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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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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
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
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 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. To improve consistency and to reflect practices of ship registration, Malta and Vanuatu have been included in all tables referring to major open-registry countries. This reclassification primarily affects the share of developing countries in Europe in total world tonnage.
- 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 Latin American 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 2001 grew by 1.3 per cent over that of 2000, about one-third of the remarkable growth of the previous year. The developed market-economy countries experienced growth of 1 per cent, while developing countries recorded an average increase of 2.1 per cent. In 2002, growth in world output is expected to be between 1.4 and 2.4 per cent and contingent on developments following the events of 11 September 2001.

- The volume of world merchandise exports decreased by 1.5 per cent compared to the increase of 11.9 per cent in 2000, while imports increased by just 0.9 per cent, compared to the previous increase of 11.3 per cent. These results were based on the performance of North America and countries in Asia. The volume of world merchandise exports would probably risen in 2002.

- The total industrial production index of OECD decreased by 2.6 per cent to 117.7 from 120.8 in 2000 (1995 = 100). The result was due to the performance of the United States and Japan.

- World seaborne trade (goods loaded) contracted after 15 consecutive years of annual increases reaching 5.83 billion tons. The annual growth rate was negative – 1 per cent compared to the 3.9 per cent increase of 2000. Global maritime trade growth is expected to stay flat in 2002.

- Total maritime activities measured in ton-miles decreased to 22,682 billion ton-miles, in comparison with the total of 23,016 billion ton-miles reached in 2000.

Development of the world fleet

- The world merchant fleet expanded to 825.6 million deadweight tons (dwt) at the end of 2001, a 2.1 per cent increase. New building deliveries were up by 1.8 per cent to 45.2 million dwt, and tonnage broken up and lost increased by 25.2 per cent to 27.8 million dwt, leaving a net gain of 17.4 million dwt.

- The fleets of oil tankers and dry bulk carriers together make up 70.3 per cent of the total world fleet. The fleet of oil tankers was steady, while the fleet of dry bulk carriers increased by 4.6 per cent. There was an impressive 11.4 per cent increase from 69.2 to 77.1 million dwt in the container ship fleet and a 3 per cent increase from 18.5 to 19.1 million dwt in the liquefied gas carriers fleet.

- The average age of the world fleet remained at 13.9 years with almost 34 per cent of the fleet 20 years and older. General cargo vessels had the highest average age at 16.2 years, and container vessels were the youngest at 11 years.

- Registration of ships by developed market-economy countries and major open-registry countries accounted for 25.1 and 48.7 per cent of the world

fleet respectively. Open registries increased their tonnage by 2.6 per cent, and two-thirds of this beneficially owned fleet is owned by market economies and developing countries. Developing countries' share reached 19.3 per cent, or 159 million dwt, of which 117 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 7.1 and 29.5 respectively. This was a decrease of 2.7 per cent and 4.5 per cent from the figures for 2000.

- World total surplus tonnage continued to decrease and at the end of 2001 stood at 21.5 million dwt, or 2.6 per cent of the world merchant fleet. Surplus capacity in the tanker sector increased to 17.9 million dwt, while overcapacity in the dry bulk sector dropped to 2.9 million dwt from 3.8 million dwt in 2000.

Freight markets

- The year 2001 was a bad year for the tanker market. The overall volume of seaborne crude oil trade increased by less than 1 per cent. The average freight indices for VLCC, medium-size crude carriers and small crude and product carriers decreased sharply – by 74.3, 56.7 and 63 per cent respectively.

- In 2001, seaborne shipments of the main bulks, particularly iron ore and coal, increased by 1.2 per cent. The improved balance between supply and demand resulted in mixed performance by time and trip–charter indexes, which closed the year down 35.2 per cent and up 1 per cent respectively.

- By the end of 2001, freight rates in the main containerized routes – trans-Pacific, transatlantic and Asia-Europe – were below the levels that prevailed at the end of 2000. Rates across the Atlantic fared better than those across the Pacific and in the Asia-Europe route. Westbound transatlantic rates fell by 2.1 per cent while those in the opposite direction fell by 8.9 per cent. Rates in the Pacific fell evenly by 16.8 per cent while those from Asia to Europe fell by 17.1 per cent and those from Europe to Asia declined by an impressive 28.7 per cent.

Total freight costs in world trade by group

- World total freight payments as a proportion of total import value increased to 6.21 per cent in 2000, up from 5.52 per cent in 1999. The freight factor was 5.21 per cent for developed market-economy countries, compared to 4.53 per cent in 1999, while for developing countries it was up to 8.83 per cent from 8.39 per cent in 1999. The freight factor for the developing countries in Africa increased to 12.97 per cent and the factor for developing countries in America to 8.58 per cent. For Asian developing countries, the freight rate factor increased to 8.51 per cent, while for those in Oceania the factor decreased to 11.94 per cent.

Port development

- World container port traffic continued to expand at a rate of 15.4 per cent over 1999, reaching 225.3 million TEUs. The ports of developing countries and territories handled 94.2 million TEUs, or 41.8 per cent of the total. In 2000 there were 54 developing countries and territories handling above 100,000 TEU.

Trade and transport efficiency

- The Declaration of the Fourth Ministerial Conference (Doha) paved the way for the negotiation process in WTO and a potentially binding rule on trade facilitation. UNCTAD convened two meetings to consider matters related to information and

communication technology in transport and trade facilitation and to regulation of multimodal transport services.

- The development of cargo rail services proceeded during the year in several regions, and consolidation in North America and joint services in Europe were used to improve the quality of service. Container production slumped in 2001 to 1.25 million TEU – a decrease of 34.2 per cent. Factories reported surplus capacity of up to 50 per cent in China. Prices also decreased by 3.3 per cent.

Review of regional developments

- Since 1998, Latin America and Caribbean countries have been on an economic roller coaster. After recovery from the 1997 crisis, the year 1998 saw a 2.3 per cent increase in output followed by a meagre 0.4 per cent increase in output for 1999. In 2000 output increased a healthy 4.1 per cent in line with the booming world economy; this rise was followed by a modest 0.5 per cent increase for 2001. Rates of volume growth for exports and imports in 2000 were 11 and 13.9 per cent respectively, but the estimates for 2001 were much more modest. About 60 per cent of the exports of these countries and 50 per cent of imports go to North America. Intra-regional trade accounts for about 15 per cent a share, slightly above the corresponding figure for trade with Europe.

- International trade is conducted mainly by sea, with the percentages above 70 per cent for most countries. The exception is Mexico, a NAFTA partner, which conducts a sizeable share, up to 60 per cent by volume, of its trade overland with the United States. The merchant fleets of these countries, except the major open registries of the Bahamas, Bermuda and Panama,, reached 34.5 million dwt – 4.2 per cent of the world fleet, and an increase over the 3.5 per cent share reached in 1990.

- Main bulk commodities, such as crude oil, iron ore, coal and grain, are exported from mechanized dedicated terminals and ports often forming part of an integrated industrial operation. Exports and imports of liner and other cargoes go through public ports, which over the last few years have been opened to private-sector operation and investment. Freight rate levels for tramp services and liner cargoes have been decreasing in line with the general trend in shipping. Inland transport in South America is still underdeveloped, but the presidents of the countries of this subregion have decided to address this issue. The cost factor for import trades for these countries in 2000 was 8.58 per cent, slightly below the average for developing countries, and masks differences between countries, with those in the Caribbean having higher averages.

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, Panama or Vanuatu.

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.

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

Overview

During the year 2001 the growth of world output fell to 1.3 per cent from the remarkable 3.8 per cent achieved in 2000 (see table 1) and, for the first time since the oil price hike of the late 1970s, virtually all regions of the world experienced a simultaneous economic slowdown.

Developed market-economy countries were most affected by this economic deceleration and achieved only 1 per cent growth. The best performers were countries belonging to the European Union, whose economies grew 1.6 per cent, but there were wide disparities. The United Kingdom's economy grew 2.4 per cent, well above the average, fuelled by domestic demand supported by decreases in short-term interest rates and a buoyant real estate market. At the other extreme, the German economy expanded by only 0.6 per cent, slowed by sluggish expansion in its eastern region. Across the Atlantic and despite successive cuts in short-term interest rates to overcome the effects of reduced investment levels caused by the bursting of the information technology (IT) bubble, the United States economy performed slightly below the world average, with growth of 1.1 per cent. The weakest performer in this group of countries was Japan, whose economy entered into a recession in the second quarter of 2001 and contracted 0.3 per cent during the year. The zero interest rate policy pursued by the monetary authorities to build domestic confidence could not overcome the effect of the collapse of the valuable technology markets, in which Japanese exporters are major players, and the minor overvalue of the currency at the beginning of the year.

The growth of economic output for developing countries was 2.1 per cent, well above the world average. The highest growth occurred in African countries, which repeated their performance of 2000, expanding 2.7 per cent. North African countries such as Morocco, Tunisia and Algeria fared particularly well and expanded 5, 4 and 3 per cent respectively. Three other countries in West Africa – Cameroon, Ghana and Nigeria – expanded more than 3 per cent. The output growth of economies in East Africa was below the continent's average. Elsewhere, South Africa managed to expand output by 2.1 per cent, while Zimbabwe recorded a significant contraction of 7.5 per cent. Overall, the rate of economic growth of African countries over the last three years has exceeded the average growth rate of the last decade.

In Latin America, the sluggish growth of economic output reached only 0.4 per cent, well below the performance of the previous year. The financial difficulties and final collapse of one of the largest regional economies, that of Argentina, which contracted 3.8 per cent, contributed to this result. This collapse was partly to blame for almost doubling the economic contraction vis-à-vis the previous year of its neighbour, Uruguay, to 2.3 per cent. In the northern hemisphere, the effect of the United States economic slowdown on its NAFTA partner Mexico caused the latter's economy to contract by 0.3 per cent. The lacklustre performance elsewhere in Latin America resulted from the reduced United States demand for exports.

Table 1

World output, 1990–2001
(percentage change)

Region/grouping	Average 1990-2000	1999	2000	2001[a]
World	2.2	2.6	3.8	1.3
Developed economies	2.0	2.4	3.4	1.0
of which:				
United States	2.8	3.6	4.1	1.1
Japan	1.1	0.2	2.2	-0.3
European Union	1.7	2.4	3.4	1.6
of which:				
Euro area	1.7	2.4	3.5	1.4
Germany	1.6	1.5	3.2	0.6
France	1.4	2.9	3.5	1.9
Italy	1.2	1.4	2.9	1.8
United Kingdom	1.9	2.1	2.9	2.4
Developing economies	4.3	3.4	5.4	2.1
of which:				
Africa	2.2	2.6	2.7	2.7
Latin America	2.9	-0.2	3.9	0.4
Asia	4.4	4.6	5.8	1.2
Economies in transition	-3.0	2.7	6.0	4.3
China	9.3	7.1	8.0	7.3

Source: Calculations by the UNCTAD secretariat based on data in 1995 dollars, as published in UNCTAD (2002), *Trade and Development Report 2002*, United Nations publications, Sales No. E.02.II.D.2, New York and Geneva, table 1.1.

[a] Estimates.

The output of developing countries in Asia expanded 1.2 per cent, slightly below the world average and a significant drop from the 5.8 per cent expansion of the previous year. Slowing United States demand for Asian exports together with the contraction of the Japanese economy was a heavy burden for these economies, notably those which could not rely only on domestic markets for expansion. The impact was particularly heavy in traditional hubs of regional economic activity: Singapore and Taiwan Province of China contracted by 2.2 per cent, while Hong Kong (China) and Malaysia expanded by a meagre 0.2 and 0.1 per cent respectively. In spite of depressed international commodity prices, strong domestic demand and investment in less open economies such as India, Indonesia, the Islamic Republic of Iran, Pakistan and the Philippines contributed to expand output by 5.4, 3.0, 4.1, 3.3 and 3.4 per cent respectively. The Republic of Korea and Thailand managed to achieve satisfactory output growth of 2.7 and 1.5 per cent respectively.

The growth of economic output in countries with economies in transition was again encouraging, reaching 4.3 per cent. The expansion was outstanding in oil-exporting countries such as Kazakhstan, which achieved 13 per cent growth. However, non-oil-exporters also did well, helped partly by increases in FDI flows. These results confirm the renewal of economic growth for countries with economies in transition, reversing their protracted economic decline of -3 per cent during the last decade.

The star global performer of the year was China; its output growth in 2001 was 7.3 per cent, lower than that of the previous year but up from that of 1999. Domestic demand and investment together with steady FDI maintained high levels of economic growth. Since the millennium, however, China's economic growth appears to have been decelerating compared with the 9.3 per cent growth achieved during the last decade.

Prospects

Forecasts of world economic output growth for 2002 have been cautiously optimistic in light of recent United States economic indicators pointing to a rapid recovery. The simultaneous economic downturn of the major economies seems to indicate that improvements, too, may occur simultaneously. With the prices of commodities and crude oil still at low levels, domestic demand in these economies needs time to build up momentum for investments. Current forecasts for output expansion for 2002 range from 1.2 to 2.4 per cent and, in any case, are contingent on developments stemming from the events of 11 September 2001.

2. Merchandise trade

Recent developments in international trade

During 2001 the volume of world exports contracted by 1.5 per cent (see table 2) after double-digit growth in the previous year. The volume of world imports expanded marginally by 0.9 per cent. Among developed countries, export volume contracted most in North America and Japan at a rate of -5 per cent. Countries of the European Union maintained a modest expansion of export volumes of 1.1 per cent. Growth in export volume for developing countries in Africa and Latin America was estimated at 2.5 and 2.7 per cent respectively. Developing countries

Table 2

Growth in the volume of merchandise trade by geographical region, 1999–2001

(annual percentage change)

Exports				Imports		
1999	2000	2001	Countries/regions	1999	2000	2001
5.0	11.9	-1.5	**World** [a]	6.1	11.3	0.9
4.8	9.9		**Developed economies** [a]	7.6	9.6	0.3
			of which:			
5.8	9.9	-5.0	**North America**	11.2	11.3	-3.8
4.4	10.1	1.1	**European Union (15)**	9.5	10.9	0.3
2.1	9.2	-5.0	**Japan**	9.5	10.9	0.3
7.0	15.7	0.5	**Developing economies** [a]	4.4	15.4	0.8
			of which:			
5.0	7.3	2.5	**Africa**	-0.9	5.4	4.6
7.1	10.3	2.7	**Latin America**	-1.5	11.1	0.5
1.1	14.0	n.a.	**Middle East** [b]	1.3	14.6	n.a.
6.6	16.2	-3.7	**Asia** [c]	9.0	15.4	-1.9
-2.0	17.9	8.0	**Economies in transition** [a]	-8.5	14.0	14.7
9.6	28.3	5.0	**China**	15.2	33.1	11.3

Source: From WTO (2002), *WTO Annual Report, 2002*, chapter II, chart II.4 in page 7, available on *www.wto.org*; and UNCTAD (2002), *Trade and Development Report 2002*, United Nations publications, Sales No. E.02.II.D.2, 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.

in Asia recorded a drop of 3.7 per cent in their export volume as a result of the reduced demand for office equipment and automation by the United States economy. In 2001 growth in export volume was particularly strong for countries with economies in transition (8 per cent) and China (5 per cent).

Trends in imports and exports

Recent data support the view that world trade is poised to recover modestly during 2002, perhaps reaching 1 per cent growth in export volume. Increased consumer confidence and the need to rebuild business inventories in the major economies could lead to this result. However, it is likely that in the future the expansion of world trade will lag behind world output because of demand and investment in the IT sector and increased transport costs (notably in air transport) resulting from higher insurance and security costs after the events of 11 September 2001. Moreover, the structure of exports from developing countries is likely to continue the shift from commodities to manufacturing exports, leading to greater use of containers.

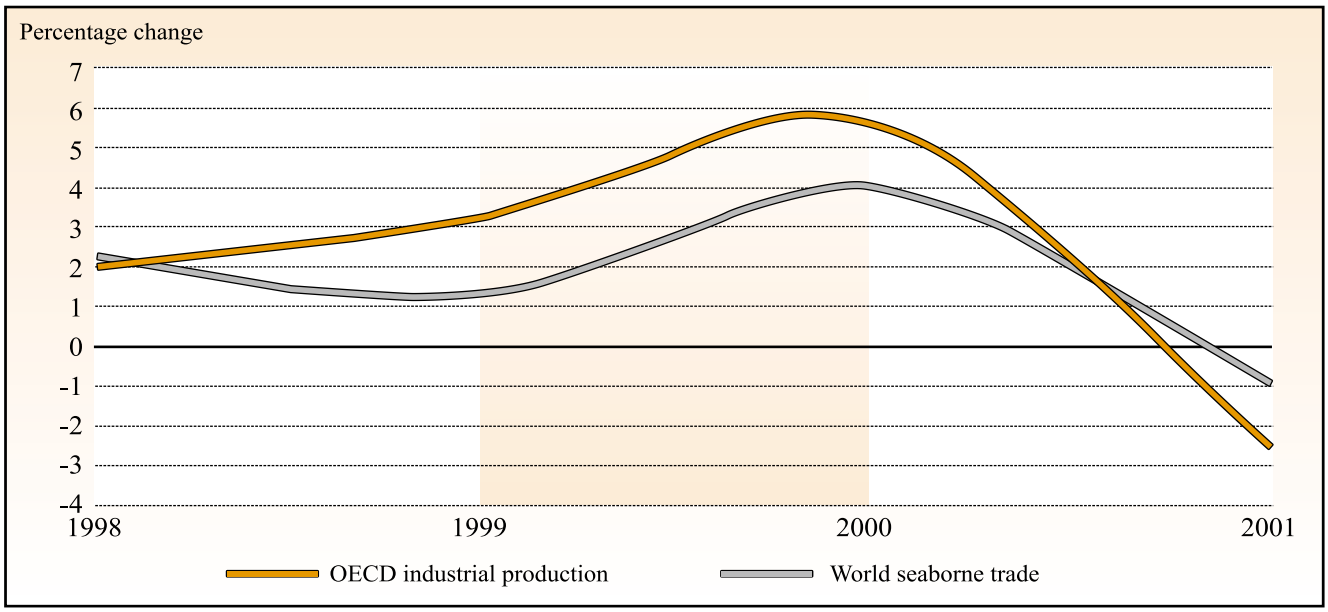
3. OECD countries' industrial output

The industrial production index (1995 = 100) for OECD countries, another fundamental indicator for the global maritime transport sector, averaged 117.7 in 2001, a decrease of 2.6 per cent from the average index for 2000 (see figure 1). This decrease contrasts with the 5.6 per cent increase achieved in 2000, when the index reached 120.8.

The poor results for most of 2001 were attributable to slowed economic activity in the United States, where the index reached 125.4 in the first quarter and declined steadily to 120.0 by the fourth quarter, a decrease of 4.3 per cent over the year. The slowdown in Japan was steep, with a 10.2 per cent decrease during the fourth quarter, when the index reached 92.1. Economic activity continued at a higher level in the 15 countries of the European Union, with the industrial production index reaching 113.5 in the fourth quarter, a decrease of only 3.3 per cent. The OECD outlook for the year 2002 indicated a mild recovery, notably in the United States.

Figure 1

Annual change in OECD industrial production and world seaborne trade, 1998–2001



Source: OECD (2001), *Main Economic Indicators,* April.

B. WORLD SEABORNE TRADE

1. Overall seaborne trade

After recording increases for 15 consecutive years, world seaborne trade stalled in 2001 at 5.83 billion tons of exported goods. The annual growth rate, calculated with the provisional data available for year 2001, was negative at -1.0 per cent, as is shown in table 3 and figure 2.

The 2001 breakdown of seaborne exported goods by continent was as follows: Africa's share of world exports was 9.4 per cent, while that of America reached 20.9 per cent. Asia was by far the continent with the largest share of the total tonnage of seaborne world exports – 36.8 per cent. Europe's share was the second largest at 25.5 per cent, while Oceania's share was the smallest, only 7.4 per cent of world seaborne exports. Forecasts for 2002 indicated that annual growth rates would probably be positive but modest, while the distribution of world tonnage by continent was expected to be steady.

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	
1997	2 172		2 781		1 157		4 953	
1998	2 072		3 526		1 170		5 598	
1999	2 057	-0.7	3 612	2.4	1 196	2.2	5 668	1.3
2000	2 115	2.8	3 775	4.5	1 288	7.7	5 890	3.9
2001[c]	2 128	0.6	3 704	-1.9	1 303	1.2	5 832	-1.0

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.

