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REVIEW OF MARITIME TRANSPORT, 2003

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UNITED NATIONS
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NOTE

The *Review of Maritime Transport* is a recurrent publication prepared by the UNCTAD secretariat since 1968 with the aim of fostering the transparency of maritime markets and analysing relevant developments. Any factual or editorial corrections that may prove necessary based on comments made by Governments would be reflected in a corrigendum to be issued subsequently.

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CONTENTS

LIST OF TABLES, FIGURES AND BOXES

Table *Page*

Figure

Box

ABBREVIATIONS AND EXPLANATORY NOTES

Abbreviations

ACIS	Advance Cargo Information System
APEC	Asia-Pacific Economic Cooperation
BAF	bunkering adjustment factor
c.i.f.	cost, insurance and freight
DMECs	developed market-economy countries
dwt	deadweight tons
ECLAC	Economic Commission for Latin America and the Caribbean
EEC	European Economic Community
EU	European Union
FDI	foreign direct investment
FIO	free in and out
f.o.b.	free on board
GDP	gross domestic product
grt	gross registered tons
IICL	Institute of International Container Lessors
IMF	International Monetary Fund
IMO	International Maritime Organization
IT	information technology
LDC	least developed country
LNG	liquefied natural gas
LPG	liquefied petroleum gas
mbpd	million barrels per day
NAFTA	North American Free Trade Agreement
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
TEU	20-foot equivalent unit
ULCC	ultra-large crude carrier
UNCTAD	United Nations Conference on Trade and Development
VLCC	very large crude carrier
WS	Worldscale
WTO	World Trade Organization

Explanatory notes

- All references to dollars ($) are to United States dollars, unless otherwise stated.
- "Tons" refers to metric tons, unless otherwise stated.
- Because of rounding, details and percentages presented in tables do not necessarily add up to the totals.
- Two dots (..) indicate that data are not available or are not separately reported.
- A hyphen (-) signifies that the amount is nil or less than half the unit used.
- In some tables, the data shown for earlier years have been revised and updated and therefore differ from those shown in previous issues of the *Review*. This relates in particular to the distribution of world tonnage according to country groups, specifically the classification of major open-registry countries. Up to the 1994 edition of the Review, the majority of tables included five countries in this group, namely the Bahamas, Bermuda, Cyprus, Liberia and Panama, while some tables also included Malta and Vanuatu. In 1995, Malta and Vanuatu were included in all tables referring to major open-registry countries. This reclassification primarily affected the share of developing countries in Europe in total world tonnage. In 2003 coverage of open-registry countries has been expanded to cover 12 countries. Separate data for six of them, namely the Bahamas, Bermuda, Cyprus, Liberia, Malta and Panama are indicated while data for the other 6 countries, namely Antigua and Barbuda, the Cayman Islands, Gibraltar, Luxembourg, Saint Vincent and the Grenadines and Vanuatu, are shown together in one group.
- In the tables and the text, the term *countries* refers to countries, territories or areas.

INTRODUCTION

The *Review of Maritime Transport* is an annual publication prepared by the secretariat of the United Nations Conference on Trade and Development. Its purpose is to identify the main developments in world maritime transport and to provide relevant statistical data. It focuses on developments concerning maritime activities in developing countries as compared with other groups of countries. It also highlights the correlation between the development of global trade and maritime transport activities in general. Regional developments in African trade and transport networks are the subject of this year's special chapter.

SUMMARY OF MAIN DEVELOPMENTS

Development of the world economy and seaborne trade

- World output in 2002 grew by 1.9 per cent, recovering from the poor growth of the previous year that only reached 1.2 per cent. The developed market-economy countries experienced growth below the world average at 1.5 per cent, while developing economies recorded 3.3 per cent growth. In 2003, growth in world output is expected to be between 1.9 and 3.2 per cent.

- The volume of world merchandise exports increased by 2.5 per cent, recovering from the contraction of 2001. Exports expanded most in Asia, with growth reaching 13.0 per cent with countries in the Far East taking the lead. Japan's growth reached 8.0 per cent. Economies in transition recorded their fourth consecutive year of positive export volume growth, reaching 8.5 per cent. These economies also recorded a 11.0 per cent increase in imports, while those of developing countries in Latin America contracted by 5.5 per cent. The volume of world merchandise exports would probably continue to rise in 2003, contingent on developments following the implementation of US security measures and health controls to counter the SARS outbreak.

- The total industrial production index of the OECD decreased marginally to 118.1 (1995 = 100) in 2002. The result reflects the uneven industrial activity in the major economies.

- World seaborne trade (goods loaded) rebounded in 2002 reaching 5.88 billion tons. The annual growth rate was modest – 0.8 per cent – and is expected to increase slightly in 2003.

Development of the world fleet

- The world merchant fleet expanded to 844.2 million deadweight tons (dwt) at the end of 2002, a 2.3 per cent increase. Newbuilding deliveries were up by an impressive 8.4 per cent to 49.0 million dwt, and tonnage broken up and lost increased by 9.7 per cent to 30.5 million dwt, leaving a net gain of 18.5 million dwt.

- The fleets of oil tankers and dry bulk carriers together make up 71.6 per cent of the total world fleet. The fleet of oil tankers increased by 6.6 per cent, while the fleet of dry bulk carriers increased by 1.9 per cent. There was a 7.4 per cent increase to 82.8 million dwt in the containership fleet and a 2.1 per cent increase to 19.5 million dwt in the liquefied gas carriers fleet.

- The average age of the world fleet decreased by almost a year to 12.6 years at the end of 2003, with 28.1 per cent of the fleet being 20 years and older. General cargo vessels had the highest average age at 17.0 years, and the container fleet was the youngest at 9.1 years.

- Registration of ships by developed market-economy countries and major open-registry countries accounted for 25.7 and 47.2 per cent of the world fleet respectively. Tonnage in open registries contracted by almost 1 per cent, and two-thirds of this beneficially owned fleet is owned by market economies and developing countries. Developing countries' share of the world fleet was 20.3 per cent, or 171.3 million dwt, of which 126.9 million dwt is registered in Asia.

World fleet productivity and supply and demand

- The main operational productivity indicators for the world fleet – tons carried per dwt and thousands of ton-miles per dwt – decreased to 7.0 and 27.5 respectively. This corresponds to decreases of 1.4 per cent and 1.8 per cent from the figures for 2001.

- World total surplus tonnage increased slightly and at the end of 2002 stood at 21.7 million dwt, or 2.6 per cent of the world merchant fleet. Surplus capacity in the tanker sector increased to 19.1 million dwt, while overcapacity in the dry bulk sector dropped to 2.2 million dwt from 2.9 million dwt in 2001.

Freight markets

- The year 2002 was a mixed one for the tanker market. The overall volume of seaborne crude oil trade contracted by 1.4 per cent, but rates flared up by end of the year owing to the combined effect of the sinking of the *Prestige* and the national strike in Venezuela. The average freight indices for VLCC, medium-size crude carriers and small crude and product carriers decreased by 36.8, 30.0 and 31.4 per cent respectively.

- In 2002, seaborne shipments of the main bulks, particularly iron ore and coal, increased by 1.6 per cent. The improved balance between supply and demand resulted in positive evolution of time and trip-charter indexes, which closed the year up 44.1 per cent and 10.8 per cent respectively.

- By the end of 2002, freight rates on the main containerized routes – trans-Pacific, transatlantic and Asia–Europe – were mixed when compared with the levels that prevailed at the beginning of the year. Rates on the route Asia–Europe fared particularly well, with eastbound rates increasing by 21.5 per cent and those in the opposite direction by 18.5 per cent. Westward rates across the Pacific and the Atlantic increased by 1.7 and 2.9 per cent respectively; however, eastward rates in these routes decreased by 1.3 and 2.6 per cent respectively.

Total freight costs by country groups

- World total freight payments as a proportion of total import value decreased to 6.11 per cent in 2001, down from 6.22 per cent in 2000. The freight factor was 5.12 per cent for developed market-economy countries, compared with 5.21 per cent in 2000, while for developing countries it was 8.70 per cent, down from the 8.88 per cent of 2000. The freight factor for the developing countries in Africa decreased to 12.65 per cent and the factor for developing countries in America increased slightly to 8.57 per cent. For Asian developing countries, the freight factor decreased to 8.35 per cent, while for those in Oceania the factor decreased to 11.70 per cent.

Port development

- World container port traffic expanded by 2.2 per cent over 2000, reaching 236.7 million TEUs. The ports of developing countries and territories handled 96.6 million TEUs, or 40.8 per cent of the total. In 2001 there were 51 developing countries and territories handling more than 100,000 TEU.

Trade and transport efficiency

- Following an Expert Meeting on Efficient Transport and Trade Facilitation to Improve Participation by Developing Countries in International Trade, UNCTAD conducted a survey on the feasibility of an international legal instrument for multimodal transport.

- Production of new freight containers was projected to reach 1.6 million TEU in 2002, an increase of 25 per cent above the level of the previous year. The bulk of the production was the standard dry

freight container, accounting for about 80 per cent of the total. China continued to dominate this activity with a market share of 87 per cent. Prices of containers bottomed out during the first quarter of 2002 and increased by about 17 per cent by the third quarter.

Review of regional developments

- During the last decade the average annual GDP increase for 53 African countries was 3.1 per cent, lower than the 4.7 per cent recorded for developing countries. Annual GDP increases for 47 sub-Saharan countries fluctuated widely from year to year for several reasons, such as natural disasters, domestic or international political instability and fluctuations in prices of main export commodities and these imposed a heavy burden on the 34 LDC existing among them.

- During the period 1990–2001 the value of exports from Africa increased by 33.8 per cent to reach $141.2 billion, while in the same period the value of imports rose by 37.1 per cent to $136 billion. In 2001, sub-Saharan African countries accounted for 44 per cent of African exports and 41 per cent of its imports. Overall the African share in world trade is modest and seems to be decreasing: about 3 per cent of the value of exports and imports in 1990 and around 2.4 per cent in 2001.

- Europe, notably the European Union, is the market for about half of African exports. North America is the destination for a little less than a fifth, which is roughly the same share for Japan and other Asian countries. Middle East, Latin America and intra-African markets account for the balance of African exports – between 10 and 15 per cent.

- Since 2000 the total of goods loaded and unloaded in African ports has fluctuated around 750 million tons per year, with the share of sub-Saharan countries being about a third, namely 250 million tons. Hence, the continent accounts for 6.2 per cent of the worldwide loaded and unloaded cargo, while sub-Saharan Africa accounts for almost 2.1 per cent of that total.

- In 2002 the African merchant fleet, including open registers (i.e. Liberia), accounted for 82,422,000 dwt or 9.8 per cent of world fleet. Without open registers, the fleet was 5,406,000 dwt, equivalent to 3.2 per cent of the fleet of developing countries and 0.6 per cent of the world fleet.

- There is considerable imbalance in the total cargo moved by sub-Saharan countries as loaded goods average 190 million tons per year, while unloaded ones accounted for only 60 million tons. The bulk of loaded cargo, estimated at almost 170 million tons, was crude oil, mostly from Nigeria, Gabon and Angola. Most of the balance was dry bulk cargo such as bauxite from Guinea and iron ore from Mauritania. The remaining tonnage of loaded cargo and fourth-fifths of the total unloaded cargo were general cargo, which increasingly is carried in containers. One-fifth of unloaded cargo was refined petroleum products such as gasoline. Concentration is a feature of container services notably in West Africa, where the number of lines was reduced from 37 in the mid-1980s to 9, with some of these still belonging to the same owner.

- The plight of landlocked sub-Saharan African countries is highlighted by the high cost of road transport along a number of existing corridors. This is due to sub-standard roads, cumbersome border procedures and limited cargo flows. The freight factor for import trades for sub-Saharan African countries in 2001 was 13.84 with this factor reaching 20.69 for landlocked countries. The average factor for all African countries was 12.65 in 2001.

Box 1

Vessel and registry groupings used in the *Review of Maritime Transport*

As in the previous year's *Review*, five vessel groupings have been used throughout most shipping tables in this year's edition. The cut-off point for all tables based on data from Lloyd's Register – Fairplay is 100 gross registered tons (grt), except those tables dealing with ownership, where the cut-off level is 1,000 grt. The groups aggregate 20 principal types of vessel category, as noted below.

Review group	Constituent ship types
Oil tankers	Oil tankers
Bulk carriers	Ore and bulk carriers, ore/bulk/oil carriers
General cargo	Refrigerated cargo, specialized cargo, ro-ro cargo, general cargo (single- and multi-deck), general cargo/passenger
Container ships	Fully cellular
Other ships	Oil/chemical tankers, chemical tankers, other tankers, liquefied gas carriers, passenger ro-ro, passenger, tank barges, general cargo barges, fishing, offshore supply, and all other types
Total all ships	Includes all the above-mentioned vessel types

The following guidelines are offered by Lloyd's Register – Fairplay for the tables in this year's *Review* relating to fleet development.

Former Yugoslavia

Most ships have been allocated to either Croatia (CRT) or Slovenia (SLO), with very few left under Yugoslavia (YUG).

Major open-registry countries

Ships in this group fly the flag of the Bahamas, Bermuda, Cyprus, Liberia, Malta or Panama.

Approximate vessel size groups referred to in the *Review of Maritime Transport*, according to generally used shipping terminology

Crude oil tankers	
ULCC	300,000+ dwt
VLCC	150,000–299,999 dwt
Suezmax	100,000–149,999 dwt
Aframax	50,000– 99,999 dwt
Dry bulk carriers	
Cape-size	80,000 dwt plus
Panamax	50,000–79,999 dwt
Handymax	35,000–49,999 dwt
Handy-size	20,000–34,999 dwt

Source: Lloyd's Register – Fairplay.

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Chapter 1

DEVELOPMENT OF INTERNATIONAL SEABORNE TRADE

The first chapter provides an overview of the demand for global maritime transport services, together with background information on the world economic situation and a review and forecast of developments in world seaborne trade.

A. WORLD ECONOMIC BACKGROUND

1. World output

General

During the year 2002 the growth of world output recovered to 1.9 per cent from the low 1.2 per cent recorded for 2001 (see table 1). However with the exception of the United States, Asia and China, most regions saw their output growth rates continuing to decline.

Growth in developed countries reached a rate of 1.5 per cent, well over the 0.9 per cent of the previous year. This resulted from an eightfold increase in the rate of output growth in the United States to a level of 2.4 per cent that was fuelled by replenishment of run-down inventories and expansion of public consumption. However, the Japanese economy's poor growth saw a further slight decline in relation to 2001, and growth in the European Union slid by a third to 1.0 per cent. The deceleration of economic growth was more pronounced in Italy, where it fell to 0.4 per cent, and Germany, where it fell to 0.2 per cent, but not so great in France and the United Kingdom.

The growth of economic output for developing economies reached 3.3 per cent, well above the world average. The highest growth was seen in some Asian economies, which reached 4.4 per cent. Recovery was particularly strong in East Asia, with the rate of growth increasing almost tenfold in Malaysia and threefold in Thailand and doubling in Singapore and the Republic of Korea. Increases were also recorded in Indonesia and the Philippines, where output growth rose to 3.7 and 4.6 per cent respectively. In South Asia, Pakistan almost doubled its output growth rate to 4.6 per cent, while in India the rate declined to 4.5 per cent - almost 1 per cent down from the previous year. China continued its economic expansion with 8 per cent growth, while Taiwan Province of China, recovered from the contraction of the previous year to reach 3.5 per cent, and Hong Kong (China) almost trebled its rate of growth to 2.4 per cent.

Output growth for African economies in 2002 dropped to 2.9 per cent from 3.4 per cent. Algeria, Côte d'Ivoire, Ghana and South Africa increased their rate of growth, while Cameroon, Egypt, Kenya, Morocco and Nigeria recorded minor declines. Zimbabwe, whose economy has contracted for four consecutive years, recorded a 12.5 per cent drop in 2002. In developing America, economies contracted by 0.8 per cent, mainly because of the financial collapse of Argentina, whose economy has contracted for four consecutive years, with record negative growth of -11 per cent, and its impact in neighbouring countries. Uruguay mirrored Argentina's economic performance, while Brazil managed to maintain the same 1.5 per cent growth as seen the previous year. In Andean countries, economic growth was mixed. Venezuela recorded negative output growth of 8.9 per cent, which reflected the political instability that prevailed for much of the year, while other countries recorded positive output growth. Mexico started to benefit from the US recovery and achieved a modest increase in output of 0.9 per cent.

Table 1

World output growth, 2000–2002

(percentage)

Region/grouping	Average 1990-2000	2000	2001	2002[a]
World	2.2	3.9	1.2	1.9
Developed economies	2.0	3.4	0.9	1.5
of which:				
United States	2.8	3.8	0.3	2.4
Japan	1.1	2.8	0.4	0.3
European Union	1.7	3.5	1.5	1.0
of which:				
Euro area	1.7	3.6	1.4	0.8
Germany	1.6	3.0	0.6	0.2
France	1.4	3.8	1.8	1.2
Italy	1.2	3.1	1.8	0.4
United Kingdom	1.9	3.1	2.1	1.8
Developing economies	4.3	5.5	2.4	3.3
of which:				
Africa	2.2	3.3	3.4	2.9
Latin America	2.9	3.7	0.3	-0.8
Asia	4.4	6.5	1.8	4.4
Economies in transition	-3.0	5.8	4.1	4.0
China	9.3	8.0	7.3	8.0

Source: Calculations by the UNCTAD secretariat based on data in 1995 dollars, as published in UNCTAD (2003), *Trade and Development Report 2003*, United Nations publication, Sales No. E.03.II.D.7, New York and Geneva, table 1.1.

[a] Estimates.

Economies in transition recorded the fourth consecutive year of positive economic growth, at 4 per cent, more than twice the world average. This represented a modest slowdown from the previous two years. The economies of the Russian Federation, Ukraine and Kazakhstan recorded rates of output growth of 4.3, 4.6 and 9.5 per cent respectively. Countries of Eastern Europe, such as Bulgaria, Poland and Slovakia, recorded increased output growth rates of 4.2, 1.3 and 4.4 per cent respectively.

Prospects

Forecasts of world economic output growth for 2003 have been cautiously optimistic, notably after the quick ending of the war in Iraq and in spite of concern caused by the outbreak of SARS in the fastest growing country of the world – China. Forecasts presently range from 1.9 to 3.0 per cent.

2. Merchandise trades

Recent developments in international trade

During 2002 the volume of world exports expanded by 2.5 per cent (see table 2), thereby recovering from the contraction of the previous year. Among developed countries, export volumes decreased in North America by 3.5 per cent, expanded slightly in the European Union by 0.5 per cent and increased by a healthy 8.3 per cent in Japan. Growth of export volumes for developing countries in Asia and Latin America were estimated at 13.0 and 1.8 per cent, respectively. Countries in transition continued their solid export expansion, with a rate of 8.5 per cent. Overall, after recovering from the 2001 contraction during the first quarter of 2002, exports were particularly strong during the second and third quarters but slowed down at the end of the year.

Table 2

Growth in the volume of merchandise trade by geographical region, 2000–2002

(annual percentage change)

Exports				Imports		
2000	2001	2002	Countries/regions	2000	2001	2002
11.9	-1.5	2.5	**World** [a]	11.3	0.9	n.a.
9.9	n.a.	n.a.	**Developed economies** [a]	9.6	0.3	n.a.
			of which:			
9.9	-5.0	-3.5	**North America**	11.3	-3.8	2.0
10.1	1.1	0.5	**European Union (15)**	10.9	0.3	- 0.3
9.2	-5.0	8.3	**Japan**	10.9	0.3	0.8
15.7	0.5	n.a.	**Developing economies** [a]	15.4	0.8	n.a.
			of which:			
7.3	2.5	n.a.	**Africa**	5.4	4.6	n.a.
10.3	2.7	1.8	**Latin America**	11.1	0.5	5.5
14.0	n.a.	n.a.	**Middle East** [b]	14.6	n.a.	n.a.
16.2	-3.7	13.0	**Asia** [c]	15.4	-1.9	12.5
17.9	8.0	8.5	**Economies in transition** [a]	14.0	14.7	11.0
28.3	5.0	n.a.	**China**	33.1	11.3	n.a.

Source: From WTO (2003), *WTO Annual Report, 2003*, chapter II, chart II.4 on page 7, available at www.wto.org; WTO Press Release of 22 April 2003, entitled "World Trade Figures 2002"; and UNCTAD (2003), *Trade and Development Report 2003*, United Nations publications, Sales No. E.03.II.D.7, New York and Geneva, table 1.3.

[a] Excludes significant double counting.

[b] Includes Israel.

[c] Includes Japan, China, Hong Kong (China), Taiwan Province of China and developing countries in the Pacific.

The preliminary figures available for growth in import volumes indicate modest increases for developed countries, notably in North America and Japan, with contraction for European Union countries, probably as a result of currency appreciation during the year. Developing countries in Asia and countries in transition recorded double-digit import growth, while Latin American imports contracted by 5.5 per cent as a result of currency depreciation in several countries.

Trends in imports and exports

For 2003, prospects for exports and imports growth are dependent on recovery in Japan and Europe and the continuing upward trend of North American imports. Elsewhere, trade is expected to adapt progressively to US security requirements and to health controls in the Far East. The increased trade in manufactures from developing to developed countries will also stimulate growth.

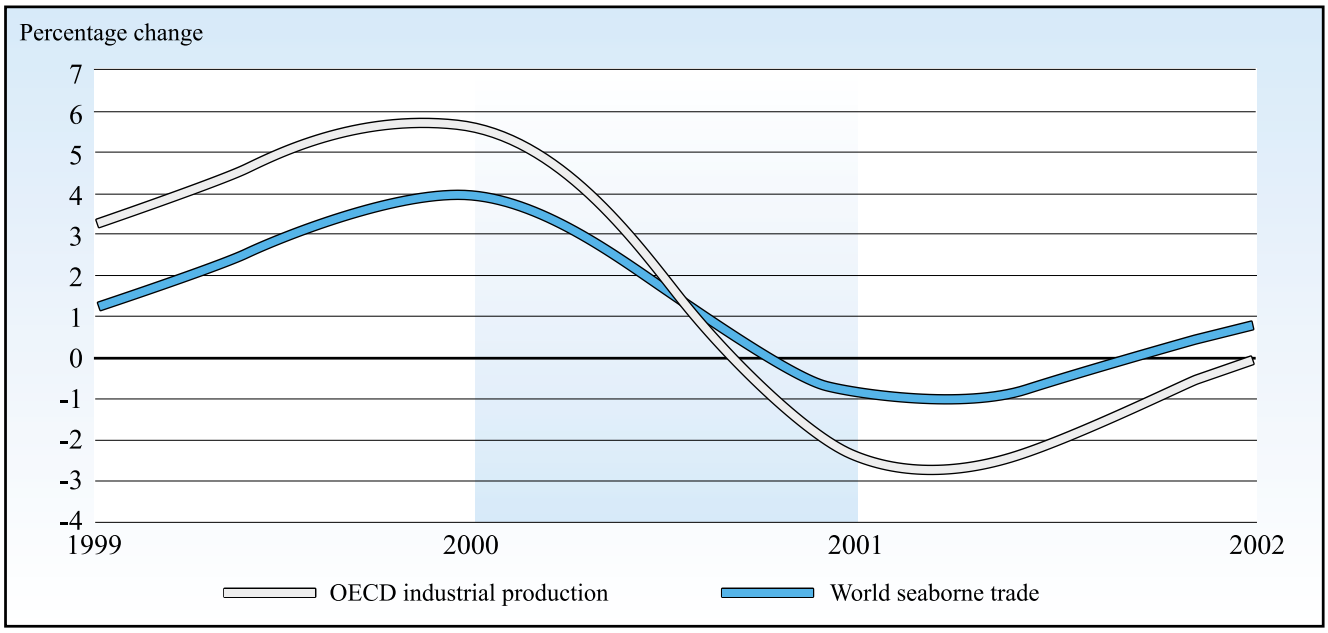
3. OECD countries' industrial output

The industrial production index (1995 = 100) for OECD countries, another fundamental indicator for the global maritime transport sector, averaged 118.1 in 2002, marginally lower than in the previous year but 2.6 per cent lower than the 121.2 average index for 2000 (see figure 1).

The results for 2002 were influenced by the uneven industrial activity in the major economies. In the United States, the index reached 122.4 in the first quarter, then climbed and peaked at 124.7 during the third quarter but slid down to 123.8 during the last quarter; the average index for the year was 0.8 per cent down from the level

Figure 1

Annual change in OECD industrial production and world seaborne trade, 1999–2002



Source: OECD (2002), *Main Economic Indicators*, April.

of 2001. The index for the 15 countries of the European Union followed a similar evolution: it started at 113.7, went up during the following two quarters, peaking at 114.5 during the third quarter, and finally dropped to 113.9 during the fourth quarter. Again, the average index for the year was down by 1 per cent to 114.2. The economic improvement for Japan was much stronger, starting at 93, peaking at 98.6 during the third quarter and sliding back to 97.7 in the last quarter, but the average for the year, at 96.4, was 1.4 per cent down from the level of 2001. The trend was upward in the smaller economies, notably those of Eastern Europe: Hungary started at 177.1 and ended at 182.3, while the Czech Republic started at 126.4 and ended at 132.3. For these two countries, the overall index for 2002 was up by 2.6 per cent and 9.4 per cent respectively. Canada also performed well, starting at 118.8 and ending at 120.7. The OECD outlook for the year 2003 indicates continued strengthening of industrial output.

B. WORLD SEABORNE TRADE

1. Overall seaborne trade

World seaborne trade increased slightly in 2002, reaching 5.88 billion tons of loaded goods. The annual growth rate, calculated using the provisional data available for 2002, reached 0.8 per cent, as shown in table 3 and figure 2.

The breakdown of world seaborne loaded goods by continent was as follows: Africa's share of world exports was 8.8 per cent, while America's reached 21.2 per cent. Asia had by far the largest share of the world tonnage of seaborne loaded goods – 37 per cent. Europe's share was the second largest, at 25.4 per cent, while Oceania's was the smallest, representing only 7.6 per cent of the total. The breakdown for selected trading blocks was as follows: European Union (EU) – 17.8 per cent; Gulf Cooperation Council (GCC) – 12.5 per cent; North America Free Trade Association (NAFTA) – 10.2 per cent; Association of South East Asian Nations (ASEAN) – 7 per cent; South Common Market (MERCOSUR) – 5.2 per cent; and Common Market of Eastern and Southern Africa (COMESA) – 1.6 per cent.

Forecasts for 2003 indicate that annual growth rates will probably be positive but modest, while the distribution of world tonnage by continent is expected to fluctuate marginally.

Table 3

Development of international seaborne trade, selected years[a]

(goods loaded)

Year	Tanker cargo		Dry cargo				Total (all goods)	
			Total		*of which* main bulk commodities [b]			
	million tons	% change	million tons	% change	million tons	% change	million tons	% change
1970	1 442		1 124		448		2 566	
1980	1 871		1 833		796		3 704	
1990	1 755		2 253		968		4 008	
1998	2 084		3 532		1 170		5 616	
1999	2 073	-0.5	3 593	1.7	1 196	2.2	5 666	0.9
2000	2 167	4.6	3 703	3.1	1 288	7.7	5 871	3.6
2001	2 170	0.1	3 670	-0.9	1 331	3.3	5 840	-0.5
2002[c]	2 140	-1.4	3 748	2.1	1 352	1.6	5 888	0.8

Source: Estimated by the UNCTAD secretariat on the basis of Annex II and data supplied by specialized sources.

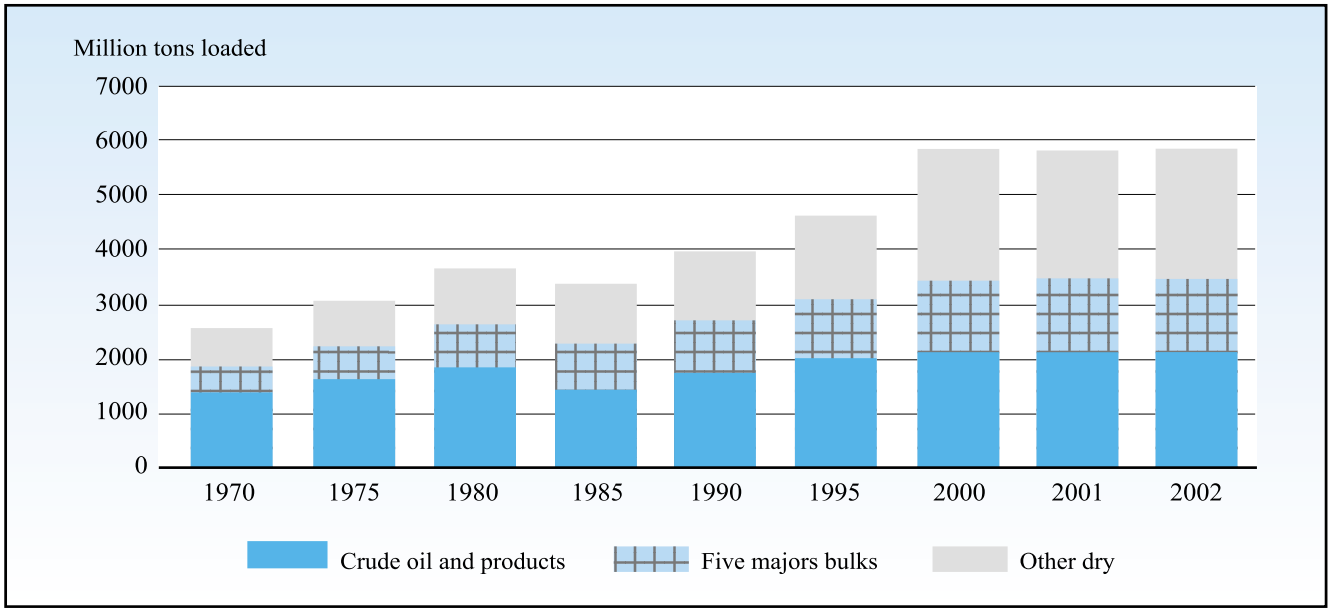
[a] Includes international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system.

[b] Iron ore, grain, coal, bauxite/alumina and phosphate.

[c] Estimates.

Figure 2

International seaborne trade for selected years



Source: *Review of Maritime Transport*, various issues.

2. Seaborne trade in tankers

General developments

In 2002 total world shipments of tanker cargoes amounted to 2.14 billion tons, a contraction of 1.4 per cent from the previous year. About 76.8 per cent of this tanker trade was in crude oil, with the remainder as petroleum products. The share of tanker shipments in overall world seaborne trade remained unchanged at 36.1 per cent.

Crude oil production

In 2001 crude oil production[1] averaged 74.5 million barrels per day (mbpd), the same as the previous year. Oil production in OECD countries, notably the United States, Mexico, Norway and oil-producing countries within the EU, remained at 21.5 mbpd, and this group therefore kept its market share of 28.8 per cent.

Following oil production cuts of 3.5 mbpd agreed in 2001, OPEC countries actually decreased their production by 2.3 per cent to 30.1 mbpd. Accordingly, their market share decreased by 1 per cent to reach 40.5 per cent of world oil production. The remaining oil-producing countries, namely the Russian Federation, China, Brazil and a number of small producers, raised their average production by 3.5 per cent to 22.9 mbpd. These countries therefore increased their market share to 30.7 per cent, an increase of 1 per cent over their share the previous year.

Among OECD major producers, US production reached 7.7 mbpd (the corresponding market share was 10.4 per cent), while that of Mexico was 3.6 mbpd (4.8 per cent). US production remained steady, with new drillings in Alaska and the Gulf of Mexico still awaiting approval as a result of environmental concerns. BP decided to invest $15 billion to increase production in the Gulf of Mexico. Mexico's production expanded by 3.1 per cent in 2001, and forecasts of an increase in production of up to 25 per cent were reinforced by PEMEX's decision in 2002 to invest $4.3 billion in Campeche Sound. Norway produced 3.4 mbpd (4.6 per cent), on a par with the European Union countries' 3.3 mbpd (4.4 per cent). Among these countries, the United Kingdom maintained the lion's share, with 2.5 mbpd (3.4 per cent), in spite of a production decline of 5.9 per cent. To overcome a further loss of output, the Ministry of Energy implemented shorter investments deadlines in 2002 for existing and new concessions.

During 2001, oil output of the major OPEC producers – Saudi Arabia and Iran – declined by 4.1 and 2.2 per cent to reach 8.8 mbpd and 3.7 mbpd respectively. Their market shares were 11.8 and 4.9 per cent, followed closely by Venezuela with 4.6 per cent. The latter actually raised production by 2.9 per cent to 3.4 mbpd. Other OPEC countries cut production marginally, while other oil-producing countries raised production. The Russian Federation increased production by 8 per cent to 7.1 mbpd (corresponding to a 9.5 per cent market share). Brazilian production increased by 5.4 per cent to 1.3 mbpd (1.8 per cent), and future prospects were bright with the discovery of a large offshore field in 2002. Chinese production increased by 1.2 per cent to 3.3 mbpd (4.4 per cent).

Crude oil production levels for 2002 are contingent on the performance of the additional 1.5 mbpd production cut agreed by OPEC members at the end of 2001 and the evolution of prices. Efforts were made by OPEC members to comply with their quotas in order to boost prices, and the production cut was renewed until the end of 2002. Other major producers such as the Russian Federation, Norway and Mexico were initially committed to voluntary export ceilings to match the OPEC production cut. However, by mid-year it was apparent that neither quotas nor export ceilings were being followed, and the Russian Federation and Norway announced their decision to raise output. Other events affecting oil production levels were the continuation of the "oil for food programme" in Iraq, approved by the UN Security Council in May 2002, the filling of the US strategic oil reserve at a rate of 0.1 mbpd using royalty-in-kind contributions; and the plan by the EU to enlarge its minimum oil stock from 90 to 120 days' requirements.

Prices evolved favourably during the year. The OPEC basket of seven crude oil prices increased by about 30 per cent over the year and in October briefly surpassed the $28 per barrel mark. However, in December, when several weeks of strikes in Venezuela resulted in oil output losses of about 2.5 mbpd and the likelihood of war in Iraq increased, prices flared up to over $30 per barrel. Consequently, in mid-January 2003, OPEC decided to increase output quotas by 1.5 mbpd to maintain prices within the target band. By the end of that month, Venezuelan production seemed to be recovering slowly and output reached 0.5 mbpd. Overall, and given the economic slowdown in major consumer countries, it is expected that world oil production levels for 2002 will record a modest increase.

Refinery developments

World refineries' throughput reached 70 mbpd in 2001, an increase of 1 per cent from the previous year. The major refining centres in the United States and Europe reduced throughputs by 0.1 per cent and together accounted for 42.7 per cent of world throughput – a decrease of 0.7 per cent from the previous year's share. In the United States output remained flat into early 2002. The merger of Conoco and Phillips Petroleum created the largest refiner in the country. Japanese refinery output decreased slightly and accounted for 5.9 per cent of world refinery throughput. Production in the Russian Federation increased by a substantial 6.5 per cent to 4.9 mbpd, equivalent to a market share of 7 per cent. Yukos, one of the largest oil companies, purchased a refinery in Lithuania, and other Russian oil companies were reported to be interested in purchasing refineries in EU countries. Chinese refineries kept output steady at 4.2 mbpd, but output is likely to grow in the future with the $3 billion joint investment announced with Saudi Arabia Oil Co and ExxonMobil. Refineries located elsewhere in the Asia-Pacific region raised output by 2.2 per cent to 9.1 mbpd.

During the first quarter of 2003, Singaporean refineries were running at more than 80 per cent capacity and raised prices as shipments from Asia to the United States increased to replenish low inventories of petroleum products, with crude oil inventories at their lowest levels since 1975.

Natural gas production

In 2001 production of natural gas reached 2,464 billion cubic meters (bcm)[2], representing a 1.7 per cent increase from the 2000 level and about half the rate of growth achieved the previous year, which finally was 3.5 per cent. This production is equivalent to 2,217.7 million tons of oil or 46.1 mbpd. Major producers are the United States, with 555.4 bcm, and the Russian Federation, with 542.4 bcm, which together accounted for 44.5 per cent of total production. Lesser producers are Canada, with 172 bcm, the United Kingdom, with 105.8 bcm, Algeria, with 78.2 bcm, Indonesia, with 62.9 bcm, and the Islamic Republic of Iran, with 60.6 bcm. Other producers are scattered in the Middle East, Latin America and Asia where natural gas occurs as a result of oil production. Only 22.5 per cent of natural gas production is exported, mainly by pipelines, which carry around three-quarters of all exports.

Increasing natural gas production seems to be assured in the medium term, as growing demand in the United States and Europe and new demand in China and the Dominican Republic will more than offset the reduced Japanese demand. In the meantime the Republic of Korea is considering stockpiling LNG and removing the monopoly of the national gas company to import gas. Algeria is reorganizing Sonatrach so that it can take a more active national and international role in exploration and production. Expansion of production in Nigeria and Trinidad was commissioned in 2002, and plans for further increases in these countries were also accelerated. For instance BHP Billiton announced investment of $327 million to produce gas offshore from Trinidad. New developments are at different stages of implementation in Bolivia, Egypt and Peru and off the northern coast of Australia, where production benefits would be shared with the new State of East Timor.

Crude oil shipments

Crude oil seaborne shipments decreased by 1.7 per cent to 1.64 billion tons in 2002 (see table 4). Major loading areas continued to be the developing countries in Western Asia, with 897.9 million tons, in West Africa, with 164.5 million tons, in North Africa, with 124.9 million tons, and around the Caribbean, with 221.4 million tons. Main discharging areas were located in developed market-economy countries in North America, with 463.2 million tons, in Europe, with 425.4 million tons, and in Japan, with 213.0 million tons. Developing countries in South and East Asia took 308.5 million tons during 2002.

The influx of crude oil from the five countries around the Caspian Sea (Azerbaijan, the Islamic Republic of Iran, Kazakhstan, the Russian Federation, and Turkmenistan) is progressively shaping new trade flows. Although these countries failed to agree on a comprehensive allocation of sea-based resources in April 2002, oil production continues unhindered on the basis of bilateral deals such as those reached between Russia and Kazakhstan one month later. Deliveries of Russian crude oil to northern Iranian refineries are balanced by Iranian exports through ports of the Gulf. A trilateral agreement between Bulgaria, Greece and Russia would pave the way for a pipeline from the Bulgarian Black Sea port of Bourgas to Alexandropoulis (Greece). This pipeline would complement a shuttle tanker service across the Black Sea and allow the loading of VLCCs in the Mediterranean Sea without any need to cross the Bosphorus Strait. Large tankers would also be loading

Table 4

World seaborne trade [a] in 1970, 1980, 1990, 1998–2002, by types of cargo and country groups [b]

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
		Trade in millions of tons							
World total									
	1970	1 109	232	1 162	2 504	1 101	298	1 131	2 529
	1980	1 527	344	1 833	3 704	1 530	326	1 823	3 679
	1990	1 287	468	2 253	4 008	1 315	466	2 365	4 126
	1998	1 581	503	3 532	5 616	1 539	543	3 695	5 777
	1999	1 577	496	3 593	5 666	1 552	546	3 762	5 860
	2000	1 669	498	3 703	5 870	1 720	551	3 971	6 242
	2001	1 672	497	3 670	5 840	1 703	553	3 865	6 121
	2002	1 643	497	3 748	5 888	1 683	548	3 907	6 137
		Percentage share of trade by country groups							
World total	1970	42.6	12.7	44.7	100.0	43.5	11.9	44.6	100.0
	1980	41.2	9.3	49.5	100.0	41.6	8.9	49.5	100.0
	1990	32.1	11.7	56.2	100.0	31.9	10.8	57.3	100.0
	1998	28.2	9.0	62.9	100.0	26.6	9.4	64.0	100.0
	1999	27.8	8.8	63.4	100.0	26.5	9.3	64.2	100.0
	2000	28.4	8.5	63.1	100.0	27.6	8.8	63.6	100.0
	2001	28.6	8.5	62.9	100.0	27.8	9.0	63.1	100.0
	2002	27.9	8.4	63.7	100.0	27.4	8.9	63.7	100.0
DMECs	1970	2.0	27.1	60.0	31.1	80.4	79.6	79.1	79.9
	1980	6.3	25.5	64.7	37.0	72.0	79.5	67.8	70.5
	1990	13.4	32.6	63.4	43.8	72.5	81.4	61.7	67.3
	1998	5.3	22.0	61.8	42.3	72.2	51.4	64.9	65.5
	1999	5.4	21.6	59.9	41.4	71.5	50.8	62.1	63.5
	2000	5.1	22.2	60.2	41.3	68.6	51.1	60.4	61.8
	2001	5.3	21.7	59.0	40.4	68.9	50.5	59.4	61.2
	2002	5.5	21.7	58.2	40.4	68.3	50.2	58.2	60.3
Central and Eastern Europe [d]									
	1970	3.4	8.0	6.9	5.6	1.2	1.0	3.8	2.3
	1980	3.6	14.6	5.2	5.4	2.3	0.4	6.0	4.0
	1990	4.6	11.8	3.8	5.0	2.6	0.3	5.8	4.1
	1998	2.7	2.9	4.3	3.7	1.3	0.4	1.5	1.3
	1999	3.8	4.8	5.1	4.7	1.6	0.4	1.3	1.3
	2000	5.5	8.9	4.2	5.0	0.5	0.4	1.9	1.4
	2001	5.5	8.1	4.2	4.9	0.5	0.7	2.0	1.4
	2002	5.6	8.4	4.4	5.1	0.6	0.5	2.0	1.5

Table 4 (continued)

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
		Percentage share of trade by country groups							
Socialist countries of Asia [e]									
	1970	-	-	1.2	0.5	0.5	0.1	2.0	1.2
	1980	1.4	1.7	1.0	1.2	1.4	1.6	4.0	2.7
	1990	2.7	0.9	2.0	2.0	0.3	0.3	3.4	2.1
	1998	1.5	1.3	4.3	3.2	1.9	6.4	4.7	4.1
	1999	1.1	1.2	5.5	3.9	2.4	4.7	5.8	4.8
	2000	1.0	1.1	6.8	4.6	4.1	4.0	7.3	6.1
	2001	1.0	1.1	7.3	5.0	3.6	4.8	8.1	6.6
	2002	1.1	1.2	7.5	5.1	3.8	5.1	8.4	6.8
Developing countries									
	1970	94.6	64.9	31.9	62.8	17.9	19.4	15.1	16.6
	1980	88.7	58.2	29.0	56.3	24.3	18.5	22.3	22.8
	1990	79.6	54.7	30.8	49.2	24.6	18.0	29.1	26.5
	1998	90.5	73.8	29.6	50.7	24.6	41.8	29.0	29.0
	1999	89.7	72.4	29.6	50.0	24.6	44.1	30.8	30.4
	2000	88.3	67.8	28.9	49.1	26.9	44.5	30.4	30.7
	2001	88.2	69.1	29.6	49.7	27.1	43.9	30.5	30.8
	2002	87.9	68.6	29.9	49.4	27.4	44.2	31.4	31.4
of which:									
Africa	1970	25.5	2.4	9.1	15.2	1.7	4.7	3.6	2.9
	1980	19.0	1.5	5.6	10.8	4.0	2.9	4.7	4.2
	1990	24.1	7.6	4.3	11.2	5.6	2.3	4.3	4.5
	1998	17.5	7.7	2.2	7.0	0.9	2.7	3.6	2.8
	1999	17.6	7.9	2.1	6.9	1.0	3.1	3.7	3.0
	2000	18.2	7.0	1.5	6.7	3.2	3.4	3.1	3.2
	2001	17.5	7.1	1.6	6.6	3.0	3.4	3.3	3.2
	2002	17.6	7.0	1.5	6.5	2.9	3.4	3.2	3.2
Americas	1970	12.2	35.4	13.8	16.0	10.5	5.6	4.4	7.2
	1980	12.4	28.4	13.2	14.3	13.3	4.9	5.4	8.7
	1990	13.3	11.9	13.2	13.1	5.7	3.8	4.0	4.5
	1998	15.9	18.4	10.9	13.0	5.9	11.7	4.8	5.8
	1999	16.1	18.8	10.9	13.1	5.6	11.5	4.6	5.5
	2000	15.2	18.8	10.8	12.7	5.1	11.2	5.3	5.8
	2001	15.3	19.0	11.2	13.0	5.2	10.9	5.1	5.7
	2002	15.4	18.9	11.0	12.9	5.3	10.4	5.2	5.7

Table 4 (continued)

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
		Percentage share of trade by country groups							
Asia	1970	56.9	27.0	8.1	31.3	5.5	8.5	6.7	6.4
	1980	57.3	28.1	9.7	31.0	6.9	9.8	12.0	9.7
	1990	42.2	34.9	12.6	24.7	12.6	10.9	19.9	16.6
	1998	56.8	47.3	16.0	30.3	17.5	26.0	20.2	20.0
	1999	55.7	45.3	16.1	29.7	17.6	28.1	22.0	21.4
	2000	54.7	41.6	16.0	29.2	18.2	28.5	21.6	21.2
	2001	55.2	42.5	16.4	29.7	18.5	28.2	21.7	21.4
	2002	54.6	42.3	17.0	29.6	18.7	28.9	22.6	22.1
Europe	1970	-	-	-	-	-	0.1	0.1	-
	1980	-	-	-	-	-	0.2	-	-
	1990	-	0.2	0.3	0.2	0.7	0.5	0.8	0.7
	1998	0.0	0.4	0.4	0.3	0.4	0.4	0.3	0.3
	1999	0.0	0.4	0.4	0.3	0.4	0.4	0.3	0.3
	2000	0.0	0.4	0.4	0.3	0.4	0.4	0.3	0.3
	2001	0.0	0.4	0.4	0.3	0.4	0.4	0.3	0.3
	2002	0.0	0.5	0.4	0.3	0.4	0.4	0.3	0.3
Oceania	1970	-	0.1	0.8	0.4	-	0.5	0.3	0.2
	1980	-	0.2	0.5	0.2	0.1	0.7	0.2	0.2
	1990	-	0.1	0.4	0.2	-	0.5	0.1	0.2
	1998	0.2	0.0	0.1	0.1	0.0	1.1	0.1	0.2
	1999	0.2	0.0	0.1	0.1	0.0	1.1	0.1	0.2
	2000	0.2	0.0	0.1	0.1	0.0	1.1	0.1	0.2
	2001	0.2	0.0	0.1	0.1	0.0	1.1	0.1	0.2
	2002	0.2	0.0	0.1	0.1	0.0	1.1	0.1	0.2

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by reporting countries and other specialized sources.

