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# **REVIEW OF MARITIME TRANSPORT 2000**

## **Chapter IV Trade and Freight Markets**



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## Chapter IV

# TRADE AND FREIGHT MARKETS

*This chapter describes the conditions and trends in trade and freight markets, covering the major liner and bulk cargo sectors, gives liner freight rates as a percentage of commodity prices and estimates freight payments and freight costs as a percentage of import value in world trade*

### A. LINER SHIPPING MARKET

#### (a) Developments in liner markets

##### *General developments*

67. Total world liner shipments of containerized cargo in 1999 have reached approximately 50 million TEUs, with forecasts for up to 53 million TEUs in 2000. With trade prospects buoyant, major liner operators are upgrading their containership fleets with larger containerships such as post-Panamax on East-West trunk liner routes. The world fleet of fully cellular containerships continued to expand substantially in 1999 in terms of both number of ships and their TEU capacity, reaching 2,433 ships with a total capacity of 4,298,000 TEUs by the end of 1999, representing an increase of 2.9 per cent in the number of ships and 5.8 per cent in TEU capacity over the previous year.

##### *Groupings of liner operators*

68. The processes of competitive positioning of liner operating companies, the majority of which were made during the three-year period (1997B1999), led eventually to the emergence of new mega-carriers. Table 31 gives the latest profile of the supply-side dynamics of container shipping through concentration processes. The top 10 companies' total carrying capacity at the beginning of 2000 increased by 11 per cent from that of the previous year, accounting for 51 per cent of the world total capacity. Similarly the top 20s increased by 9 per cent, sharing 69 per cent of the world total. The need to respond to rapidly increasing global transport requirements and to rationalize the use of existing assets and new investments led major carriers to enter into groupings or "alliances" in the endeavour to reduce operation costs and promote their marketing strength by

integrating service structures through tie-ups or groupings. Under strategic programmes of major carriers, carrying capacity of the containerships in service on the East-West trunk routes continued to increase. At the beginning of 2000, 98 post-Panamax ships with an average carrying capacity of 5,300 TEUs per ship, were in service on the main East-West liner routes. At the end of 1999, 56 post-Panamax ships with a total capacity of 325,000 TEUs were on order. Given the delivery of these large newbuildings in the next couple of years, total carrying capacity of post-Panamaxes will be nearly 850,000 TEU. Table 32 provides estimated carrying capacity of "alliances" on the three major liner trades (Asia/North America, Asia/Europe-Mediterranean and North America/Europe-Mediterranean). At the beginning of 2000, all the alliances' carrying capacity reached 2.17 million TEUs, which accounted for approximately 45 per cent of the world total containerships' carrying capacity. Other liner operators, particularly mid-sized companies, still have to make the necessary decisions on their future competitive positioning, either as a global operator or as more of a niche carrier.

##### *Containership market developments*

69. Global liner shipping market developments are best reflected in movements of the containership charter market. This market is largely dominated by German owners, and more particularly by members of the Association of Hamburg Brokers and Agents, who control about 75 per cent of freely available containership charter tonnage. Since 1998, the association publishes the "Hamburg Index" providing for a market analysis of containership time charter rates. Rates on 14-ton slot (TEU) per day are published on a monthly basis for three gearless and six geared size groups and compared to those obtained on average in

Table 31

**Leading 20 container service operators (January 2000) on the basis of number of ships  
and total shipboard capacity (TEUs)**

| Ranking     | Operator                                     | Country/territory                  | No. of ships in 2000 | TEU capacity in 2000 | TEU capacity in 1999 |
|-------------|--|------------------------------------|----------------------|----------------------|----------------------|
| 1           | Maersk Sea-Land                              | Denmark                            | 244                  | 599 601              | 548 090              |
| 2           | Evergreen Line/Uniglorly/<br>Lloyd Triestino | Taiwan Province of China/<br>Italy | 139                  | 327 813              | 289 892              |
| 3           | P&O /Nedlloyd                                | UK /Netherlands                    | 114                  | 277 582              | 246 131              |
| 4           | Hanjin/DSR-Senator                           | Republic of Korea/Germany          | 83                   | 258 025              | 230 320              |
| 5           | Mediterranean Shipping                       | Switzerland                        | 122                  | 233 751              | 189 334              |
| 6           | COSCO  | China                              | 114                  | 201 263              | 197 347              |
| 7           | NOL/APL                                      | Singapore                          | 70                   | 191 284              | 197 853              |
| 8           | NYK Line                                     | Japan                              | 67                   | 154 344              | 151 820              |
| 9           | CMA/CGM/ANL                                  | France/Australia                   | 61                   | 138 956              | 94 860               |
| 10          | CP Ship Group                                | Canada                             | 68                   | 138 823              | 124 411              |
| Total 1-10  |  |                                    | 1 082                | 2 521 442            | 2 270 058            |
| 11          | Zim  | Israel                             | 59                   | 124 425              | 110 064              |
| 12          | MOL  | Japan                              | 48                   | 116 152              | 104 302              |
| 13          | K Line                                       | Japan                              | 49                   | 109 463              | 99 289               |
| 14          | Hyundai Merchant Marine                      | Republic of Korea                  | 32                   | 106 137              | 117 042              |
| 15          | OOCL   | Hong Kong (China)                  | 40                   | 103 896              | 90 765               |
| 16          | Yangming Marine                              | Taiwan Province of China           | 36                   | 95 712               | 87 295               |
| 17          | Hapag-Lloyd                                  | Germany                            | 26                   | 89 076               | 88 711               |
| 18          | UASC   | Kuwait                             | 23                   | 61 461               | 61 416               |
| 19          | CSAV   | Chile                              | 29                   | 54 839               | 53 672               |
| 20          | Cho Yang                                     | Republic of Korea                  | 23                   | 51 129               | 58 668               |
| Total 1-20  |  |                                    | 1 447                | 3 433 732            | 3 141 282            |
| World Total |  |                                    | 3 696                | 4 967 496            | 4 612 730            |

Source: *Kaiun (Shipping)*, June 2000.

Note: Including TEU capacity of ro-ro vessels and other types of vessels engaged in container service.

chosen as a base year as it is considered to be the last year when a remunerative rate level could be achieved. The development of time charter rates is reflected in table 33. In terms of TEU capacity, the world containership fleet continued to expand by 14, 18 and 12 per cent in 1996, 1997 and 1998 respectively until 1999 when growth slowed to 6 per cent. On the other hand, the Asian economic and financial crisis since 1997 hit not only the liner shipping trades between Asia and its major trading partners, but equally those among intra-regional countries. Charter rates drifted in the doldrums towards the end of 1998 and further into 1999. During the first half of 1999 charter rates remained depressed. This particularly related to size

groups typically engaged in intercontinental or intra-Asian trades. Smaller tonnage, both geared and gearless, took less of a dip with specific employment patterns helping to weather the storm. In summer 1999, when growth of world containership carrying capacity proved to be halved from that of 1998, and Asia's economic recovery had already been encouraging global and regional liner shipping trades, rates generally picked up, with particularly positive development in the segments of larger vessels, both geared and gearless. The positive mood prevailed through the second half of 1999 and extended well into the year 2000. In fact, rates for larger geared vessels nearly doubled between mid-1999 and mid-2000.

Table 32

**Estimated carrying capacity of alliances, January 2001**

|                        | Asia/North America | Asia/Europe-Mediterranean | North America/Europe-Mediterranean | Total TEU per year | Vessel deployed |                 |                            |
|------------------------|--------------------|---------------------------|------------------------------------|--------------------|-----------------|-----------------|----------------------------|
|                        |                    |                           |                                    |                    | No.of vessels   | Capacity in TEU | Capacity in TEU per vessel |
| Maersk Sealand         | 1 189 141          | 1 318 146                 | 1 475 931                          | 3 983 218          | 89              | 426 320         | 4 970                      |
| Grand Alliance         | 1 252 721          | 1 444 089                 | 570 107                            | 3 266 917          | 106             | 457 450         | 4 316                      |
| The New World Alliance | 1 733 865          | 833 616                   | 388 471                            | 2 955 952          | 98              | 363 400         | 3 708                      |
| Cosco/K-Line/YMTC      | 1 432 002          | 798 116                   | 353 098                            | 2 583 216          | 101             | 370 050         | 3 664                      |
| United Alliance        | 1 356 140          | 1 138 002                 | 322 231                            | 2 816 373          | 91              | 316 300         | 3 476                      |
| Evergreen              | 1 129 914          | 540 107                   | 213 000                            | 1 883 021          | 60              | 240 550         | 4 009                      |
| Total                  | 8 093 783          | 6 072 076                 | 3 322 838                          | 17 488 697         | 545             | 2 174 070       |                            |

Source: Kaiun (Shipping), June 2000.

