspond to cellular ships in the range 2,300–3,900 TEUs sailing at 22 knots minimum.

[b] Sailings at 17–17.9 knots.

[c] Sailings at 18 knots minimum.

Table 37

Freight rates (market averages) per TEU on the three major liner trade routes

($ per TEU and percentage change)

	Trans-Pacific		Europe–Asia		Transatlantic	
	Asia–USA	USA–Asia	Europe–Asia	Asia–Europe	USA–Europe	Europe–USA
2005						
First quarter	1 867	800	801	1 795	886	1 544
Change (%)	-1.5	0.4	0.0	-2.5	-1.1	1.5
Second quarter	1 845	781	821	1 794	906	1 655
Change (%)	-1.2	-2.4	2.5	0.0	2.2	7.2
Third quarter	1 906	815	815	1 778	935	1 725
Change (%)	3.3	4.3	-0.7	-0.9	3.2	4.2
Fourth quarter	1 878	825	825	1 709	1 009	1 815
Change (%)	-1.5	1.2	1.2	-3.9	7.9	5.2
2006						
First quarter	1 836	815	793	1 454	995	1 829
Change (%)	-2.2	-1.2	-3.9	-14.9	-1.4	0.8
Second quarter	1 753	828	804	1 408	1 010	1 829
Change (%)	-4.5	1.6	1.4	-3.2	1.5	0.0
Third quarter	1 715	839	806	1 494	1 041	1 854
Change (%)	-2.2	1.3	0.2	6.1	3.1	1.4
Fourth quarter	1 671	777	792	1 545	1 066	1 762
Change (%)	-2.6	-7.4	-1.7	3.4	2.4	-5.0
2007						
First quarter	1 643	737	755	1 549	1 032	1 692
Change (%)	-1.7	-5.1	-4.7	0.2	-3.2	-4.0
Second quarter	1 675	765	744	1 658	1 067	1 653
Change (%)	1.9	3.8	-1.4	7.0	3.4	-2.3

Source: *Containerisation International Online*, www.ci-online.co.uk.

Notes: The freight rates shown are all-in, that is they include currency adjustment factors and bunker adjustment factors, plus terminal handling charges where gate/gate rates have been agreed, and inland haulage where container yard/container yard rates have been agreed. All rates are average rates of all commodities carried by major carriers. Rates to and from the United States refer to the average for all three coasts.

contributing to this decline included the large number of ships that entered service and the strong competition among carriers. Carriers are reported to have applied fuel and peak season surcharges in an attempt to recover their costs. For example, during the third quarter, member lines of the Trans-Pacific Stabilization Agreement (TSA) announced their intention to extend the year's peak season surcharge of $400 per TEU from 30 November 2006 to 28 February 2007.

On the Europe–Asia route, rates for boxes moving from Europe to Asia decreased by 4 per cent to reach $792, while trade moving from Asia to Europe fetched $1,545 per box during the last quarter of 2006 — 9.6 per cent lower than in the fourth quarter of 2005.

The declining trend continued in 2007. During the first quarter of the new year, the average rate in the three trade lanes declined compared with their previous levels. The exception was the negligible increase (0.2 per cent) recorded in the dominant leg of the Europe–Asia route. Illustrating this trend was APL's reported 6 per cent drop in the average freight rate during the first quarter of 2007.

An issue of relevance to freight rates is the terminal handling charges (THC). The debate over these charges continued during the year, with the Federation of ASEAN Shippers' Council (FASC) urging national Governments to abolish terminal charges and to ensure that THC are, instead, included in general rates. It should be called that in response to shippers' demands the Indonesian Government intervened in November 2005 by adopting a lower THC (of $95 per TEU compared with $150 per TEU). More recently, according to press reports, the logic of THC has been called into question since they are not collected according to market mechanisms and are not in line with United Nations Code of Conduct for Liner Conferences.[25] In China, following the investigation of the THCs issue by the Ministry of Communication (MOC), a report was published in April. The MOC is said to be, in principle, against the collection of a unified terminal handling charge on the grounds that it is inconsistent with the basic premise of fair competition. As a follow-up to the report, the MOC sent a warning notice to six liner conferences, including the Far Eastern Conference (FEFC), the TSA and the Intra-Asia discussion Agreement (IADA), requesting that they amend their tariffs. It should be recalled that a Chinese terminal handling charges of about $45 per TEU and $67 per TEU were introduced by a number of liner conferences in early 2002. These charges have always been called into question.

3. Supply and demand in respect of main liner services

Over the last two decades, global container trade (in tons) is estimated to have increased at an average annual rate of 9.8 per cent (see chapter 1). The share of containerized cargo in the world's total dry cargo is estimated to have increased from 7.4 per cent in 1985 to 24 per cent in 2006. Drewry Shipping Consultants estimated global container trade for 2006 to be about 129 million TEUs. A forecast ending in 2020 indicated that container trade is expected to reach 157 million TEUs in 2008, 219 million TEUs in 2012 and 287 million TEUs in 2016, and to exceed 371 million TEUs in 2020. Clarkson Shipping estimated container trade, measured in cargo tonnage, to have grown in 2006 by 11.2 per cent to 1,134 million tons.