[a] Includes international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system.

[b] See Annex I for the composition of these groups, and note d thereto regarding the recording of trade of landlocked countries. Since 1986, Yugoslavia, previously included among the "developed market-economy countries", has been included in the group of "developing countries in Europe".

[c] Includes liquefied natural gas (LNG), liquefied petroleum gas (LPG), naphtha, gasoline, jet fuel, kerosene, light oil, heavy fuel oil and others.

[d] Includes the former Soviet Union in data for 1970 and 1980.

[e] Estimates.

from the Croatian port of Omisalj as a result of an agreement reached by pipeline companies in Ukraine, Hungary, Slovakia and Croatia. In September, work started on the 1800-kilometre-long Baku-Ceyhan pipeline that will bring Azeri crude oil to the Turkish coast in the Mediterranean Sea within three years.

There were also significant developments in northern Russia. The commissioning of the new deepwater port of Primorsk allowed crude oil shipping in the Baltic Sea, and trial shipments from ice-free Murmansk, in the Barents Sea, were made later in the year. In this case river/sea tankers transport crude oil to the port of Vitino, on the White Sea, from where it is shipped in handy-size tankers to Murmansk harbour and then transhipped directly to Aframax tankers for destinations in North America.

Elsewhere, Petrobras, the Brazilian oil company, announced that for the first time exports had exceeded imports. The discovery of oil in the Campos Basin, off the coast of Espiritu Santo, might make this trend permanent. By the end of 2002, temporary increases in crude oil flows from West Africa and the Mediterranean to North America had boosted tanker demand, since these shipments resulted from interruption of shipments from Venezuela. Venezuelan shipments were expected to revert to normal within the course of 2003. Early in 2003, the Philippines announced the setting up of a 30-day oil stockpile.

Petroleum product shipments

Global trade in petroleum products was steady in 2002 at 496.8 million tons. The pattern and volume of shipments were similar to those of past years, with temporary fluctuations due to several reasons. In the fourth quarter of 2002, the disruption in a nuclear power plant in Japan increased the shipments of fuel oil to the country. By the end of the year, the two-month strike afflicting Venezuelan oil production severely curtailed output of refineries in the Caribbean, and gasoline was hauled from Northern Europe and the Mediterranean to US destinations. Increased Russian exports of products from the Baltic Sea involved clean products shipped to European destinations and heavy oil shipped to destinations outside the continent.

LNG shipments

LNG shipments increased by 4.4 per cent during 2001 to reach 143 bcm of natural gas, representing about 5.8 per cent of world production. The largest importing area is the Far East, where major importers continued to be Japan, with 74.1 bcm, and the Republic of Korea, with 21.8 bcm. Supplies came from Indonesia (31.8 bcm), Malaysia (20.9 bcm), Qatar (15 bcm) and Australia (10.2 bcm). The share of smaller suppliers from the Gulf is poised to grow, as Oman has joined with MOL to build an LNG merchant fleet to carry its LNG exports and Iran is seeking to supply China, whose 2002 imports increased by 28 per cent, with Saudi Arabia being the largest supplier.

Across the Mediterranean, the majority of Algerian exports (25.5 bcm) went to France – 9.8 bcm, and to Spain – 5.2 bcm. Nigeria supplied the European market with 6.8 bcm and the United States with 1 bcm. The largest share of the 3.6 bcm of exports from Trinidad went to the United States market. This market also takes almost 1 bcm from the Middle East (Qatar and Oman). For 2002, the number of shipments to the US market will increase, as the four discharging terminals in the country are now in operation and under expansion.

3. Dry cargo shipments

General developments

In 2002, overall dry cargo shipments increased by 2.1 per cent, reaching 3.75 billion tons (see table 3). The five dry-bulk trades, namely iron ore, coal, grains, bauxite/alumina and rock phosphate, recorded 1.6 per cent growth to reach 1.35 billion tons. The remaining dry cargo trades, minor bulks and liner cargoes, increased by 2.4 per cent to 2.40 billion tons. The share of dry cargo shipments in world seaborne trade was 63.6 per cent of total goods loaded during the year.

World crude steel production

World crude steel production in 2002 increased by a record 6.4 per cent to reach 886.7 million tons, compared with 833.8 million tons in 2001. Regional and country increases were dissimilar. Countries part of the North America Free Trade Agreement (NAFTA) raised production by 3.3 per cent to reach 122.6 million tons, compared with 118.7 million tons in 2001. In countries of the European Union, production increased only marginally, by 0.1 per cent, to reach 158.7 million tons. Japan increased production by 4.7 per cent to reach 107.7 million tons, while growth of production in South American countries was almost double at 9.1 per cent, with production rising to 40.8 million tons. Within these

countries, performance was also dissimilar: Paraguayan production increased by 20.8 per cent, but Peruvian production contracted by 20.8 per cent. The 4.8 per cent increase in steel production in Oceania to a level of 8.2 million tons was attributable to Australia, since New Zealand output contracted by 5.6 per cent. Countries of the Community of Independent States (ex-Soviet Union) raised their production by 1.8 million tons to reach 99.9 million tons. Major expansion of steel production was achieved in China, with an increase of 20.3 per cent to a level of 181.6 million tons. Countries in Africa also raised production by 5.7 per cent to 14.6 million tons, but this result hides the significant contraction of production in Tunisia and Zimbabwe – by 14.6 and 28.9 per cent respectively. Countries in the Middle East also performed well, with production up by 6.1 per cent to 11.9 million tons: the largest producers – the Islamic Republic of Iran and Saudi Arabia – achieved increases of 5.9 and 4.2 per cent respectively.

In the same year, world pig iron production, another useful indicator for predicting dry bulk trades, increased by a healthy 5.5 per cent to 605.9 million tons, compared to a final figure for the previous year of 574.3 million tons. Production of direct reduced iron, which requires iron ore and gas, also went up by 5.7 per cent to 31.7 million tons.

World steel consumption

Estimated apparent steel consumption for 2002 was 783.6 million tons, 2 per cent above the 2001 level. The main increase was in China, where it rose by 7 per cent to 182 million tons. Consumption in Eastern Europe increased by 3.8 per cent to 36 million tons and in South America and NAFTA by 2.4 and 1.5 per cent to reach 29 and 132 million tons respectively. Elsewhere demand contracted – by 1.5 per cent in the European Union to 140 million tons, and by 0.2 per cent in Africa to 15 million tons.

The imbalance between production and consumption led to the imposition of duties on certain types of steel in some countries to discourage imports. The United States imposed tariffs of up to 30 per cent on certain grades of imported steel in March 2002. China imposed a 26 per cent emergency tariff on nine types of foreign steel for six months in May 2002 and then renewed it. By the end of the year, however, US imports had surged by 8 per cent. The OECD convened a high-level meeting on steel in December and decisions related to the monitoring of excess production were adopted and work started on the elements for an agreement to reduce or eliminate subsidies. Consolidation of producers in the United States, such as the proposed $1.5 billion bid of the International Steel Group to purchase Bethlehem Steel and the $0.75 billion bid of US Steel to acquire National Steel Corp., is the industry's response to overcapacity. A similar process was observed in Japan with the capital alliance of Nippon Steel, Sumitomo Metal and Kobe Steel. However, consolidation was not always feasible, as the failed $4 billion attempt of the British steelmaker, Corus, to buy CSN of Brazil shows.

Iron ore shipments

The booming production of steel was reflected in the 5.1 per cent increase in iron ore shipments during 2002, for a total of 475 million tons. Brazil and Australia, which account for about two-thirds of world exports, recorded growth of 3.6 per cent and a contraction of less than 1 per cent respectively. Similarly, India and South Africa, which together account for 11.4 per cent of world exports, recorded an expansion of 4 per cent and a contraction of 3.6 per cent respectively. Exports from Canada and Sweden maintained the levels of the previous year and accounted for 6.4 per cent of world exports. About two-thirds of world imports went to the Far East, with Japanese and Chinese imports accounting for three-quarters of this share. The 4 per cent growth of Japanese imports of iron ore in 2002 was overshadowed by the 19 per cent growth of Chinese imports, with India satisfying the increase in demand. EU countries' imports of iron ore represent about one-quarter of world imports, and in 2002 they increased by 4.6 per cent. Imports into the Middle East, the Americas and Africa were mostly steady. Forecasts for 2003 are good, based on assumptions about continuing Chinese demand and a rebound of the United States economy. The consolidation of United States steelmakers and the outcome of the OECD process to reduce excess capacity will have a limited impact on shipments.

Coal shipments

Coal shipments increased by 1.8 per cent in 2002 and reached an all-time record of 575 million tons. As in previous years, thermal coal made up 70 per cent of world coal trade, and in 2002 shipments grew at a rate of 3.7 per cent to reach 403 million tons. Shipments of coking coal have remained static over the years.

Australia, by far the largest exporter of thermal and coking coal in equal amounts, again accounted for slightly more than one-third of world shipments. Over the first 10 months of 2002 it increased exports by 3 per cent to 167.2 million tons. Total shipments for the year are estimated at 204 million tons. For the same ten-month period of 2002, shipments from the United States and Canada, which are mainly exporters of coking coal, contracted by 26 and 16 per cent respectively. China, Indonesia and South Africa, mainly exporters of thermal coal, accounted for about 33 per cent of world exports. China reduced its exports in the first 10 months of 2002 by about 5 per cent to 68.4 million tons. Similarly, coal exports from South Africa contracted by 11 per cent to 38.4 million tons in the period January to August 2002. Indonesia, however, increased exports by 6 per cent to 33.4 million tons for the first half of 2002.

The main importers were countries of the EU and Japan, with about 28 per cent of world imports each. The share of thermal coal in their imports varies from three-quarters of the total for EU countries to about 60 per cent for Japan. Other importers are the Republic of Korea and Taiwan, Province of China, with 12 per cent each.

Medium-term prospects for this trade will depend on prices of thermal coal as affected by deregulation of energy markets in Europe and environmental standards. Coking coal is used in the blast furnace method of steel production that currently accounts for about 60 per cent of steelmaking and will continue to be the prevalent method of production; demand for coking coal is therefore expected to remain steady.

Grain shipments

World grain shipments reached 220 million tons in 2002, a decrease of 6 per cent from the previous year's 234 million tons, almost equally split between wheat and coarse grains, such as maize, barley, soybeans, sorghum, oats and rye. In 2001, the main loading areas were North America, which accounted for about 53 per cent of world exports, and the east coast of South America, with almost 22 per cent. Australia and the European Union accounted for about 8 and 5 per cent respectively. In 2002, the largest exporter, the United States, reduced shipments over nine months to 58.3 million tons, a decrease of 5 per cent in relation to the same period of the previous year, when total exports reached 61.5 million tons. Over the same period, only Australia recorded an increase of 6 per cent for wheat shipments, while other exporters such as Canada, Argentina and the European Union reduced wheat shipments by 20, 18 and 14 per cent respectively. Elsewhere, a bumper crop in Ukraine and Russia found a market in the EU countries, partly due to a zero import duty. Other exports went to Middle East countries, whose import needs were up by 2.8 per cent. Since late-summer 2002, wheat has moved from the Black Sea at a rate of almost 2 million tons per month, boosting employment of Panamax tonnage.

Other bulk shipments

During 2002 shipments of bauxite and alumina, the primary inputs for the aluminium industry, are estimated to have increased by 3.9 per cent to reach 53 million tons. Final figures for 2001 indicate that bauxite shipments from West Africa, almost half of the world total, decreased by 3.8 per cent to 13.5 million tons, while exports from Jamaica surged by 75.6 per cent to reach 3.7 million tons, with all shipments going to the United States market. EU countries and some Eastern European countries account for 54 per cent of world bauxite imports and are supplied from West Africa, while the United States market accounted for 37.4 per cent. The alumina trade reached 21.9 million tons in 2001, a decrease of 3.1 per cent from the previous year. Australia, the leading exporter with a market share of 43 per cent, supplied mainly countries in East and South-East Asia, while Jamaica, accounting for 16.2 per cent of world shipments, supplied Europe and North America. During 2001, production of primary aluminium products also dropped by 3.0 per cent to 20.6 million tons. The contraction in production was acute in North America, where it fell by 13.6 per cent, and in Latin America, where it fell by 8.1 per cent. Asia and Western Europe held steady, while increases were recorded in South Africa (16.2 per cent), Oceania (1.3 per cent), and Russia and Eastern Europe (1.0 per cent).

Shipments of rock phosphate stood at 29 million tons in 2002, almost the same level as the previous year. The major exporter, accounting for about one-third of world exports, continued to be Morocco, which shipped about 10.9 million tons. Other traditional exporters were Jordan, with 3.6 million tons, and Togo with 1.1 million tons. China maintained is exports close to 5 million tons. The European Union and other Asian countries were major importers.

The minor dry bulks, a heterogeneous mix of merchandise, are believed to have reached 835 million tons in 2002, the same as recent estimates released for

the previous year. Shipments of steel and forest products are estimated to be close to 350 million tons, with the trade of the former increasing by 1.6 per cent and that of the latter contracting by 2 per cent. Agricultural-related trades, including sugar, rice, tapioca, meals (oilseeds and soy) and fertilizers (phosphates, potash, sulphur and urea) accounted for about 230 million tons. The increase in sugar shipments (by 7 per cent to about 38 million tons) was particularly strong, partly as a result of some new or temporary flows such as those from Tanzania to European Union countries under the "Everything but Arms" initiative and Brazilian exports of white sugar to Cuba, which had committed its production previously in order to take advantage of favourable prices. Shipments of a number of minerals (cokes, non-ferrous ores, metals, salt, cement, etc.) were estimated at 250 million tons. Overall, forecasts for these cargoes indicate similar volumes of shipments for 2003, with some such as sugar fluctuating more widely than other (industrial) goods, such as cement.

4. Liner shipments of containerized cargoes

The balance of 1.6 billion tons of dry cargoes is increasingly being carried in containers along the liner trade routes. In some regions, specialized unitized services, such as ro-ro, reefer and cars, coexist with traditional general cargo services, with some of the latter serving to back up the main container trades. However, container traffic continues to increase its market share. In 2001, 60 per cent of the 61.9 million tons of reefer trade moved in special containers. Shipments of containerized cargoes differ from the other dry bulk cargoes in terms of the increased use of transhipment to complement direct calls of larger vessels at hub ports. Preliminary information available for 2002 indicates that world seaborne container trade increased by 8.4 per cent to 75.8 million TEU. Containers flow along three main east-west containerized routes (trans-Pacific, Europe-Far East and transatlantic) and secondary north-south and intra-regional routes.

In the largest east-west route, the trans-Pacific, total trade is estimated at 12-14 million TEU. Container flows in the dominant leg, Asia to North America, increased by more than 8 per cent in 2002, while in the opposite westbound direction, flows increased by about 1 per cent, resulting in a widening imbalance of container flows. Production in relocated factories in Asia, notably in China, to supply the US market and poor demand from Japan for North American goods explain this growing imbalance. In the Asia-Europe route, which is believed to carry between 10 and 12 million TEU, the trade imbalance widened during 2002. In the dominant leg, Asia to Europe, container flow increased by about 4 per cent, or about half a percent more than the flow increase in the opposite direction. According to the Far East Freight Conference (FEFC), responsible for about two-thirds of the trade along this route, the imbalance reflects the volume of Chinese exports to European markets. In the transatlantic route, the smallest of the east-west ones, trade is estimated at between 6 and 8 million TEU. As flows in the dominant leg from Europe to North America increased by almost 5 per cent while flows in the opposite direction were almost static, the trade imbalance along this route also widened in 2002. Overall traffic flows in these main east-west routes could reach 34 million TEU.

North-south and intra-regional routes are articulated around major production and consumption centres of Europe, the Far East and North America. North-south routes are believed to carry about 15 million TEU and expand and contract in accordance with the economic conditions prevailing in the regions linked by them. In the routes linking Europe to Africa, southward flows increased by around 4 per cent, while those heading north expanded at about half that rate, in spite of political upheavals in some countries of West Africa. In the long-distance route from Europe to Oceania, southward flows expanded by about 2 per cent, with negligible growth recorded in the opposite direction. Routes linking Europe and North America with the Caribbean and South America followed the opposite trend; northward flows expanded at a higher rate than southward ones due to currency depreciation and devaluation in some South American countries that pushed up exports and contracted imports. In the largest of the intra-regional routes, the intra-Asia one, which is believed to transport up to 16 million TEU, flows expanded by more than 3 per cent, notably for those linking origins and destinations in the Far East. The balance of container shipments is distributed amongst east-west, north-south and intra-regional routes.

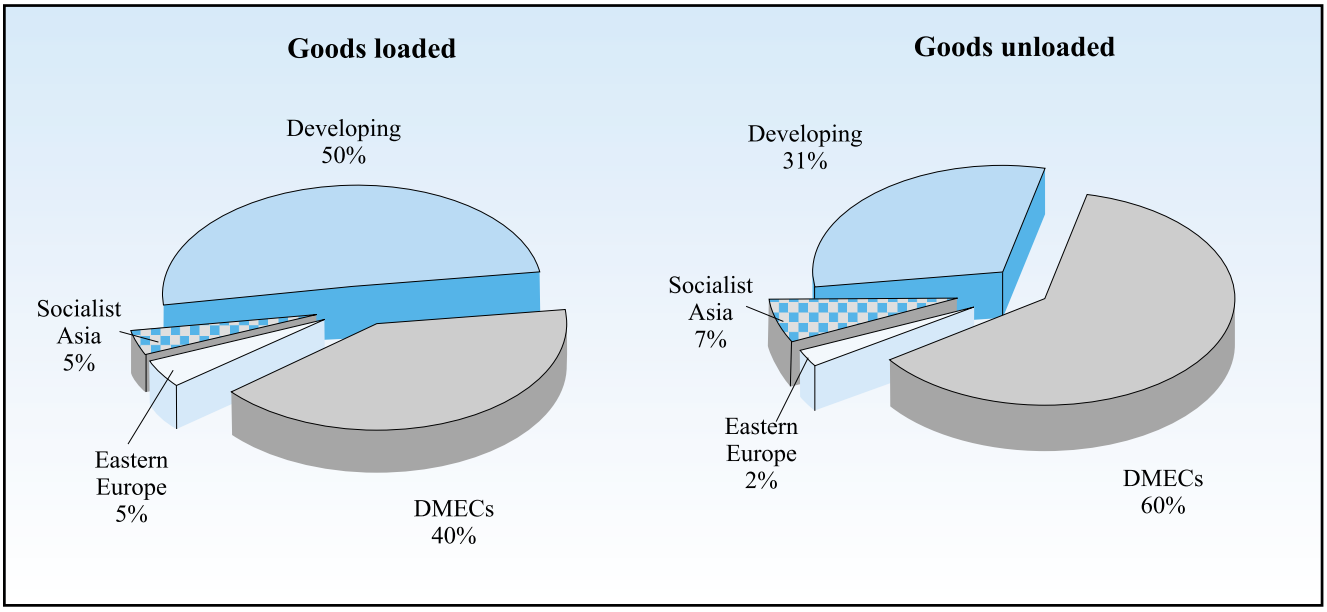
5. World shipments by country groups

The split of the 5.89 billion ton world seaborne trade by major cargo segments and country groups is shown in table 4 and figure 3. The shares of developed market-economy countries in goods loaded and unloaded in 2002 were 40.4 per cent and 60.3 per cent of the world total respectively. For these countries, crude oil and petroleum products accounted for 5.5 and 21.7 per cent of total

Figure 3

World seaborne trade by country groups

(percentage share of tonnage, 2002)



Source: Compiled by the UNCTAD secretariat on the basis of data supplied by reporting countries and other specialized sources.

world exports, while imports accounted for 68.3 per cent for crude oil and 50.2 per cent for petroleum products. Further breakdowns in terms of regional groupings can be found in annex II. Among market-economy countries, Europe remained the most important exporter of crude oil and petroleum products, with a total of 108.6 million tons (5.1 per cent of the world total). North America was the largest importer of crude oil and petroleum products, with 580.9 million tons (26 per cent), closely followed by Europe, with 527.3 million tons (23.6 per cent), and Japan, with 260.9 million tons (11.7 per cent).

In the dry bulk segment, the share of global shipments of developed market-economy countries remained at 58.2 per cent for both exports and imports. Again, annex II gives an insight into the regional distribution of these shipments. Europe remained the largest dry cargo market for exports and imports, with 1,068.9 million tons (28.5 per cent of world exports) and 1,446.6 million tons (37 per cent of world imports) respectively. Two countries in North America (United States and Canada) and in Oceania (Australia and New Zealand) were also large exporters of dry shipments, with shares of 11.1 per cent and 11.6 per cent respectively. This underlines their important shares in shipping of the three major dry bulk commodities – iron ore, coal and grain.

During the year 2002 the share of developing countries in total seaborne exports was 49.4 per cent, while their share of seaborne imports was 31.4 per cent. These percentages have remained fairly stable since 1998, with a slight upward trend for imports. The trade structure for developing countries sharply contrasts with that of developed market-economy countries. The developing countries' combined share in crude oil and petroleum products exports represented 87.9 per cent and 68.6 per cent respectively. For imports, the shares were 27.4 per cent for crude oil and 44.2 per cent for petroleum products. In the dry cargo sector, the share of developing countries' exports increased by 0.3 per cent to reach 29.9 per cent of world exports, while their share of world imports increased by almost 1 per cent to 31.4 per cent.

Regional variations among groups of developing countries were related to their GDP. Developing countries of Asia claimed the largest shares in exports and imports, reaching 29.6 per cent and 22.1 per cent of

world exports and imports respectively. The share of developing countries in America was 12.9 per cent of world exports and 5.7 of world imports. The shares for African countries were about half of that for America: 6.5 per cent of world exports and 3.2 of world imports. The shares for developing countries of Europe (0.3 per cent of world exports and imports) and Oceania (0.1 per cent of world exports and 0.2 per cent of imports) were considerably smaller.

In specific trades there were also considerable variations. The shares of Asian developing countries in world exports of crude oil were 54.6 per cent and in petroleum products 42.3 per cent. This reflects the importance of Middle East oil producers and refining activity in the Far East. The share of African developing countries in exports of crude oil (17.6 per cent) was higher than that of developing countries in America (15.4) per cent. For exports of petroleum products, however, the opposite was true – 7.0 per cent for developing countries in Africa and 18.9 per cent for those in America. Again for exports of dry cargoes, Asian developing countries claimed the largest share at 17.0 per cent, followed by American developing countries with 11 per cent and African developing countries with 1.5 per cent.

For imports of crude oil, the share of developing countries in Asia was 18.7 per cent of the world total. The shares for developing countries in America and Africa were 5.3 per cent and 2.9 per cent respectively. For imports of petroleum products, the corresponding shares for developing countries in Asia, America and Africa were 28.9 per cent, 10.4 per cent and 3.4 per cent. Imports of crude oil into developing countries in Europe reached 0.4 per cent of the world total, on a par with the percentage for imports of petroleum products. Developing countries in Oceania showed negligible imports of crude oil, in line with the scant refining capacity in the region, while the share of world petroleum products imports was 1.1 per cent.

The share of socialist countries in Asia in world exports for 2002 was 5.1 per cent and for world imports 6.8 per cent. In recent years, imports have risen in line with the increased role of trade in the economic development of China and its high rates of economic growth. The trade of countries of Central and Eastern Europe (including the former USSR) achieved their largest share for exports, 5.1 per cent, due to shipments of crude oil, petroleum products and grain from the Black Sea. Seaborne imports for these countries reached 1.5 per cent of the world total, and these imports were complemented by other imports carried overland from other European countries.

6. Demand for shipping services

Table 5 provides data on total demand for shipping services in terms of ton-miles. World seaborne trade for 2002 stood at 23,251 billion ton-miles, almost the same amount as the previous year. As cargo transported increased by a modest 0.8 per cent, changes in the average transport distance were minimal.

Reduced demand for haulage of crude oil and oil products resulted in ton-miles for these commodities decreasing by 2.2 per cent, almost three times the percentage reduction in the previous year. This was an indication of supplies of crude oil moving shorter distances, notably from sources close to the Black and Baltic Seas to destinations in Europe and North America. For all dry cargoes, the ton-miles increased by 1.8 per cent, while tonnage transported increased by 2.1 per cent. This suggests shorter distances between cargo origins and destinations, and the breakdown of dry cargo indicates that this is likely to be the case for the five main dry bulks, whose ton-miles increased by 1.2 per cent, as against a 1.6 per cent increase in cargo volume. For the remaining dry cargoes, minor bulks and liner cargo, supply lines remained broadly the same, as their ton-miles increased by 2.5 per cent to 6,440 billion while cargo shipments increased by 2.4 per cent.

Table 5

World seaborne trade in ton-miles, selected years

(billions of ton-miles)

Year	Oil			Iron ore	Coal	Grain[a]	Five main dry bulks	Other dry cargoes	World total
	Crude	Products	Crude plus products						
1970	5 597	890	6 487	1 093	481	475	2 049	2 118	10 654
1975	8 882	845	9 727	1 471	621	734	2 826	2 810	15 363
1980	8 385	1 020	9 405	1 613	952	1 087	3 652	3 720	16 777
1985	4 007	1 150	5 157	1 675	1 479	1 004	4 480	3 428	13 065
1990	6 261	1 560	7 821	1 978	1 849	1 073	5 259	4 041	17 121
1995	7 225	1 945	9 170	2 287	2 176	1 160	5 953	5 065	20 188
1999	7 980	2 055	10 035	2 317	2 363	1 186	6 203	5 752	21 990
2000	8 180	2 085	10 265	2 545	2 509	1 244	6 638	6 113	23 016
2001	8 074	2 105	10 179	2 575	2 552	1 322	6 782	6 280	23 241
2002	7 860	2 090	9 950	2 700	2 570	1 250	6 861	6 440	23 251

Source: Fearnleys, *Review 2002*.

[a] Includes wheat, maize, barley, oats, rye, sorghum and soya beans.

Chapter 2

STRUCTURE AND OWNERSHIP OF THE WORLD FLEET

The first chapter provides an overview of the demand for global maritime transport services, together with background information on the world economic situation and a review and forecast of developments in world seaborne trade.

A. STRUCTURE OF THE WORLD FLEET

1. Principal types of vessel

Comparative time-series data on the world fleet for 2001, 2002 and 2003 are provided in figure 4 and table 6. The world merchant fleet stood at 844.2 million deadweight tons (dwt) on 1 January 2003. This represents a 2.3 per cent increase over 2002, at which time the world fleet had already expanded at a rate of 2.1 per cent over the tonnage in 2001. The latest increase equals that of 1997, when the fleet also expanded by 2.3 per cent. Newbuilding deliveries represented 49.0 million dwt, while 30.5 million dwt were broken up and lost. The result was a net gain of 18.5 million dwt in 2002.

The tonnage of oil tankers in 2002 increased by a healthy 6.6 per cent and that of bulk carriers by 1.9 per cent. These two types of ships represented 71.6 per cent of total tonnage, a slight increase from 70.3 per cent in 2001. The fleet of general cargo ships decreased again in 2002 and at the same rate as that of the previous year, namely by 2.7 per cent; this category now represents 11.5 per cent of the total world fleet. In terms of deadweight tonnage, the fleet of container ships increased by 5.7 million dwt or 7.4 per cent, and now represents 9.8 per cent of the total world fleet. This relatively high rate of increase reflects the growing portion of manufactured goods being traded, generally in containers. Deadweight tonnage of liquid gas carriers (mainly LNG and LPG carriers) and ferries/passenger ships has been increasing steadily.

2. World container ship fleet

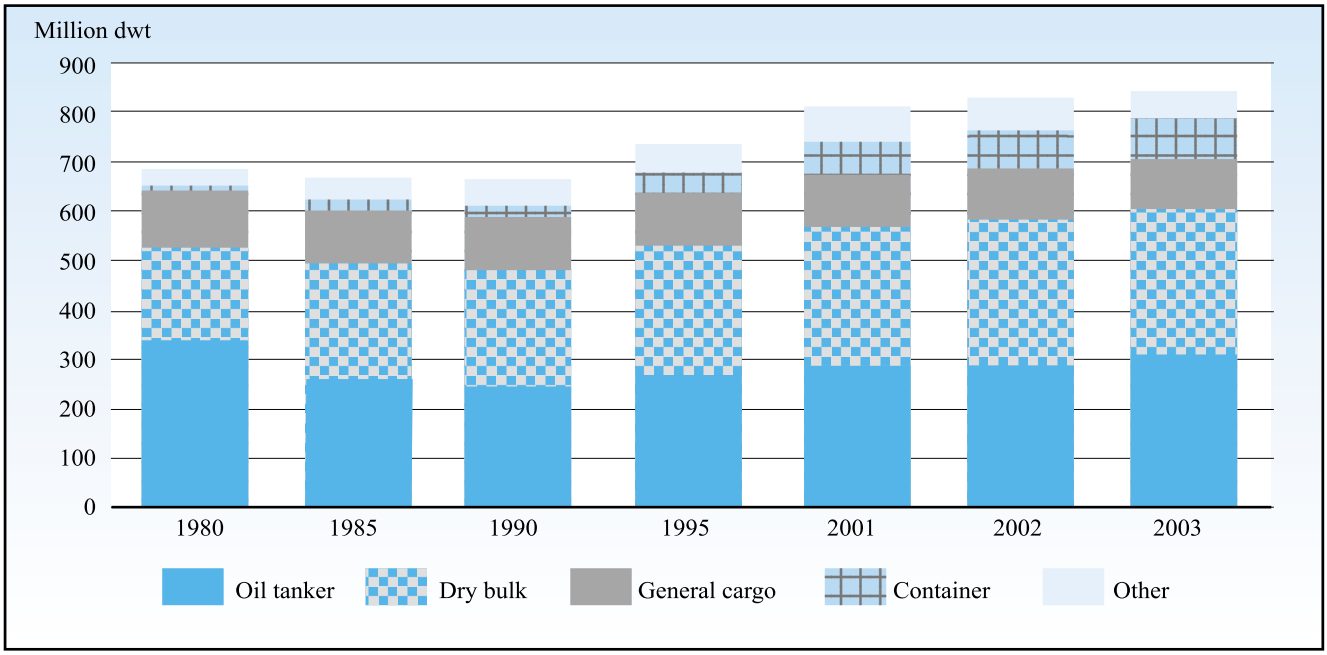
The world fleet of fully cellular container ships continued to expand substantially in 2002 in terms of both number of ships and their TEU capacity; by the beginning of 2003, there were 2,890 ships with a total capacity of 5,896,154 TEUs, an increase of 4.9 per cent in the number of ships and 10.1 per cent in TEU capacity over the previous year (see table 7). Ship sizes also continued to increase, with average carrying capacity per ship growing from 1,824 TEUs in 2001 to 2,040 TEUs in 2003, reflecting the building of larger vessels to achieve economies of scale. As of the end of 2002, the well-defined trend towards large container vessels was continuing unabated. Vessels over 3,000 TEU capacity made up 67 per cent of total deliveries of cellular tonnage for the year and 79.8 per cent of the orderbook.

3. Age distribution of the world merchant fleet

Table 8 provides data on the average age distribution of the world merchant fleet by types of vessels and by groups of countries and territories. The average age of the total world fleet in 2002 dropped by more than a year to 12.6 years, reflecting increased scrapping of old tonnage and deliveries of newbuildings. By type of vessel, the average age of tankers decreased by almost two years to 11.6 years in 2002. The share of tanker tonnage 15 years and older decreased to 33.5 per cent in 2002 from 42.7 per cent in 2001, reflecting acceleration in scrapping activities, which in 2002 reached 18.1 million dwt (compared to 15.7 million dwt

Figure 4

World fleet by principal types of vessel, selected years



Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

in 2001). The average age of the dry bulk carrier fleet diminished by exactly one year to 12.7 years in 2002. Container ships continued to be the youngest fleet in 2002, with an average age of 9.1 years, down from 11.0 years. This trend is reflected in the share of tonnage between 0 and 4 years of age – 31.1 per cent, the highest among all categories of vessels.

By country grouping, the fleet age of developed market-economy countries in 2002 was the lowest at 11.7 years (13.3 years in 2001). These countries have continued the trend of lowering the average age of their fleet that has been apparent over the last few years. Also in this group, the average age of container ships came down to 8.7 years in 2002, as compared with 10.3 years in 2001. The major open-registry countries had the second lowest average age of all ships (12.1 years in 2002 versus 13.3 years in 2001), even though the tendency to register newbuildings under open-registry flags abated. The average age of all ships registered in developing countries (excluding major open-registry countries) decreased by almost a year in 2002 to 13.5 years as compared with 14.3 years in 2001. For this group, the average age of general cargo vessels increased to 19.1 years, while that of container ships fell by more than 2 years, to 8.7 years. The average age of tonnage registered in the socialist countries of Asia fell slightly to 16.7 years in 2002. The countries of Central and Eastern Europe continued to have the oldest fleet (20.1 in 2002 versus 18.9 years in 2001), with vessels built more than 15 years ago representing more than three-quarters of the total fleet and bulk carriers constituting the oldest class of ships at 20.6 years.

4. Delivery of newbuildings

Newbuilding activities attained the highest level ever recorded in terms of deadweight tons, with deliveries totalling 49.0 million dwt in 2002 (see table 9), an impressive increase of 8.4 per cent from the already record deliveries in 2001. The total number of vessels delivered increased to 1,539 units from 1,470 units in 2001 (4.7 per cent), and deliveries reflected the steady trend towards larger vessels. This high level of delivery was sustained primarily thanks to tanker deliveries of 23.4 million dwt, an impressive 62.5 per cent increase from the 2001 level, with the number of newbuildings increasing to 182 units in 2002 from 112 units in 2001. The average size was 128,600 deadweight tons. Conversely, deliveries of bulk carriers were down by 6.9 million dwt, about 32.9 per cent, from the 2001 level. Another feature was the slightly smaller size of bulk carriers delivered in 2002. In the previous year, the average deadweight tonnage had been 67,700, whereas in 2002 it was 62,400. Newbuildings for other types of vessels, including general cargo ships and container ships, increased both in number and in deadweight tonnage to 1,131 units and 11.5 million dwt in 2002. The

Table 6

World fleet size by principal types of vessel, 2001–2003[a]

(beginning-of-year figures, in thousands of dwt)

Principal types	2001	2002	2003	Percentage change 2002/2003
Oil tankers	285 441	285 519	304 396	*6.6*
	35.3	*34.6*	*36.1*	
Bulk carriers	281 654	294 588	300 131	*1.9*
	34.8	*35.7*	*35.5*	
Ore/bulk/oil	11 391	14 456	12 612	*-12.8*
	1.4	*1.8*	*1.5*	
Ore/bulk	270 263	280 132	287 519	*2.6*
	33.4	*33.9*	*34.1*	
General cargo ships	102 653	99 872	97 185	*-2.7*
	12.7	*12.1*	*11.5*	
Containerships	69 216	77 095	82 793	*7.4*
	8.6	*9.3*	*9.8*	
Other types of ships	69 412	68 578	59 730	*-12.9*
	8.6	*8.3*	*7.1*	
Liquefied gas carriers	18 525	19 074	19 469	*2.1*
	2.3	*2.3*	*2.3*	
Chemical tankers	8 044	7 974	8 027	0.7
	1.0	*1.0*	*0.9*	
Miscellaneous tankers	768	785	906	*15.4*
	0.1	*0.1*	*0.1*	
Ferries and passengers ships	5 038	5 319	5 495	*3.3*
	0.6	*0.6*	*0.6*	
Other	37 037	35 426	25 833	*-27.1*
	4.6	*4.3*	*3.1*	
World total	808 376	825 652	844 235	*2.25*
	100.00	*100.00*	*100.00*	

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Percentage shares are shown in italics.

trend towards larger vessels continued unabated. Orders for container ships of 8,000 TEU have been made by some carriers in 2003, and LNG carriers of 200,000 cubic metres have been under consideration for a Middle East project, as these vessels offer up to 15 per cent savings in transport costs.

5. Demolition of ships

Trends in the tonnage, types and average age of broken-up vessels are shown in tables 10, 11 and 12. In 2002, total tonnage sold for demolition increased by 9.7 per cent from the tonnage of the previous year to 30.5 million dwt, equivalent to 3.6 per cent of world total deadweight tons, as compared to 3.4 per cent in 2001. Break-up of tankers made up the largest share of total demolition. Sales of tankers for break-up increased significantly by 15.3 per cent to 18.1 million dwt as a result of depressed tanker freight rates during most of the year. ULCC/VLCC demolition sales went up from 29 units in 2001 to 35 units in 2002. Sales of Suezmaxes halved from 29 units in 2001 to 14 units in 2002, while those of Aframaxes were almost steady at 19 units in 2001 and 20 units in 2002. In the smaller category of

Table 7

Distribution of the world fleet and TEU capacity of fully cellular container ships, by country groups, in 2001, 2002 and 2003[a]

(beginning-of-year figures)

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares[a]		
	2001	2002	2003	2001	2002	2003
World total	2 595	2 755	2 890	4 734 079	5 356 650	5 896 154
	100.0	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Developed market-economy countries	724	759	798	1 665 709	1785 609	2 019 918
	27.9	*27.5*	*27.6*	*35.2*	*33.3*	*34.3*
Major open-registry countries	1 003	1 117	1 166	1 919 117	2 317 543	2 591 977
	38.7	*40.5*	*40.3*	*40.5*	*43.3*	*44.0*
Total developed market-economy and major open-registry countries	1 727	1 876	1 964	3 584 826	4 103 152	4 611 895
	66.6	*68.1*	*68.0*	*75.7*	*76.6*	*78.2*
Countries of Central and Eastern Europe (including former USSR)	32	30	29	25 457	24 590	23 486
	1.2	*1.1*	*1.0*	*0.5*	*0.5*	*0.4*
Socialist countries of Asia	106	98	104	105 344	105 344	114 112
	4.1	*3.6*	*3.6*	*2.2*	*2.0*	*1.9*
Developing countries	644	674	720	883 883	994 024	1 035 578
	24.8	*24.5*	*24.9*	*18.7*	*18.6*	*17.6*
of which:						
Africa	11	10	9	10 841	10 674	8 237
	0.4	*0.4*	*0.3*	*0.2*	*0.2*	*0.1*
America	214	231	249	253 822	273 893	301 618
	8.2	*8.4*	*8.6*	*5.4*	*5.1*	*5.1*
Asia	416	432	462	617 768	708 883	725 723
	16.0	*15.7*	*16.0*	*13.0*	*13.2*	*12.3*
Europe	3	1	0	1 452	574	0
	0.1	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Oceania	0	0	0	0	0	0
	0.0	*0.0*	*0.0*	*0.0*	*0.0*	*0.0*
Other, unallocated	86	77	73	134 569	129 540	111 083
	3.3	*2.8*	*2.5*	*2.8*	*2.4*	*1.9*

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Percentage shares are shown in italics.

Table 8

Age distribution of the world merchant fleet, by types of vessel, as of 1 January 2003

(percentage of total dwt)

Country grouping	Types of vessel	0–4 years	5–9 years	10–14 years	15–19 years	20 years and over	Average age (years) 2002[a]	Average age (years) 2001[a]
World total	All ships	22.0	20.9	15.56	13.2	28.1	12.6	13.9
	Tankers	26.9	18.5	21.11	9.5	24.0	11.6	13.2
	Bulk carriers	19.7	23.9	12.81	17.8	25.8	12.7	13.7
	General cargo	9.4	13.6	9.80	16.7	50.6	17.0	16.2
	Containerships	31.1	33.9	13.14	10.0	11.9	9.1	11.0
	All others	14.9	13.1	13.43	9.4	49.2	16.0	14.9
Developed market-economy countries	All ships	25.8	21.5	16.10	13.9	22.7	11.7	13.3
	Tankers	32.0	19.7	18.64	10.5	19.2	10.5	13.3
	Bulk carriers	19.0	21.1	12.85	21.6	25.6	13.1	14.6
	General cargo	18.1	19.5	13.49	16.7	32.2	13.7	14.0
	Containerships	31.5	33.5	15.01	11.4	8.5	8.7	10.3
	All others	15.9	16.5	16.92	10.5	40.2	14.7	13.8
Major open-registry countries	All ships	23.6	22.1	16.59	12.3	25.5	12.1	13.3
	Tankers	26.2	18.0	24.26	8.3	23.3	11.6	13.1
	Bulk carriers	22.4	25.7	12.46	16.0	23.4	12.0	13.3
	General cargo	9.9	18.0	11.04	20.2	40.8	15.8	14.6
	Containerships	33.1	31.2	12.96	9.4	13.4	9.1	11.4
	All others	18.7	12.9	9.75	4.2	54.5	16.0	13.8
Subtotal	All ships	24.4	21.8	16.42	12.9	24.5	11.9	13.3
	Tankers	28.4	18.6	22.07	9.2	21.7	11.2	13.2
	Bulk carriers	21.6	24.5	12.55	17.4	24.0	12.2	13.6
	General cargo	13.0	18.6	11.95	18.9	37.6	15.0	14.4
	Containerships	32.4	32.2	13.85	10.3	11.3	9.0	10.9
	All others	17.2	14.8	13.52	7.5	46.9	15.3	13.8
Countries of Central and Eastern Europe	All ships	1.6	3.4	11.20	18.8	65.0	20.1	18.9
	Tankers	6.0	2.0	3.58	16.4	72.0	20.4	20.1
	Bulk carriers	0.0	0.0	15.43	17.8	66.8	20.6	19.7
	General cargo	0.8	4.2	10.46	19.4	65.2	20.2	19.1
	Containerships	0.0	28.4	9.81	27.2	34.6	15.9	15.5
	All others	0.8	3.9	15.83	19.9	59.5	19.6	18.3
Socialist countries of Asia	All ships	7.3	10.5	8.53	16.0	51.2	16.7	17.9
	Tankers	12.6	10.1	12.77	20.7	43.8	16.3	16.5
	Bulk carriers	6.9	16.5	9.07	17.1	50.5	17.2	17.7
	General cargo	4.3	3.4	5.10	12.9	74.4	20.6	20.0
	Containerships	10.1	25.8	17.58	25.0	21.5	13.4	12.6
	All others	12.6	10.1	12.77	20.7	43.8	16.3	18.7
Developing countries (excluding open-registry countries)	All ships	18.5	21.1	14.37	13.2	32.8	13.5	14.3
	Tankers	23.4	19.3	18.94	9.5	28.8	12.5	12.7
	Bulk carriers	17.4	24.5	14.29	19.2	24.6	12.8	13.1
	General cargo	5.8	9.2	6.88	12.8	65.3	19.1	18.5
	Containerships	29.7	41.6	9.92	6.5	12.4	8.7	11.2
	All others	10.5	9.9	12.73	9.5	57.4	17.5	17.4

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] To calculate the average age, it has been assumed that the ages of vessels are distributed evenly between the lower and upper limits of each age group. For the 20-years-and-over age group, the mid-point has been assumed to be 23.5 years.