Table 33

**Containership time charter rates**  
(US\$ per 14-ton slot/day)

|                        | 1997    | 1999  |       |       |       |       |        |           |         |          |          | 2000    |          |       |       |       |       |
|------------------------|---------|-------|-------|-------|-------|-------|--------|-----------|---------|----------|----------|---------|----------|-------|-------|-------|-------|
|                        | Average | March | April | May   | June  | July  | August | September | October | November | December | January | February | March | April | May   | June  |
| <b>Gearless</b>        |         |       |       |       |       |       |        |           |         |          |          |         |          |       |       |       |       |
| <b>200-299 TEU</b>     | 21.80   | 16.40 | 16.40 | 17.53 | 17.53 | 15.49 | 17.17  | 16.49     | 18.10   | 16.15    | 15.72    | 16.11   | 15.70    | 15.52 | 16.02 | 16.11 | 15.93 |
| <b>300-500 TEU</b>     | 16.79   | 13.48 | 13.58 | 13.15 | 13.54 | 13.54 | 15.64  | 14.94     | 15.04   | 14.08    | 12.65    | 14.64   | 14.36    | 14.43 | 13.94 | 14.55 | 13.75 |
| <b>2,000+ TEU</b>      | 9.31    | 5.71  | 6.77  | 7.35  | 7.35  | 7.72  | 7.90   | 8.36      | 8.28    | 7.85     | 8.29     | 9.66    | 9.24     | 10.10 | 10.48 | 10.73 | 10.73 |
| <b>Gearred</b>         |         |       |       |       |       |       |        |           |         |          |          |         |          |       |       |       |       |
| <b>200-299 TEU</b>     | 22.00   | 17.02 | 17.11 | 17.71 | 16.24 | 16.87 | 17.10  | 17.98     | 17.92   | 17.59    | 16.76    | 18.21   | 17.40    | 16.69 | 17.66 | 17.89 | 17.95 |
| <b>300-500 TEU</b>     | 17.24   | 12.00 | 11.93 | 12.74 | 12.25 | 11.07 | 12.86  | 13.96     | 13.30   | 13.09    | 14.35    | 14.06   | 13.56    | 13.20 | 13.61 | 14.73 | 16.03 |
| <b>600-799 TEU</b>     | 13.87   | 8.38  | 8.72  | 8.76  | 8.26  | 10.02 | 9.75   | 9.82      | 10.34   | 9.57     | 9.60     | 9.50    | 9.72     | 10.87 | 11.32 | 12.25 | 13.31 |
| <b>600-799 TEU</b>     | 14.08   | 8.77  | 8.77  | 7.76  | 8.86  | 9.27  | 10.16  | 10.55     | 10.85   | 10.75    | 10.52    | 9.77    | 10.58    | 11.03 | 11.78 | 13.81 | 12.94 |
| <b>1,000-1,299 TEU</b> | 12.47   | 5.90  | 6.49  | 6.82  | 7.36  | 7.43  | 9.62   | 10.54     | 10.53   | 9.83     | 7.85     | 8.55    | 9.75     | 10.80 | 11.43 | 12.83 | 13.22 |
| <b>1,600-1,999 TEU</b> | 10.50   | 5.39  | 5.82  | 6.83  | 7.50  | 7.91  | 7.91   | 9.32      | 8.77    | 8.34     | 7.61     | 9.00    | 9.51     | 10.26 | 10.59 | 11.31 | 11.14 |

Source: Vereinigung Hamburger Schiffsmakler und Schiffsgentzen (VHSS), Hamburg, Germany.

In June 2000, rates for 2000+ TEU gearless and 1000+ TEU geared vessels for the first time surpassed the average 1997 levels and thus terminated an extended period of depressed markets with rates not covering operating costs. At the same time, it was observed that longer period charters of up to two years gained momentum. It has to be noted though, that these positive developments were partly compensated by bunker cost increases reflecting general movements of oil prices. In June 2000 prices went up to about US\$ 152/t from about US\$ 87/t 12 months earlier. It can thus be estimated, that a 1600 TEU ship with a consumption of 53 t per day at sea incurred bunker cost of more than US\$ 8000 per day as compared to US\$ 4600 in June 1999.

**(b) Freight level of main liner services**

70. In the transpacific trades, during the fourth quarter of 1999, eastbound rates per TEU fell by 1.0 per cent from those of the previous quarter, whilst the average annual revenue per TEU in 1999 increased by 34.1 per cent to \$ 2,005 per TEU as compared with that in the previous year (see table 34). The United States Ocean Shipping Act 1998 was implemented in May 1999, and new carriers made inroads into the trade in 1999. In these conditions, the rates increased in 1999. That was attributable to strong growth in eastbound trades, which continued to be driven primarily by exports from the Republic of Korea, China and Thailand. In the westbound trade, the market in the fourth quarter of 1999 remained stagnant at the low level, with rates declining by another 10.0 per cent from the previous quarter or by 13.0 per cent lower than in the fourth quarter in 1998. The average annual rate per TEU in 1999 declined by as much as 18.1 per cent from its level in 1998. Cargo volume on this trade route remained sluggish (see tables 35 and 36). United States exports, such as waste paper, rags and resins, for example, were affected by increasing pressure from European suppliers of these cargoes. In 2000, the trades are expected to expand at a minimum of 5 per cent both eastbound and westbound. Estimated growth of tonnage supply vary from 5 per cent to 10 per cent, thus maintaining space utilization at about the same level as in 1999. Consequently, it is not expected that average east or westbound freight levels will change significantly in 2000.

71. In the Asia-Europe trades, during the second quarter of 1999, freight rates on both westbound and eastbound routes showed relatively stable trends with revenue per TEU edging up by 1.0 per cent in both directions. The Far Eastern Freight Conference was

somewhat optimistic about the trade. Actually the various operating units such as the Eastbound Management Agreement, Asia Westbound Rate Agreement and Japan/Europe Freight Conference imposed a series of rate restoration measures in 1999. Continuous expansion of cargo movements in both directions during the third and fourth quarters in 1999 raised freight levels by 1.0 and 6.0 per cent respectively on the Europe to Asia route, and 2.8 and 3.0 per cent respectively on the Asia-Europe route. In 2000, with cargo movements strong and ship-tonnage supply in relatively better balance with cargo demand, higher freight rates than in 1999 are expected by carriers.

72. The transatlantic trade remained the most problematic liner market in 1999. Freight rates on the eastbound trade fell further by 6.4 per cent. Relatively unfavourable economic conditions in Europe continued to pressurize growth in containerized traffic volume in both directions of this trade (see tables 35 and 36). The average annual rates for 1999 fell significantly by 22.8 per cent in the United States to Europe trade and 11.7 per cent in the opposite direction as compared with those in 1998. Nevertheless, a strong United States dollar and a weakening Euro caused Europe's exports to the United States to grow rather strongly in the second half of 1999, consequently helping rates to move upwards during that period. In 2000, the two basic developments of 1999 will continue to prevail, i.e. continuous United States dollar strength will maintain directional imbalances, and the supply of ship tonnage will continue to exceed demand, thus further intensifying competition among carriers.

**(c) Supply and demand in respect of main liner services**

73. In 1999 liner trades continued to suffer from overcapacity and structural imbalances, even though some signs of improvement could be observed in late 1999 and in 2000. In the trade between Asia and the United States (transpacific), average space utilization on both trade routes (eastbound and westbound) improved marginally. At the same time, however, the gap between supply and demand widened. Ships' annual total carrying capacity eastbound or westbound increased by 4 per cent in 1999, while eastbound cargo volume grew 11.9 per cent and the space utilization improved from 77.6 per cent in 1998 to 83.5 per cent. As westbound growth remained below capacity increase, utilization rates decreased to 48.2 per cent from 49.8 per cent in 1998. Based on preliminary

Table 34

**Freight rates (market average) on the three major liner trade routes, 1998-1999**  
(dollars per TEU)

|                       | Transpacific       |                    | Europe-Asia |             | Transatlantic        |                      |
|-----------------------|--------------------|--------------------|-------------|-------------|----------------------|----------------------|
|                       | Asia-United States | United States-Asia | Europe-Asia | Asia-Europe | United States-Europe | Europe-United States |
| <b>1998</b>           |                    |                    |             |             |                      |                      |
| <b>First quarter</b>  | 1 345              | 1 119              | 1 040       | 1 183       | 1 472                | 1 284                |
| <b>Change (%)</b>     | -1.2               | -5.3               | -1.5        | 2.2         | 1.0                  | 1.8                  |
| <b>Second quarter</b> | 1 459              | 1 015              | 869         | 1 227       | 1 477                | 1 210                |
| <b>Change (%)</b>     | 8.5                | -9.3               | -16.4       | 3.7         | 0.3                  | -5.8                 |
| <b>Third quarter</b>  | 1 561              | 999                | 873         | 1 353       | 1 397                | 1 221                |
| <b>Change (%)</b>     | 7.0                | -1.6               | 0.5         | 10.3        | -5.4                 | 0.9                  |
| <b>Fourth quarter</b> | 1 614              | 842                | 807         | 1 465       | 1 308                | 1 188                |
| <b>Change (%)</b>     | 3.4                | -15.7              | -7.6        | 8.3         | -6.4                 | -2.7                 |
| <b>1999</b>           |                    |                    |             |             |                      |                      |
| <b>First quarter</b>  | 1 619              | 832                | 716         | 1 512       | 1 185                | 1 100                |
| <b>Change (%)</b>     | 0.3                | -1.2               | -11.3       | 3.2         | -9.4                 | -7.4                 |
| <b>Second quarter</b> | 2 018              | 871                | 723         | 1 525       | 1 111                | 1 045                |
| <b>Change (%)</b>     | 24.6               | 4.7                | 1.0         | 0.9         | -6.2                 | -5.0                 |
| <b>Third quarter</b>  | 2 203              | 818                | 730         | 1 568       | 1 040                | 1 054                |
| <b>Change (%)</b>     | 9.2                | -6.1               | 1.0         | 2.8         | -6.4                 | 0.9                  |
| <b>Fourth quarter</b> | 2 181              | 736                | 774         | 1 615       | 1 030                | 1 127                |
| <b>Change (%)</b>     | -1.0               | -10.0              | 6.0         | 3.0         | -1.0                 | 6.9                  |

Sources: UNCTAD secretariat on the basis of data from *Containerisation International*, various issues, and other specialized sources.