Developments along the major container trade routes illustrate this trend (table 38). In 2006, the Pacific trade is estimated to have reached 18.5 million TEUs. The dominant leg, Asia–United States trade, was estimated at 13.9 million TEUs, up by 12.1 per cent over the previous year. Trade in the opposite direction, United States–Asia, grew by 4.5 per cent and is estimated to have reached 4.6 million TEUs. The imbalance between the eastward and westward traffics seems to have deepened in 2006, with the Asia–United States cargo flows exceeding those in the reverse direction by 9.3 million TEUs against 8 million TEUs in 2005.

Containerized trade patterns will probably be affected by the planned expansion of the Panama Canal, especially with respect to traffic to or from the East Coast of North America. As may be recalled, in October 2006, Panamanians voted in favour of a $5.25 billion expansion plan for the Panama Canal. This is expected to almost double the annual capacity transiting the Canal, which is currently estimated to handle 40 ships per day.

Table 38

Estimated cargo flows on major trade routes

(Million TEUs and percentage change)

Year	Trans-Pacific		Europe–Asia		Transatlantic	
	Asia–USA	USA–Asia	Asia–Europe	Europe–Asia	USA–Europe	Europe–USA
2005	12.4	4.4	10.8	5.5	2.1	3.8
2006	13.9	4.6	12.5	5.8	2.3	3.9
% percentage change	12.1	4.5	15.7	5.4	9.5	2.6
2007 (Forecast)	14.8	5.0	14.4	6.1	2.4	3.9

Source: Compiled by UNCTAD secretariat from *Containerisation International*, October 2007, p. 5.

The Asia–Europe trade route expanded at a faster rate, with trade estimated to have reached 18.3 million TEUs in 2006. Cargo flows on the dominant leg from Asia to Europe are estimated at 12.5 million TEUs in 2006, against 10.8 million TEUs in 2005. In comparison, traffic moving in the opposite direction grew at a lower rate of 5.4 per cent to an estimated total of 5.8 million TEUs. Table 39 shows the share of major lines and groupings serving this trade. The FEFC is a major player in the Europe–Asia container trade. In October 2006 MSC joined the Conference, and this resulted in an increased share of westbound capacity. The total trade from Asia to Europe carried by FEFC members reached about 6.7 million TEUs in 2006, with routes to the Northern Baltic recording the strongest growth. MSC is estimated to hold a 20 per cent share of the trade route from/to the Mediterranean. It has been reported that over 400 ships offer 50 weekly services on the Asia–Europe trade lane, with the deployment of additional 50 ships being envisaged for 2007.

Trade on the transatlantic route linking Europe with North America is estimated to have reached 6.2 million TEUs in 2006. Trade on the dominant leg of the trade lane — Europe to North America — increased to a total of 3.9 million TEUs. Flows in the opposite direction also expanded, reaching 2.3 million TEUs. The rapid growth of trade on routes linking Asia, and particularly China, to North America and Europe highlights the continued role of dynamic Asian emerging economies as engines of global trade, as well as the impact of new production processes and delocalization from conventional production centres in the West to Asian developing countries. The emergence of Viet Nam as an important contributor to this growth is worth noting, especially in the light of its recent accession to the WTO.

In addition to East–West trade, North–South trades are growing, as are South–South trades, this growth being a reflection of the new geography of trade and the role of emerging developing economies as industrial centres.

Table 39

Europe–Far East trade: percentage slot capacity share by line/ grouping [26]

(Percentage share)

Operator	Mid-2005	Mid-2006
Maersk Sealand	12.5	21.4
Grand Alliance	22.2	14.5
New World Alliance	10.7	12.9
K Line and Yang Ming	6.8	5.8
CMA CGM/Norasia and others	9.7	5.7
CSAV NORASIA	1.2	2.2
Total	63.1	62.5

Source: Compiled by UNCTAD secretariat from *Containerisation International*, September 2006.

Total North–South trade is estimated at 19.6 million TEUs in 2006. Cargo flows from Europe to West Africa were estimated at 0.6 million TEUs while trade in the opposite direction amounted to 0.3 million TEUs. The former expanded at a faster rate than the latter, with estimated growth rates of 9.9 and 2.4 per cent respectively. The main lines serving West Africa from both Europe and the Far East were Maersk Line and Safmarine, CMA CGM, Delamas and OTAL. In early 2006, COSCON and ZIM and Delmas each launched a new Mediterranean–West Africa service. Traffic on the Europe–Southern Africa route also expanded in 2006. Hapag-Lloyd announced during the second half of the year that it would enter the Europe–Southern Africa trade with a stand-alone service, while the new South Africa Independent Line was launched, offering a service that deploys two 600 TEU ships.

Container trade between Europe and Oceania is estimated to have increased by 6.3 per cent to reach 0.5 million TEUs in 2006. The larger trade routes linking North America and Europe with developing America are estimated at 5.2 million TEUs and 3.3 million TEUs, respectively. Imbalances affecting these cargo flows are more pronounced, with northbound trade amounting to double southward trade.