Table 9

Deliveries of newbuildings, selected years

Year	Oil tankers[a]		Combined carriers[a]		Dry bulk carriers[a]		Others[b]		Total	
	No. of vessels	Million dwt	No. of vessels	Million dwt	No. of vessels	Million dwt	No. of vessels	Million dwt	No. of vessels	Million dwt
1980	99	7.0	4	0.4	135	4.7	548	6.0	786	18.0
1985	72	3.9	10	0.7	339	14.7	529	5.0	950	25.0
1990	81	8.7	0	0.0	119	9.6	523	4.0	723	23.0
1996	98	11.6	3	0.3	268	17.5	713	9.0	1 082	38.0
1997	69	7.5	3	0.3	299	18.8	696	10.2	1 067	36.8
1998	120	12.6	0	0.0	217	11.6	704	11.1	1 041	35.3
1999	161	19.1	4	0.4	195	13.0	585	8.4	940	40.5
2000	154	20.8	0	0.0	188	13.1	1 202	10.5	1 544	44.4
2001	112	14.4	0	0.0	310	21.0	1 048	9.8	1 470	45.2
2002[c]	182	23.4	0	0.0	226	14.1	1 131	11.5	1 539	49.0

Source: Compiled by the UNCTAD secretariat on the basis of data from Fearnleys, *Review 2002*.

[a] Vessels over 10,000 dwt.

[b] Sea-going, cargo-carrying vessels of over 1,000 gross registered tons (grt).

[c] Provisional.

Table 10

Broken-up tonnage, 1990 and 1998–2002

Broken-up tonnage	1990	1998	1999	2000	2001	2002
Tonnage sold for breaking (million dwt)	16.9	25.2	30.7	22.2	27.8	30.5
Broken-up tonnage as a percentage of the total world fleet	2.4	3.2	3.9	2.7	3.4	3.6

Sources: Compiled by the UNCTAD secretariat on the basis of data supplied by Fearnleys, *Review*, various issues, and Lloyd's Register – Fairplay.

Table 11

Tonnage reported sold for breaking, by types of vessel, 1998–2002
(millions of dwt and percentage shares)

Years	Million dwt						Percentage share					
	Tankers	Combined carriers	Bulk carriers	Others	Total	World fleet	Total	Tankers	Combined carriers	Bulk carriers	Others	Total
1998	7.4	1.4	12.8	3.53	25.2	788.7	3.2	29.4	5.7	50.9	14.0	100.0
1999	16.7	1.1	9.7	3.25	30.7	799.0	3.8	54.2	3.7	31.5	10.6	100.0
2000	13.5	1.0	4.6	3.10	22.2	808.4	2.7	60.9	4.3	20.8	14.0	100.0
2001	15.7	0.8	8.1	3.24	27.8	825.7	3.4	56.5	2.7	29.1	11.7	100.0
2002	18.1	1.6	5.9	4.92	30.5	844.2	3.6	59.3	5.2	19.3	16.1	100.0

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Fearnleys, *Review,* various issues.

Table 12

Average age of broken-up ships, by type, from 1998 to 2002[a]
(years)

Year	Tankers	Dry bulk carriers	Containerships	General cargo ships
1998	28.2	25.2	25.5	26.7
1999	26.2	25.0	24.8	26.7
2000	26.9	25.9	25.7	27.3
2001	28.0	26.7	26.9	27.4
2002	28.3	26.6	26.0	28.2

Source: Compiled by the UNCTAD secretariat on the basis of data in Institute of Shipping Economics and Logistics (2003), *Shipping Statistics and Market Review,* Jan./Feb., table I-1.3.2.

[a] Ships of 300 grt and over.

crude oil tankers, demolition almost doubled: 35 ships were sold for scrap in 2001, while 66 units were sold in 2002. The average age of tankers sold for demolition was up slightly from 28 years in 2001 to 28.3 years in 2002. The number of dry bulk carriers sold for scrap decreased by 27.2 per cent to 5.9 million dwt in 2002, but the number of combined carriers doubled to 1.6 million dwt in 2002. There was a decrease in scrapping of all sizes of bulk carriers. Demolition sales of vessels over 120,000 dwt went down from 9 units in 2001 to 5 units in 2002. For vessels in the range of 60,000 to 120,000 dwt, sales contracted from 37 units in 2001 to 26 units in 2002. For Handymax tonnage there was a slight decrease in demolition sales from 16 units in 2001 to 11 units in 2002. The average age of all dry bulk carriers broken up was 26.6 years in 2002, slightly lower than the previous year. Other ship types had a similar trading life in 2002, with container ships being sold to breakers at an average age of 26.0 years and general cargo ships at an average age of 28.2 years.

B. OWNERSHIP OF THE WORLD FLEET

1. Distribution of world tonnage by country groups

The total world fleet continued to expand in 2002, increasing by 2.3 per cent to 844.2 million dwt (see figure 5 and table 13). The rate of growth of the tonnage of developed market-economy countries was double that of the total world fleet, reaching 4.6 per cent (an increase of 9.6 million dwt to 217.1 million dwt). This could reflect the steps taken in some European Union countries to apply tonnage taxes instead of standard tax rules to vessels registered in the country. By December 2002, eight EU countries had been given approval to adopt this system. The tonnage of major open-registry countries in 2002 contracted by about 1 per cent or 3.9 million dwt to 398.5 million dwt. Approximately two-thirds of these beneficially owned fleets are owned by developed market-economy countries and the rest by developing countries. The share of the world fleet registered in developing countries has continued to increase, rising by 12.3 million dwt (7.7 per cent) in 2002 to 171.3 million dwt. This increase resulted from investments made by shipowners in Asian developing countries, whose fleets expanded by 9.9 million dwt (8.5 per cent) to 126.9 million dwt, accounting for 74.1 per cent of the developing countries' total fleet. The fleet of developing countries of America increased by 1.0 million dwt to 35.6 million dwt, while that of African developing countries decreased by 0.4 million dwt to 5.3 million dwt. A marginal increase of 0.2 million dwt was seen in the fleet of developing countries in Europe, while the small fleet of developing countries in Oceania more than trebled to 2.0 million dwt. The fleets of the socialist countries in Asia and the countries of Central and Eastern Europe in total world tonnage also expanded in 2002, with the former increasing by 1.8 million dwt and the latter by 0.5 million dwt.

2. Distribution of world tonnages by types of vessel by country groups

Table 14 provides more detailed data on fleet distribution by types of vessel and country groups for 1970, 1980, 1990, 2000, 2001 and 2002. The share of oil tankers in the total world fleet increased by 1.5 per cent in 2002 compared to 2001. This reversed the trend of the previous year and reflected the high level of tanker deliveries during 2002. There was a 0.1 per cent decrease in the share of bulkers in the total world fleet, which reached 35.6 per cent – the same level as in 1990. The share of general cargo vessels in the world fleet continued to decrease, falling to 11.5 per cent, while that of container vessels continued its upward trend to 9.8 per cent. The share of other types of vessels decreased to 7.1 per cent. In the oil tanker sector, the share of developed market-economy countries increased to 31.7 per cent in 2002 from 30 per cent in 2000. Conversely, the open-registry countries' share decreased to 48.6 per cent, as compared to 50.1 per cent the previous year. These fluctuations for the two country groups contrast with the traditional tendency for owners in developed market-economy countries to register tanker tonnage under open registry. The share of developing countries also increased in 2002 to 17.3 per cent, reversing the downward trend of the previous years. The share of Asian developing countries increased by 1.2 per cent in 2002 to 13.9 per cent of the world tanker fleet, while that of the developing countries of America remained steady at 2.9 per cent.

In the dry bulk carrier sector, the tonnage share of developed market-economy countries in the total world fleet was steady in 2002 at 16.9 per cent, one-third of its share in 1980 (52.7 per cent). Major open-registry countries reduced their share to 54.6 per cent in 2002, as compared to 55.5 per cent in 2002 (31.7 per cent in 1980). The developing countries' share remained the same at 20.8 per cent. The shares of countries in Central and Eastern Europe and socialist countries in Asia were an unchanged 1.1 per cent and a slightly expanded 4.0 per cent of the world fleet respectively.

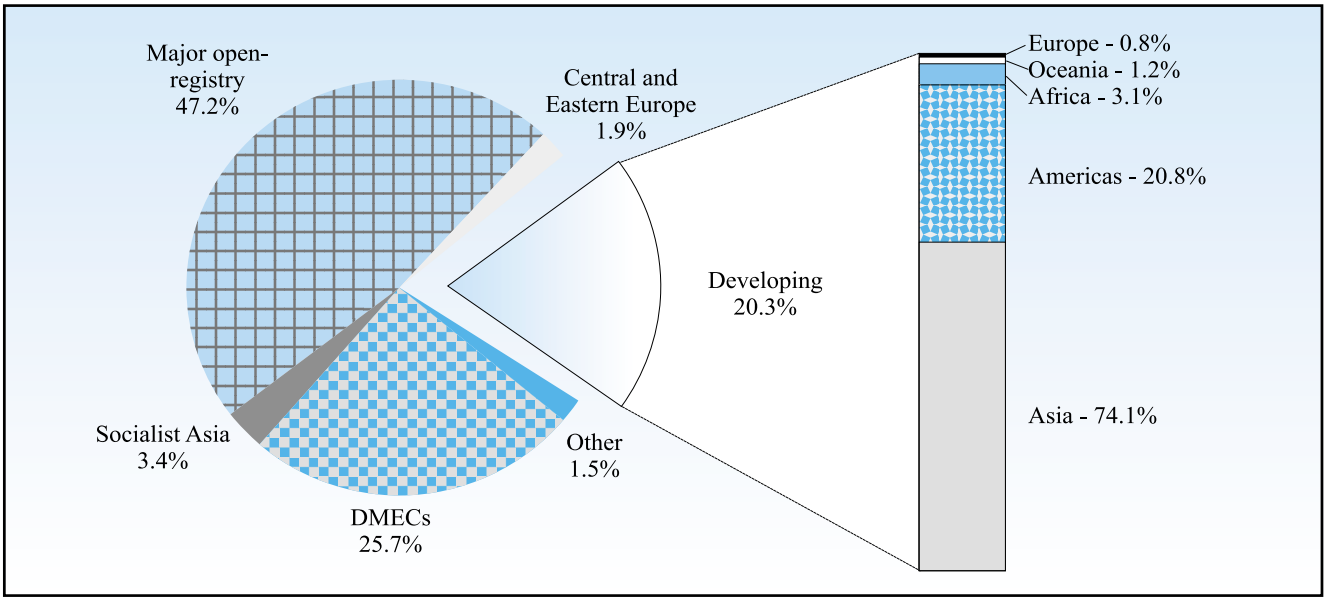
In the sector of general cargo ships, the fleet developments of the three major country groups diverged from those in the dry bulk carrier sector. Developed market-economy countries increased their share marginally to 20.4 per cent of the world fleet, while open-registry countries recorded a drop to 34.1 per cent. Developing countries increased their share by 3.1 per cent to 29.1 per cent, with increases spread among all regions. General cargo ships continued to be the largest of the five principal types of vessel for developing countries.

Developed market-economy countries increased their share of container ship deadweight tonnage in 2002 by 1.1 per cent to 33.9 per cent. The major open-registry countries' share also expanded by 1.3 per cent, reaching 44.4 per cent, approximately two-thirds of which represented container ships beneficially owned by owners in developed market-economy countries. Thus developed market-economy countries own about 60 per

Figure 5

World tonnage by country groups, as of 1 January 2003

(percentage distribution of dwt)



Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

cent of the fleet. The share of developing countries decreased slightly to 18.0 per cent, with the share of Asian developing countries decreasing to 12.8 per cent, while developing countries in America maintained their share at 4.9 per cent.

3. Fleet structure of main country groups

Table 15 provides data on the structure of the merchant fleet of the main country groups as of 1 January 2003. Developed market-economy countries' tonnage in tankers expanded in 2002 by 8.9 million dwt and increased its share of the group's total fleet to 44.4 per cent. The share of dry bulk carriers decreased to 23.3 per cent, in spite of an absolute increase of 0.8 million dwt. General cargo ships' and container ships' share of their fleet registered opposite movements, down to 9.1 per cent for the former and up to 12.9 per cent for the latter, as compared to 9.7 per cent and 12.2 per cent in 2001. Major open-registry countries decreased their total fleets by 3.9 million dwt. The greater proportion of their fleets was in the oil tanker and dry bulk carrier sectors, the two of which accounted for 78.2 per cent of their fleet at the beginning of 2003. The proportion of oil tankers increased in 2002 by 4.6 million dwt to 37.1 per cent of the group's total fleet, while the share of dry bulk carriers increased marginally in 2002 by 0.3 million dwt to 41.1 per cent as compared to 40.6 per cent the previous year. The share of general cargo ships decreased in 2002 by 2.6 million dwt, accounting for 8.3 per cent of the group's total fleet, down from 8.9 per cent in 2001. These countries' container ship fleet expanded in 2002 by 3.6 million dwt to 9.2 per cent of their total fleet (up from 8.3 per cent in 2001).

In developing countries, tonnage distribution was characterized by a comparatively high proportion of oil tankers and dry bulk carriers, which represented 30.8 per cent and 36.4 per cent respectively in 2002. In absolute terms, these countries' 2002 tonnage in oil tankers and dry bulk carriers was 52.7 million dwt and 62.3 million dwt as compared to 96.4 million dwt and 50.6 million dwt for developed market-economy countries. The share of general cargo ships in this group increased in 2002 to 28.3 million dwt compared to 26.0 million dwt in 2001, while container ships increased in tonnage by 0.5 million dwt but decreased in percentage terms to 8.7 per cent in 2002 from 9 per cent in the previous year. In the countries of Central and Eastern Europe, general cargo ships were relatively dominant, accounting for 41.1 per cent in

Table 13

Distribution of world tonnage (dwt) by groups of countries of registration, 1980, 1990, 2001, 2002 and 2003[a]
(beginning-of-year figures)

Flag of registration by group of countries	Tonnage and percentage shares[b] in millions of dwt				
	1980[c]	1990[d]	2001	2002	2003
World total	682.8	658.4	808.4	825.7	844.2
	100.0	*100.0*	*100.0*	*100.0*	*100.0*
Developed market-economy countries	350.1	219.0	203.4	207.5	217.1
	51.3	*33.3*	*25.2*	*25.1*	*25.7*
Major open-registry countries	212.6	224.6	392.2	402.4	398.5
	31.1	*34.1*	*48.5*	*48.7*	*47.2*
Countries of Central and Eastern Europe (including former USSR)	37.8	44.3	16.3	15.4	15.9
	5.5	*6.7*	*2.0*	*1.9*	*1.9*
Socialist countries of Asia	10.9	22.1	26.1	26.5	28.3
	1.6	*3.4*	*3.2*	*3.2*	*3.4*
Developing countries	68.4	139.7	157.0	159.0	171.3
	10.0	*21.2*	*19.4*	*19.3*	*20.3*
***of which*:**					
Africa	7.2	7.3	6.0	5.7	5.3
Americas	21.8	25.5	34.1	34.6	35.6
Asia	39.1	89.5	115.7	117.0	126.9
Europe	0.2	13.8	1.0	1.1	1.3
Oceania	0.1	3.6	0.2	0.6	2.0
Other, unallocated	3.0	8.7	13.4	14.8	13.1
	0.4	*1.3*	*1.7*	*1.8*	*1.5*

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Excludes the United States Reserve Fleet and the United States and Canadian Great Lakes fleets, which in 2002 amounted respectively to 4.3, 1.8 and 1.7 million dwt.

[b] Percentage shares are shown in italics.

[c] Mid-year figure.

[d] End-of-year figure.

Table 14

Percentage shares of world tonnage, by types of vessel and country groups, in 1970, 1980, 1990, 2000, 2001 and 2002 [a] [b]

	Year	Total dwt		Oil tankers	Bulk carriers[c]	General cargo	Container ships	Other ships
		Million dwt	Percentage of world total	Percentage share by vessel type[d]				
World total	1970	326.1	100.0	39.4	20.2	30.2	0.9	9.3
	1980	682.8	100.0	49.7	27.2	17.0	1.6	4.5
	1990	658.4	100.0	37.4	35.6	15.6	3.9	7.5
	2000	808.4	100.0	35.3	34.8	12.7	8.6	8.6
	2001	825.7	100.0	34.6	35.7	12.1	9.3	8.3
	2002	844.2	100.0	36.1	35.6	11.5	9.8	7.1
Developed market-economy countries	1970	211.9	65.0	63.9	69.2	65.6	99.0	61.3
	1980	350.1	51.3	52.5	52.7	43.4	74.3	50.4
	1990	219.0	33.3	37.3	29.5	23.1	46.5	45.2
	2000	203.4	25.2	30.0	16.9	19.6	34.4	37.6
	2001	207.5	25.1	30.6	16.9	20.1	32.8	36.3
	2002	217.1	25.7	31.7	16.9	20.4	33.9	37.3
Open-registry countries	1970	70.3	21.6	26.4	24.1	7.6	1.0	3.6
	1980	212.5	31.1	36.2	31.7	20.8	13.5	17.0
	1990	224.6	34.1	41.6	33.2	26.2	21.1	24.2
	2000	392.2	48.5	50.8	55.0	36.5	40.6	38.2
	2001	402.4	48.7	50.1	55.5	35.7	43.1	39.0
	2002	398.5	47.2	48.6	54.6	34.1	44.4	28.3
Central and Eastern Europe	1970	20.5	6.2	4.6	2.1	12.0	-	28.8
	1980	37.8	5.5	2.8	4.2	12.3	2.9	19.2
	1990	44.3	6.7	3.2	6.1	15.5	3.2	10.9
	2000	16.3	2.0	1.0	1.4	6.3	0.6	3.7
	2001	15.4	1.9	1.0	1.1	6.2	0.5	4.3
	2002	15928	1.9	1.0	1.1	6.7	0.5	4.5
Socialist countries of Asia	1970	1.2	0.4	0.1	-	1.1	-	0.3
	1980	10.9	1.6	0.6	1.6	4.7	0.1	1.3
	1990	22.1	3.4	1.1	3.6	8.5	4.2	2.2
	2000	26.1	3.2	1.4	4.0	7.6	2.6	1.8
	2001	26.5	3.2	1.4	3.9	7.9	2.3	2.0
	2002	28.3	3.4	1.5	4.0	8.4	2.6	2.1

Table 14 (continued)

	Year	Total dwt		Oil tankers	Bulk carriers[c]	General cargo	Container ships	Other ships
		Million dwt	Percentage of world total	Percentage share by vessel type[d]				
Developing countries	1970	20.5	6.3	4.7	4.3	12.6	-	5.9
	1980	68.4	10.0	7.7	9.2	17.6	7.6	12.0
	1990	139.7	21.2	16.3	25.6	26.2	16.0	17.4
	2000	157.0	19.4	16.1	20.7	27.1	18.7	17.3
	2001	159.0	19.3	16.0	20.8	26.0	18.6	17.0
	2002	171.3	20.3	17.3	20.8	29.1	18.0	22.0
of which:	1970	1.1	0.3	0.2	-	1.3	-	0.7
Africa	1980	7.1	1.0	1.1	0.1	2.3	..	2.1
	1990	7.3	1.1	1.0	0.5	2.3	0.2	2.9
	2000	6.0	0.7	0.5	0.4	1.7	0.2	1.8
	2001	5.7	0.7	0.5	0.5	1.6	0.2	1.8
	2002	5.3	0.6	0.4	0.5	1.5	0.1	2.1
America	1970	8.7	2.7	2.8	1.4	4.3	-	2.5
	1980	21.8	3.2	2.3	3.3	5.6	0.1	3.7
	1990	25.5	3.9	3.0	3.8	6.2	1.4	4.7
	2000	34.1	4.2	2.7	3.5	9.6	5.1	4.5
	2001	34.6	4.2	2.9	3.6	9.0	4.9	4.5
	2002	35.6	4.2	2.9	3.25	9.5	4.9	6.0
Asia	1970	10.7	3.3	1.7	2.9	6.9	-	2.6
	1980	39.1	5.7	4.3	5.7	9.8	2.7	5.7
	1990	89.5	13.6	10.7	17.6	13.7	13.5	9.1
	2000	115.7	14.3	12.9	16.5	15.5	13.3	10.9
	2001	117.0	14.2	12.7	16.4	14.9	13.5	10.5
	2002	126.9	15.0	13.9	16.5	17.1	12.8	13.4
Europe	1970	-	-	-	-	-	-	-
	1980	0.2	-	-	-	0.1	-	-
	1990	13.8	2.1	1.4	2.8	3.2	0.6	0.4
	2000	1.0	0.1	0.0	0.3	0.2	0.0	0.0
	2001	1.1	0.1	0.0	0.3	0.1	0.0	0.0
	2002	1.3	0.2	0.0	0.3	0.2	0.0	0.2
Oceania	1970	-	-	-	-	-	-	-
	1980	0.2	-	-	-	0.1	-	-
	1990	3.6	0.5	0.2	0.9	0.8	0.3	0.3
	2000	0.2	0.0	0.0	0.0	0.1	0.0	0.1
	2001	0.6	0.1	0.0	0.0	0.4	0.0	0.2
	2002	2.0	0.2	0.1	0.3	0.7	0.0	0.3

Table 14 (continued)

	Year	Total dwt		Oil tankers	Bulk carriers[c]	General cargo	Container ships	Other ships
		Million dwt	Percentage of world total	Percentage share by vessel type[d]				
Unallocated	1970	1.7	0.5	0.3	0.3	1.1	-	0.1
	1980	3.0	0.4	0.2	0.6	0.9	1.6	0.1
	1990	8.7	1.3	0.5	2.0	0.5	9.0	0.1
	2000	13.4	1.7	0.7	1.9	2.9	3.1	1.3
	2001	14.8	1.8	0.8	1.8	4.0	2.6	1.5
	2002	13.1	1.6	0.0	2.6	1.3	0.7	5.8

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay. See Annex III(b) for details.

[a] Excludes the United States Reserve Fleet and the United States and Canadian Great Lakes fleets.

[b] Data up to 1990 were as at 1 July and from 1991 onwards as of 31 December.

[c] Ore and bulk carriers, including combined ore/oil and ore/bulk/oil carriers.

[d] Percentages for 1970 were calculated on the basis of grt.

Table 15

Structure of the merchant fleets of the main country groups as of 1 January 2003[a]
(millions of dwt and percentage shares)

	World fleet		Developed market-economy countries		Open-registry countries		Developing countries		Central and Eastern Europe		Socialist countries of Asia	
	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%
Total fleet	844.2	100.0	217.1	100.00	398.5	100.0	171.3	100.0	15.9	100.0	28.3	100.0
Oil tankers	304.4	36.1	96.4	44.39	147.8	37.1	52.7	30.8	3.0	18.6	4.6	16.1
Bulk carriers	300.1	35.6	50.6	23.30	163.8	41.1	62.3	36.4	3.4	21.2	12.1	42.9
General cargo ships	97.2	11.5	19.8	9.13	33.1	8.3	28.3	16.5	6.5	41.1	8.2	29.0
Containerships	82.8	9.8	28.0	12.91	36.8	9.2	14.9	8.7	0.4	2.4	2.2	7.6
Other ships	59.7	7.1	22.3	10.26	16.9	4.2	13.1	7.7	2.7	16.7	1.2	4.4

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Ships of 100 grt and over, excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets.

2002, as compared to 40.1 per cent in 2001. On the other hand, container ships have remained unchanged at 0.4 million dwt, or around 2 per cent of the total, since the early 1990s. The socialist countries of Asia continued to have a predominant share of both dry bulk carriers and general cargo ships. The absolute tonnage of these types of vessel increased in 2002, to 12.1 million dwt and 8.2 million dwt respectively. However their share of the total decreased marginally to 42.9 per cent (43 per cent in 2001) for dry bulk carriers and 29.0 per cent (29.8 per cent in 2001) for general cargo ships. The absolute tonnage of container ships increased in 2002 to 2.2 million dwt, or 7.6 per cent (compared to 6.8 per cent in 2001).

C. REGISTRY OF VESSELS

1. The 35 most important maritime countries and territories

Rankings in terms of deadweight for the 35 most important maritime countries and territories are provided in table 16. In 2002, these 35 countries and territories controlled 94.9 per cent of the world merchant fleet (the same percentage as in the previous year). The United Arab Emirates, which had been 31st in 2001, was replaced in 2002 by a new entrant, Chile, in 35th place with 2.2 million dwt and 0.29 per cent of the total world fleet. There were several movements in the ranks for the other countries: the Islamic Republic of Iran and Switzerland moved up by four places, the Netherlands by three places, Canada and Morocco by two places, and China, Singapore, Saudi Arabia, Cyprus and Croatia by 1 place; other countries moved down by one place (United States, United Kingdom, India, the Philippines, Indonesia), two places (Sweden) and five places (Brazil).

Among these most important maritime countries and territories, registration under a foreign flag continued in 2002, but its growth weakened. The total tonnage registered under foreign flags in 2002 increased to 465.8 million dwt, representing 64.0 per cent of the 35 countries' total fleet, as compared with 462.5 million dwt or 64.1 per cent in 2001. For developing countries and territories, the trend in favour of registering their tonnage under foreign flags is a recent one. In 2002, the 13 developing countries and territories listed in the table (including Hong Kong (China) but excluding Taiwan Province of China) had 47 per cent of their total tonnage registered under foreign flags. In spite of the continuous trend towards flagging out among developing countries, there are significant differences among the countries concerned. The foreign registries of Saudi Arabia and Hong Kong (China) amounted to 91.6 per cent and 65.0 per cent respectively, while the Islamic Republic of Iran, Kuwait and the Philippines made significantly less use of the benefits of foreign flag facilities, which accounted for only 3.2, 7.0 and 15.5 per cent respectively of their fleets. For developed market-economy countries, the share of foreign-registered tonnage stood at 70.2 per cent in 2002.

2. Open registries

The share of the world merchant fleet in major open registries contracted by 4.7 per cent in 2002 after expanding by 1.7 per cent the previous year. This could reflect the changes in fiscal rules of developed market-economy countries and certain irregularities in open registries. The tonnage distribution of the six major open-registry countries by principal types of vessel is shown in table 17, together with the corresponding totals for another six minor open-registry countries. The total tonnage registered in 2002 in the six major registries decreased by 4.6 per cent to 356.1 million dwt from 373.5 million dwt the previous year, when the tonnage had expanded by 1 per cent. Panama continued to lead the list in 2002 in spite of fleet contraction of 3.4 million dwt or 2 per cent. The allegations of illegal trade of certificates for seafarers led to the arrest of three officials. Liberia's fleet contracted by 6.6 per cent. In May 2002, the United Nations Security Council called Liberia to take urgent steps to ensure that revenues from its Ship Registry are used for legitimate social, humanitarian and development purposes. An international accounting firm was appointed in September to oversee the Registry but withdrew in December. In February 2003, United Nations monitors were sent to the country to verify implementation of the Security Council resolution. Soon after, the country announced the start of a pilot project with IMO for seafarer security identity cards. The combined tonnage of Panama and Liberia amounts to 66.5 per cent of the total tonnage of the six major open-registry countries. In 2002, Malta decreased its fleet by 13.1 per cent to 36.6 million dwt, while Bermuda's tonnage decreased substantially by 22.2 per cent to 6.3 million dwt. The decreases in fleets of the other two major open registries, the Bahamas and Cyprus, were about 2 per cent.

Table 16

The 35 most important maritime countries and territories as of 1 January 2003[a]

Country of domicile[b]	Number of vessels			Deadweight tonnage				
	National flag[c]	Foreign flag	Total	National flag[c]	Foreign flag	Total	Foreign flag as % of total	Total as % of world total
Greece	758	2 345	3 103	44 849 923	105 010 880	149 860 803	70.07	19.52
Japan	747	2 163	2 910	13 472 332	90 924 107	104 396 439	87.10	13.60
Norway	872	819	1 691	27 138 155	30 959 452	58 097 607	53.29	7.57
China	1 617	704	2 321	22 680 169	21 623 434	44 303 603	48.81	5.77
United States	583	870	1 453	11 001 954	31 536 497	42 538 451	74.14	5.54
Germany	377	1 925	2 302	7 231 590	33 517 881	40 749 471	82.25	5.31
Hong Kong (China)	235	334	569	13 206 714	24 527 094	37 733 808	65.00	4.92
Republic of Korea	491	364	855	9 135 854	16 633 763	25 769 617	64.55	3.36
Taiwan Province of China	133	395	528	6 313 645	16 014 886	22 328 531	71.72	2.91
Singapore	457	257	714	12 627 368	6 764 542	19 391 910	34.88	2.53
United Kingdom	396	383	779	7 867 951	10 225 805	18 093 756	56.52	2.36
Denmark	349	333	682	8 540 665	7 971 422	16 512 087	48.28	2.15
Russian Federation	2 176	380	2 556	8 429 692	7 816 315	16 246 007	48.11	2.12
Italy	519	119	638	8 315 551	3 886 635	12 202 186	31.85	1.59
Saudi Arabia	52	69	121	923 734	10 086 880	11 010 614	91.61	1.43
India	344	41	385	9 376 986	1 133 341	10 510 327	10.78	1.37
Turkey	436	137	573	7 252 197	1 684 970	8 937 167	18.85	1.16
Netherlands	576	208	784	4 045 450	3 156 450	7 201 900	43.83	0.94
Iran, Islamic Republic of	149	4	153	6 864 112	229 978	7 094 090	3.24	0.92
Switzerland	12	225	237	691 366	6 309 602	7 000 968	90.12	0.91
Sweden	162	162	324	1 429 038	5 468 352	6 897 390	79.28	0.90
Malaysia	254	52	306	5 790 177	798 897	6 589 074	12.12	0.86
Brazil	142	22	164	4 454 047	2 038 788	6 492 835	31.40	0.85
Belgium	25	128	153	168 703	6 008 133	6 176 836	97.27	0.80
France	168	101	269	2 963 993	3 038 662	6 002 655	50.62	0.78
Canada	217	110	327	2 632 406	3 354 729	5 987 135	56.03	0.78
Philippines	305	31	336	4 095 428	751 145	4 846 573	15.50	0.63
Indonesia	519	91	610	3 225 973	1 088 783	4 314 756	25.23	0.56
Spain	67	263	330	145 830	4 147 174	4 293 004	96.60	0.56
Kuwait	32	0	32	3 341 564	0	3 341 564	0.00	0.44
Monaco	0	103	103	0	3 133 767	3 133 767	100.00	0.41

Table 16 (continued)

Country of domicile[b]	Number of vessels			Deadweight tonnage				
	National flag[c]	Foreign flag	Total	National flag[c]	Foreign flag	Total	Foreign flag as % of total	Total as % of world total
Australia	47	40	87	1 428 901	1 409 743	2 838 644	49.66	0.37
Cyprus	30	38	68	823 590	1 969 719	2 793 309	70.52	0.36
Croatia	64	39	103	1 029 912	1 216 635	2 246 547	54.16	0.29
Chile	56	34	90	862 266	1 364 987	2 227 253	61.29	0.29
Total (35 countries)	13 367	13 289	26 656	262 357 236	465 803 448	728 160 684	63.97	94.90
World total	15 649	14 579	30 228	281 241 565	486 350 815	767 592 380	63.36	100.00

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Vessels of 1,000 grt and above, excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets.

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

[c] Includes vessels flying the national flag but registered in territorial dependencies or associated self-governing territories. For the United Kingdom, British flag vessels are included under the national flag, except for Bermuda (listed in table 17 as an open-registry country).

Table 17

Tonnage distribution of open-registry fleets[a] as of 1 January 2003

Flag	Oil tankers		Bulk carriers		General cargo		Container ships		Others		Total		Total as of 1.1.2002
	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Thousand dwt
Panama	631	51 667	1 287	81 208	1 189	11 313	491	16 493	470	7 827	4 068	168 508	171 874
Liberia	346	34 276	262	15 762	205	3 678	294	9 514	180	5 183	1 287	68 413	73 179
Bahamas	185	24 778	136	8 336	414	6 051	69	2 130	253	2 828	1 057	44 122	45 327
Malta	247	15 613	390	17 183	337	3 061	31	539	24	253	1 029	36 649	42 129
Cyprus	119	6 080	385	19 427	366	3 486	108	2 739	53	365	1 031	32 097	32 941
Bermuda	10	1 864	26	3 598	16	205	14	401	25	225	91	6 293	8 083
Subtotal	1 538	134 277	2 486	145 514	2 527	27 794	1 007	31 817	1 005	16 680	8 563	356 081	373 533
St. Vincent and the Grenadines	30	244	101	3 801	286	2 062	22	156	93	291	532	6 554	
Antigua and Barbuda	6	22	13	149	573	2 378	186	3 436	11	54	789	6 039	
Cayman Is.	33	1 572	21	1 038	40	424	0	0	29	288	123	3 321	
Luxembourg	13	1 014	2	20	8	69	8	115	33	772	64	1 990	
Vanuatu	1	90	20	823	15	243	1	29	70	196	107	1 381	
Gibraltar	17	709	2	30	58	266	12	205	9	52	98	1 261	
Total	1 638	137 928	2 645	151 374	3 507	33 236	1 236	35 757	1 250	18 333	10 276	376 628	
Total six major open registers as of 1 January 2002	1 267	132 382	2 684	151 764	2 946	31 892	1 014	30 574	1 646	26 921	9 557	373 533	
Total six major open registers as of 1 January 2001												395 164	
Total six major open registers as of 1 January 2000												388 688	

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Ships of 1,000 grt and above. This table is not fully comparable with tables 13 and 15, which list ships of 100 grt and above as the base.

Four of the minor open registries are located in developing countries of America (three) and Oceania (one), while the two others are located in developed market-economy countries of Europe. A number of other developing countries (i.e. Belize, Honduras, Sri Lanka, etc.) also have open registries, albeit with less coverage. Establishing open registries can be difficult, as shown by reports concerning the Cambodian registry. A manager from the Republic of Korea was appointed in November 2002 to take over the registry. The former manager's contract had been cancelled in August following the French navy's seizure of a Cambodian-flagged vessel on allegations of cocaine smuggling; that manager was then hired to establish a new Mongolian registry. Two months later, it was reported that he was negotiating a similar deal with Solomon Islands.[3]

Analysis by type of vessel for the six major registries indicated that tankers increased to 37.7 per cent of the total deadweight in 2002 as compared with 35.3 per cent in 2001, while dry bulk carriers maintained their share at 40.8 per cent. For the six major open registries, the combined tonnage of these two types of vessels accounts for 78.5 per cent of the total deadweight and 76.8 per cent when the minor registries are included. General cargo ships (3,507 ships) accounted for 34.1 per cent of the total number of ships, followed by dry bulk carriers (2,645 ships or 25.7 per cent of the total). These figures reflect the importance of open registries for the maritime industry.

3. Nationality of vessels

Table 18 indicates the participation of nationals in the registry of a number of open and international registers for the three most recent years. The data compare the total tonnage registered in the listed countries of registry with the tonnage owned by nationals of, and registered in, the countries of registry. The 20 countries or territories of registry have been divided into three groups: six major open registers, six minor open registers and eight international registers. In open registers, the share of tonnage owned by nationals of open-registry countries is minimal, well below 10 per cent. For international registers, however, two factors are noted. First, nationals of the country or territory of the registry have a significant share of the tonnage registered – as is the case with Denmark, Norway, Hong Kong (China) and Singapore. Second, nationals of a country having a privileged relationship with the territory of registry have a significant share of the tonnage registered – as is the case with United Kingdom with the Isle of Man, the United States with the Marshall Islands, France with the French Antarctic Territory (the Kerguelen Islands) and the Netherlands with the Netherlands Antilles.

In these international registers, the share of tonnage owned by nationals of international registers and of nationals of countries having a privileged relationship with the territory of registry is high, well above 30 per cent and in some cases above 80 per cent. Countries and territories with the highest share, namely Denmark, Norway and Hong Kong (China), were ranked 12th, 3rd and 7th respectively of the 35 most important maritime countries in 2003.

The true nationalities of the vessels registered in the 12 open registries are analysed in table 19. In 2002, 35 countries or territories accounted for 89 per cent of the total tonnage of the 12 open-registry fleets. This percentage was slightly lower than in 2001. Ownership is particularly concentrated in 10 countries or territories, which control 75.7 per cent of the deadweight of vessels registered in these open-registry countries, while the top five countries or territories control 59.0 per cent. Greece was ranked first in 2002 for the ninth consecutive year with the largest share (22.3 per cent) of the open-registry fleets. Greece also had the largest foreign-flag ownership, representing 105 million dwt or 19.5 per cent of the total world foreign-flag tonnage, followed by Japan with 90.9 million dwt or 13.6 per cent of the total tonnage. The two countries' combined foreign-flag tonnage accounted for 33.1 per cent of the total world tonnage under foreign flags.

Table 19 also provides an overview of the way the 35 countries were registering their vessels at the beginning of 2003 under open registries. Overall, the share of the six major open registers stands at 94.7 per cent, with the share of the minor open register being considerably less – only 5.3 per cent.

Table 18

Tonnage owned by nationals of, and registered in, the country or territory of registry in the total fleet of the most important open and international registers, as of 1 January [a]

(thousands of dwt)

Country or territory of registry	Total tonnage registered country of registry			Participation of nationals of country of registry and of nationals of countries having privileged relationship with country of registry					
				in tonnage of registered fleet			in percentage of registered fleet (%)		
	2001	2002	2003	2001	2002	2003	2001	2002	2003
Six major open registers									
Panama	162 321	171 874	168 508	0	0	0	0.0	0.0	0.0
Liberia	75 158	73 180	68 413	0	0	0	0.0	0.0	0.0
Bahamas	44 871	45 327	44 122	226	0	0	0.5	0.0	0.0
Malta	44 497	42 130	36 649	48	36	0	0.1	0.1	0.0
Cyprus	33 312	32 940	32 097	792	756	824	2.4	2.3	2.6
Bermuda	9 122	8 082	6 293	0	0	0	0.0	0.0	0.0
Six minor open registers									
St. Vincent and the Grenadines	8 415	8 602	6 554	0	0	0	0.0	0.0	0.0
Antigua and Barbuda	5 131	5 856	6 039	0	0	0	0.0	0.0	0.0
Cayman Islands	2 501	2 539	3 321	0	0	0	0.0	0.0	0.0
Luxembourg	1 405	2 101	1 990	0	0	0	0.0	0.0	0.0
Vanuatu	1 444	1 534	1 381	0	0	0	0.0	0.0	0.0
Gibraltar	511	999	1 261	0	0	0	0.0	0.0	0.0
Total open registers	388 688	395 164	376 628						
Eight international registers									
Singapore	32 996	32 082	31 246	12 842	11 826	12 627	38.9	36.9	40.4
Norwegian International Ship Registry (NIS)	28 062	28 709	27 373	23 842	24 532	23 654	85.0	85.5	86.4
Hong Kong (China)	15 330	20 333	24 892	12 675	16 530	13 207	82.7	81.3	53.1
Marshall Islands	15 517	18 058	21 860	9 322	8 023	8 667	60.1	44.4	39.6
Isle of Man	8 734	9 552	8 830	5 160	5 070	4 827	59.1	53.1	54.7
Danish International Ship Registry (DIS)	7 617	8 167	8 830	7 559	7 986	8 493	99.2	97.8	96.2
French Antartic Territory	5 000	5 055	4 748	2 805	2 379	2 073	56.1	47.1	43.7
Netherlands Antilles	1 481	1 335	1 442	486	469	592	32.8	35.1	41.1

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Ships of 1,000 grt and above. This table is not fully comparable with tables 13 and 15, which list ships of 100 grt and above as the base.