Note: European trades do not include the Mediterranean.

Table 35

**Cargo movements on the three major liner trade routes for 1997-1999 and forecasts for 2000**  
(thousands of TEUs)

|                   | Transpacific       |                    | Asia-Europe |             | Transatlantic        |                      |
|-------------------|--------------------|--------------------|-------------|-------------|----------------------|----------------------|
|                   | Asia-United States | United States-Asia | Asia-Europe | Europe-Asia | United States-Europe | Europe-United States |
| <b>1997</b>       | 4 660              | 3 610              | 3 290       | 2 730       | 1 270                | 1 556                |
| <b>Growth (%)</b> | 13.6               | 2.7                | 4.7         | 5.8         | 4.7                  | 9.5                  |
| <b>1998</b>       | 5 220              | 3 330              | 3 490       | 2 710       | 1 330                | 1 700                |
| <b>Growth (%)</b> | 12.0               | -7.9               | 6.1         | -0.7        | 4.7                  | 9.7                  |
| <b>1999</b>       | 5 840              | 3 370              | 3 950       | 2 850       | 1 340                | 1 710                |
| <b>Growth (%)</b> | 11.9               | 1.2                | 13.2        | 5.2         | 0.8                  | 0.6                  |
| <b>2000</b>       | 6 130              | 3 540              | 4 150       | 3 050       | 1 410                | 1 800                |
| <b>Growth (%)</b> | 5.0                | 5.0                | 5.1         | 7.0         | 5.2                  | 5.3                  |

*Sources:* UNCTAD secretariat on the basis of data supplied by the Japan Maritime Research Institute; DRI/McGraw-Hill, *World Sea Trade Service Review*, various issues; *Containerisation International*, various issues; and other specialized sources.

*Note:* European trades do not include the Mediterranean.

data and information available, in 2000 similar developments of ships' carrying capacity and cargo movements on both routes are expected, with average space utilization on both of the routes remaining unchanged from those registered in 1999 (see table 36).

74. On the Europe-Asia trade routes, ships' annual total carrying capacity increased by 4 per cent in 1999, while cargo volume increased by 5.2 per cent on the eastbound route (Europe to Asia) and by 13.2 per cent on the westbound (Asia to Europe) route. As a result, average capacity utilization on both trade routes improved to 71.5 per cent from 67.8 per cent in 1998, with increasing trade imbalances making it difficult for shipowners both to attract eastbound cargoes and to resolve problems of empty repositioning. In 2000, capacity is expected to increase by about 5.0 per cent,

while cargo availability will grow at 7.0 per cent for the eastbound and 5.1 per cent for the westbound trades, resulting in further improvements in average space utilization to 72.1 per cent.

75. On the transatlantic trade routes, the imbalance between eastbound and westbound trades has been slightly less pronounced than in the Asian trades with average capacity utilization being considerably lower. In 1999, the average space utilization declined to 61.5 per cent from 62.7 per cent in the previous year. Even though carrying capacity increased by only 3 per cent in 1999, trade volume was even less, averaging about 1.0 per cent on each route. In 2000, cargo movements are expected to expand by about 5.0 per cent each on both routes, matching the capacity increase of about 5.0 per cent.



Table 36

**Supply (ships' carrying capacity) and demand (cargo volume) in transpacific, Europe-Asia and transatlantic trades, 1998-2000**  
(thousands of TEUs)

| Year  | Direction | Total ships' carrying capacity on one trade route per year | Estimated cargo volume on one trade route per year | Space utilization on one trade route (%) | Average space utilization on both trade routes (%) |
|---|-----------|--|--|--|--|
| <b>Transpacific (Asia-United States)</b>    |           |  |  |  |  |
| 1998  | Eastbound | 6 720  | 5 220  | 77.6                                     | 63.6   |
|   | Westbound | 6 720  | 3 330  | 49.8                                     |  |
| 1999  | Eastbound | 6 990  | 5 840  | 83.5                                     | 65.9   |
|   | Westbound | 6 990  | 3 370  | 48.2                                     |  |
| 2000  | Eastbound | 7 340  | 6 130  | 83.5                                     | 65.9   |
|   | Westbound | 7 340  | 3 540  | 48.2                                     |  |
| <b>Europe-Asia</b>                          |           |  |  |  |  |
| 1998  | Eastbound | 4 570  | 2 710  | 59.3                                     | 67.8   |
|   | Westbound | 4 570  | 3 480  | 76.3                                     |  |
| 1999  | Eastbound | 4 750  | 2 850  | 60.0                                     | 71.5   |
|   | Westbound | 4 750  | 3 950  | 83.2                                     |  |
| 2000  | Eastbound | 4 990  | 3 050  | 61.1                                     | 72.1   |
|   | Westbound | 4 990  | 4 150  | 83.2                                     |  |
| <b>Transatlantic (United States-Europe)</b> |           |  |  |  |  |
| 1998  | Eastbound | 2 410  | 1 330  | 55.1                                     | 62.7   |
|   | Westbound | 2 410  | 1 700  | 70.4                                     |  |
| 1999  | Eastbound | 2 480  | 1 340  | 54.0                                     | 61.5   |
|   | Westbound | 2 480  | 1 710  | 69.0                                     |  |
| 2000  | Eastbound | 2 600  | 1 410  | 54.2                                     | 61.7   |
|   | Westbound | 2 600  | 1 800  | 69.2                                     |  |

Sources: UNCTAD secretariat on the basis of data supplied by the Japan Maritime Research Institute; DRI/McGraw-Hill, *World Sea Trade Service Review*, various issues; *Containerisation International*, various issues; and other specialized sources.

Note: European trades do not include the Mediterranean.

**(d) Liner freight index**

76. Table 37 indicates the developments of liner freight rates on cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range from 1997 to date. The overall 1999 liner freight index decreased by 3 points to an average level of 86 (1995-100), reflecting the market situation in both homebound and outbound trades. In the homebound trade, the average level in 1999 increased by 6 points as compared with that in the previous year, reaching the same index in 1997 (95). The average level for the first quarter of 1999 decreased to 89 from 91 for the same period in 1998. This drop reflects a significant plummet by 9.4 per cent in the liner freight rates in the United States-Europe trade for the first quarter of 1999 from the rates for the last quarter of 1998. Since then, the monthly average index in 1999 was higher than in 1998. This upward trend is mainly

attributable to the continuous rise in freight rates in the AsiaBEurope liner business, representing an increase of 6.8 per cent over the year. Conversely, the average outbound index in 1999 fell significantly by 12 points from the average level in 1998. Specifically, the average index for the first quarter in 1999 decreased substantially by 30 points from the level for the same quarter in 1998. This decrease reflects primarily the remarkable fall in freight rates in the first quarter of 1999 by 11.3 per cent from the average freight rates for the last quarter in 1998 in the Europe-Asia trade, and the continuous decrease during the first half of 1999 in the Europe-United States trade. The upward trend in the liner freight rates on both homebound and outbound trade routes in the last half of 1999 continued to the first quarter of 2000, representing over 100 each month, thus reflecting on the overall index for the same period in 2000.

