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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 commodity prices, and it estimates freight payments and freight costs as a percentage of import value in world trade.

A. CRUDE OIL AND PETROLEUM PRODUCTS SEABORNE FREIGHT MARKET

1. Seaborne trade in crude oil and petroleum products

The production cuts implemented by OPEC countries in 2002 helped depress tanker freight rates for most of the year. Weak quota compliance by some countries and the decision of non-OPEC exporters to boost exports during the second half of the year did not increase tanker demand sufficiently to lift rates. In fact, rates only improved during the fourth quarter due to the combined impact of the sinking of the Prestige and the national strike in Venezuela. The former cast doubt on the employment of single-hull tankers, which represent a sizable share of world tanker supply. The latter resulted in the US market being supplied from afar, so that tanker demand increased at a time of tight tanker supply.

In 2003, the demand for shipments of crude oil and oil products is likely to be affected by the duration of the extended haulage to US markets and the war in Iraq.

2. Tanker freight rates

Overall, 2002 was a mixed year for tanker owners, with rates only improving at the end of the year from their low starting point. As table 31 indicates, all freight indices for the five groups of vessels engaged in transporting crude oil and petroleum products went up only at the end of the year. Increases for VLCC/ULCC and medium-size crude carriers were more significant: freight indices for these two groups ended the year at 103 and 172, with increases from January 2002 levels of 157.5 and 91.1 per cent respectively. Small crude and product carriers ended the year at 176, an increase of 76 per cent from the January level. Lesser increases of 40.5 and 17 per cent were reported for all-size clean carriers and handy-size dirty carriers, which ended the year at 208 and 193, respectively.

However, a comparison of the annual average freight indices for the year 2002 with those of the previous year, which was a bad one for tanker owners, highlights the fact that rate levels are still depressed for all groups of tankers. Averages for VLCC/ULCC (48 in 2002 against 76 the previous year) and all-size clean carriers (166 as opposed to 258) are actually very similar to those recorded in 1999, which was a particularly bad year. This might explain the call to pool tonnage made in early 2003 by Tanker International, a pool with 44 VLCC. Averages for medium-size crude carriers (98 in 2002 as against 140 in the previous year), small crude and product carriers (131 as against 191) and handy-size dirty carriers (173 as against 242) are all about one-third lower than those of the previous year and only marginally better than those of 1999.

Very large crude carriers (VLCC)

The spot rates from the Middle East Gulf to Japan and the Republic of Korea started the year at WS45 and WS44 respectively. Vessels heading westward to Europe and to the Caribbean/US East Coast fetched WS36 and

Table 31

Tanker freight indices,[a] 2000–2003[b]

(monthly figures)

Period	VLCC/ULCC				Medium-size crude carriers				Small crude & product carriers				Handy-size dirty carriers				All-size clean carriers			
	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003
January	48	152	40	99	93	217	90	162	126	346	100	166	146	277	165	266	148	371	148	231
February	54	117	41	133	108	206	87	181	141	230	126	187	154	323	168	267	170	400	150	246
March	58	87	39	114	116	158	86	225	164	239	116	276	167	295	159	290	189	348	150	273
April	70	95	36	129	135	171	91	240	196	272	117	294	186	299	164	290	197	264	149	328
May	81	81	36	80	127	160	105	150	177	190	144	218	187	296	194	200	205	263	179	294
June	96	61	50	85	136	132	90	156	174	183	159	201	194	242	204	235	210	264	177	231
July	101	52	40	51	153	112	97	110	245	141	130	133	261	230	201	250	218	224	158	221
August	106	53	45	53	197	114	83	103	266	130	132	168	243	224	167	198	234	214	171	221
September	129	51	36		191	111	84		269	148	110		230	204	158		255	218	175	
October	136	74	41		165	111	84		194	154	118		217	210	153		265	187	155	
November	134	44	73		205	98	108		267	136	138		241	163	154		258	192	174	
December	138	39	103		209	94	172		273	128	176		244	141	193		262	149	208	
Annual average	96	76	48		153	140	98		208	191	131		207	242	173		218	258	166	

[a] Compiled and published by *Lloyd's Ship Manager*. World scale = 100, as effective in each year. For tankers, vessel size groups are as follows: VLCC/ULCC – 150,000 dwt and upwards; medium-size crude carriers – 70,000–150,000 dwt; small crude and product carriers – 30,000–70,000 dwt; Handy-size dirty carriers – below 35,000 dwt; and all sizes clean carriers.

[b] All indices have been rounded to the nearest whole number.

WS38 respectively. Rates weakened during the first quarter, reaching the low 30s for all these routes, but rebounded in May to WS56 and WS45 for routes heading to the east and to WS40 and WS39 for the westward ones. However, these improved rates soon fell to the low 30s again in August. The bottom of the market may have been reached with the 2002-built *Poros* of 310,000 dwt that was engaged at WS28 for a trip from Ras Tanura (Middle East Gulf) to the East Coast of North America. The reductions in time-charter earnings per day were severe: from $20,600 to $9,000 on the route to Japan and from $18,400 to $6,700 on the route to the Republic of Korea.

Rates were moving up slowly by the end of September, and in October they increased further after the major explosion and fire on the *Limburg* off the Yemeni coast following an attack by an unidentified small craft. The stockpiling concerns of major importers in case of conflict in the Gulf jacked up rates to WS62 for destinations in Japan and WS60 for the Republic of Korea. In November the upward trend continued and in December the WS110 and WS108 marks were reached. The *New Vista* fetched WS101 when chartered by Nippon to carry 260,000 tons to Japan, while the *Musashi Spirit* reached WS107 for a similar lifting to Ulsan (Republic of Korea). For westward routes to Europe and to the Caribbean/US East Coast, the corresponding freights were WS54 and WS53 in October and WS95 and WS85 by the end of the year. For instance, Chevron secured the *Arion* at WS90 for transporting 280,000 tons to a North America Gulf destination.

In January 2003 average eastward rates increased to WS126. They even briefly reached WS165 or $100,000 per day in the wake of the OPEC declaration to the effect that it would raise output to compensate for Venezuelan loss of output. They eased in February, falling below WS100, though the *Iran Nesa* was secured at WS122.5 to carry 260,000 tons from Kharg Island (Islamic Republic of Iran) to China.

Fixtures from the Middle East Gulf to the Red Sea mirrored those found in the eastward and westward routes. They started at WS45 and, after dropping to WS29 in April, they went up to WS49 the following month. The summer months saw a slide to WS31, but there was a recovery to WS45 in October and to WS154 in January 2003. On the route Middle East Gulf to South Africa, which also started the year at WS45, there were wide upward fluctuations in rates: WS51 was reached in May, WS72 in October, and more than WS120 by the end of the year. In December, a fixture for the *Astro Luna* at WS115 was reported. By February rates had collapsed to WS86 on these two routes.

Rate fluctuations for other loading areas broadly followed those of the Middle East. On the routes originating in West Africa, the rates to the Far East were in the mid-30s most of the year and rose to an average WS57 in October, when SinoChem chartered the *Elisabeth Maersk* and *Front Stratus* at WS45 to carry two 260,000 ton parcels to China. Positive developments were evident by the end of the year, when freight rates reached WS91. They improved still further during January and February 2003 and exceeded the WS100 mark. In these months good rates were also found for other destinations. For instance, Emerald chartered the Zeeland to carry 260,000 tons to the North America Gulf at 137.5 in February. The *Eagle Virginia* was chartered by Stasco at WS119 to move 260,000 tons to South Africa, and for a similar parcel on a trip to the West Coast of India an unnamed tanker fetched a lump sum of $2.7 million. Good rates spread to other routes too. In January, it was reported that BP Amoco had chartered the *British Pioneer* at WS120 to carry 280,000 tons from Northern Europe to the North America Gulf.

During 2002 the rates in most routes broadly doubled from their original levels, and by April 2003 they had increased still more to around WS140 due to the war in Iraq and concerns about supplies. The *Front Highness* was secured at WS142 for a parcel of 265,000 tons of crude oil from the Middle East Gulf to Singapore.

Medium-sized crude carriers

During the year freight rates for Suezmax and Aframax tonnage evolved in a manner similar to that found in the VLCC sector. During the first half of the year, spot rates for Suezmax vessels trading from the Middle East Gulf to the East were firmly at the WS70 level. In July they climbed to WS80, in October they reached WS103, and in the following weeks they increased further. In December, Sietco chartered the *Shravan* at WS117.5 to carry 130,000 tons to Whangarei (New Zealand).