Container flows between and within developing regions are expanding at a faster rate. For example, trade between Oceania and North East Asia is estimated at 1.5 million TEUs in 2006, an increase of 7.1 per cent over the previous year. Intra-Asia trade growth is estimated at 8.8 per cent, reaching 8.1 million TEUs in 2006. Volumes are expected to grow even faster with delocalization of production from China to less expensive Asian countries such as Viet Nam and India. In November 2006, 48 African countries signed trade agreements with China. This indicates the potential for growth that lies ahead for South–South containerized trade, with China importing raw materials and Africa importing consumer goods from China. Seizing the potential trade opportunities that may emerge, Hamburg Sud and NYK established a dedicated Far East–Durban loop.

Trade on the Far East/South Asia/Middle East routes also experienced strong growth in 2006. Asia to India subcontinent trade grew by 9 per cent, while traffic in the opposite direction was estimated to have increased by 12.3 per cent. Trade originating in the Middle East and destined for Asia expanded by an estimated 4.9 per cent, while trade in the opposite direction grew by 9.8 per cent. For all those trades, the dominant leg was the trade originating in the Far East, although the growth of the Asia–Middle East route has decelerated compared with the 16.6 per cent growth rate recorded in 2005.

4. Liner freight index

Table 40 indicates the development of liner freight rates on cargoes loaded or discharged by liners at ports of the German coastal range for the period 2004–2006. The average overall index for 2006 decreased by 4 points from the 2005 level to reach 100 points (1995 base year 100). The average homebound index decreased by 4 points to 93 over the year. The monthly figures indicate a gradual decline in rates, with some fluctuations up and down and rates performing better during the first three quarters of the year. In the outbound trade, the average level in 2006 declined by 4 points to reach 106 points. Again, rates that prevailed during the first three quarters of the year were higher.

5. Liner freight rates as percentage of prices for selected commodities

Table 41 provides data on liner services freight rates as a percentage of market prices for selected commodities and trade routes in certain years between 1970 and 2006. For rubber sheet, the increases in freight rates were lower than the average f.o.b. price increases and resulted in a lower freight ratio of 6.3 per cent for 2006. The f.o.b. price for jute remained steady, while freight rates moved up by 22 per cent. This explains the increase in freight ratio to 37.2 per cent for 2006. The price of cocoa beans shipped from Ghana increased by 3.5 per cent while the increase in the freight rate was 1.6 per cent. Therefore, the freight ratio dropped slightly to 3.9 per cent in 2006. The c.i.f. price of coconut oil recorded a drop of 1.6 per cent in 2006, while corresponding freight rates increased by 12.4 per cent. As a result, there is an increase in the corresponding freight ratio from 12.7 per cent in 2005 to 14.5 per cent in 2006. The ratio of liner freight to f.o.b. price for tea increased marginally from 9.2 to 9.3 per cent, owing to an increase of 12.8 per cent in freight rates combined with an increase of 11.7 per cent in prices during 2006. The price for coffee shipped from Brazil to Europe increased by 1.5 per cent, significantly lower than the impressive 49 per cent recorded in 2005. As freight rates decreased by 8.4 per cent, the freight ratio also declined from 5.7 per cent in 2005 to 5.1 per cent in 2006. The price of Colombian coffee exported to Europe from Atlantic and Pacific ports increased marginally by 1.1 per cent, a much lower rate

Table 40

Liner freight indices, 2004–2006

(Monthly figures: 1995 = 100)

Month	Overall index				Homebound index				Outbound index			
	2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
January	93	96	104	88	88	89	95	89	98	101	113	86
February	93	95	105	88	88	88	95	89	98	102	113	87
March	96	95	106	86	92	88	97	88	101	102	114	85
April	100	98	105	87	96	91	96	91	104	105	113	84
May	99	103	101		96	97	92		103	108	110	
June	99	108	104		95	101	94		103	114	113	
July	100	108	105		97	102	96		103	115	113	
August	100	106	98		97	100	92		102	111	103	
September	100	106	96		98	100	92		102	112	100	
October	100	109	95		96	102	93		104	116	97	
November	96	111	91		90	104	89		101	118	93	
December	94	110	87		89	103	86		100	117	88	
Annual average	98	104	100	87	94	97	93	89	102	110	106	86

Source: Compiled by UNCTAD secretariat on the basis of information published by the Institute of Shipping Economics and Logistics, *Shipping Statistics and Market Review*, vol. 51, no. 3, March 2007, pp. 60 and 61.

Table 41

Ratio of liner freight rates to prices of selected commodities

(Percentages)

Commodity	Route	Freight rate as percentage of price [a]						
		1970	1980	1990	2003	2004	2005	2006
Rubber	Singapore/Malaysia–Europe	10.50	8.90	15.50	8.30	7.50	8.00	6.30
Jute	Bangladesh–Europe	12.10	19.80	21.20	29.00	27.60	30.50	37.20
Cocoa beans	Ghana–Europe	2.40	2.70	6.70	3.30	3.70	4.00	3.90
Coconut oil	Sri Lanka–Europe	8.90	12.60	n.a.	11.50	10.10	12.70	14.50
Tea	Sri Lanka–Europe	9.50	9.90	10.00	7.80	8.60	9.20	9.30
Coffee	Brazil–Europe	5.20	6.00	10.00	6.80	6.50	5.70	5.10
Coffee	Colombia (Atlantic)–Europe	4.20	3.30	6.80	3.90	2.30	3.10	3.00
Coffee	Colombia (Pacific)–Europe	4.50	4.40	7.40	4.80	2.60	4.10	3.70

Sources: UNCTAD secretariat on the basis of data supplied by the Royal Netherlands Shipowners' Association (data for 1970–1989) and conferences engaged in the respective trades (data for 1990–2006).