Table 37

**Liner freight indices, 1997-2000**  
(monthly figures: 1995-100)

| Month          | Overall index |      |      |      | Homebound index |      |      |      | Outbound index |      |      |      |
|----------------|---------------|------|------|------|-----------------|------|------|------|----------------|------|------|------|
|                | 1997          | 1998 | 1999 | 2000 | 1997            | 1998 | 1999 | 2000 | 1997           | 1998 | 1999 | 2000 |
| January        | 99            | 97   | 77   | 104  | 97              | 91   | 86   | 106  | 102            | 103  | 69   | 101  |
| February       | 100           | 96   | 79   | 103  | 96              | 91   | 88   | 102  | 104            | 101  | 70   | 104  |
| March          | 101           | 97   | 80   | 105  | 97              | 92   | 90   | 104  | 104            | 102  | 71   | 105  |
| April          | 98            | 96   | 83   | 113  | 95              | 91   | 91   | 110  | 101            | 100  | 74   | 116  |
| May            | 97            | 92   | 83   | 119  | 94              | 90   | 92   | 114  | 100            | 94   | 74   | 125  |
| June           | 99            | 92   | 84   | 116  | 96              | 90   | 94   | 110  | 101            | 93   | 76   | 121  |
| July           | 100           | 90   | 86   |      | 96              | 90   | 94   |      | 103            | 89   | 78   |      |
| August         | 102           | 88   | 87   |      | 98              | 89   | 98   |      | 105            | 87   | 77   |      |
| September      | 100           | 83   | 90   |      | 96              | 86   | 99   |      | 103            | 81   | 82   |      |
| October        | 97            | 81   | 92   |      | 93              | 85   | 99   |      | 101            | 77   | 86   |      |
| November       | 96            | 82   | 96   |      | 92              | 87   | 102  |      | 100            | 77   | 89   |      |
| December       | 98            | 80   | 98   |      | 94              | 86   | 105  |      | 102            | 75   | 92   |      |
| Annual average | 99            | 89   | 86   | 110  | 95              | 89   | 95   | 108  | 102            | 90   | 78   | 112  |

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.

(e) **Liner freight rates as percentage of prices for selected commodities**

77. Table 38 provides data on freight rates of liner services as a percentage of market prices for selected commodities and trade routes in certain years between 1970 and 1999. The ratio of liner freight rates to the prices of jute, rubber sheet and coconut oil continued to stand at a higher level, compared with the rates for other commodities. Freight rates for jute in 1999 increased by 17.3 per cent, while the f.o.b. price also rose by 6.6 per cent. The f.o.b. price for jute is much lower than that of other commodities. This explains the high freight ratio. The f.o.b. price for rubber sheet fell by 12.7 per cent in 1999 when the freight rates rose by 6.4 per cent, thus arriving at a freight ratio of 16.3 per cent. The high ratio of coconut oil is attributable primarily to greatly

increased freight rates in 1999, which rose by 27.8 per cent, albeit the c.i.f. price also increased by 12.0 per cent.

The ratio of coffee and cocoa beans from Brazil to Europe in 1999 stood at 2.8 per cent and 6.0 per cent respectively. The freight rates rose by 26.7 per cent and 40.7 per cent each while the c.i.f. price fell by 27.1 per cent and 32.1 per cent respectively. The high increase in freight rates and the decrease in c.i.f. prices for the commodities mentioned turned out to be the ratio of small percentage. This is because the absolute freight amount is very small compared with the c.i.f. price. Similar mechanisms of fluctuations in freight rates and c.i.f. prices are applicable to coffee from Colombia (both Atlantic and Pacific) and cocoa beans from Ghana, although in those cases both freight rates and c.i.f. prices in 1999 decreased substantially compared with their levels in the previous years.

Table 38

**Ratio of liner freight rates to prices of selected commodities**

| Commodity          | Route                      | Freight rate as percentage of price <sup>a</sup> |      |      |      |      |      |      |
|--------------------|----------------------------|--|------|------|------|------|------|------|
|                    |                            | 1970   | 1975 | 1980 | 1985 | 1990 | 1998 | 1999 |
| <b>Rubber</b>      | Singapore/Malaysia-Europe  | 10.5   | 18.5 | 8.9  | ..   | 15.5 | 13.3 | 16.3 |
| <b>Jute</b>        | Bangladesh-Europe          | 12.1   | 19.5 | 19.8 | 6.4  | 21.2 | 30.8 | 33.9 |
| <b>Cocoa beans</b> | Ghana-Europe               | 2.4  | 3.4  | 2.7  | 1.9  | 6.7  | 3.9  | 4.8  |
| <b>Coconut oil</b> | Sri Lanka-Europe           | 8.9  | 9.1  | 12.6 | 12.6 | ..   | 13.7 | 15.6 |
| <b>Tea</b>         | Sri Lanka-Europe           | 9.5  | 10.4 | 9.9  | 6.9  | 10.0 | 3.9  | 5.0  |
| <b>Coffee</b>      | Brazil-Europe              | 5.2  | 9.7  | 6.0  | 5.0  | 10.0 | 1.6  | 2.8  |
| <b>Coffee</b>      | Colombia (Atlantic)-Europe | 4.2  | 5.7  | 3.3  | 6.7  | 6.8  | 3.2  | 3.7  |
| <b>Cocoa beans</b> | Brazil-Europe              | 7.4  | 8.2  | 8.6  | 6.9  | 11.0 | 2.9  | 6.0  |
| <b>Coffee</b>      | Colombia (Pacific)--Europe | 4.5  | 6.3  | 4.4  | 6.1  | 7.4  | 3.4  | 3.9  |

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 1990-1999).

<sup>a</sup>

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) and tea, the average of the daily prices in London is quoted. Prices of the remaining commodities are quoted on f.o.b. terms. 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 *International Financial Statistics*, published by the International Monetary Fund (IMF). Annual freight rates were calculated by taking a weighted average of various freight rates quoted during the year, weighted by their period of duration. For the period 1990-1999, the prices of the commodities were taken from UNCTAD, *Monthly Commodity Price Bulletin*, March 2000.

## **B. DRY BULK SHIPPING MARKET**

### **(a) Dry bulk trade**

78. In 1999, overall dry cargo shipments increased at the relatively higher rate of 3.0 per cent, reaching approximately 2,970 million tons, of which main dry bulk commodities stood at 1,233 million tons or 41.5 per cent of total dry bulk cargo shipments. World crude steel production in 1999 increased very marginally by 1.3 per cent to 787 million tons. Iron ore shipments declined slightly by 1.7 per cent to 410 million tons in 1999. Coking coal also decreased marginally by 1.7 per cent to 174 million tons whilst thermal coal increased by 3.3 per cent to 306 million tons, with total coal seaborne trade expanding by 1.5 per cent to reach 480 million tons. World trade in grain increased by 7.1 per cent to 210 million tons in 1999.

#### *Steel production, iron ore and coal trades*

79. World crude steel production increased by 1.3 per cent to 787 million tons in 1999. As in the previous year, strong regional differences in production prevailed in 1999. In Asia, China's crude steel production rose by 8.0 per cent to 123.7 million tons in 1999 from the previous year's level, while Japan's crude steel production increased to 94.2 million tons from 93.5 million tons in 1998. The Republic of Korea expanded its production by 2.9 per cent to 41.0 million tons whilst that of Taiwan Province of China decreased by 9.0 per cent to 15.4 million tons. Total production of the four major Asian producers grew by 3.5 per cent to 274.3 million tons or 34.9 per cent of the world total. The output of European Union member countries decreased by 3.0 per cent to 155.4 million tons. The United States' production dropped by 1.4 per cent to 97.3 million tons while the former Soviet Union experienced a strong growth to 85.8 million tons in 1999 from 74.4 million tons in 1998.

80. The world seaborne trade in iron ore declined by 1.7 per cent to 410 million tons in 1999 from 417 million tons in 1998. Exports from Brazil decreased by 5 per cent to 135 million tons, whereas Australia registered an increase of 3 per cent to 136 million tons. Canada's iron ore exports continued to decline by approximately 14 per cent to about 27 million tons in 1999, while Sweden's exports also decreased by as much as 13 per cent to 14 million tons. In 1999, world coal shipments continued to increase by 1.5 per cent to 480 million tons from 473 million tons in the previous year. Exports from Australia maintained strong growth in 1999. China's coal

exports rose significantly by 19 per cent to 38 million tons, whereas South Africa's exports fell by 3 per cent to 63 million tons. Coal exports from the United States in 1999 plunged dramatically to 37 million tons from 52 million tons in 1998, while Canada's coal exports declined by 3 per cent to 34 million tons in 1999. Coal exports from Indonesia in 1999 expanded by as much as 20 per cent to 48 million tons. On the importing side, both Japan and the Republic of Korea increased their coal imports by 4 per cent each to 137 million tons and 55 million tons respectively in 1999. Imports into Taiwan Province of China were up by 10 per cent to 41 million tons.

#### *Grain trade*

81. World grain shipments in 1999 increased by 7.1 per cent to 210 million tons. Trading patterns changed with large fluctuations during the year. The United States' exports increased remarkably by about 18.3 per cent to 87.9 million tons, while Canada and Australia also expanded their respective supplies by 6.2 per cent and 8.7 per cent to 19.3 million tons and 20.6 million tons respectively. Argentina's exports plummeted by 28.7 per cent to 17.3 million tons, whilst the European Union's supply to third countries increased by 17.2 per cent to 21.3 million tons.