2. Seaborne trade in tankers

General developments

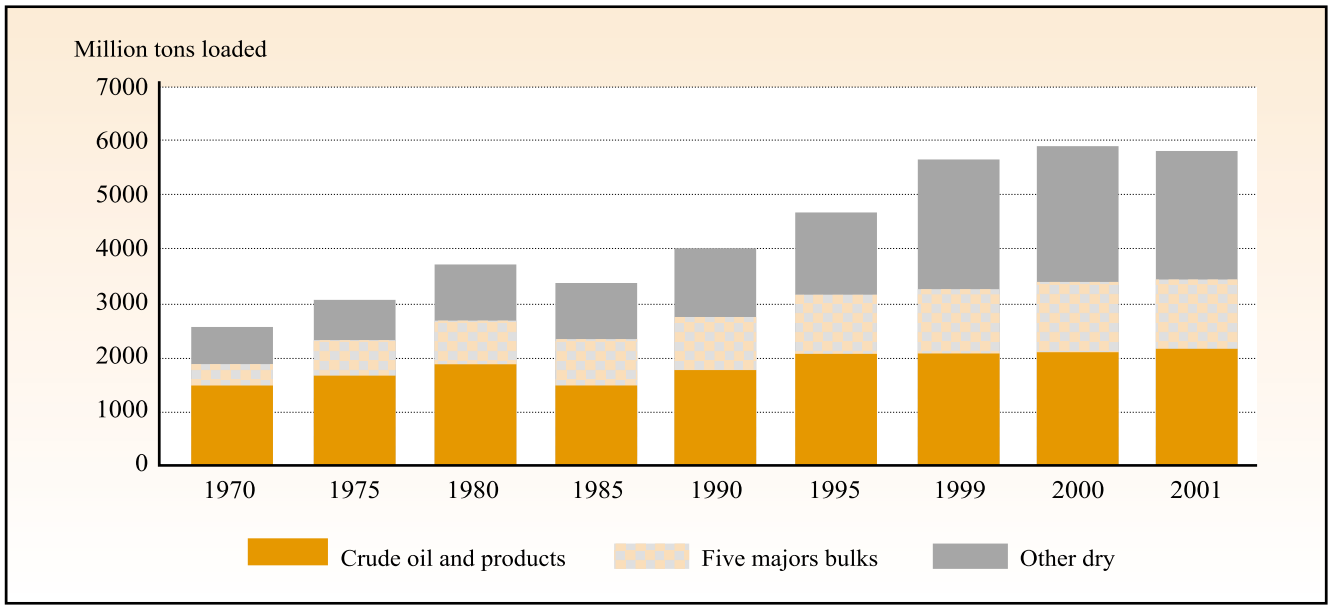
In 2001 world shipments of tanker cargoes reached 2.13 billion tons, growing 0.6 per cent during the year. About 77.5 per cent of this tanker trade is in crude oil, with the remainder in petroleum products. In 1992 the percentage was 74.9. The share of overall tanker shipments in world seaborne trade was 36.2 per cent.

Crude oil production

Since 1999 crude oil production has expanded. Figures[1] released for 1999 and 2000 indicate that crude oil production increased by 4 per cent to 74.5 million barrels per day (mbpd) for 2000. Most of this increase resulted from expanded production in OPEC countries, 5.6 per cent on average, to 30.8 mbpd, while production in OECD countries (notably the United States, Mexico, Norway and oil-producing countries within the European Union,

Figure 2

International seaborne trade for selected years



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

notably the United Kingdom) expanded at a lower rate of 2.4 per cent, to 21.5 mbpd. The remaining oil-producing countries, including Russian Federation members, China, Brazil and a number of small producers, raised production by 3.2 per cent to 22.2 mbpd.

For 2000 crude oil production, the market share of OPEC countries was 41.5 per cent, with major producers being Saudi Arabia with 12.3 per cent (equivalent to 9.1 mbpd), the Islamic Republic of Iran with 5.2 per cent (3.8 mbpd) and Venezuela with 4.6 per cent (3.2 mbpd). Market share for OECD oil-producing countries reached 28.1 per cent, with major producers being the United States with 9.8 per cent (7.7 mbpd), Mexico with 4.8 per cent (3.4 mbpd) and Norway and the European Union each with 4.4 per cent (3.4 mbpd). Among European Union countries, the United Kingdom had the largest market share, 3.4 per cent (equivalent to 2.7 mbpd). Market share for the remaining countries reached 30.4 per cent. Major producers in this group were countries of the Russian Federation, with 9 per cent (6.5 mbpd); China, with 4.5 per cent (3.2 mbpd); and Brazil, with 1.8 per cent (1.2 mbpd). Brazilian production comes mainly from deepwater offshore wells lying 400 metres below sea level. It has doubled over the last decade and uses modern technology, which is also used in Angola and the Gulf of Mexico.

Estimates for 2001 crude oil production match levels achieved in 2000. During 2001 OPEC producers agreed to production cuts amounting to 3.5 mbpd in order to support prices, which had slid during the year. Nevertheless, the three major crude oil prices (US West Texas Intermediate, North Sea Brent and the OPEC basket of seven crude oil prices) ended the year below $20 per barrel, 25–30 per cent lower than the levels prevailing at the beginning of the year. To avoid losing market share to other producers, OPEC agreed to an additional 1.5 mbpd production cut starting on 1 January 2002 only after major non-OPEC producers (Angola, Mexico, Norway, Oman and the Russian Federation) pledged to cut production by 0.46 mbpd.

Refinery developments

The throughput of world refineries reached 69.5 mbpd in 2000, an increase of 2 per cent over the previous year. The major refining centres in the United States and Europe, which together account for 43.1 per cent of world throughput, increased outputs by 1.9 and 0.3 per cent respectively. Early in 2002, the purchasing of refineries in Eastern Europe by a major Russian oil producer may have an impact on world markets. Refineries in the Far East, Asia and the Pacific, which together account for 24.8 per cent of world throughput, had a mixed output. China[2] achieved a hefty increase of 14.4 per cent. Refineries located elsewhere within the Asia Pacific region raised throughputs by 6 per cent, but Japanese refineries decreased output by 0.1 per cent.

Natural gas production

In 2000 production of natural gas reached 2,422.3 billion cubic metres[3] (bcm), an increase of 4.2 per cent from 1999 levels and the greatest increase since 1995, when production grew by 4.5 per cent. This production is equivalent to 2,180.6 million tons of oil or 45.2 mbpd. Major producers are the United States with 555.6 bcm and the Russian Federation with 545 bcm, which together account for 45.4 per cent of total production. Lesser producers are Canada with 167.8 bcm, the United Kingdom with 108.1 bcm, Algeria with 89.3 bcm, Indonesia with 63.9 bcm and the Islamic Republic of Iran with 60.2 bcm. Other producers are scattered in the Middle East, Latin America and Asia, often getting natural gas as a result of oil production. Only about a fifth of natural gas production is exported, mainly by pipelines, which carry around three-quarters of all exports.

Medium-term prospects for natural gas production seem bright. The $25 billion Gas Initiative of Saudi Arabia aims to convert power plants to use natural gas and therefore will free crude oil production for export. Qatar has entered into joint ventures with foreign oil companies to foster production and exports of natural gas. Also, large new findings of gas in Trinidad and Tobago and Bolivia have been announced.

Crude oil shipments

Seaborne shipments of crude oil increased during 2001 by 0.8 per cent, to 1.65 billion tons (see table 4). Major loading areas continued to be the developing countries in Western Asia with 850.5 million tons, in West Africa with 174.9 million tons, in North Africa with 133.8 million tons and around the Caribbean with 203.6 million tons. Main discharging areas were located in developed market-economy countries in North America with 436.9 million tons, in Europe with 426.8 million tons and in Japan with 215 million tons. Developing countries in South and East Asia took 306.8 million tons during 2001.

Crude oil trade flows will be affected by the influx of crude oil from the Caspian Sea and Central Asia. The pipeline and Supsa oil terminal in Georgia were commissioned two years ago to export oil from Azerbaidjan through the Black Sea. Next, the completion of the pipeline to bring Kazakhstan's oil to the Russian port of Novorossiysk led to the first shipment in October 2001. Shipments from the Black Sea increased 7.9 per cent to 64.3 million tons in 2000 and will continue to go up as the 4.7 million tons of the Supsa pipeline is supplemented by the 28 million tons of the Novorossiysk one. Environmental concerns have been voiced by Turkey because this oil passes through the Bosphorus to reach destinations in Western Europe, which takes about 50 million tons per year, with Italy taking about one-third of this total. These oil shipments will require Aframax and Suezmax tonnage and will reduce demand for VLCCs. Also, the commissioning by Russia, in late December 2001, of the Primorsk terminal in the Gulf of Finland for crude oil shipments from western Siberia through the 12-million-ton-capacity Baltic pipeline will add another important loading area.

The current level of imports will be affected in the near future by the United States Government decision, in November 2001, to fill to capacity its billion-ton Strategic Petroleum Reserve. Although Chinese imports of crude oil contracted by 13.6 per cent from the peak of 2000, imports of oil products saw a healthy 19 per cent increase to 21.5 million tons. In the medium term, there will likely be an increase of imports by China to enlarge its current one–month strategic oil reserve. Japanese imports were steady and may rise to expand the current 116-days oil stock to the 125-day average for countries belonging to the International Energy Agency.

Petroleum product shipments

The global trade in petroleum products held steady during 2001 at 479 million tons. The pattern and volume of shipments were similar to those of past years, with occasional fluctuations caused by stoppages in refineries because of maintenance or accidents. The scheduled closure of Conoco's 23,000 mbpd Killingholme refinery

Table 4

World seaborne trade [a] in 1970, 1980, 1990, 1997-2001, 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
	1997	1 627	527	2 785	4 952	1 625	522	2 890	5 037
	1998	1 569	503	3 526	5 598	1 533	540	3 670	5 743
	1999	1 564	493	3 612	5 668	1 541	547	3 741	5 829
	2000	1 636	478	3 775	5 890	1 679	559	3 925	6 163
	2001	1 649	479	3 704	5 832	1 675	558	3 874	6 107
		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	28.0	9.0	63.0	100.0	26.7	9.4	63.9	100.0
	1999	27.6	8.7	63.7	100.0	26.4	9.4	64.2	100.0
	2000	27.8	8.1	64.1	100.0	27.2	9.1	63.7	100.0
	2001	28.3	8.2	63.5	100.0	27.4	9.1	63.4	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	5.4	22.0	61.9	42.4	72.1	51.1	64.9	65.5
	1999	5.4	21.9	59.7	41.4	71.3	50.9	61.9	63.4
	2000	5.2	22.7	59.2	41.2	66.9	52.0	61.2	61.9
	2001	5.1	22.1	58.0	40.1	67.9	52.5	60.5	61.8
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	4.0	4.8	4.5	1.6	0.4	1.3	1.3
	2000	3.9	4.5	4.9	4.6	1.4	0.4	1.2	1.2
	2001	4.0	4.5	5.1	4.7	1.5	0.4	1.3	1.2

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]		
Socialist countries in 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	6.5	4.5	4.2	4.0	7.2	6.1
	2001	1.0	1.2	6.7	4.6	3.6	4.8	7.6	6.2
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	90.4	73.8	29.5	50.6	24.7	42.1	28.9	29.1
	1999	89.7	72.9	30.1	50.2	24.7	44.0	31.0	30.5
	2000	89.9	71.7	29.4	49.6	27.5	43.6	30.4	30.8
	2001	89.9	72.2	30.2	50.5	27.0	42.3	30.7	30.8
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	17.6	7.7	2.2	7.0	0.9	2.7	3.6	2.8
	1999	17.7	7.9	2.2	7.0	1.0	3.1	3.8	3.0
	2000	19.0	8.3	2.2	7.4	3.3	3.1	3.6	3.5
	2001	18.7	7.9	1.7	7.0	2.7	2.2	3.0	2.9
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	16.0	18.4	11.0	13.1	5.9	11.8	4.9	5.8
	1999	16.2	18.9	10.9	13.0	5.6	11.5	4.7	5.6
	2000	15.5	19.5	10.7	12.7	5.2	11.0	5.4	5.8
	2001	15.8	19.7	11.3	13.3	5.2	10.7	5.5	5.9
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	56.5	47.3	15.9	30.1	17.5	26.1	20.1	20.0
	1999	55.4	45.6	16.5	29.8	17.7	28.0	22.1	21.5
	2000	55.1	43.3	16.0	29.1	18.7	28.0	21.0	21.0
	2001	55.2	44.1	16.7	29.8	18.7	28.0	21.8	21.5

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]		
Europe [e]	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	0.5	0.4	0.3	0.4	0.4	0.3	0.3
	2001	0.0	0.5	0.4	0.3	0.4	0.4	0.3	0.3
Oceania [e]	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	0.3	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

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.

in Humber (UK) was accelerated after a blast that put the facility out of service from mid-April until August. As a result gasoline prices shot up to $325 per ton and US traders purchased from elsewhere. In September 2001, the explosion of six crude oil pipelines in the largest Chinese refinery, Maoming, cut production by 70,000 bpd for a fortnight.

LNG shipments

LNG shipments rose by 10.3 per cent during 2000 to reach 137 bcm of natural gas – about 5 per cent of world production. Major importers continued to be Japan with 72.5 bcm, followed by the Republic of Korea with 19.7 bcm. Exports came from Indonesia (35.7 bcm), Malaysia (21 bcm) and Australia (10.1 bcm). Across the Mediterranean, the majority of Algerian exports of 26.3 bcm went to France (11.2 bcm) and Spain (8.5 bcm). Elsewhere, trading revolved around the Middle East Gulf, where exports from Oman, Qatar and the United Arab Emirates reached 23.4 bcm; Nigeria, whose exports were 5.6 bcm; and Trinidad and Tobago, which exported 3.5 bcm.

3. Dry cargo shipments

General developments

In 2001, overall dry cargo shipments decreased by 1.9 per cent, reaching 3.70 billion tons (see table 3). The five dry-bulk trades namely iron ore, coal, grains, bauxite/ alumina and rock phosphate actually recorded a modest 1.2 per cent increase to reach 1.3 billion tons. The remaining dry cargo trades, minor bulks and liner cargoes, decreased by 3.4 per cent to 2.40 billion tons. The share of dry cargo shipments in world seaborne trade was 58.5 per cent of total goods loaded during the year.

World crude steel production

World crude steel production in 2001 was 839.9 million tons, a decrease of 0.9 per cent from the 2000 figure of 847.2 million tons. The regional decreases were significant for North America, where production fell 11.4 per cent to 119.9 million tons in contrast to the 135.4 million tons achieved in 2000. Production also decreased by 2.8 per cent in countries of the European Union (to 158.8 million tons) and by 3.4 per cent in Japan (to 102.9 million tons). Countries in South America reduced production by 3.9 per cent, to 37.6 million tons, but their performance was mixed: Brazil reduced production by 4.1 per cent to 26.7 million tons and Argentina decreased production by 8.3 per cent to 4.1 million tons but Venezuela increased production by 3.3 per cent to 4 million tons. The 1.3 per cent decrease in steel production in Oceania was mainly attributable to Australia, which decreased production by 3.2 per cent to 6.9 million tons. Countries of the Russian Federation raised their production by 1.8 per cent to reach 98.2 million tons in 2001. China achieved a major expansion of steel production by 12.6 per cent, to 143.3 million tons. Countries in Africa raised production by 9.5 per cent, to 15.1 million tons, notably Egypt (by 33.3 per cent to 3.8 million tons) and South Africa (by 4 per cent to 8.8 million tons). Countries in the Middle East also performed well, with a collective increase of 8.1 per cent to 11.7 million tons: among them, Saudi Arabia achieved a 13.4 per cent increase to 3.4 million tons and Iran a 4.8 per cent increase to 6.9 million tons.

In the same year, world pig iron production, another useful indicator for predicting dry bulk trades, increased marginally by 0.1 per cent to 571.4 million tons. Production of direct reduced iron, which requires iron ore and gas, fell by 12.2 per cent to 24.4 million tons. Iron production from scrap increased slightly by 0.8 per cent to 240.3 million tons.

World steel consumption

Estimated apparent steel consumption for 2001 was 773 million tons, only 0.5 per cent above the 2000 level. The main increase was in China, by a hefty 13.3 per cent to 160 million tons. In South America growth was 7.8 per cent to 29 million tons. Elsewhere, demand contracted (as in the NAFTA countries, where it was down 8.2 per cent to 134 million tons) or stagnated (as in the European Union, where it stood at 142 million tons).

Iron ore trade

The lackluster production output and consumption of steel were reflected in the 2 per cent decrease in iron ore shipments during 2001 to a total of 445 million tons. Brazil and Australia, which account for about two-thirds of world exports, recorded no growth in the first 10 months of 2001. Sweden recorded a 14 per cent reduction in volume shipped over the same period, while South Africa increased shipments by 11 per cent. Other exporters such as Canada and India achieved mixed results, with a 28 per cent decrease for the former over a seven-month period and a 4 per cent increase for the latter over a period of 11 months. Short-term forecasts are gloomy and rest on the rebound of the United States economy, the results of the tariffs imposed by this country on foreign steel and the willingness of Japanese steelmakers to replenish stocks.

Coal trade

Coal shipments rose 7 per cent in 2001 to an all-time record of 560 million tons. As in 2000, when thermal coal shipments grew 11.3 per cent to reach 344 million tons, the growth of coal shipments in 2001 resulted from increases in shipments of this type of coal.

China registered the largest growth in exports, 58 per cent over a 10-month period to 72.2 million tons. During the first half of 2001, Colombia recorded a 25 per cent increase to 21.8 million tons and Indonesia a 17 per cent increase to 31.3 million tons. Australia, by far the largest exporter and accounting for slightly more than one-third of all shipments, increased exports by 4 per cent over a 10–month period to 161.9 million tons. Shipments by North American exporters decreased by 15 per cent in the United States and 7 per cent in Canada. Coal imports to Japan, the largest importer, grew by 6.6 per cent in

2000 to 144.4 million tons and again in 2001 by 9 per cent. Major suppliers are Australia and China. Exports by China following its recently concluded agreement with Japan would increase the demand for small vessels to the detriment of Cape-size tonnage.

Grain trade

World grain trade reached 220 million tons in 2001, a decrease of 4.3 per cent from the previous year, when it had reached 230 million tons, almost equally split between wheat and coarse grains (mainly maize and sorghum). The largest exporter, the United States, decreased shipments over 10 months of 2001 to 66.7 million tons, a decrease of 6 per cent from the same period of 2000, when exports reached 70.8 million tons. Over the same period of 2001, only Argentina recorded an increase of 2 per cent in shipments, while other exporters such as the European Union, Australia and Canada reduced shipments by 20, 17 and 12 per cent respectively. This decrease in shipments contrasts with increases in the growth rate for all these countries in 2000 and the growth of shipments from the Black Sea during 2001. As usual, imports were spread across many regions of the world. In 2000, imports to Japan, the largest importer, contracted by 1.6 per cent to 29.9 million tons. Imports to China and Mexico increased by 81.9 and 6.8 per cent to 13 million tons and 16.5 million tons respectively. Shipments are expected to continue at the same level in 2002 even though stock is lower in many importing countries.

Other bulk trade

During 2001 shipments of bauxite and alumina, the primary inputs for the aluminium industry, are estimated to have decreased by 3.2 per cent to 51 million tons. Bauxite shipments fell by 3.3 per cent to 29.0 million tons, while alumina shipments decreased by 3.1 per cent to 22.0 million tons. Final figures for 2000 indicate that bauxite shipments from West Africa, about half of the world total, decreased by 1.3 per cent, while alumina shipments from Australia, also about half of the world total, increased by 2.7 per cent. Bauxite shipments from Jamaica were down by 14.6 per cent and those of alumina increased by 11.6 per cent. During 2001 production of primary aluminium products dropped by 3 per cent to 20.6 million tons. The contraction in production was acute in North America, by 13.6 per cent, and in Latin America, 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 per cent).

Shipments of rock phosphate also increased by 2.6 per cent during 2001, reaching 29.6 million tons in a recovery from three consecutive years of declining trade. Morocco, the major exporter accounting for about one-third of world exports, shipped 10.8 million tons, up 3.5 per cent from 2000 levels. Other traditional exporters also benefited: exports from Jordan went up by 15.3 per cent to 3.6 million tons and those from Togo by 6.9 per cent to 1.3 million tons. The most impressive performance was the 42.4 per cent increase in exports from China to a total of 4.9 million tons. Imports by the European Union and other Asian countries accounted in equal shares for the increased exports.