Table 19

True nationality of major open-registry fleets as of 1 January 2003

Country or territory of domicile	Panama			Liberia			Bahamas			Malta			Cyprus		
	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%
Greece	514	20 000	11	145	9 555	12	164	8 752	18	594	28 909	68	562	23 302	65
Japan	1 785	78 250	42	109	5 221	7	37	654	1	2	78	0	21	304	1
Norway	88	2 942	2	104	7 482	10	273	10 675	22	42	857	2	27	264	1
China	243	8 197	4	59	2 885	4	5	213	0	15	235	1	12	217	1
United States	142	3 125	2	111	4 821	6	173	10 120	20	8	466	1	3	10	0
Germany	23	833	0	433	13 062	17	18	1 076	2	45	789	2	224	4 432	12
Hong Kong (China)	180	14 510	8	47	4031	5	7	366	1	5	449	1	3	177	0
Republic of Korea	295	15 205	8	6	530	1	1	17	0	2	18	0	3	98	0
Taiwan Province of China	294	11 263	6	30	1 144	1	0	0	0	0	0	0	0	0	0
Singapore	72	1 988	1	12	809	1	13	1 051	2	0	0	0	1	30	0
United Kingdom	39	969	1	15	672	1	108	1 352	3	3	52	0	5	20	0
Denmark	19	424	0	6	214	0	50	567	1	3	13	0	0	0	0
Russian Federation	16	81	0	69	4 943	6	5	18	0	92	997	2	76	1313	4
Italy	5	301	0	9	577	1	12	501	1	32	1 013	2	0	0	0
Saudi Arabia	8	641	0	20	5 817	8	13	2 974	6	1	1	0	0	0	0
India	8	111	0	7	518	1	1	12	0	2	53	0	6	100	0
Turkey	3	21	0	3	141	0	3	16	0	85	728	2	0	0	0
Netherlands	24	323	0	9	115	0	45	1 833	4	8	40	0	24	189	1
Iran, Islamic Rep. of	0	0	0	0	0	0	0	0	0	0	0	0	3	225	1
Switzerland	107	3 606	2	14	348	0	1	82	0	53	1 096	3	4	54	0
Sweden	3	16	0	10	959	1	14	692	1	0	0	0	6	24	0
Malaysia	15	111	0	0	0	0	15	92	0	0	0	0	0	0	0
Brazil	11	1 057	1	10	979	1	0	0	0	0	0	0	0	0	0
Belgium	6	553	0	7	798	1	11	125	0	3	86	0	2	9	0
France	8	587	0	3	69	0	29	676	1	0	0	0	2	26	0
Canada	3	33	0	7	238	0	12	413	1	9	34	0	7	314	1
Philippines	17	509	0	0	0	0	0	0	0	0	0	0	2	24	0
Indonesia	45	404	0	1	79	0	2	82	0	0	0	0	0	0	0
Spain	49	313	0	1	95	0	4	536	1	0	0	0	6	130	0
Kuwait	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Monaco	18	841	0	14	632	1	30	660	1	11	215	1	0	0	0
Australia	6	186	0	3	392	1	7	191	0	2	64	0	0	0	0
Cyprus	5	592	0	2	191	0	2	280	1	3	16	0	30	824	2
Croatia	2	2	0	10	604	1	1	44	0	9	441	1	2	12	0
Chile	15	515	0	11	492	1	1	51	0	0	0	0	0	0	0
Subtotal	4 068	168 508	90	1287	68 413	89	1 057	44 122	89	1 029	36 649	86	1 031	32 097	89
Others	2 520	17 892	10	393	8 603	11	378	5 478	11	403	5 960	14	304	3 932	11
Total	6 588	186 400	100	1680	77 016	100	1 435	49 600	100	1 432	42 609	100	1 335	36 029	100

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

Table 19 (continued)

Bermuda			Six minor open registries			Subtotal			Total foreign flag fleet		Country or territory of domicile
No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	
1	15	0	170	4 235	17	2 150	94 768	22	2 345	105 011	**Greece**
0	0	0	27	734	3	1 981	85 242	20	2 163	90 924	**Japan**
2	2	0	57	614	2	593	22 836	5	819	30 959	**Norway**
0	0	0	115	1 589	6	449	13 335	3	704	21 623	**China**
13	154	2	145	1 246	5	595	19 941	5	870	31 536	**United States**
1	22	0	840	6 698	26	1 584	26 912	6	1 925	33 518	**Germany**
4	593	9	20	402	2	266	20 529	5	334	24 527	**Hong Kong (China)**
0	0	0	4	11	0	311	15 879	4	364	16 634	**Republic of Korea**
0	0	0	4	16	0	328	12 423	3	395	16 015	**Taiwan Province of China**
0	0	0	5	59	0	103	3 937	1	257	6 765	**Singapore**
39	3 184	47	40	228	1	249	6 476	2	383	10 226	**United Kingdom**
4	49	1	16	53	0	98	1 319	0	333	7 971	**Denmark**
0	0	0	20	80	0	278	7 431	2	380	7 816	**Russian Federation**
0	0	0	28	562	2	86	2 954	1	119	3 887	**Italy**
0	0	0	4	34	0	46	9 467	2	69	10 087	**Saudi Arabia**
0	0	0	9	83	0	33	877	0	41	1 133	**India**
0	0	0	15	154	1	109	1 060	0	137	1 685	**Turkey**
0	0	0	43	149	1	153	2 648	1	208	3 156	**Netherlands**
0	0	0	0	0	0	3	225	0	4	230	**Iran, Islamic Republic of**
1	3	0	22	426	2	202	5 615	1	225	6 310	**Switzerland**
9	1 730	25	18	171	1	60	3 591	1	162	5 468	**Sweden**
0	0	0	0	0	0	30	203	0	52	799	**Malaysia**
0	0	0	0	0	0	21	2 037	0	22	2 039	**Brazil**
0	0	0	42	1 730	7	71	3 303	1	128	6 008	**Belgium**
0	0	0	27	715	3	69	2 073	0	101	3 039	**France**
14	405	6	6	304	1	58	1 742	0	110	3 355	**Canada**
0	0	0	1	11	0	20	544	0	31	751	**Philippines**
1	2	0	2	31	0	51	598	0	91	1 089	**Indonesia**
0	0	0	2	10	0	62	1 084	0	263	4 147	**Spain**
0	0	0	0	0	0	0	0	0	0	0	**Kuwait**
0	0	0	9	58	0	82	2 406	1	103	3 134	**Monaco**
2	134	2	3	11	0	23	978	0	40	1 410	**Australia**
0	0	0	4	19	0	46	1 922	0	38	1 970	**Cyprus**
0	0	0	15	114	0	39	1 217	0	39	1 217	**Croatia**
0	0	0	0	0	0	27	1 058	0	34	1 365	**Chile**
91	6 293	92	1 713	20 547	80	10 276	376 628	89	13 289	465 804	**Subtotal**
26	519	8	839	5 043	20	4 863	47 428	11	1 290	20 546	**Others**
117	6 812	100	2 552	25 590	100	15 139	424 056	100	14 579	486 350	**Total**

D. SHIPBUILDING AND THE SECOND-HAND MARKET

1. Newbuilding orders

In 2002, newbuilding contracts totalling 52.7 million dwt were placed for the six major ship types – an increase of 2.1 per cent in comparison with 2001 (see table 20). In the tanker sector, pessimism prevailed, with 447 units totalling 24.0 million dwt ordered in 2002, as compared with 550 units totalling 34.3 million dwt in 2001. However, the mood changed by the end of the year as a result of the *Prestige* accident (see box 2). The 2002 newbuilding orders for dry bulk carriers rebounded to 275 units of 20.8 million dwt, more than double the orders of the previous year (165 units of 9.5 million dwt).

Newbuilding orders for container ships went down, but by less in terms of tonnage – 135 units totalling 6.2 million dwt in 2002 as compared to 180 units and 6.6 million dwt in 2001. These newbuilding tonnages continued to reflect the recent trend for post-Panamax container ships. The newbuilding orders for general cargo ships also went up in 2002 to 136 units of 1.6 million dwt from 142 units totalling 1.2 million dwt in 2001. Orders for passenger ferries were remarkably good and almost doubled in tonnage, to a total of 739,000 dwt from 370,000 dwt in the previous year. The number of vessels increased less than proportionally, from 80 in 2001 to 131 in 2002.

2. Tonnage on order

World tonnage on order, by groups of countries of registry and by principal types of vessel, is shown in table 21. World tonnage on order at the beginning of 2003 stood at 118.8 million dwt, representing a healthy increase of 10 per cent over the previous year. Tonnage on order by developed market-economy countries amounted to 40 million dwt, accounting for 33.7 per cent of the total world tonnage on order, as compared with 34 million dwt or 31.5 per cent at the beginning of 2002. Major open-registry countries had 60.7 million dwt or 51.1 per cent of world tonnage on order, as compared with 57.4 million dwt or 53.2 per cent at the beginning of last year. The share of the countries of Central and Eastern Europe decreased slightly in 2002 to 0.4 million dwt or 0.3 per cent of the world total on order, while the share of the socialist countries in Asia also decreased in 2002, ending the year with 3.7 million dwt or 3.1 per cent of the world total on order.

Developing countries' tonnage on order recorded a 60.6 per cent increase from the previous year, reaching 13.9 million dwt or 11.7 per cent of the total world tonnage on order at the beginning of 2003. Tonnage on order by Asian developing countries rose at the same rate to 12.3 million dwt at the beginning of 2003, which accounted for 88.5 per cent of the developing countries' total tonnage on order. African newbuilding orders almost trebled to 201,000 dwt at the beginning of 2003, while the Americas' developing countries' orders increased albeit at a lower rate to 1.4 million dwt.

In 2002, oil tanker orders rose by 17 per cent to 60.7 million dwt, accounting for 51.1 per cent of the world total on order. Developing countries had 7.7 million dwt on order, representing 12.7 per cent of the total tankers on order, with Asian developing countries represented 7.1 million dwt or 92.2 per cent of the developing countries' total. The number of dry bulk carriers on order at the beginning of 2003 also increased from 2002 by 37.4 per cent to 30.5 million dwt, accounting for 25.7 per cent of the world total on order. For this type of vessel, developed market-economy countries and major open-registry countries accounted for 23.5 per cent and 65.6 per cent, representing a combined share of almost 90 per cent. The volume of container ships on order decreased in 2002 by 7.7 per cent to 15.3 million dwt at year's end, representing 12.9 per cent of the world total on order. For container ships on order, developed market-economy countries accounted for 29.7 per cent and major open-registry countries accounted for over 52.5 per cent. At the beginning of 2003 developing countries' container ship orders had almost doubled, reaching 1.9 million dwt, or 1.6 per cent of the total container ships on order. Asian developing countries had 1.5 million dwt or 78.9 per cent of the developing countries' total on order.

Box 2

The impact of the Prestige

On 13 November 2002 the Aframax tanker Prestige carrying 77,000 tons of heavy fuel sent a distress call after severe weather off the north-west Spanish coast caused her to list and start leaking cargo. The 26-year old single-hull vessel had been on her way from Latvia to Singapore when she started to drift towards the coast. Salvors tried to bring her to a sheltered coastal location to unload the cargo but authorities opposed this. Instead the vessel was towed to the open seas where, battered by the waves, she broke in two and sank on 19 November in depths of about 3,500 metres.

The accident polluted about 200 km of coast in north-west Spain and weeks later also sections of the southern coast of France, causing major economic and environmental damage. By mid-January it was estimated that about 53,000 tons remained in the wreck, and even although the cracks had been sealed, about 80 tons per day were escaping from it. The $178 million estimated by the International Oil Pollution Compensation Fund that would be available to compensate related claims was dwarfed by the $9.9 billion estimated by the Spanish Government as being required to clean up the coastline.

The accident, however, had also other impacts. Questions were raised concerning the state port control carried out by European countries in accordance with the Paris MOU. The fact that the Prestige had not been inspected over the last twelve months in spite of visiting several ports for bunkering highlighted the practice of conducting such inspections only when vessels actually dock, as well as the low rate of inspection in some countries. Consequently, France started to enroll retired masters and qualified personnel to step up such inspections.

The question of the need to have authorized places of refuge to counter the worst features of marine accidents was raised again by the Prestige. In early 2001, coastal authorities denied entry to the tanker Castor, which had developed extensive cracks after sailing in heavy weather in the Mediterranean Sea with 29,500 tons of unleaded gasoline. The cargo was finally transferred to another vessel at sea.

Moreover, two European countries, France and Spain, announced in early December a unilateral measure based on the UN Convention on the Law of the Sea (UNCLOS) whereby single hull tankers carrying heavy oils must sail outside their 200-mile exclusive economic zones. By early January, Spain alone had expulsed seven vessels, while charters started to include extended sailing routes to comply with the measure. Malta, one of the registries most affected by the expulsions, complained of this sudden and muscular measure.

The most significant impact for shipping markets arose from the European Union proposal to deal with single hull tankers.[a] *They would be banned for carrying heavy fuel oil, their phasing out would be accelerated, and their Condition Assessment Scheme examination would include structural soundness. More specifically, class 1 tankers, also called pre-Marpol tankers, were permitted to operate until 2005 (maximum 23 years old), while class 2 tankers, that is those complying with Marpol regulations, would be allowed to operate until 2010 (maximum 28 years old). For smaller tankers of category 3 the proposed deadline was 2015 (also maximum 28 years old). A bill was presented in the US Senate to phase out single hull tankers by 2005. These proposals brought forward the deadlines agreed in IMO in the wake of the sinking of the Erika almost three years ago. According to the revised regulation 13G of the Marpol Convention, which entered into force in September 2002, class 1 single hull tankers would have to be scrapped by 2007 and all others by 2015. According to this the Prestige was due for scrapping in 2005. As there were about 5,500 single hull tankers in operation as against 2,500 double-hulls, these proposals strengthened the current low prices of newbuildings and fostered orders for new tanker tonnage, as well as assuring the revival of depressed freight markets.*

[a] *Differential treatment of these vessels was prescribed by the Marpol Convention adopted in 1973 and enforced since 1982. Large tankers over 20,000 dwt were classified in class 1 and class 2 while smaller ones were all in class 3.*

Source: Lloyd's List (London), several issues.

Table 20

Newbuilding contracts placed for the main types of ship[a] during 1992–2002

(number of ships, thousands of dwt)

Year	Tankers		Bulk carriers		Combined carriers		General cargo ships		Container vessels		Passenger ferries		Total[b]	
	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt
1992	206	10 050	126	7 261	0	0	225	1 402	127	3 227	114	91	798	22 031
1993	267	17 327	299	18 303	1	83	261	2 102	182	5 057	122	163	1 132	43 035
1994	256	13 833	339	19 896	2	220	227	1 493	242	6 497	118	159	1 184	42 098
1995	243	9 143	381	22 418	4	440	345	2 449	345	8 562	144	224	1 462	43 236
1996	274	13 875	271	14 250	-	-	257	2 107	292	6 978	144	155	1 238	37 365
1997	428	32 516	282	17 983	2	220	299	2 701	166	3 618	96	149	1 273	57 187
1998	280	21 922	166	11 835	0	0	333	2 488	178	5 975	117	231	1 074	42 451
1999	206	16 822	346	23 934	-	-	162	1 323	170	7 183	116	348	1 000	49 610
2000	446	41 865	344	20 081	-	-	255	2 534	373	15 025	136	308	1 554	80 121
2001	550	34 260	165	9 496	-	-	142	1 222	180	6 564	101	80	1 138	51 622
2002														
Jan	12	625	8	385	-	-	4	27	2	84	21	13	39	47
Feb	25	1 268	15	1 459	-	-	3	18	4	20	3	5	39	50
Mar	27	1 293	20	1 844	-	-	14	232	1	42	17	4	19	79
Apr	47	3 708	19	1 220	.	.	15	138	12	512	4	13	116	97
May	62	3 011	15	1 457	-	-	3	26	6	293	7	7	46	93
Jun	36	1 442	31	2 869	-	-	10	82	7	405	5	-	4	89
Jul	33	1 347	31	2 261	-	-	12	130	17	1 129	5	17	154	98
Aug	34	1 833	17	1 194	-	-	20	169	4	36	66	25	70	81
Sep	44	2 119	26	2 025	-	-	12	212	13	393	18	14	50	113
Oct	35	1 893	50	3 128	-	-	18	205	20	888	10	17	102	113
Nov	37	2 232	12	770	-	-	3	28	22	899	8	13	88	82
Dec	55	3 808	31	2 187	-	-	22	326	27	1 522	7	3	12	142
Total	447	23 979	275	20 799	-	-	136	1 593	135	6 223	111	131	739	1 084

Source: Compiled by the UNCTAD secretariat on the basis of data from Institute of Shipping Economics and Logistics (2003), *Shipping Statistics and Market Review*, Jan./Feb., table II-1.1.1.1.

[a] Ships of 300 grt and over.

[b] Total does not include data on newbuilding contracts for other types of ship.

Table 21

World tonnage on order as of 1 January 2003
(thousands of dwt)

Country groups of registry	Total	Oil tankers	Bulk carriers	General cargo	Container ships	Other ships
World total	118 755	60 716	30 522	4 408	15 266	7 843
Developed market-economy countries	40 043	22 445	7 163	1 800	4535	4 100
Major open-registry countries	60 721	28 936	20 032	1 547	8 009	2 197
Countries of Central and Eastern Europe	398	97	41	223	-	37
Socialist countries of Asia	3 684	1 555	698	254	817	360
Developing countries, total	13 909	7 683	2 588	583	1 905	1 150
***of which*:**						
Africa	201	5	8	16	-	172
Americas	1 411	551	120	203	500	87
Asia	12 296	7 127	2 460	364	1 455	890
Europe[a]	0	-	-	-	-	-
Oceania	0	-	-	-	-	-

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

[a] Not reported.

3. Prices of newbuildings and second-hand tonnage

Table 22 indicates newbuilding prices for the main types of vessel. In 2002, prices for all the main types and sizes of newbuildings, with the exception of Panamax bulk carriers and LNG carriers, decreased significantly from those of the previous year. Price reductions were more pronounced for container ships and handy-size bulk carriers and reflected the depressed demand for cargo. Major shipbuilding countries continued to discuss measures to align shipbuilding capacity with forecasted demand. Reductions in oil tanker newbuilding prices for all sizes were less than 10 per cent in 2002 in relation to their 2001 level. Newbuilding prices for Cape-sized dry bulk carriers also decreased by about 10 per cent in 2002, while the Panamax prices were steady and those for handy-sized decreased by 16.7 per cent. Prices of 2,500 TEU cellular container ships declined substantially by 17.6 per cent, while the decline for general cargo vessels was 11.0 per cent. Modest increases of 1.2 and 3.4 per cent were observed for LNG and LPG gas carriers. However larger LNG vessels of up to 200,000 cubic metres were under consideration to reap economies of scale of up to 15 per cent when shipping gas from Qatar. In general, the downward trend of shipbuilding prices continued for all types and sizes of vessel as demand remained weak.

As table 23 indicates, average second-hand prices for tankers and bulk carriers moved in opposite directions. Dry bulk carriers recorded gains, with the largest ones being for smaller vessels. The number of transactions was also up to 324 from the 2001 level of 182, with Panamax and Cape-size being most popular and the small handy-size vessels accounting for 113 transactions. In the tanker sector, single-digit price reductions were seen during the year, except for VLCC and ULCC. In spite of lower prices, fewer transactions were reported for 2002, when 143 units changed hands (199 units the year before), with 92 units being over 50,000 dwt.

Table 22

Representative newbuilding prices in selected years[a]
(millions of dollars)

Type and size of vessels	1980	1985	1990	1995	2000	2001	2002	% change 2001/2002
30–50,000 dwt bulk carrier	17	11	24	25	20	18	15	-16.7
32–45,000 dwt tanker	19	18	29	34	29	27	26	-3.7
70–74,000 dwt bulk carrier	24	14	32	29	23	20	20	0.0
80–105,000 dwt tanker	28	22	42	43	41	37	35	-5.4
120,000 dwt bulk carrier	32	27	45	40	40	34	31	-8.8
250–280,000 dwt tanker	75	47	90	85	76	72	67	-6.9
125–138,000 m3 LNG	200	200	225	245	165	162	164	1.2
75,000 m3 LPG	77	44	78	68	60	58	60	3.4
15,000 dwt general cargo	14	12	24	21	19	18	16	-11.1
2,500 TEU full containership	-	26	52	50	35	34	28	-17.6

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

[a] From 1995 on, prices correspond to the large vessel size.

Table 23

Second-hand prices for five-year-old vessels, 1997–2002
(as of year's end, in millions of dollars)

Vessel	1997	1998	1999	2000	2001	2002	% change 2001/2002
40,000 dwt tankers[a]	28	20	20	27	26	24	-7.7
80–95,000 dwt tankers[a]	38	25	26	39	33	30	-9.1
130–150,000 dwt tankers[a]	47	37	36	50	43	42	-2.3
250–280,000 dwt tankers[a]	70	50	50	71	60	53	-11.7
45,000 dwt dry bulk carrier	18	13	16	15	12	15	25.0
70,000 dwt dry bulk carrier	21	15	17	16	14	17	21.4
150,000 dwt dry bulk carrier	30	24	28	25	22	26	18.2

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Fearnleys, *Review 2002*.

[a] From 1996 on, prices correspond to the larger vessels.

Chapter 3

PRODUCTIVITY OF THE WORLD FLEET AND SUPPLY AND DEMAND IN WORLD SHIPPING

This chapter provides information on the operational productivity of the world fleet and an analysis of the balance between supply and demand for tonnage. Key indicators are the comparison of cargo generation and fleet ownership, tons of cargo carried and ton-miles performed per dwt, and the analysis of tonnage oversupply in the main shipping market sectors.

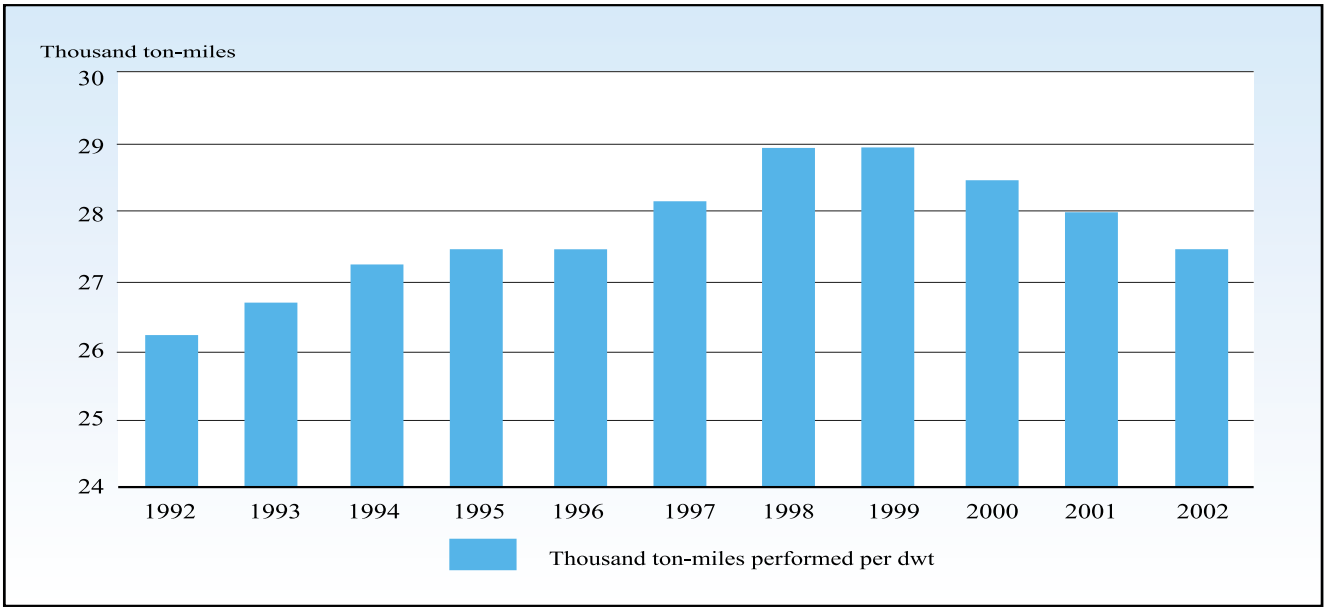
A. OPERATIONAL PRODUCTIVITY

The main indicators of operational productivity for the world fleet in tons and ton-miles per dwt are shown in figure 6 and table 24. Tons of cargo carried per deadweight ton (dwt) in 2002 dropped slightly to 7.0, and thousands of ton-miles performed per deadweight ton also decreased to 27.5. The decrease in productivity measured in tons of cargo carried per deadweight ton (dwt) reflects the reduction of cargo carried relative to fleet expansion. The decrease in productivity measured in ton-miles per deadweight ton results from the slowdown of seaborne trade from the peak reached in 2000 and the expansion of the world fleet.

Table 25 provides supplementary data on operational productivity in terms of cargo carried per deadweight ton by type of vessel. Productivity in terms of tons carried per deadweight ton for oil tankers, dry bulk and combined carriers dropped to 6.8, 4.6 and 7.9 tons per dwt respectively. The cargo volumes carried per deadweight ton of the residual fleet increased to 10.0 tons per dwt.

Figure 6

Index of ton-miles performed per deadweight ton of total world fleet, 1992–2002



Source: UNCTAD calculations.

Table 24

Cargo carried and ton-miles performed per deadweight ton (dwt) of the total world fleet, selected years

Year	World fleet (million dwt)	Total cargo (million tons)	Total ton-miles performed (thousands of millions of ton-miles)	Tons carried per dwt	Thousands of ton-miles performed per dwt
1990	658.4	4 008	17 121	6.1	26.0
1995	734.9	4 651	20 188	6.3	27.5
2000	808.4	5 871	23 016	7.3	28.5
2001	825.7	5 840	23 241	7.1	28.0
2002	844.2	5 888	23 251	7.0	27.5

Sources: World fleet: Lloyd's Register – Fairplay (mid-year data for 1990, year-end data for all other years shown); total cargo carried: UNCTAD secretariat; ton-miles: Fearnley's, *Review*, various issues. Data compiled by the UNCTAD secretariat.

Table 25

Estimated productivity of tankers, bulk carriers, combined carriers[a] and the residual fleet,[b] selected years

(tons carried per dwt)

Year	Tons of oil carried by tankers of over 50,000 dwt (millions)	Tons carried per dwt of tankers	Tons of dry cargo carried by bulk carriers of over 18,000 dwt (millions)	Tons carried per dwt of bulk carriers	Tons of oil and dry bulk cargo carried by combined carriers of over 18,000 dwt (millions)	Tons carried per dwt of combined carriers	Tons carried by the residual fleet[a] (millions)	Tons carried per dwt of the residual fleet
1970	1 182	8.6	403	8.4	97	6.8	800	6.3
1980	1 564	4.8	396	2.9	282	5.8	1 406	8.3
1990	1 427	6.0	667	3.3	203	6.3	1 680	9.1
2000	2 077	7.3	1 255	4.6	122	7.9	2 415	10.0
2001	2 072	7.3	1 313	4.7	116	8.1	2 339	9.5
2002	2 059	6.8	1 333	4.6	100	7.9	2 395	10.0

Sources: Compiled by the UNCTAD secretariat on the basis of data from Fearnley's *Review*, various issues; *World Bulk Trades* and *World Bulk Fleet*, various issues; and other specialized sources.

[a] Tankers, bulk carriers and combined carriers indicated in table 6.

[b] The residual fleet refers to general cargo, container and other vessels included in table 6.

Indicative data on ton-miles performed by oil tankers, dry bulk carriers, combined carriers and the residual fleet are provided in table 26. The ton-miles per deadweight ton of oil tankers decreased in 2002 by 7.6 per cent to 31.4, while the ton-miles per deadweight ton of dry bulk carriers and combined carriers decreased by 1.7 and 2.1 per cent to reach 23.5 and 37.5 respectively. The residual fleet increased its productivity by 5.9 per cent to 26.9 ton-miles per dwt.

B. SUPPLY AND DEMAND IN WORLD SHIPPING

1. Surplus tonnage

A summary of the balance of tonnage supply and demand for 1990 and the period 1998–2002 is provided in table 27. The total surplus tonnage in 2002 stood at about the same level as that of the previous year at 21.7 million dwt. This stability of the surplus was largely attributable to the increase in cargo volumes being equal to the influx of newbuildings into the world fleet.

2. The supply and demand mechanism by type of vessel

Tonnage supply in the oil tanker sector decreased in 2002 by 12.5 million dwt to 267.7 million dwt as newbuildings delivered were outweighed by tonnage scrapped, laid-up or lost (see table 28 and figure 7). This, combined with reduced shipments, increased overcapacity to 19.1 million dwt or 7.1 per cent of the total world tanker fleet. In 2002, the total dry bulk fleet supply increased by 3.5 million dwt to 258.8 million dwt. The steady increase in shipments of the main dry cargoes mentioned in chapter 1 helped to reduce overtonnage to only 2.2 million dwt, equivalent to 0.9 per cent of the dry bulk fleet. For the conventional general cargo fleet, overcapacity was reduced in 2002, with supply exceeding demand by only 0.4 million dwt or 0.7 per cent of the world fleet of this sector. The surplus tonnage of general cargo vessels has continued to follow a downward trend since the early 1990s. In the unitized fleet sector, 7.4 million dwt of container ships were added in 2002, an amount similar to that of the previous

Table 26

Estimated productivity of tankers, bulk carriers, combined carriers[a] and the residual fleet,[b] selected years

(thousands of ton-miles performed per dwt)

Year	Ton-miles of oil by tankers (thousands of millions)	Ton-miles per dwt of tankers	Ton-miles of dry bulk cargo by dry bulk carriers (thousands of millions)	Ton-miles per dwt of bulk carriers	Ton-miles of oil and dry bulk cargo by combined carriers (thousands of millions)	Ton-miles per dwt of combined carriers	Ton-miles of the residual fleet (thousands of millions)	Ton-miles per dwt of the residual fleet
1970	6 039	43.8	1 891	39.4	745	52.5	1 979	15.7
1980	9 007	27.6	2 009	14.5	1 569	32.4	4 192	24.8
1990	7 376	30.8	3 804	18.8	1 164	36.0	4 777	26.0
2000	9 840	34.5	6 470	23.9	593	38.5	6 159	25.5
2001	9 721	34.0	6 688	23.9	552	38.3	6 236	25.4
2002	9 572	31.4	6 766	23.5	473	37.5	6 452	26.9

Source: Compiled by the UNCTAD secretariat on the basis of data from Fearnley's *Review*, various issues; *World Bulk Trades* and *World Bulk Fleet*, various issues; and other specialized sources.

[a] Tankers, bulk carriers and combined carriers indicated in table 6.

[b] The residual fleet refers to general cargo, container and other vessels included in table 6.

Table 27

Tonnage oversupply in the world merchant fleet, 1990 and 1998–2002
(end-of-year figures)

	1990	1998	1999	2000	2001	2002
			Million dwt			
World merchant fleet	658.4	788.7	799.0	808.4	825.6	844.2
Surplus tonnage[a]	63.7	24.7	23.7	18.4	21.5	21.7
Active fleet[b]	594.7	764.0	775.3	790.0	804.1	822.5
			Percentages			
Surplus tonnage as percentage of world merchant fleet	9.7	3.1	3.0	2.3	2.6	2.6

Sources: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay and *Lloyd's Shipping Economist*, various issues.

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

[b] World fleet minus surplus tonnage.

Table 28

Analysis of tonnage surplus by main type of vessel, 1996–2002[a]
(average annual figures in millions of dwt)

	1996	1997	1998	1999	2000	2001	2002[d]
World tanker fleet	285.1	290.6	291.0	281.8	279.4	280.2	267.7
Total tanker fleet surplus[b]	28.8	17.0	17.3	14.0	13.5	17.9	19.1
Share of surplus fleet in world tanker fleet (%)	10.1	5.8	5.9	5.0	4.8	6.4	7.1
World dry bulk fleet	257.2	260.9	257.1	245.7	247.7	255.3	258.8
Dry bulk fleet surplus[b]	17.2	10.3	5.8	7.9	3.8	2.9	2.2
Share of surplus in world dry bulk fleet (%)	6.7	3.9	2.3	3.2	1.5	1.1	0.9
World conventional general cargo fleet	62.7	62.0	60.5	59.9	59.3	57.8	57.3
Conventional general cargo fleet surplus	1.4	1.7	1.6	1.8	1.1	0.7	0.4
Share of surplus in world conventional general cargo fleet (%)	2.2	2.7	2.6	3.0	1.8	1.2	0.7
World unitized fleet[c]	59.3	65.7	73.1	76.1	83.6	91.2	98.6
Surplus of unitized fleet	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Share of surplus in world unitized fleet (%)	0.0	0.0	0.0	0.0	0.0	0.0	0.0

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

[a] Aggregates for all sectors shown in this table are averages for the years indicated and therefore differ from the world figures in table 27. This table excludes tankers and dry bulk carriers of less than 10,000 dwt and conventional general cargo/unitized vessels of less than 5,000 dwt.

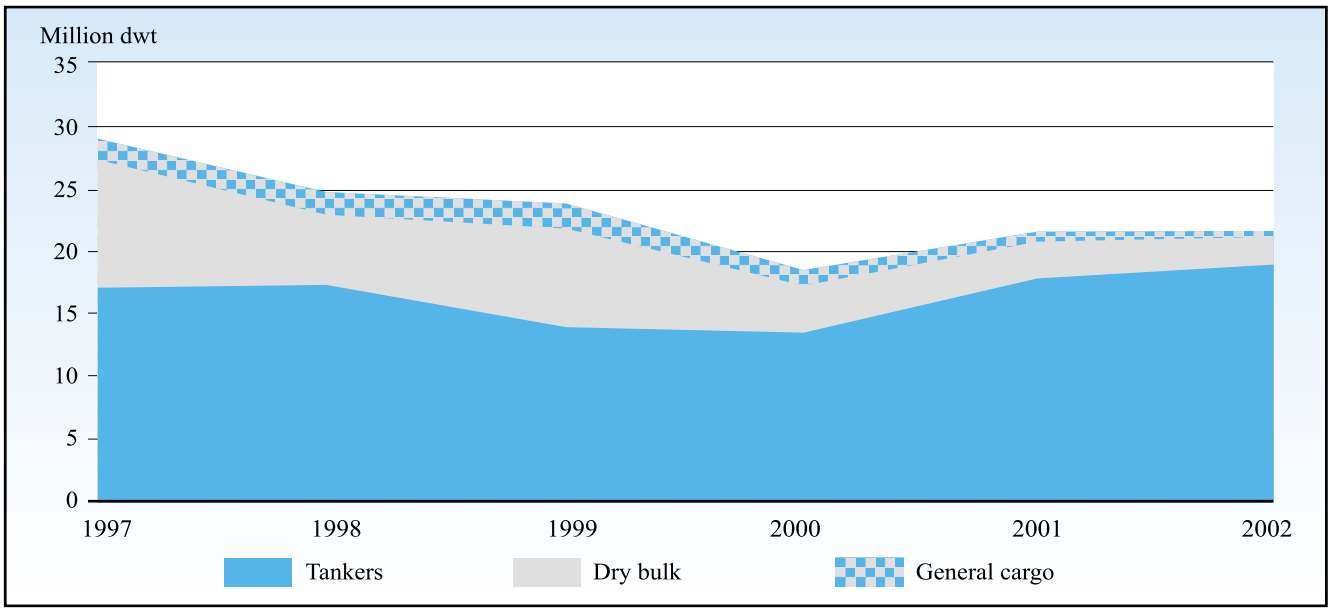
[b] Including 50 per cent of combined ore/bulk/oil carriers.

[c] Unitized fleet includes here fully cellular container ships, partly cellular container ships, ro-ro ships and barge carriers.

[d] Data for 2002 correspond to figures up to October 2002 as compiled in December 2002.

Figure 7

Trends in surplus capacity by main vessel types, selected years



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

year, with this fleet reaching 98.6 million dwt. As in previous years, expanding trade for liner shipping has been able to absorb these tonnages, resulting in full employment of the world unitized fleet. In the medium term, overcapacity may be possible, as large orders have been placed by carriers, notably the MSC order for 20 vessels with capacities between 5,000 and 8,000 TEU for delivery in 2005.

C. COMPARISON OF CARGO TURNOVER AND FLEET OWNERSHIP

The correlation between cargo volume generated by different country groups and their fleet ownership is summarized in table 29. Developed market-economy countries generated 50.5 per cent of world seaborne trade in 2002, compared with 53.7 per cent in 1980. Over the same period, the tonnage share of the fleet of developed market-economy countries fell by half, from about 51 per cent in 1980 to about 26 per cent in 2002. However, in addition to tonnage under national flags, there is also the tonnage of vessels owned by nationals of a particular country but registered under foreign flags, and the two together bring the share of developed market-economy countries to 65 per cent. The share of developing countries in world cargo turnover has remained at about 40 per cent. Their tonnage owned and registered under national flags increased from 10 per cent of the world fleet in 1980 to nearly 20 per cent at the beginning of 2003. Tonnage beneficially owned by developing countries has expanded to nearly one-third of the total beneficially registered tonnage, bringing the total tonnage owned by developing countries to about 36 per cent of the world fleet. The share of world cargo turnover generated by the countries of Central and Eastern Europe remained at about 3 per cent in 2002, unchanged from the levels of previous years, but significantly less than the 4.7 per cent level of 1980. These countries' fleet position also declined from 5.5 per cent to about 2 per cent in 2002. The socialist countries in Asia increased their share in world trade to 6 per cent in 2002, while they improved their share in world tonnage from 1.6 per cent in 1980 to 3.3 per cent in 2002. In addition, these countries have a small share of their fleet registered in the open registries.

Information on the fleet ownership of the major trading nations is provided in table 30. It may be noted that the major trading nations are also major owners of tonnage, which reflects an aspect of trade-supporting policies involving exploiting maritime transport as a complement to trade. It is generally considered that maritime capabilities, specifically the ownership of substantial

Table 29

Comparison between total cargo turnover and fleet ownership, by country groups, in 1970, 1980, 1990 and 2000–2002

Country grouping	Year	Total of goods loaded and unloaded (million tons)	Percentage of world total	Merchant fleet (million dwt)	Percentage of world total
Developed market-economy countries	1970	2 832.0	55.1	211.9	65.0
	1980	3 965.0	53.7	350.1	51.3
	1990	4 574.7	56.2	219.0	33.3
	2000	6 285.0	51.9	203.4	25.2
	2001	6 110.0	54.7	207.5	25.1
	2002	6 079.0	50.5	217.1	25.7
Major open-registry countries	1970	[a]	[a]	70.3	21.6
	1980	[a]	[a]	212.6	31.1
	1990	[a]	[a]	224.6	34.1
	2000	[a]	[a]	384.7	48.1
	2001	[a]	[a]	402.4	48.7
	2002	[a]	[a]	398.5	47.2
Developing countries	1970	2 056.0	40.0	20.5	6.3
	1980	2 926.0	39.6	68.4	10.0
	1990	3 095.0	38.0	139.7	21.2
	2000	4 796.0	39.5	157.0	19.4
	2001	4 787.0	42.8	159.0	19.3
	2002	4 836.0	40.2	171.3	20.3
Countries of Central and Eastern Europe (including former USSR)	1970	204.0	4.0	20.5	6.2
	1980	346.0	4.7	37.8	5.5
	1990	275.9	3.4	44.3	6.7
	2000	377.0	3.1	16.3	2.0
	2001	373.0	3.3	15.4	1.9
	2002	387.0	3.2	15.9	1.9
Socialist countries of Asia	1970	43.0	0.8	1.2	0.4
	1980	146.0	2.0	10.9	1.6
	1990	187.7	2.4	22.1	3.4
	2000	654.0	5.4	26.1	3.2
	2001	692.0	6.2	26.5	3.2
	2002	723.0	6.0	28.3	3.3
World total[b]	1970	5 135.0	100.0	326.1	100.0
	1980	7 383.0	100.0	682.8	100.0
	1990	8 133.3	100.0	658.4	100.0
	2000	12 113.0	100.0	808.4	100.0
	2001	11 161.0	100.0	825.6	100.0
	2002	12 025.0	100.0	844.2	100.0

Source: As per Annexes II and III(b).

[a] All goods loaded and unloaded are included in the volume of developing countries.

[b] Including unallocated tonnage indicated in annex III(b).

Table 30

Maritime engagement of 25 major trading nations
(as of the end of 2002)

Country/territory	Percentage share of world trade generated, in terms of value	Percentage share of world fleet in terms of dwt
United States	14.5	5.0
Germany	8.4	4.8
Japan	5.7	12.4
France	5.0	0.7
United Kingdom	4.7	2.1
China	4.7	5.3
Italy	3.8	1.5
Canada	3.7	0.7
Netherlands	3.5	0.9
Hong Kong (China)	3.1	4.5
Belgium-Luxembourg	3.1	1.1
Republic of Korea	2.4	3.1
Spain	2.1	0.5
Taiwan Province of China	1.9	2.6
Singapore	1.8	2.3
Russian Federation	1.3	1.9
Switzerland	1.3	0.8
Malaysia	1.3	0.8
Russian Federation	1.3	1.9
Thailand	1.0	0.3
Sweden	1.1	0.8
Australia	1.1	0.3
Brazil	0.8	0.8
Saudi Arabia	0.8	1.3
Denmark	0.8	2.0
Norway	0.7	6.9
Total	78.6	73.3

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by the World Trade Organization.

tonnage, are essential for a country's trade support and promotion. The table also highlights the similarities and differences in the shipping services of the leading trading nations. Major trading countries such as Japan, China (including Hong Kong), the Republic of Korea, Denmark, Sweden and Norway are outstanding among the nations with maritime services for cross trades. Other major trading nations are major importers or users of shipping services while maintaining a relevant ownership position and, to a lesser extent, a national flag position. The United States and France come into this group. In 2002 the United States generated about 14.5 per cent of world trade while it owned 5.0 per cent of world tonnage, with only about one-fourth of such tonnage flying the national flag. Similarly, France generated 5.0 per cent of world trade as compared to a tonnage ownership position of 0.7 per cent, with the national flag having a share of one-half of this percentage.

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)

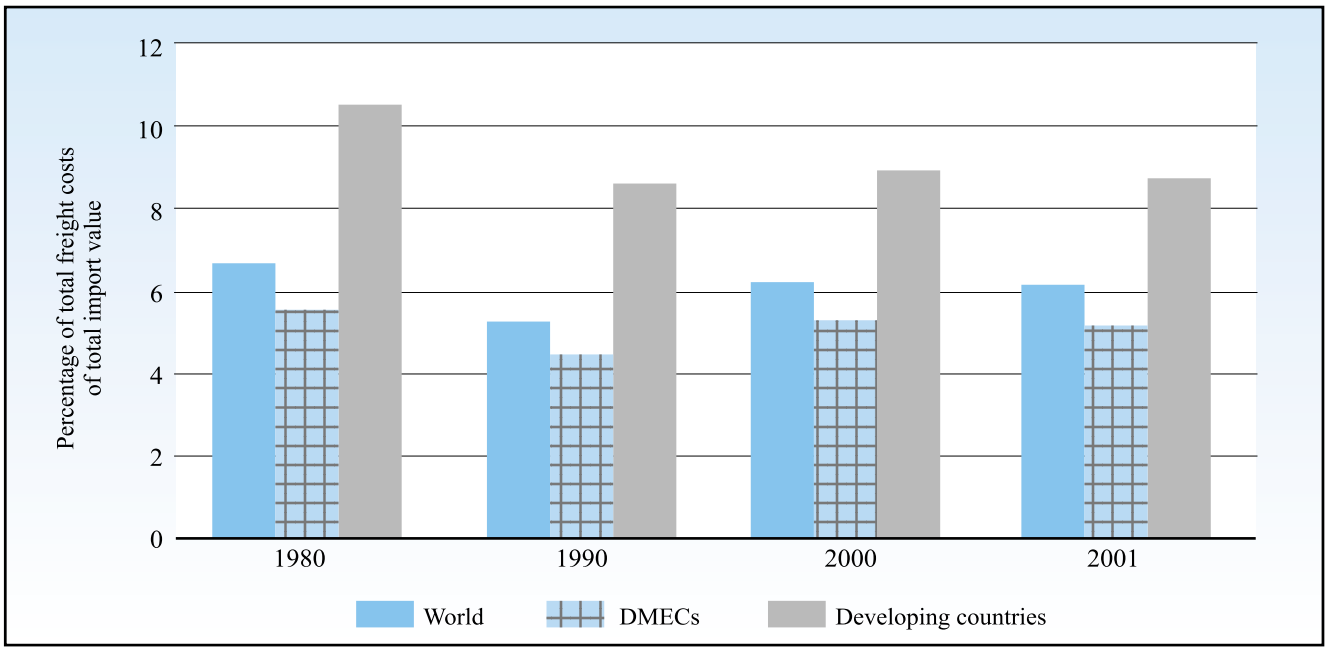
Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f)	Freight costs as % of import value
1980	World total	123 264	1 856 834	6.64
	Developed market-economy countries	78 286	1 425 979	5.49
	Developing countries–total	44 978	430 855	10.44
	of which:			
	Africa	10 432	77 757	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.

Chapter 5

PORT DEVELOPMENT

This chapter covers container port throughput for developing countries, improving port performance, institutional changes in ports and security measures in ports.

A. CONTAINER PORT TRAFFIC

Table 42 gives the latest available figures on reported world container port traffic in developing countries and territories for the period 1999 to 2001. The world growth rate for container port throughput (number of movements measured in TEUs) increased by 2.2 per cent in 2001. This was only one-sixth of the growth of the previous year, which stood at 18.7 per cent, and reflects the slowdown in liner traffic during 2001. The throughput for 2001 reached 236.7 million TEU, an annual increase of 5 million TEU from the level of 231.7 million TEU reached in 2000.