At the beginning of the year rates for Suezmax tankers sailing from West Africa were at WS64 for destinations in the Caribbean/US East Coast and at WS66 for destinations in North West Europe. By April they had gone up to WS72 for both destinations, but there was a modest weakening in the course of the following months, particularly in the route to Europe. In August, BP Amoco chartered the *Front Sunda* at WS70 to take 130,000 tons to the Gulf of Mexico, while AGIP chartered the *Sea Triumph* at WS67 to take a similar parcel to Italy. The time charter equivalent for these tankers was $14,000 per day. The October recovery raised average freight rates to WS96 and WS90 in the routes to North America and Europe respectively; the rates continued to climb, and both ended the year at WS130.

Trading across the Black and Mediterranean Seas involves other routes in which Suezmax vessels are deployed. Across the Mediterranean Sea, average rates went up during most of the first half of the year from WS72 in January to WS82 in May, then fell to WS68 in August. In that month, Lukoil and Yukos chartered the *Crude Tria* and *Sea Racer* at WS67 to carry 135,000 tons each from Novorossiysk to the Mediterranean Sea. Average rates across the Mediterranean Sea went up to WS108 in October, when two parcels of 135,000 tons were carried from Ceyhan (Turkey) to Augusta (Italy) in the *Crudesky* and *Front Breaker* for which Betoil paid WS87 and WS135 respectively. Subsequently, rates improved further, particularly for liftings from Novorossiysk. In December a 135,000 ton parcel was taken by the *Eliomar* to the Mediterranean at WS140, while the *Front Breaker* fetched WS145 with Karran to take a similar parcel to Northern Europe.

Suezmax rates for West Africa shipments peaked in January 2003 and eased in February at WS167 for destinations in North America and the Caribbean and WS172 for European destinations. For Mediterranean and Black Sea routes, rates peaked in February at WS207. In late March demand for Suezmax tankers was reduced as a result of unrest in Nigerian oil-producing regions, and rates dropped to WS132 for destinations in North America. Increased shipments from the North Sea were not enough to raise rates, and in mid-April the *Front Granite* was chartered by Sun to take 135,000 tons at WS130. Shipments from the Black Sea, however, fetched higher rates – Sibneft chartered an unnamed vessel from Novorossiysk to the United Kingdom for a 135,000 ton parcel at WS165.

Rates for Aframax tonnage trading across the Mediterranean started the year at WS95, underwent a protracted decline during the summer months, and then went up, reaching WS118 in October and WS195 in December. Accordingly, the time charter equivalent moved up over the year from $10,500 to $35,400 per day. The upward trend was accentuated during the last quarter and, by the end of the year, rates were almost double the low rates of the summer. In December, liftings of 80,000 tons from Syrian ports to the West Mediterranean fared particularly well. BP Amoco chartered the *Iran Astaneh* at WS185 and CSSSA chartered the *Minerva Libra* at WS200. Lukoil secured the *Black Sea* at WS190 to take a similar parcel from Banias (Syrian Arab Republic) to Bourgas (Bulgaria). Rates from the Black Sea to the Mediterranean mirrored those prevailing across the Mediterranean. To carry two 80,000 ton parcels, BP Amoco chartered the *Scorpius* at WS85 in August and the *Iran Astaneh* at WS90 the following month.

Aframax tonnage sailing from the Mediterranean Sea to the Caribbean and East Coast of North America benefited from firm rates most of the year. In January freights were at WS95, reaching WS116 in October, with a brief decline from the starting level in August and September, to end the year at WS163. Across the Atlantic, the rates for the Caribbean to US East Coast trade started the year at WS113, peaked in June at WS151, by October were at WS127 and ended the year at WS129. The corresponding time charter equivalent over the year moved from $15,300 to $16,800 per day.

In the active northwestern Europe market that revolves around North Sea oil, the rates for Aframax tonnage went from WS94 in January to WS110 in May; they went back to WS93 during the summer months and then recovered to WS112 in October, moving on up to WS200 in December. The latter rate represents a time charter equivalent of $50,000 per day for 80,000 dwt tankers. The increase in freight rates was impressive in the fourth quarter of 2002, when a rate of WS220 was fetched by vessels of that size, namely the *Nordic Yukon* and the *Jag Leela*, with charterers Stentex and CSSSA respectively.

In early 2003, rates for Aframax tonnage trading in all these routes improved substantially. Across the Mediterranean, rates reached WS276 in February, about the same level as for routes from the Mediterranean to the Caribbean, and rates for the Caribbean to North America reached WS299. Some fixtures were considerable higher. Exxon chartered the *Astro Altair* in February at WS395 for a trip from the Syrian Arab Republic to Italy; TotalFinaElf chartered the *Bergitta* at WS295 for a trip across the Atlantic to Guadeloupe; and Shell chartered the *Mersey Spirit* at WS325 for a trip from Mexico to a North America Gulf destination.

Owners were getting almost $70,000 per day — a five-year high. However, rates eased by April. Repsol chartered the *Black Sea* to take 80,000 tons from the Libyan Arab Jamahiriya to Spain at WS128 and Cities secured the *Nordgulf* for taking a 70,000 ton parcel from the Caribbean to the US Atlantic Coast at WS160.

Small crude and product carriers

Average dirty spot rates for vessels in the range 40–70,000 dwt trading from the Caribbean to the North America Gulf and East Coast went up from the WS100 low of December 2001 to WS162 in May 2002. However, the following months were depressingly bad, with rates falling back to WS105 in late summer. The recovery came in the last quarter and rates ended the year at WS185. During this period BP Amoco chartered an unnamed vessel to carry a 70,000 ton parcel from Trinidad to the North America Gulf at WS150, while ExxonMobil chartered the *Advance* at WS195 to take a 50,000 ton parcel from St. Croix to the same destination. Over the year the increase in time charter equivalent for a parcel of 60,000 tons was from $14,700 to $24,100 per day.

Average rates for vessels trading within the Mediterranean followed a similar pattern. From the low WS120 in December 2001 they went up to WS158 in May but slide back to WS111 in September with a subsequent recovery to WS161 by the end of the year. Tankers trading from the Mediterranean to the Caribbean/US East Coast had a bad first quarter at WS102, with rates suddenly rising in May to reach WS165. But the following months saw a downward trend established with a modest recovery in October at WS123, which improved to WS190 by Christmas. For instance, an unnamed charterer secured the *Pelagos* to carry 55,000 tons from Banias (Syrian Arab Republic) to the North America Gulf at WS195.

This recovery of average freight rates in the last quarter of 2002 was also reflected on the route from the Baltic Sea to the US East Coast and Gulf for larger parcels. In early August Chevron chartered *Bear G* at WS97 for carrying 70,000 tons, while in late October Woodfield secured the *Teekay Foam* at WS117 for similar carriage. The improvement in rates was also apparent for smaller parcels. Lukoil chartered the *Sibohelle* in November for carrying 55,000 tons of oil products from Immingham to the North America Gulf at WS155 and one month later a similar tonnage was carried to the same destination from Malmö at WS195. Elsewhere, December fixtures for 50,000 dwt tankers, *Rubymar* and *Jademar*, sailing from Ecuador to the US West Coast fetched WS178 and WS185 respectively.

Rates climbed during the first weeks of 2003 and by February they had reached WS299 in the Caribbean to North America route, WS274 across the Mediterranean and WS245 from the Mediterranean to the Caribbean. Afterwards they decreased, although some fixtures were made at good rates: in April ATMI chartered the *Emerald Sun* for taking 55,000 tons from Northern Europe to the Caribbean at WS360.

Handy-size dirty

Freight rates for this category broadly followed the patterns described for larger tankers. Summer rates for representative fixtures from the Black Sea to the Mediterranean were typical of those for AGIP. This company carried two 28,000 ton parcel, for which the *Adriatiki* was chartered in July at WS160 and the *Goldie* chartered in August at WS165. Similar rates were found for loading in the Baltic Sea, where Alpine chartered the *Kogalym* at WS160 to take 28,000 tons to Western Europe. Elsewhere Petronas chartered the *Pyladis* in August at $210,000 per day for loading 25,000 tons in Bintulu (Sarawak, Malaysia) to sail to Malacca.

In October, Exxon Mobil chartered two vessels from Singapore to Melbourne (Australia). The *St. Jacobi* fetched WS230 to carry 32,000 tons, while the *Arbat* was paid $230,000 per day to transport a 30,000 ton parcel. In the same month Sinochem chartered two vessels for trips to Nanjing (China). The *Da Qing 439* fetched $340,000 per day sailing from Dumai (Sumatra, Indonesia) with 30,000 tons, while the rate for the *Da Qing 75* was higher, at $365,000 per day, for loading 34,000 tons at Kerteh Terminal (Malaysia). December rates in Europe were also up. Dreyfus chartered the *Sea Mariner* for a trip from Wilhemshaven to UK/Continent at WS225 to carry a 28,000 ton parcel and CSSSA agreed to WS190 for the *Shogun* to lift 33,000 tons across the Mediterranean.