[a] For coffee (Brazil–Europe and Colombia–Europe) and for coconut oil prices are based on CIF (cost, insurance and freight). For cocoa beans (Ghana–Europe) the average daily prices in London are used. For tea, the Kenya auction prices are used. For the remaining commodities, prices are based on f.o.b. terms. The freight rates include, where applicable, bunker surcharges and currency adjustment factors, and a tank cleaning surcharge (for coconut oil only). Conversion of rates to other currencies is based on parities given in the *Commodity Price Bulletin*, published by UNCTAD. Annual freight rates were calculated by taking a weighted average of various freight quotes during the year, weighted by their period of duration. For the period 1990–2006, the prices of the commodities were taken from UNCTAD's *Commodity Price Bulletin* (see UNCTAD website).

than the 39 per cent growth rate recorded in 2005. Freight rates for Brazilian coffee loaded at Atlantic ports decreased by 2.4 per cent while that loaded at Pacific ports decreased by 9.1 per cent. As a result, the freight ratios decreased to 3 and 3.7 per cent, respectively.

D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE

Trends in global import value and freight costs

Table 42 provides estimates of total freight payments for imports as a percentage of total import value by country groups. Most recent data available relate to 2005. During that year, the world total value of goods imported (c.i.f) increased by 13.4 per cent compared with the previous year while total freight costs paid for transport services increased by 31.2 per cent. The share of global freight payments in import value stood at 5.9 per cent in 2005 — higher than the 2004 freight–import ratio. The share of freight costs in import value achieved in 1990 and 2000 were 5.3 and 5 per cent, respectively. Figure 10 shows the long-term trend that characterized the evolution of freight costs over a period of 25 years. While some volatility seems to have affected the various freight costs–import value ratios, a clear declining trend is, nevertheless, emerging.

A regional breakdown indicates that developed countries have the lowest freight costs. For 2005, the total value of imports by developed countries increased by 1.8 per cent, while total freight costs increased by 15.1 per cent. As a result, freight costs as a percentage of import value increased, reaching 4.8 per cent. This share was 4.7 per cent in 2004, 4.3 per cent in 2000 and 4.4 per cent in 1990. Developing countries saw the value of their 2005 imports increase by 16.8 per cent and their estimated freight costs go up by 49.8 per cent. The resulting ratio increased from 6 per cent in 2004 to 7.7 per cent in 2005 — down from the 8.6 and 6.6 per cent recorded in 1990 and 2000, respectively. Economies in transition, for their part, saw the value of their 2005 imports go up by 22.4 per cent, while the corresponding estimated freight costs increased by 69.7 per cent. The freight to import value ratio was 7.6 per cent in 2005, 5.5 per cent in 2004, 6.6 per cent in 2000 and 5.5 per cent in 1990. Factors potentially explaining the important rise in freight payments include the growing trade, fuel cost increases of the past few years, the boom in charter rates and the growing share of air transport services.

Regional trends

Total freight costs of developing countries increased by 49.8 per cent in 2005, an increase that partly reflected the important challenges faced in some developing regions. These include infrastructure constraints and limited access (and connectivity) to the global trading systems. In addition, for many small island developing countries, the long distance from major trading partners, low cargo volumes, and high transhipment and feeder costs also contribute to the high levels of freight costs.

Within the group of developing countries, African countries recorded an increase in freight costs of 13.4 per cent. In 2005, developing countries in Asia accounted for 77 per cent of import value and 58.9 per cent of freight payments of all developing countries. In 2004, those shares amounted respectively to 77 and 75 per cent. Africa showed the largest freight to import value ratio, which decreased slightly to reach 10 per cent in 2005. The share of developing countries in America in the group's total import value was 13.1 per cent, while their share of the estimated freight costs amounted to 7.5 per cent. These shares amounted, respectively, to 15 per cent and 11 per cent in 2004. Small island developing countries in Oceania are ranked second to Africa in terms of freight cost ratio, which amounted to 9.6 per cent in 2005 against 10 per cent in 2004. Overall, developing countries continue to register the highest freight costs, followed by economies in transition and, finally, by developed countries (see figure 11).

E. CONTAINER PRODUCTION[27]

Container production and leasing are influenced by developments in liner shipping and containerized trade. Over the period 2002–2006, the world container fleet expanded at an average annual growth rate of 9 per cent (see table 43). The total fleet amounted to about 23.2 million TEUs — 40 per cent higher than its 2002 level. In 2006, the fleet grew by 7.8 per cent — a lower rate than the rapid growth recorded in 2003 and 2004. During the past few years, the share of ocean carriers in container ownership has been growing gradually — from 53.5 per cent in 2002 to 54.5 per cent in 2004 and 57.2 per cent in 2006. The total fleet owned by lessors totalled 9.9 million TEUs, representing 42.8 per cent of the world fleet.