### **(b) Dry bulk freight rates**

82. In 1999, the dry bulk supply and demand balance showed a clear improvement. The year ended with rates for all sizes of dry bulk carriers at significantly higher levels than in 1998. Total operational activities of dry bulk shipping have increased by 0.7 per cent in terms of ton-miles in sharp contrast to a decrease of 3.8 per cent in 1998. The dry bulk carrier fleet increased by 0.2 per cent to 276.1 million dwt. The growth in demand was notably higher during the second half of 1999 compared to the first half, specifically with strong demand from Asia for both coal and iron ore. Lay-up of dry bulk and combined carriers decreased to 2.2 million dwt in 1999 from 2.4 million dwt, and tonnage for storage remained minimal (see table 39).

#### *Dry bulk time-charter (trips)*

83. The overall average time-charter trip rates rose favourably in 1999, as compared with those in 1998, on the four major trade routes, i.e. Atlantic round voyage, Pacific round voyage, Continent/Far East and Far East/Continent. The annual average rate for modern Capesize tonnage on the four major trade routes climbed

favourably in 1999, as compared with those in 1998, on the four major trade routes, i.e. Atlantic round voyage, Pacific round voyage, Continent/Far East and Far East/Continent. The annual average rate for modern Capesize tonnage on the four major trade routes climbed dramatically by 67.0 per cent, to \$17,200 per day in 1999 from \$10,300 per day in 1998, when the rates had fallen by 41 per cent from the 1997 level. For the Atlantic round voyage, the tonnage was employed at the average rate of \$16,700 per day in 1999, whereas it was only paid at \$8,600 per day in 1998. In the Pacific trade, the average rate rose to \$16,700 per day in 1999 from \$11,700 per day in 1998. The annual average rate for modern Panamax tonnage on the four major trade routes was up significantly by 58.2 per cent to \$8,700 per day in 1999, as compared with \$5,500 per day in 1998. A

round voyage in the Atlantic was paid at the average rate of \$8,400 per day in 1999, while it was hired at \$4,600 per day in 1998. In the Pacific it was employed at \$9,300 in 1999, as compared with \$5,900 per day in the previous year. Modern Handymax tonnages on the four major trade routes were employed at the annual average rate of \$7,500 per day in 1999, which turned out to be 21 per cent higher than the daily rate of \$5,900 in 1998. For the Atlantic round voyage, the average rate of \$7,300 per day was paid in 1999, while the charter-hire for the same trade in 1998 was registered at \$5,200 per day. In the Pacific trade, the rates for round voyages averaged \$7,100 per day in 1999, as compared with \$6,500 per day in 1998.<sup>10</sup>

Table 39

**Dry cargo freight indices, 1997 - 2000**  
(monthly figures)

| Period                | Dry cargo tramp time-charter <sup>a</sup><br>(1995 - 100) |      |      |      | Dry cargo tramp trip-charter <sup>b</sup><br>(July 1965 to June 1966 - 100) |      |      |      |
|-----------------------|---|------|------|------|---|------|------|------|
|                       | 1997  | 1998 | 1999 | 2000 | 1997  | 1998 | 1999 | 2000 |
| January               | 81  | 71   | 46   | 86   | 209   | 189  | 166  | 190  |
| February              | 84  | 62   | 49   | 89   | 197   | 186  | 170  | 191  |
| March                 | 88  | 68   | 60   | 101  | 199   | 171  | 169  | 190  |
| April                 | 86  | 68   | 59   | 107  | 197   | 173  | 172  | 191  |
| May                   | 79  | 64   | 68   | 108  | 190   | 173  | 173  | 193  |
| June                  | 78  | 60   | 64   |      | 184   | 177  | 176  |      |
| July                  | 84  | 55   | 63   |      | 183   | 167  | 179  |      |
| August                | 87  | 53   | 66   |      | 196   | 165  | 178  |      |
| September             | 82  | 52   | 70   |      | 190   | 164  | 185  |      |
| October               | 80  | 57   | 79   |      | 191   | 165  | 185  |      |
| November              | 77  | 56   | 80   |      | 189   | 170  | 195  |      |
| December              | 73  | 50   | 82   |      | 186   | 168  | 192  |      |
| <b>Annual average</b> | 82  | 60   | 66   | 98   | 193   | 172  | 178  | 191  |

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

<sup>a</sup> Compiled by the German Ministry of Transport.

<sup>b</sup> Compiled and published by Lloyd's Ship Manager.

### *Dry bulk time-charter (periods)*

84. In early 1999, a modern Capesize tonnage was hired on a 12-month time-charter at around \$9,000 per day. In May, when some signals of the slow recovery of dry bulk markets in Asia emerged, a modern 150,000 dwt bulker was fixed at \$9,000 per day for 12 months by an Asian operator. During the first 7 months, about 7 million dwt of dry cargo ships were destined for the scrapyard. In the middle of August 1999, it was reported that a Belgian operator had chartered about 30 modern Capesize tonners on a period time-charter. This big deal helped period time-charter markets to improve by \$2,000B3,000 per day. The period time-charter market for Panamax experienced its lowest levels in the first quarter of 1999. In April, a modern Panamax was fixed at \$6,250 per day for 12 months, and a similar tonnage was employed at \$8,500 per day for three years with an option for a fourth and fifth year at \$10,500 per day and \$11,500 per day respectively. In early May a Panamax was chartered at \$7,750 per day for 12 months. In the second half of 1999, the Panamax period time-charter market improved somewhat. However, in the 1999 overall Panamax time-charter markets, there was a relatively big gap between the trip market and the medium-period market. The latter remained unsatisfactory for owners mainly due to the uncertainty of cargo movements, which demanded medium-period employment of niche Panamax tonners. Average period time-charter rates for Handymax dry bulkers were about \$7,400 per day for 12 months in 1999, which was somewhat of an improvement over 1998.<sup>11</sup>

### *Dry bulk trip-charter*

85. The year 1999 started in dismal circumstances for Capesize tonnages, with no encouraging signs in sight. Rates stood at record low levels in most trades, with iron ore shipments for Tubarao (Brazil)/Rotterdam being paid at \$3.50 per ton. Iron ore trades on the Brazil/China route were paid at \$4.90 per ton. Tonnages for the Richards Bay/Rotterdam coal trade were hired at \$4.25 per ton. From July until October 1999, charter-rates for Capesize increased significantly. Rates for the iron ore trade on the Brazil/China route stood at \$8.65 per ton in October and climbed further to \$11.00 per ton in November. Coal shipments from Australia to Europe moved from the lowest rate of \$5.50 per ton in January 1999 to \$11.25 per ton in November of that year. Taking the development of iron ore trades as a reference rate, the average freight rate for iron ore on the Brazil/Europe (Rotterdam) in Capesize vessels was up to \$4.43 per ton in 1999 from \$4.17 per ton in 1998. Fluctuations were significant in the rate of \$3.20B6.50 with the highest rate

towards the end of 1999. The reference rate for coal from Hampton Roads/Richards Bay to the Far East in Capesize tonnages increased from an annual average of \$8.68 per ton in 1998 to \$8.80 per ton in 1999.

86. The year 1999 was a very volatile and unpredictable year for the Panamax dry bulker market. While the market begun by being very dull in the first half of 1999, at the end of June that year it declined sharply owing to the lack of grain cargo. After a summer of uncertainty, an optimistic view finally began to be taken as demand in key Far Eastern countries started to expand. As a reference rate level for Panamax tonnages, the average freight rate for grain on the United States Gulf/Japan route in Panamax size increased by 19 per cent from an annual average of \$15.34 per ton in 1998 to \$18.50 per ton in 1999. Fluctuations were significant in the range from \$13.85 per ton in January to \$22.79 per ton in November 1999. The trip-charter market for Handysize bulkers during the year 1999 was characterized by as many ups as downs, which did not help the market to find stability.<sup>12</sup>

## **C. CRUDE OIL AND PETROLEUM PRODUCTS SEABORNE FREIGHT MARKET**

### **(a) Seaborne trade in crude oil and petroleum products**

87. In 1999, world crude oil production decreased by 1.5 per cent or approximately 1.0 million barrels per day from the level of 1998. Accordingly the overall volume of the seaborne crude oil trade declined by 2.0 per cent to 1,600.5 million tons. This was somewhat offset by shipments of petroleum products in 1999, which increased by 2.0 per cent to 559 million tons. In 1999, it was observed in the world tanker market that activities for tonnage pooling continued among major owners, and that tanker-chartering practices to combine smaller oil cargo lots into larger vessels were being adopted by charterers, such as major petroleum enterprises. Furthermore, on the chartering-in side, Petrofina, Total and Elf decided to merge their chartering activities. Similarly, Repsol, YPF and Arco decided to join BP/Amoco. Thus, there seems to be a clear tendency for major charterers to become fewer and larger.