In the first weeks of 2003 rates ranged from WS200 to over WS300. PMP chartered *Ekturus* for a single voyage from Tallinn (Baltic Sea) to the United Kingdom to carry a 21,000 ton parcel at WS360. Alpine chartered the *Isola Turchese* for taking 30,000 tons from the Black Sea to the Mediterranean at WS210.

All clean carriers

The rates for large clean tankers, in the range 70,000 to 80,000 dwt, trading from the Middle East Gulf to Japan peaked at WS131 in March 2002 and, after bottoming out at WS119 in May, increased over the summer months, reaching WS212 in December. A similar trend was observed for tankers of an average size of 55,000 dwt, for which time charter equivalent earnings increased to $16,600 in March 2002 followed by a sudden drop to $11,700 the following month. Afterwards, rates continued to strengthen, reaching $27,400 in December.

Smaller tankers in the range 25,000–35,000 dwt trading out of Singapore to East Asian destinations fetched WS165 at the beginning of the year, increased to WS198 by March and eased during the following months. By late summer rates started to improve and WS208 was reached in September and, after a disappointing October, WS270 in December. Rates continued to hold. In December the *Stavanger Oak* was chartered at WS255 for taking 30,000 tons to Japan, while in February, for taking similar parcels to Guam and Japan, ExxonMobil chartered the *Torm Thyra* at WS260 and Trafigura the *World Sea* at WS255.

Clean trades from Caribbean refineries to destinations on the East Coast of North America started the year at WS146 and WS184 for tankers in the range 35,000–50,000 dwt and those in the range 25,000–35,000 dwt. After a brief peak during the first quarter the rates fell for most of the year before climbing to reach WS173 and WS229 in December for those two categories of tankers. During that month fixtures by Lukoil for a 50,000 shipment with the *Latgale* fetched WS205, while another made by ExxonMobil to carry 30,000 tons with the *Tambov* reached WS225. Rates continued to strengthen in early 2003. In February Hess agreed to pay WS280 for taking 30,000 tons with the *New Endeavour*.

Tanker-period charter market

During 2002 chartering activity increased substantially from 1.0 million dwt in January to 4.0 million dwt in May. There was a clear preference for VLCCs in the range of 200,000–300,000 dwt, with chartering periods of over two years being more than one third of charters committed during May. Period rates for one-year charter and prompt delivery were depressed during these months. A five-year-old 280,000 dwt tanker fetched $26,000 per day in January and only $23,000 in May.

Chartering activity dropped substantially over the next five months, with the low point reached in June when only 0.9 million dwt were contracted; the rebound came in the following months, when more than 1 million dwt were contracted per month, and the peak was reached in November when the 2 million dwt level was reached. In that month the share of Aframax and VLCCs in the range 200,000–300,000 dwt reached 49 and 30 per cent respectively, with the demand for Aframax almost trebling from the summer period. Period rates for one-year charter and prompt delivery for a five-year-old 280,000 dwt tanker were $26,000 per day in November and dropped to $22,500 per day in December. Uncertainty about the war in Iraq raised rates for VLCC to $36,000 per day by February 2003, with Suezmax tankers of the same age doing even better at $40,000 per day. Aframax tonnage of similar age ended the year at $15,250 per day and fetched $22,000 per day two months later.

Between October and November contracts for smaller tonnage of less than 80,000 dwt halved. About 45 per cent of charters agreed in November were for more than two years and 25 per cent for a period of six to 12 months. Contract activity decreased marginally in December to 1.8 million dwt and climbed to 2 million dwt by February 2003. Period rates for one-year charter and prompt delivery of a 10-year-old, 60,000 dwt tanker were depressed further from $16,000 per day in May to $13,500 per day in December. There was little fluctuation in rates with age. During the summer months Petrobras chartered the 71,000 dwt newbuilding *Amazon Explorer* for 11 months at $17,250 per day.

B. DRY BULK SHIPPING MARKET

1. Dry bulk trade

For large Capesize vessels, the main activity in this market was along the iron ore routes from Australia to the Far East and from Brazil to the Far East and Europe. During the year the remarkable increase in China's iron ore imports and to a lesser extent the growth of the thermal coal trade pushed up demand for these vessels in the Pacific. Panamax vessels are deployed on several routes, including the transatlantic coal and iron ore routes from the East Coast of North America and Canada respectively and those from South Africa. Panamax tonnage is also used in iron ore and coal routes within

Asia, such as those originating in India, China and Indonesia, and within Europe originating in Sweden.

Smaller vessels were helped by the grain exports from the Black Sea as traditional North America Gulf sources registered poor growth. Handy-sized tonnage was employed for several grain destinations, notably those that have ports with restricted drafts. This tonnage was also used on bauxite, alumina and rock phosphate routes.

2. Dry bulk freight rates

The freight rates for all sectors and sizes of dry bulk carriers finished the year 2002 at levels above those prevailing at the beginning of it. The Baltic Dry Index recorded modest fluctuations during the first half of the year, fell briefly over the summer months and improved markedly during the last quarter, almost doubling by the end of the year to 1,738.

As shown in table 32, the dry cargo tramp time-charter increased steadily during the year to 104 – an increase of 44.4 per cent over the year. The dry cargo tramp trip-charter reached the 200 mark in May and ended at 215 points – an increase of 10.8 per cent from the level at the beginning of the year. The average time-charter index for 2002 was 10 points lower than that of the previous year, while the average trip-charter index was only marginally better — five points above the average for the previous year. Owners, however, spent some of the freight increases in expensive bunker prices. The average posted prices for intermediate fuel oil (IFO 180) at nine ports collected by Lloyd's Ship Manager went up from $115 to $162. Moreover, additional expenses (see box 3) for security measures and increased insurance premiums for 2003 also affected profitability.

Improvement in freight rates weakened the will of shipowners to stay in pools. Late in the year, the one-year-old pool for Cape-size tonnage, Cape International with 70 vessels, dissolved after one of the major members, Zodiac, withdrew its 30 vessels. However, the five pools dealing with Panamax tonnage continued to stay together. These pools control about 136 vessels, which is equivalent to 12.8 per cent of the total Panamax tonnage. Chartering activity fluctuated between 2.2 and 7.1 million dwt per month, with Panamax tonnage making up about 50 per cent of contracts in most of the period. The preference was for short-term contracts of less than six months, which made up between half and three quarters of the monthly contracts.

Dry bulk time-charter (trips)

Some representative fixtures concluded for vessels of different sizes in typical routes illustrate the extent of the market improvement during 2002. At the beginning of the year Cape-size tonnage was chartered for round trips over the transatlantic and Singapore-Japan to Australia routes at rates of $9,375 and $7,945 per day. In December the corresponding rates were $23,700 and $20,225 per day, that is increases of 152.8 and 154.6 per cent respectively. By the end of the year Cosco secured Cape-size tonnage for the Brazil–China run at $29,000 per day, while trips from Richards Bay (South Africa) to Europe were closed at $25,000 per day.

Again, Panamax tonnage chartered at the beginning of the year for round trips from Northern Europe to the eastern coast of South America and from the Far East to the eastern coast of Australia fetched $6,785 and $7,160 per day. In December, they were obtaining $11,100 and $12,800 per day respectively — the corresponding increases were 63.6 and 78.8 per cent. Some rates were very low during the year; for instance, on the route Far East to the eastern coast of Australia the low point was in May at $6,125 per day. The increases for smaller vessels, Handymax and Handy-size, were similar. Over the route Far East to Australia, a Handymax rate for a round trip went up from $6,075 per day in January to $9,750 per day in December – 60.5 per cent higher. For a round trip Continent to West Africa, the rate for a Handy-size increased from $6,000 per day in January to $8,750 per day in December – an increase of 45.8 per cent.

Dry bulk time-charter (periods)

Estimates of rates for chartering vessels for a 12-month period and prompt delivery indicate that rates increases were less pronounced for smaller vessels. Five-year-old Cape-size vessels in the range of 150,000–160,000 dwt were getting $10,500 per day in January 2002 and reached $18,000 per day in December, a 71.4 per cent increase. Freight rates for a five-year-old Panamax started at $7,500 in January and increased by 50 per cent during the year, with the increase being larger for 15-year old vessels – 73.9 per cent. Rate improvement for a 15-year old Handy-size tonnage was less impressive. From $5,250 in January, rates had gone up by 28.6 per cent in December. Handymax tonnage fared much better: a 15-year old vessel started the year at $5,400 per day and was up by 38.9 per cent in December.