Trade in the minor dry bulk goods, a heterogeneous mix of merchandise, is believed to have reached 0.8 billion tons in 2001. Steel and forest products make up about half of the tonnage involved in this trade, while the remaining tonnage is almost equally split between metals and minerals (coke, pig iron, cement, manganese ore, etc.) and agriculture-related cargoes (sugar, rice, oilseeds, potash, phosphates, etc.). Overall forecasts for these cargoes indicate a similar volume of shipments for 2002, with some products (e.g. sugar) showing more growth than others (e.g. steel products).

4. Liner shipments of containerized cargo

The balance of 1.6 billion tons of dry cargo is increasingly being carried in containers along liner trade routes. In some regions, specialized unitized services such as ro-ro, reefer and cars coexist with traditional stand-alone general cargo services, with some of the latter serving to back up the main container trades. However container traffic continues to make inroads into other types of traffic, such as refrigerated cargo.

Shipments of containerized cargoes differ from the other dry bulk cargoes in the increased use of trans-shipment by feeder vessels to final destinations, a practice which complements the direct calls of larger vessels. Preliminary information available for 2001 provides the following trade pattern for the three main containerized routes – trans-Pacific, transatlantic and Europe-Asia – during the past year.

On the trans-Pacific route, the imbalance widened as flows in the dominant leg, Asia to North America, increased by 1.7 per cent to 6.8 million TEUs, while in the opposite direction trade flows decreased by 2 per cent to 3.1 million TEUs. Eastbound flows were unevenly distributed among lines: Hanjin increased lifting by

11.2 per cent, probably by taking over some of the trade of another Korean line, the failed Cho Yang, while Evergreen reduced lifting by 14.1 per cent. The poor results in the westbound direction are attributable to lackluster demand from Japan, which accounts for up to 40 per cent of westbound trade, and the slowdown of the United States economy, which exported during the first half of the year its backlog of unsold goods. On the Asia-Europe route, the imbalance increased slightly, with the dominant leg, Asia to Europe, growing 1.7 per cent to 4.6 million TEUs and flows from Europe to Asia increasing 1.1 per cent to 3.6 million TEUs. Reduced economic activity at both ends of the trade belied earlier bold forecasts. On the transatlantic route, up to the third quarter of 2001, the dominant leg from Europe to North America maintained a healthy 2.7 per cent growth while modest 0.4 per cent growth was observed for the eastbound direction. By the end of the year, however, decreases in traffic of 15 and 10 per cent were seen. Overall traffic flows on these major routes reached 23.3 million TEUs.

Traffic from Europe to Africa was steady at 1.4 million TEUs southward and 1 million TEUs northward. A small decrease of 1 per cent occurred in routes from Europe to the Caribbean/South America and Oceania – to 0.7 and 0.2 million TEUs respectively. Northward trade from these regions to Europe is believed to have risen by 1 per cent to 1.3 and 0.2 million TEUs respectively. Overall traffic between Europe and the Caribbean/South America decreased by 0.2 per cent, with imbalances of empty boxes being a concern for carriers. Cargo volumes between North America and Central and South America were steady at about 1.4 million TEUs in both directions. Cargo flows between Northeast Asia and Southeast Asia held steady at 1.67 million TEUs in the southward direction, with a small increase to 2 million TEUs in the opposite direction. Trade between Asia and Oceania was also steady at 0.5 million TEUs southward and 0.9 million TEUs northward. Overall traffic flows along these North-South routes amounted to 12.7 million TEUs, with modest growth of 0.7 per cent.

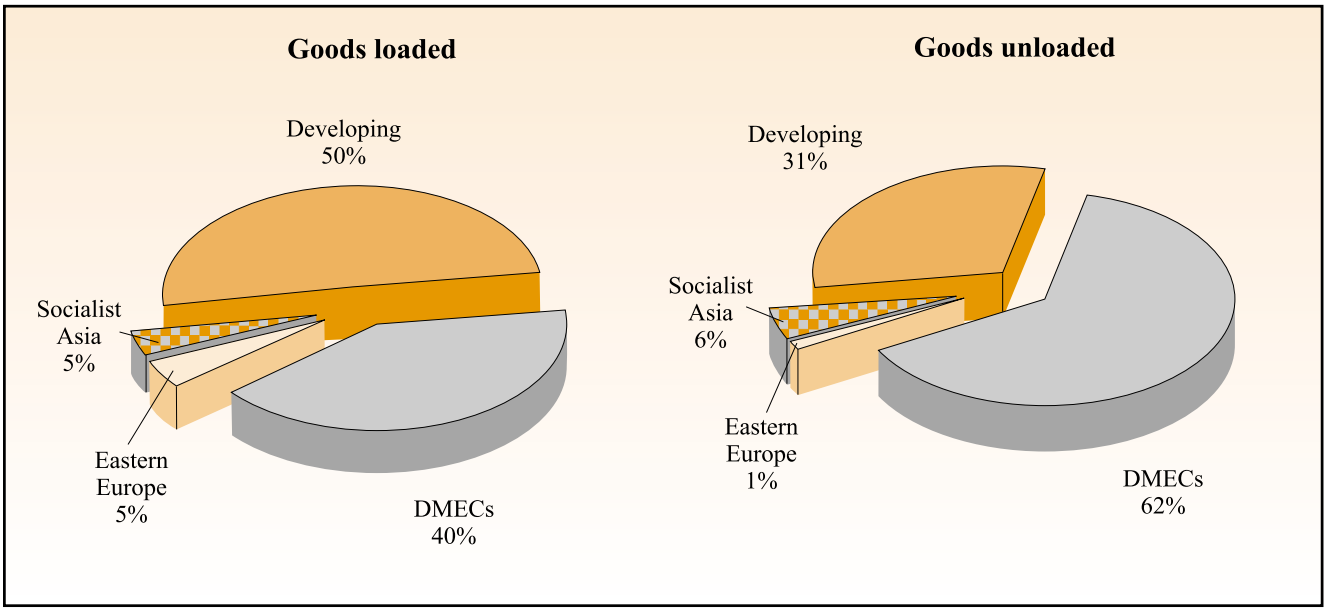
5. World shipments by country group

The breakdown of the 5.88 billion tons of world seaborne trade by major cargo segment and country group is shown in table 4 and figure 3. Developed market-economy countries' shares of goods loaded and unloaded in 2001

Figure 3

World seaborne trade by country groups

(percentage change in tonnage, 2001)



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

are 40.1 per cent and 61.8 per cent respectively of total world volume. For these countries, crude oil and petroleum products account for 5.1 and 22.1 per cent of total world exports respectively, while imports account for 67.9 per cent for crude oil and 52.5 per cent for petroleum products. A further breakdown by region appears in Annex II. Among market-economy countries, Europe remains the most important exporter of crude oil and petroleum products, with a total of 103.9 million tons (4.9 per cent of the world total). North America is the largest importer of crude oil and petroleum products, with 593.0 million tons (26.6 per cent), closely followed by Europe, with 531.6 million tons (23.8 per cent), and Japan, with 264.2 million tons (11.8 per cent).

In the dry bulk segment, the share of developed market-economy countries remained at 58 per cent for exports and 60.5 per cent for imports. Again, Annex II gives insight into the regional distribution of these cargoes. Europe remains the largest dry cargo market for exports and imports, with 29.3 per cent and 37.8 per cent respectively. Two pairs of countries in North America (the United States and Canada) and Oceania (Australia and New Zealand) were also large exporters of dry shipments, with shares of 10.3 per cent and 11.0 per cent respectively. This underlines their important role in shipping the three major dry bulk commodities – iron ore, coal and grain.

During 2001 the share of developing countries in total seaborne exports was 50.5 per cent, while their share of seaborne imports was 30.8 per cent. These percentages have remained fairly stable since 1998, although there has been a slight upward trend for imports. The trade structure for these countries contrasts sharply with that of developed market-economy countries. The developing countries' combined share of exports of crude oil and petroleum products represented 89.9 per cent and 72.2 per cent respectively. For imports, the shares were 27 per cent for crude oil and 42.3 per cent for petroleum products. In the dry cargo sector, the share of developing countries' exports reached 30.2 per cent of world exports, while their imports maintained last year's share of 30.4 per cent of world imports.

There were regional variations among groups of developing countries. Developing countries in Asia claimed the largest share of exports and imports – 29.8 per cent and 21.5 per cent of world exports and imports respectively. The share of developing countries in America was 13.3 per cent of world exports and 5.9 of world imports. The shares for African countries were about half of those for America: 7 per cent of world exports and 2.9 of world imports. Considerably smaller were the shares for developing countries in 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).

In specific trades, the same trend was evident. The share of Asian developing countries in world exports of crude oil was 55.2 per cent, and their share in exports of petroleum products was 44.1 per cent. These figures reflect the role of Middle Eastern oil producers and the refining activity in the Far East. The share of developing countries of Africa in exports of crude oil was higher than that of those in America – the figures were 18.7 and 15.8 per cent respectively. For exports of petroleum products, however, the opposite was true – the figures were 7.9 per cent for developing countries in Africa and 19.7 per cent for those in America. Again, for exports of dry cargoes, Asian developing countries claimed the largest share (16.7 per cent), followed by American developing countries (11.3 per cent) and African developing countries (2.2 per cent).

For imports of crude oil, the share of developing countries in Asia was 18.7 percent of world imports of this commodity. The shares for developing countries in America and Africa were 5.2 per cent and 2.7 per cent respectively. For imports of petroleum products, the corresponding shares for developing countries in Asia, America and Africa were 28 per cent, 10.7 per cent and 2.2 per cent. Imports of crude oil into developing countries in Europe reached 0.4 per cent of world imports, similar to the percentage for imports of petroleum products. Developing countries in Oceania showed negligible imports of crude oil, compatible with the scant refining capacity in the region, while their share of world petroleum product imports was 1.1 per cent.

The share of socialist countries in Asia in world exports for 2001 was 4.6 per cent, and their share of world imports was 6.2 per cent. In recent years imports have risen in line with the increased role of trade in the economic development of China and the high rates of economic growth achieved by this country. The largest share for countries of Central and Eastern Europe (formerly part of the USSR) is for exports, 4.7 per cent, due to shipments of crude oil and its products from the Black Sea. Seaborne imports by these countries reached 1.2 per cent of the world total and were complemented by 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 2001 reached 22,682 billion ton-miles, a decrease of 1.5 per cent from the 2000 figure. This decrease is larger than the 1 per cent contraction recorded for cargo volumes and indicates a reduction in average transport distance for world seaborne cargoes. Haulage for crude oil and oil products resulted in ton-miles decreasing by 4.6 per cent, which, when compared to the modest 0.6 per cent increase for cargo volume, reflects increased shipments of crude oil from nearby sources (e.g. from the west coast of Africa to North America and from the Black Sea to Europe) as well as the intensive use of trans-shipment and the Sumed pipeline from the Red Sea to the Mediterranean.

For all dry cargoes, ton-miles increased by 1.2 per cent, while tonnage transported decreased by 1.9 per cent. Haulage of the five main dry bulks in ton-miles increased by a modest 0.9 per cent, slightly lower than the 1.2 per cent increase in cargo volume, indicating that these cargoes were transported more or less along the same routes as before. However, ton-miles for the remaining dry cargoes, minor bulks and liner cargo, increased by 1.2 per cent, while the cargo volumes transported shrank by 1.5 per cent, indicating that these cargoes moved over larger distances during 2001.

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
1998	7 889	1 970	9 859	2 306	2 419	1 064	6 129	5 600	21 588
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	7 725	2 070	9 795	2 520	2 650	1 200	6 697	6 190	22 682

Source: Fearnleys, *Review 2001*.

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

Chapter 2

STRUCTURE AND OWNERSHIP OF THE WORLD FLEET

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

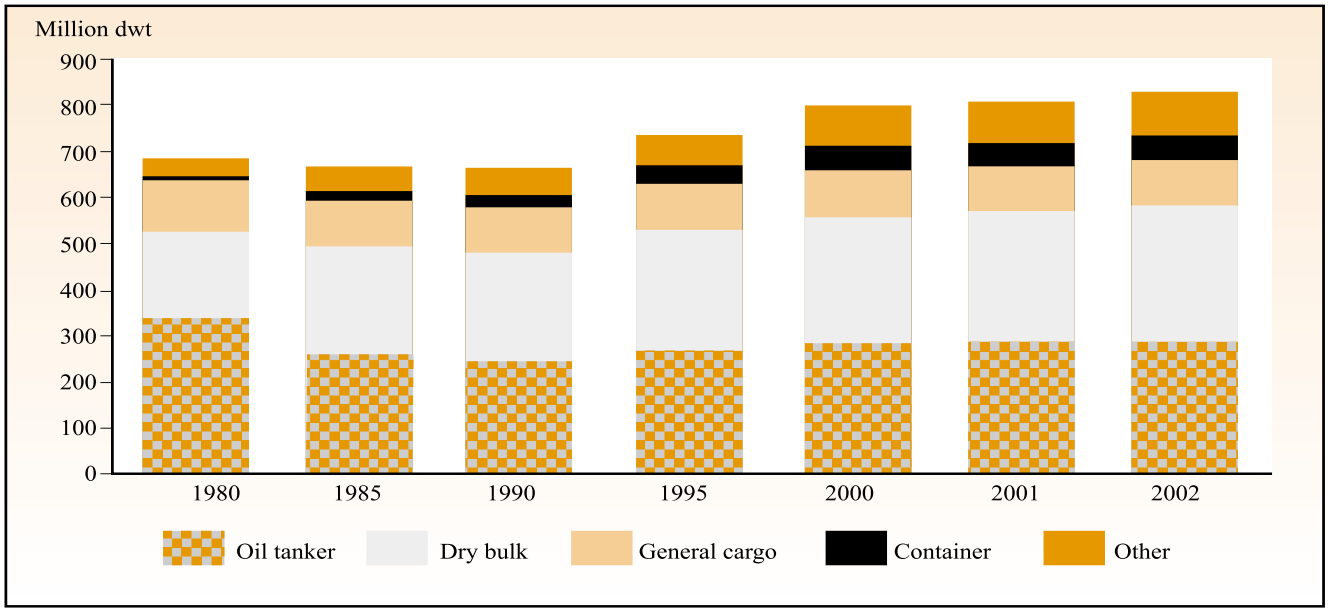
A. STRUCTURE OF THE WORLD FLEET

1. Principal types of vessel

Comparative time-series data on the world fleet for 2000, 2001 and 2002 are provided in figure 4 and table 6. The world merchant fleet amounted to 825.7 million deadweight tons (dwt) on 1 January 2002. This represents a 2.1 per cent increase over 2001, when the world fleet had expanded at a rate of 1.2 per cent from the tonnage in 2000. The increase is the highest since 1997, when the fleet expanded by 2.3 per cent, and almost double that of the previous year. Newbuilding deliveries were 45.2 million dwt, while 27.9 million dwt of tonnage was broken up and lost. The result was a net gain of 17.3 million dwt in 2001.

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.

Table 6

World fleet size by principal types of vessel, 2000–2002[a]

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

Principal types	2000	2001	2002	Percentage change 2001/2002
Oil tankers	282 458 *35.4*	285 441 *35.3*	285 519 *34.6*	*0.0*
Bulk carriers	276 091 *34.6*	281 654 *34.8*	294 588 *35.7*	*4.6*
Ore/bulk/oil	16 723 *2.1*	11 391 *1.4*	14 456 *1.8*	*26.9*
Ore/bulk	259 368 *32.5*	270 263 *33.4*	280 132 *33.9*	*3.7*
General cargo ships	101 481 *12.7*	102 653 *12.7*	99 872 *12.1*	*-2.7*
Container ships	63 637 *8.0*	69 216 *8.6*	77 095 *9.3*	*11.4*
Other types of ships	75 328 *9.4*	69 412 *8.6*	68 578 *8.3*	*-1.2*
Liquefied gas carriers	17 334 *2.2*	18 525 *2.3*	19 074 *2.3*	*3.0*
Chemical tankers	7 813 *1.0*	8 044 *1.0*	7 974 *1.0*	*-0.9*
Miscellaneous tankers	849 *0.1*	768 *0.1*	785 *0.1*	*2.2*
Ferries and passengers ships	4 944 *0.6*	5 038 *0.6*	5 319 *0.6*	*5.6*
Others	44 388 *5.6*	37 037 *4.6*	35 426 *4.3*	*-4.3*
World total	798 995 *100.0*	808 376 *100.0*	825 652 *100.0*	*2.1*

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

[a] Percentage shares are shown in italics.

The tonnage of oil tankers stagnated, but the number of dry bulk carriers increased in 2001 by a healthy 4.6 per cent. These two types of ships represented 70.3 per cent of total tonnage in 2001, a slight increase from 70.1 per cent in the previous year. The fleet of general cargo ships decreased in 2001 by 2.7 per cent and represented 12.1 per cent of the total world fleet. In terms of deadweight tonnage, the fleet of container ships increased by 7.9 million dwt or 11.4 per cent, which now represents 9.3 per cent of the total world Ofleet. This relatively high rate of increase reflects the growing portion of manufactured goods being traded which are generally moving in containers. Deadweight tonnage of liquid gas carriers (mainly LNG and LPG carriers) and ferries/passenger ships has been steadily increasing.

2. World container ship fleet

The world fleet of fully cellular container ships continued to expand substantially in 2001 in terms of both number of ships and their TEU capacity, reaching 2,755 ships

with a total capacity of 5,356,650 TEUs by the beginning of 2002, an increase of 6.2 per cent in the number of ships and 13.2 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 2000 to 1,944 TEUs in 2001, reflecting the building of larger vessels to achieve economies of scale. By end-2001, the well-defined trend towards large container vessels continued unabated. Vessels over 3,000 TEU capacity made up 71 per cent of total deliveries of cellular tonnage for the year and 72.2 per cent of the orderbook.

Table 7

Distribution of the world fleet and TEU capacity of fully cellular container ships, by country groups, in 2000, 2001 and 2002[a]

(beginning-of-year figures)

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares[a]		
	2000	2001	2002	2000	2001	2002
World total	2 433	2 595	2 755	4 297 874	4 734 079	5 356 650
		100.0	*100.0*	*100.0*	*100.0*	*100.0*
Developed market-economy countries	693	724	759	1 530 655	1 665 709	1 785 609
		27.9	*27.5*	*35.6*	*35.2*	*33.3*
Major open-registry countries	944	1 003	1 117	1 698 576	1 919 117	2 317 543
		38.7	*40.5*	*39.5*	*40.5*	*43.3*
Total developed market-economy and major open-registry countries	1 637	1 727	1 876	3 229 231	3 584 826	4 103 152
		66.6	*68.1*	*75.1*	*75.7*	*76.6*
Countries of Central and Eastern Europe (including former USSR)	34	32	30	26 699	25 457	24 590
		1.2	*1.1*	*0.6*	*0.5*	*0.5*
Socialist countries of Asia	89	106	98	96 450	105 344	105 344
		4.1	*3.6*	*2.2*	*2.2*	*2.0*
Developing countries	587	644	674	803 135	883 883	994 024
		24.8	*24.5*	*18.7*	*18.7*	*18.6*
of which:						
Africa	10	11	10	10 719	10 841	10 674
		0.4	*0.4*	*0.2*	*0.2*	*0.2*
Americas	192	214	231	214 153	253 822	273 893
		8.2	*8.4*	*5.0*	*5.4*	*5.1*
Asia	380	416	432	572 212	617 768	708 883
		16.0	*15.7*	*13.3*	*13*	*13.2*
Europe	5	3	1	6 051	1 452	574
		0.1	*0*	*0.1*	*0*	*0*
Oceania	0	0	0	0	0	0
	0	*0*	*0*	*0*	*0*	
Other, unallocated	86	86	77	142 359	134 569	129 540
		3.3	*2.8*	*3.3*	*2.8*	*2.4*

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

[a] Percentage shares are shown in italics.

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 was unchanged in 2001 at 13.9 years. By type of vessel, the average age of tankers decreased by almost one year to 13.2 years in 2001. The share of tanker tonnage 15 years and older decreased to 42.7 per cent in 2001 from 47.8 per cent in 2000, reflecting acceleration in scrapping activities, which in 2001 reached 15.7 million dwt (compared to 13.5 million dwt in 2000). The average age of the dry bulk carrier fleet increased slightly to 13.7 years from 13.2 years in 2000. Container ships continued to be the youngest fleet in 2001, with an average age of 11 years, up from 10.4 years. This trend is reflected in the share of tonnage between 0 and 4 years of age, 30.1 per cent – the highest among all categories of vessels.