### **(b) Tanker freight rates**

88. The tanker balance between supply and demand deteriorated overall in 1999. The tanker fleet in 1999 increased by 1.1 per cent to 282.5 million dwt, following the growth of 2.8 per cent in 1998. Laid-up tankers

increased from 1.6 million dwt in 1998 to 2.1 million dwt in 1999 (0.7 per cent of the total tanker fleet) and storage also increased by 0.1 million dwt to 3.2 million dwt in 1999 (1.1 per cent of the total tanker fleet) respectively. The tonnage utilization rate was rather favourable in the first quarter of 1999; however it began to slow down in the early summer when OPEC's production was reduced. Towards the end of the year, oil output and trade volume decreased further. Under these circumstances, shipping performance for crude oil decreased by 3.8 per cent in terms of ton-miles in 1999 whilst that for petroleum products increased by 2.0 per cent.

#### *Very large crude carriers (VLCCs)*

89. The year 1999 was difficult for owners of VLCCs, who were adversely affected by the shortage of cargo in the trades from the Middle East Gulf owing to the reduction of OPEC output. Consequently, VLCCs were increasingly engaged on the trade routes from West Africa in 1999, where smaller tonnages such as Suezmax tankers are typically employed. The OPEC agreement to cut crude oil output hit any hopes of a recovery of rates in the large tanker sector, for the Middle East Gulf loading in particular. VLCC shipments from the Middle East Gulf fell to the low WS 40s to Asian destinations by April 1999, with one fixture dropping to the high WS 30s. Depressed VLCC rates had a knock-on effect in the markets other than the Middle East Gulf, as owners sought cargoes for their VLCCs elsewhere, such as West Africa to the United States where freights were around WS 50B55 and to Asia where rates of up to WS 42 were paid. In May 1999, increased liftings booked for July 1999 loading boosted VLCC rates from the Middle East Gulf, especially eastbound. Asian discharge trades pushed into the WS 50s and as high as WS 57 for Japanese ports. However, this was only a temporary peak, and later in the period rates eased down to around WS 50. In June and July 1999, rates for VLCCs from the Middle East Gulf plunged back below WS 40 as cargo for Far Eastern destinations dried up. From August 1999, high crude oil prices actually dampened what owners had hoped to be an upturn in demand as the northern winter approached and stockpiling took place as usual, while VLCCs were fixed from the Middle East Gulf to Asian destinations at WS 50, rising by the end of September 1999 to WS 55. On the other hand, western destinations earned about WS 50. In October 1999, despite strong trading volumes for crude oil shipments, VLCC rates slipped back slightly, to about WS 45 to eastern destinations, with rates for Europe-bound cargo about 2 points below that. Liftings from West Africa for Asian destinations were also hovering in the WS 40s. In November 1999, VLCC rates to the Far East, such as the

Republic of Korea and Japan, fluctuated around WS 50 as demand picked up. Similarly, in West Africa rates for VLCCs also reflected favourable returns, paid at WS 55 to the United States Gulf. Towards the end of the year, a lack of VLCC tonnage and owners holding out caused rates to firm. Rates for over 250,000 tonners from the Middle East Gulf to the Republic of Korea reached the mid- to high WS 60s.

90. In 1999 the average rates paid for VLCC transportation from the Middle East Gulf declined; the average rate for voyages to the West was WS 46.16, as compared with WS 58.2 recorded in 1998. On voyages to Japan, the average was WS 50.78 while it was WS 66.9 in 1998. These lower rates, coupled with doubled bunker prices during the whole year, strained the operational economies of most VLCC owners. In this context it is notable that 36 VLCC/ULCC units were sold for demolition in 1999, of which 32 were turbine tankers which proved to be uneconomical to operate in a market with low freight rates and increased bunker prices.

#### *Medium-sized crude carriers*

91. In the West African market, Suezmax tankers were paid at an average rate of only WS 75.28 in 1999 on voyages to the United States Atlantic coast, which compares with WS 82.80 in 1998. In 1999, 18 Suezmax newbuildings were delivered, while 27 Suezmax units were sold for demolition, thus the size of the Suezmax fleet actually diminished, but remained the major tonnage in the whole area of the Atlantic basin. However, the rates for this size of tonnage were poor. One of the reasons for this weak market can be seen in the increasing utilization of VLCCs in markets such as West Africa, which had been traditional domains of Suezmax tonnages. The main operating routes of Suezmax are transatlantic from West African loading areas into the relatively shallow-draught United States East Coast where Suezmaxes' lesser draught makes it easier for them to approach these ports than VLCCs. On these trade routes, Suezmax with 1 million-barrel capacity competes very often with VLCC (2 million-barrel capacity) to secure cargo lots of more than 2 million-barrels if the discharging ports can accommodate VLCCs. When VLCC markets are depressed in the Middle East Gulf, owners search employments for loading in West Africa on the way back after discharge in Europe. As freight rates for Suezmax tonnage are expected to rise and VLCCs are available for loading in West Africa, charterers are induced to combine two one-million-barrel cargo lots into one for a VLCC. When rates for VLCCs rise in their main trades from the Middle East Gulf, rates for Suezmaxes for loading in West Africa also pick up

under less competition with the VLCCs for West African loading. In January 1999, average VLCC rates were WS 62, then coming down and stagnating at around WS 40 from the end of the first quarter to the middle of the third quarter, when rates picked up. A similar trend was observed in Suezmaxes' chartering activities from West Africa to the United States. In January 1999, freight rates were paid at WS 85, since then continuously plummeting and were in the doldrums at WS 50B60 from the second quarter to the beginning of the third quarter. For the third quarter of 1999, Suezmax fixtures in West Africa had been maintained at the level of high WS 70s. During the next four months, Suezmax liftings from West Africa managed to obtain WS 67 for European discharge and WS 65 to the United States Gulf. Similarly, Mediterranean loading tonnages were paid at WS 65B75 to Northern European destinations. In August 1999, lack of cargoes sent Suezmax rates plummeting. Rates for intra-Mediterranean cargoes dipped below WS 60 to about WS 55, while cargoes from West Africa for the United States managed to secure WS 52. When the last quarter began, demand for crude oil in preparation for the winter season in the northern hemisphere increased gradually. Suezmax demand remained relatively stable with North Sea fixtures at around WS 70 for the United States discharge, and West African liftings at WS 72 for the same destination. Towards the end of the year, these rates further improved up to the same level as at the end of 1998, at around WS 90.

92. Aframax tonnages experienced unfavourable markets, specifically in the first half of 1999. Forty-three Aframax newbuildings were delivered against only 27 units sold to the breakers. The average rates in the three major loading areas for Aframax tankers, the Mediterranean, North Sea and Caribbean, were down by about 5 per cent in 1999 compared to the average paid in 1998. Approximately 27 per cent of the Aframax fleet existing in 1999 was built in 1980 or before. These old Aframaxes were virtually excluded from trading to the United States owing to that country's regulations, and thus were employed for other destinations, adversely affecting market rates thereof. During the first quarter of 1999, Aframax tonnages for North Sea loading were paid at WS 85B95 for European discharge. As the summer season approached in the northern hemisphere, Aframax tonnages suffered a fall in freights as the summer maintenance period in the North Sea, coupled with the seasonal reduction in volumes from the Caribbean, reduced rates for 80,000 tons to WS 80 for North Sea liftings. From May to August 1999, Aframax rates edged down, with 80,000 tons for North Sea loading to

European continental destinations paid at WS 80, and further slipped to the middle of the WS 70s. Similar trends in freights were observed in the Caribbean and Mediterranean markets. Towards the end of 1999, demand for Aframax tonnages became firmer with increased cargo bookings creating a shortage of this size of tanker. Rates for 80,000 tons to Japan from the Middle East Gulf went as high as WS 120, while freights for cargoes from the Mediterranean to northern Europe reached WS 115. Intra-Europe trades in 80,000 tonners paid up to WS 160.

#### *Small crude and product carriers*

93. In 1999, many of the major markets for product carriers took a beating. This was coupled with the entry of larger product carriers such as Aframaxes, both coated and uncoated, to replace niche tankers which dominated the 50,000B60,000 ton market, i.e. the Middle East Gulf to the Far East. The product market was already down to WS 135 for 55,000 tons and WS 110 for 75,000 tons at the beginning of 1999. The rates continued to be under pressure and drifted at the level of WS 100B110 for 60,000B70,000 tons until October. Towards the end of the year, owing to the relatively brighter prospect for winter consumption, rates recovered to the WS 150s.