Table 32

Dry cargo freight indices, 2000–2003 [a]

(monthly figures)

Period	Dry cargo tramp time-charter[b] (1995 = 100)				Dry cargo tramp trip-charter[c] (July 1965 to June 1966 = 100)			
	2000	2001	2002	2003	2000	2001	2002	2003
January	86	105	72	104	190	193	194	216
February	89	103	74	102	191	198	199	216
March	101	108	80	109	190	195	199	216
April	107	108	82		191	200	194	226
May	108	109	77		193	206	207	235
June	106	106	71		202	205	202	
July	108	93	68		202	205	201	
August	113	72	71		203	192	201	
September	122	68	80		206	193	204	
October	121	67	88		207	195	204	
November	122	67	95		206	194	215	
December	107	68	104		208	195	215	
Annual average	108	90	80		199	198	203	

[a] All indices have been rounded to the nearest whole number.

[b] Compiled by the German Ministry of Transport.

[c] Compiled and published by *Lloyd's Ship Manager*.

By February 2003, the Atlantic fixtures were higher than the Pacific ones for Panamax tonnage, with the former being in the range of $13,000 to $14,000 per day.

Dry bulk trip-charter

Over the year rates for Cape-size tonnage substantially improved. Coal freight rates from Richards Bay (South Africa) to Western Europe started the year at $4.95 per ton and increased steadily to $9.20 in December, an increase of 85.6 per cent from the beginning of the year. Similar trends were found in the iron ore sector. The freight rate from Brazil to China went up from $6.80 per ton in January to $12.85 per ton in November — an increase of 89 per cent.

In the Panamax sector the trend was also positive but less pronounced. Grain freight rates from the North America Gulf to Western Europe went up from $10.60 per ton to $15.25 in December, representing a 43.8 per cent increase. Lesser rate increases were found in the Handy-size sector: freight rates for scrap from the US West Coast to the Republic of Korea started the year at $21.65 per ton and ended at $28.35 per ton – an increase of 30.9 per cent.

During the first months of 2003 the rates in all these routes and for all sizes of vessels were steady. By April Panamax tonnage loading grain from the Pacific North-West and the North America Gulf ports reported gains with rates up to $30 per ton, the highest since October 1995.

C. LINER SHIPPING MARKET

1. Developments in liner markets

General developments

The impact of containerization in liner trades is supplemented by ship types other than the fully cellular containership fleet analysed in table 7 of chapter 2. Total

Box 3

Security and insurance expenses for shipowners

Multilateral security measures discussed within IMO and bilateral security measures promoted by the United States Government were elaborated during 2002. These security measures are poised to have an important effect on shipowners' expenses. Strengthening security on board vessels and ashore requires the appointment of security officers on board and ashore; their training, the preparation of security plans and maintaining security records on board will all increase operating costs. Estimates of a minimum of $20,000 per vessel were made for a security officer with one week of training. The provision of advance manifests before sailing to the United States has already affected cost of liner companies. NYK reported hiring 45 additional staff and devoting 1,400 hours of computer programming time to comply with it. APL reckoned that the cost of compliance could reach about $10 million per year.

Still other measures are being developed. The first biometric identity card for seafarers was presented in February 2003 by the Liberian Register at IMO. It will be implemented on a pilot basis for six months with about 2,000 seafarers. A new set of US regulations dealing with mandatory advanced electronic cargo data is under consideration by authorities. Also in early 2003, the possibility of US authorities cancelling the crew visa list caused serious concern to shipowners. They were facing the likelihood of accommodation expenses for disembarking seafarers having identities queried by the authorities, escorting seafarers to airports and providing armed guards on the ships.

A new wave of increases for insurance premiums ranging from 15 to 25 per cent was underway one year after the increases of February 2002. Again, the combined effects of higher reinsurance costs and poor return on financial investments, and in some cases the need to restore reserves, were behind the increases announced by P&I Clubs in 2003. Efforts for a better risk assessment were also underway – the International Group of P&I Clubs decided to pool information on all claims with a value of more than $100,000 to prevent poorly performing owners from switching clubs. Some members of the Group felt that segregation by vessel type could improve risk assessment as cruise vessels represent higher risks. P&I Clubs also decided to charge 2.25 US cents per GT to the owner and 0.75 US cents per GT to the charterer to double the limit clubs would pay in a war or terrorist incident to US$400 million. Although this additional premium is modest, equivalent to $500 for a Panamax bulk carrier, it was not well received as premiums for the previous limit of $200 million were almost negligible.

Sources: Lloyd's Shipping Economist, July 2002, pp. 7–11, and daily news in www.lloydslist.com.

seaborne container carrying capacity during 2002 rose by 0.6 million TEU to reach 8 million TEU – an increase of 8.1 per cent. Fully cellular containerships increased their share of this total from 71.5 to 73.7 per cent at the beginning of 2003, totalling 5.9 million TEU. The share of general cargo ships reached almost 20 per cent. Single-deck vessels accounted for 0.85 million TEU – 10.6 per cent – while multi-deck ships added 0.64 million TEU – about 8 per cent. During the year single-deck tonnage increased by 5 per cent while multi-deck tonnage decreased by 3.1 per cent. Ro-Ro cargo and ro-ro passenger ships accounted for 0.31 million TEU and increased by 2 per cent during the year. Their share of total container carrying capacity is 3.9 per cent. Bulk carriers maintained their container carrying capacity at 0.21 million TEU, with their share of the total decreasing to 2.6 per cent. The balance of about 1.2 per cent was carrying capacity available in reefer, tanker, specialized and passenger vessels.

Moreover, the growth of the fully cellular containership fleet mentioned in chapter 2 continued, albeit at a slower pace at 10.6 per cent. As indicated in table 33, additions to the fleet during 2002 totalled 625,000 TEU, while 65,000 TEU were retired from operations and broken up. Furthermore, the preference for larger vessels continued. The average size of vessels above the 5,000 TEU capacity delivered and ordered during 2002 was 5,060 and 6,700 TEU respectively. During that year, ship orders increased by 18.2 per cent to 481,000 TEU,

Table 33

Growth of the world cellular container fleet

(in thousand of TEU at the beginning of the year)

Year	Broken up	Additions	Fleet as of 1 January	Orders as of 1 January
2001	10	420	4 674	1 266
2002	29	639	5 285	407
2003	65	625	5 845	481

Source: UNCTAD secretariat on the basis of *Containerisation International*, issue February 2002 and 2003, p. 19.

with a quarter of total orders placed in December and for vessels having an average size of 4,500 TEU. Among these there were five 8,100 TEU capacity ships, the highest capacity ever publicly announced, for China Shipping Container Lines (CSCL).

The ordering of larger vessels revived the question of their deployment, which would be restricted to the main east-west mainline routes owing to the volumes required to fill such vessels. One alternative would be to use these very large vessels to call exclusively at a few very large transhipment hubs at both ends of the route. Another alternative, on the basis of diminishing economies of scale for vessels above the 2,500 to 3,000 TEU size, would be direct services with smaller vessels calling at multiple ports at both ends of the route. Large carriers operating along mainline routes espouse the former view and are progressively relying on dedicated transhipment terminals and feeder services provided by their subsidiaries. In South-East Asia a number of regional carriers such as Samudera Shipping Line, Regional Shipping Line and Pacific International Lines (PIL) seem to favour the second view. These lines, which provide feeder services notably from Singapore to a number of countries with relatively undeveloped land-based transport networks, have also started to provide direct services at multiple ports scattered in the region.

The evolution of some carriers to become providers of logistics services might be encouraged by the Smart and Secure Trade Lane initiative described in chapter 5. During December 2002 and January 2003, successful pilot shipments of about 100 containers across the Pacific using electronic seals containing detailed information about the content herald closer collaboration between shippers, terminal operators and carriers and a template for stringent quality control along logistics chains for US imports.

Concentration in liner shipping

The concentration process of recent years is resulting in increased carrying capacity being deployed by the largest liner operators. As table 34 indicates, over a one-year period ending 30 September 2002 the top 10 liner operators increased their carrying capacity by 14 per cent to 3.4 million TEU – 43.9 per cent of the world total container carrying capacity. Similarly, the share of the top 20 liner operators increased by 12.1 per cent to 4.8 million TEU – 61.8 per cent of the world total container carrying capacity. A clear reflection of industry consolidation is the single entry into the list of the top 20 carriers. PIL replaced Hamburg Sud. Four carriers — AP Moller, CMA-CGM Group, CP Ships Group and China Shipping — maintained their positions in the table. AP Moller, the parent company of Maersk-Sea Land, confirmed its dominance among container carriers by increasing its share of world TEU capacity from 9.8 to 10 per cent. There were shifts among the other carriers. Five carriers moved up in the list: MOL and Zim (four places), MSC (three places), Hapag Lloyd (two places) and COSCO (one place). Deliveries of newbuildings, such as the eight 6,700 TEU vessels, and purchases such as the three 4,400 TEU acquired from

Table 34

Leading 20 container service operators as of 30 September 2002 on the basis of number of ships and total shipboard capacity (TEUs)[a]