By country grouping, the major open-registry countries continued to have the lowest average age of all ships (13.3 years in 2001 versus 13.4 years in 2000), as the tendency to register newbuildings under open-registry flags was maintained. However, developed market-economy countries continued their steady trend of lowering the average age of their fleet and reached an average age of 13.3 years in 2001 compared to 13.6 years in 2000. In this group, the average age of container ships moved up slightly to 10.3 years in 2001, as compared with 10.2 years in 2000. The average age of all ships registered in developing countries (excluding major open-registry countries) increased slightly in 2001 to 14.3 years as compared with 14.2 years in 2000. For this group, the average age of general cargo vessels was reduced by 0.5 years to 18.5 years, while that of container ships increased by 1.2 years, to 11.2 years. The average age of tonnage registered in the socialist countries of Asia fell slightly to 17.9 years in 2001. The countries of Central and Eastern Europe continued to have the oldest fleet (18.9 years in 2001 versus 18.6 years in 2000), with vessels built more than 15 years ago representing about three quarters of the total fleet and tankers being the oldest class of ships at 20.1 years.

4. Delivery of newbuildings

Newbuilding activities attained the highest level ever recorded in terms of deadweight tons, with deliveries totalling 45.2 million dwt in 2001 (see table 9), an increase of 1.8 per cent from deliveries in 2000. The total number of vessels delivered decreased to 1,470 units from 1,544 units in 2000 and reflected the steady trend towards larger vessels. This high level of delivery was sustained primarily by bulk carrier deliveries of 21 million dwt, an impressive 61.5 per cent increase from the 2000 level. The number of newbuildings also increased to 314 units in 2001 from 186 units in 2000. The average deadweight tons per vessel was at 66,800, slightly lower than the previous year's figure of 69,800. Deliveries of tankers were down by 5.2 million dwt, about 25.1 per cent, from the 2000 level. Another feature was the slightly smaller size of tankers delivered in 2001. In the previous year, the average deadweight tonnage had been 135,300, whereas in 2001 the size was 132,500. Newbuildings for other types of vessels, including general cargo ships and container ships, decreased both in number and in deadweight tonnage to 1,039 units and 8.7 million dwt in 2001.

5. Demolition of ships

Trends in tonnage, types and average age of broken-up vessels are shown in tables 10, 11 and 12. In 2001, total tonnage sold for demolition increased substantially by 25.2 per cent from the tonnage of the previous year to 27.8 million dwt, equivalent to 3.4 per cent of the world total deadweight tons, as compared to 2.7 per cent in 2000. Break-up of tankers made up the largest share of total demolition. Sales of tankers for break-up increased significantly by 16.3 per cent to 15.7 million dwt as a result of depressed tanker freight rates during most of the year. ULCC/VLCC demolition sales went up from 25 units in 2000 to 29 units in 2001. Sales of Suezmaxes also increased from 17 units in 2000 to 29 units in 2001, while those of Aframaxes were almost steady at 18 units in 2000 and 19 units in 2001. In the smaller category of crude oil tankers, the reverse was true: 58 ships were sold for scrap in 2000, while 35 units were sold in 2001. The average age of tankers sold for demolition was up slightly from 26.9 years in 2000 to 28 years in 2001. The number of dry bulk carriers sold for scrap almost doubled to 8.1 million dwt in 2001, up from 4.6 million dwt in 2000. There was an increase of scrapping of all sizes of bulk carriers. Demolition sales of vessels over 120,000 dwt went up from 3 units in 2000 to 9 units in 2001. For vessels in the range of 60,000 to 120,000 dwt, sales jumped from 8 units in 2000 to 37 units in 2001. For Handymax tonnage there was a slight decrease in demolition sales from 19 units in 2000 to 16 units in 2001. The average age of all dry bulk carriers broken up was 26.7 years in 2001, slightly higher than the previous year. Other ship types had a similar trading life in 2001, with container ships being sold to breakers with an average age of 26.9 years and general cargo ships with an average age of 27.4 years.

Table 8

Age distribution of the world merchant fleet, by types of vessel, as of 1 January 2002

(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) 2001[a]	Average age (years) 2000[a]
World total	All ships	19.1	18.6	12.5	15.7	34.1	13.9	13.9
	Tankers	19.4	23.3	14.5	8.7	34.0	13.2	14.1
	Bulk carriers	17.6	18.9	11.9	22.9	28.7	13.7	13.2
	General cargo	14.1	10.5	10.6	20.9	44.0	16.2	17.0
	Container ships	30.1	23.8	11.4	11.6	23.0	11.0	10.4
	All others	18.3	14.4	12.6	12.6	42.1	14.9	15.0
Developed market-economy countries	All ships	21.7	18.3	13.2	14.9	31.9	13.3	13.6
	Tankers	22.4	21.2	11.0	9.4	36.0	13.3	14.5
	Bulk carriers	12.6	19.2	11.5	26.7	30.1	14.6	13.5
	General cargo	21.5	13.7	11.4	19.9	33.5	14.0	14.3
	Container ships	35.0	19.3	16.8	9.1	19.8	10.3	10.2
	All others	20.2	16.3	15.8	13.0	34.8	13.8	13.6
Major open-registry countries	All ships	20.4	20.6	12.8	15.2	31.0	13.3	13.4
	Tankers	17.9	25.8	15.8	7.0	33.5	13.1	13.9
	Bulk carriers	19.4	19.3	12.8	21.8	26.8	13.3	12.8
	General cargo	17.9	12.6	12.3	23.7	33.5	14.6	15.6
	Container ships	29.4	24.2	9.2	11.9	25.4	11.4	10.3
	All others	24.6	16.9	9.0	9.2	40.2	13.8	15.1
Subtotal DMECs & Major open-registry countries	All ships	20.9	19.7	12.9	15.1	31.3	13.3	13.5
	Tankers	19.4	24.2	14.2	7.8	34.4	13.2	14.1
	Bulk carriers	17.8	19.3	12.5	22.9	27.5	13.6	13.0
	General cargo	19.2	13.0	12.0	22.4	33.5	14.4	15.2
	Container ships	31.8	22.1	12.4	10.7	23.0	10.9	10.2
	All others	22.1	16.6	12.8	11.3	37.1	13.8	14.3
Countries of Central and Eastern Europe	All ships	1.8	4.9	17.4	21.1	54.8	18.9	18.6
	Tankers	2.6	1.8	12.1	18.2	65.4	20.1	19.8
	Bulk carriers	0.0	2.8	14.9	24.7	57.7	19.7	18.7
	General cargo	1.7	5.5	15.9	19.9	57.1	19.1	18.7
	Container ships	14.5	8.3	12.7	31.3	33.3	15.5	14.2
	All others	1.6	5.7	21.6	21.4	49.7	18.3	17.9
Socialist countries of Asia	All ships	6.4	14.1	6.8	16.5	56.2	17.9	18.1
	Tankers	7.8	21.8	8.4	11.8	50.1	16.5	16.8
	Bulk carriers	6.5	16.2	4.9	17.1	55.2	17.7	17.5
	General cargo	4.7	4.9	6.3	15.4	68.7	20.0	20.2
	Container ships	12.3	29.2	13.3	29.3	16.0	12.6	14.1
	All others	4.4	12.8	7.4	14.1	61.2	18.7	19.4
Developing countries (excluding open-registry countries)	All ships	17.8	17.7	11.4	17.4	35.7	14.3	14.2
	Tankers	21.5	21.4	16.7	11.2	29.2	12.7	13.6
	Bulk carriers	20.0	19.6	11.4	24.1	24.9	13.1	12.7
	General cargo	7.8	7.5	7.3	19.7	57.7	18.5	19.0
	Container ships	26.6	29.4	8.2	12.5	23.3	11.2	10.0
	All others	11.3	10.0	9.2	14.6	55.0	17.4	16.4

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	6.2	786	18.4
1985	72	3.9	10	0.7	339	14.7	529	5.3	950	24.6
1990	81	8.7	0	0.0	119	9.6	523	4.4	723	22.8
1995	83	10.9	0	0.0	254	15.4	672	7.4	1 009	33.7
1996	98	11.6	3	0.3	268	17.5	713	8.7	1 082	38.2
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	156	21.0	0	0.0	193	13.4	1 195	10.0	1 544	44.4
2001[c]	117	15.5	0	0.0	314	21.0	1 039	8.7	1 470	45.2

Source: Compiled by the UNCTAD secretariat on the basis of data from Fearnleys, *Review 2001*.

[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 trends, 1990 and 1997–2001

Broken-up tonnage	1990	1997	1998	1999	2000	2001
Tonnage sold for breaking (million dwt)	16.9	14.8	25.2	30.7	22.2	27.8
Broken-up tonnage as a percentage of the total world fleet	2.4	1.9	3.2	3.9	2.7	3.4

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, 1997–2001

(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
1997	3.6	0.4	8.2	2.6	14.8	775.9	1.9	24.2	2.9	55.1	17.9	100.0
1998	7.4	1.4	12.8	3.5	25.2	788.7	3.2	29.4	5.7	50.9	14.0	100.0
1999	16.7	1.1	9.7	3.3	30.7	799.0	3.8	54.2	3.7	31.5	10.6	100.0
2000	13.5	1.0	4.6	3.1	22.2	808.4	2.7	60.9	4.3	20.8	14.0	100.0
2001	15.7	0.8	8.1	3.2	27.8	825.7	3.4	56.5	2.7	29.1	11.7	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 1997 to 2001[a]

(years)

Year	Tankers	Dry bulk carriers	Container ships	General cargo ships
1997	28.2	25.3	22.8	26.9
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

Source: Compiled by the UNCTAD secretariat on the basis of data in Institute of Shipping Economics and Logistics (2002), *Shipping Statistics and Market Review,* Jan./Feb., table 1.3.2.

[a] Ships of 300 grt and over.

B. OWNERSHIP OF THE WORLD FLEET

1. Distribution of world tonnage by country groups

The total world fleet continued to expand in 2001 by 2.1 per cent to 825.7 million dwt (see figure 5 and table 13). Tonnage of developed market-economy countries increased at about the same rate (4.1 million dwt to 207.5 million dwt). Major open-registry countries in 2001 expanded their tonnage above the world average by 10.2 million dwt (2.6 per cent) to a record high of 402.4 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 owned by developing countries has continued to increase. Tonnage registered in developing countries in 2001 increased by 2 million dwt (1.3 per cent) to 159.0 million dwt. This increase resulted from investments made by shipowners in Asian developing countries, whose fleets expanded by 1.3 million dwt (1.1 per cent) to 117 million dwt, accounting for 73.6 per cent of the developing countries' total fleet. The fleet of developing countries of America increased by 0.5 million dwt to 34.6 million dwt, while that of African developing countries decreased by 0.3 million dwt to 5.7 million dwt. A marginal increase of 0.1 million dwt was seen in the fleet of developing countries in Europe, while the small fleet of developing countries in Oceania trebled to 0.6 million dwt. The shares of the socialist countries in Asia and the countries of Central and Eastern Europe in total world tonnage moved in opposite directions in 2001, with the former increasing by 0.4 million dwt and the latter decreasing by 0.1 million dwt.

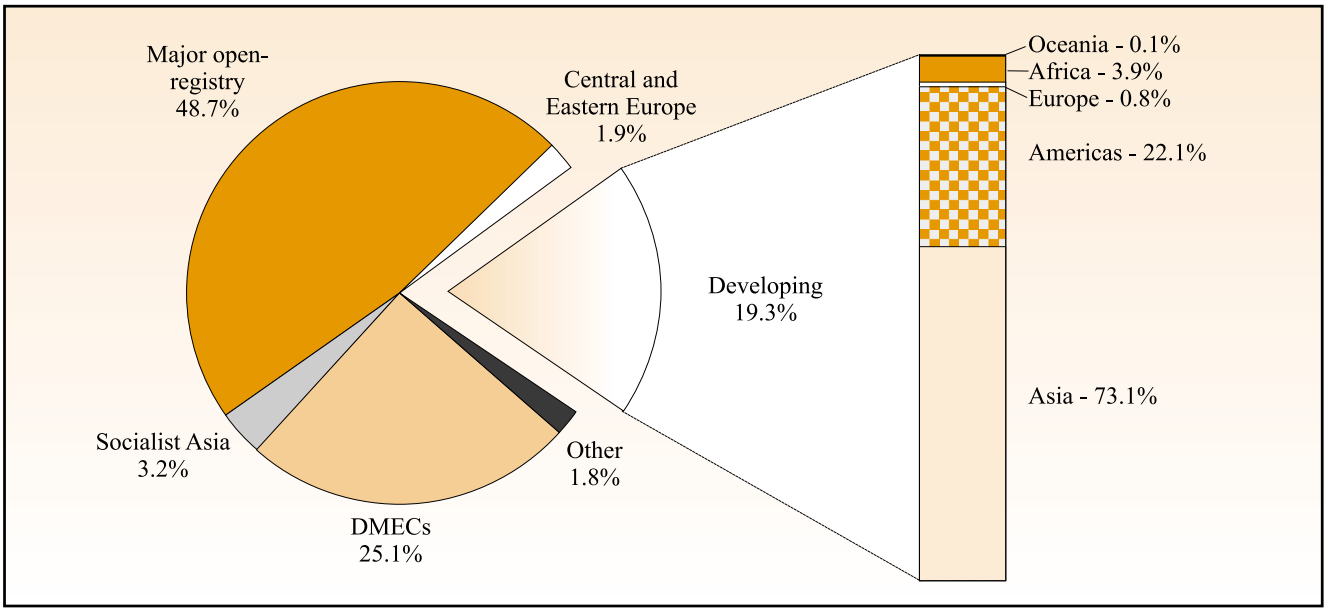
2. Distribution of world tonnages by types of vessel by country groups

Table 14 provides more detailed data on fleet distribution by types of vessel and country groups for 1970, 1980, 1990, 1999, 2000 and 2001. The share of oil tankers in the total world fleet decreased by 0.7 per cent in 2001 compared to 2000. This was more than twice the percentage decrease experienced in 2000 and reflected the high level of broken-up tanker tonnage during 2001. There was a 0.9 per cent increase in the share of bulkers in the total world fleet, which reached 35.7 per cent – slightly above the level reached in the 1990s. The share of general cargo vessels in the world fleet fell to 12.1 per cent, while that of container vessels rose to 9.3 per cent. The share of other types of vessels decreased to 8.3 per cent. In the oil tanker sector, the share of developed market-economy countries increased marginally to

Figure 5

World tonnage by country groups, as of 1 January 2002

(percentage distribution of dwt)



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

Table 13

Distribution of world tonnage (dwt) by groups of countries of registration, 1980, 1990, 2000, 2001 and 2002[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]	2000	2001	2002
World total	682.8	658.4	799.0	808.4	825.7
	100.0	*100.0*	*100.0*	*100.0*	*100.0*
Developed market-economy countries	350.1	219.0	203.2	203.4	207.5
	51.3	*33.3*	*25.4*	*25.2*	*25.1*
Major open-registry countries	212.6	224.6	384.7	392.2	402.4
	31.1	*34.1*	*48.1*	*48.5*	*48.7*
Countries of Central and Eastern Europe (including former USSR)	37.8	44.3	18.3	16.3	15.4
	5.5	*6.7*	*2.3*	*2.0*	*1.9*
Socialist countries of Asia	10.9	22.1	25.8	26.1	26.5
	1.6	*3.4*	*3.2*	*3.2*	*3.2*
Developing countries	68.4	139.7	153.6	157.0	159.0
	10.0	*21.2*	*19.2*	*19.4*	*19.3*
***of which*:**					
Africa	7.2	7.3	6.1	6.0	5.7
Americas	21.8	25.5	33.9	34.1	34.6
Asia	39.1	89.5	112.2	115.7	117.0
Europe	0.2	13.8	1.2	1.0	1.1
Oceania	0.1	3.6	0.2	0.2	0.6
Other, unallocated	3.0	8.7	13.4	13.4	14.8
	0.4	*1.3*	*1.7*	*1.7*	*1.8*

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 2001 amounted respectively to 4.2, 1.9 and 1.8 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, 1999, 2000 and 2001 [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
	1999	799.0	100.0	35.5	34.5	13.0	8.0	9.0
	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
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
	1999	203.2	25.4	30.5	17.0	19.2	34.6	38.6
	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
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
	1999	384.7	48.1	50.2	54.9	37.7	39.8	36.6
	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
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
	1999	18.3	2.3	1.0	1.8	6.7	0.7	4.4
	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
Socialist countries in 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
	1999	18.3	3.2	1.3	4.1	7.5	2.6	2.0
	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

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
	1999	153.6	19.2	16.2	20.1	26.5	18.8	17.5
	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
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
	1999	6.0	0.8	0.6	0.5	1.6	0.3	1.7
	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
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
	1999	33.9	4.2	2.7	3.5	9.5	4.7	4.8
	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
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
	1999	112.2	14.0	12.9	15.7	15.2	13.6	10.9
	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
Europe	1970	-	-	-	-	-	-	-
	1980	0.2	-	-	-	0.1	-	-
	1990	13.8	2.1	1.4	2.8	3.2	0.6	0.4
	1999	1.2	0.2	-	0.3	0.2	0.2	-
	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
Oceania	1970	-	-	-	-	-	-	-
	1980	0.2	-	-	-	0.1	-	-
	1990	3.6	0.5	0.2	0.9	0.8	0.3	0.3
	1999	0.2	-	-	..	0.1	..	0.1
	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

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
	1999	13.4	1.7	0.8	2.1	2.4	3.5	0.9
	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

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 are 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.

30.6 per cent in 2001 from 30 per cent in 2000. Conversely, the open-registry countries' share decreased slightly to 50.1 per cent, as compared to 50.8 per cent in the previous year. These very small fluctuations for both 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 was almost stable in 2001 at 16 per cent, a very small decrease from the previous year. The share of Asian developing countries decreased by 0.2 per cent in 2001 to 12.7 per cent of the world tanker fleet, while that of the developing countries of America increased by the same percentage to 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 2001 at 16.9 per cent, one-third of its share in 1980 (52.7 per cent). Major open-registry countries continued to expand their share to 55.5 per cent in 2001, as compared to 55.0 per cent in 2001 (31.7 per cent in 1980). The developing countries' share expanded marginally in 2001 to 20.8 per cent. The shares of countries in Central and Eastern Europe and socialist countries in Asia decreased marginally to 1.1 per cent and 3.9 per cent of the world fleet respectively.

In the sector of general cargo ships, the fleet developments of the three major country groups diverge from those of the dry bulk carrier sector. Developed market-economy countries increased their share marginally to 20.1 per cent while open-registry countries recorded a drop to 35.7 per cent of the world fleet in connection with this type of vessel. Developing countries reduced their share by 1.1 per cent to 26 per cent, with reductions being most pronounced in America and Asia. Nevertheless, the developing countries' share in the general cargo ship sector continued to be the highest of this country group's shares in the five principal types of vessel.

Developed market-economy countries decreased their share of container ship deadweight tonnage by 1.6 per cent to 32.8 per cent in 2001. On the other hand, the major open-registry countries' share expanded by 2.5 per cent, reaching 43.1 per cent, approximately two-thirds of which represented container ships beneficially owned by owners in developed market-economy countries. The share of developing countries decreased slightly to 18.6 per cent, with the share of Asian developing countries increasing to 13.5 per cent while developing countries in America reduced their share to 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 2002. Developed market-economy countries' tonnage in tankers decreased in 2001 by 0.2 million dwt and maintained its 42.1 per cent share of the group's total fleet. Their share

Table 15

Structure of the merchant fleets of the main country groups as of 1 January 2002[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	825.7	*100.0*	207.5	*100.0*	402.4	*100.0*	159.0	*100.0*	15.4	*100.0*	26.5	*100.0*
Oil tankers	285.5	*34.6*	87.5	*42.1*	143.2	*35.6*	45.7	*28.7*	2.7	*17.6*	4.1	*15.4*
Bulk carriers	294.6	*35.7*	49.8	*24.0*	163.5	*40.6*	61.3	*38.6*	3.2	*20.5*	11.4	*43.0*
General cargo ships	99.9	*12.1*	20.1	*9.7*	35.7	*8.9*	26.0	*16.3*	6.2	*40.1*	7.9	*29.8*
Container ships	77.1	*9.3*	25.3	*12.2*	33.2	*8.3*	14.4	*9.0*	0.4	*2.6*	1.8	*6.8*
Other ships	68.6	*8.3*	24.9	*12.0*	26.7	*6.6*	11.6	*7.3*	3.0	*19.2*	1.3	*5.1*

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.

of dry bulk carriers increased by 2.2 million dwt, to 24 per cent from 23.4 per cent in 2000. General cargo ships' and container ships' share of their fleet registered opposite movements, down to 9.7 per cent for the former and up to 12.2 per cent for the latter, as compared to 9.9 per cent and 11.7 per cent in 2000. Major open-registry countries increased their total fleets substantially by 10.2 million dwt. A greater proportion of their fleets was in the oil tanker and dry bulk carrier sectors, with both ship types accounting for 76.2 per cent of their fleet in 2001. Their proportion of oil tankers decreased in 2001 by 1.8 million dwt to 35.6 per cent of the group's total fleet, while the share of dry bulk carriers increased in 2001 by 8.5 million dwt to 40.6 per cent as compared to 39.5 per cent in the previous year. The share of general cargo ships decreased in 2001 by 1.8 million dwt, accounting for 8.9 per cent of the group's total fleet, down from 9.6 per cent in 2000. These countries' container ship fleet expanded in 2001 by 5.1 million dwt to 8.3 per cent of their total fleet (from 7.2 per cent in 2000).