The world's container-producing industry experienced a recovery in 2006. A total of 3.1 million TEUs was

Table 42

Estimates of total freight costs for world imports, by country group [a]

(Billions of dollars and percentages)

Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as % of import value
1990	**World total**	**189.8**	**3 590.2**	**5.3**
	Developed countries	115.2	2 635.6	4.4
	Economies in transition	10.2	154.5	6.6
	Developing countries	69.0	800.1	8.6
	of which			
	Africa	9.1	97.0	9.4
	America	7.6	127.2	6.0
	Asia	52.3	570.9	9.2
	Oceania	0.5	4.9	9.5
2000	**World total**	**333.4**	**6 642.1**	**5.0**
	Developed countries	200.8	4 617.7	4.3
	Economies in transition	9.4	120.0	7.8
	Developing countries	126.1	1 904.4	6.6
	of which			
	Africa	12.5	131.0	9.6
	America	19.5	388.9	5.0
	Asia	94.0	1 379.1	6.8
	Oceania	0.5	5.4	9.5
2004	**World total**	**481.8**	**9 446.6**	**5.1**
	Developed countries	296.3	6 909.1	4.7
	Economies in transition	14.2	259.3	5.5
	Developing countries	173.5	2 877.6	6.0
	of which			
	Africa	21.6	210.3	10.3
	America	19.4	444.1	4.4
	Asia	130.2	2 215.1	5.9
	Oceania	0.8	8.0	10.0
2005	**World total**	**632.4**	**10 712.2**	**5.9**
	Developed countries	341.1	7 035.7	4.8
	Economies in transition	24.1	317.5	7.6
	Developing countries	259.9	3 359.0	7.7
	of which			
	Africa	24.6	246.9	10.0
	America	19.4	441.1	4.4
	Asia	153.0	2 588.1	5.9
	Oceania	0.8	8.8	9.6

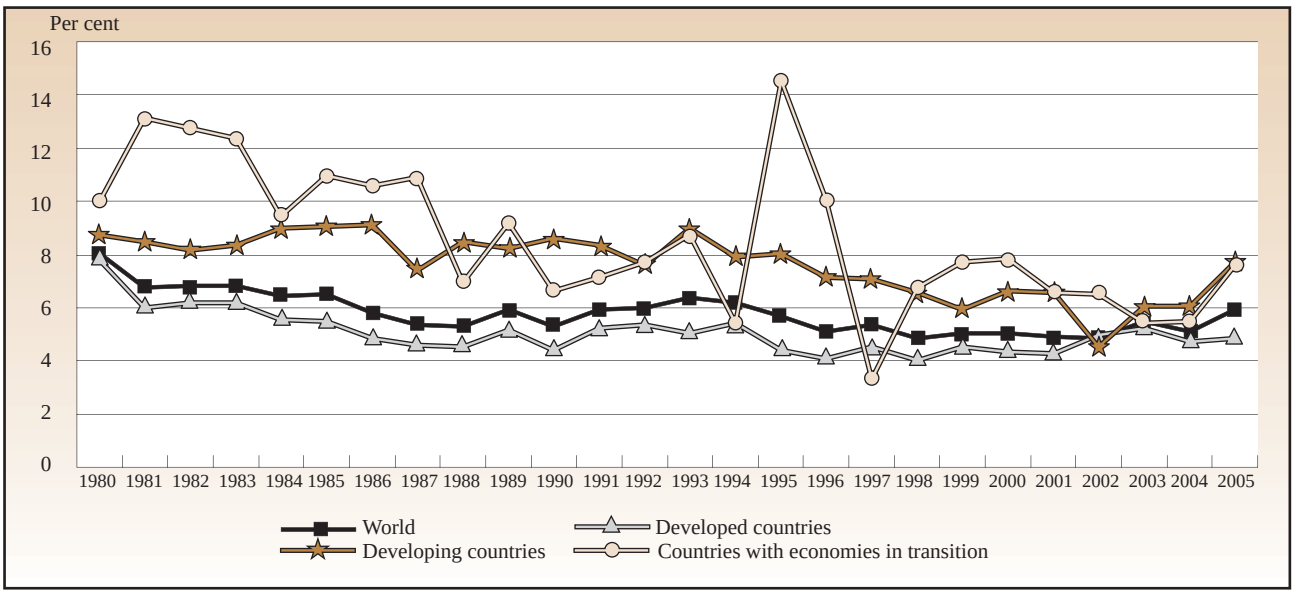
Source: Calculations based on the *UNCTAD Handbook of Statistics 2006/2007*, IMF *Balance of Payments Statistics* and IMF *Direction of Trade Statistics*.

[a] Data in this table are not comparable to those published in previous issues of this publication owing to changes in sources and methodology. World totals include all countries, but regional aggregates for imports and their freight costs during recent years might be distorted because of slow reporting by some countries.