Ranking	Operator	Country/territory	No. of ships in 2002	TEU capacity in 2002	TEU capacity in 2001[b]
1	A.P. Moller Group	Denmark	312	773 931	693 237
2	MSC	Switzerland	183	413 814	296 064
3	P&O Nedlloyd	UK/Netherlands	160	406 654	380 009
4	Evergreen Group	Taiwan Province of China	143	403 932	348 650
5	Hanjin/DSR-Senator	Republic of Korea/Germany	81	304 409	299 490
6	COSCO	China	140	255 937	228 060
7	NOL/APL	Singapore	71	227 749	244 848
8	CMA-CGM Group	France	107	225 436	176 278
9	MOL	Japan	68	188 326	144 014
10	CP Ships Group	Canada	92	187 890	160 206
Total 1–10			**1 357**	**3 388 078**	**2 970 856**
11	NYK	Japan	73	177 700	169 921
12	K Line	Japan	56	168 413	151 945
13	Zim	Israel	77	164 350	117 293
14	OOCL	Hong Kong (China)	50	157 493	144 450
15	China Shipping	China	88	148 212	128 387
16	Hapag Lloyd	Germany	38	135 953	114 827
17	Hyundai	Republic of Korea	32	122 713	140 979
18	Yang Ming	Taiwan Province of China	40	120 319	125 207
19	PIL Group	Singapore	83	97 827	90 000[c]
20	CSAV	Chile	39	90 625	91 803
Total 1–20			**1 933**	**4 763 013**	**4 245 668**
World fleet estimated at 1 July 2002				**7 713 000**	**7 067 000**

Source: UNCTAD secretariat, compiled on the basis of data from *Containerisation International*, issues November 2002 page 45 and January 2003 page 12; and ISL issue August/September 2002 page 26.

[a] All subsidiaries are consolidated.

[b] As of September 2001.

[c] Estimated.

the Saudi national line, allowed MSC to reach the second place in the table. Other carriers resorted to chartered tonnage to expand their fleets or outright purchases of other lesser carriers. The remaining 10 carriers in the list went down by one place, except Hyundai (down three places) and NYK and Yang Ming (down two places each).

Mid-year financial results announced for some of the above carriers were not encouraging. P&O Nedlloyd, NOL/APL and CP Ships saw turnover reductions of over 6 per cent and Zim of about 10 per cent. Evergreen recorded an $11 million loss. By the end of the year NOL recorded a record loss of $330 million. Remedial measures were called for — CP Ships did not renew its slot charter agreement with CMA-CGM and left the Europe–Far East route, concentrating on the transatlantic one instead.

A number of carriers provide services in several routes, being part of conferences, alliances and/or agreements, which imply some degree of agreement on operational and marketing issues, notably pricing and number of sailings. Traditionally, regulators of many countries have provided antitrust exemption to carriers participating in these agreements on the understanding that the benefits are greater than the disadvantages. Late in 2002, and after years of litigation, the European Commission (EC) granted antitrust exemption under Regulation 4056/86 to the modality used by the Transatlantic Conference Agreement (TACA) for charging inland haulage undertaken in connection with international seaborne transport across the Atlantic. In a separate decision the EC stated that a formal investigation of Regulation 4056/86 would be started after an OECD report had found that benefits from that regulation do not offset the disadvantages.

2. Freight level of containerized services

Chartering of containership

Global liner shipping market developments are best reflected in the movements of the containership charter market. This market is largely dominated by German owners, and more particularly by members of the Hamburg Shipbrokers' Association (VHSS), who control some 75 per cent of all containership charter tonnage available in the free market. Since 1998 the association[4] has published the "Hamburg Index", which provides a market analysis of containership time charter rates with a minimum of three months. For the period from 1998 until June 2002, rates on 14-ton slot (TEU) per day have been published on a monthly basis for three gearless and six geared size groups and compared with those obtained on average in 1997. The year 1997 was chosen as the reference year because it was the last year when a remunerative rate level could be achieved. Since July 2002, rates have been published for two types of gearless vessels up to 500 TEU capacity, two types of gearless/geared vessels over 2,000 TEU capacity and six types of geared vessels up to 1999 TEU capacity. On a trial basis and starting in August of the same year rates are published fortnightly. The development of time charter rates is reflected in table 35(a) for the period up to June 2002, and in table 35(b) from July onwards.

For the year 2002 the average time charter rates for gearless containerships with a capacity of 500 TEU or less were slightly higher than the corresponding averages for 2001. The reverse was true for all other groups of mostly larger vessels, which recorded yearly averages for 2002 below the levels that prevailed the year before. The steepest declines were for larger vessels. The average rate for geared/gearless vessels in the range 2,000 to 2,299 TEU went down by 38.5 per cent to $4.90 per 14-ton slot day while that for the largest geared vessels, in the range of 1,600 to 1,999 TEU, declined by 28.8 per cent. Rates for geared or gearless containerships of less than 299 TEU were almost the same – around $17 per 14-ton slot day.

The evolution of the monthly average time charter rates was positive in all cases. Geared/gearless containerships in the range 2,000 to 2,299 TEU fetched time charter rates of $5.73 per 14-ton slot/day in December 2002, an increase of 70 per cent from levels prevailing in January. Larger geared/gearless containerships in the range 2,300 to 3,400 TEU obtained $7.90 per 14-ton slot/day in December, which represents an increase of 9.7 per cent in six months. Rates for geared vessels in the range 1,600 to 1,999 TEU also fared well – up by 51.3 per cent to $6.49 per 14-ton slot/day.

The chartering market is affected by attractive new building prices and carrier plans to increase owned tonnage, particularly those that rely to a large extent on chartered tonnage. Three carriers — CSCL, CMA-CGM and CP Ships — that in the first quarter of 2002 had 90, 66 and 54 per cent of their respective capacities supplied by chartered tonnage now have substantial tonnage on order. Also, CSAV announced the ordering of seven vessels totalling 30,800 TEU to replace chartered tonnage with a total investment of $300 million. Concern

Table 35 (a)

Containership time charter rates

($ per 14-ton slot/day)

Ship type	Yearly averages			Monthly averages for 2002					
	1997	2000	2001	1	2	3	4	5	6
Gearless									
200–299	21.80	15.71	16.04	15.26	15.68	15.73	15.83	16.52	16.99
300–500	16.79	14.52	14.72	13.78	14.28	15.28	14.81	16.02	15.72
Geared/Gearless									
2 000–2 299	9.72	10.65	7.97	3.37	3.45	3.70	4.55	4.49	4.52
2 300–3 400 [a]				3.77	4.12	5.05	3.83	5.20	6.52
Geared									
200–299	22.00	17.77	17.81	16.26	16.32	16.97	17.04	17.83	17.34
300–500	17.24	14.60	14.90	12.31	13.26	13.47	13.05	12.92	12.44
600–799 [b]	13.87	12.21	11.30	8.13	8.70	8.47	8.88	9.41	9.17
600–799 [c]	14.08	11.90	11.04	8.15	8.04	8.09	8.83	8.94	9.39
1 000–1 299	12.47	11.87	8.78	5.11	5.52	5.65	6.07	6.72	6.89
1 600–1 999	10.50	10.35	7.97	4.29	4.29	4.27	4.99	5.47	6.15

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

[b] Sailing at 16–18 knots.

[c] Sailing over 18 knots.

about further deterioration of time charter rates led to 32 German owners, with a combined fleet of 184 vessels with sizes between 1,000 and 2,000 TEU capacity, to discuss the establishment of a Containership Association to regulate the number of vessels placed in the market in the event of overcapacity. German ownership of containership tonnage is poised to increase by a third in the next two years.

Freight rates for main routes

By the end of 2002 the level of freight rates for the main containerized routes – trans-Pacific, transatlantic and Asia–Europe — were mostly above the levels that prevailed at the end of 2001 (see table 36). The Asia–Europe route did particularly well, with freight rates increasing 21.5 and 18.5 per cent from the beginning of the year in the westward and eastward directions respectively. However, the fact that the rates corresponding to the fourth quarter of 2002 — $1,304 and $712 per TEU — were below those at the beginning of 2001 illustrates the overall downward trend of container freight rates. Over the transatlantic, in the dominant westbound route to the United States, rates increased by 3 per cent to $1,215 per TEU, while in the opposite direction rates fell further by 2.7 per cent to $843 per TEU. Rate fluctuations were even less pronounced across the trans-Pacific. Rates increased by 1.7 per cent westbound but decreased by 1.3 per cent eastbound in spite of the considerable cargo volumes carried during the year.