In developing countries, tonnage distribution was characterized by a comparatively high proportion of dry bulk carriers and oil tankers, which represented 38.6 per cent and 28.7 per cent respectively in 2001. In absolute terms, these countries' 2001 tonnage in dry bulk carriers and oil tankers stood at 61.3 million dwt and 45.7 million dwt as compared to 49.8 million dwt and 87.5 million dwt for developed market-economy countries. The share of general cargo ships in this group decreased in 2001 to 26 million dwt compared to 27.8 million dwt in 2000, while the proportion of container ships increased by 1.5 million dwt to 9 per cent in 2001 from 8.2 per cent in the previous year. In the countries of Central and Eastern Europe, general cargo ships were relatively dominant, accounting for 40.1 per cent in 2001, as compared to 39.8 per cent in 2000. On the other hand, container ships have remained unchanged at 0.4 million dwt, representing around 2 per cent, since the early 1990s. The socialist countries of Asia continued to have a predominant share of both dry bulk carriers and general cargo ships. However, the absolute tonnage and proportion of these types of vessel saw virtually no changes in 2001, remaining at 11.4 million dwt or 43 per cent (43.5 per cent in 2000) for dry bulk carriers and increasing to 7.9 million dwt or 29.8 per cent (the same percentage as in 2000) for general cargo ships. The absolute tonnage of container ships was steady in 2001 at 1.8 million dwt or 6.8 per cent (compared to 6.9 per cent in 2000).

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 2001, these 35 countries and territories controlled 95 per cent of the world merchant fleet (as compared to 94.8 per cent in 2000). Thailand, which had been 35th in 2000, was replaced in 2001 by a new entrant, Croatia. Croatia had a total tonnage of 2.4 million dwt in 2001 and represented 0.32 per cent of the world total fleet. Ukraine, which had been 32nd in 2000, was replaced by another new entrant, Cyprus, which was 34th in 2001 with 2.5 million dwt, representing 0.35 per cent of the world total fleet. The five largest countries controlled 52 per cent (compared to 51.7 per cent in 2000) and the top 10 countries controlled 70.6 per cent (compared to 69.6 per cent in 2000) of the world total fleet.

Among these most important maritime countries and territories, the trend to register under a foreign flag continued in 2001. The total tonnage registered under foreign flags in 2001 increased to 462.5 million dwt, representing 64.1 per cent of the 35 countries' total fleet, as compared with 450.1 million dwt or 63.3 per cent in 2000. For developing countries and territories the trend for continuing to register their tonnage under foreign flags is a recent one. In 2001, the 13 developing countries and territories listed in the table (including Hong Kong, China, but excluding Taiwan Province of China) had half 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 these countries. The foreign registries of Saudi Arabia and Hong Kong (China) amounted to 90.2 per cent and 68.9 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 represented 1.3, 7.5 and 13.6 per cent respectively of their fleets. For developed market-economy countries, the share of foreign-registered tonnage stood at 71.8 per cent in 2001.

2. Major open registries

The share of the world merchant fleet in foreign registers continued to expand at almost the same rate as in the previous year. The tonnage distribution of the seven major open-registry countries by principal types of vessel is shown in table 17. The total tonnage registered in 2001 increased marginally by 1 per cent to 375.1 million dwt from 371.3 million dwt in the previous year, when the tonnage had expanded by 2.5 per cent. Panama continued to lead the list, enlarging its fleet in 2001 by 8.9 million dwt or 5.5 per cent, in spite of allegations of illegal trade of certificates for seafarers. Liberia's fleet contracted by 2.6 per cent as a result of changes in the registration authority and subsequent litigation and findings by a United Nations panel of misuse of funds from the registry to bypass the United Nations arms embargo to the country. The combined tonnage of these two countries amounts to 65.3 per cent of the total tonnage of the seven major open-registry countries. In 2001, Malta decreased its fleet by 5.3 per cent to 42.1 million dwt, while the Bahamas' tonnage increased marginally by 1 per cent to 45.3 million dwt. The fleets of the other two major open registries also contracted.

Analysis by type of vessel indicated that dry bulk increased to 40.7 per cent of the total deadweight in 2001 as compared with 39.2 per cent in 2000, followed by oil tankers, whose share fell to 35.3 per cent in 2001 from 37.2 per cent in the previous year. The combined tonnage of these two types of vessels accounts for 76 per cent of the total deadweight. General cargo ships (2,968 ships) accounted for 30.6 per cent of the total number of ships (32.3 per cent in 2000), reflecting the trend in the maritime industry towards flagging out in this sector, followed by dry bulk carriers (2,706 ships or 27.9 per cent of the total).

3. Nationality of vessels

Table 18 indicates the participation of nationals in the registry of the most important open and international registers. The data compare the total tonnage registered in selected countries of registry with the tonnage owned by nationals of, and registered in, the countries of registry. The share of tonnage owned by nationals of open-registry countries is minimal or zero, while ownership by nationals of the two international registries was nearly 85.5 and 97.8 per cent. These two countries (Norway and Denmark) were ranked third and twelfth of the 35 most important maritime countries in 2001.

The true nationalities of the vessels registered in the seven major open registries are analysed in table 19. In 2001, 22 countries or territories accounted for 92 per cent of the total tonnage of the seven major open-registry fleets. This percentage was slightly lower than in 2000. There was no change in the countries included in this year's table, but some moved up and down within the list.

Table 16

The 35 most important maritime countries and territories as of 1 January 2002[a]

Country of domicile[b]	Number of vessels			Deadweight tonnage				
	National flag [c]	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as % of total	Total as % of world total
Greece	789	2 374	3 163	45 707 599	100 084 762	145 792 361	68.65	19.20
Japan	793	2 201	2 994	14 243 067	88 505 212	102 748 279	86.14	13.53
Norway	904	815	1 719	27 983 264	34 638 082	62 621 346	55.31	8.25
United States	542	886	1 428	10 198 991	31 971 694	42 170 685	75.81	5.55
China	1 584	652	2 236	21 673 682	20 250 807	41 924 489	48.30	5.52
Germany	422	1 798	2 220	7 172 889	30 746 578	37 919 467	81.08	4.99
Hong Kong (China)	197	360	557	11 305 695	25 055 645	36 361 340	48.91	4.79
Republic of Korea	467	405	872	7 760 866	17 928 141	25 689 007	49.79	3.38
Taiwan Province of China	144	398	542	6 697 751	14 995 465	21 693 216	49.13	2.86
United Kingdom	424	420	844	8 330 039	10 857 257	19 187 296	56.56	2.53
Singapore	455	262	717	11 828 401	6 131 682	17 960 083	34.14	2.37
Denmark	386	343	729	8 048 977	8 993 460	17 042 437	52.77	2.24
Russian Federation	2 156	369	2 525	8 323 628	7 106 843	15 430 471	46.06	2.03
Italy	518	128	646	8 601 392	4 432 127	13 033 519	34.01	1.72
India	363	48	411	10 202 571	1 577 447	11 780 018	13.39	1.55
Saudi Arabia	58	67	125	994 200	9 150 583	10 144 783	90.20	1.34
Turkey	447	116	563	7 762 415	1 516 449	9 278 864	16.34	1.22
Brazil	153	28	181	5 384 908	2 684 919	8 069 827	33.27	1.06
Sweden	166	180	346	1 376 337	6 620 120	7 996 457	82.79	1.05
Belgium	26	145	171	155 155	7 397 224	7 552 379	97.95	0.99
Netherlands	604	220	824	3 995 888	2 804 334	6 800 222	41.24	0.90
Malaysia	234	78	312	5 169 704	1 529 591	6 699 295	22.83	0.88
Iran, Islamic Republic of	161	2	163	6 219 557	82 087	6 301 644	1.30	0.83
Switzerland	12	223	235	576 192	5 629 968	6 206 160	90.72	0.82
France	176	102	278	2 986 225	3 122 524	6 108 749	51.12	0.80
Philippines	307	27	334	4 169 994	657 895	4 827 889	13.63	0.64
Indonesia	513	93	606	3 251 026	1 167 330	4 418 356	26.42	0.58
Canada	159	76	235	1 052 475	2 940 937	3 993 412	73.64	0.53
Spain	67	255	322	118 049	3 776 299	3 894 348	96.97	0.51
Kuwait	32	3	35	3 384 404	275 446	3 659 850	7.53	0.48
United Arab Emirates	40	148	188	455 107	2 638 330	3 093 437	85.29	0.41

Table 16 (continued)

Country of domicile[b]	Number of vessels			Deadweight tonnage				
	National flag [c]	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as % of total	Total as % of world total
Australia	54	36	90	1 618 721	1 337 051	2 955 772	45.24	0.39
Monaco	0	104	104	0	2 672 083	2 672 083	100.00	0.35
Cyprus	39	36	75	770 399	1 863 877	2 634 276	70.75	0.35
Croatia	65	44	109	1 087 965	1 324 544	2 412 509	54.90	0.32
Subtotal	13 457	13 442	26 899	258 607 533	462 466 793	721 074 326	64.13	94.96
World total	16 044	14 421	30 465	279 375 666	479 926 099	759 298 765	63.21	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).

Ownership is concentrated in 10 countries or territories, which control 81.3 per cent of the deadweight of vessels registered in the seven major open-registry countries, as compared with 80.6 per cent in the previous year. Similarly, the top five countries or territories control 63.1 per cent (the same percentage as in 2000). Greece was ranked first in 2001 for the eighth consecutive year with the largest share (23.6 per cent) of the seven major open-registry fleets. In 2001, this country also had the largest foreign-flag ownership, representing 100 million dwt or 19.2 per cent of the total world foreign-flag tonnage, followed by Japan with 88.5 million dwt or 17 per cent of the total tonnage. Both countries' combined foreign-flag tonnage accounted for 36.2 per cent of the total world tonnage under foreign flags, same as in the previous year.

Table 17

Tonnage distribution of major open-registry fleets[a] as of 1 January 2002

Flag	Oil tankers		Bulk carriers		General cargo		Container ships		Others		Total		Total as of 1.1.2001
	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Thousand dwt
Panama	434	49 644	1 351	82 419	1 318	12 384	495	15 539	821	11 888	4 419	171 874	*162 951*
Liberia	279	31 192	310	19 363	234	4 165	283	9 329	330	9 130	1 436	73 179	*75 008*
Bahamas	168	24 999	153	9 023	459	6 590	55	1 656	278	3 059	1 113	45 327	*44 871*
Malta	257	17 556	424	17 922	461	4 220	55	1 087	90	1 344	1 287	42 129	*44 497*
Cyprus	117	5 839	419	19 402	452	4 275	110	2 504	93	921	1 191	32 941	*33 312*
Bermuda	12	3 152	27	3 635	22	258	16	459	34	579	111	8 083	*9 121*
Vanuatu	1	5	22	851	22	274	2	35	85	368	132	1 533	*1 445*
Total	1 268	132 387	2 706	152 615	2 968	32 166	1 016	30 609	1 731	27 289	9 689	375 066	*371 315*
Total as of 1.1.2001	1 332	138 064	2 644	145 400	3 148	34 254	938	26 747	1 685	26 850	9 747	371 315	

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 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 2002 [a]

(thousands of dwt)

Country or territory of registry	Total tonnage registered in country of registry	Tonnage owned by nationals of, and registered in, country of registry	Share of tonnage owned by nationals in total registered fleet (%)
Panama	171 874	0	0.0
Liberia	73 180	0	0.0
Bahamas	45 327	366	0.8
Malta	42 130	36	0.1
Cyprus	32 940	756	2.3
Bermuda	8 082	0	0.0
Vanuatu	1 534	0	0.0
Norwegian International Ship Registry (NIS)	28 709	24 532	85.5
Danish International Ship Registry (DIS)	8 167	7 986	97.8

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 2002

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	526	19 864	12	149	9 621	13	175	9 467	21	584	26 524	63	615	23 190	70
Japan	1 797	74 706	43	115	5 026	7	33	596	1	4	503	1	23	372	1
Norway	83	3 801	2	134	8 044	11	243	10 278	23	60	2 938	7	32	358	1
United States	148	3 068	2	130	6 095	8	171	10 220	23	10	598	1	0	0	0
Germany	21	627	0	433	13 196	18	19	500	1	44	707	2	220	4 219	13
Hong Kong, China	212	16 399	10	39	2 215	3	5	393	1	9	592	1	2	37	0
China	248	8 603	5	58	2 922	4	0	0	0	14	328	1	15	209	1
Republic of Korea	316	15 335	9	10	1 304	2	1	54	0	3	35	0	4	115	0
Denmark	18	403	0	10	251	0	43	491	1	5	17	0	0	0	0
Taiwan Province of China	302	10 504	6	26	954	1	0	0	0	0	0	0	0	0	0
United Kingdom	49	931	1	26	824	1	113	1 543	3	5	66	0	0	0	0
Saudi Arabia	8	670	0	19	5 564	8	11	2 518	6	0	0	0	0	0	0
Belgium	4	545	0	9	1 510	2	13	137	0	3	86	0	4	65	0
Russian Federation	13	76	0	65	4 229	6	5	11	0	102	973	2	79	1 361	4
Sweden	0	0	0	15	1 264	2	17	789	2	0	0	0	0	0	0
Singapore	84	2 591	2	11	803	1	9	592	1	0	0	0	1	30	0
Switzerland	101	3 009	2	10	316	0	3	222	0	64	1 373	3	4	53	0
Italy	9	364	0	8	659	1	16	728	2	43	1 304	3	0	0	0
Spain	51	347	0	1	94	0	7	720	2	0	0	0	3	124	0
France	7	725	0	0	0	0	23	510	1	0	0	0	0	0	0
Monaco	16	752	0	11	579	1	29	559	1	12	257	1	0	0	0
Australia	9	478	0	2	355	0	0	0	0	2	64	0	0	0	0
Subtotal	4 022	163 798	95	1 281	65 825	90	936	40 328	89	964	36 365	86	1 002	30 133	91
Others	397	8 076	5	155	7 354	10	177	4 999	11	323	5 764	14	189	2 808	9
Total	4 419	171 874	100	1 436	73 179	100	1 113	45 327	100	1 287	42 129	100	1 191	32 941	100

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

Table 19 (continued)

Bermuda			Vanuatu			Subtotal			Total foreign flag fleet		Country of territory of domicile
No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	
0	0	0	0	0	0	2 049	88 666	24	2 374	100 084	Greece
0	0	0	28	722	47	2 000	81 925	22	2 201	88 505	Japan
3	41	1	3	135	9	558	25 595	7	815	34 638	Norway
20	617	8	60	186	12	539	20 784	6	886	31 972	United States
1	22	0	0	0	0	738	19 271	5	1 798	30 747	Germany
4	593	7	0	0	0	271	20 229	5	360	25 056	Hong Kong, China
0	0	0	0	0	0	335	12 062	3	652	20 251	China
0	0	0	0	0	0	334	16 843	4	405	17 928	Republic of Korea
4	71	1	0	0	0	80	1 233	0	343	17 042	Denmark
0	0	0	0	0	0	328	11 458	3	398	14 995	Taiwan Province of China
45	3 243	40	0	0	0	238	6 607	2	420	10 857	United Kingdom
4	47	1	0	0	0	42	8 799	2	67	9 151	Saudi Arabia
0	0	0	0	0	0	33	2 343	1	145	7 397	Belgium
0	0	0	14	77	5	278	6 727	2	369	7 107	Russian Federation
11	2 645	33	0	0	0	43	4 698	1	180	6 620	Sweden
0	0	0	0	0	0	105	4 016	1	262	6 132	Singapore
0	0	0	0	0	0	182	4 973	1	223	5 630	Switzerland
0	0	0	0	0	0	76	3 055	1	128	4 432	Italy
0	0	0	0	0	0	62	1 285	0	255	3 776	Spain
0	0	0	0	0	0	30	1 235	0	102	3 123	France
0	0	0	0	0	0	68	2 147	1	104	2 672	Monaco
2	134	2	0	0	0	15	1 031	0	36	1 337	Australia
94	7 413	92	105	1 120	73	8 404	344 982	92	12 523	449 452	Subtotal
17	670	8	27	413	27	1 285	30 084	8	2 180	70 442	Others
111	8 083	100	132	1 533	100	9 689	375 066	100	14 703	519 894	Total

D. SHIPBUILDING AND THE SECOND-HAND MARKET

1. Newbuilding orders

In 2001, newbuilding contracts totalling 51.6 million dwt were placed for the six major ship types – a decrease of 35.6 per cent in comparison with the contracts in 2000 (see table 20). In the tanker sector, pessimism prevailed, with 550 units totalling 34.3 million dwt ordered in 2001, as compared with 446 units totalling 41.9 million dwt in 2000. The 2001 newbuilding orders for dry bulk carriers were even scarcer at 165 units of 9.5 million dwt, fewer than were ordered the year before (344 units of 20 million dwt).

Even newbuilding orders for container ships went down substantially to less than half of past years' levels – 180 units totalling 6.6 million dwt in 2001 as compared to 373 units and 15 million dwt in 2000. These newbuilding tonnages continued to reflect the recent trend for post-Panamax container ships. The newbuilding orders for general cargo ships also went down in 2001 to 142 units of 1.2 million dwt from 255 units totalling 2.5 million dwt in 2000. On the other hand, orders for passenger ferries decreased less than those for other types of vessels, to a total of 101 vessels, but tonnage decreased to 80 million dwt in 2001 from 308 million dwt in the previous year.

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 2002 stood at 107.9 million dwt, representing a healthy increase of 7.9 per cent over the previous year. Tonnage on order by developed market-economy countries amounted to 34 million dwt, accounting for 31.5 per cent of the world total tonnage on order, as compared with 36.8 million dwt or 36.6 per cent at the beginning of 2001. Major open-registry countries had 57.4 million dwt or 53.2 per cent of world tonnage on order, as compared with 48.1 million dwt or 47.8 per cent at the beginning of last year. The share of the countries of Central and Eastern Europe increased slightly in 2001 to 0.6 million dwt or 0.5 per cent of the world total on order, while the share of the socialist countries in Asia was steady in 2001, ending the year with 5.5 million dwt or 5.1 per cent of the world total on order.

Developing countries' tonnage was also steady at 8.6 million dwt or 8 per cent of the world total tonnage on order at the beginning of 2002. Tonnage on order by Asian developing countries rose slightly to 7.7 million dwt at the beginning of 2002, which accounted for 88.7 per cent of the developing countries' total tonnage on order. There was also a decrease in the African newbuilding orders to 79 thousand dwt on order at the beginning of 2002, while the Americas' developing countries orders also decreased marginally to 894 thousand dwt.

In 2001, oil tanker orders rose by 28.7 per cent to 51.9 million dwt, accounting for 48.1 per cent of the world total on order. Developing countries had 5.7 million dwt on order, representing 11.1 per cent of the total, with Asian developing countries represented 5.5 million dwt or 94.8 per cent of the developing countries' total. The number of dry bulk carriers on order at the beginning of 2002 decreased substantially from 2001 by 28.9 per cent to 22.2 million dwt, accounting for 20.5 per cent of the world total on order. For this type of vessel, developed market-economy countries and major open-registry countries accounted for 13.5 per cent and 69.5 per cent, representing a combined share of 83 per cent. The volume of container ships on order increased marginally in 2001 by 2.5 per cent to 16.5 million dwt at year's end, representing 15.3 per cent of the world total on order. For container ships on order, developed market-economy countries accounted for 35.4 per cent and major open-registry countries accounted for over 50.5 per cent. At the beginning of 2002 developing countries' container ship orders were steady at 1 million dwt, or 5.9 per cent of the total. Asian developing countries had 0.8 million dwt or 85.3 per cent of the developing countries' total on order.