Figure 10

Freight costs as a percentage of value of imports: long-term trend (1980–2005)

(Percentages)

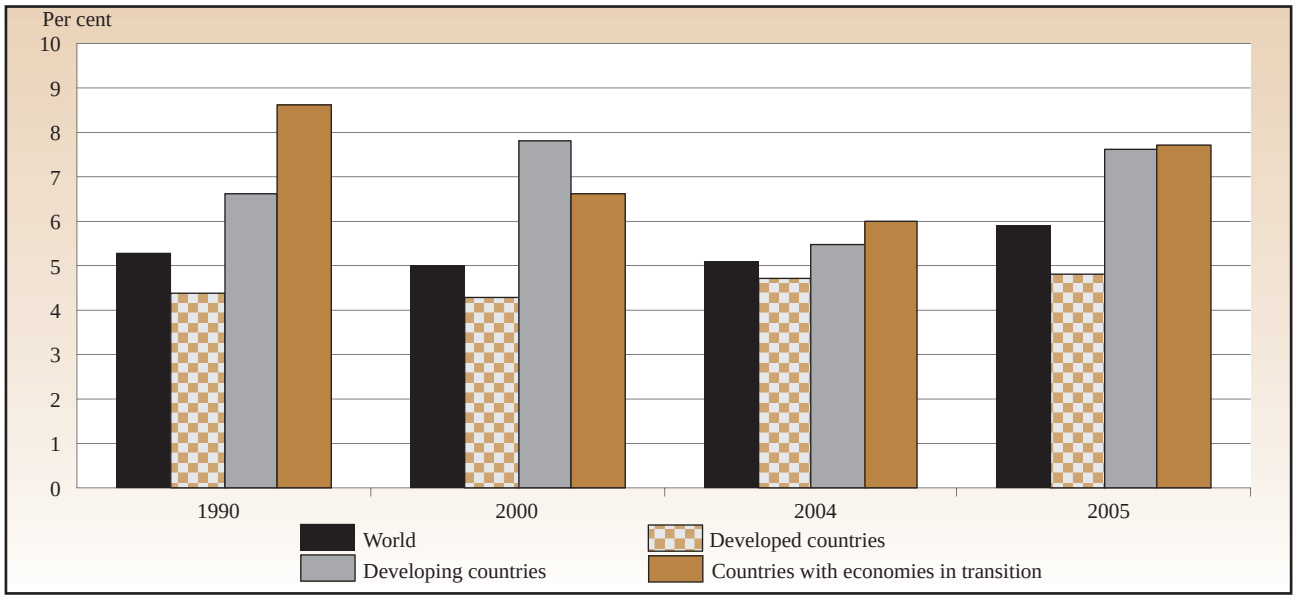


Source: UNCTAD secretariat, based on table 42.

Figure 11

Estimates of total freight costs as a percentage of value of imports in world trade, by country group

(Percentages)



Source: UNCTAD secretariat based on table 42.

Table 43

World container fleet

(Thousand TEUs)

Year	Global	Lessor	Sea carrier fleet
2002	16 425	7 635	8 790
2003	17 960	8 370	9 590
2004	19 980	9 080	10 900
2005	21 500	9 340	12 160
2006	23 170	9 910	13 260

Source: Containerisation International, August 2006, p. 43.

produced, including all types of boxes (see table 44). The overall upward trend that had started in 2001 was partly driven by the strong economic recovery in Asia and the growth of China and India as major economic players. About two thirds of new boxes were usually required in order to meet the increasing number of slots in the expanding fleet of containerships. The remaining third was needed to replace old and/or damaged boxes. Therefore, demand for new boxes was particularly fuelled by the containership order book. Production took place in the context of price volatility whereby standard box prices started the year at $1,450 per TEU, and increased by more than half during the third quarter to reach $2,100 per TEU. Subsequently, these prices fluctuated between $1,800 and $2,000. For their part, box prices were also affected by the volatility of prices for raw material used in the production of containers, namely corten steel and timber flooring. On average, the cost of raw materials accounted for about half of the final price of a new box. By the second quarter of 2006, the prices of corten steel and timber flooring had dropped by 20 per cent from their levels a year earlier. The 2006 average price of new 20 ft containers was $1,850 (see figure 12).

Table 44

World container production

(Thousand TEUs)

	2005	2006
Dry freight standard	2 197	2 738
Dry freight special	67	80
Integral reefer	170	165
Tank	13	15
Regional	103	102
Total	**2 550**	**3 100**

Source: *Containerisation International*, February 2007, p. 41.