On the trans-Pacific route, where cargo flows are largest, the downward trend of 2001 continued until mid-2002. The dominant eastbound leg suffered most as rates went down by 4.2 and 5 per cent during the first and second quarter respectively. The remarkable 4.2 per cent increase in the westward direction during the first quarter was

Table 35 (b)

Containership time charter rates

($ per 14-ton slot/day)

Ship type	Fortnight averages[a] per month for 2002						2002	2003		
TEU	**7**	**8**	**9**	**10**	**11**	**12**	**Average**	**1**	**2**	**3**
Gearless										
200–299	18.35	17.42	18.17	17.31	17.87	18.25	16.87	17.65	17.41	19.30
		17.15	17.05	17.25	18.25					
300–500	13.49	13.93	15.74	16.93	14.49	16.52	15.14	14.09	16.14	17.61
		16.46	15.72	16.37	13.23					
Geared/gearless										
2 000–2 299	5.61	5.93	5.94	5.9	5.73	5.73	4.90	5.99	6.61	8.11
		5.93	5.81	5.73	5.73					
2 300–3 400 [b]	7.20	7.27	5.63	7.64	7.90	7.90	5.96	7.60	7.23	7.57
		5.63	6.79	7.38	7.90					
Geared										
200–299	17.39	17.39	16.5	17.3	16.11	18.75	17.01	17.32	17.69	17.65
		16.18	17.41	17.11	18.43					
300–500	13.58	15.14	12.36	13.19	14.16	11.99	13.35	13.77	14.47	14.60
		15.17	13.67	14.35	13.46					
600–799 [c]	9.81	9.48	9.72	9.06	9.55	10.26	9.26	9.89	10.36	10.73
		9.31	10.27	9.81	9.74					
700–999 [d]	8.93	9.14	11	10.02	9.98	9.78	9.11	9.34	9.92	10.08
		8.85	8.64	10.45	10.18					
1 000–1 299	7.25	7.75	8.38	8.3	8.07	7.93	6.93	7.67	8.37	8.88
		7.98	8.24	8.32	7.72					
1 600–1 999	6.10	6.31	6.28	6.43	6.51	6.49	5.67	6.44	6.97	8.52
		6.58	6.79	6.58	6.51					

[a] Whenever there are two figures, the upper one corresponds to the first half of the month.

[b] This category was created in July 2002 for vessels sailing at 22.5 knots. Formerly, it included cellular vessels in the size range 2,300–3,900 TEU sailing at 22 knots minimum.

[c] Sailing at 17–17.9 knots.

[d] Sailing at 18 knots.

Table 36

Freight rates (market averages) on the three major liner trade routes, 2001–2003[a]

(US dollars per TEU)

	Trans-Pacific		Europe-Asia		Transatlantic	
	Asia–USA	**USA–Asia**	**Europe–Asia**	**Asia–Europe**	**USA–Europe**	**Europe–USA**
2001						
First quarter	1 874	877	826	1 566	938	1 290
Change (%)	-3.0	1.1	3.6	-3.2	-5.0	2.8
Second quarter	1765	869	760	1468	943	1 236
Change (%)	-5.8	-1.0	-7.9	6.2	0.5	-4.2
Third quarter	1 624	801	688	1 296	890	1 253
Change (%)	-8.0	-7.8	-9.5	-11.7	-5.6	1.4
Fourth quarter	1 608	721	660	1 153	899	1 228
Change (%)	-1.0	-10.0	-4.0	-11.0	1.0	-2.0
2002						
First quarter	1 540	751	601	1 073	866	1 180
Change (%)	-4.2	4.2	-8.9	-6.9	-3.7	-3.9
Second quarter	1 463	749	646	1 105	805	1 154
Change (%)	-5.0	-0.3	7.5	3.0	-7.0	-2.2
Third quarter	1 476	757	694	1 208	815	1 181
Change (%)	0.8	1.1	7.4	9.3	1.2	2.3
Fourth quarter	1 529	817	712	1 304	843	1 215
Change (%)	3.6	7.9	2.6	7.9	3.4	2.9
2003						
First quarter	1 529	826	704	1 432	899	1 269
Change (%)	0.0	1.1	-1.1	9.8	6.6	4.4

[a] Information from six of the trades' major liner companies. All rates are all-in, including the inland intermodal portion, if relevant. All rates are average rates of all commodities carried by major carriers. Rates to and from the US refer to the average for all three coasts. Rates to and from Europe refer to the average for North and Mediterranean Europe. Rates to and from Asia refer to the whole of Southeast Asia, East Asia and Japan/Republic of Korea.

achieved from a very low rate at the end of 2001. The Trans-Pacific Stabilization Agreement announced a rate restoration of $225 per TEU for mid-August, but the impact was limited to that portion of the trade, estimated at about one quarter, not covered by annual service contracts. It was estimated that 14 carriers active on this route had a $1.2 billion deficit. During the third quarter, rates went up in both directions but only modestly – less than 1 per cent to $1,476 per TEU eastbound and slightly above that percentage to $757 per TEU westbound. The strong eastbound rate increase of 3 per cent in the fourth quarter was probably influenced by the extension of the peak season surcharge, which usually ends in November, to the end January 2003. In the opposite direction the rate increased modestly by less than 1 per cent.

Freight rates movements on the transatlantic route mirrored those of the trans-Pacific by decreasing during the first half of 2002. Decreases were rather uniform during the first quarter when rates for shipments from Europe to the United States decreased by 3.9 per cent and those in the opposite direction decreased by 3.7 per cent. Rates bottomed out during the second quarter at $1,154 per TEU westbound following a decrease of 2.2 per cent and at $805 per TEU eastbound after a sharp drop of 7 per cent. Again, rate restoration plans were announced. The Transatlantic Conference Agreement (TACA), whose carriers account for about half of the trade on the route, stated that rates for westbound shipments would be raised by $320 per 20’ box and $400 for 40’and 45’ containers from 1 October 2002. The impact of this rate increase, however, was limited to the 10 per cent of shippers not covered by annual service contracts. Rate increases during the third quarter were higher than for the trans-Pacific route – 2.3 per cent to $1,181 per TEU for shipments from Europe to the United States and 1.2 per cent to $815 per TEU for those originating in the United States. During the fourth quarter rate increases were still better — 2.9 per cent westbound and 3.4 per cent eastbound. In early 2003 TACA announced rate increases for March and October.

During the first quarter of 2002, freight rates in the eastward and westward legs of the Asia–Europe route moved strongly downwards by 8.9 and 6.9 per cent respectively. These were the severest rate declines in all the main routes during this quarter when freight rates in the Europe to Asia direction bottomed at $601 per TEU, while in the opposite direction rates reached $1,073 per TEU. During the following two quarters rates improved, particularly those for the Europe to Asia leg, which reached $694 per TEU after increasing by more than 7 per cent each quarter. In the dominant leg Asia to Europe rates increased first modestly by 3 per cent and then strongly by 9.3 per cent during the third quarter, to reach $1,208 per TEU. The latter improvement reflects the positive effect of the westbound rate increase of $250 per TEU applied by the Far Eastern Freight Conference (FEFC) since 1 July. This was followed by a further $150 per TEU increase in October supplemented by a $200 per TEU increase in the eastbound direction. During the fourth quarter the highest rate increase along the mainline routes was the 7.9 per cent increase from Asia to Europe, more than trebling the one for the opposite direction – only 2.6 per cent. In early 2003, FEFC and MSC announced rate increases for March.

Other charges applied by carriers such as terminal handling charges (THC) continued to spread — in Viet Nam THC started in January 2003. THC and those charges related to compliance with US security measures attracted the attention of shippers. Hong Kong shippers reiterated their long-standing complaint about THC levels, well above $200 per TEU, after two terminal operators stated that between 20 and 25 per cent reductions had been made to carriers over the last five years. Also, a global terminal operator suggested replacing THC and other charges levied by carriers by a single freight shipment contribution (FSC).

Moreover, it was reported that the Ministry of Communications of the People’s Republic of China was launching a probe into the legality of THC, which has been applied in the country since January 2002 but is considered part of the freight. Elsewhere, other measures were also taken concerning THC: the Malaysian shippers’ council suggested that shippers pay directly to the terminal operators and the Israeli anti-trust authority delayed for 60 days the application of THC proposed by the European Mediterranean Trade Agreement. In early 2003, carriers announced a $25 additional manifest charge to cover the cost related to compliance with the advance manifest for US Customs. Shippers from the Republic of Korea strongly complained against this charge that trebled the current one. In Australia, charges of $100 per box were being considered.

Elsewhere, River Plate exporters started to pay an equipment imbalance surcharge to cover the cost of repositioning empty containers. Shortage of boxes for exports resulted from the dwindling imports caused by the currency devaluation at the beginning of 2002. In early 2003, carriers applied pressure to reduce the freight forwarder commission applied in Shanghai.

3. Supply and demand in respect of main liner services

During 2002 there were clear indications that demand for containerized services had started to recover. All the estimates of the cargo flows in the three major containerized routes for the first nine months of 2002 indicated in table 37 show increases over the total 2001 figures. In fact, these aggregates may mask some intraregional trades and transhipment activity. Nevertheless, the aggregates point out to an expansion of traffic across the Pacific and to a lesser extent on the other two routes.