Table 20

Newbuilding contracts placed for the main types of ship[a] during 1991–2001

(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
1991	308	19 871	148	11 836	4	322	167	877	66	1 796	84	90	777	34 793
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														
Jan	40	2 878	16	430	-	-	9	131	29	890	4	2	98	4 331
Feb	27	2 034	4	202	-	-	5	75	15	647	1	5	52	2 963
Mar	43	2 852	3	395	-	-	6	60	19	464	7	9	81	3 780
Apr	35	2 228	22	1 281	-	-	9	92	29	1 299	7	1	102	4 901
May	49	4 292	6	653	-	-	8	65	14	648	10	6	87	5 667
Jun	59	3 896	16	863	-	-	8	80	17	705	12	2	112	5 546
Jul	68	4 730	35	2 378	-	-	28	272	9	175	7	8	147	7 563
Aug	53	3 718	14	787	-	-	11	92	18	365	6	1	102	4 963
Sep	33	2 672	2	65	-	-	7	35	6	90	15	10	63	2 872
Oct	55	2 430	12	628	-	-	13	87	8	251	18	10	106	3 406
Nov	31	676	7	440	-	-	18	104	3	111	5	1	64	1 332
Dec	57	1 851	25	1 374	-	-	20	129	13	919	9	25	124	4 298
Total	550	34 260	165	9 496	-	-	142	1 222	180	6 564	101	80	1 138	51 622

Source: Compiled by the UNCTAD secretariat on the basis of data from Institute of Shipping Economics and Logistics (2002), *Shipping Statistics and Market Review*, Jan./Feb., table 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 2002

(thousands of dwt)

Country groups of registry	Total	Oil tankers	Bulk carriers	General cargo	Container ships	Other ships
World total	107 955	51 894	22 184	3 826	16 550	13 501
Developed market-economy countries	34 026	15 954	3 007	1 546	5 861	7 658
Major open-registry countries	59 393	27 633	15 411	1 657	8 362	4 330
Countries of Central and Eastern Europe	557	195	111	178	-	73
Socialist countries of Asia	5 507	1 529	2 320	44	1 342	273
Developing countries, total	8 657	5 778	430	335	986	1 127
***of which*:**						
Africa	79	3	8	-	-	68
Americas	894	296	171	85	145	196
Asia	7 683	5 479	251	250	840	863
Europe[a]	0	-	-	-	-	-
Oceania	0	-	-	-	-	-
Unallocated	1 815	804	905	66	-	41

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 2001, prices for all the main types and sizes of newbuildings decreased significantly from those of the previous year. Price reductions were more pronounced for tankers and bulk carriers and reflected the depressed cargo demand. By mid-year, major shipbuilding countries were discussing measures to align shipbuilding capacity with forecasted demand. Analysis shows that oil tanker newbuilding prices for all sizes went down by about 10 per cent in 2001 from their 2000 level. Newbuilding prices for dry bulk carriers up to 74,000 dwt were also down by about 10 per cent in 2001 from the previous year's level, while for Cape-sizes prices decreased by 14 per cent. Prices of 2,500 TEU cellular container ships declined by 1.2 per cent, while the decline for general cargo vessels was 3.2 per cent. A modest increase of 3.3 per cent was observed for 75,000 LPG ships. 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 were also down. In particular, lower prices were obtained for the small dry bulk carriers. The number of transactions was also down to 182 from the 2000 level of 229, with Panamax and Cape-size being most popular and the small Handy-size vessels accounting for 74 transactions. In the tanker sector, two-digit price reductions were seen during the year. In spite of lower prices, an increased number of transactions were reported for 2001. During the year, 201 units changed hands, with 123 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	1999	2000	2001	% change 2000/2001
30–50,000 dwt bulk carrier	17	11	24	25	20	20	18	-10.0
32–45,000 dwt tanker	19	18	29	34	25	29	27	-7.0
70–74,000 dwt bulk carrier	24	14	32	29	22	23	20	-11.1
80–105,000 dwt tanker	28	22	42	43	33	41	37	-9.8
120,000 dwt bulk carrier	32	27	45	40	34	40	34	-14.0
250–280,000 dwt tanker	75	47	90	85	68	76	72	-5.3
125–138,000 m3 LNG	200	200	225	245	150	165	162	-1.8
75,000 m3 LPG	77	44	78	68	58	60	58	-3.3
15,000 dwt general cargo	14	12	24	21	19	19	18	-3.2
2,500 TEU full containership	-	26	52	50	35	35	34	-1.2

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, 1996–2001

(as of year's end, in millions of dollars)

Vessel	1996	1997	1998	1999	2000	2001	% change 2000/2001
40,000 dwt tankers[a]	26	28	20	20	27	26	-3.8
80–95,000 dwt tankers[a]	37	38	25	26	39	33	-15.4
130–150,000 dwt tankers[a]	40	47	37	36	50	43	-13.1
250–280,000 dwt tankers[a]	67	70	50	50	71	60	-15.5
45,000 dwt dry bulk carrier	19	18	13	16	15	12	-20.0
70,000 dwt dry bulk carrier	21	21	15	17	16	14	-12.9
150,000 dwt dry bulk carrier	27	30	24	28	25	22	-12.0

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Fearnleys, *Review 2001*.

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

Chapter 3

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

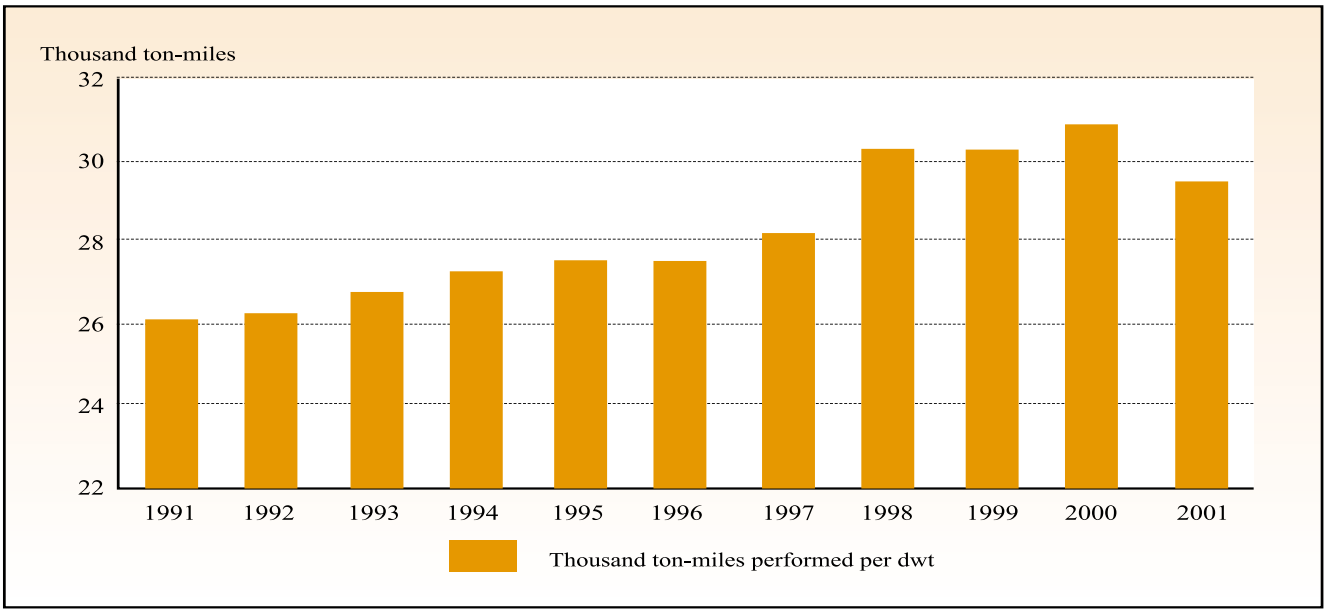
This chapter provides information on the operational productivity of the world fleet and an analysis of the balance between supply and demand for tonnage. Key indicators are the comparison of cargo generation and fleet ownership, tons of cargo carried and ton-miles performed per dwt, and the analysis 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 2001 maintained a level similar to that of 1999 at 7.06, while thousands of ton-miles performed per deadweight ton decreased to 29.48. The decrease in productivity measured in tons of cargo carried per deadweight ton (dwt) reflects the reduction of cargo carried relative to the 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.

Figure 6

Index of ton-miles performed per deadweight ton of total world fleet, 1991–2001



Source: UNCTAD calculations.

Table 24

Cargo carried and ton-miles performed per deadweight ton (dwt) of the total world fleet, 1990–2001

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
1991	683.5	4 120	17 873	6.0	26.1
1992	694.7	4 220	18 235	6.1	26.2
1993	710.6	4 330	18 854	6.1	26.5
1994	719.8	4 485	19 461	6.2	27.0
1995	734.9	4 651	20 188	6.3	27.5
1996	758.2	4 758	20 810	6.3	27.4
1997	775.9	4 953	21 825	6.4	28.1
1998	788.7	5 598	23 822	7.1	30.2
1999	799.0	5 668	24 114	7.1	30.2
2000	808.4	5 890	22 947	7.3	30.9
2001	825.7	5 832	24 338	7.1	29.5

Sources: World fleet: Lloyd's Register – Fairplay (mid-year data for 1990, year-end data for 1992–2000); total cargo carried: UNCTAD secretariat; ton-miles: Fearnley's, *Review*,various issues. Data compiled by the UNCTAD secretariat.

Table 25 provides supplementary data on operational productivity in terms of cargo carried per deadweight ton by type of vessel. The cargo volumes in tons carried per deadweight ton of oil tankers and dry bulk carriers were steady at 7.1 and 4.6 tons per dwt respectively. The cargo volumes carried per deadweight ton of combined carriers increased marginally to 7.9 tons per dwt, and those of the residual fleet decreased to 9.8 tons per dwt.

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 2001 by 4.9 per cent to 32.8, while the ton-miles per deadweight ton of dry bulk carriers, combined carriers and the residual fleet decreased by 1.2, 3.9 and 4.5 per cent to reach 23.6, 37 and 31.9 respectively.

B. SUPPLY AND DEMAND IN WORLD SHIPPING

1. Surplus tonnage

A summary of the balance of tonnage supply and demand for the period 1995–2001 is provided in table 27. The total surplus tonnage in 2001 reversed the trend observed over the last few years and increased by 3.1 million dwt to reach 21.5 million dwt or 2.6 per cent of the world merchant fleet, up from 2.3 per cent in 2000. This balance was largely attributable to the slowdown in cargo volumes, the first after 15 years of steady growth, and 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 increased in 2001 by 0.8 million dwt to 280.2 million dwt as newbuildings delivered outweighed tonnage scrapped or lost (see table 28 and figure 7). This, combined with reduced shipments, increased overcapacity to 17.9 million dwt or 6.4 per cent of the total world tanker fleet. In 2001, the total dry bulk fleet supply increased by 7.6 million dwt to 255.3 million dwt. The steady increase in shipments of the main dry cargoes mentioned in chapter I helped to reduce overtonnage to only 2.9 million dwt, equivalent to 1.1 per cent of the dry bulk fleet. For the conventional general cargo fleet, overcapacity was reduced in 2001, with supply exceeding demand by only 0.7 million dwt or 1.2 per cent for 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, 7.6 million dwt of container ships were added in 2001, an amount similar to that of the previous year, with this fleet reaching 91.2 million dwt. As in previous years, expanding trade for liner shipping have been able to absorb these tonnages, resulting in full employment of the world unitized fleet.

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
1995	1 738	6.6	770	3.2	177	7.38	1993	9.5
1998	1 985	7.1	1 137	4.4	130	7.3	2 379	10.2
1999	1 995	7.1	1 167	4.5	131	7.8	2 375	9.9
2000	2 027	7.1	1 255	4.6	120	7.8	2 487	10.3
2001	2 032	7.1	1 285	4.6	114	7.9	2 402	9.8

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.

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
1995	8 980	34.4	4 500	18.7	925	38.5	5785	27.7
1998	9 465	33.9	5 988	23.2	535	30.2	7 834	33.5
1999	9 600	34.0	6 055	23.3	583	34.9	7 876	32.8
2000	9 840	34.5	6 470	23.9	593	38.5	8 044	33.4
2001	9 354	32.8	6 605	23.6	533	37.0	7 846	31.9

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 1997–2001

(end-of-year figures)

	1990	1997	1998	1999	2000	2001
			Million dwt			
World merchant fleet	658.4	775.9	788.7	799.0	808.4	825.6
Surplus tonnage[a]	63.7	29.0	24.7	23.7	18.4	21.5
Active fleet[b]	594.7	746.9	764.0	775.3	790.0	804.1
			Percentages			
Surplus tonnage as percentage of world merchant fleet	9.7	3.7	3.1	3.0	2.3	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, 1995–2001[a]

(average annual figures in millions of dwt)

	1995	1996	1997	1998	1999	2000	2001[d]
World tanker fleet	277.0	285.1	290.6	291.0	281.8	279.4	280.2
Total tanker fleet surplus[b]	28.8	28.8	17.0	17.3	14.0	13.5	17.9
Share of surplus fleet in world tanker fleet (%)	10.4	10.1	5.8	5.9	5.0	4.8	6.4
World dry bulk fleet	252.9	257.2	260.9	257.1	245.7	247.7	255.3
Dry bulk fleet surplus[b]	17.9	17.2	10.3	5.8	7.9	3.8	2.9
Share of surplus in world dry bulk fleet (%)	7.1	6.7	3.9	2.3	3.2	1.5	1.1
World conventional general cargo fleet	62.0	62.7	62.0	60.5	59.9	59.3	57.8
Conventional general cargo fleet surplus	2.0	1.4	1.7	1.6	1.8	1.1	0.7
Share of surplus in world conventional general cargo fleet (%)	3.2	2.2	2.7	2.6	3.0	1.8	1.2
World unitized fleet[c]	53.4	59.3	65.7	73.1	76.1	83.6	91.2
Surplus of unitized fleet	0.7	0.0	0.0	0.0	0.0	0.0	0.0
Share of surplus in world unitized fleet (%)	1.3	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.

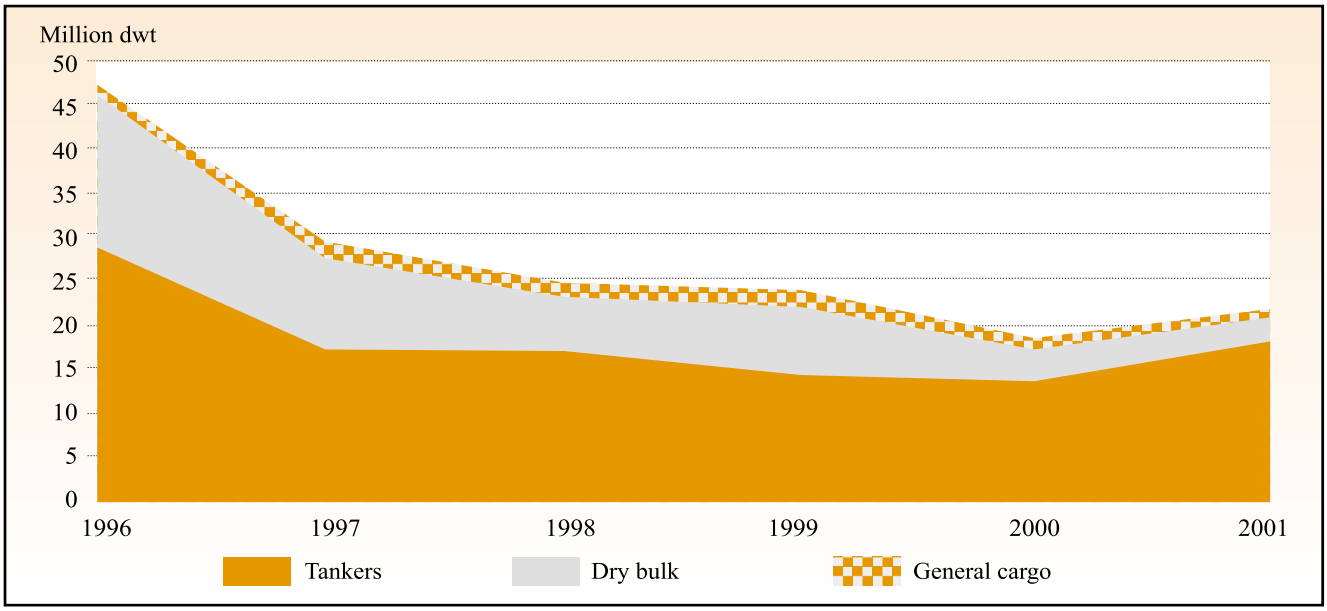
[b] Including 50 per cent of combined ore/bulk/oil carriers.

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

[d] Data for 2001 correspond to figures up to October 2001 as compiled in December 2001.

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.

C. COMPARISON OF CARGO TURN-OVER 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 nearly 51.2 per cent of world seaborne trade in 2001, compared with 53.7 per cent in 1980. The tonnage share of the fleet of developed market-economy countries fell by half, from about 51 per cent in 1980 to 25 per cent in 2001. However, to the tonnage under national flags must be added the tonnage of vessels owned by nationals of a particular country, but registered under foreign flags, which brings the share to 66.9 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 2002. 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 2001, 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 2001. The socialist countries in Asia increased their share in world trade to 5.5 per cent in 2001, while they improved their share in world tonnage from 1.6 per cent in 1980 to 3.2 per cent in 2001. 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 for exploiting maritime transport as a complement to trade. It is generally considered that maritime capabilities, specifically the ownership of substantial 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 2001 the United States generated about 15.2 per cent of world trade while it owned 5.1 per cent of world tonnage, with only about one fourth of such tonnage flying the national flag. Similarly, France generated 5.1 per cent of world trade as compared to a tonnage ownership position of 0.8 per cent, and with the national flag having a share of one-half of this percentage.

Table 29

Comparison between total cargo turnover and fleet ownership, by country groups, in 1970, 1980, 1990 and 1999–2001

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
	1999	6 042.9	52.6	203.2	25.4
	2000	6 240.9	51.8	203.4	25.2
	2001	6 109.7	51.2	207.5	25.1
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
	1999	[a]	[a]	376.8	47.8
	2000	[a]	[a]	384.7	48.1
	2001	[a]	[a]	402.4	48.7
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
	1999	4 626.6	40.2	153.6	19.2
	2000	4 821.9	40.0	157.0	19.4
	2001	4 826.4	40.4	159.0	19.3
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
	1999	328.0	2.9	18.3	2.3
	2000	346.7	2.9	16.3	2.0
	2001	351.9	2.9	15.4	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
	1999	500.3	4.4	25.8	3.2
	2000	643.3	5.3	26.1	3.2
	2001	650.9	5.5	26.5	3.2
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
	1999	11 498.8	100.0	799.0	100.0
	2000	12 052.8	100.0	808.4	100.0
	2001	11 938.9	100.0	825.6	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 2001)

Country/territory	Percentage share of world trade generated, in terms of value	Percentage share of world fleet in terms of dwt
United States	15.2	5.11
Germany	8.4	4.63
Japan	6.0	12.89
United Kingdom	4.8	2.32
France	5.1	0.76
Italy	3.8	1.78
Canada	3.9	0.51
Hong Kong (China)	3.1	4.40
Netherlands	3.5	0.91
Belgium-Luxembourg	2.8	1.18
China	4.0	5.08
Republic of Korea	2.3	3.11
Singapore	1.9	2.37
Spain	2.0	0.47
Taiwan Province of China	1.8	2.86
Malaysia	1.3	0.88
Sweden	1.1	0.97
Switzerland	1.3	0.82
Thailand	1.0	0.33
Australia	1.0	0.44
Brazil	0.9	0.98
Russian Federation	1.2	1.87
Saudi Arabia	0.8	1.23
Denmark	0.8	2.13
Norway	0.7	7.91
Total	78.8	65.94

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

Chapter 4

TRADE AND FREIGHT MARKETS

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

A. THE CRUDE OIL AND PETROLEUM PRODUCTS SEABORNE FREIGHT MARKET

1. Seaborne trade in crude oil and petroleum products

The production cuts agreed to by OPEC countries during 2001 depressed tanker freight rates, even though quota compliance was weak during most of the year. Overproduction was estimated to run about 1 mbpd and came down to 0.6 mbpd by the fourth quarter. This overproduction was used to replenish the oil stockpiles of OECD countries. Overproduction also occurred for Iraq, the OPEC member that continued legal exports under the oil-for-food programme mandated by the United Nations. By the end of the year there were allegations of Iraqi oil being smuggled by sea (in November a vessel was captured by the United States Navy and sank with loss of life) and also through a dormant pipeline to the Mediterranean Sea.