The rate of growth for developing countries and territories was 2.7 per cent, with a throughput of 96.6 million TEU, which corresponds to 40.8 per cent of world total throughput. The rate of growth was considerably lower than that reached in 2000 – 14.6 per cent – when developing countries' throughput was 94.1 million TEU. Countries with double-digit growth in 2001 and 2000 were Malaysia, Oman, Jamaica, the Islamic Republic of Iran, Peru, Yemen, Djibouti and Sudan – a total of eight countries, less than half the number recorded for the years 2000 and 1999. The growth rate in developing countries is uneven from year to year, owing sometimes to strong fluctuations in trade and sometimes to improved reporting of data or lack of data for some years.

Preliminary figures for 2002 are available for the leading 20 ports of the world handling containers and are indicated in table 43. There were 10 ports of developing countries and territories and socialist countries of Asia in the list, with the remaining 10 located in market-economy countries. Of the latter, there were six in Europe, three in the United States and one in Japan. Hong Kong (China) maintained its leadership with a 4 per cent increase, followed by Singapore, which recorded an even stronger 9.1 per cent increase. Mainland Chinese ports recorded rapid growth: Qingdao moved from nineteenth to fifteenth place with a 17.4 per cent increase, while Shanghai recorded a remarkable 36 per cent increase and displaced Kaoshiung from fourth place. Shenzhen recorded an outstanding 49.8 per cent increase to jump two places above Rotterdam and Los Angeles. There were also other movements in the ranking: Gioia Tauro and Antwerp moved up by three and one place respectively; Bremerhaven, Manila and Tokyo slipped down by one place each; and Felixstowe just managed to stay in the ranking after dropping four places. Overall traffic in these top-twenty ports increased by 13.3 per cent, much higher than the 2.2 per cent recorded for all world ports, and confirmed the trend towards traffic concentration. The top 20 ports for 2002 recorded a total of 127 million TEU, which is equivalent to 53.6 per cent of the world throughput (48.4 per cent in 2001).

B. IMPROVING PORT PERFORMANCE

During 2002, China's top 10 container ports recorded an impressive 35 per cent increase in traffic to 30.3 million TEU. Shanghai recorded 8.61 million TEU, for the first time overtaking Kaohsiung (Taiwan Province of China), which recorded 8.49 million TEU. Hong Kong (China) again took the top place among container ports worldwide, reaching 18.6 million TEU.

Table 42

Container port traffic of 51 developing countries and territories in 2001, 2000 and 1999

(TEUs)

Country or territory	TEUs 2001	TEUs 2000	TEUs 1999	% change 2001/2000	% change 2000/1999
Hong Kong, China	17 900 000	18 100 000	16 210 762	-1.1	11.7
Singapore	15 520 000	17 040 000	15 944 793	-8.9	6.9
Republic of Korea	9 887 576	9 030 174	7 014 245	9.5	28.7
Malaysia	6 224 833	4 642 428	3 941 777	34.1	17.8
United Arab Emirates	5 081 964	5 055 801	4 930 299	0.5	2.5
Indonesia	3 492 153	3 797 948	2 660 439	-8.1	42.8
Thailand	3 381 619	3 178 779	2 892 216	6.4	9.9
Philippines	3 090 952	3 031 548	2 813 099	2.0	7.8
Brazil	2 616 075	2 413 098	2 022 842	8.4	19.3
India	2 591 071	2 450 656	1 954 025	5.7	25.4
Panama	2 170 526	2 369 681	1 649 512	-8.4	43.7
Sri Lanka	1 726 605	1 732 855	1 704 389	-0.4	1.7
Egypt	1 708 990	1 625 601	1 520 523	5.1	6.9
Saudi Arabia	1 677 413	1 502 893	1 448 338	11.6	3.8
Mexico	1 358 175	1 315 701	1 083 887	3.2	21.4
Oman	1 325 493	1 161 549	773 806	14.1	50.1
Viet Nam	1 290 555	1 189 796	n.a.	8.5	n.a.
Chile	1 209 101	1 253 131	743 364	-3.5	68.6
Malta	1 205 764	1 082 235	1 091 364	11.4	-0.8
Argentina	1 058 009	1 144 834	1 021 973	-7.6	12.0
Venezuela	924 642	674 558	654 148	37.1	3.1
Jamaica	888 941	765 977	689 677	16.1	11.1
Bahamas	860 000	572 224	543 993	50.3	5.2
Iran, Islamic Rep. of	601 552	415 382	320 622	44.8	29.6
Costa Rica	563 825	573 502	590 000	-1.7	-2.8
Côte d'Ivoire	543 846	434 422	463 835	25.2	-6.3
Peru	537 554	460 631	376 045	16.7	22.5
Colombia	531 262	791 588	413 935	-32.9	91.2
Guatemala	527 960	495 809	151 493	6.5	227.3
Bangladesh	486 289	456 007	392 137	6.6	16.3
Dominican Republic	466 000	566 479	n.a.	-17.7	n.a.
Ecuador	414 355	414 104	378 000	0.1	9.6
Honduras	406 359	392 837	n.a.	3.4	n.a.
Yemen	377 708	248 177	121 563	52.2	104.2
Trinidad and Tobago	352 758	282 487	298 553	24.9	-5.4
Morocco	346 724	328 808	322 968	5.4	1.8
Algeria	311 111	267 530	270 742	16.3	-1.2
Uruguay	301 641	287 298	250 227	5.0	14.8

Table 42 (continued)

Country or territory	TEUs 2001	TEUs 2000	TEUs 1999	% change 2001/2000	% change 2000/1999
Cuba	258 264	185 055	n.a.	39.6	n.a.
Cyprus	235 100	257 020	239 077	-8.5	7.5
Kuwait	195 973	185 904	173 383	5.4	7.2
Djibouti	190 971	157 990	128 791	20.9	22.7
Pakistan	170 000	159 919	696 649	6.3	-77.0
Mauritius	161 574	157 420	144 269	2.6	9.1
Reunion	159 006	154 394	146 172	3.0	5.6
Guam	140 158	132 689	145 191	5.6	-8.6
Martinique	140 034	140 062	141 700	0.0	-1.2
Senegal	136 076	133 325	148 740	2.1	-10.4
Tanzania	135 632	133 660	106 304	1.5	25.7
Sudan	120 701	94 182	82 244	28.2	14.5
Mozambique	100 307	91 345	82 570	9.8	10.6
Total	96 103 197	93 529 493	79 894 681	2.8	17.1
Other reported[a]	524 656	549 744	2 234 691	-4.6	-75.4
Total reported[b]	96 627 853	94 079 237	82 129 372	2.7	14.6
World total	236 698 406	231 689 448	195 261 458	2.2	18.7

Source: Derived from information contained in *Containerisation International Yearbook 2003* and from information obtained by the UNCTAD secretariat directly from terminal operators and port authorities.

[a] Comprises developing countries and territories where less than 95,000 TEUs per year were reported or where a substantial lack of data was noted.

[b] Certain ports did not respond to the background survey. While they were not among the largest ports, total omissions may be estimated at 5 to 10 per cent.

Outstanding peak productivity was announced by the port of Tanjung Pelepas (Malaysia), which, using five post-Panamax cranes on the *Carsten Maersk*, shifted 185 containers per hour in June 2002. Average crane productivity in Shanghai terminals was around 28 moves per hour.

The second Chinese container port, Shenzhen, located close to Hong Kong (China), recorded 7.6 million TEU in 2002, a 50 per cent increase from the previous year's traffic. This substantial increase in traffic led to congestion in some of its nine port areas – in Yantian, delays of up to 24 hours for containerships were reported in October. By the end of the year, HPH was given authorization to invest $737 million in the third phase of Yantian to increase capacity to 2.4 million TEU.

Concern in Hong Kong (China) about slower growth rates compared with cheaper Chinese mainland ports focused authorities' attention on improving road connections with the hinterland. Accordingly, the number of border crossings was increased, and continuous opening of these crossing started. A similar problem of road delays and congestion was apparent in the four feeder terminals around Ho Chi Minh City (Viet Nam), which handled about 1 million TEU in 2001. Some users resorted to the use of barges along the Saigon River to reach the terminals.

Terminal efficiency in serving road transport also deteriorated in two other ports. The vehicle appointment scheme implemented at the beginning of 2002 in the port of Southampton did not perform as planned, and by November, labour shortages, berthing delays due to bad weather and road congestion resulted in delays of up to four hours in collecting containers from the terminal. Some road hauliers therefore decided to impose surcharges of $40 per vehicle, against the

Table 43

Top 20 container terminals and their throughput, 2002 and 2001

(Millions of TEUs and percentage change)

Port	TEUs 2002	TEUs 2001	TEUs 2000	2002/2001	2001/2000
Hong Kong, China	18.61	17.90	18.10	3.97	-1.10
Singapore	16.94	15.52	17.04	9.15	-8.92
Busan	9.33	8.07	7.54	15.61	7.03
Shanghai	8.62	6.34	5.61	35.96	13.01
Kaoshiung	8.49	7.54	7.43	12.60	1.48
Shenzhen	7.61	5.08	3.99	49.80	27.32
Rotterdam	6.52	6.10	6.28	6.89	-2.87
Los Angeles	6.11	5.18	4.88	17.95	6.15
Hamburg	5.37	4.69	4.25	14.50	10.35
Antwerp	4.78	4.22	4.01	13.27	5.24
Long Beach	4.52	4.46	4.60	1.35	-3.04
Port Klang	4.53	3.76	3.21	20.48	17.13
Dubai	4.19	3.50	3.06	19.71	14.38
New York	3.75	3.32	3.00	12.95	10.67
Quingdao	3.10	2.64	2.12	17.42	24.53
Bremenhaven	3.03	2.90	2.71	4.48	7.01
Gioia Tauro	2.99	2.49	2.65	20.08	-6.04
Manila	2.87	2.80	2.87	2.50	-2.44
Tokyo	2.83	2.77	2.96	2.17	-6.42
Felixstowe	2.80	2.80	2.80	0.00	0.00
Total top 20	126.99	112.08	109.11	13.30	2.72

Source: Containerisation International, March 2003, and *Port Development International*, April 2003.

recommendation of their association. In the same month, truckers experiencing average delays of two hours in New York container terminals asked the Federal Maritime Commission to investigate unreasonable practices of three container terminal operators in the port.

Port efficiency was also hampered by extreme weather. In early December, liner carriers calling at St. Petersburg complained and asked for priority use of ice-breakers to access the port because up to five days were needed instead of 10 hours. By mid-January 2003, about 40 vessels, including bulk carriers, were trapped by ice, and Russian authorities shifted one diesel ice-breaker from Murmansk. The European Bank for Reconstruction and Developments lent $5.4 million to install a maritime navigation system to reduce the risk of ship collision in accessing the Russian ports of St. Petersburg and Primosrk.

Some recently built facilities started to secure customers. In November, Zarate Container Terminal located in the industrial belt of Buenos Aires gained a service to Northern Europe run by CSAV and others. The intention of NYK to purchase the Ceres Paragon Terminal in Amsterdam for the original developers was also reported. The terminal has not been used since it was completed.

In March 2002, Dubai Port Authority started construction of phase I of the Port of Jebel Ali expansion, which will raise port capacity from the present 4 million to 5.7 million TEU. The investment of $237 million includes dredging the access channel to a depth of 17 meters, widening it to 325 meters and constructing five additional berths equipped with 14 post-Panamax gantry cranes. Across the Strait of Hormuz, the Islamic Republic of Iran announced investment of $313 million in several ports which will upgrade facilities in

Bandar Abbas to 2.6 million TEU capacity. The port is already connected by weekly container block trains to Tashkent (Uzbekistan) in Central Asia. The expansion of this port is part of the development of the Shahid Rajaee Special Economic Zone for which BOT industrial schemes are contemplated. Further east along the coast, in Pakistan, finance for the construction of Gwadar port, was secured from China. The first disbursement of $58 million was made, and the port will also serve Central Asian States, notably Afghanistan.

SAGT, the private container terminal operator in Colombo and subsidiary of P&O Ports, commissioned 650 meters of new berth equipped with six quay gantry container cranes capable of working containers 18 rows across. The upgrading of this port was completed with the dredging of the basin to 14 metres and the opening of a second entrance with 10.5 metre draft for feeder vessels. Moreover, SAGT and JCT, the public-sector container terminal operators in the port, have agreed to joint rebates for customers to attract traffic.

The commissioning of major facilities on the US West Coast in 2002 illustrates the close and important relationship between harbour, transport and environmental developments. In April, Terminal 18 opened in the port of Seattle, which now occupies 78 hectares, double its original size, with on-dock facilities for handling up to four double stack trains. About $300 million was invested to raise the capacity of this terminal to 2.5 million TEU. The project included the removal of considerable amounts of contaminated soil left by heavily polluting industries located on the site for decades and the construction of a 0.6 hectare public shore line access park at a cost of $15.7 million. The terminal is now operating under lease by SSA in partnership with Matson.

In the port of Oakland, the 200 hectare facility transferred from the US Navy to the port authority some years ago was completed with the opening to the public of two environmental projects: the 14.8 hectare Middle Harbor Shoreline Park and the 76 hectare shallow-water wildlife habitat. The three harbour projects opened two years before were Berths 55-56 (48 ha.) leased to Hanjin; Berths 57-59 (60 hectares) leased to SSA; and the Joint Intermodal Rail Terminal (52 hectares) operated by Burlington Northern and Santa Fe Railroad and the port authority. The $44 million environmental projects were completed by the port authority working in close coordination with the community and environmental bodies, which were critical of multimillion harbour developments close to run-down neighbourhoods.

In the port of Long Beach, the first phase of the 150-hectare Pier T development undertaken by Hanjin Shipping Co. was commissioned. Twelve of the largest quayside container cranes, able to work across 22 container rows, operate in this terminal. In April 2002, the $2.4 billion Alameda Corridor was completed. The corridor managed by Alameda Corridor Transportation Authority segregates rail traffic and reduces from 3 hours to 45 minutes the travel time between the ports of Long Beach and Los Angeles and the transcontinental interchange railroad yards. The first phase of the almost 200 hectare Pier 400, leased to Maersk Sealand, opened in the port of Los Angeles late in the year. This project, like others undertaken by this port in recent years, benefited from environmental credits gained from the $55 million Batiquitos Lagoon mitigation project late in the 1990s.

In late April, construction work resumed on the Deurganck Dock (left bank of the port of Antwerp), which will provide up to five kilometres of container berths and reduce saturation of existing facilities. The work had been suspended for a year after litigation was started by villagers of Doel because some planning application procedures had been overlooked. The regional government issued new permits, including three environmental ones aimed at controlling floods in three villages and complementing the protection on the Scheldt basin from storm surges that occur when certain wind and tide conditions prevail.

The highest annual increase in port traffic in North West Europe, 5.7 per cent, was recorded in Hamburg, whose total traffic reached 97.6 million tons in 2002. In November, container capacity in this port expanded by 1.1 million TEU when the automated fourth container terminal opened in Altenwerder. Three-quarters of the $650 million investment was made by HHLA, Hamburg's largest container terminal operator, with the balance made up by Hapag Lloyd. For the expansion of container facilities in the neighbouring port of Bremerhaven, whose traffic remained almost static at 46.2 million tons, the states of Lower Saxony and Bremen decided to invest $437 million in infrastructure at Wilhelmshaven, with the $300 million superstructure to be covered by the future operator.

Traffic growth in the largest European port of Rotterdam increased by 2.3 per cent in 2002 to 321.9 million tons, with container traffic increasing by 7 per cent to 6.5 million TEU. In early 2002, the three new container cranes to be used on the southern side of the Delta Terminal were commissioned. The cranes are 120 metres high and each weighs 1,500 tons. They have an outreach of 67.5 metres, making them suitable for loading and unloading ships 22 containers wide. The lifting height is 40 metres, with a maximum lifting capacity of 77 tons. In September, the major tug companies announced tariff increases due to the EC ruling declaring that government subsidies given to these companies for having national crews were against the guidelines for state aid.

Elsewhere, Dole opened a $30 million banana terminal in the port of Guayaquil (Ecuador) to handle about a third of banana exports and thus avoid the congestion that prevails in the port.

C. INSTITUTIONAL CHANGE

PSA Corp, the operator of the port of Singapore, announced an annual throughput of 24.5 million TEU for 2002. Traffic increased by 8 per cent to 16.8 million TEU in the home port in spite of losing two large customers, Maersk Sealand and Evergreen, and by 115 per cent in its overseas terminals. Following a downgrade in credit rating by Moody's Investors Service, PSA announced that it was divesting non-core businesses (i.e. airport handling, cruises, etc.) worth $104 million and continuing its expansion abroad: it opened its fourth terminal in China, at Fuzhou, and its IT subsidiary will develop a port community system for six South African ports for about $8 million.

Negotiations between companies leading towards mergers or acquisitions in the ports field continued throughout the year. Egis Ports, part of the French construction group Egis, with a controlling interest in major operators in Marseille (MGM — Manutention Generale Mediterranean — and Eurofos) and half of the shares of GMP (Générale de Manutention Portuaire), one of the three big operators in Le Havre, France, was approached by P&O Ports which wants to reinforce its presence in Western Europe. Conship, an Italian sea-carrier, expressed interest in taking over the under-used Cagliary Container Terminal for overflow operations of its terminals in La Spezia and Giaoa Tauro.

Concession of terminals faced difficulties in some ports. In Mumbai (India), P&O Ports sought to overcome the ban imposed by the port authority that precludes the company from tendering for the new container terminals on the grounds that the same operator cannot run two terminals in the same port. The Minister of Transport of Thailand explained to workers that the corporatization of Thailand Port Authority was necessary to raise efficiency and not to sell shares to foreigners.

In ports of the European Union, a series of stoppages were conducted in mid-January 2003 to protest against the Directive on Market Access to Port Services, which among other points and under certain circumstances would allow self-handling of cargo in ports by crew members. The arrest by the German police of 10 Polish crane-drivers engaged as crew members in Bremerhaven seemed to justify labour concerns.

The operation of concessions has not always been smooth. In Montevideo (Uruguay), a local operator wanted to prevent the container terminal operator, TCP, from using public berths for overspill operations and asked the port authority for authorization to install its own cranes in those public berths. TCP retorted that its contract allowed the use of public berths for overspill operations and that a minimum of 250,000 TEU must be handled at the TCP terminal before additional cranes were to be installed in the port. In India, officials in the Ministry of Shipping were assessing ways to renegotiate the five-year old Nhava Sheva contract of P&O Ports in Mumbai on the grounds that royalty payments were heavily backloaded. In August, the Panamanian Supreme Court ruled in favour of the request of the subsidiary of HPH for a reduction of $22 million per year in concession fees. HPH had suggested that otherwise they would stop investments in Cristobal and Balboa. Other operators asked for matching measures, while yet others claimed the ruling was unconstitutional.

Replacing failed concessionaires is lengthy and complex. In July, two years after ICTSI left its contract in the port of Rosario (Argentina), a consortium headed by the port of Tarragona (Spain) signed a 30-year concession to operate this port sited on the Parana river. The annual concession fee will be $1.8 million, with $6 million investment during the first year. In December, Beirut finally appointed a team of consultants to chart the path for privatization after the failed contract of April 2001 with Dubai Port Authority. The 20-year old concession ended prematurely six months after the concessionaire pulled out claiming miscalculated start-up costs and traffic volumes.

Labour relations are a crucial element in the port sector and can have a profound impact. When the labour contract between the Pacific Maritime Association (PMA), the representative of the employers for US West Coast ports, and the International Longshore and Warehouse Union (ILWU), the workers' representative for those ports, expired on 30 June 2002, a new one was still being worked on. Negotiations continued during the summer, and when productivity in some of the ports started to falter, PMA decided to declare a lock-out of the 10,500 strong labour force, with 29 ports stopping activities by end September. The closure lasted for 11 days, and ports reopened after a Federal court injunction was issued on the grounds of a threat to the national economy and security.

The impact of the closure on the economy was estimated at $1 billion per day, and by the end of October there was a backlog of 200 vessels, with congestion also spreading to neighbouring countries' ports, such as Vancouver. Sailing schedules were in disarray, and the lack of empties in Far East ports affected most shipping lines, as one box in two returns empty from the United States. Cosco, the largest Chinese carrier, estimated its losses at between $10 and 15 million. The Department of Justice found credible evidence that both the PMA and ILWU were partly responsible for the drop in productivity. Containers had been discharged at the first available port instead of proceeding to their destination, and the lack of equipment and congestion was compounded by strict adherence to safe working practices. Anxious shippers seeking speedy delivered of their containers asked for a temporary waiver of the Jones Act to allow non-US-flagged vessels to move freight between US ports but this was flatly denied.

The crux of the labour dispute was the introduction of information technology that directly threatened the jobs of about 400 clerks. The six-year deal reached on 23 November included the introduction of optical scanners, remote cameras and geopositioning satellites for tracking cargo and equipment in the terminals, with the union maintaining jurisdiction over all these jobs; a pay rise of 11 per cent; and a pension increase of 60 per cent.

D. SECURITY MEASURES IN PORTS

During the year the United States Customs Service agreed with a number of major trade partners on the implementation of two security schemes: the Container Security Initiative (CSI) and the Customs-Trade Partnership Against Terrorism (C-TPAT). CSI goals are to establish criteria for identifying high-risk containers, to pre-screen containers before they are shipped to the United States, to use non-intrusive technology to pre-screen high-risk containers, and to develop smart and secure containers.

Over the year several countries signed bilateral agreements for the CSI, starting with the ports of Halifax, Vancouver and Montreal in March; Singapore, Rotterdam, Antwerp and Le Havre in June; Bremerhaven and Hamburg in August; Hong Kong (China), Yokohama, Tokyo, Nagoya and Kobe in September; Genoa and La Spezia in November; and Felixstowe in December. Some ports in mainland China agreed to implement CSI in October. Early in 2003, more ports joined CSI: Barcelona, Valencia, Marseille, Goia Tauro and Swedish and other British ports. The Malaysian ports of Klang and Tanjung Pelepas will also join. CSI bilateral agreements reached by five European countries (Belgium, France, Germany, Italy and the Netherlands) with ports having large shares of US-bound trade were questioned by the European Commission on grounds of distortions of the European Union competition rules, and administrative proceedings were started to assess the validity of such agreements. France explained that its agreement was conducted within the terms of a previous Customs cooperation agreement for exchanging information and personnel. Later on, the United Kingdom and Spain continued with similar agreements, and the European Commission sought authorization to negotiate a European-wide CSI agreement.

Some radical departures from established practices have resulted from this scheme. Customs checks of high-risk United States containerized imports are made with the collaboration of United States Customs officers before containers are loaded into US bound vessels. To identify these containers, carriers or NVOCCs must submit a cargo declaration for each container 24 hours before it is loaded and thus stop their shipment to allow for inspection. The requirement for the advanced cargo declaration caused considerable alarm in the shipping community, and a six-month exemption was granted for containers carried on-deck with perishable cargo. Fears were expressed that the 60-day transition period that ended 2 February 2003 could be insufficient. However most lines were able to comply with this requirement. Some containers were left behind in some European and

Asian ports, notably Hong Kong (China), where the practice of receiving boxes close to vessel departure affected about 10 per cent of American-bound traffic, or about 100 boxes per day.

Moreover, as the need to conduct in-depth risk analysis for containerized imports relies on the availability of detailed information, the long-standing practice of stating container contents as "freight all kinds" and "said to contain" was no longer to be accepted. This triggered a complaint from the British International Forwarders' Association, whose membership felt it was being held jointly responsible with the shipper in case of incident. Also, the requirement to disclose full details of clients allowed sea-carriers to approach them directly and could, therefore, lead to loss of customers for forwarders.

C-TPAT establishes partnerships with importers, carriers, brokers, warehouse operators, and manufactures to improve container security along the entire supply chain. Controls by recognized parties to the scheme start where goods originate and continue without interruption along the transport chain up to the point of destination. Recognized trading partners will perform security self-assessment controls in accordance with prescribed guidelines. The benefits of the scheme include a reduced number of inspections and "fast lane" cargo clearance. One of these partnerships is the Smart and Secure Tradelanes (SST), whereby three of the largest terminal operating companies, Hutchison Port Holdings (HPH), PSA Corporation Ltd. and P&O Ports, are setting up an automatic tracking system for containers entering US ports that involves tagging containers electronically. With the support of the United States Government, these companies are running a pilot scheme for container shipments between Singapore, Hong Kong (China) and Seattle/Tacoma. After more than 100 containers used the electronic seal containing full details of the box content, it was pointed out that the main challenge ahead was developing a low-cost intelligent electronic seal for large-scale use.

In June 2002, the Customs Co-operation Council adopted a resolution on Security and Facilitation of the International Supply Chain, whereby it is resolved to re-examine the WCO Data Model to include a standardized set of data elements to identify high-risk goods, to elaborate guidelines to assist in the advance electronic transmission of Customs data and develop cooperative arrangements between parties willing to increase supply chain security, and to establish a data bank on advanced technology and techniques that enhance supply chain security and facilitation.

In November 2002, the United States Congress enacted the "Maritime Transportation Security Act 2002", Law No 107-295. This Act, originally presented to amend the Merchant Marine Act of 1936, ensures greater security for United States seaports and other related facilities. The Department of Transportation was charged with estimating the costs of a number of measures such as port and vessels security plans, background checks for port workers, identity cards for seafarers, enhanced security container seals, automatic identification systems and maritime intelligence for vessels. The $6 billion funding allocation for United States Coast Guard reflects its increased responsibilities. The law establishes that vessels and cargoes coming from foreign ports that do not have efficient antiterrorist measures may be subject to special regulations to enter US territory, including the possibility of denial of access.

In the same month, the Department of Homeland Security was established, and security of commercial ports will be a core federal concern. This Department now embraces, amongst others, the United States Coast Guard, which reports directly to the Secretary of the Department; the Customs Service, previously under the Treasury; large parts of the Immigration and Naturalization Service, previously under the Justice Department; and the Animal and Plant Health Inspection Service, previously under the Agriculture Department.

The cost implications of the new security measures being implemented started to raise concerns. The AAPA, the body grouping the United States ports, requested appropriate levels of funding from federal funds in accordance with the estimates produced by the US Coast Guard of annual expenditures — about $1 billion for the first year and half a billion per year afterwards. Also, calls were made for IMO to set up technical assistance programmes to enhance port security in ports of developing countries. The damage to trade of a terrorist attack could be substantial. The potential cost of a "dirty bomb scare" for the United States was estimated at $58 billion in a two-day war game played by 70 participants from federal and state departments and agencies. In the simulation, all US ports were closed for eight days and the backlog generated was cleared in three months.

The Conference of Contracting Governments to the International Convention for the Safety of Life at Sea (SOLAS 1974) was held in London from 9 to 13 December 2002 under the aegis of IMO. The aim was to incorporate in the Convention a series of measures to strengthen maritime security and prevent and suppress terrorist acts against shipping and to complete the preparatory work accomplished during the year by the IMO Maritime Safety Committee. Accordingly, Chapter XI of SOLAS dealing with "Special measures to enhance maritime safety" was renumbered as XI-1 and existing regulations were modified so that vessels must have identification numbers permanently marked on their hulls and be issued with Continuous Synopsis Records by the flag State so that an on-board record of the ship is available. A new Chapter XI-2 dealing with "Special measures to enhance maritime security" was added to the Convention. Regulation XI-2/3 of this new chapter contains the International Ship and Port Facilities Security Code (ISPS Code) with two parts: Part A is compulsory, while Part B provides guidelines on how to comply with these mandatory requirements; however, US regulations will make this part mandatory as well. Other regulations of this new chapter deal with the role of the Master in relation to the security of his vessel, provision of a ship security alert system, government responsibility for ensuring that port security facility assessments are executed in conformity with the ISPS Code, controls of vessels in ports, etc.

The ISPS Code takes the view that the security of vessels and port facilities is a risk management activity and provides a standardized and consistent framework for evaluation of risks so that the appropriate measures are taken. Three levels of security, from 1 to 3, were established, with 3 being the highest threat. Accordingly, shipping companies will designate a Company Security Officer and, for each vessel, a Ship Security Officer. Ship Security Plans need to be prepared, submitted for approval by the administration of the flag State and carried on board. These plans should indicate the operational and physical measures for the ship to operate at security level 1, the intensified measures to operate at security level 2 and the capacity required to follow instructions corresponding to security level 3. Similarly, Governments will conduct a security assessment of port facilities in which critical port assets and infrastructures and the threats to them are identified so that security measures are prioritized. Weaknesses in physical security, structural integrity and other areas (i.e. communications, utilities, etc.) that may be a likely target are also identified. Port Facility Security Officers will be appointed, and Port Facility Security Plans will be prepared for those port facilities identified in the assessment. The Plan will contain the operational and physical security measures to be taken to ensure that the facility normally operates at security level 1, can operate at security level 2 when instructed, and is able to respond to instructions that may be issued at security level 3. Among the resolutions adopted by the Conference, it is stated that amendments to the SOLAS Convention will be deemed accepted on 1 January 2004, and the ISPS Code will enter into force on 1 July 2004. However, the Code could be rejected if, before 1 January 2004, one-third of Contracting Governments or 50 per cent of the gross tonnage of the world merchant fleet have presented objections to the amendments.

Chapter 6

TRADE AND TRANSPORT EFFICIENCY

This chapter provides information on latest developments in the fields of transport, trade facilitation and multimodal transport and information on the status of the main maritime Conventions.

A. EFFICIENT TRANSPORT AND TRADE FACILITATION

1. UNCTAD intergovernmental meetings

An Expert Meeting on Efficient Transport and Trade Facilitation to Improve Participation by Developing Countries in International Trade was convened by UNCTAD and held in Geneva from 25 to 27 November 2002. Although trade facilitation is often regarded as only the simplification and streamlining of documents and procedures for border crossings, it also has a less visible component, namely creating a suitable environment for transport operations that benefit stakeholders and thus promote trade.

The meeting allowed the exhaustive coverage of trade facilitation issues. The general approach to trade facilitation highlighted the interest of this subject for developing and developed countries alike. The linkages of trade facilitation with the measures undertaken by the United States to improve security in the physical movement of goods in containers focused on the need to provide timely and accurate information so that meaningful risk analysis can be carried out. Major carriers explained their intensive use of "e-technology" for operations and marketing activities and for commercial transactions, and stated that its further implementation would require internationally agreed standards and rules.

Trade facilitation issues of interest to landlocked and transit countries were also discussed. Transit agreements that regulate transport and trade between these countries on the basis of equal access to transport markets, non-discriminatory treatment of transport operators and free competition are a starting point. The establishment of bilateral border points for joint customs, immigration and health controls and the creation of public–private sector partnerships (e.g. for operating the port of Djibouti, which is the main outlet for Ethiopian cargoes) are examples of specific measures that also contribute to the efficiency of transport operations.

A number of studies to measure the effectiveness of trade facilitation have been carried out. The quantification of benefits was an extremely difficult task even for the assessment of specific and well-defined trade facilitation measures. With regard to the WTO multilateral rules on trade facilitation, experts discussed the merits of having such rules either as binding or best-endeavour voluntary rules, and agreed that a combination of both might be required. There was also agreement that identification of needs and priorities for technical assistance in developing countries should include infrastructure, human and financial needs for implementing Articles V, VIII and X of GATS.[5] Experts agreed that an appropriate legal framework for trade facilitation would promote certainty, predictability and uniformity, and in particular should address the issue of multimodal transport activities and the use of electronic means for communication in international trade.

There were two diverging views on the implementation of trade facilitation measures. One held that trade facilitation is a issue to be taken up at a bilateral level. The other held that trade implementation is a truly international task. Therefore, standards and harmonized processes and regulations should apply worldwide, possibly enforced by a body such as WTO. Finally,

experts considered that international organizations should work in cooperation to provide the necessary multidisciplinary competencies and expertise required by trade facilitation.

The seventh session of the Commission on Enterprise, Business Facilitation and Development, held in Geneva from 24 to 27 February 2003, adopted a number of recommendations pertaining to trade facilitation. It requested UNCTAD to review and monitor developments relating to efficient transport and trade facilitation, including multimodal transport and logistics services. Accordingly, a website (www.un-tradefacilitation.net) was established to host and be a service exchange for trade facilitation work carried out by several United Nations bodies and international organizations.[6] The site also provides information to the public on the work carried out by individual organizations as well as the collective work produced by them.

The Commission also asked UNCTAD to study, with relevant intergovernmental organizations, the development of uniform international instruments affecting international transport; to provide technical assistance to developing countries in the field of information and communication technologies, in particular through the continuation of the ASYCUDA and ACIS programmes; and to analyse the impact of the new security measures on the international trade and transport of developing countries. Finally, UNCTAD should continue to analyse developments in trade facilitation and assist developing countries in defining their needs and priorities in accordance with paragraph 27 of the Doha Declaration and provide assistance in the area of transport services in the context of GATS.

B. MARITIME TRANSPORT IN WTO

Over the last 50 years successive multilateral trade negotiations for promoting international trade of goods under the aegis of GATT have made a substantial contribution to the phenomenal increase in international trade. At the last round of negotiations, the Uruguay Round, which was completed in December 1994, with the agreements resulting from it entering into force on 1 January 1995, it was agreed to set up the World Trade Organization (WTO) to supersede GATT and extend the coverage of these negotiations to the field of services. Accordingly, the General Agreement on Trade in Services (GATS) was established to include all services, with the exemption of those provided by Governments and those affecting air traffic rights. International transport services, including maritime and auxiliary transport services, are part of the agreement.

About 140 countries bound by GATS have agreed to general obligations and specific commitments in different services sectors. The former includes the principle of *most favoured nation (MFN) treatment*, whereby a country extends immediately and unconditionally to service suppliers of all member countries treatment no less favourable than that accorded to like suppliers of any other country. General obligations furthermore include the principles of *transparency* and *increased participation by developing countries*. Specific commitments refer to *market access* and *national treatment*. Under the former a country allows service suppliers from other countries to provide services in its territory and under the latter the treatment given to service suppliers does not discriminate in favour of the national ones. Commitments on *market access* and *national treatment* are listed in *schedules of commitments* as *positive listings* of sectors/subsectors covered and as *negative listings* of restrictions to market access and national treatment.

Four modes of delivery have been defined as ways in which a service can be provided and in which specific commitments are made. Mode 1 corresponds to *cross-border supply* (the consumer receives the service in his country provided by a non-resident service supplier), as is the case with a shipping line providing services to the international trade of a foreign country. Mode 2 corresponds to *consumption abroad* (the consumer moves to another country to receive the service) — for example, a shipper shipping cargo through a foreign port. Mode 3 corresponds to *commercial presence* (the foreign supplier establishes a presence to provide the service) — for example in the case of a terminal operator managing a container terminal in a foreign port or a shipping line establishing subsidiaries abroad. Mode 4 corresponds to the *temporary presence of natural persons* (the foreign supplier being an individual who moves into the country to provide services) — for example, foreign crews aboard ships.

In the course of negotiations, the Negotiating Group on Maritime Transport Services (NGMTS) agreed on a Model Schedule of commitments reflecting the three pillars of maritime transport services, i.e. blue water

services, auxiliary services and (access to and use of) generally available port services, as well as the positive and negative listings of sectors and restrictions. In table 44, based on the Model Schedule, the sectors are listed in the first column; the second and third columns set out the limitations on market access and national treatment, with the number referring to the modes of delivery. The fourth column is used for any other positive commitment, generally additional commitments regarding access to and use of port services.

Current developments

Negotiations on maritime transport and ancillary harbour services were not concluded at the time of the Uruguay Round and continued until mid-1996 when the NGMTS group agreed to a Decision on Maritime Transport Services, later endorsed by the Council for Trade in Services of WTO, whereby negotiations would resume with the next round of comprehensive negotiations.

As a combined outcome of the Uruguay Round negotiations, those conducted in the Negotiating Group on Maritime Transport Services (NGMTS) and accession negotiations there are today 47 WTO member countries (13 from Asia, 12 from the Americas, 12 from Europe, 7 from Africa and 3 from Oceania) that have included maritime transport commitments in their GATS schedules, with considerable variances as to the breadth and depth of commitments. The commitments refer to freight and passenger services (30), freight only (5), passenger only (3), while 27 commitments refer to ancillary services, including port services.

Negotiations on maritime transport have been resumed under the new round in line with the built-in agenda of Article 19 of GATS and following the timeframe established in the Doha Ministerial Declaration. These negotiations are of critical importance for developing countries as they increasingly concentrate on auxiliary and multimodal and logistics services, areas in which developing countries are attempting to build supply capacities in order to maintain transport capabilities and minimum commercial control over their physical trade flows.

With regard to substantive coverage of maritime transport, there are a number of issues that go beyond the three original pillars of *blue water services*, *auxiliary services* and *access to and use of* port services and that are of particular interest and concern to developing countries.

Substantive issues for future negotiation will have to reflect decisions taken in 1996 by the NGMTS on future negotiating mandates, as well as commercial and organizational developments in transport. From these it clearly emerges that future negotiations will have to take into account new approaches to door-to-door transport and logistics. Given the degree of liberalization in the blue water sector, the major problems that need to be tackled would rather relate to the inland portions of the transport chain, i.e. the multimodal transport question and the treatment of inland depots and terminals.

Market access in the field of multimodal transport continues to be a particularly difficult issue. Given the way liner shipping is developing into door-to-door and logistics services, operators clearly look for the reduction or elimination of access restrictions and thus the need to include multimodal operations in the liberalization process. Possible scheduling options range from (a) *additional commitments* and thus as an issue of *access to and use of* multimodal transport to (b) that of an auxiliary service in the context of commitments on the second pillar or even (c) a new fourth pillar. The difficulties encountered with this issue in the context of the GATS negotiations raise doubts, however, as to whether agreement on market access can be reached in the near future. Resistance to progressive liberalization of the supply of multimodal transport might prevail because of the widespread concern that it may open up the inland transport sector to GATS coverage. Consequently, countries that did make conditional commitments on multimodal transport in their draft schedules chose to schedule it as an additional commitment.

Some proposals do not stop at multimodal transport, but extend the proposed liberalization process to logistics and value added services. While there is currently no separate classification entry for logistics services in the WTO Services Sectoral Classification List, logistics-related elements have already been included under various subheadings, such as the Transport Services sector (freight transportation, cargo-handling services, storage and warehouse services and freight transport agency services etc) and the Business Services sector (inventory management, and order processing etc.).[7] Finally, new proposals underscore the necessity to link logistics/maritime considerations to those of express delivery, an industry playing an increasingly important role in logistics.[8]

Table 44

Structure of schedule of specific commitments

Sector/Subsector	Limitation on market access	Limitations on national treatment	Additional commitments
11. Transport services	(1) None	(1) None	
A. Maritime transport services	(2) None	(2) None	
b. Freight transportation	(3) Establishing a registered company for operating vessels under national flag. Unbound.	(3) Unbound	
	(4) None	(4) None	
H. Services auxilliary to all modes of transport	(1) Unbound*	(1) Unbound*	
a. Cargo-handling services	(2) None	(2) None	
74110. Container handling services	(3) None**	(3) None	
	(4) None	(4) None	

Note: Terminology has been developed and agreed in order to facilitate the presentation, reading and discussion of the schedule. All commitments mentioned in the schedule are implicitly *bound* and when the country wants to maintain measures inconsistent with market access and national treatment for a mode of delivery it uses the word *unbound*. When a particular mode of supply is not feasible, such as the provision of stevedoring services across borders by a non-resident supplier, the term *Unbound** is used. The word *None* means no limitation either on market access or national treatment for the indicated mode of delivery, while *None*** indicates that special provisions apply (i.e. tendering when allocation of the public domain is included).

C. MULTIMODAL TRANSPORT: THE FEASIBILITY OF AN INTERNATIONAL LEGAL INSTRUMENT

1. Background

In view of the continuous growth of multimodal transportation and against a background of an increasingly complex and fragmented legal framework at the international level,[9] the UNCTAD secretariat conducted a study on the feasibility of establishing a new international instrument on multimodal transport. In order to ascertain the views of all interested parties, both public and private, a questionnaire was prepared by the UNCTAD secretariat and circulated widely. It was sent to all Governments and intergovernmental and non-governmental organizations, including all relevant industry associations, as well as to some experts on the subject (TDN 932(2) SITE).

The secretariat received a total of 109 replies to the questionnaire, 60 from the Governments of both developed and developing countries and 49 from industry representatives and others. Replies received from industry representatives reflect the views of virtually all interested parties. They include the views of operators of transport services (maritime, road and rail), freight forwarders, providers of logistics services and terminal operators, liability insurers and cargo insurers, as well as shippers and users of transport services.

A report setting out in some detail the views and opinions expressed in the responses to the questionnaire has since been completed by the UNCTAD secretariat (*Multimodal Transport: The Feasibility of an International Legal Instrument*—UNCTAD/SDTE/TLB/2003/1) and is available on the UNCTAD website.[10]

The following is an extract, namely parts C. IV and C. V, from the Report ("Overview and discussion of responses" and "Issues arising for further consideration"). For a more detailed reflection of currently held views and opinions, the full UNCTAD report may be consulted. The summary version of the document was also submitted to the UNCITRAL Working on Transport Law at its eleventh session (A/CN.9/WG.111/WP.30), which was to consider the scope of application of the Draft Instrument and whether it should apply to port-to-port or to door-to-door transport (see the UNCITRAL report A/CN.9/WG.111/WP.21; for the UNCTAD commentary on the Draft Instrument, see document A/CN.9/WG.111/WP.21/Add.1 and UNCTAD/SDTE/TLB/4).

2. Overview and discussion of responses to the questionnaire

In this part, the main results of the questionnaire, detailed in part C.III of UNCTAD report Multimodal Transport: The Feasibility of an International Legal Instrument (UNCTAD/SDTE/TLB/2003/1), are summarized and discussed.

2.1 Assessment of status quo and desirability of international instrument

A large majority of respondents (83 per cent), both among Governments and non-governmental and industry representatives, consider the present legal framework unsatisfactory, with a clear majority (76 per cent) considering the present system not to be cost-effective. The vast majority of respondents across the board (92 per cent) consider an international instrument to govern liability arising from multimodal transport to be desirable and virtually all (98 per cent) indicated they would support any concerted efforts made in this direction. In practice, it is clear that the level of support would depend on the content and features of any possible new instrument. However, the general assessment of the status quo suggests that there is both a demand for a more detailed debate and willingness to further engage in an exchange of views.

2.2 Suitability of different approaches

As regards the most suitable approach which might be adopted, views are, to a certain extent, divided. However, around two thirds of respondents from both Governments and non-governmental quarters (65 per cent) appear to prefer a new international instrument to govern multimodal transport or a revision of the 1980 MT Convention. In further discussions considering this approach, the views expressed on why the 1980 MT Convention did not attract sufficient ratifications to enter into force should be of some interest. Several central issues have emerged from the responses, in particular that the 1980 MT Convention, at least at the time, may not have appeared attractive enough to shippers' interests while at the same time containing elements which carrier interests found not acceptable. A number of respondents expressed their support for a new legally binding instrument based on rules which are currently used in commercial contracts, namely the UNCTAD/ICC Rules.

A minority of respondents (13 per cent), representative mainly of parts of the maritime transport industry, appeared to favour the extension of an international sea-carriage regime to all contracts for multimodal transport involving a sea-leg and some respondents expressly stated their support for the proposed Draft Instrument on Transport Law, which adopts this approach.[11] Another minority of respondents (13 per cent), representative mainly of parts of the road transport industry, considered the extension of an international road-carriage regime to all contracts for multimodal transport involving a road-leg to be the most appropriate approach.

Overall, the responses indicate that — with the important exception of the maritime transport industry — there appears to be only limited support for the approach adopted in the Draft Instrument on Transport Law. Accordingly, there is significant scope for the exploration of other options in consultation with all interested parties in transport.