In the trans-Pacific trade, the year 2002 witnessed a booming trade, particularly in the eastward direction. During the first half of the year eastbound trade expanded by 17 per cent and ended the year at 8.8 per cent. The reasons for this impressive increase in trade in the face of modest US economic growth were the relocation of US productive capacity in mainland China and a rush to stockpile during the peak season, from July to September, in advance of the announced strike in US West Coast ports. As a result from the beginning of the year vessels were sailing full eastwards with electrical and electronic products, furniture, lamps, toys and textiles, which made up the largest share of eastbound cargo. The increase in the westward direction was considerably less, about 1.2 per cent, and the imbalance forced carriers to reposition empty containers in several ports of the Far East. Nevertheless, carriers made considerable efforts to benefit from the increased demand. The combined share of the six major groupings of operators increased by almost 2 per cent, as indicated in table 38, although there were large percentage fluctuations for individual operators.

On the transatlantic route, the dominant westward leg grew by 4.7 per cent while the opposite one grew only marginally — by 0.3 per cent. Again, the expansion in the dominant leg was attributed to US replenishment of low inventory levels. Vessel utilization was high during the first half of the year owing to capacity reduction by Cosco, K Line and Yang Ming. Four carriers — Maersk-SeaLand, Evergreen, P&ON and Hapag Lloyds — continued to dominate this route, with combined market shares of 36.1 and 37.4 per cent on the westward and eastward legs respectively. On the Europe–Asia trade route, the traffic from Asia increased by about 6 per cent during the first half of the year and recorded a growth of 4 per cent for the whole year. Again, this was due to the good export performance of Far East producers. The 3.4 per cent increase in the opposite eastward direction was attributable to expanding volumes from the Mediterranean.

In the secondary North–South and regional trades the situation was mixed. From Europe to South and Central America trade dropped by 2 per cent; to West Africa trade was steady; but it increased modestly by 0.9 per cent with Oceania and by a good 2.7 per cent with Western Asia. From the United States to Central and South America trade was steady. The highest growth was between North and South East Asia — at about 4.4 per cent — but only by 1 per cent from North East Asia to Oceania.

4. Liner freight index

Table 39 indicates the developments of liner freight rates on cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range for the period 2000–2002. The overall index for 2002 went down by 19 points from the 2001 level to reach 95 points (1995 base year 100), reflecting the depressed rates in both the homebound and outbound trade. In the homebound trade, the average level in 2002 decreased by 22 points to reach 84 points. The decline was particularly evident during the first half of the year, when the index barely moved from the low 80s. This downward trend occurred in spite of the increased volumes from the Far East and across the Atlantic and reflects the diminished role of spot cargo and overtonnage. The decline of the outbound index was also depressed — down by 16 points to 105 and steady over the whole year.

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

Table 40 provides data on freight rates of liner services as a percentage of market prices for selected commodities and trade routes for certain years between 1970 and 2002. For rubber sheet, the average f.o.b. price increases more than offset the increases in freight rates and BAF surcharges and resulted in a decreased freight ratio of 13.5 per cent for 2002. The f.o.b. price for jute

Table 37

Estimated cargo flows along major trades routes

(millions of TEU)

Year	Trans–Pacific		Asia–Europe		Transatlantic	
	Asia–USA	USA–Asia	Asia–Europe	Europe–Asia	USA–Europe	Europe–USA
2001	7.19	3.86	5.93	4.02	2.71	3.62
2002	7.82	3.90	6.17	4.16	2.72	3.80
% change	8.8	1.2	4.0	3.4	0.3	4.7

Source: Compiled by the UNCTAD secretariat from *Containerisation International*, several issues.

Table 38

Capacity share for the trans-Pacific trade

(percentages)

Operator	mid-2002	mid-2001
New World Alliance	18.1	17.4
Cosco/K Line/Yangming	16.2	14.2
Grand Alliance	13.9	15.3
Evergreen/Lloyd Triestino	12.3	9.0
United Alliance (Hanjin, Senator Lines)	11.5	12.4
Maersk Sealand	9.5	11.5
Total	81.5	79.8

Source: Compiled by the UNCTAD secretariat.

came down by about 20 per cent, the lowest of all prices in table 40 for this year, while freight rates moved up by almost the same percentage, which explains the increase in freight ratio to 21.7 per cent for 2002. The substantial price increases for cocoa beans shipped from Ghana, about 60 per cent, more than offset the 10 per cent increases in freight rates, resulting in a drop of the freight ratio from 4.1 in 2001 to 2.8 in 2002. The year 2002 was the third year in which no cocoa beans were shipped from Brazil. The c.i.f. price of coconut oil recorded a healthy increase of about 30 per cent in 2002, which coupled with the 10 per cent reduction in freight rates during the year resulted in a freight ratio of 10 per cent, about a third lower than that of the previous year. The ratio of liner freight rate to f.o.b. price for tea increased from 5.3 to 6.8 per cent, owing to a 10 per cent decrease in prices and a 20 per cent increase in freight rates during 2002. The price for coffee from Brazil to Europe continued to weaken in 2002 by about 10 per cent, while freight rates were roughly steady, resulting in an increase of the freight factor from 6.9 per cent in 2001 to 7.6 per cent in 2002.

Freight rates for coffee exports from Colombia to Europe reduced by almost 40 per cent for Atlantic ports and by a third for Pacific ones. The reductions more than offset the almost 10 per cent decline in prices and resulted in a diminished freight factor for 2002.

Table 39

Liner freight indices, 2000-2003

(monthly figures: 1995 = 100)

Month	Overall index				Homebound index				Outbound index			
	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003
January	104	119	93	96	106	113	81	91	101	125	104	101
February	103	121	93	96	102	115	81	91	104	126	103	100
March	105	121	95	101	104	116	80	94	105	127	109	107
April	113	122	95	107	110	118	82	100	116	126	108	114
May	119	121	94	99	114	116	82	92	125	126	106	105
June	116	119	94		110	112	81		121	125	106	
July	115	117	94		111	111	85		118	123	103	
August	122	112	94		122	107	85		122	117	102	
September	127	105	93		125	97	85		128	113	100	
October	130	103	99		128	91	88		133	115	109	
November	130	104	99		126	92	90		133	116	108	
December	125	102	97		122	89	88		129	114	105	
Annual average	117	114	95		115	106	84		120	121	105	

Source: UNCTAD secretariat on the basis of the Liner Index of the German Ministry of Transport. Monthly weighted assessments of freight rates on cargoes loaded or discharged by liners of all flags at ports of the Antwerp/Hamburg range.

D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE

1. Trends in global import value and freight costs

International trade involves various services such as sourcing, production, marketing, transaction and transport and the related flow of information thereon. For the transport sector, table 41 and figure 8 provide estimates of total freight payments for imports and freight cost as a percentage of import value by country groups. In 2001, the world total value of imports (c.i.f.) decreased by 3.8 per cent, while total freight paid for transport services decreased by 5.6 per cent, reflecting the downward trend of freight rates that prevailed during the year. The share of global freight payments in import value decreased slightly to 6.1 per cent from 6.2 per cent in 2000. In 1980, the share of freight costs of import value stood at 6.6 per cent or nearly 30 per cent higher than the average ratio in the 1990s. The regional comparison indicates that freight costs for the imports of developed market-economy countries continue to be lower than those of developing countries. For 2001, the total value of imports by developed market-economy countries decreased by 3.9 per cent while total freight costs decreased by 5.5 per cent; thus freight cost as a percentage of import value stood at 5.1 per cent (5.2 per cent in 2000) as compared with 8.7 per cent (8.9 per cent in 2000) for developing countries. This difference is mainly attributable to global trade structures, regional infrastructure facilities, logistics systems and the more effective distribution strategies of shippers from developed market-economy countries.

Table 40

Ratio of liner freight rates to prices of selected commodities

Commodity	Route	Freight rate as percentage of price[a]					
		1970	1975	1980	1985	1990	2001
Rubber	Singapore/Malaysia–Europe	10.5	8.9	15.5	15	13.9	13.5
Jute	Bangladesh–Europe	12.1	19.8	21.2	37	15.5	21.7
Cocoa beans	Ghana–Europe	2.4	2.7	6.7	4.8	4.1	2.8
Cocoa beans	Brazil–Europe	7.4	8.6	11.0	n.a.	n.a.	n.a.
Coconut oil	Sri Lanka–Europe	8.9	12.6	n.a.	25.9	15.5	10.0
Tea	Sri Lanka–Europe	9.5	9.9	10.0	5.9	5.3	6.8
Coffee	Brazil–Europe	5.2	6.0	10.0	4.4	6.9	7.6
Coffee	Colombia (Atlantic)–Europe	4.2	3.3	6.8	3.3	5.9	3.9
Coffee	Colombia (Pacific)–Europe	4.5	4.4	7.4	3.5	6.2	4.6

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 1990–2001).