In 2002 crude oil shipments are likely to continue to be affected by overproduction and thus to slightly alleviate the depressed freight market. Real OPEC production cuts are expected to be at least two-thirds of those agreed to, and, even if pledges for production cuts by non-OPEC countries are not fully enforced, the resulting supply is expected to closely match demand for the year. Crude oil shipments during the first quarter of 2002 were 2.3 per cent down from the average of 35.6 mbpd reached in the fourth quarter of 2001.

2. Tanker freight rates

The year 2001 was a bad one for tanker owners. As table 31 indicates, all freight indices for the five groups of vessels engaged in transporting crude oil and petroleum products went down during the year. Decreases for VLCC/ULCC and small crude and product carriers were most pronounced: freight indices for these two groups ended the year at 39 and 128, with decreases from January levels of 74.3 and 63 per cent respectively. Medium-size crude carriers and clean carriers of all sizes ended the year at 94 and 149, with reductions of 56.7 and 59.8 per cent respectively. The fall was scarcely smaller for Handy-size dirty carriers, which ended the year at 141, down 49 per cent.

Comparing the annual average freight indices for the year 2001 with those of the previous year, which was a good one for tanker owners, indicates that the good times were over for owners of vessels falling into the three following groups: VLCC/ULCC (76 in 2001 vs. 96 in the previous year), medium-size crude carriers (140 vs. 153) and small crude and product carriers (191 vs. 208). For the remaining two groups, the annual average indices actually improved: Handy-size dirty carriers went up to 242 from 207 and clean carriers of allsizes reached 258 from the 218 level achieved in 2000.

Table 31

Tanker freight indices,[a] 1999–2002[b]

(monthly figures)

Period	VLCC/ULCC				Medium-size crude carriers				Small crude & product carriers				Handy-size dirty carriers				All-size clean carriers			
	1999	**2000**	**2001**	**2002**	**1999**	**2000**	**2001**	**2002**	**1999**	**2000**	**2001**	**2002**	**1999**	**2000**	**2001**	**2002**	**1999**	**2000**	**2001**	**2002**
January	62	48	152	40	92	93	217	90	114	126	346	100	159	146	277	165	164	148	371	148
February	49	54	117	41	94	108	206	87	137	141	230	126	144	154	323	168	168	170	400	150
March	38	58	87	39	89	116	158	86	128	164	239	116	158	167	295	159	177	189	348	150
April	41	70	95	36	86	135	171	91	121	196	272	117	157	186	299	164	210	197	264	149
May	49	81	81	36	76	127	160	105	124	177	190	144	165	187	296	194	196	205	263	179
June	42	96	61	50	74	136	132	90	113	174	183	159	159	194	242	204	160	210	264	177
July	41	101	52		73	153	112		108	245	141		148	261	230		162	218	224	
August	47	106	53		71	197	114		110	266	130		151	243	224		154	234	214	
September	50	129	51		83	191	111		111	269	148		150	230	204		142	255	218	
October	45	136	74		91	165	111		106	194	154		144	217	210		147	265	187	
November	48	134	44		93	205	98		126	267	136		148	241	163		146	258	192	
December	53	138	39		108	209	94		141	273	128		170	244	141		154	262	149	
Annual average	47	96	76		86	153	140		120	208	191		154	207	242		165	218	258	

[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.

Very large crude carriers (VLCC)

The spot rates from the Middle East Gulf to Japan and the Republic of Korea started the year at WS 116 and WS 100 respectively. Vessels heading westward to Europe and to the Caribbean and the eastern coast of North America fetched WS 96 and WS 95 respectively. Rates weakened during the following months, and by June 2001 they were only WS 42 to Japan, WS 39 to the Republic of Korea, WS 36 to Europe and WS 39 to the Caribbean and the eastern coast of North America. The reductions in time-charter earnings per day were severe: from $72,700 to $18,200 for the route to Japan, from $55,300 to $14,000 for the route to the Republic of Korea, and from $62,900 to $17,200 towards north-western Europe.

During the summer months and following the resumption of Iraqi oil shipments in July, there rates recovered slightly for major routes from the Middle East Gulf. Rates peaked in late August and early September, when they reached WS 84 to Japan, WS 69 to the Republic of Korea, WS 75 to Europe and WS 69 to the Caribbean and the eastern coast of North America. However, the recovery was short-lived; OPEC continued to announce further production cuts, and by the end of the year the rates were WS 39 to Japan, WS 36 to the Republic of Korea and Europe and WS 37 to the Caribbean and the eastern coast of North America.

Fixtures from the Middle East Gulf to the Red Sea and South Africa followed a similar trend but had a firm first quarter. Royal Dutch Shell secured the 270,000 dwt *New Vista* in April at WS 110 for the Red Sea, agreeing to WS 157 for an option to the Far East. Texaco chartered the 270,000 dwt *British Pioneer,* also for April, at WS 100. These rates were the same ones prevailing at the beginning of the year. The following months, however, saw rates sliding fast, reaching WS 40 by June and from then on resembling those for the main routes originating in the Middle East Gulf.

During the year, rates fell by more than 60 per cent for routes from the Middle East Gulf. Steeper rate deterioration was found in the route from West Africa to the Far East, which started the year at WS 118 and ended at WS 34. A similar drop occurred in the route from the Mediterranean to northwestern Europe, which started at WS 147 and by December reached a low of WS 40 – a decrease of 73 per cent. For vessels over 300,000 dwt, namely ULCC, trading from the Middle East Gulf to the eastern coast of North America, rates deteriorated in line with the rates for the main routes – about a 57 per cent decrease from the WS 82 achieved in January 2001.

During 2002, freight rates continued to come down until May, when a brief recovery was apparent. Rates for tankers in the range 200 to 300,000 dwt sailing from the Middle East, increased from WS 28 in April to WS 56 in May in the route to Japan and from WS 29 to WS 39 in the route to the East Coast of North America.

Medium-size crude carriers

During the year, the deterioration in freight rates for Suezmax and Aframax tonnage was similar to that found in VLCC tonnage. During the first quarter, spot rates for Suezmax vessels trading from the Middle East Gulf to the Far East were steady around WS 157, but by August they decreased to WS 84. After a brief recovery in September, rates slid down to WS 70 by December. Typical fixtures in this route between the end of March and mid-April were those of Shipping Corporation of India (SCI), which secured the 125,000 dwt *Lofoten* at the end of March at WS 112 for a trip to India, and Sinochem, which chartered the 110,000 dwt *Alina* in mid-April at WS 112 for a trip to China. SCI chartered the 125,000 dwt *Sea Victory* in October at WS 116 for discharge in Chennai, while China Oil engaged the 130,000 dwt *Knock Allan* at WS 80 for discharge in China.

Suezmax rates for vessels originating in West Africa were, at the beginning of the year, at the WS 200 level for destinations in the Caribbean, on the eastern coast of North America and in northwestern Europe. By June, rate deterioration vis-à-vis the former destinations was less acute; rates reached WS 84, while to northwestern Europe they reached WS 80. The opposite occurred during the second half of the year, when rates to the Caribbean declined faster to WS 72, while those to northwestern Europe slid only to WS 73.

For routes originating in the Black Sea and the Mediterranean, the rates for destinations in northwestern Europe and the Mediterranean at the beginning of the year were WS 180 and WS 190 respectively, with the spread closing during the year, and by December rates were WS 78 and WS 77. Representative fixtures were that of Tamoil, which secured the 130,000 dwt *Matilda* at WS 179 for delivery in April in Libya for a trip to the United Kingdom and continental Europe. Two fixtures from Karran illustrate the considerable drop in rates for a 135,000 dwt vessel from Novorossiysk (Black Sea) to the United Kingdom and continental Europe. In April Karran took delivery of the *Sea Sprite* at WS 175 and in November the *Sea Voyager* at WS 80. The latter amount

is not very different from the WS 90 paid by Repsol for the delivery of the 130,000 dwt *Iran Saveh,* chartered for a trip from Sidi Kerir, the offshore loading point of the SUMED pipeline that bypasses the Suez Canal, to Spain.

The trend for Aframax rates for routes originating in the Black Sea and the Mediterranean was similar. At the beginning of the year, destinations in the Mediterranean and northwestern Europe reached rates of WS 218, while for Caribbean destinations the rates were slightly lower at WS 216. By December the former were WS 93 while the latter were WS 89. Again, two fixtures from Lukoil, which chartered 80,000 dwt vessels for delivery in the Black Sea for trips to the Mediterranean, illustrate the level of rates. In April Lukoil paid WS 170 for the *Niiris,* while in October it paid WS 135 for the *Minerva Libra.*

Other routes covered by Aframax tonnage were from the Caribbean to the eastern coast of North America, which saw rates fall from WS 197 in January to WS 135 in November, with a brief recovery to WS 146 in December. This corresponds to a time charter reduction equivalent to $9,700 per day to reach $23,000 per day at the end of the year. In the active northwestern Europe market, which revolves around North Sea oil, Aframax tonnage went from WS 214 in January to WS 102 in December, a drop in time charter equivalent for a 80,000 dwt vessel of $37,700 to $21,300 per day at the end of the year.

Some fixtures of Aframax tonnage at the end of the first quarter of 2001 are as follows: for the short haul from the Middle East Gulf to India, SCI chartered two 80,000 dwt vessels, *Ocean Hope* and *Ocean Success,* for a trip to Bombay and Cochin for delivery at the end of March at WS 125 and 120 respectively; further east, Mitsui chartered the 80,000 dwt *Agate* for a trip from Balikpapan (Indonesia) to Singapore at WS 220, while SKS chartered *Silver Iris* for a trip from Bintulu (Malaysia) to Ulsan (Republic of Korea) at WS 230.

There was some slight recovery of freight rates for Suezmax tonnage in 2002. Across the Mediterranean Sea, rates increased from WS 72 in January to WS 86 in April and then, down to WS 82 in May. Rates held steady at WS 65 in the routes from West Africa to North America. The rate recovery was more pronounced for Aframax tonnage. In the routes from the Mediterranean Sea to the East Coast of North America, rates increased from WS 95 in January to WS 112 in May. For the same months and destinations sailing from the Caribbean, the rates went up from WS 113 to WS 127.

Small crude and product carriers

These vessels also suffered a bad year. In the Caribbean, dirty spot rates for vessels in the 40,000-to-70,000-dwt range trading to North America's eastern coast went down from WS 285 in January to WS 100 in December. For vessels trading within the Mediterranean, rates decreased from WS 245 in January to WS 120 in December. At the beginning of the year and for destinations in the Caribbean and on the eastern coast of North America, rates were WS 309 from the Mediterranean and WS 296 from northwestern Europe; by December, the rates had come down to WS 107 and 104 respectively.

In all these routes mild recoveries were recorded by May 2002. Rates from the Caribbean to the East Coast of North America went up to WS 162; within the Mediterranean, rates reached WS 158, and for the other two routes rates were WS 165 and WS 154 respectively.

Handy-size dirty carriers

Handy-size dirty carriers trading in short-haul routes close to major producing and refining areas also had a bad year. Rates for representative fixtures in the Black Sea and the Mediterranean indicate a downward trend: in March the 32,000 dwt *Isola Verde,* chartered by Total Fina Elf, fetched WS 320, while Agip chartered the 30,000 dwt *Venus* at WS 180 in October. Elsewhere, similar conditions prevailed, as is shown by fixtures for two 30,000 dwt vessels sailing from Kerteh Terminal (Malaysia): in March, BP Amoco chartered *Arbat* for a single voyage to Singapore for $250,000, while in November Petco chartered *Hellas Constellation* for $160,000 for a voyage to Thailand.

Rates for this category of tankers were steady in 2002. In May, AGIP chartered the 30,000-dwt *Isola Magenta* and *Celtica* for voyages from the Black Sea to the Mediterranean Sea at WS 180.

All clean carriers

The rates for large clean tankers in the range 70,000-to-80,000-dwt range trading from the Middle East Gulf to Japan peaked at WS 387 in January 2001 after rising continually during 2000. A downward trend established itself during 2001: in July rates reached WS 208 and in December WS 102. A similar trend was observed for tankers with an average size of 55,000 dwt, for which time-charter-equivalent earnings fell from $58,500 in January to $13,200, a decrease of 77 per cent. Smaller

tankers in the range 25,000–35,000 dwt trading out from Singapore to Southeast Asian destinations fetched WS 464 at the beginning of the year but only WS 165 by year's end – a drop of 64 per cent.

Clean trades from Caribbean refineries to destinations on the eastern coast of North America came down during the year from WS 333 to WS 136 for tankers in the range 35,000–50,000 dwt and from WS 419 to WS 171 for tankers in the range 25,000–35,000 dwt.

During 2002, there was a minor improvement in rates. Large tankers trading from the Middle East to Japan fetched WS 119 by May, while smaller tankers sailing from Singapore reached WS 168 in the same month. Tankers in the range 35,000-50,000 dwt sailing from the Caribbean fetched rates of WS 160 by May while the smaller ones in the 25,000-35,000 dwt category sailing from the same origin reached WS 198.

The tanker period charter market

The recovery of activity started in November 2000 and peaked in February 2001, when 3.7 million dwt, mostly Aframax and VLCC tonnage, were chartered for two-year periods. Estimated period rates for one-year charter and prompt delivery for five-year-old 80,000-to-95,000-dwt and 280,000 dwt VLCC vessels were $25,500 and $44,000 per day respectively. The following months saw reduced activity, and in May activity matched the low of October of the previous year, when only 0.8 million dwt were traded.

There was a brief recovery in June, when 2.7 million dwt, mainly VLCC; were chartered, mostly for periods up to six months. However, the estimated period rate for a five-year-old 280,000 dwt vessel was $40,000 per day, 10 per cent lower than that estimated in February. By August, when 2.2 million dwt were chartered, the preferences were for ULCC, vessels over 320,000 dwt, and also for six months, and this preference continued in the months of November and December when 2.4 million dwt and 1.1 million dwt were traded respectively. However, the estimated period rates for one-year charter and prompt delivery were very depressed – in the range of $27,500 per day for a 280,000 dwt vessel. This rate was 50 per cent above the one for a 10-year old 60,000 dwt tanker.

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. Nevertheless, period rates for one-year charter and prompt delivery continued to be depressed. A five-year-old 280,000 dwt tanker fetched only $23,000 per day in May 2002.

B. THE DRY BULK SHIPPING MARKET

1. Dry bulk trade

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, over which mostly Cape-size tonnage was deployed. The coal routes from Australia to the Far East and from South Africa to the Far East and Europe attracted the same tonnage. Panamax tonnage was deployed on several routes, including the transatlantic coal and iron ore routes from the eastern coast of the United States and Canada respectively and in ore exports from West Africa to Europe. Panamax tonnage was also used on iron ore and coal routes within Asia, such those originating in India, China and Indonesia, and those within Europe originating in Sweden.

Panamax tonnage, together with other smaller vessels such as Handymax, was deployed along the grain routes from North America Gulf and the eastern coast of South America. Handy-size tonnage was employed for several grain destinations, notably those having ports with restricted drafts. This tonnage was also used on bauxite, alumina and rock phosphate routes.

2. Dry bulk freight rates

Freight rates for all sectors and sizes of dry bulk carriers finished the year 2001 at levels below those prevailing at the beginning of the year. The Baltic Dry Index decreased by 12.5 per cent during the first half of the year and accelerated its downward trend during the third quarter, when it decreased by 28.6 per cent. After a brief recovery in October, the index fell again to end the year 45 per cent below its level at the beginning of the year.

As table 32 shows, dry cargo tramp time charter decreased steadily during the year to 68 – a 35.2 per cent decline over the year. Dry cargo tramp trip charter went over the 200 mark briefly during the second and third quarter and then fell back to 195 – still 1 per cent up from that of the beginning of the year. The average time charter index for 2001 was lower than that of the previous year, while the average trip charter index was steady. Owners of tankers

Table 32

Dry cargo freight indices, 1999–2002[a]

(monthly figures)

Period	Dry cargo tramp time-charter[b] (1995 = 100)				Dry cargo tramp trip-charter[c] (July 1965 to June 1966 = 100)			
	1999	2000	2001	2002	1999	2000	2001	2002
January	46	86	105	72	166	190	193	194
February	49	89	103	74	170	191	198	199
March	60	101	108	80	169	190	195	199
April	59	107	108	82	172	191	200	199
May	68	108	109	77	173	193	206	199
June	64	106	106	71	176	202	205	207
July	63	108	93		179	202	205	202
August	66	113	72		178	203	192	
September	70	122	68		185	206	193	
October	79	121	67		185	207	195	
November	80	122	67		195	206	194	
December	82	107	68		192	208	195	
Annual average	66	108	90		178	199	198	

[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*.

and dry cargo vessels benefited from reductions in bunker prices. The average posted prices for intermediate fuel oil 180 at nine ports collected by Lloyd's Ship Manager went down from $175 to $115.

Decreases in freight rates were more apparent for Cape-size tonnage to the extent that late in the year a large new pool having 75–80 vessels, Cape International Inc., was announced as the result of an agreement between Bocimar and Zodiac, but the downward trend was inexorable. The establishment of another pool, Bergessen and General Ore, with about 20 vessels, represented efforts by shipowners to close ranks to survive in depressed markets. Rates for Panamax tonnage weakened less than those for Cape-size tonnage, with Handymax and Handy-size tonnage behaving still better. Chartering activity was concentrated in the Far East, with about one-third of deliveries being in that region and one-fifth in Europe.

Dry bulk time charters (trips)

Representative fixtures concluded for vessels of different sizes in typical routes illustrate the extent of the depressed markets. At the beginning of 2001, Cape-size tonnage was chartered for round trips via the transatlantic and Singapore-Japan to Australia routes at daily rates of about $19,300. In December the corresponding rates were about $7,600 per day – a decrease of 61 per cent. Again, Panamax tonnage chartered at the beginning of the year for round trips between Northern Europe and the eastern coast of South America and between the Far East and the eastern coast of Australia fetched $10,900 and $12,850 a day respectively, while in December, the rates were $5,530 and $6,020 a day respectively with the latter rebounding from a low of $4,645 per day in November.) The picture for smaller vessels (Handymax and Handy-size) was similar. Over the Far East to Australia route, a Handymax rate for a round trip went down from $8,750 per day in January to $5,940 per day in December – a 32.1 per cent drop. For a round trip from the European continent to West Africa, the rate for a Handy-size vessel decreased from $6,350 per day in January to $5,000 per day in November and then rose to $6,000 in December.

In the following months all these rates showed recovery, although some were modest. Rates for Capesize tonnage in the routes Australia to Singapore and Japan, registered a 24.4 per cent increase to reach $9,455 per day in May 2002. Panamax vessels in the trade Northern Europe to East Coast of South America and Far East to East Coast of Australia saw rates rising by 43.8 per cent and only 1.7 per cent to reach $7,950 and $6,125 per day respectively. Rates increases for smaller tonnage were less impressive with 5.3 per cent for Handymax vessels trading between the Far East and Australia and 10.0 per cent for Handy tonnage engaged in the North-West Europe–West Africa trade.

Dry bulk time charters (periods)

Estimates of rates for chartering vessels for a 12-month period and prompt delivery indicate that rate decreases were less pronounced for Handymax tonnage. Capesize vessels less than five years old and in the range of 150,000–160,000 dwt were getting $18,000 per day in January 2001 but only $10,000 per day in December, a 41.7 per cent decrease. Rates for a five-year-old Panamax started at $11,000 in January and decreased by 36.4 per cent during the year, with the drop being larger for 15-year-old vessels – 47.5 per cent. Rate deterioration for 15-year-old Handy-size tonnage was similar: from $6,750 in January, rates fell 42.2 per cent by December. Less battered was the Handymax tonnage: rates for a five-year-old vessel started the year at $9,250 per day and dropped 32.4 per cent by December.

The rebound came in 2002. Freight rates for five-year-old Capesize vessels in the range of 150,000-160,000 dwt increased by 27.5 per cent to $12,750 per day in May 2002. Rate increases for Panamax vessels were slightly higher at 28.6 per cent to $9,000 per day. Handy-sized vessels also had a good recovery over the same period (+21.8 per cent) to reach $4,750 per day. The least impressive recovery was that of Handymax vessels(approximately 16 per cent) to reach freight rates of $7,250 per day.