Leasing containers

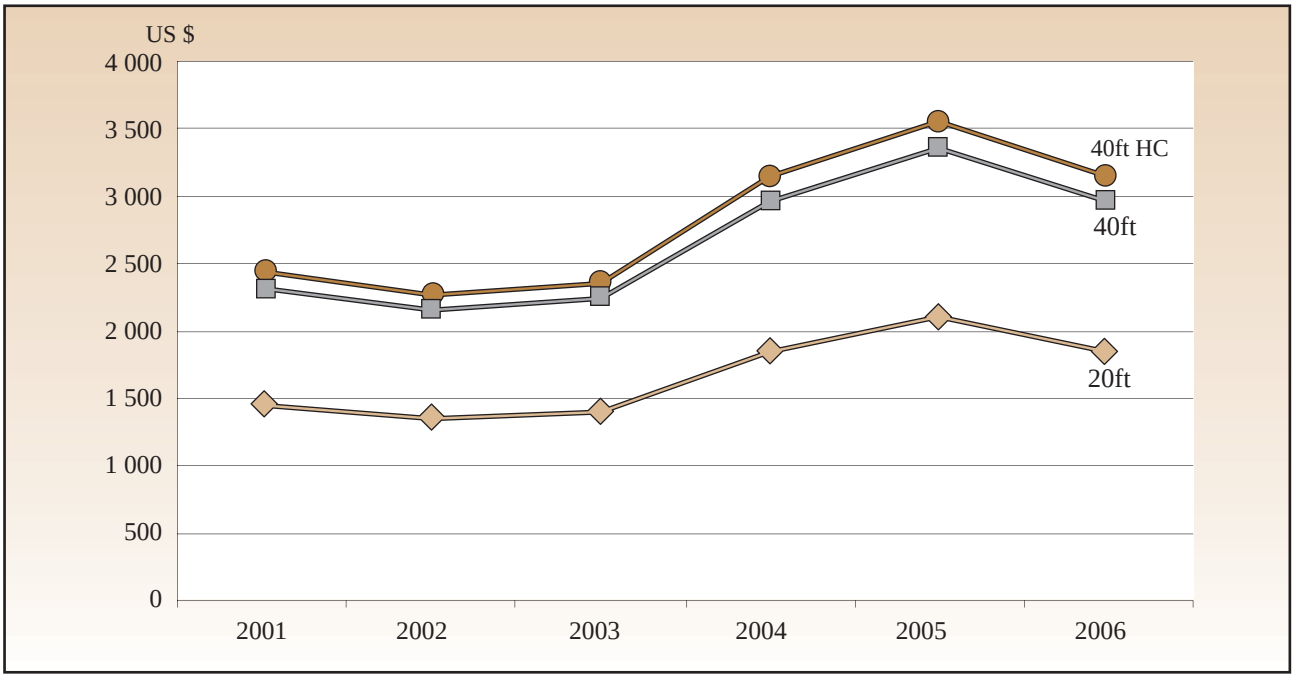
The lease rate fell gradually throughout the second half of 2005, reaching a rate close to $0.50 per day in the first quarter of 2006. The demand for lease boxes strengthened slightly in the last three quarters of 2006, increasing the rate modestly to reach $0.70 by the end of the year (see figure 13). To ensure the profitability of their investment, lessors were cautious in developing their investment strategy for 2006. Although both leasing rate and new box prices were important determinants in an investment strategy for leasing containers, lessors exercised restraint in order to avoid repeating the experience in 2004 and 2005, when precautionary spending on new containers drove the production sector to operate to near its full capacity. This in turn gradually pushed prices up, generating an excess supply of new boxes and threatening to undermine the leasing industry.

In 2006, lessors purchased about 1.1 million TEUs, an increase of 35.4 per cent over the previous year, but lower that the total 1.3 million TEUs purchased in 2004. Less than half of the purchases were allocated to replace old and damaged boxes. It should be recalled that, in 2005, almost 70 per cent of were intended for maintenance and replacement of existing fleet.

Figure 12

Evolution of prices of new containers

(dollars per box)

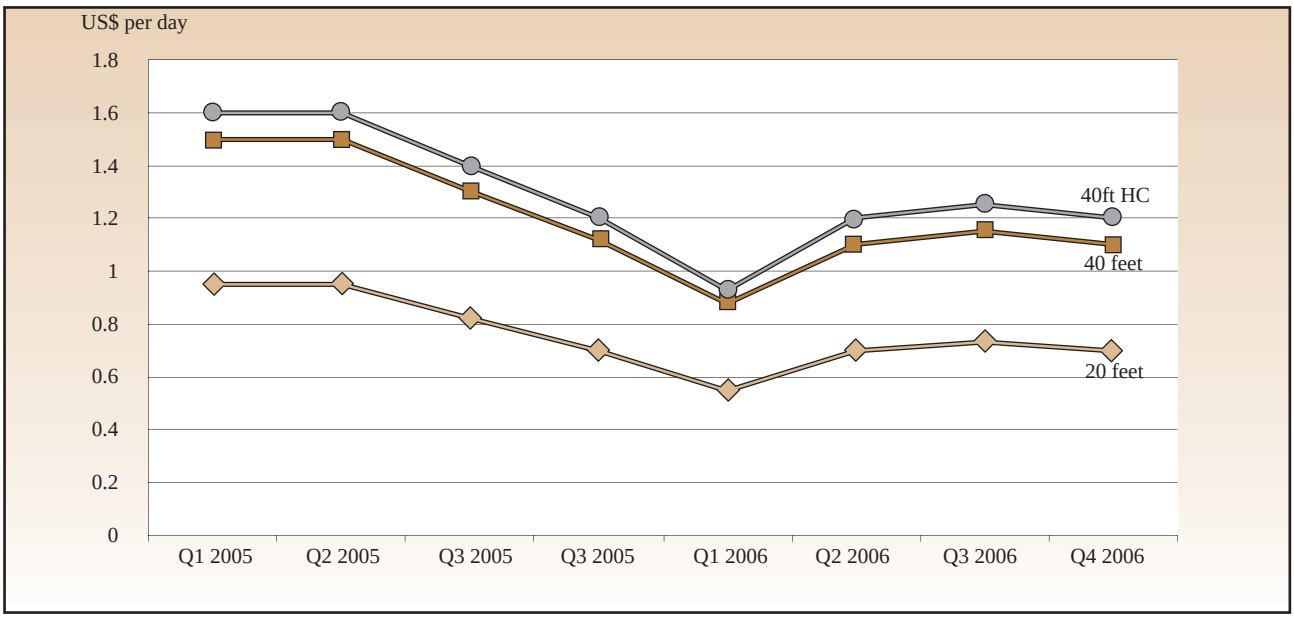


Source: *Containerisation International*, September 2006, p. 39.