[a] C.i.f. (cost, insurance and freight) prices are quoted for coffee (Brazil–Europe and Colombia–Europe) and coconut oil. For cocoa beans (Ghana–Europe and Brazil–Europe) the average daily price in London is quoted. For tea, the Kenya auction prices are quoted. Prices of the remaining commodities are quoted 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 *Monthly 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 1990–2002, the prices of the commodities were taken from UNCTAD, *Monthly Commodity Price Bulletin*, January 2003.

2. Regional trends

The total freight costs of developing countries decreased from 8.9 per cent in 2000 to 8.7 in 2001. Within this group, African developing countries reversed their continued upward trend in freight costs from 13.0 per cent in 2000 to 12.7 per cent in 2001. This is a reflection of lower freight rates and improvements in terminal handling, which offset insufficient infrastructure facilities and inadequate management practices, specifically for transit transport, and low productivity of inland transport and terminal equipment.

The subregional breakdown shows that the freight costs for countries in West Africa slightly increased from 2000, reaching 14.1 per cent in 2001, while those of East and Southern Africa, including the Indian Ocean, decreased from 15.2 per cent in 2000 to 13.3 per cent in 2001. The ratio corresponding to countries in North Africa also fell — to 11.2 per cent — reflecting a relatively more efficient transport system compared with those of other African subregions. Imports to African landlocked countries continued to suffer from high freight costs. Ratios fluctuated widely between countries and ranged from 9.6 to 32.8 per cent for 2001, with a number of countries having ratios above 20 per cent. This primarily reflects inefficient transport organization and facilities, poor utilization of assets and weak managerial, procedural, regulatory and institutional systems, in addition to inadequate overall infrastructure conditions and higher inland transport costs.

Developing countries in Asia accounted for 67.2 per cent of import value and 64.4 per cent of freight payments of all developing countries in 2001 as compared with 68 and 65.5 per cent respectively for 2000. The freight factor of this region was 8.2 per cent in 1990 and 8.4 per cent in 2001, as compared with 8.5 per cent in 2000. The freight factor in the Middle East decreased to 9.2 per cent in 2001 (9.9 per cent in 2000). The remainder of Asia saw the ratio also down to 8.2 per cent in 2001 from 8.4 per cent in 2000.

Table 41

Estimates of total freight costs for imports in world trade[a] by country groups

(millions of dollars)

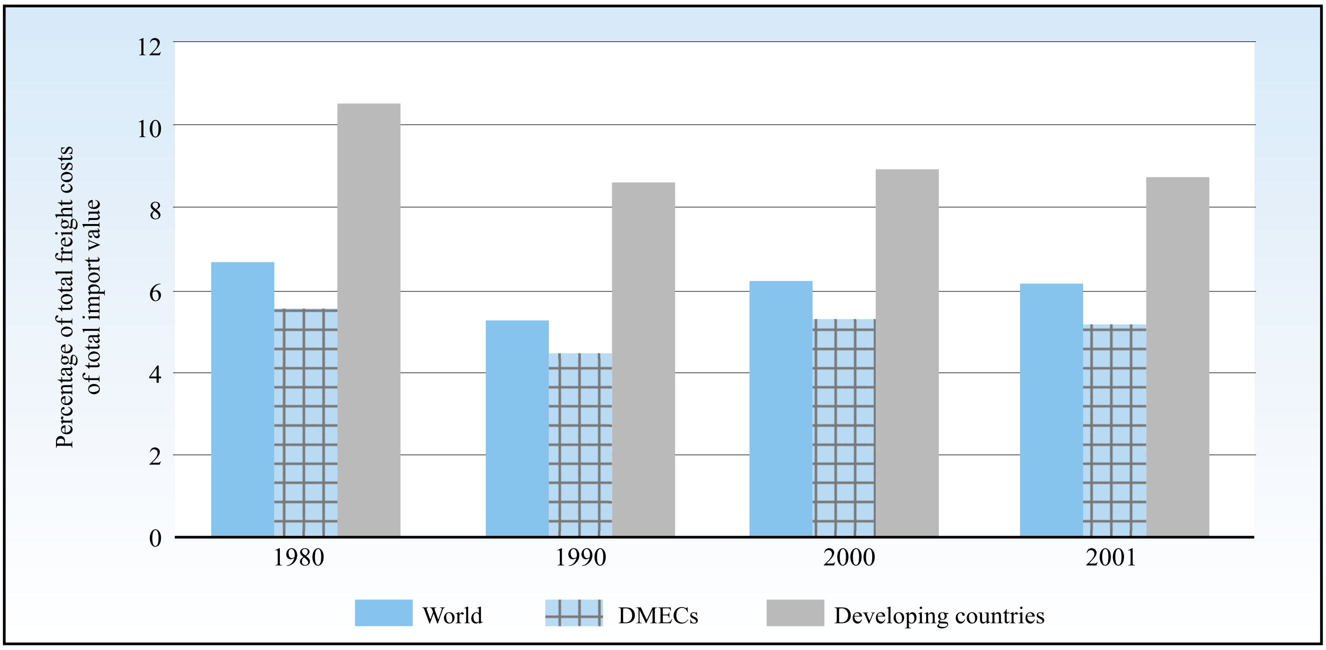
Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f)	Freight costs as % of import value
1980	World total	123 264	1 856 834	6.64
	Developed market-economy countries	78 286	1 425 979	5.49
	Developing countries–total	44 978	430 855	10.44
	of which:			
	Africa	10 432	77 757	13.42
	America	10 929	123 495	8.85
	Asia	21 979	211 089	10.41
	Europe	1 320	16 037	8.23
	Oceania	318	2 477	12.84
1990	World total	173 102	3 314 298	5.22
	Developed market-economy countries	117 004	2 661 650	4.40
	Developing countries–total	56 098	652 648	8.60
	of which:			
	Africa	9 048	81 890	11.05
	America	9 626	117 769	8.17
	Asia	35 054	427 926	8.19
	Europe	1 909	21 303	8.96
	Oceania	461	3 760	12.26
2000	World total	385 685	6 199 341	6.22
	Developed market-economy countries	234 174	4 492 720	5.21
	Developing countries–total	151 511	1 706 621	8.88
	of which:			
	Africa	14 328	110 641	12.95
	America	35 205	404 817	8.70
	Asia	99 187	1 161 604	8.54
	Europe	2 182	24 454	8.92
	Oceania	608	5 105	11.91
2001	World total	364 008	5 960 595	6.11
	Developed market-economy countries	221 248	4 320 511	5.12
	Developing countries-total	142 760	1 640 084	8.70
	of which:			
	Africa	13 806	109 125	12.65
	America	33 895	395 439	8.57
	Asia	92 023	1 102 663	8.35
	Europe	2 428	27 665	8.78
	Oceania	608	5 192	11.70

Source: UNCTAD secretariat estimates based on data supplied by the IMF.

[a] The estimate for the world total is not complete, since data for countries that are not members of the IMF, the countries of Central and Eastern Europe and republics of the former Soviet Union, and the socialist countries of Asia are not included for lack of information or other reasons.

Figure 8

Estimates of total freight costs for imports in world trade, by country groups and for selected years



Source: Table 41.

The freight cost ratio of developing countries in America decreased modestly to 8.6 per cent in 2001, compared with 8.7 per cent in 2000. Within this region, Central America and Mexico had a low freight factor of 7.9 per cent in 2001. This low freight ratio is largely attributable to Mexico, the largest trading nation in the region, which had a freight factor of 7.3 per cent in 2001. Mexico accounted for 87.3 per cent of the total c.i.f. value of imports of the subregion (46.8 per cent of American developing countries). The countries of the South American western seaboard paid relatively high freight costs at 10.4 per cent in 2001 as compared with 9.2 per cent in 2000. The countries of the South American eastern seaboard registered a rate of 7.8 per cent, down from 8.7 per cent the year before. Developing countries in the Caribbean recorded high freight costs with a ratio of 11.5 per cent in 2001, compared with 11.9 per cent in 2000. For the landlocked countries in the Americas, Paraguay continued to pay high freight rates at 11.3 per cent, while Bolivia's rate was 18.4 per cent.

Developing countries in Europe for the year 2001 had a slight decrease in freight rates to 8.8 per cent, down from 8.9 per cent in 2000. Small island developing countries in Oceania also had reduced freight rates payments at 11.7 per cent, compared with 11.9 per cent the previous year. The long distance from major trading partners, low cargo volumes, and high transhipment and feeder costs also contributed to the high levels of freight costs for island developing countries.