2.3 Important features and key elements of any possible international instrument

Delay

The vast majority of respondents (90 per cent) think any instrument governing multimodal transport should address the issue of delayed delivery, albeit some believe that liability for delay should only arise in certain circumstances and should be limited at a level equivalent to the freight or a multiple thereof.

"Uniform", "network" or "modified" liability system

As regards the type of liability system which may be most appropriate, views are, as may be expected,

divided, with just under half of all respondents (48 per cent) expressing support for a uniform liability system and, among the remainder of respondents, broadly equal numbers expressing support for a network liability system (28 per cent) or for a modified liability system (24 per cent).

Among those favouring a network or a modified liability system, a majority (59 per cent) believes only the limitation provisions should vary depending on the unimodal stage where loss, damage or delay occurs. This view appears to be particularly prevalent among respondents representing Governments. Others, particularly among non-governmental respondents, believe that matters like basis of liability or exceptions to liability and time for suit should vary.

Early agreement on the most appropriate type of liability system, including the extent to which liability rules should be uniform, would clearly be central to the prospect of success of any discussions on a new international instrument.

Limitation of liability

Closely linked to the question of the appropriate type of liability system is the issue of limitation of liability on which, again, views are at this stage divided. Overall, a majority of respondents provided comments supportive of or accepting the need for limitation of liability. However, the responses reflect a broad variety of views on the issue. A considerable number, both among governmental and industry respondents, question the whole idea of limitation of liability, whereas others, particularly those representing the maritime and freight-forwarding industry, emphasize the desirability of limitation of liability in line with unimodal conventions, in particular due to the continued relevance of unimodal conventions in the context of recourse actions by multimodal carriers against unimodal sub-contracting carriers.

In relation to the various possible monetary levels of limitation mentioned, it is noticeable that those concerned with or representing the interests of sea carriers tend to advocate lower limitation amounts than most other respondents. Limitation of liability is clearly a central issue, as views on limitation appear to both affect and be influenced by views on the nature and type of liability system. Although in negotiations for any international convention the issue of limitation of liability traditionally arises at a relatively late stage in the proceedings — once agreement on substantive rules has been achieved — it may be that some earlier principled discussions on possible levels of limitation would benefit constructive debate on other central issues.

Basis of liability

Both among Governments and among other respondents, broadly equal numbers expressed support for (a) a fault-based liability system (53 per cent) and (b) a strict liability system (47 per cent). However, a clear majority across the board (85 per cent) considered that certain exceptions to liability should apply in any event.

Mandatory or non-mandatory?

Overall, a majority of all respondents (58 per cent) considered that any international instrument should be in the form of a convention which applies on a mandatory basis and provides mandatory liability rules. However, a sizeable minority (35 per cent) considered that a non-mandatory convention, which could be contracted into or out of but provided mandatory liability rules overriding any conflicting contractual terms, would be appropriate. This suggests that it may be worthwhile to explore in more detail the advantages and disadvantages of possible non-mandatory options for an international instrument.

Contracting carrier's responsibility throughout the multimodal transaction

A clear majority of respondents from all quarters (76 per cent) considered that any international instrument governing multimodal transportation should adopt the same approach as existing statutory and contractual multimodal liability regimes by providing for continuing responsibility of the contracting carrier/MTO throughout the entire transport. In particular, the responses indicate that the use of standard clauses in a transport document (or electronic equivalent) to limit the scope of contract and thus the contracting carrier's responsibility and liability is generally not considered to be acceptable.

In this respect, the responses may be of particular relevance to any further consideration of provisions in the Draft Instrument on Transport Law under the auspices of UNCITRAL. As has been pointed out by UNCTAD in its commentary,[12] Articles 5.2.2 and 4.3 of the Draft Instrument, as proposed, would arguably allow a contracting carrier to disclaim liability arising out of (a) certain functions (e.g. stowage, loading, discharge)

and (b) certain parts (stages) of the contract performed by another party. In its current form, the Draft Instrument does not preclude the use of standard terms to this effect in the transport document (or electronic equivalent) and thus does not safeguard against abusive practice. As a result, a shipper might engage a carrier to transport its goods from door-to-door against the payment of freight and find that the carrier, under terms of contract issued in standard form by the carrier, was not responsible throughout all stages of the transport and/or for all aspects of the transportation. This situation would not conform to the legitimate expectations of transport users, who in many cases arrange with one party for the transportation of goods from door-to-door so as to ensure that one party will be responsible throughout all stages of the transaction. Responses to the UNCTAD questionnaire suggest strong opposition across the board to any change in approach along the lines currently proposed in the Draft Instrument.

3. Issues arising for further consideration

The main aim of the UNCTAD questionnaire was to take a step towards establishing the feasibility of a new international multimodal liability regime, in particular, the desirability in principle of international regulation, the acceptability of potential solutions and approaches and the willingness of all interested parties, both public and private, to pursue this matter further.

The large number of responses to the questionnaire and the detail, in many cases, of the comments provided by public and private parties across a broad spectrum suggest that there is a general willingness to engage in an exchange of views on future regulation of liability for multimodal transport. This is encouraging, given the continuous growth of multimodal transportation against a background of an increasingly fragmented and complex legal framework at the international level. Both users and providers of transport services as well as Governments and other interested parties clearly recognize that the existing legal framework is not satisfactory and that, in principle, an international instrument would be desirable. However, views on how the aim of achieving uniform international regulation may be accomplished are divided, partly as a result of conflicting interests, partly due to the perceived difficulty in agreeing a workable compromise, which would provide clear benefits as compared with the existing legal framework.

The apparently broad divide in opinion on closely linked key issues, such as type of liability system (uniform, network or modified), basis of liability (strict or fault-based) and, importantly, limitation of liability may be seen as an obstacle to the development of a successful international instrument. However, it may equally be seen as a reflection of the fact that — despite the expansion of multimodal transportation and a proliferation of national multimodal liability regimes — there has, in recent times, been little focused debate, involving all interested parties at the global level.

The need for increased dialogue on controversial matters as well as on potential ways forward is illustrated by the fact that some possible options, which have tentatively been suggested by a number of respondents, have yet to be explored in any international forum. For instance, several respondents indicated support for the development of a binding international liability regime based on commercially accepted contractual solutions, i.e. the UNCTAD/ICC Rules. The UNCTAD/ICC Rules share significant characteristics with the 1980 MT Convention in that both operate a modified liability system, which (entirely or to an extent) retains the network approach in relation to limitation of liability. However, while the 1980 MT Convention has not generated much support within the transport industry, the UNCTAD/ICC Rules have clearly been quite successful and have been adopted by FIATA in their FBL 92 and by BIMCO in Multidoc 95. As proposals for a legally binding international instrument building on the UNCTAD/ICC Rules as a basis for negotiations have not yet been considered in any international forum, their further exploration may be worthwhile.

An altogether different approach to liability regulation for international multimodal transport lies in proposals for the development of a non-mandatory regime, which provides uniform and high levels of liability. Proponents of this approach argue that such a non-mandatory regime would, as a matter of commercial decision-making, appear an attractive proposition to both shippers who are interested in a simple and cost-effective regime and to carriers who wish to offer such a regime as part of their service. A non-mandatory solution of this kind has not yet been considered in any international forum[13] and may also be worth investigating.

Although it would be presumptuous to try to foreshadow the substance and development of any further detailed discussions involving all interested parties, it appears

that there is significant interest in further constructive debate. In order to facilitate and support this process, it would seem that the convening of an informal international forum under the auspices of UNCTAD, together with other interested UN organizations, such as UNCITRAL and UNECE, would be both appropriate and timely. The forum would enable frank discussion of controversial key issues highlighted in this report and serve as a platform by which priorities and potentially attractive ways forward may be explored more fully by all interested public and private parties. While, clearly, there is at present much controversy regarding the best approach that might be pursued in relation to several key issues, certain areas of consensus have also emerged. These, it is hoped, will serve as a basis for constructive and fruitful discussion of possible regulation of multimodal transportation.

D. PRODUCTION AND LEASING OF CONTAINERS

Production of new freight containers was projected to reach 1.6 million TEU in 2002 (see figure 9), a substantial recovery from the 2001 slump. The largest share of this production corresponded to lessors' demand, which accounted for about 50 per cent of the total, a substantial increase from the 35 per cent share of the previous year. Demand from carriers for new slots in the containership fleet, which expanded by about 10 per cent in 2002, was about 0.1 million TEU. Lessors and carriers also contributed to the demand as they replaced obsolete boxes, and this was expected to account for almost 0.7 million TEU or 46 per cent of production.

China's dominance in container production increased during 2002 to reach 87 per cent of world box production (see table 45). Production from other regions shrank slightly as additional factories were built in China that allowed large-scale production using intermediate materials such as high-strength weather-resistant steel. Producers from other regions faced relatively higher costs of similar materials and thus lost market share.

Most container production was the standard dry freight container, which represented about 1.3 million TEU in 2002. As figure 10 indicates, the balance is made up of integral reefer containers, dry freight specials, tank containers and non-ISO containers adapted to the special needs of the European (i.e. wide bodies) and North American markets. Production of the latter two types has been falling over the last years.

Table 45

Percentage shares for container production

Region/country	2001	2002
China	82	87
Other Asia	8	6
Europe	8	6
Others	2	1

Source: *Containerisation International*, January 2003.

Average prices for new built containers in China bottomed in the first quarter of 2002, after declining during 2001 (see table 46). The drop between the first quarter of 2001 and that of 2002 was around 22 per cent – relatively uniform across regions. During 2002, prices increased and by the third quarter they were up 17 per cent from the levels that had prevailed at the beginning of the year.

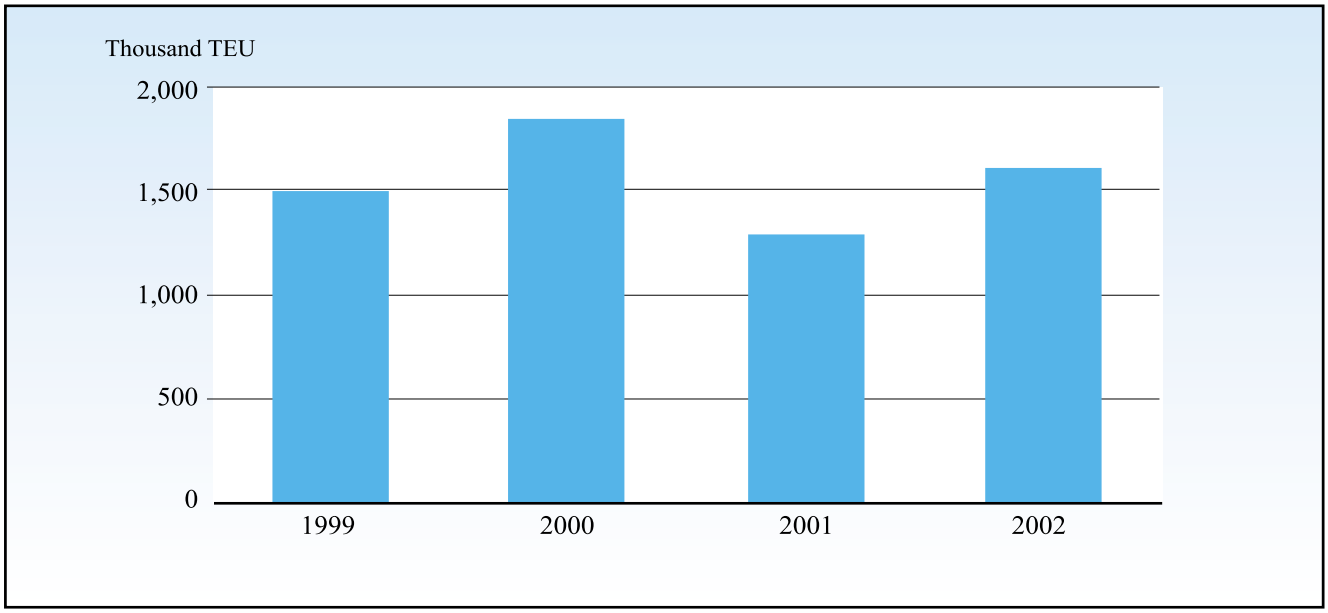
There were several reasons for the price increases. Manufacturers operating at reduced capacity since 2001 were reluctant to raise production to full capacity in view of the evolution of the shipping market. The delay in increasing production resulted in declines in inventory, which partially explains the increase. The cost of container manufacturing also increased as prices of intermediate and raw materials, which were at their lowest level as a result of the dip in box production in 2001, increased owing to their limited availability (i.e. Corten steel and plywood).

Container lease rates also bottomed in the first quarter of 2002 (see figure 11) in conjunction with the low level of container leases – only 303,302 TEU, as compared with 680,932 TEU the previous year. In the following months of 2002, lease rates improved owing to carrier demand, with carriers preferring to lease rather than purchase new boxes as freight rates improved only marginally during most of the year. In fact, re-hiring aged and idle boxes accumulated in low demand areas was preferred by many carriers. As demand and prices for new boxes increased, lease rates and the number of leases improved slightly.

By the start of 2002, the fleet of leased dry freight containers stood at little more than 7 million TEU. For other types of leased boxes – such as tanks, reefers, open tops and open-side boxes – the variation of fleet sizes reflected different market demands (figure 12). For the

Figure 9

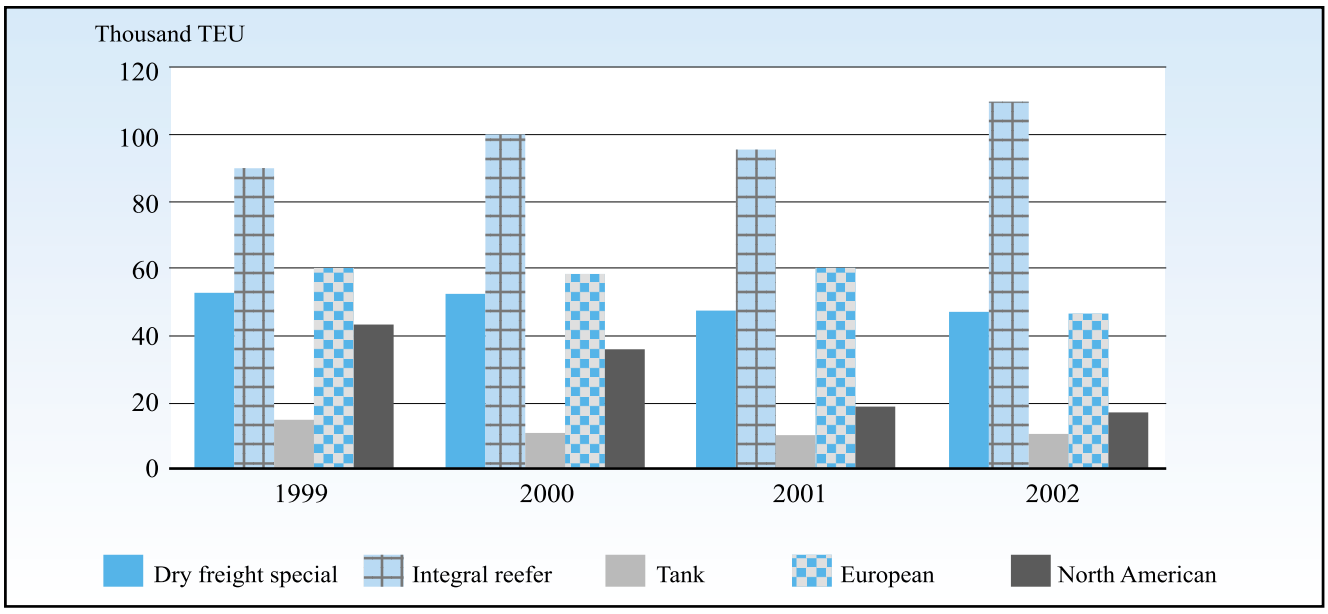
Total annual box production



Source: *Containerisation International*, January 2003, and *Containerisation International Yearbook 2002*.

Figure 10

Annual production of boxes other than for standard dry freight



Source: *Containerisation International*, January 2003, and *Containerisation International Yearbook 2002*.

Table 46

Container prices in China

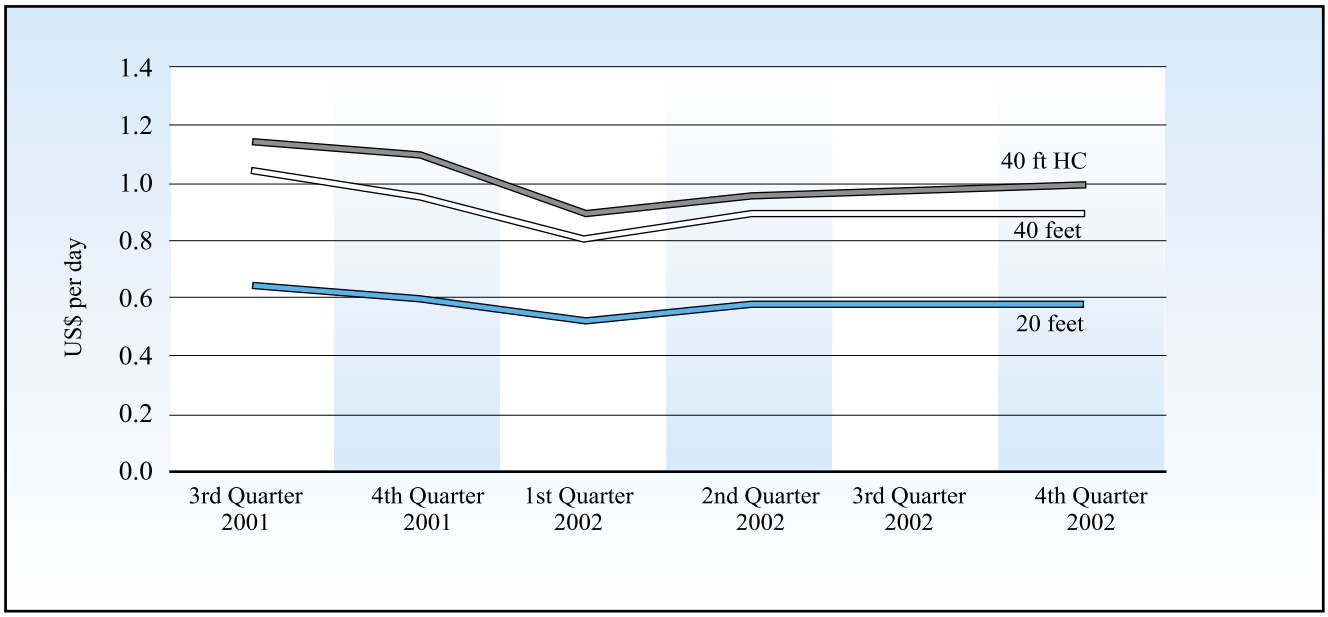
(in $)

Period	China – Central			China – South			China – North		
	20ft	40ft	40ft HC	20ft	40ft	40ft HC	20ft	40ft	40ft HC
1Q-2001	1 480	2 370	2 485	1 520	2 430	2 555	1 540	2 465	2 585
4Q-2001	1 350	2 160	2 270	1 380	2 210	2 320	1 400	2 240	2 350
1Q-2002	1 150	1 840	1 930	1 180	1 890	1 980	1 180	1 890	1 980
3Q-2002	1 350	2 160	2 270	1 380	2 210	2 320	1 400	2 240	2 350

Source: *Containerisation International*, August 2002, and *Containerisation International Yearbook 2002*.

Figure 11

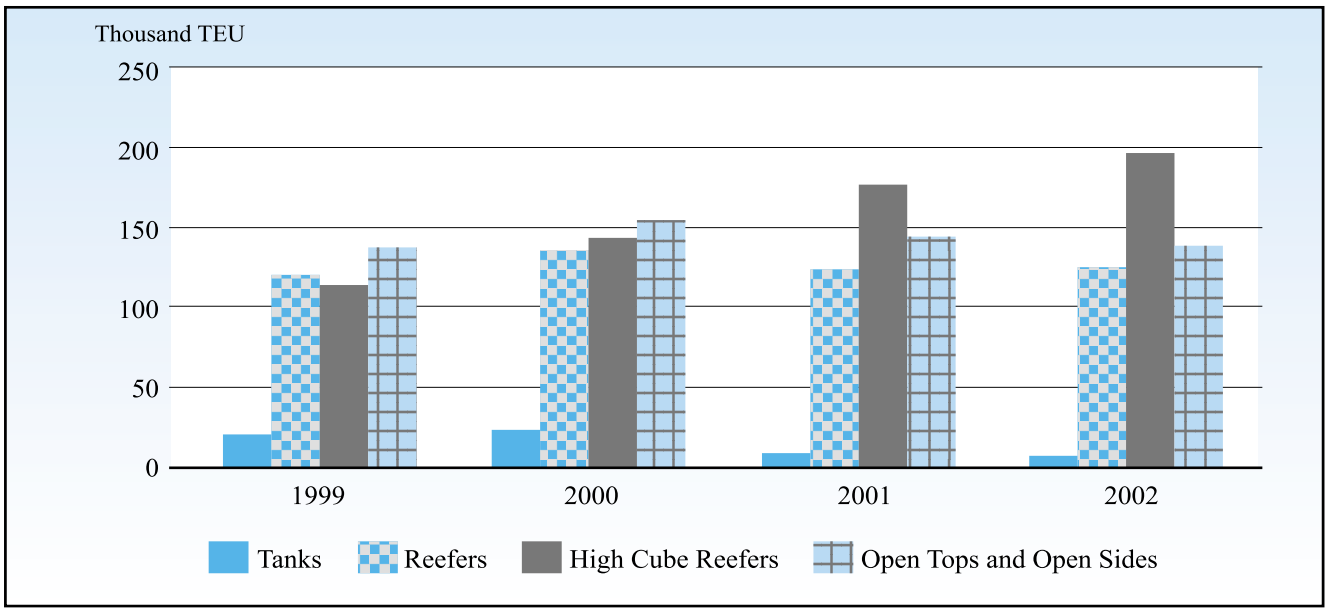
Term lease rates



Source: Institute of International Container Lessor, 14th Annual Leased Container Fleet Surveys.

Figure 12

Fleets of leased tanks, reefers and HC reefers, and open tops and open sides



Source: Institute of International Container Lessors, 11th - 14th Annual Leased Container Fleet Surveys.

past three years, lessors chose to expand their supply of high-cube reefers, while reducing their fleets of regular reefers, tanks, and open-top and open-side boxes. This trend was consistent with the annual production of the respective special boxes. Lessors acquire about a quarter of the total of the special boxes produced every year.

E. RAILWAY DEVELOPMENT

In 2002, a number of countries continued to improve their rail systems as part of their strategies in improving their shares in the world trade. In July 2002, Australia started the construction of the final segment of the AustralAsia Railway, which will eventually connect the Darwin deepwater port and Adelaide, and thus improve access to Asian markets. This project is funded by several states and the Federal Government (about $285 million), and by private investors syndicated in the Asia Pacific Transport Consortium (APTC), which contributes $421 million. The latter holds the contract to build, own and operate the project, which includes the building of 1,420 km of standard gauge line between Darwin and Alice Springs, the lease and maintenance of the existing 830 km line between Tarcoola (near Adelaide) and Alice Springs, and the operation of the completed transcontinental railway line from Tarcoola to Darwin for 50 years.

During 2002, a number of plans to modernize existing networks were under consideration. In Viet Nam, a 20-year programme to upgrade the metre-gauge national rail network, which is part of the Trans-Asia network, was approved by the Government. The investment is considerable, about $11 billion, and includes the upgrading of the 1,726 km north–south link between Hanoi and Ho Chi Minh City to reduce voyage time to 10 hours. Indian railways have budgeted $5.5 billion over five years for modernization; this includes gauge conversion, track doubling and security measures. These are complemented by client-oriented initiatives such as volume discounts, flexible rates for station-to-station traffic, facilitation of private participation in warehousing at existing terminals, and the use of containers for non-bulk transportation. In Canada, a Federal Government proposal was under consideration to invest up to $2 billion to upgrade the country's rail network to allow more and heavier trains to operate safely at higher speeds and to enhance rail links at the US border.

In other countries railway operations and investments were competing with or complementing other transport modes. In China the plan for a 147 km ferry route to link Dalian with Yantai City in northern Shandong was an alternative to the 1,000 km rail route that currently link these two locations. The construction of a train-ferry route between Zhangjiang Hai'an and Hainan Island started. The ferry has been designed to carry 40 freight wagons, 40 cars and 1,200 passengers. In New Zealand, there were complaints about the efficiency of the railway network for exports. Government efforts to redress this situation were made difficult as the transport needs of this small country with a limited population and predominantly rural economy could already be met by its trucking industry. In Austria, the 317 km Westbahn rail line between Vienna and Salzburg was being upgraded and modernized to cut journey times and augment capacity, and thus foster the role of the country for Eastern European destinations. In Duisburg plans were underway to connect this major intermodal hub on the Rhine with rail links to Southern European ports.

F. STATUS OF CONVENTIONS

There are a number of international conventions affecting the commercial and technical activities of maritime transport. Box 4 gives the status of international maritime conventions adopted under the auspices of UNCTAD as of June 2003. Comprehensive and updated information about these and other relevant conventions is available on the United Nations website at *www.un.org/law.* This site also provides links to, *inter alia*, the following organizations' websites, which contain information on the conventions adopted under the auspices of each organization — the International Maritime Organization (IMO) (*www.imo.org/home.html*), the International Labour Organization (*www.ilo.org*) and the United Nations Commission on International Trade Law (*www.uncitral.org*).

Box 4

Contracting States of selected conventions on maritime transport as of 31 August 2003

Title of Convention	Date of entry into force or conditions for entry into force	Contracting States
United Nations Convention on a Code of Conduct for Liner Conferences, 1974	Entered into force 6 October 1983	Algeria, Bangladesh, Barbados, Belgium, Benin, Bulgaria, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chile, China, Congo, Costa Rica, Côte d'Ivoire, Cuba, Czech Republic, Democratic Republic of the Congo, Denmark, Egypt, Ethiopia, Finland, France, Gabon, Gambia, Germany, Ghana, Guatemala, Guinea, Guyana, Honduras, India, Indonesia, Iraq, Italy, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Mauritania, Mauritius, Mexico, Morocco, Mozambique, the Netherlands, Niger, Nigeria, Norway, Pakistan, Peru, the Philippines, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Senegal, ierra Leone, Slovakia, Somalia, Spain, Sri Lanka, Sudan, Sweden, Togo, Trinidad and Tobago, Tunisia, United Kingdom, United Republic of Tanzania, Uruguay, Venezuela, Yugoslavia, Zambia **(78)**
United Nations Convention on the Carriage of Goods by Sea, 1978 (Hamburg Rules)	Entered into force 1 November 1992	Austria, Barbados, Botswana, Burkina Faso, Burundi, Cameroon, Chile, Czech Republic, Egypt, Gambia, Georgia, Guinea, Hungary, Jordan, Kenya, Lebanon, Lesotho, Malawi, Morocco, Nigeria, Romania, Senegal, Sierra Leone, Syrian Arab Republic, Saint Vincent and the Grenadines, Tunisia, Uganda, United Republic of Tanzania, Zambia (**29**)
United Nations Convention on International Multimodal Transport of Goods, 1980	Not yet in force – requires 30 contracting parties	Burundi, Chile, Georgia, Lebanon, Malawi, Mexico, Morocco, Rwanda, Senegal, Zambia **(10)**
United Nations Convention on Conditions for Registration of Ships, 1986	Not yet in force – requires 40 contracting parties with at least 25 per cent of the world's tonnage as per Annex III to the Convention	Bulgaria, Côte d'Ivoire, Egypt, Georgia, Ghana, Haiti, Hungary, Iraq, Libyan Arab Jamahiriya, Mexico, Oman **(11)**
International Convention on Maritime Liens and Mortgages, 1993	Not yet in force – requires 10 contracting parties	Estonia, Monaco, Russian Federation, Spain, Saint Vincent and the Grenadines, Tunisia, Ukraine, Vanuatu **(8)**
International Convention on Arrest of Ships, 1999	Not yet in force – requires 10 contracting parties	Bulgaria, Estonia, Latvia, Spain, Syrian Arab Republic **(5)**

Source: For the current official status of these conventions see *www.un.org/law.*

Chapter 7

REVIEW OF REGIONAL DEVELOPMENTS: SUB-SAHARAN AFRICA

This chapter reviews and analyses the global and intraregional maritime trades in Africa since the late 1990s, with the focus on sub-Saharan countries. It also covers developments in transport and related services, in particular for landlocked countries.

A. ECONOMIC BACKGROUND

There are 53 countries in the 30.3 million square km of Africa, with an estimated population of 820 million in 2001. These countries could broadly be grouped into three geographic regions: the five countries (Algeria, Egypt, Libyan Arab Jamahiriya, Morocco and Tunisia, which correspond to Code 8.1 of annex I) located along the north coast of the continent make up the first group; South Africa (Code 5 of annex I), embracing a large portion of the southern tip of the continent, is often regarded as a single group; and the remaining 47 countries located in between, which are collectively referred to as sub-Saharan African countries (corresponding closely to Codes 8.2 and 8.3 of annex I), make up the third group.

Sub-Saharan African countries are a diverse group with widely differing needs on account of their geographic situation. There are 24 coastal countries, 16 landlocked countries and 7 insular countries located in the Atlantic and Indian Oceans. In economic terms, however, many of these countries share common features. Thirty-four of the sub-Saharan African countries are classified as least developed countries (LDCs) that have low economic and social welfare indicators. In fact, these countries make up the majority of the 49 LDCs of the world.

Table 47 presents the geographic and economic denomination of sub-Saharan African countries, together with their average annual increase in GDP for the period 1990-1999, the annual increase from 1999 to 2001 and the estimates for 2002 and 2003. The same economic data are included for other African countries, for all developing countries and for market-economy countries.

The economic performance of all African countries was below the average recorded for all developing countries. During the last decade, the average annual GDP increases were 3.1 and 4.7 per cent respectively. The same trend has continued up to 2003. The economic performance of countries, however, fluctuates widely from year to year for several reasons such as natural disasters, domestic or international political instability, displacement of populations due to instability in neighbouring countries, armed conflict with neighbouring countries, fluctuations in the prices of the main export commodities, and fluctuations in levels of foreign investment.

Six countries in West Africa (Benin, Burkina Faso, Cape Verde, Ghana, Mauritania and Senegal) have managed to achieve steady positive growth. Other countries have had poor or negative growth in some years. Domestic political turmoil is behind the 2000 and 2001 results for Côte d'Ivoire, and with the renewed crisis since September 2002, the forecast outputs will probably be missed. Civil war has kept the economy of Sierra Leone contracting for a decade and required United Nations peacekeeping missions and United Kingdom armed intervention. In Liberia, instability precludes even the collection of data. In Nigeria, the largest economy in sub-Saharan Africa, regional civil disturbances and floods in the north of the country resulted in poor results for 1999 and 2002, but prospects for 2003 are good.

Table 47

Real GDP of developing countries of sub-Saharan Africa

	Type of country		Real GDP	Annual percentage change				
	Geographic	Economic	1990-99	1999	2000	2001	2002	2003
Sub-Saharan African countries								
(a) West Africa								
Benin	C	LDC	4.6	4.7	5.8	5.0	5.3	6.0
Burkina Faso	LLC	LDC	3.8	6.3	2.2	5.7	5.7	5.4
Cape Verde	I	LDC	5.4	8.6	6.8	2.9	3.0	3.5
Côte d'Ivoire	C		1.6	-2.3	0.1	3.0	4.5	..
Gambia	C	LDC	2.8	6.4	5.6	5.5	6.0	6.0
Ghana	C		..	4.4	3.7	4.2	4.5	5.0
Guinea	C	LDC	4.2	4.6	2.1	3.6	4.2	4.9
Guinea-Bissau	C	LDC	0.3	8.0	9.5	0.2	3.9	4.4
Liberia	C	LDC	-	-	-	-	-	-
Mauritania	C	LDC	4.2	4.1	5.0	4.6	5.1	5.5
Mali	LLC	LDC	3.5	6.7	3.7	1.5	9.3	5.3
Niger	LLC	LDC	2.4	-0.6	-1.4	7.6	2.7	3.9
Nigeria	C		..	1.0	4.3	2.8	-2.3	3.7
Senegal	C	LDC	3.3	5.1	5.6	5.6	5.0	5.1
Sierra Leone	C	LDC	-4.7	-8.1	3.8	5.4	6.6	7.0
Togo	C	LDC	2.4	2.9	-1.9	2.7	3.0	4.0
(b) Central Africa								
Angola	C	LDC	0.4	3.3	3.0	3.2	17.1	4.8
Burundi	LLC	LDC	-2.9	-1.0	-0.1	2.4	3.4	5.0
Cameroon	C		..	4.4	4.2	5.3	4.4	4.7
Central African Republic	LLC	LDC	1.8	3.6	1.8	1.0	4.5	4.3
Chad	LLC	LDC	1.7	2.3	1.0	8.5	11.2	9.2
Congo	C		..	-3.0	8.2	2.9	3.9	-1.0
Democratic Republic of Congo	LLC	LDC	-5.2	-4.3	-6.2	-4.4	3.0	5.5
Equatorial Guinea	I	LDC	1.3	41.4	16.1	45.5	30.4	16.4
Gabon	C		..	-8.9	-1.9	2.4	1.0	-0.5
Rwanda	LLC	LDC	-1.5	7.6	6.0	6.7	6.5	6.2
Sao Tome and Principe	I	LDC	1.7	2.5	3.0	4.0	5.0	5.0
(c) Southern Africa								
Botswana	LLC		..	6.3	8.6	4.9	2.6	3.7
Lesotho	LLC	LDC	4.3	2.4	3.5	4.0	4.0	4.3
Malawi	LLC	LDC	4.0	4.0	1.7	-1.5	1.8	4.5
Mozambique	C	LDC	6.2	7.5	1.6	13.9	9.0	5.6
Namibia	C		..	3.6	3.4	2.5	3.1	3.8
Swaziland	LLC		..	3.5	2.2	1.6	1.8	2.3
Zambia	LLC	LDC	0.2	2.2	3.6	4.9	3.7	4.0
Zimbabwe	LLC		..	-0.7	-5.1	-8.5	-10.6	-2.8

Table 47 (continued)

	Type of country		Real GDP	Annual percentage change				
	Geographic	Economic	1990-99	1999	2000	2001	2002	2003
(d) Horn and East Africa								
Djibouti	C	LDC	..	2.2	0.7	1.9	2.6	3.5
Eritrea	C	LDC	5.0	0.6	-12.1	9.7	8.8	7.1
Ethiopia	LLC	LDC	4.6	6.0	5.4	7.7	5.0	6.0
Kenya	C		..	1.3	-0.1	1.2	1.4	2.8
Somalia	C	LDC	..	-	-	-	-	-
Sudan	C	LDC	8.2	7.7	9.7	5.3	5.2	6.3
Uganda	LLC	LDC	7.2	7.6	5.0	5.6	5.7	6.5
United Rep. of Tanzania	C	LDC	2.0	3.5	5.1	5.6	5.8	6.0
(e) African countries of the Indian Ocean								
Comoros	I	LDC	-0.6	1.9	-1.1	1.9	3.5	3.0
Madagascar	I	LDC	1.7	4.7	4.8	6.7	-10.0	10.0
Mauritius	I		..	5.3	2.6	7.2	5.3	4.9
Seychelles	I		..	-2.8	-5.4	-8.1	-2.4	-0.6
Northern Africa								
Algeria	C		..	3.2	2.5	2.8	2.1	2.9
Egypt	C		..	6.0	5.1	3.3	2.0	3.7
Libyan Arab Jamahiriya	C		..	0.7	4.4	0.6	-0.6	2.5
Morocco	C		..	-0.1	1.0	6.5	4.4	4.1
Tunisia	C		..	6.1	4.7	5.0	3.8	6.4
South Africa	C		..	2.1	3.4	2.2	2.5	3.0
All African countries			3.1	2.8	3.0	3.5	3.1	4.2
Developing countries			4.7	4.0	5.7	3.9	4.2	5.2
Developed market-economy countries			2.3	3.4	3.8	0.8	1.7	2.5

Source: IMF, World Economic Outlook Database, September 2002; and UNCTAD (2002), *Least Developed Countries Report 2002*, United Nations publication, Sales No. E.02.II.D.13, Geneva.

Notes: C = coastal country
I = island country
LDC = least developed country
LLC = landlocked country

In Central Africa, the war afflicting Burundi, the Democratic Republic of Congo and Rwanda is behind the negative results for the last decade, which are continuing. A refuge problem in Chad and the traumatic change of regime that required a UN peacekeeping force in Central African Republic are behind the poor results for these countries in 2000 and 2001 respectively. Political instability in Gabon resulted in negative growth for 1999 and 2000. The outstanding economic performance of Equatorial Guinea is due to the discovery and production of offshore oil that reached a rate of 0.2 mbpd in 2001. Oil discoveries and a future pipeline are the reasons behind the growth forecast for Chad and Cameroon.

In southern Africa, the poor results for 2000 for Mozambique resulted from two cyclones and floods that displaced almost 200,000 people and left 1 million homeless; however, the country quickly resumed its growth. The slowing down and eventual ending of the Angolan war in 2002 considerably raised the country's annual economic growth, which has averaged only 0.4 per cent during the past decade. In Zimbabwe, land reform, participation in the war in Congo, contested elections and economic sanctions resulted in several years of economic contraction. Other countries such as Botswana, Lesotho, Malawi, Namibia and Swaziland continued their steady economic growth.

In East Africa and the Horn of Africa region, good performers were the United Republic of Tanzania, Uganda and Kenya, although the latter did not perform as well in 2000 and recorded a negative result that year, a year of heavily contested elections. In the same year these countries re-established the East Africa Community. The good performance of Sudan for 2000 was achieved in spite of the continuing civil war, drought in the south of the country and overproduction of sugar. The war between Eritrea and Ethiopia was responsible for the bad results for Eritrea in 1999 and 2000, and performance improved when peace was agreed and a UN peacekeeping force was deployed. In spite of the war, drought in the north-east and low coffee prices, Ethiopia's growth declined only slightly in 2000.

B. TRADE STRUCTURE

During the period 1990-2001, the value of exports from Africa increased by 33.8 per cent to reach $141.2 billion, and in the same period the value of imports rose by 37.1 per cent to $136 billion. Annual merchandise trade values for Africa are indicated in table 48. The increases during the period mask spells of predominant trade contraction, such as that of 1991-1993, of predominant trade expansion like that of 1994-1997, and of uneven behaviour of exports and imports as from 1998 onwards. Annual fluctuations were also significant: exports contracted by 17.2 per cent in 1998 but expanded by 10.6 per cent the following year; imports expanded by 19.2 per cent in 1995 and contracted by 1.1 per cent in 1996. Overall the share of Africa in world trade is modest and has decreased, falling to about 3 per cent of the value of exports and imports in 1990 and around 2.4 per cent in 2001. Preliminary figures for 2002 seem to indicate a further contraction of trade.

The breakdown of trade for the three regional groupings is indicated in table 49. In 2001, sub-Saharan African countries accounted for 44 per cent of African exports and 41 per cent of its imports. For North African countries, the share of exports was 35 per cent and of imports 38 per cent. South Africa accounted for an equal share, 21 per cent, of exports and imports. These shares have been fairly stable since 1999. Since 2000, Africa has had a positive balance of trade, with only northern Africa having a negative balance of $2.2 billion in 2001.

The main trading partners for African exports by value are indicated in table 50. Europe, notably the European Union, is the destination for about half of African exports. The North American market takes a little less than a fifth, which is slightly more than the share for Japan and other Asian countries. The Middle East, Latin America and intra-Africa markets account for the balance of African exports – between 10 and 15 per cent.

About half of the value of African exports to Europe is accounted for by crude oil, gas and petroleum products, about a quarter by textiles, a little less than a fifth by agricultural products and the remainder of about 10 per cent by minerals. African imports from Europe are 80 per cent manufactured goods, with about half of this machinery and transport equipment. Agricultural products and other edible items make up about a tenth of imports. The importance of the European Union for African trade is highlighted by the Everything but Arms (EBA) initiative approved in February 2001 by the European Commission whereby quotas and duties for exports from LDC countries, hence many sub-Saharan African exports, with the exception of arms, will be eliminated in phases. This will provide access for more agricultural products, subject to the availability of efficient supply chains.

Table 48

Merchandise trade of Africa

Year	Billions of dollars		Annual growth, percentage		World share, percentage	
	Exports	Imports	Exports	Imports	Exports	Imports
1990	105.5	99.2	..	..	3.1	2.8
1991	99.8	94.7	-5.4	-4.5	2.9	2.7
1992	96.9	100.6	-2.9	6.2	2.6	2.7
1993	93.0	98.4	-4.0	-2.2	2.5	2.6
1994	96.8	106.1	4.1	7.8	2.3	2.5
1995	111.5	126.5	15.2	19.2	2.2	2.5
1996	125.0	125.1	12.1	-1.1	2.4	2.3
1997	127.3	132.3	1.8	5.8	2.4	2.4
1998	105.4	132.5	-17.2	0.2	2.0	2.4
1999	116.6	128.1	10.6	-3.3	2.1	2.2
2000	148.5	133.1	27.4	3.9	2.4	2.0
2001	141.2	136.0	-4.9	2.2	2.4	2.2

Source: UNCTAD secretariat from WTO, International Trade Statistics 2002, Appendix Tables A4 and A5.

Table 49

Composition of African trade by blocks

		Billions of dollars				Percentages of African trade		
		All Africa	S/S Africa	Northern Africa	South Africa	S/S Africa	Northern Africa	South Africa
1999	Exports	116.6	52.6	37.3	26.7	45	32	23
	Imports	128.1	53.5	47.9	26.7	42	37	21
2000	Exports	148.5	65.1	53.4	30.0	44	36	20
	Imports	133.0	52.4	51.0	29.7	39	38	22
2001	Exports	141.2	62.3	49.6	29.3	44	35	21
	Imports	136.0	55.8	51.8	28.4	41	38	21

Source: UNCTAD secretariat from WTO, International Trade Statistics 2002, Appendix Trade by Region – Africa, Tables III.55 to III.60 and Charts III.13 and III.14.

Table 50

African exports in terms of value

	Billions of dollars			Percentages		
	1999	2000	2001	1999	2000	2001
World	116.6	148.5	141.2	100.0	100.0	100.0
Western Europe	59.7	75.3	73.0	51.2	50.7	51.7
North America	17.6	27.2	24.8	15.1	18.3	17.6
Japan	3.1	3.8	3.5	2.7	2.6	2.5
Other Asian countries	16.1	20.0	17.2	13.8	13.5	12.2
Latin America	3.6	4.6	5.1	3.1	3.1	3.6
Middle East	2.3	3.0	2.9	2.0	2.0	2.1
Intra-Africa	11.1	12.1	11.4	9.5	8.1	8.1
Others	3.1	2.5	3.3	2.7	1.7	2.3

Source: UNCTAD secretariat from WTO, International Trade Statistics, 2002, Appendix Trade by Region – Africa, Tables III.55 to III.60 and Charts III.13 and III.14.

The EBA initiative was followed by the African Growth and Opportunity Act (AGOA) approved by the United States, the second trading partner for African countries, on May 2000, which is specifically focused in sub-Saharan African countries and South Africa.

A number of organizations have been established by African countries over a number of years to promote intra-African trade. Table 51 provides a breakdown of their membership and table 52 shows the distribution of trade for these organizations to the world, to Africa and amongst the organizations.