Figure 13

Evolution of leasing rates

($ per day)



Source: *Containerisation International*, February 2007, August 2006 and February 2006.

Endnotes

14 UNCTAD secretariat based on Drewry Shipping Consultants, *Shipping Insight*, various issues; Fearnleys, *Review 2006*; Clarkson Research Services, *Shipping Review and Outlook*, 2006 and 2007.

15 The revised MARPOL Annex I, entitled *Regulations for the prevention of pollution by oil*, was adopted in October 2004 and entered into force on 1 January 2007. It incorporates various amendments, including the amended Regulation 13G (Regulation 20 in the revised Annex) and Regulation 13H (regulation 21 in the revised Annex) on the phasing-in of double hull requirements for oil tankers. For more information see the IMO website, www.imo.org.

16 Addition information on the WS system can be found on www.worldscale.co.uk. See also Worldscale Association Ltd (London) and Worldscale Association NYC Inc.

17 Regulation (EC) No 457/2007 of the European Parliament and of the Council of 25 April 2007 amending Regulation (EC) No 417/2002 on the accelerated phasing-in of double-hull or equivalent design requirements for single-hull oil tankers, *OJ L 113, 30.4.2007, pg. 1–2. This Regulation entered into force on 20 May 2007; http://eurlex.europa.eu/LexUriServ/site/en/oj/2007/l_113/l_11320070430en00010002.pdf*.

18 UNCTAD secretariat based on Drewry Shipping Consultants, *Shipping Insight*, various issues; Fearnleys, *Review 2006*; Clarkson Research Service, *Shipping Review and Outlook*, 2006 and 2007, and Clarkson Research Service, *Dry Bulk Trade Outlook*, May and June 2007.

19 UNCTAD secretariat based on Drewry Shipping Insight, various issues; *Containerisation International*,various issues; *Containerisation International Online* (www.ci-online.co.uk); Clarkson Research Services, *Container Intelligence Monthly*, various issues, and *Shipping Review & Outlook*, 2006 and 2007; *Dynaliners Trades Review*, 2007; *Lloyds Shipping Economist*, various issues; and *Fairplay*, various issues.

20 See Article 1 of Council Regulation (EC) No 1419/2006 of 25 September 2006 repealing Regulation (EEC) No. 4056/86 laying down detailed rules for the application of Articles 85 and 86 of the Treaty to maritime transport, and amending Regulation (EC) No 1/2003 as regards the extension of its scope to include cabotage and international tramp services, *OJ L 269, 28.9.2006, p. 1–3;* http://eurlex.europa.eu/LexUriServ/site/en/oj/2006/l_269/l_26920060928en00010003.pdf. See also the related Proposal for a European Parliament and Council Regulation repealing Council Regulation (EEC) No. 954/79 concerning the ratification by Member States of, or their accession to, the United Nations Convention on a Code of Conduct for Liner Conferences, COM/2006/0869 final of 30 January 2007; http://eurlex.europa.eu/LexUriServ/site/en/com/2006/com2006_0869en01.pdf.

21 http://www.elaa.net/documents/RevisedELAAProposal.pdf.

22 The regulations in Annex VI of MARPOL were adopted in September 1997 and entered into force on 19 May 2005. They include a global cap of 4.5 per cent on the sulphur content of fuel oil. They also provide for special SOx Emission Control Areas (SECAS) with more stringent controls, where the sulphur content of fuel oil used onboard ships must not exceed 1.5 per cent. Annex VI also sets limits on emissions of nitrogen oxides (NOx) from diesel engines, prohibits deliberate emissions of ozone-depleting substances, and prohibits the incineration onboard ship of certain products. Amendments to technical annexes of MARPOL 73/78 can be adopted using the "tacit acceptance" procedure, whereby such amendments enter into force on a specified date unless an agreed number of States Parties object to them. In practice, amendments are usually adopted either by IMO's Marine Environment Protection Committee (MEPC) or by a Conference of Parties to MARPOL. For more information on ongoing work at the MEPC on air emissions, see the IMO website, www.imo.org.

23 See Press Release *INTERTANKO praises swift action by IMO Secretary General*, 20 April 2007, www.intertanko.com**,** referring to a proposal submitted to IMO in November 2006.

24 www.vhss.de/englisch/hax.html.

25 Jati Damas, "*Indonesia THC Breaks International Code of Conduct*", *Containerisation International*, 20 December 2006 (www.ci-online.co.uk).

26 The Grand Alliance comprises trades in the transatlantic, trans-Pacific and Europe–Far East routes. MISC participates only in the Europe–Far East trade. Since February 2006 the Grand Alliance has comprised Hapag-Lloyd, NYK Line, OOCL and MISC Bhd. The latter participates solely in the Europe–Far East trades. The New World Alliance (APL, MOL and HMM) covers the trans-Pacific, Asia/Europe and Asia/Mediterranean trades, cooperating with Yangming in the latter. APL and MOL were members of the Global Alliance until the replacement New World Alliance was formed in 1997. The NWA additionally has a slot charter agreement with Evergreen, covering the US/Asia market.

27 UNCTAD secretariat on the basis of information published in *Containerisation International*, 2006 and 2007 issues.