#### *Handy-size clean and dirty carriers*

94. In 1999 the Republic of Korea increased refinery capacity and developed its trade in products for the Japanese and Chinese markets, while expanding further to North and South America. India also increased its production capacity with new refineries, and Venezuela secured a larger market share in central and west coast South America. These developments affected movements of oil products from the Middle East Gulf. Rates for 30,000 tons on the Middle East Gulf/Indian subcontinent route stagnated at WS 140s in the first half of 1999. As West African suppliers came on stage during the second and third quarters in 1999, attracting this sector of ships, rates for loading at the Middle East Gulf improved, standing at WS 175 for 40,000 tons destined for the Indian subcontinent towards the end of the year. The Atlantic market remained stable, specifically in the first half of the year. A 33,000 ton lot for Europe/United States stood at the rate of WS 165-175. In the second half of the year, this rate came down to WS 140-145. The relatively volatile Caribbean market started off in 1999 above the WS 200 level for 30,000 tons on the Caribbean/United States Atlantic Coast,



Table 40  
**Tanker freight indices, 1997-2000**  
*(monthly figures)*

| Period                | Tanker freight indices <sup>a</sup> |      |      |      |                            |      |      |      |                                  |      |      |      |                  |      |      |      |                  |      |      |      |
|-----------------------|-------------------------------------|------|------|------|----------------------------|------|------|------|----------------------------------|------|------|------|------------------|------|------|------|------------------|------|------|------|
|                       | VLCC/ULCC <sup>b</sup>              |      |      |      | Medium-size crude carriers |      |      |      | Small crude and product carriers |      |      |      | Handy-size clean |      |      |      | Handy-size dirty |      |      |      |
|                       | 1997                                | 1998 | 1999 | 2000 | 1997                       | 1998 | 1999 | 2000 | 1997                             | 1998 | 1999 | 2000 | 1997             | 1998 | 1999 | 2000 | 1997             | 1998 | 1999 | 2000 |
| <b>January</b>        | 59                                  | 55   | 62   | 58   | 114                        | 105  | 92   | 116  | 164                              | 142  | 114  | 164  | 256              | 171  | 159  | 189  | 198              | 155  | 164  | 167  |
| <b>February</b>       | 58                                  | 69   | 49   | 70   | 109                        | 97   | 94   | 135  | 156                              | 133  | 137  | 196  | 238              | 176  | 144  | 197  | 201              | 147  | 168  | 186  |
| <b>March</b>          | 62                                  | 72   | 38   | 81   | 120                        | 106  | 89   | 127  | 201                              | 146  | 128  | 177  | 223              | 162  | 158  | 205  | 194              | 161  | 177  | 187  |
| <b>April</b>          | 52                                  | 70   | 41   | 96   | 110                        | 92   | 86   | 136  | 182                              | 122  | 121  | 174  | 214              | 155  | 157  | 210  | 181              | 157  | 210  | 194  |
| <b>May</b>            | 63                                  | 75   | 49   | 101  | 111                        | 98   | 76   | 153  | 183                              | 120  | 124  | 245  | 203              | 152  | 165  | 218  | 203              | 171  | 196  | 261  |
| <b>June</b>           | 64                                  | 74   | 42   | 106  | 107                        | 105  | 74   | 197  | 173                              | 136  | 113  | 266  | 181              | 161  | 159  | 234  | 186              | 167  | 160  | 243  |
| <b>July</b>           | 70                                  | 75   | 41   |      | 100                        | 100  | 73   |      | 160                              | 129  | 108  |      | 176              | 160  | 148  |      | 176              | 168  | 162  |      |
| <b>August</b>         | 83                                  | 60   | 47   |      | 111                        | 89   | 71   |      | 148                              | 120  | 110  |      | 170              | 152  | 151  |      | 180              | 165  | 154  |      |
| <b>September</b>      | 76                                  | 47   | 50   |      | 114                        | 79   | 83   |      | 153                              | 107  | 111  |      | 164              | 151  | 150  |      | 182              | 158  | 142  |      |
| <b>October</b>        | 90                                  | 54   | 45   |      | 115                        | 82   | 91   |      | 167                              | 117  | 106  |      | 150              | 161  | 144  |      | 165              | 147  | 147  |      |
| <b>November</b>       | 74                                  | 49   | 48   |      | 111                        | 88   | 93   |      | 139                              | 120  | 126  |      | 184              | 182  | 148  |      | 180              | 133  | 146  |      |
| <b>December</b>       | 55                                  | 59   | 53   |      | 110                        | 96   | 108  |      | 150                              | 138  | 141  |      | 175              | 166  | 170  |      | 141              | 161  | 154  |      |
| <b>Annual average</b> | 67                                  | 63   | 47   | 85   | 111                        | 95   | 86   | 144  | 165                              | 127  | 120  | 204  | 194              | 162  | 154  | 209  | 182              | 157  | 165  | 206  |

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

<sup>a</sup> Compiled and published by Lloyd's Ship Manager. Worldscale - 100, as effective in each year. For tankers, vessel size groups are as follows: VLCC/ULCC: 150,000 dwt and upwards; medium-sized crude carriers: 60,000 - 150,000 dwt; small crude and product carriers: 30,000 - 60,000 dwt; and handy-size clean and dirty tankers: below 30,000 dwt.

<sup>b</sup> VLCC, very large crude carrier; ULCC, ultra-large crude carrier.

but dropped to the WS 175 level in the following months. Rates remained at this level until the middle of the year. An active seasonal market came to the Caribbean where rates reached as high as WS 240 for 30,000 tons in July, but declined somewhat in August. The Caribbean trades remained flat just below WS 200 for this size through September-November. As usual, towards the end of the year, a temporary increase in demand lifted the rates up to WS 230 for 30,000-ton cargoes destined for the United States East Coast.

#### *Tanker period-charter market*

95. The period time-charter market was directly influenced by the weak spot market, which prevailed throughout the year. Many charterers were reluctant to take period coverage when relatively cheap employment of tankers was available in the spot market. In general in 1999, the period-charter market was therefore less active than observed in previous years. A major operator took three VLCCs for a period of five years at the rate of approximately \$29,500 per day. Activity in the Suezmax sector of the period market was also very limited. Early in the year, a European charterer extended a double-hull Suezmax at a minimum rate and profit-sharing; the minimum rate on this deal was about \$18,000 per day. A Norwegian charterer extended two Suezmaxes with a floor rate as well as \$14,000 per day and a profit sharing above this level. A Venezuelan charterer secured a double-hull Suezmax at \$17,200 per day. Owners of Aframax also experienced poor period chartering activities during 1999. The only positive aspect was that the Aframax period market was more active than other sectors and offered a wider field of choice. A newbuilding double-hull Aframax was chartered by a Norwegian charterer at the beginning of the year at \$15,300 per day for 12 months. As the year approached its end, rates for a double-hull Aframax were closer to \$13,000 per day.

96. The period time-charter market for petroleum products reflected the gloom in the spot market and the flood of newbuilding deliveries. At the beginning of the year, an early 1990s-built 47,000 dwt product carrier obtained \$12,500 per day for a 12-month charter. Since then, the market continued to slide. In May, a 1990s-

built 41,000 dwt product tanker was paid at \$11,000 per day for 12 months. In June, another 1991-built unit was fixed at a relatively higher rate of \$12,600 per day. The July-September period marked the doldrums when period time-charter rates for 30,000 dwt product carriers built in the early 1990s went to around \$10,000 per day for a 12-month charter. Activity for clean, product carriers remained low until December, when eight vessels were chartered with 45,000 dwt class paid at \$12,000 per day and 30,000 dwt class at \$10,500 per day.

#### **D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE**

##### *Trends in global import value and freight costs*

97. International trade involves various services such as production, marketing, transaction and transport, and the related flow of information thereof. In the transport sector, table 41 provides estimates of total freight payments for imports and the percentage of total import value by country groups (see also graph 8). In 1998, the world total value of imports (c.i.f.) decreased by 2.2 per cent, while total freights paid for transport services also declined by 5.6 per cent. Notwithstanding the above, the share of global freight payments in import value further improved to 5.06 per cent from 5.24 per cent in 1997. In 1980 the share of freight costs in import value stood at 6.64 per cent or nearly 30 per cent higher than the average ratio in the 1990s. The regional comparison indicates that freight costs incurred in the imports of developed market-economy countries continue to be nearly half that of developing countries, with the difference between the two groups remaining almost unchanged or tending to widen slightly. For 1998, the total value of imports by developed market-economy countries increased by 1.7 per cent while total freight costs decreased by 0.7 per cent, thus standing at 4.07 per cent (4.17 per cent in 1997) as compared to 8.06 per cent (8.04 per cent in 1997) in developing countries. This was mainly attributable to differences in trade structures, regional infrastructure facilities, distribution systems, and the more influential shipping strategy of shippers of developed market-economy countries.