In 2000, the largest shares of exports to Africa of total exports by various organizations were those of SADC and ECOWAS with $5.5 billion and $4.4 billion respectively. Membership of sub-Saharan countries is stronger in ECOWAS and COMESA, which in the same year exported $30.8 billion and $24.6 billion respectively; the shares of Africa in these exports were 14.2 and 10.2 per cent. The highest shares of exports to sub-Saharan African countries were those of WAEMU to ECOWAS, 25.1 per cent, and to FRANC ZONE, 17.6 per cent. The largest shares of imports from Africa were attributable to WAEMU, with 27.5 per cent, and FRANC ZONE, with 23.5 per cent. Again WAEMU recorded the highest share of imports from another sub-Saharan group of countries, COMESA, with 24.7 per cent. Overall, intra-Africa trade fluctuates around 9 to 10 per cent of total trade.

In July 2000 the treaty signed by Kenya, Uganda and Tanzania to revive the East Africa Community entered into force. The starting point is a Customs Union to reinforce trade and economic links, with political federation envisaged in the long term.

C. MARITIME TRANSPORT

In 2002, the African merchant fleet, including the Liberian open register, reached 82,422 thousand dwt, i.e. 9.8 per cent of the world fleet. The African fleet without the open register reached 5,406 thousand dwt, equivalent to 3.2 per cent of the fleet of developing countries and 0.6 per cent of the world fleet. As indicated in table 53, there has been a continual decrease in the African fleet's share of the world fleet. The share, including open registers, decreased from 24.3 to 10.7 per cent between 1980 and 2000, while the share without open registers decreased from 1.1 to 0.8 per cent during the same period.

Table 51

Organizations promoting intra-African trade

	AMU	CAEMC	ECCAS	ECOWAS	FRANCZ	WAEMU	COMESA	SADC	IGAD
All African countries									
South Africa								x	
(a) Northern Africa									
Algeria	x								
Egypt									
Libyan Arab Jamahiriya	x								
Morocco	x								
Tunisia	x								
Sub-Saharan African countries									
(b) West Africa									
Benin				x	x	x			
Burkina Faso				x	x	x			
Cape Verde				x					
Côte d'Ivoire				x	x	x			
Gambia				x					
Ghana				x					
Guinea				x					
Guinea-Bissau				x	x	x			
Liberia				x					
Mauritania	x			x					
Mali				x	x	x			
Niger				x	x	x			
Nigeria				x					
Senegal				x	x	x			
Sierra Leone				x					
Togo				x	x	x			
(c) Central Africa									
Angola			x				x	x	
Burundi			x				x		
Cameroon		x	x		x				
Central African Republic		x	x		x				
Chad		x	x		x				
Congo		x	x						
Democratic Republic of Congo			x	x		x		x	x
Equatorial Guinea		x	x		x				
Gabon		x	x		x				
Rwanda			x				x		
Sao Tome and Principe			x						
(d) Southern Africa									
Botswana								x	
Lesotho								x	

Table 51 (continued)

	AMU	CAEMC	ECCAS	ECOWAS	FRANCZ	WAEMU	COMESA	SADC	IGAD
Burkina Faso				x	x	x			
Malawi							x	x	
Mozambique								x	
Namibia							x	x	
Swaziland							x	x	
Zambia							x	x	
Zimbabwe							x	x	
(e) Horn and East Africa									
Djibouti							x		x
Eritrea							x		x
Ethiopia							x		x
Kenya							x		x
Somalia							x		x
Sudan							x		
Uganda							x		x
United Republic of Tanzania							x	x	
(f) African countries of the Indian Ocean									
Comoros					x		x		
Madagascar							x		
Mauritius							x	x	
Seychelles							x	x	

Source: *Africa 2003*, published by Business Books International, United States, ISBN 0-916673-11-1 and ISSN 1536-1454.

Note: AMU = Arab Magreb Union; CAEMC = Central Africa Economic and Monetary Community; ECCAS = Economic Community of Central Africa States; ECOWAS = Economic Community of West Africa States; FRANC ZONE = Financial African Community; WAEMU = West African Economic and Monetary Union; COMESA = Common Market for Eastern and Southern Africa; SADC = Southern Africa Development Community; IGAD = Intergovernmental Authority for Development.

About two-thirds of the African merchant fleet without open registers is registered in countries of northern Africa (Algeria, Egypt, Libyan Arab Jamahiriya, Morocco and Tunisia) and in South Africa, with the remaining third in sub-Saharan African countries. Since 2000 there has been a modest increase of 7.8 per cent in the size of the latter, from 1,644 to 1,773 thousand dwt, but this is still lower than the 1,985 thousand dwt of 1980. About half of the sub-Saharan fleet in 2002 belonged to countries in West Africa; countries in Southern Africa and on the Indian Ocean accounted for about a quarter; and the remaining tonnage was shared by equally East and Central African countries.

The average age of the sub-Saharan African fleet, excluding open registers, is 22.1 years, considerably more than the average age for the world fleet – 12.6 years (see table 54). The average age for all categories of vessels was above 20 years, with containerships and tankers being the oldest.

Since 2000 the total of goods loaded and unloaded in African ports has fluctuated around 750 million tons per year, with the share of sub-Saharan countries being about a third, namely 250 million tons. The continent accounted for 6.2 per cent of global cargo loaded and unloaded, while sub-Saharan Africa reached almost 2.1 per cent of total world cargo.

There is a considerable imbalance in the total cargo moved by sub-Saharan countries. Loaded goods averaged 190 million tons per year, while unloaded ones reached 60 million tons, less than one-third of the total loaded. The bulk of loaded cargo, estimated at almost

Table 52

Distribution of intra-African trade in goods in value, 2000

Exports from	To world	To Africa		To different African groups of countries (percentages)							
	($ billion)	($ billion)	(per cent)	AMU	CAEMC	ECCAS	ECOWAS	FRANC Z.	WAEMU	COMESA	SADC
AMU	47.8	1.48	3.1	2.3	0.1	0.1	0.5	0.5	0.2	0.2	0.0
CAEMC	10.6	0.26	2.5	0.5	1.2	1.5	0.4	1.4	0.3	0.4	0.4
ECCAS	19.3	0.35	1.8	0.2	0.7	0.9	0.3	0.8	0.2	0.3	0.5
ECOWAS	30.8	4.37	14.2	0.6	1.3	1.8	10.8	8.2	6.9	0.6	1.5
FRANC ZONE	16.0	1.90	12.0	0.9	1.5	2.1	8.8	6.9	5.4	0.7	0.9
WAEMU	5.4	1.64	30.4	1.8	2.1	3.1	25.1	17.6	15.6	1.4	1.8
COMESA	24.6	2.51	10.2	0.6	0.1	0.7	0.2	0.2	0.1	5.2	5.2
SADC	36.1	5.52	15.3	0.2	0.2	1.6	1.0	0.6	0.3	9.2	12.2
Africa	136.3	12.94	9.5	1.1	0.5	1.0	2.9	2.2	1.7	3.3	3.8
Imports into	**From world**	**From Africa**		**From different African groups of countries (percentages)**							
	($ billion)	($ billion)	(per cent)	AMU	CAEMC	ECCAS	ECOWAS	FRANC Z.	WAEMU	COMESA	SADC
AMU	35.8	1.7	4.8	3.3	0.2	0.2	0.6	0.5	0.3	0.5	0.2
CAEMC	4.4	0.7	15.2	0.6	3.1	3.4	9.5	5.9	2.7	0.6	2.2
ECCAS	7.8	1.6	19.9	0.3	2.3	2.6	7.5	4.7	2.4	2.3	8.4
ECOWAS	28.7	4.3	14.8	0.9	0.2	0.2	12.3	4.8	4.6	0.2	1.4
FRANC ZONE	13.6	3.2	23.5	0.9	1.3	1.4	19.6	7.8	6.5	0.4	1.8
WAEMU	9.1	2.5	27.5	1.1	0.4	0.5	24.7	8.8	8.4	0.2	1.5
COMESA	39.9	5.0	12.5	0.4	0.1	0.2	0.5	0.3	0.2	3.5	9.2
SADC	39.8	5.3	13.2	0.0	0.1	0.3	1.2	0.4	0.3	3.4	10.9
Africa	139.6	13.7	9.8	1.1	0.2	0.3	3.3	1.4	1.2	1.9	4.0

Source: UNCTAD secretariat on the basis of balance-of-payment data from the African Development Bank, see afdb.org/knowledge/statistics/statistics_indicators_selected/external/pdf/table28.pdf.

Table 53

Sub-Saharan African fleet

(in thousand dwt)

	Years	Total	Tanker	Dry bulk	General cargo	Container	Others
World Total	1980	682 768	339 324	185 652	115 824	11 243	30 725
	1990	658 377	245 936	234 659	102 676	25 955	49 151
	2000	808 377	285 442	281 655	102 653	69 216	69 412
	2001	825 652	285 519	294 589	99 872	77 095	68 577
	2002	844 234	304 396	300 131	97 185	82 793	59 730
African fleet with open registers	1980	165 622	108 085	45 295	7 540	798	3 903
	1990	106 494	57 877	31 677	7 515	2 230	7 195
	2000	86 383	38 189	23 432	6 356	8 011	10 395
	2001	84 532	36 082	22 350	5 959	10 408	9 733
	2002	82 422	38 634	20 769	5 421	11 569	6 030
African fleet without open registers	1980	7 644	3 615	549	2 573	241	667
	1990	7 268	2 406	1 040	2 095	226	1 501
	2000	6 321	1 572	1 257	1 735	428	1 329
	2001	6 048	1 302	1 420	1 568	424	1 334
	2002	5 406	1 215	1 337	1 447	139	1 269
Liberia	1980	157 978	104 470	44 746	4 967	557	3 236
	1990	99 226	55 471	30 637	5 420	2 004	5 694
	2000	80 062	36 617	22 175	4 621	7 583	9 066
	2001	78 484	34 780	20 930	4 391	9 984	8 399
	2002	77 016	37 419	19 432	3 974	11 430	4 761
North Africa	1980	4 820	3 093	262	967	1	498
	1990	5 415	1 952	1 040	1 276	10	1 137
	2000	4 309	981	1 236	1 062	92	938
	2001	3 967	602	1 310	1 016	92	947
	2002	3 575	490	1 186	896	108	895
South Africa	1980	839	63	287	190	240	59
	1990	299	1	0	0	216	82
	2000	368	5	0	0	262	101
	2001	359	5	0	0	262	92
	2002	59	4	0	0	30	25
Sub-Saharan African fleet	1980	1 985	459	0	1 416	0	110
	1990	1 554	453	0	819	0	282
	2000	1 644	586	21	673	74	290
	2001	1 722	695	110	552	70	295
	2002	1 773	721	151	551	2	349
West Africa	1980	1 309	277	0	966	0	66
	1990	1 102	439	0	451	0	212
	2000	877	529	0	164	0	184
	2001	842	566	0	93	0	183
	2002	871	594	0	99	0	178

Table 53 (continued)

	Years	Total	Tanker	Dry bulk	General cargo	Container	Others
Central Africa	1980	362	141	0	191	0	30
	1990	155	0	0	121	0	34
	2000	305	17	16	222	5	45
	2001	354	22	105	183	1	43
	2002	214	23	29	101	2	60
East Africa	1980	181	26	0	148	0	7
	1990	146	10	0	120	0	16
	2000	232	23	0	195	0	14
	2001	220	23	0	182	0	15
	2002	235	31	0	185	0	19
Southern Africa	1980	133	15	0	111	0	7
and Indian Ocean	1990	151	4	0	127	0	20
	2000	230	17	5	92	69	47
	2001	306	84	5	94	69	54
	2002	452	73	122	165	0	93

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay.

170 million tons, was crude oil from the oil-exporting countries of West Africa, notably Nigeria, Gabon, Angola and recently Equatorial Guinea. Most of the balance was dry bulk cargo, bauxite from Guinea and iron ore from Mauritania, which fluctuates around 15 million tons per year. The remaining tonnage of loaded cargo and fourth-fifths of the total unloaded cargo was general cargo, which is increasingly carried in containers. The remaining one-fifth of unloaded cargo was refined petroleum products such as gasoline.

Liner cargo is to a large extent carried in containers, although there are break-bulk general cargo services and other specialized traffics such as logs and timber. In 2000, containers loaded and unloaded in African ports reached almost 7.3 million TEU, including 2.5 million TEU in sub-Saharan countries. Similar container throughputs were recorded in South Africa and in countries along the north coast – 2.1 and 2.7 million TEU respectively. Data for 14 African countries indicate a container throughput of 6.1 million TEU for 2001. The trade imbalance of sub-Saharan countries was reflected in the throughput of empties – around a third of the total, as indicated in table 55.

Table 56 indicates the traffic flow in the largest containerized route of sub-Saharan Africa, namely between the West Coast of Africa and Europe. Actual figures are given for 2000 and 2001 and forecast figures are given up to 2005. Again, trade imbalance is also reflected in these traffic flows, with the southbound flow being around 60 per cent of the total traffic. The forecasts show very limited growth.

Two carriers, Delmas and Maersk, dominate the international transport of goods for West Africa. Delmas provides weekly direct services with lo-lo and ro-ro self-sustaining vessels ranging from 1,500 to 2,200 TEU from West African ports to a number of European ports in the Atlantic and the Mediterranean. Maersk serves West Africa, with feeders from its European transshipments hubs, notably Algeciras. Both carriers relay containers reaching Europe to the US markets. The West Africa traffic accounts for 55 per cent of Delmas services, which include log and timber carriers. In 2001 Delmas started services to East Africa and islands in the Indian Ocean. Direct services from the West Coast of Africa via the Cape to South-East Asia and China are provided by PIL China Shipping and Gold Star Line, with vessels in the

Table 54

Age distribution of sub-Saharan African fleet

(percentage of total dwt)

Country or grouping	Types of vessel	0-4 years	5-9 years	10-14 years	15-19 years	20 years and over	age end 2002
World total	All ships	22.0	20.9	15.6	13.2	28.1	12.6
	Tankers	26.9	18.5	21.1	9.5	24.0	11.6
	Bulk carriers	19.7	23.9	12.8	17.8	25.8	12.7
	General cargo	9.4	13.6	9.8	16.7	50.6	17.0
	Container ships	31.1	33.9	13.1	10.0	11.9	9.1
	All others	14.9	13.1	13.4	9.4	49.2	16.0
Sub-Saharan Africa (including open–registry countries)							
	All ships	24.1	25.6	21.3	13.1	15.9	10.8
	Tankers	24.5	23.0	26.3	9.6	16.5	10.8
	Bulk carriers	16.1	29.2	16.9	20.9	16.9	11.9
	General cargo	10.8	22.0	15.7	26.3	25.2	14.0
	Container ships	45.3	30.2	14.5	5.7	4.3	6.7
	All others	16.8	24.7	20.9	14.8	22.8	12.4
Sub-Saharan Africa (excluding open–registry countries)							
	All ships	2.7	1.3	2.4	5.5	88.1	22.1
	Tankers	2.6	0.0	0.6	0.0	96.8	22.9
	Bulk carriers	5.3	3.5	0.0	0.0	91.2	21.8
	General cargo	1.0	1.4	5.5	17.9	74.3	21.3
	Container ships	0.0	0.0	0.0	0.0	100.0	23.5
	All others	4.7	5.2	5.2	7.8	77.0	20.5
Angola	All ships	3.5	0.8	0.0	14.1	81.7	21.7
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	8.3	91.7	23.0
	All others	9.7	2.2	0.0	26.7	61.4	19.3
Benin	All ships	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	0.0	100.0	23.5
Cameroon	All ships	0.0	8.4	8.5	2.2	80.8	21.0
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	9.6	9.7	2.5	78.1	20.6
Cape Verde	All ships	3.4	0.0	3.4	3.5	89.6	22.1
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	4.8	0.0	4.7	0.4	90.2	21.9
	All others	0.0	0.0	0.0	37.3	62.7	21.1
Comoros	All ships	0.0	0.0	0.5	0.5	99.0	23.4
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	Bulk carriers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	4.2	1.4	94.4	22.9
	All others	0.0	0.0	0.0	23.9	76.1	21.9

Table 54 (continued)

Country or grouping	Types of vessel	0-4 years	5-9 years	10-14 years	15-19 years	20 years and over	age end 2002
Congo	All ships	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	0.0	100.0	23.5
Democratic Republic of Congo	All ships	0.0	0.0	3.3	0.0	96.7	23.1
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	3.5	0.0	96.5	23.1
Côte d'Ivoire	All ships	0.0	0.0	0.0	0.0	100.0	23.5
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	0.0	100.0	23.5
Djibouti	All ships	8.6	0.0	0.0	0.0	91.4	21.6
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	22.2	0.0	0.0	0.0	77.8	18.7
Equatorial Guinea	All ships	0.0	0.0	12.2	0.0	87.8	22.1
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	17.0	0.0	83.0	21.6
Eritrea	All ships	1.5	0.5	0.0	0.0	98.0	23.1
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	12.8	4.8	0.0	0.0	82.5	20.0
Ethiopia	All ships	0.0	0.0	21.5	72.7	5.9	16.3
	Tankers	0.0	0.0	100.0	0.0	0.0	12.0
	General cargo	0.0	0.0	18.6	75.4	6.1	16.5
Gabon	All ships	8.8	0.0	6.8	20.4	63.9	19.5
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	14.1	0.0	0.0	27.3	58.5	18.7
	All others	4.3	0.0	16.9	16.7	62.1	19.5
Gambia	All ships	0.0	30.7	0.0	2.9	66.4	18.2
	All others	0.0	30.7	0.0	2.9	66.4	18.2
Ghana	All ships	0.0	0.5	1.8	3.2	94.4	23.0
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	Bulk carriers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	10.1	89.9	22.8
	All others	0.0	0.8	2.9	1.1	95.2	23.0
Guinea	All ships	1.2	0.0	0.0	0.0	98.8	23.2
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	1.3	0.0	0.0	0.0	98.7	23.2
Guinea-Bissau	All ships	0.0	0.0	0.0	6.9	93.1	23.1
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	7.7	92.3	23.0

Table 54 (continued)

Country or grouping	Types of vessel	0-4 years	5-9 years	10-14 years	15-19 years	20 years and over	age end 2002
Kenya	All ships	0.0	1.6	19.1	5.7	73.6	20.7
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	76.9	0.0	23.1	14.7
	All others	0.0	3.5	22.9	12.4	61.1	19.5
Madagascar	All ships	0.0	1.6	3.8	7.6	86.9	22.3
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	7.4	92.6	23.0
	All others	0.0	7.7	18.0	15.8	58.5	19.1
Mauritania	All ships	5.5	0.9	1.4	20.7	71.5	20.7
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	5.7	0.9	1.5	21.4	70.5	20.6
Mauritius	All ships	20.9	19.3	11.0	3.0	45.9	14.4
	Bulk carriers	60.3	39.7	0.0	0.0	0.0	4.0
	General cargo	23.0	0.0	31.8	0.0	45.2	14.9
	All others	0.6	20.1	4.6	6.1	68.5	19.1
Mozambique	All ships	30.6	2.8	8.7	3.0	54.9	15.3
	General cargo	0.0	0.0	7.5	0.0	92.5	22.6
	All others	49.3	4.5	9.5	4.9	31.9	10.8
Nigeria	All ships	0.4	1.6	0.1	0.4	97.4	23.1
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	12.8	0.0	0.0	87.2	21.4
	All others	6.4	8.4	2.0	5.5	77.8	20.2
Saint Helena	All ships	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	0.0	100.0	23.5
Sao Tome and Principe	All ships	0.0	0.0	3.4	0.2	96.5	23.1
	Tankers	0.0	0.0	21.5	0.0	78.5	21.0
	Bulk carriers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	0.3	99.7	23.5
	Container ships	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	0.0	100.0	23.5
Senegal	All ships	1.2	0.0	2.5	12.2	84.2	22.2
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	64.5	35.5	19.3
	All others	1.2	0.0	2.7	8.6	87.5	22.4
Seychelles	All ships	45.4	5.8	5.3	19.2	24.3	10.9
	Tankers	100.0	0.0	0.0	0.0	0.0	2.0
	General cargo	2.6	1.8	0.0	53.9	41.7	19.1
	All others	0.0	24.8	25.4	2.2	47.6	16.3
Sierra Leone	All ships	0.0	0.0	2.4	4.4	93.2	22.9
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	12.0	21.8	66.2	20.7

Table 54 (continued)

Country or grouping	Types of vessel	0-4 years	5-9 years	10-14 years	15-19 years	20 years and over	age end 2002
Somalia	All ships	0.0	0.0	0.0	0.0	100.0	23.5
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	0.0	100.0	23.5
Sudan	All ships	0.0	0.0	0.0	0.1	99.9	23.5
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	6.3	93.7	23.1
Togo	All ships	0.0	0.0	0.0	0.8	99.2	23.4
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	0.0	0.0	1.2	98.8	23.4
United Republic of Tanzania	All ships	0.0	0.6	0.1	2.8	96.5	23.2
	Tankers	0.0	0.0	0.0	0.0	100.0	23.5
	General cargo	0.0	0.0	0.0	0.0	100.0	23.5
	All others	0.0	4.0	0.5	19.4	76.1	21.5

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Register – Fairplay Ltd.

Table 55

Container throughput in sub-Saharan African ports in thousands of TEU in 2000

Sub-Saharan Africa	West Coast	East Coast
Loaded		
Laden	283	156
Empty	186	212
Total Loaded	469	368
Unloaded		
Laden	379	323
Empty	131	36
Total Unloaded	510	359
Total Loaded Unloaded	979	727
Percentage of empties	32.4	34.1

Source: UNCTAD secretariat for a sample of the largest ports.

Table 56

Container traffic between the West Coast of Africa and Europe

(thousands of TEU)

Year	Southbound flow	Northbound flow
2000	465	253
2001	447	267
2002	440	267
2003	437	270
2004	439	273
2005	446	277

Source: *Containerisation International*, several issues.

1,500-2,000 TEU range. Feeder vessels also link West Africa to the services running from South Africa to the Far East and the East Coast of South America.

Concentration is a feature of sea transport services in West Africa, where carriers have been reduced from 37 in the mid-1980s to nine. Furthermore, some of these carriers belong to the same owner: Delmas and Otal belong to the Bollore group (France) and Maersk and Safmarine to AP Moller (Denmark).

The low freight rates prevailing during the previous years on many routes forced some carriers (Maersk, Safmarine, Nile Dutch Africa Line, P&O Nedlloyds and WAL) to set up the Europe West Africa Trade Agreement (EWATA) in late 1999 in accordance with EU Regulation 4056/86. In early 2002, freight rates between Tema and Rotterdam for a 20' container were $878 northbound and $1,208 southbound. Like any other conference, EWATA has implemented rate restoration plans (since 1 April 2003, an increase of 350 euros for a 20 foot container) and BAF (14 euros per TEU southbound, 6 euros per TEU northbound) and CAF (currently nil) surcharges. Other surcharges have also applied, for instance congestion surcharges (to Nigerian ports in 2001, 2002 and 2003; to Cotonou in 2001; to San Pedro and Malabo in 2000) and emergency surcharges due to civil unrest (Sierra Leone in 2000, Liberia in 2001 and 2002, and Côte d'Ivoire in 2003). As a result there are wide differences in sea transport costs between ports.

Shipping services in East Africa are articulated, at the north end, with east-west mainline routes at several ports in the Middle East Gulf (i.e. Salalah in Oman for Maersk, Aden for MSC) and, at the south end, at South African ports, notably Durban, in spite of its poor productivity. Direct services to Europe are run by Delmas, which also serves Indian Ocean islands and the Far East jointly with Mitsui. In early 2003, Ellerman, a long-established carrier, stopped services, probably due to continuing depressed freight rates. Carriers were also concerned with the Tanzanian Shipping Agency Act of 2002, which stated that all agencies should have a minimum of 51 per cent local ownership, with minimum capital of $100,000 for international agencies and $10,000 for local ones, which would increase their costs.

Operational efficiency of sub-Saharan African ports has improved with the introduction of private sector operators for container handling.[14] This has been the case in Djibouti, Dar es Salaam and Maputo, where contracts were signed with Dubai Ports International (United Arab Emirates), ITCSI (Philippines), with a local partner Vertex, and MPDC (made up of three international partners from Portugal, Sweden and the United Kingdom) and the local partner Mozambican Railways, respectively. Subsequently, ITCSI sold its share to HPH (China). At the end of 20002, the small port of Mustamudu in Comoros was leased to the private operator Spanfreight Shipping for a period of 10 years. In other ports, productivity is lagging behind. In Mombasa, this is due to obsolete equipment and poor maintenance practices. In Luanda, years of under-investment due to the civil war has led to congestion.

Investments are also benefiting from private sector involvement. Benin's second seaport, to be built about 20 kilometres from Cotonou, which has now reached its saturation level, requires an investment of $160 million, and its planning, construction, operation and maintenance have been awarded under concession for 30 years to Bouygues Group (France). Similar schemes are under consideration in Nigeria, where two carriers have submitted proposals to build the Snake and Ogororo terminals, which would complement the existing facilities of Apapa and Tin Can Island.

D. INLAND TRANSPORT

There are a number of transport corridors that are essential for inland transport for landlocked sub-Saharan African countries. Moreover, in spite of the distance between ports and inland destinations, road transport is predominant. Table 57 lists some of these corridors and their road length. In practice, other corridors are also used. For instance, traffic to Ethiopia is also carried

through the Somaliland corridor, although it is difficult to assess its quantity. In 1998, Lusaka received 1.4 million tons through the Beira corridor, only 0.1 million tons through the Dar corridor, and 2.4 million tons through the Durban corridor, but recent and comparable data are not available.

The Port Management Association of Eastern and Southern Africa (PMAESA) have provided recent figures on transit traffic through the ports of Djibouti, Mombasa, Dar es Salaam, Nacala, Beira and Muputo that totalled 10.3 million tons in 2002. The Association also provided 2002 figures on container flows via Mombasa and Dar es Salaam to Uganda, Democratic Republic of Congo, Rwanda and Burundi. Volumes moved to and from these four countries were 39,000 TEU, 9,500 TEU, 4,600 TEU and 3,500 TEU respectively with Mombasa handling 90 per cent, 33 per cent, 35 per cent and 3 per cent of the transit cargo for each country respectively. Import containers dominated the trade making up around 70 per cent, 95 per cent, 78 per cent and 72 per cent of the total traffic for the respective countries.

The total cost per container and the average cost per container per kilometer are also indicated in table 57. The high cost of inland transport along the various sub-Saharan corridors becomes evident when compared with those of South Africa. It is even more striking when compared to the average cost of $1.10 per kilometre in the United States and $1.65 per kilometre in EU countries. There are several reasons for these high costs, including substandard and badly maintained roads and lorries, cumbersome procedures, excessive controls and poor management information systems. Transport costs are often split into distance-related and non-distance-related items. Most components, such as haulage, tolls, transit and Customs escort fees and insurance, are distance-related. Border post charges, however, are non-distance-related and could be about 5 per cent of the total cost. When port costs, which are not distance-related, are added, the non-distance-related cost could range between 12 and 40 per cent of the total inland transport costs. Thus, a significant portion of transport costs are not related to distance.

The limited cargo traffic in some corridors precludes the use of rail services, while in other cases (i.e. Djibouti–Addis Ababa and Mombasa–Nairobi–Kampala) the limited rail traffic is due to lack of investment and maintenance. The private sector is also involved in some of the existing rail networks, notably the Abidjan-Ouagadougou line and the Cameroonian railways that are operated by Delmas. On the former, average inland transport costs are 15.4 per cent lower than the road alternative. Recent figures from PMAESA indicate that for the Mombasa–Kampala corridor, rail freight charges are slightly higher than road freight rates while transit times by rail were 12 days versus 6 days by road. Delmas is also promoting the "B/L Direct" as multimodal transport to African inland destinations. In October 2002, bidding started for the privatization of the Tanzanian Railway Corporation, with privatized operations scheduled to start in 2004. During 2003, similar procedures are expected for the Kenyan and Ugandan railways, which are to a large extent complementary.

The challenges posed by existing rail networks in sub-Saharan African countries can be illustrated by the case of the intra-regional export of 40,000 tons of Ugandan maize to Zambia from late 2001 until February 2002. After being concentrated in Kampala (Uganda), the maize was railed to Portobell on the shores of Lake Victoria, from where it was ferried to Mwanza (United Republic of Tanzania). From this point, three different networks, namely Tanzanian Railways, Tazara and Zambian Railways, were used to reach the final destination in Zambia.

Unforeseen events have led to mismatches of traffic volumes with existing infrastructure, administrative procedures and management capability along transport corridors for extended periods. The 1998 war between Eritrea and Ethiopia substantially increased road traffic carrying Ethiopian cargoes along the Djibouti–Addis Ababa corridor and also along the Somaliland corridor. By late 2002, exports from Mali and Burkina Faso, notably of cotton, which had been shipped through Abidjan, were starting to seek alternative road corridors as instability in Côte d'Ivoire was making the use of the existing route too risky. The performance of the Bamako–Dakar corridor is hampered by insufficient rail capacity, derailments and poor maintenance of rolling stock, while current road rehabilitation is scheduled to end in late 2003.

Two technical assistance programmes of UNCTAD, namely ASYCUDA and ACIS, contribute to improving management information systems and thus lowering inland transport costs. In particular, inland carriers appreciate the ACIS package (see Box 5) for managing assets and tracking vehicles and cargoes along a route.

Table 57

Estimated unit road transport cost for container (maximum 28 tons in 40')

Description	Distance (km.)	Total cost ($)	Cost ($ per km.)
Corridors within sub-Saharan Africa			
Djibouti-Dire Dawa – Addis Ababa	844	n.a.	n.a.
Mombasa – Kampala	1 440	3 250	2.26
Dar-es-Salaam – Kigali	1 650	4 980	3.02
Dar-es-Salaam – Bujumbura	1 750	5 180	2.96
Dar-es-Salaam – Lusaka	2 000	4 230	2.11
Dar-es-Salaam – Harare (via Lusaka)	2 490	4 013	1.61
Dar-es-Salaam – Blantyre (via Lilongwe)	2 030	3 573	1.76
Nacala – Lusaka (via Lilongwe)	1 774	2 735	1.54
Beira – Lubumbashi (via Harare, Lusaka)	1 581	2 554	1.61
Walvis Bay – Harare (via Maun)	2 409	3 585	1.49
Douala – Bangui	1 600	7 900	4.94
Douala – D'Jamena	1 900	8 000	4.21
Cotonou – Niamey	1 056	2 200	2.08
Lomé – Niamey	1 234	3 160	2.56
Lomé – Ouagadougou	1 000	2 550	2.55
Abidjan – Bamako	1 230	2 192	1.78
Dakar – Bamako	1 200	3 400	2.83
Other corridors			
Maputo – Johannesburg	561	775	1.38
Durban – Lusaka (via Plumtree)	2 524	3 873	1.53
Walvis Bay – Johannesburg	1 885	2 593	1.38

Source: UNCTAD secretariat on the basis of SATN Comparative Transit Transport Cost Analysis, September 2001 – USAID; MSC presentation in Geneva, February 2003; *Marchés Tropicaux*, 18 April 2003, page 792.

E. TRANSPORT COSTS AND THEIR IMPACT ON THE IMPORT BILL

Cost factor for import trades

Table 58 provides estimates of total freight payments for imports and freight costs as a percentage of total import value for various country groups. In 2001, the total freight costs of African developing countries as a proportion of import value was 12.65 per cent, which is considerably higher than the average of 8.70 per cent for developing countries. It is more than double the percentage for market-economy countries and the world average.

The African average masks differences amongst the subregions. The transport cost factor for import trades for countries in Northern Africa is the lowest at 11.21 per cent, and for countries in the Indian Ocean it is 12.23 per cent. Countries on the east coast of Africa also recorded a cost factor slightly below the average at 12.35 per cent. The cost factor was higher in western and southern Africa, which recorded 13.90and 16.42 respectively. The average for sub-Saharan African countries was 13.84 per cent, and the highest cost factor was found in landlocked countries at 20.69 per cent.

Box 5

ACIS

ACIS stands for **A**dvance **C**argo **I**nformation **S**ystem. It is a computer-based network information system that tracks cargo on railways, lakes, rivers and roads and in port. It is developed and installed by UNCTAD, according to the needs and requirements of the operator.

ACIS provides real-time information "live" and a detailed history of the whereabouts of any container or consignment in which the user has a pre-advised legitimate interest. It functions in more than 20 countries in Africa and Asia and can follow cargo across national frontiers. All it requires is a PC with a modem to access Internet and of course the system installed on the different railways, roads or in the ports.

The system facilitates trade relations and reinforces subregional integration, as it enables all operators to communicate through modes and interfaces, and over borders, the information required to improve trade efficiency. By making full use of existing infrastructure and equipment capacity, transport costs are significantly reduced.

ACIS automatically produces statistics and performance indicators and thus helps remedy deficiencies and reduce fraudulent practices. On railways, the system monitors traffic, distributes empty wagons, manages terminals, monitors locomotive fuel consumption and rolling stock maintenance and provides billing for all services rendered.

An independent evaluation commissioned by the European Union to measure the impact and usefulness of the system on five interconnected railways of Eastern/Southern Africa reported that, in addition to reduced average turnaround, dwell and transit times and increased wagon and locomotive utilization, total estimated savings on rail hire charges for the five railways were $6.4 million per annum and realistic additional revenues due to increased carrying capacity equalled $20.5 million per annum.

For further information contact the ACIS Coordinator at +41 22 907 4480 or *acis@unctad.org*.

Cost factor for import trades of selected landlocked countries

Landlocked developing countries in Africa continued to suffer from excessive transport costs, as table 59 indicates. High import transport costs inflated the consumer prices of imported goods, and high transport costs for exports undermined their competitiveness in foreign markets. Transport costs are made up of direct and indirect costs, which are incurred during the transportation of goods from their point of loading to their destinations. A large portion of the indirect costs is attributable to the capital cost of infrastructure and equipment. The major elements accounting for the high freight costs of landlocked developing countries include inefficient management of transport facilities, poorly maintained infrastructure and equipment, imbalanced trades, inadequate overall infrastructure and cumbersome government regulations.

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Table 58

Estimates of total freight costs on imports of African countries (excluding South Africa) for 2001

(millions of dollars)

Year	Country group	Estimate of freight cost of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
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
	of which:			
	Northern Africa	5 512	49 183	11.21
	Southern Africa	1 346	8 197	16.42
	Western Africa	5 057	36 394	13.90
	Eastern Africa	1 389	11 244	12.35
	Indian Ocean [a]	502	4 107 [a]	12.23
	Sub-Saharan Africa	8 294	59 942	13.84
	African landlocked countries	1 900	9 180	20.69

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

[a] No data for Reunion.

Table 59

Estimates of total freight costs of imports for selected African landlocked countries for 2001

(millions of dollars)

Year	Country group	Estimate of freight cost of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
2001	**Southern Africa**			
	Malawi	115	505	22.72
	Zambia	149	1 123	13.29
	Zimbabwe	343	1 739	19.74
	Western Africa			
	Burkina Faso	120	530	22.73
	Mali	461	1 404	32.83
	Niger	63	324	19.34
	Eastern Africa			
	Burundi	21	139	15.24
	Rwanda	58	291	20.02
	Uganda	93	964	9.61

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

Endnotes

1 The totals reported in the *BP Annual report 2002* include crude oil, shale oil, oil sands and natural gas liquids (NGL) – the liquid content of natural gas when recovered separately.

2 Measured at 15 degrees C and 1,013 mbar.

3 www.lloydslist.com accessed 27 November 2002, 13 January 2003, 11 and 13 March 2003.

4 See website www.vhss.de/englisch/hax.html.

5 Article V – Economic Integration; Article VIII – Monopolies and Exclusive Service Suppliers; Article X – Emergency Safeguard Measures.

6 Such as United Nations regional commissions (UNECA, UNECE, UNECLAC, UNESCAP), the United Nations Industrial Development Organization (UNIDO), the United Nations Conference on Trade and Development (UNCTAD), the United Nations Office of Drug Control and Crime Prevention (UNODCCP), the High-Level Committee on Programmes (HLCP), the International Labour Organization (ILO), the World Trade Organization (WTO), the World Bank (WB), the Food and Agriculture Organization (FAO), the International Monetary Fund (IMF), the World Customs Organization (WCO) and the International Maritime Organization (IMO).

7 See WTO document W/120.

8 For a more detailed coverage of maritime transport negotiations, see the WTO Service Gateway on http://www.wto.org/english/tratop_e/serv_e.htm and Faust, P. *WTO and Maritime Issues*, October 2000, www.unctad.org/ttl/.

9 See UNCTAD report *Implementation of Multimodal Transport Rules* and accompanying comparative table, UNCTAD/SDTE/TLB/2 and Add. 1, available on the UNCTAD website.

10 http://www.unctad.org. It is also available on the UNCITRAL website (www.uncitral.org).

11 UNCITRAL document A/CN.9/WG.III/WP.21. Under the Draft Instrument, as currently proposed, the substantively maritime liability regime would be applicable to a wide range of claims arising from contracts for multimodal transportation involving a sea-leg, in particular (a) in cases where loss cannot be localized; (b) in cases where loss was attributable to a land or air leg of transport but no international unimodal convention applied. See Articles 1.5 and 4.2.1 Draft Instrument. See also UNCTAD commentary, footnote 12, below.

12 Available as part of the background documentation for the UNCITRAL Working Group Transport Law in all United Nations languages (UNCITRAL document A/CN.9/WG.III/WP.21/Add.1). The UNCTAD commentary, with the text of the Draft Instrument integrated for ease of reference, is also available on the www.unctad.org website (UNCTAD/SDTE/TLB/4).

13 For a European study discussing this approach, see *Intermodal Transportation and Carrier Liability*, Luxembourg, Office for Official Publications of the European Communities, 1999.

14 "Reform and the role of the private sector in African ports", UNCTAD/SDTE/TLB/5, 31 March 2003.

Annex I

Classification of countries and territories [a b c d]

Code 1	Canada	United States
Code 2	Austria	Italy
	Belgium	Luxembourg
	Denmark	Monaco
	Faeroe Islands	Netherlands
	Finland	Norway
	France	Portugal
	Germany	Spain
	Gibraltar	Sweden
	Greece	Switzerland
	Iceland	Turkey
	Ireland	United Kingdom of Great Britain and Northern Ireland
	Israel	
Code 3	Japan	
Code 4	Australia	New Zealand
Code 5	South Africa	
Code 6	Albania	Latvia
	Armenia	Lithuania
	Azerbaijan	Moldova
	Belarus	Poland
	Bulgaria	Romania
	Czech Republic	Russian Federation
	Estonia	Slovakia
	Georgia	Tajikistan
	Hungary	Turkmenistan
	Kazakhstan	Ukraine
	Kyrgyzstan	Uzbekistan
Code 7	China	Viet Nam
	Democratic People's Republic of Korea	
Code 8 – 8.1	*Northern Africa*	
	Algeria	Morocco
	Egypt	Tunisia
	Libyan Arab Jamahiriya	

Annex I (continued)

Code 8.2 *Western Africa*

Angola
Benin
Burkina Faso
Cameroon
Cape Verde
Congo
Côte d'Ivoire
Democratic Republic of the Congo
Equatorial Guinea
Gabon
Gambia
Ghana
Guinea
Guinea-Bissau
Liberia
Mali
Mauritania
Nigeria
Saint Helena
Sao Tome and Principe
Senegal
Sierra Leone
Togo

Code 8.3 *Eastern Africa*

Burundi
Comoros
Djibouti
Eritrea
Ethiopia
Kenya
Madagascar
Malawi
Mauritius
Mozambique
Reunion
Seychelles
Somalia
Sudan
Uganda
United Republic of Tanzania
Zambia

Code 9 – 9.1 *Caribbean and North America*

Anguilla
Antigua and Barbuda
Aruba
Bahamas
Barbados
Bermuda
British Virgin Islands
Cayman Islands
Cuba
Dominica
Dominican Republic
Greenland
Grenada
Guadeloupe
Haiti
Jamaica
Martinique
Montserrat
Saint Kitts and Nevis
Saint Lucia
Saint Pierre and Miquelon
Saint Vincent and the Grenadines
Trinidad and Tobago
Turks and Caicos Islands
United States Virgin Islands

Code 9.2 *Central America*

Belize
Costa Rica
El Salvador
Guatemala
Honduras
Mexico
Nicaragua
Panama

Annex I (continued)

Code 9.3	*South America – Northern Seaboard*	
	French Guiana	Suriname
	Guyana	Venezuela
	Netherlands Antilles	
Code 9.4	*South America – Western Seaboard*	
	Chile	Ecuador
	Colombia	Peru
Code 9.5	*South America – Eastern Seaboard*	
	Argentina	Falkland Islands (Malvinas) [e]
	Bolivia	Paraguay
	Brazil	Uruguay
Code 10 – 10.1	*Western Asia*	
	Bahrain	Oman
	Cyprus	Qatar
	Iran, Islamic Republic of	Saudi Arabia
	Iraq	Syrian Arab Republic
	Jordan	United Arab Emirates
	Kuwait	Yemen
	Lebanon	
Code 10.2	*Southern and Eastern Asia*	
	Bangladesh	Maldives
	Bhutan	Myanmar
	Brunei Darussalam	Pakistan
	Cambodia	Philippines
	Hong Kong (China)	Republic of Korea
	India	Singapore
	Indonesia	Sri Lanka
	Macau (China)	Thailand
	Malaysia	
Code 11	Bosnia and Herzegovina	Slovenia
	Croatia	Yugoslavia
	Malta	
Code 12	American Samoa	Papua New Guinea
	Christmas Island (Australia)	Samoa
	Fiji	Solomon Islands
	French Polynesia	Tonga
	Guam	Tuvalu
	Kiribati	Vanuatu
	Nauru	Wake Island
	New Caledonia	

Annex I (continued)

Notes

[a] This classification is for statistical purposes only and does not imply any judgement regarding the stage of development and the political situation of any country or territory.

[b] The following are groups of countries or territories used for presenting statistics in this *Review*:

Developed market-economy countries: Codes 1, 2, 3, 4 and 5
Countries of Central and Eastern Europe and Republics of the former Soviet Union: Code 6
Socialist countries in Asia: Code 7
Developing countries and territories: Codes 8, 9, 10, 11 and 12
of which:
In Africa: Codes 8.1, 8.2 and 8.3
In America: Codes 9.1, 9.2, 9.3, 9.4 and 9.5
In Asia: Codes 10.1 and 10.2
In Europe: Code 11
In Oceania: Code 12

[c] In certain tables, where appropriate, open-registry countries are recorded in a separate group. The group comprises the Bahamas, Bermuda, Cyprus, Liberia, Malta and Panama.

[d] Trade statistics are based on data recorded at the ports of loading and unloading. Trade originating in or destined for neighbouring countries is attributed to the country in which the ports are situated; for this reason, landlocked countries do not figure in these tabulations. On the other hand, statistical tabulations on merchant fleets include data for landlocked countries that possess fleets.