Table 41

**Estimates of total freight costs for imports in world trade <sup>a</sup> by country groups**  
(millions of dollars)

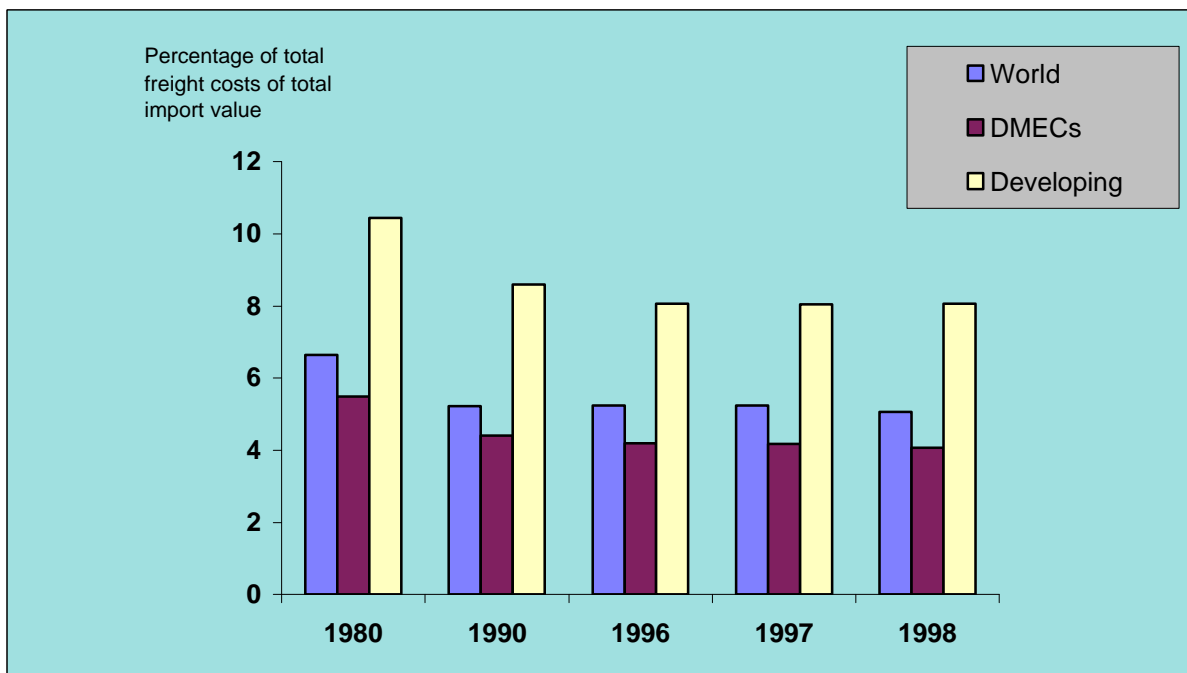
| <b>Year</b> | <b>Country group</b>               | <b>Estimate of total freight costs of imports</b> | <b>Value of imports (c.i.f.)</b> | <b>Freight costs as percentage of import value</b> |
|-------------|------------------------------------|---|----------------------------------|--|
| <b>1980</b> | World total                        | 123 264   | 1 856 834                        | 6.64   |
|             | Developed market-economy countries | 78 286  | 1 425 979                        | 5.49   |
|             | Developing countries C total       | 44 978  | 430 855                          | 10.44  |
|             | <i>of which in:</i>                |   |                                  |  |
|             | 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                            |  |
| <b>1990</b> | World total                        | 173 102   | 3 314 298                        | 5.22   |
|             | Developed market-economy countries | 117 004   | 2 661 650                        | 4.40   |
|             | Developing countries C total       | 56 098  | 652 648                          | 8.60   |
|             | <i>of which in:</i>                |   |                                  |  |
|             | 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                            |  |
| <b>1997</b> | World total                        | 270 868   | 5 166 460                        | 5.24   |
|             | Developed market-economy countries | 155 603   | 3 732 257                        | 4.17   |
|             | Developing countries C total       | 115 265   | 1 434 203                        | 8.04   |
|             | <i>of which in:</i>                |   |                                  |  |
|             | Africa                             | 13 600  | 117 928                          | 11.53  |
|             | America                            | 25 443  | 362 453                          | 7.02   |
|             | Asia                               | 73 558  | 924 765                          | 7.95   |
|             | Europe                             | 1 963   | 23 387                           | 8.39   |
| Oceania     | 701                                | 5 670   | 12.36                            |  |
| <b>1998</b> | World total                        | 255 830   | 5 051 387                        | 5.06   |
|             | Developed market-economy countries | 154 543   | 3 794 696                        | 4.07   |
|             | Developing countries C total       | 101 287   | 1 256 691                        | 8.06   |
|             | <i>of which in:</i>                |   |                                  |  |
|             | Africa                             | 12 861  | 113 236                          | 11.36  |
|             | America                            | 25 274  | 368 251                          | 6.86   |
|             | Asia                               | 60 480  | 745 916                          | 8.11   |
|             | Europe                             | 2 049   | 24 206                           | 8.46   |
| Oceania     | 623                                | 5 082   | 12.26                            |  |

Source: UNCTAD secretariat on the basis of data supplied by IMF.

<sup>a</sup> 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.

Graph 8

**Estimates of total freight costs for imports in world trade by groups**



Source: Table 41.

*Regional trends*

98. Large variations in freight costs ratios were observed among the countries of each of the groups. Among the major trading nations with an import value of more than \$100 billion, in the group of developed market-economy countries Canada, Germany and the United Kingdom incurred lower freight cost ratios in the range of 2.4B2.8 per cent. The United States and France registered moderate ratios of 3.2 per cent in 1998. On the other hand, Japan recorded a ratio as high as 8.1 per cent followed by Italy (6.4 per cent) and Spain (5.6 per cent), in comparison to 4.1 per cent for the developed market-economy countries as a group. The higher ratios of these countries can be attributable primarily to higher distribution costs including involvement of many traders.

99. Total freight costs of developing countries steadily decreased from 8.60 per cent in 1990 to 8.06 per cent in 1998. Within this group, African developing countries, however, continued slowly but steadily on an upward trend in freight costs from 11.05 per cent in 1990 to 11.53 per cent in 1997 and 11.36 per cent in 1998. This trend towards higher ratios mainly reflects 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 of West Africa slightly increased to 13.40 per cent in 1998 while those of Eastern and Southern Africa including the Indian Ocean stood at 13.71 per cent. The ratio of Northern Africa remained almost unchanged at 9.00 per cent, reflecting benefit from a relatively more efficient transport system compared to those of other African subregions. The imports of African landlocked countries continued to suffer from high freight costs, which primarily reflect inefficient transport organization and facilities, poor utilization of assets and weak managerial, procedural, regulatory and institutional systems, apart from inadequate overall infrastructure conditions: the ratio of Malawi remained at 39 per cent, while for Mali and Rwanda the ratio was 30 per cent each, and for Burkina Faso and Chad it was in the range of 21B26 per cent.

100. Developing countries in Asia accounted for nearly 60 per cent of import value in 1998 and also of freight payments of all developing countries as compared to 64 per cent each in 1997. This decline

explained by a remarkable decrease in imports of manufactures from non-Asian countries, owing to the adverse effect of a substantial depreciation in the value of Asian currency. The freight factor of this region has fluctuated around 8 per cent since 1990, standing at 8.11 per cent in 1998, as compared with 7.95 per cent in 1997. The freight factor in West Asia was 8.73 per cent in 1998, with about 13 per cent for Kuwait and the Islamic Republic of Iran as the highest in this subregion. The freight factor in South and East Asia was 7.98 per cent in 1998. The Republic of Korea and Singapore paid freight costs at about 5.5 per cent, the lowest level in this region, whilst India and Indonesia incurred the highest freight costs in the subregion at about 10.5 per cent. Malaysia and Thailand also paid freight costs as high as around 9.5 per cent. These variations in freight factors can be attributed mainly to differences in trade structure and shipping patterns in the liner sector, where countries not covered by main line services tend to be placed at a relative disadvantage.

101. Developing countries in America as a whole continued to pay the cheapest freight costs for their imports of all the developing countries, with a freight factor of 6.86 per cent in 1998 compared to 8.17 per cent in 1990. Within this region, Central America had the lowest freight factor of 5.12 per cent in 1997. This relatively low ratio is largely attributable to the fact that Mexico, the biggest trading nation in the region, had the lowest freight factor of 4.42 per cent, while actually

accounting for 85.6 per cent of the total c.i.f. value of imports of the subregion (37.4 per cent of all American developing countries) and paying 73.9 per cent of the total freight costs of the subregion (24.1 per cent for the whole region) in 1998. The countries of the South American eastern seaboard continued to pay relatively low freight costs at 6.65 per cent. Among these countries, Uruguay benefited from the advantage of direct services, paying as little as 4.5 per cent. Argentina and Brazil followed, paying 6.5 per cent each. The countries of the South American western seaboard registered the rate of 8.88 per cent. Colombia paid the cheapest freights of this subregion at 6.4 per cent, while Peru incurred the highest freight factor of 16.4 per cent. The countries on the northern seaboard continued to pay relatively higher freights at 10.2 per cent. The landlocked countries in the Americas, Bolivia and Paraguay, continued to remain among the high-freight-paying countries in the region with the ratio of 11.0 per cent each, while their freight factor was much lower than those of African landlocked countries.

102. Small island developing countries in the Caribbean and Oceania continued to pay higher freights at 11-12 per cent in 1998. These high costs reflect the high freight rates for ocean transport, which is the most important life-line for island developing countries. The long distances from major trade partners, low cargo volumes, high transshipment and feeder costs also largely contribute to the high levels of freight costs.