[e] A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

Annex II

World seaborne trade [a] by country groups, 1970, 1980, 1990 and 1999–2002

(millions of tons)

Area [b]	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
Developed market-economy countries									
North America	1970	0.7	5.3	308.0	314.0	73.4	103.6	170.0	347.0
	1980	0.5	6.9	498.0	505.3	274.3	71.4	170.1	515.7
	1990	1.4	25.8	515.1	542.3	274.9	100.8	227.6	603.3
	1999	14.3	52.8	426.0	493.1	427.4	119.1	286.0	832.5
	2000	15.2	59.7	438.9	513.8	502.2	122.3	311.8	936.3
	2001	14.8	56.9	417.3	489.0	492.2	125.2	269.1	886.4
	2002	14.8	56.9	417.3	489.0	463.2	117.7	253.7	834.6
Europe	1970	28.6	82.3	244.8	355.7	621.0	100.4	469.0	1 190.4
	1980	95.7	79.3	387.4	562.3	585.5	145.1	680.5	1 411.1
	1990	162.1	124.2	482.2	768.5	446.8	172.7	763.2	1 382.7
	1999	58.1	43.7	1 108.6	1 210.4	425.1	102.4	1 509.1	2 036.6
	2000	59.9	44.5	1 099.6	1 204.0	419.6	103.4	1 494.7	2 017.7
	2001	64.6	44.1	1 064.2	1 172.9	424.7	101.8	1 444.4	1 970.9
	2002	64.5	44.1	1 068.9	1 177.5	425.4	101.9	1 446.6	1 973.8
Japan	1970	-	0.3	41.6	41.9	170.4	30.4	235.1	435.9
	1980	-	..	83.6	83.6	216.3	35.0	361.5	612.8
	1990	-	1.2	81.9	83.1	201.2	82.0	440.7	723.9
	1999	0.0	4.6	119.9	124.5	214.9	49.3	490.3	754.5
	2000	0.0	3.8	126.3	130.1	215.0	49.1	542.4	806.5
	2001	0.0	4.5	135.6	140.1	209.0	45.2	529.6	783.8
	2002	0.0	4.3	127.3	131.6	213.0	47.9	520.8	781.6
Australia and New Zealand	1970	-	1.3	92.3	93.6	18.8	2.9	15.4	37.1
	1980	-	1.5	148.4	150.0	9.8	6.6	13.5	29.9
	1990	9.2	1.5	266.3	277.0	8.6	7.2	18.1	33.9
	1999	12.7	6.2	366.0	384.9	31.4	6.5	30.8	68.7
	2000	10.7	2.5	430.6	443.8	32.1	6.7	29.2	68.0
	2001	9.4	2.5	411.6	423.5	32.1	6.7	29.8	68.6
	2002	10.8	2.7	433.1	446.6	32.1	6.7	31.1	69.9
South Africa	1970	-	-	13.2	13.2	8.8	2.6	6.2	17.6
	1980	-	0.1	68.9	69.0	15.0	1.0	9.7	25.7
	1990	-	-	82.5	82.5	21.9	0.3	9.6	31.8
	1999	0.0	0.0	130.6	130.6	11.3	0.0	19.9	31.3
	2000	0.0	0.0	133.3	133.3	11.4	0.0	20.1	31.6
	2001	0.0	0.0	135.6	135.6	15.4	0.9	22.9	39.2
	2002	0.0	0.0	135.6	135.6	15.4	0.9	22.9	39.2
Subtotal: Developed market-economy countries	1970	29.3	89.2	699.9	818.4	892.4	239.9	895.7	2 028.0
	1980	96.2	87.8	1 186.3	1 370.3	1 100.9	259.1	1 235.3	2 595.2
	1990	172.7	152.7	1 428.0	1 753.4	953.4	363.0	1 459.2	2 775.6
	1999	85.1	107.3	2 151.2	2 343.6	1 110.1	277.3	2 336.1	3 723.5
	2000	85.8	110.5	2 228.6	2 424.9	1 180.4	281.5	2 398.3	3 860.1
	2001	88.8	108.0	2 164.3	2 361.1	1 173.4	279.7	2 295.9	3 749.0
	2002	90.1	108.0	2 182.1	2 380.2	1 149.1	275.0	2 275.1	3 699.1

Annex II (continued)

Area [b]	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
Countries of Central and Eastern Europe									
Countries of Central and Eastern Europe [d]	1970	38.2	26.3	80.8	145.3	13.3	3.0	41.1	57.4
	1980	55.0	50.2	95.6	200.8	35.5	1.3	108.6	145.4
	1990	58.6	55.3	85.2	199.1	34.2	1.3	137.2	172.7
	1999	60.3	23.8	182.4	266.5	24.3	2.2	50.7	77.2
	2000	91.9	44.2	156.0	292.1	8.0	2.0	75.5	85.5
	2001	91.3	40.1	153.6	285.0	8.0	4.0	75.8	87.8
	2002	91.3	41.9	164.4	297.6	10.0	3.0	76.4	89.4
Socialist countries of Asia									
Socialist countries of Asia [e]	1970	-	0.1	13.3	13.4	5.4	0.4	24.4	30.2
	1980	22.1	5.7	18.3	46.1	21.6	5.1	72.9	99.6
	1990	32.0	4.0	46.1	82.1	3.9	1.3	80.4	85.6
	1999	17.0	6.0	197.4	220.4	36.6	25.8	217.5	279.9
	2000	17.0	5.5	250.0	272.5	70.0	22.3	289.6	381.8
	2001	17.2	5.6	267.1	289.8	60.5	26.6	314.8	401.9
	2002	17.6	5.8	279.3	302.7	63.5	27.7	329.1	420.3
Developing countries and territories									
Developing countries of Africa									
Northern Africa	1970	221.4	5.6	28.3	255.3	9.9	5.9	17.9	33.7
	1980	187.7	2.5	30.0	220.2	50.0	2.0	44.9	96.9
	1990	182.7	31.5	32.0	246.2	63.4	4.3	57.8	125.5
	1999	112.0	37.1	46.4	195.5	10.5	8.0	87.8	106.3
	2000	130.0	32.9	30.7	193.6	50.1	9.6	72.1	131.8
	2001	126.0	33.5	30.8	190.4	46.1	9.6	72.4	128.2
	2002	124.9	33.2	30.8	189.0	45.0	9.6	72.4	127.1
Western Africa	1970	60.5	1.0	61.5	123.0	3.6	4.0	14.8	22.4
	1980	102.6	1.9	66.8	171.3	4.3	5.5	30.8	40.6
	1990	127.1	3.4	55.2	185.7	4.0	3.2	27.7	34.9
	1999	165.4	1.9	22.1	189.4	4.2	4.2	36.5	44.9
	2000	173.0	1.8	19.9	194.7	4.0	4.1	35.9	44.0
	2001	166.8	1.7	20.1	188.5	3.7	4.1	36.7	44.5
	2002	164.5	1.6	19.9	186.0	3.6	4.0	36.4	44.1
Eastern Africa	1970	-	1.2	16.1	17.3	5.5	2.6	8.3	16.4
	1980	-	0.9	6.3	7.2	6.2	2.0	9.9	18.1
	1990	-	0.6	9.3	9.9	6.4	2.6	16.0	25.0
	1999	0.0	0.0	6.0	6.0	0.7	4.7	16.6	22.0
	2000	0.0	0.0	6.1	6.1	0.7	4.8	17.0	22.5
	2001	0.0	0.0	6.3	6.3	0.7	4.9	17.5	23.1
	2002	0.0	0.0	6.2	6.2	0.7	4.8	17.2	22.7
Subtotal: Developing countries in Africa	1970	281.9	7.8	105.9	395.6	19.0	12.5	41.0	72.5
	1980	290.3	5.3	103.1	398.7	60.5	9.5	85.6	155.6
	1990	309.8	35.5	96.5	441.8	73.8	10.1	101.5	185.4
	1999	277.4	39.0	74.5	390.9	15.4	16.9	140.9	173.2
	2000	303.0	34.7	56.7	394.4	54.8	18.5	125.0	198.3
	2001	292.8	35.2	57.2	385.2	50.5	18.6	126.6	195.8
	2002	289.4	34.8	56.9	381.1	49.3	18.5	126.0	193.8

Annex II (continued)

Area [b]	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
Developing countries in America									
Caribbean,	1970	-	5.1	40.3	45.4	29.5	10.0	17.7	57.2
Central and	1980	53.5	29.6	53.5	136.6	62.8	8.9	30.2	102.0
North America	1990	95.3	18.8	47.5	161.6	33.7	11.2	35.4	81.1
	1999	89.7	29.3	53.9	172.9	32.2	35.7	68.1	136.0
	2000	91.6	28.8	41.4	161.8	33.0	36.4	71.8	141.3
	2001	97.8	29.6	42.1	169.6	34.2	34.7	74.7	143.7
	2002	97.4	29.6	41.7	168.7	33.9	31.4	77.4	142.6
South America:	1970	131.2	12.9	90.3	234.4	81.9	4.0	26.5	112.4
Northern and	1980	127.8	64.5	162.3	354.6	136.2	5.8	54.5	196.5
Eastern	1990	58.4	28.5	214.8	302.0	37.8	4.3	45.7	87.8
Seaboard	1999	121.6	60.7	261.6	443.9	39.0	19.9	69.8	128.7
	2000	122.8	61.3	274.3	458.4	39.3	20.0	75.4	134.6
	2001	123.0	61.5	282.9	467.5	39.6	20.1	67.5	127.3
	2002	120.7	60.7	284.7	466.1	39.8	20.2	67.7	127.7
South America:	1970	4.6	1.6	29.8	36.0	4.1	1.5	5.9	11.5
Western	1980	7.6	3.4	26.7	37.7	4.9	1.4	13.7	20.1
Seaboard	1990	17.4	8.2	36.0	61.6	3.5	1.3	14.4	19.2
	1999	42.7	3.4	76.8	122.9	15.0	7.1	36.9	59.0
	2000	39.3	3.4	84.4	127.1	15.1	5.3	64.0	84.4
	2001	34.9	3.4	84.3	122.6	15.3	5.4	56.7	77.4
	2002	34.9	3.5	84.7	123.1	15.4	5.5	57.2	78.0
Subtotal:	1970	135.8	19.6	160.4	315.8	115.5	15.5	50.1	181.1
Developing	1980	188.9	97.5	242.5	528.9	203.9	16.1	98.4	318.6
countries in	1990	171.1	55.5	298.3	524.9	75.0	16.8	95.5	187.5
America	1999	254.0	93.4	392.4	739.7	86.2	62.8	174.7	323.7
	2000	253.7	93.5	400.1	747.3	87.5	61.7	211.2	360.4
	2001	255.7	94.6	409.4	759.7	89.1	60.3	198.9	348.3
	2002	253.0	93.8	411.1	757.9	89.1	57.1	202.2	348.4
Developing countries in Asia									
Western Asia	1970	588.7	65.6	3.3	657.6	0.1	1.0	13.1	14.2
	1980	800.6	54.5	12.3	867.4	8.6	4.9	54.9	68.4
	1990	463.9	74.8	30.5	569.2	15.6	7.1	107.0	129.7
	1999	817.8	114.5	59.2	991.5	7.0	8.2	118.3	133.5
	2000	854.7	105.7	63.3	1 023.7	7.0	8.7	121.7	137.4
	2001	863.1	109.3	65.9	1 038.3	7.1	8.3	121.4	136.8
	2002	837.6	107.6	65.9	1 011.1	6.9	8.1	121.4	136.3
Southern and	1970	35.0	23.7	89.3	148.0	54.7	23.3	61.9	139.9
Eastern Asia	1980	74.3	42.2	165.9	282.4	97.4	26.9	163.5	287.8
(n.e.s.)	1990	78.6	88.4	253.0	420.0	150.4	41.6	362.9	554.9
	1999	61.1	110.1	519.1	690.3	266.0	145.0	708.5	1 119.5
	2000	59.1	101.6	531.0	691.7	306.3	148.1	734.3	1 188.7
	2001	59.6	102.0	535.0	696.7	307.3	147.7	716.2	1 171.2
	2002	60.3	102.5	569.9	732.7	308.5	150.0	760.3	1 218.8

Annex II (continued)

Area [b]	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
Subtotal:	1970	623.7	89.3	92.6	805.6	54.8	24.3	75.0	154.1
Developing	1980	874.9	96.7	178.2	1 149.8	106.0	31.9	218.5	356.2
countries	1990	542.5	163.2	283.5	989.2	166.0	48.7	469.9	684.6
in Asia	1999	878.9	224.6	578.3	1 681.9	273.0	153.2	826.7	1 252.9
	2000	913.8	207.3	594.3	1 715.4	313.3	156.8	856.0	1 326.1
	2001	922.7	211.3	601.0	1 735.0	314.4	156.0	837.6	1 308.0
	2002	897.9	210.0	635.8	1 743.8	315.3	158.0	881.8	1 355.1
Developing	1970 [f]	..	-	-	..	-	0.3	0.7	1.0
countries	1980 [f]	-	-	0.1	0.1	-	0.5	0.6	1.1
in Europe	1990	0.3	1.1	7.4	8.8	8.7	2.4	17.7	28.8
	1999	0.0	2.1	15.0	17.2	6.4	2.0	10.1	18.6
	2000	0.0	2.2	15.5	17.7	6.6	2.1	10.4	19.0
	2001	0.0	2.2	15.8	18.0	6.7	2.1	10.6	19.4
	2002	0.0	2.3	16.1	18.4	6.8	2.2	10.8	19.8
Developing	1970	-	0.2	9.5	9.7	0.6	1.6	2.9	5.1
countries in	1980	-	0.7	8.4	9.1	1.6	2.3	3.5	7.4
Oceania	1990	-	0.3	8.0	8.3	-	2.3	3.6	5.9
(n.e.s.)	1999	3.9	0.1	1.9	5.9	0.0	5.9	5.2	11.1
	2000	4.0	0.1	2.0	6.1	0.0	5.9	5.2	11.1
	2001	4.0	0.1	2.0	6.2	0.0	6.0	5.3	11.3
	2002	4.1	0.1	2.0	6.2	0.0	6.0	5.3	11.3
Subtotal:	1970	1 041.4	116.9	368.4	1 526.7	184.9	54.2	169.7	413.8
Developing	1980	1 354.1	200.2	532.3	2 086.6	372.0	60.3	406.6	838.9
countries	1990	1 023.9	255.6	693.7	1 973.0	323.5	80.3	688.2	1 092.0
	1999	1 414.2	359.2	1 062.1	2 835.6	381.0	240.8	1 157.7	1 779.5
	2000	1 474.5	337.8	1 068.6	2 880.9	462.1	245.0	1 207.8	1 914.9
	2001	1 475.2	343.4	1 085.4	2 904.0	460.7	243.0	1 179.0	1 882.8
	2002	1 444.4	341.0	1 121.9	2 907.3	460.6	241.8	1 226.1	1 928.5
World total	1970	1 108.9	232.5	1 162.4	2 503.8	1 101.0	297.5	1 130.9	2 529.4
	1980	1 527.4	343.9	1 832.5	3 703.8	1 530.0	325.8	1 823.3	3 679.1
	1990	1 287.2	467.6	2 253.0	4 007.4	1 315.0	445.9	2 365.0	4 125.9
	1999	1 576.6	496.3	3 593.1	5 666.0	1 552.0	546.1	3 762.0	5 860.1
	2000	1 669.2	498.0	3 703.2	5 870.5	1 720.5	550.8	3 971.1	6 242.3
	2001	1 672.5	497.0	3 670.4	5 839.9	1 702.6	553.4	3 865.5	6 121.5
	2002	1 643.4	496.8	3 747.8	5 887.9	1 683.2	547.5	3 906.7	6 137.3

Sources: Compiled by the UNCTAD secretariat on the basis of data supplied by reporting countries and specialized sources.

[a] Including international cargoes loaded at ports of the Great Lakes and St. Lawrence River system for unloading at ports of the system.

[b] See Annex I for the composition of groups.

[c] Including LNG, LPG, naphtha, gasoline, jet fuel, kerosene, light oil, heavy fuel oil and others.

[d] Including the former Soviet Union.

[e] Estimates.

[f] Yugoslavia was classified as a developing country in Europe from 1986 onwards. Data for 1970 and 1980 for this country were recorded under “Developed market-economy countries: Europe.”

Annex III (a)

Merchant fleets of the world by flag of registration, [a] groups of countries and types of ship [b] as at 31 December 2002

(in grt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total[d]	591 704 137	179 819 924	171 628 160	89 727 245	72 206 406	78 322 402
Developed market-economy countries						
Australia	1 861 321	276 657	576 045	114 071	7 260	887 288
Austria	29 918	..	..	29 918	..	..
Belgium	186 748	4 705	..	1 703	..	180 340
Canada	2 797 619	445 254	1 295 078	138 143	14 541	904 603
Denmark	7 577 380	1 970 378	124 303	461 866	3 884 737	1 136 096
Finland	1 545 212	313 973	59 634	465 549	10 288	695 768
France	4 731 478	2 059 779	353 904	268 944	658 448	1 390 403
Germany	6 545 767	177 671	820	436 555	5 348 814	581 907
Gibraltar	960 898	439 738	18 574	242 479	181 356	78 751
Greece	28 782 843	15 357 860	9 254 823	459 538	1 740 306	1 970 316
Iceland	187 341	516	415	2 192	..	184 218
Ireland	279 560	..	25 609	56 214	5 006	192 731
Israel	765 278	1 270	..	1 897	752 873	9 238
Italy	9 595 897	2 308 517	1 518 321	1 728 292	961 377	3 079 390
Japan	13 917 948	3 369 636	2 771 912	1 930 611	593 665	5 252 124
Luxembourg	1 493 785	584 741	13 945	123 976	89 882	681 241
Netherlands	7 055 398	453 299	52 665	2 827 994	1 794 626	1 926 814
New Zealand	188 406	49 615	12 456	15 118	..	111 217
Norway	22 194 543	9 397 577	4 215 718	3 900 143	62 249	4 618 856
Portugal	1 103 343	473 151	155 636	260 235	26 305	188 016
South Africa	144 493	3 279	..	437	27 103	113 674
Spain	2 371 201	684 677	42 150	488 019	123 159	1 033 196
Sweden	3 177 541	388 387	29 200	1 851 156	..	908 798
Switzerland	559 081	..	502 570	24 346	27 779	4 386
Turkey	5 658 754	815 071	2 904 220	1 333 776	289 200	316 487
United Kingdom	13 717 975	3 856 757	1 587 666	1 329 066	3 247 496	3 696 990
United States	25 057 716	10 577 808	4 601 721	1 626 509	4 796 972	3 454 706
Subtotal	162 487 444	54 010 316	30 117 385	20 118 747	24 643 442	33 597 554
Open-registry countries						
Bahamas	35 798 075	15 181 095	5 247 701	6 285 496	2 273 076	6 810 707
Bermuda	4 798 336	920 454	1 863 392	270 816	393 467	1 350 207
Cyprus	22 997 023	4 041 177	12 320 806	3 305 585	2 714 688	614 767
Liberia	50 400 182	21 419 534	10 892 115	4 147 745	9 658 337	4 282 451
Malta	26 331 381	10 038 101	11 573 727	3 367 282	945 594	406 677
Panama	124 729 059	32 069 505	50 041 018	17 333 473	16 250 112	9 034 951
Subtotal	265 054 056	83 669 866	91 938 759	34 710 397	32 235 274	22 499 760

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Central and Eastern Europe and former USSR						
Albania	48 740	..	..	47 478	..	1 262
Armenia	..	..	..	..	..	..
Azerbaijan	633 189	177 425	..	98 983	..	356 781
Belarus	..	..	..	..	..	..
Bulgaria	889 331	122 155	517 371	151 127	56 380	42 298
Czech Republic	..	..	..	..	..	..
Estonia	357 394	8 952	33 004	116 839	..	198 599
Georgia	569 297	40 752	126 492	352 585	..	49 468
Hungary	3 784	..	..	3 784	..	
Kazakhstan	11 845	..	..	3 832	..	8 013
Kyrgyzstan	..	..	..	..	..	
Latvia	88 741	3 767	..	3 171	..	81 803
Lithuania	435 328	7 026	79 720	195 646	..	152 936
Moldova		..	..	..	..	
Poland	585 622	7 117	390 513	23 822	..	164 170
Romania	622 040	64 529	138 616	233 481	..	185 414
Russian Federation	10 379 992	1 578 450	782 451	3 756 479	258 633	4 003 979
Slovakia	7 424	..	7 424	..	..	..
Tajikistan		..	..	..	..	..
Turkmenistan	45 693	6 156	2 613	16 966		19 958
Ukraine	1 349 867	39 067	100 203	583 579	11 220	615 798
Former USSR[e]	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	16 028 287	2 055 396	2 178 407	5 587 772	326 233	5 880 479
Socialist countries of Asia						
China	17 315 517	2 641 667	6 876 023	4 717 390	1 741 109	1 339 328
Democratic People's Republic of Korea	870 458	20 593	153 177	603 879		92 809
Viet Nam	1 130 516	179 378	150 447	672 947	35 690	92 054
Subtotal	19 316 491	2 841 638	7 179 647	5 994 216	1 776 799	1 524 191
Developing countries of Africa						
Algeria	936 072	32 428	172 695	188 784	..	542 165
Angola	55 125	3 016	..	18 917	..	33 192
Benin	1 003	..	..	..	..	1 003
Cameroon	16 673	..	..	652	..	16 021
Cape Verde	16 401	2 293		9 033	..	5 075
Comoros	407 206	273 455	59 223	63 670	..	10 858
Congo	3 402	..	..	..	..	3 402
Côte d'Ivoire	8 876	789	..	..	..	8 087

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Democratic Republic of the Congo	..	..	..	..	..	..
Djibouti	2 691	..	..	299	..	2 392
Egypt	1 274 990	222 907	511 701	356 087	48 146	136 149
Equatorial Guinea	28 546	..	..	2 269	..	26 277
Eritrea	..	..	..	..	..	..
Ethiopia	81 933	2 492	..	79 441	..	..
Gabon	12 541	652	..	4 165	..	7 724
Gambia	2 183	..	..	..	..	2 183
Ghana	126 226	7 608	199	20 403	..	98 016
Guinea	11 784	..	..	808	..	10 976
Guinea-Bissau	6 459	..	..	1 414	..	5 045
Kenya	19 137	5 696	..	2 611	..	10 830
Libyan Arab Jamahiriya	164 901	6 509	..	68 959	..	89 433
Madagascar	34 808	4 657	..	15 966	..	14 185
Malawi	..	..	..	..	..	..
Mauritania	47 647	..	..	499	..	47 148
Mauritius	62 690	..	10 413	16 554	..	35 723
Morocco	501 723	84 497	..	99 446	40 830	276 950
Mozambique	37 205	..	..	5 901	..	31 304
Nigeria	410 552	294 383	..	42 804	..	73 365
Saint Helena	789	..	..	..	..	789
Sao Tome and Principe	86 116	10 546	16 880	54 349	1 152	3 189
Senegal	46 586	274	..	1 145	..	45 167
Seychelles	64 673	21 353	..	23 382	..	19 938
Sierra Leone	22 733	9 436	..	490	..	12 807
Somalia	6 343	851	..	2 802	..	2 690
Sudan	33 287	832	..	30 236	..	2 219
Togo	13 321	..	..	2 603	..	10 718
Tunisia	185 536	50 185	17 066	9 404	..	108 881
Uganda	..	..	..	..	..	..
United Republic of Tanzania	47 135	7 775	..	20 735	..	18 625
Subtotal	4 777 293	1 042 634	788 177	1 143 828	90 128	1 712 526
Developing countries of America						
Anguilla	701	..	..	592	..	109
Antigua and Barbuda	5 066 005	23 018	205 685	1 991 717	2 773 560	72 025
Argentina	422 875	51 159	33 678	76 526	..	261 512
Barbados	327 583	36 082	161 636	64 451	13 020	52 394
Belize	1 473 200	266 783	158 663	560 274	32 189	455 291
Bolivia	358 070	250 537	13 767	61 202	1 350	31 214

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Brazil	3 449 191	1 454 104	1 334 137	308 243	160 261	192 446
British Virgin Islands	22 579	..	..	20 420	..	2 159
Cayman Islands	2 376 980	1 174 086	632 254	439 158	..	131 482
Chile	879 631	210 172	170 415	127 338	64 438	307 268
Colombia	67 772	5 962	..	40 087	..	21 723
Costa Rica	4 036	..	..	..	..	4 036
Cuba	102 920	23 195	4 808	23 986	..	50 931
Dominica	3 994	1 761	..	1 522	..	711
Dominican Republic	9 237	..	..	5 360	..	3 877
Ecuador	313 134	224 105	..	1 859	..	87 170
El Salvador	5 602	..	..	..	..	5 602
Falkland Islands[f]	54 019	..	..	591	..	53 428
Grenada	1 009	..	..	779	..	230
Guatemala	8 893	..	..		..	8 893
Guyana	15 169	125	..	7 033	..	8 011
Haiti	1 286	..	..	1 006	..	280
Honduras	933 244	232 604	72 609	361 945	4 044	262 042
Jamaica	75 432	1 930	44 211	20 024	..	9 267
Mexico	937 231	525 928	..	63 679	..	347 624
Montserrat	..	..	..	..	..	..
Nicaragua	3 619	..	..	498	..	3 121
Paraguay	47 476	4 480	..	36 783	823	5 390
Peru	240 291	14 703	..	40 947	..	184 641
Saint Kitts and Nevis	300	..	..	300	..	..
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	6 583 995	412 821	2 692 208	2 641 669	168 883	668 414
Suriname	5 021	1 823	..	2 525	..	673
Trinidad and Tobago	26 837	998	..	2 853	..	22 986
Turks and Caicos	..	..	..	..	..	..
Islands	975	..	..	227	..	748
Uruguay	74 743	7 579	..	8 529	..	58 635
Venezuela	865 387	418 908	120 753	32 810	953	291 963
Subtotal	24 758 437	5 342 863	5 644 824	6 944 933	3 219 521	3 606 296
Developing countries and territories of Asia						
Bahrain	345 939	131 348	42 963	17 121	96 308	58 199
Bangladesh	469 795	98 327	5 672	283 158	45 193	37 445
Brunei Darussalam	866 542	480 572	..	2 018	..	383 952
Cambodia	..	..	..	..	..	..
Hong Kong (China)	16 369 045	2 846 584	9 862 260	1 161 988	2 293 431	204 782
India	7 133 785	3 449 655	2 249 196	327 585	115 637	991 712
Indonesia	4 532 185	1 636 221	324 173	1 590 956	171 702	809 133

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Iran, Islamic Rep. of	4 324 545	2 325 149	1 072 708	576 331	154 201	196 156
Iraq	261 629	128 127	..	60 098	..	73 404
Jordan	69 695	10 452	..	53 200	5 097	946
Kuwait	2 571 624	1 881 849	17 012	142 675	214 436	315 652
Lebanon	238 252	7 866	82 665	138 741	..	8 980
Malaysia	7 082 284	2 554 892	1 508 882	594 039	736 543	1 687 928
Maldives	63 068	9 284	..	48 846	..	4 938
Myanmar	433 574	32 426	184 686	185 047	..	31 415
Oman	40 289	14 953	..	4 289	..	21 047
Pakistan	264 540	65 170	..	150 517	31 707	17 146
Philippines	5 989 142	777 306	3 064 968	1 409 605	67 694	669 569
Qatar	662 664	253 070	141 617	58 054	170 152	39 771
Republic of Korea	8 132 720	1 966 989	3 431 336	986 829	664 580	1 082 986
Saudi Arabia	1 767 231	946 717	..	376 050	149 368	295 096
Singapore	22 832 190	10 212 200	4 957 783	2 196 553	3 781 554	1 684 100
Sri Lanka	98 695	24 080	..	56 782	..	17 833
Syrian Arab Republic	476 048	5 213	60 669	398 589	7 580	3 997
Thailand	2 037 593	382 136	456 639	878 711	162 095	158 012
United Arab Emirates	877 996	401 359	483	87 065	214 436	174 653
Yemen	..	..	..	..	..	..
Subtotal	87 941 071	30 641 945	27 463 712	11 784 847	9 081 714	8 968 853
Developing countries of Europe						
Croatia	834 660	73 107	498 643	162 561	..	100 349
Slovenia	2 251	..	..	276	..	1 975
Yugoslavia	1 061	..	..	..	..	1 061
Subtotal	46 117 731	73 107	498 643	162 837	..	103 385
Developing countries of Oceania						
Fiji	27 194	7 372	..	4 988	..	14 834
Kiribati	4 198	..	..	3 728	..	470
Nauru	..	..	..		..	..
Papua New Guinea	72 386	5 868	..	55 063	..	11 455
Samoa	..	..	..		..	..
Solomon Islands	8 440	..	..	2 314	..	6 126
Tonga	290 529	49 894	38 860	177 697	..	24 078
Tuvalu	38 227	23 847	..	12 084	..	2 296
Vanuatu	1 381 351	55 178	517 594	412 983	25 497	370 099
Subtotal	1 822 325	142 159	556 454	668 857	25 497	429 358
Developing total	120 137 098	37 242 708	34 951 810	20 705 302	12 416 860	14 820 418
Unallocated	8 680 761	..	5 262 152	2 610 811	807 798	..

Annex III (b)

Merchant fleets of the world by flag of registration, [a] groups of countries and types of ship [b] as at 31 December 2002

(in thousand dwt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total[d]	844 234	304 396	300 131	97 185	82 793	59 730
Developed market-economy countries						
Australia	2 262	461	922	112	10	758
Austria	38	0	0	38	0	0
Belgium	235	9	0	3	0	223
Canada	1 507	735	237	126	19	390
Denmark	9 248	3 456	217	487	4 434	653
Finland	1 222	512	94	410	14	192
France	6 361	3 743	687	312	723	895
Germany	7 730	276	2	543	6 541	368
Gibraltar	1 396	698	30	289	227	152
Greece	49 306	28 125	16 829	609	1 923	1 820
Iceland	78	1	1	2	0	74
Ireland	175	0	36	82	7	50
Israel	891	3	0	3	882	4
Italy	11 500	3 739	2 808	1 111	1 005	2 837
Japan	17 379	6 218	5 022	2 294	593	3 252
Luxembourg	2 038	1 061	20	69	115	773
Netherlands	7 255	209	95	3 545	2 019	1 387
New Zealand	124	81	17	16	0	10
Norway	32 237	17 054	7 728	3 559	88	3 808
Portugal	1 615	866	281	299	30	138
South Africa	59	4	0	0	30	25
Spain	2 338	1 225	70	390	163	490
Sweden	1 886	200	39	1 022	0	625
Switzerland	1 010	0	921	40	39	10
Turkey	8 674	1 418	4 981	1 773	362	140
United Kingdom	17 020	6 853	2 971	1 319	3 630	2 248
United States	33 554	19 439	6 594	1 379	5 182	960
Subtotal	217 138	96 386	50 603	19 832	28 036	22 282
Open-registry countries						
Bahamas	49 601	27 998	9 215	6 964	2 377	3 047
Bermuda	6 812	1 864	3 598	263	420	667
Cyprus	36 029	6 642	21 697	4 136	3 219	335
Liberia	77 016	37 419	19 432	3 974	11 430	4 761
Malta	42 610	17 345	19 963	3 922	1 112	268
Panama	186 400	56 541	89 921	13 863	18 223	7 852
Subtotal	398 467	147 809	163 826	33 122	36 781	16 929

Annex III (b) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Central and Eastern Europe and former USSR						
Albania	66	0	0	65	0	1
Armenia	..	..	..	..	..	..
Azerbaijan	503	233	0	113	0	157
Belarus	..	..	..	..	..	..
Bulgaria	1 293	192	829	180	67	24
Czech Republic	..	..	..	..	..	..
Estonia	234	15	48	119	0	51
Georgia	791	66	209	484	0	32
Hungary	6	0	0	6	0	0
Kazakhstan	6	0	0	3	0	4
Kyrgyzstan	..	..	..	..	..	..
Latvia	47	6	0	3	0	38
Lithuania	416	12	116	218	0	69
Moldova	..	..	..	..	..	..
Poland	776	10	668	19	0	78
Romania	758	99	222	288	0	149
Russian Federation	9 903	2 256	1 106	4 346	298	1 898
Slovakia	11	0	11	0	0	0
Tajikistan	..	..	..	..	..	..
Turkmenistan	38	8	3	15	0	10
Ukraine	1 081	64	160	684	22	150
Former USSR[e]	..	..	..	..	..	..
Uzbekistan						
Subtotal	15 928	2 963	3 374	6 542	387	2 662
Socialist countries of Asia						
China	25 528	4 220	11 629	6 423	2 131	1 126
Democratic People's Republic of Korea	1 179	39	261	821	0	58
Viet Nam	1 589	297	242	961	32	57
Subtotal	28 296	4 555	12 131	8 205	2 163	1 241
Developing countries of Africa						
Algeria	1 011	32	288	245	0	446
Angola	50	5	0	28	0	18
Benin	0	..	..	..	..	..
Cameroon	8	0	0	1	0	7
Cape Verde	20	4	0	14	0	3
Comoros	240	33	109	89	0	9
Congo	1	0	0	0	0	1

Annex III (b) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Côte d'Ivoire	5	1	0	0	0	4
Democratic Republic of the Congo	15	0	0	0	0	15
Djibouti	1	0	0	1	0	0
Egypt	1 891	380	871	468	58	113
Equatorial Guinea	13	0	0	4	0	9
Eritrea	25	3	0	19	0	3
Ethiopia	101	4	0	98	0	0
Gabon	8	1	0	4	0	3
Gambia	2	0	0	0	0	2
Ghana	102	12	0	25	0	65
Guinea	5	0	0	0	0	5
Guinea-Bissau	2	0	0	0	0	2
Kenya	16	8	0	2	0	7
Libyan Arab Jamahiriya	117	10	0	74	0	33
Madagascar	33	7	0	19	0	7
Malawi	..	..	..	..	..	..
Mauritania	23	0	0	1	0	23
Mauritius	56	0	13	15	0	27
Morocco	363	7	0	96	50	210
Mozambique	28	0	0	11	0	17
Nigeria	656	561	0	54	0	42
Saint Helena	0	0	0	0	0	0
Sao Tome and Principe	120	18	29	65	2	7
Senegal	23	0	0	2	0	21
Seychelles	96	32	0	31	0	32
Sierra Leone	22	17	0	1	0	5
Somalia	6	2	0	2	0	2
Sudan	41	1	0	39	0	1
Togo	10	0	0	3	0	7
Tunisia	193	60	26	12	0	94
Uganda	..	..	..	..	..	..
United Republic of Tanzania	45	14	0	25	0	7
Subtotal	5 348	1 210	1 337	1 446	110	1 244
Developing countries of America						
Anguilla	1	0	0	1	0	0
Antigua and Barbuda	6 541	34	326	2 530	3 564	87
Argentina	482	92	52	108	0	229
Barbados	527	56	264	110	17	79
Belize	1 883	492	271	794	35	291

Annex III (b) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Bolivia	574	443	23	82	2	25
Brazil	5 498	2 437	2 334	341	184	201
British Virgin Islands	31	0	0	30	0	1
Cayman Islands	4 702	1 840	1 099	859	0	904
Chile	1 039	347	286	84	76	245
Colombia	86	10	0	53	0	23
Costa Rica	1	0	0	0	0	1
Cuba	124	38	6	37	0	43
Dominica	5	2	0	2	0	1
Dominican Republic	7	0	0	6	0	1
Ecuador	447	386	0	3	0	58
El Salvador	2	0	0	0	0	2
Falkland Islands[f]	7	0	0	0	0	6
Grenada	1	0	0	1	0	0
Guatemala	7	0	0	0	0	7
Guyana	14	0	0	8	0	6
Haiti	1	0	0	1	0	0
Honduras	1 220	427	122	520	3	148
Jamaica	126	3	73	44	0	6
Mexico	1 207	860	0	50	0	297
Montserrat	..	..	..	..	..	..
Nicaragua	2	0	0	1	0	1
Paraguay	52	9	0	40	2	1
Peru	174	27	0	65	0	82
Saint Kitts and Nevis	1	0	0	1	0	0
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	9 535	705	4 703	3 439	212	477
Suriname	6	3	0	3	0	0
Trinidad and Tobago	10	1	0	0	0	8
Turks and Caicos Islands	..	..	..	..	..	..
Uruguay	51	11	0	7	0	33
Venezuela	1 287	721	201	46	1	319
Subtotal	35 648	8 946	9 760	9 265	4 096	3 581
Developing countries and territories of Asia						
Bahrain	374	188	60	26	100	0
Bangladesh	587	131	9	385	61	0
Brunei Darussalam	422	420	0	3	0	0
Cambodia	3 481	250	1 007	2 150	26	48
Hong Kong (China)	27 496	4 959	17 838	1 605	2 600	494

Annex III (b) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
India	10 287	5 032	3 787	392	152	923
Indonesia	4 665	1 368	509	2 182	224	382
Iran, Islamic Rep. of	7 098	4 178	1 836	792	179	113
Iraq	243	99	0	82	0	62
Jordan	93	0	0	83	7	4
Kuwait	3 582	2 933	27	145	227	251
Lebanon	310	2	133	166	0	9
Malaysia	8 004	1 818	2 555	728	907	1 997
Maldives	84	14	0	68	0	3
Myanmar	576	5	315	244	0	13
Oman	14	8	0	6	0	0
Pakistan	363	91	0	217	42	13
Philippines	7 300	250	5 102	1 652	41	255
Qatar	770	208	270	82	184	26
Republic of Korea	10 609	1 894	5 937	1 213	757	809
Saudi Arabia	2 342	1 405	0	420	156	362
Singapore	33 618	16 035	9 226	1 925	4 512	1 921
Sri Lanka	95	11	0	74	0	10
Syrian Arab Republic	696	4	93	590	8	0
Thailand	2 838	406	748	1 318	219	146
United Arab Emirates	853	396	1	107	227	123
Yemen	133	112	0	4	0	18
Subtotal	126 932	42 214	49 452	16 657	10 628	7 981
Developing countries of Europe						
Croatia	1 316	100	872	220	0	125
Slovenia	1	0	0	0	0	1
Yugoslavia	1	0	0	0	0	1
Subtotal	1 318	100	872	221	0	126
Developing countries of Oceania						
Fiji	31	11	0	6	0	15
Kiribati	5	0	0	5	0	0
Nauru	0	0	0	0	0	0
Papua New Guinea	85	3	0	70	0	13
Samoa	9	0	0	8	0	0
Solomon Islands	5	0	0	2	0	4
Tonga	396	68	71	221	0	36
Tuvalu	106	43	0	16	0	47
Vanuatu	1 378	90	836	335	29	88
Subtotal	2 016	214	907	663	29	203
Developing total	171 262	52 684	62 328	28 252	14 863	13 135
Unallocated	13 143	0	7 868	1 231	564	3 480

Notes to Annex III

Source: Lloyd's Register-Fairplay.

[a] The designations employed and the presentation of material in this table refer to flags of registration and do not imply the expression of any opinion by the Secretariat of the United Nations concerning the legal status of any country or territory, or of its authorities, or concerning the delimitation of its frontiers.

[b] Ships of 100 grt and over, excluding the Great Lakes fleets of the United States and Canada and the United States Reserve Fleet.

[c] Including passenger/cargo.

[d] Excluding estimates of the United States Reserve Fleet and the United States and Canadian Great Lakes fleets, which amounted to respectively 3.9 million grt (4.2 million dwt), 0.9 million grt (1.9 million dwt) and 1.2 million grt (1.8 million dwt).

[e] All republics of the former USSR that have not established new shipping registers.

[f] A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning the sovereignty over the Falkland Islands (Malvinas).

CORRIGENDUM
Ref.: Sales No. E.03.II.D.10
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7 January 2004
Geneva

REVIEW OF MARITIME TRANSPORT, 2003

Corrigendum

Page 19

Replace chapeau with following text:

This chapter reviews the supply-side dynamics of the world maritime industry. The information and data cover the structure and ownership of the world fleet comprehensively. The chapter also reviews deliveries and demolition of vessels, tonnage on order, newbuilding prices and markets for second-hand tonnage.

Page 29

In table 14, for Central and Eastern Europe, under "Million dwt", replace 15928 with 15.9.

Page 42

Replace table 20 with new version (attached).

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GE.03-….. – January 2004 – 3,555

UNCTAD/RMT/2003/Corr.1
English and Russian only

Page 47

In the first paragraph, second sentence replace The ton-miles per deadweight with The thousands of ton-miles per deadweight.

Page 69

Under subheading "3. Supply and demand in respect of main liner services" replace the second sentence of the first paragraph with the following:

Annual estimates of the cargo flows in the three major containerized routes based on the first nine months of 2002 indicated in table 37 show increases over the total 2001 figures.

Page 72

Replace table 40 with new version (attached).

Page 133

For Developing countries in Europe, subtotal of the total fleet, replace 46 117 731 with 837 972.

Table 20

Newbuilding contracts placed for the main types of ship[a] during 1992–2002
(number of ships, thousands of dwt)

Year	Tankers		Bulk carriers		Combined carriers		General cargo ships		Container vessels		Passenger ferries		Total [b]	
	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt
1992	206	10 050	126	7 261	0	0	225	1 402	127	3 227	114	91	798	22 031
1993	267	17 327	299	18 303	1	83	261	2 102	182	5 057	122	163	1 132	43 035
1994	256	13 833	339	19 896	2	220	227	1 493	242	6 497	118	159	1 184	42 098
1995	243	9 143	381	22 418	4	440	345	2 449	345	8 562	144	224	1 462	43 236
1996	274	13 875	271	14 250	-	-	257	2 107	292	6 978	144	155	1 238	37 365
1997	428	32 516	282	17 983	2	220	299	2 701	166	3 618	96	149	1 273	57 187
1998	280	21 922	166	11 835	0	0	333	2 488	178	5 975	117	231	1 074	42 451
1999	206	16 822	346	23 934	-	-	162	1 323	170	7 183	116	348	1 000	49 610
2000	446	41 865	344	20 081	-	-	255	2 534	373	15 025	136	308	1 554	80 121
2001	550	34 260	165	9 496	-	-	142	1 222	180	6 564	101	80	1 138	51 622
2002														
Jan	12	625	8	385	-	-	4	27	2	84	21	13	47	1 134
Feb	25	1 268	15	1 459	-	-	3	18	4	20	3	5	50	2 770
Mar	27	1 293	20	1 844	-	-	14	232	1	42	17	4	79	3 415
Apr	47	3 108	19	1 220	.	.	15	138	12	512	4	13	97	4 991
May	62	3 011	15	1 457	-	-	3	26	6	293	7	7	93	4 794
Jun	36	1 442	31	2 869	-	-	10	82	7	405	5	-	89	4 798
Jul	33	1 347	31	2 261	-	-	12	130	17	1 129	5	17	98	4 884
Aug	34	1 833	17	1 194	-	-	20	169	4	36	6	25	81	3 257
Sep	44	2 119	26	2 025	-	-	12	212	13	393	18	14	113	4 763
Oct	35	1 893	50	3 128	-	-	18	205	20	888	10	17	133	6 131
Nov	37	2 232	12	770	-	-	3	28	22	899	8	13	82	3 942
Dec	55	3 808	31	2 187	-	-	22	326	27	1 522	7	3	142	7 846
Total	447	23 979	275	20 799	-	-	136	1 593	135	6 223	111	131	1 104	52 725

Source: Compiled by the UNCTAD secretariat on the basis of data from Institute of Shipping Economics and Logistics (2003), *Shipping Statistics and Market Review*, Jan./Feb., table II-1.1.1.1.

[a] Ships of 300 grt and over.

[b] Total does not include data on newbuilding contracts for other types of ship.

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	2002
Rubber	Singapore/Malaysia–Europe	10.5	18.5	8.9	n.a.	15.5	13.9	13.5
Jute	Bangladesh–Europe	12.1	19.5	19.8	6.4	21.2	15.5	21.7
Cocoa beans	Ghana–Europe	2.4	3.4	2.7	1.9	6.7	4.1	2.8
Cocoa beans	Brazil–Europe	7.4	8.2	8.6	6.9	11.0	n.a.	n.a.
Coconut oil	Sri Lanka–Europe	8.9	9.1	12.6	12.6	n.a.	15.5	10.0
Tea	Sri Lanka–Europe	9.5	10.4	9.9	6.9	10.0	5.3	6.8
Coffee	Brazil–Europe	5.2	9.7	6.0	5.0	10.0	6.9	7.6
Coffee	Colombia (Atlantic)–Europe	4.2	4.7	3.3	6.7	6.8	5.9	3.9
Coffee	Colombia (Pacific)–Europe	4.5	6.3	4.4	6.1	7.4	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.