Dry bulk trip charters

Over the year, Capesize tonnage suffered badly. Coal freight rates from Richards Bay (South Africa) to Western Europe started the year at $9.20 per ton; by the end of July rates had come down to $6.55 per ton; and worse followed when in November and December they bottomed at $4.90 per ton, a decrease of 46.7 per cent from the beginning of the year. A similar trend was found in the iron ore sector. The freight rate from Brazil to China went down from $11.25 per ton in January to $8.65 per ton by July and $6.15 per ton by November, and decreased further in December to $6.05 – a drop of 46.2 per cent.

In the Panamax sector the trend was also downhill but less pronounced. Grain freight rates from the US Gulf to Western Europe went down from $14.5 per ton to $13.90 in July and $9.60 by December, a decrease of 33.8 per cent. Firmer rates were found in the Handy-size sector: freight rates for scrap from the United States' western coast to the Republic of Korea started the year at $26.80 per ton and decreased only 20.3 per cent by the end of the year.

All rates recovered in 2002. Those for Capesize vessels carrying coal from Richards Bay to Northern Europe increased by 17.3 per cent to reach $5.75 per ton in May while those for carrying iron ore from Brazil to China increased by 20.7 per cent to reach $7.30 per ton in the same month. Panamax vessels transporting grain from the US Gulf to Northern Europe saw an even higher recovery of 29.2 per cent to $12.40 per ton. Less impressive was the increase in rates for carrying scrap from the US West Coast to the Republic of Korea (15.3 per cent) to $26.40 per ton.

C. THE LINER SHIPPING MARKET

1. Developments in liner markets

General developments

The impact of containerization on the liner trade is larger than that implied by the size and growth of the container ship fleet as analysed in table 7 of chapter 2. Total seaborne container carrying capacity during 2001 rose by 0.63 million TEUs to 7.41 million TEUs – an increase of 9.2 per cent. Container ships increased their share of this total from 68.9 to 71.4 per cent at the beginning of 2002, for a total of 5.3 million TEUs. The share of general cargo ships reached almost 20 per cent. Single-deck vessels accounted for 0.81 million TEUs (about 11 per cent) while multi-deck ships added 0.66 million TEUs (about 8.9 per cent). During the year, single-deck tonnage increased 4 per cent while multi-deck tonnage actually decreased 5.4 per cent.

Ro-ro cargo and ro-ro passenger ships accounted for 0.33 million TEUs and their share of total container

carrying capacity increased by 1.3 per cent during the year to 4.5 per cent. Bulk carriers with container carrying capacity added 0.21 million TEUs, with tonnage decreasing by 1.9 per cent. The share of this category of vessel stood at 2.8 per cent. The balance of about 1.4 per cent was TEU carrying capacity available in reefer, tanker, specialized and passenger vessels.

Moreover, the accelerated growth of the fully cellular container ship fleet mentioned in chapter 2 was accompanied by an expansion in the share of larger vessels. During 2001, 180 shipbuilding contracts were reported, of which 55.5 per cent were for vessels with TEU capacity of more than 2,000 and, for the first time, six vessels had capacity of more than 8,000 TEUs.

As table 33 indicates, 241 container ships were delivered during 2001, while only 23 were retired from operations and broken up. More significantly, 27.4 per cent of the ships added were above the 4,000 TEU size and represented 57.7 per cent of the total TEU capacity added (639,000 TEUs). The addition of larger vessels is assured for the future: 41 of the 180 vessels on order had a size above 4,000 TEU, and these represented 52.3 per cent of the total TEU capacity on order (213,000 TEUs). Therefore, the number of vessels above the 4,000 TEU size increased from 264, or 10.3 per cent of the container ship fleet, to 330, or 11.9 per cent of the container ship fleet. The TEU capacity deployed in vessels above 4,000 TEU, currently 1,667,000 TEUs and equivalent to 31.5 per cent of the total TEU capacity, will continue to increase.

Table 33

Growth of the world cellular container fleet
(ships and thousand of TEU)

TEU	Broken up in 2001		Additions in 2001		Fleet as of 1 January 2002		Orders as of 1 January 2002	
	Ships	TEU	Ships	TEU	Ships	TEU	Ships	TEU
Unknown	23	29	-	-	14	-	7	-
<999	-	-	65	35	888	451	59	32
1,000–1,999	-	-	49	69	852	1 202	33	47
2,000–2,999	-	-	45	111	451	1 112	23	57
3,000–3,999	-	-	16	55	247	853	17	59
4,000–4,999	-	-	9	40	174	767	17	75
> 5,000	-	-	57	329	156	900	24	138
Total 2002	23	29	241	639	2 782	5 285	180	407
Total 2001	11	10	151	420	2 564	4 674	396	1 266

Source: Compiled by the UNCTAD secretariat on the basis of *Containerisation International (2002)*, February, 19.

Sea carriers providing services that encompass the major routes are the main users of the large vessels and gradually redeploy their smaller ships on secondary or feeder routes. Fleets dominated by ships of 4,000 TEUs or more restrict the ports of call of these carriers, leaving openings for enterprising smaller operators to pioneer different routes using smaller, often chartered tonnage to serve regional ports bypassed by the big ships.

During 2001, the number of vessels engaged in the North-South trades increased from 549 to 579. These trades link Africa, Australia–New Zealand and Latin America with the major east-west routes running along the northern hemisphere. More significant is the fact that the size of these vessels was increasing. The number of vessels with capacity of more than 2,500 TEUs increased from 50 to 83 and the number of those in the range 1,500–2,499 TEUs increased from 320 to 344. Conversely, the number of vessels in the range 1,000–1,499 TEUs decreased from 179 to 152.

The complex operation and management of container systems encompassing different types and sizes of ships and their containers, sea and inland terminals and inland transport networks require considerable skill and flexibility. The constant adaptation of transport activities

to serve the large number of customers making use of liner shipping services having different and changing trading needs is transforming sea carriers and transport operators into logistics operators better attuned to the needs of the trade. In April 2002, China Shipping set up a logistics subsidiary, following a similar decision by Cosco the previous January.

Concentration in liner shipping

The concentration process of recent years has resulted in increased carrying capacity being deployed by the biggest liner operators. As table 34 indicates, over the one-year period ending 30 September 2001, the top 10 liner operators increased their carrying capacity by 12.5 per cent to 3 million TEUs – almost 42.5 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 4.2 million TEUs – 60.1 per cent of the world total container carrying capacity. A clear reflection of the momentum being gained by industry consolidation is the permanence of the same operators in the list of the top 20. Among the top 10 operators, only CMA-CGM group moved up two places. Most of the shifting is found among operators positioned from 11th to 20th: three kept their places (Yang Ming, CSAV and Hamburg Sud), four went up (K Line by one place, OOCL and China Shipping by two places each, and Hyundai by four places) and three went down (MOL by two places, Hapag Lloyd by three places and Zim by four places).

Table 34

Leading 20 container service operators (as of end September 2001) on the basis of number of ships and total shipboard capacity (TEUs)[a]

Ranking	Operator	Country/Territory	No. of ships in 2001	TEU capacity in 2001	TEU capacity in 2000[b]
1	Maersk Sea-Land	Denmark	293	693 237	682 411
2	P&O Nedlloyd	UK/Netherlands	147	380 009	301 686
3	Evergreen Group	Taiwan Province of China	131	348 650	317 940
4	Hanjin/DSR-Senator	Republic of Korea/Germany	87	299 490	246 397
5	MSC	Switzerland	150	296 064	229 074
6	NOL/APL	Singapore	85	244 848	213 790
7	COSCO	China	130	228 060	210 289
8	CMA-CGM Group	France	72	176 278	141 652
9	NYK	Japan	78	169 921	170 907
10	CP Ships Group	Canada	81	160 206	148 745
Total 1–10			**1 254**	**2 996 763**	**2 662 891**
11	K Line	Japan	63	151 945	124 655
12	OOCL	Hong Kong (China)	49	144 450	120 096
13	MOL	Japan	56	144 014	137 379
14	Hyundai	Republic of Korea	74	140 979	109 303
15	China Shipping	China	71	128 387	103 876
16	Yang Ming	Taiwan Province of China	44	125 207	103 358
17	Zim	Israel	56	117 293	135 199
18	Hapag Lloyd	Germany	30	114 827	108 156
19	CSAV	Chile	47	91 803	105 035
20	Hamburg-Süd	Germany	45	90 757	76 614
Total 1–20			**1 789**	**4 246 425**	**3 786 562**
World fleet			**-**	**7 057 915**	**6 411 947**

Source: Compiled by the UNCTAD secretariat on the basis of data from *Containerisation International* (2001), November, 65, and Institute for Shipping Economics and Logistics (2001), *Shipping Statistics and Market Review*, November/December.

[a] All subsidiaries are consolidated.

[b] As of September 2000.

2. Freight level of containerized liner services

Chartering of container ships

Global liner shipping market developments are best reflected in the movements of the container ship charter market. This market is largely dominated by German owners, particularly by members of the Hamburg Shipbrokers' Association (VHSS), which control some 75 per cent of all container ship charter tonnage available in the free market. Since 1998 the association[4] has published the "Hamburg Index", which provides a market analysis of container ship time charter rates. Rates on 14-ton slot (TEU) per day were published monthly for three gearless and six geared size groups and compared to average rates obtained 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 are 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 1,999 TEU capacity. The development of time charter rates is reflected in table 35.

In 2001 the average time charter rates for all types of container ship having capacity of 500 TEUs or less were slightly higher than the corresponding averages for 2000. The reverse was true for all groups of larger vessels, which recorded yearly averages for 2001 below the levels of the year before. The steepest declines were for larger vessels: the average rate for gearless vessels over 2,000 TEUs went down 25.1 per cent to $7.97 per 14-ton slot day, while that for the largest geared vessels declined 22.9 per cent. Interestingly, rates for geared container ships in the range 1,600–1,999 TEUs are similar to those applied to gearless ships with capacity of over 2,000 TEUs.

Time charter rates for container ships larger than 2,000 TEUs were compressed downwards by the attractive newbuilding prices quoted by shipyards in recent years and the significant capacity still on order, about 400,000 TEUs per year over the next two years. Reported representative fixtures for March 2002 indicate that two 2,950 TEU gearless vessels engaged for trading over the trans-Pacific and over the Southeast Asia–Australia–New Zealand route for 12 months fetched $4.06 and $3.56 per 14-ton slot day. Depressed freight rates even caused a 41 per cent drop in traffic along the Trans-Siberian land bridge as the cost of the maritime route fell.

Table 35

Container ship time charter rates

($ per 14-ton slot/day)

Ship type	Yearly averages			Monthly averages for 2002			
	1997	2000	2001	January	February	March	April
Gearless							
200-299 TEU	21.80	15.71	16.04	15.26	15.68	15.73	15.83
300-500 TEU	16.79	14.52	14.72	13.78	14.28	15.28	14.81
2,000-2,299 TEU[a]	9.31	10.65	7.97	3.37	3.45	4.55	4.55
Geared							
200-299 TEU	22.00	17.77	17.81	16.26	16.32	16.97	17.04
300-500TEU	17.24	14.60	14.90	12.31	13.26	13.47	13.05
600-799 TEU[b]	13.87	12.21	11.30	8.13	8.70	8.47	8.88
600-799 TEU[c]	14.08	11.90	11.04	8.15	8.04	8.09	8.83
1,000-1,299 TEU	12.47	11.87	8.78	5.11	5.52	5.65	6.07
1,600-1,999 TEU	10.50	10.35	7.97	4.29	4.29	4.27	4.99

[a] This category was created in 2002. Data for the period January to June 2002 correspond to cellular vessels in the size range 2,300-3,900 TEU sailing at 22 knots minimum. Since July 2002 cellular vessels size range 2,300-3,400 TEU sailing at 22.5 knots minimum.

[b] Until June 2002, minimum speed 16-18 knot range; and from July 2002, onwards minimum speed 17-17.9 knots.

[c] Until June 2002, vessels size range 600-799 TEU over 18 knots; and from July 2002 onwards, vessel size range 700-999 TEU - minimum speed 18 knots.

During the first half of 2002, the upward trend for time charter rates was clearly established for all groups of vessels with the exception of gearless ships in the 300-to-500-TEU range.

Freight rates in main routes

By the end of 2001 freight rates on the main containerized routes – trans-Pacific, transatlantic and Asia–Europe – were all below levels prevailing at the end of 2000 (see table 36). Amid the general collapse of rates, those across the Atlantic fared better than Pacific and Asia–Europe ones. Rates on the westbound transatlantic leg connecting Europe with North America fell by 2.1 per cent, while rates on the eastbound leg decreased by 8.9 per cent. On trans-Pacific routes the freight rates prevailing in the eastbound and westbound directions decreased by 16.8 per cent. The Asia–Europe route suffered most, with rates decreasing by 17.1 per cent westward and 28.7 per cent eastward.

On the transatlantic route, freight rates for the eastbound leg decreased by about 5 per cent during the first quarter and again during the third quarter; modest gains were made in the second and especially the fourth quarter. As a result, freight rates started at $938 and ended the year at $899 per TEU. Opposite rate movements were registered on the westbound leg, where gains of 2.8 and 1.4 per cent were recorded in the first and third quarters while rates slid by 4.2 and 2 per cent during the second and fourth quarters. Therefore, rates for the westbound leg came down to $1,236 per TEU during the second quarter, rebounded to $1,253 per TEU in the following quarter and receded to $1,228 per TEU by the end of the year. The relatively good performance on this route was helped by the carriers' decision to impose equipment repositioning surcharges and the deployment of larger newbuildings in other routes because of the insufficient draft in ports along the eastern coast of the United States.

A clear downward trend prevailed in the trans-Pacific trade. In the more dominant eastbound direction, the trend had started during the fourth quarter of 2000 when rates decreased by 5.3 per cent and prevailed until September 2001, with rates falling 3, 5.8 and 8 per cent in the following quarters. This situation was caused by the deployment of larger container ships that added tonnage at a time of slack demand resulting from the slowdown in the United States economy. The modest 1 per cent fall in freight rates during the fourth quarter of 2001 reflects carriers' decision to implement reduction capacity programmes to align demand and supply. Rates started the year at $1,874 per TEU and ended at $1,608, a significant 14.2 per cent decrease. Westbound rates actually rose by a modest 1.1 per cent during the first quarter of 2001 to $877 per TEU. Then the downward trend imposed itself and accelerated towards the end of the year – the 1 per cent decline of the second quarter was followed by a 7.8 per cent decrease in the following quarter and a further 10 per cent decline that left freight rates at only $721 per TEU at the end of 2001. Apparently the measures undertaken by carriers were not enough to align supply and demand in the westward direction.

During the first half of 2001, freight rates for the eastward and westward legs of the Asia–Europe route moved in opposite directions. The 3.6 per cent gain in freight rates for the eastward leg was almost mirrored by the 3.2 per cent drop for the westbound leg during the first quarter. The following quarter saw wider and opposite fluctuations: the 7.9 per cent drop for the eastbound leg coincided with a 6.2 per cent gain for the westbound leg. Nevertheless, by mid-year freight rates were lower than those for the end of 2000. Worse was to follow, and rates for the eastbound and westbound legs fell simultaneously by 9.5 and 11.7 per cent in the following quarter and a further 11 and 4 per cent during the fourth quarter. Carriers implemented capacity withdrawal programmes to align supply and demand and announced freight increases for 2002. Also, carriers within the Far Eastern Freight Conference decided to introduce terminal handling charges for calls in Chinese ports and to redefine the origin and receiving charge applied in some parts of southern China as terminal handling charges beginning in early 2002.

As table 36 indicates, with the exception of the westward trans-Pacific route, which registered increases of 4.2 per cent, the downward trend for freight rates in the three main containerized routes continued unabated during the first quarter of 2002. The trend continued in the following month in spite of significant increases in cargo volumes. Carriers started to announce freight increases in July for those shipments not covered by service contracts in an attempt to boost revenues. According to the Shanghai Shipping Exchange, the freight rate index for services to Europe increased by 7.8 per cent to 1,103 in July while the index for services to the West Coast of North America went up by 5.1 per cent to 1,034.

During 2001, the downward pressure on freight rates felt by shipowners was compounded by increases in marine insurance and led to surcharges that were promptly opposed by shippers (see box 2).

Table 36

Freight rates (market averages) on the three major liner trade routes 2000-2001[a]

(US dollars per TEU)

	Trans–Pacific		Europe-Asia		Transatlantic	
	Asia–USA	USA–Asia	Europe–Asia	Asia–Europe	USA–Europe	Europe–USA
2000						
First quarter	2 125	751	664	1 594	939	1 148
Change (%)	*-3.0*	*2.0*	*-14.0*	*-1.0*	*-9.0*	*2.0*
Second quarter	1 953	852	710	1 597	958	1 148
Change (%)	*-8.0*	*13.0*	*7.0*	*0.0*	*2.0*	*4.0*
Third quarter	2 041	939	793	1 673	1 022	1 264
Change (%)	*5.0*	*10.0*	*12.0*	*5.0*	*7.0*	*6.0*
Fourth quarter	1 932	867	797	1 618	987	1 255
Change (%)	*-5.3*	*-7.7*	*0.5*	*-3.3*	*-3.4*	*-0.1*
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	1 765	869	760	1 468	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*

[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 United States refer to the average for all three coasts. Rates to and from Europe refer to the average for Northern and Mediterranean Europe. Rates to and from Asia refer to the whole of Southeast Asia, East Asia and Japan/Republic of Korea.

Box 2

The impact of terrorist attacks on marine insurance and shippers

After the Tamil Tiger attack on the Colombo airport on 24 July 2001, marine underwriters imposed additional hull and machinery premiums for vessels calling at Colombo, hurting trans-shipment activity and Sri Lanka exporters. As a result of this, container carriers applied surcharges of $350 per TEU on import and export cargoes and of $150 on transhipment cargoes. After representations made by Sri Lankan shippers to commercial underwriters and shipowners, those surcharges were considerably reduced over a period of about two months.

The terrorist attacks of 11 September 2001 in the United States, along with the subsequent military action in Afghanistan, severely affected global marine insurance markets. By early October it was clear to shipowners that hull and machinery premiums were going up not only in South Asia, where most of the military activity concentrated, but also in a wide geographical area extending to Algeria in the Mediterranean Sea. Additional premiums of up to 0.4 per cent of the hull and machinery value for a seven-day period were quoted by commercial marine underwriters for vessels going to Pakistan, with premiums of 0.25 per cent imposed to those heading to Iran and 0.175 per cent for destinations in the United Arab Emirates and Saudi Arabia. The rate for Iraq continued to be the highest one at 0.5 per cent, with the rate for vessels crossing the Suez Canal quoted at 0.1 per cent. Four State-owned Indian insurers followed the trend and quoted additional premiums of 0.5 per cent of hull and machinery value.

Conferences, consortia and agreements started to charge emergency war surcharges to shippers. These surcharges were in the range of $125 to $250 per TEU, with $10 per TEU being charged for transiting through the Suez Canal. Lesser surcharges of $50 per TEU were applied to Damietta and Port Said (Egypt) and $60 per TEU to Jeddah (Saudi Arabia). Shippers and associations opposed the surcharges and questioned the method used to calculate them, with the European Shippers' Council expressing disappointment regarding war risk premium increases.

Negotiations involved underwriters, shipowners and shippers. By the end of the year and during the first quarter of 2002, many of the premiums and surcharges were coming down. For instance, additional hull and machinery premiums for vessels going to Pakistan stood at 0.25 per cent, while the India Pakistan Bangladesh Ceylon Conference reduced the surcharge for cargoes going to the same country from $120 in mid-January to $82 by mid-February.

As for the other main insurance supported by shipowners, several protection and indemnity clubs announced a steep rise in premiums, between 25 and 30 per cent, starting in February 2002. Two reasons given by the clubs were their inability to offset losses with financial revenues as a result of the weakened state of the financial markets and the increase in reinsurance after the terrorist attacks of 11 September. However, other structural trends seem also to be at work, such as the increased reluctance of cargo owners and their insurers to accept shortfalls of cargo at delivery and the increased value of each claim, although the frequency has diminished.

Moreover, by the end of January 2002, the United States Maritime Administration decided to accept requests for war risk insurance for U.S. and foreign vessels trading in the Middle East Gulf, the Arabian and Red Seas and Israel and Lebanon in cases where commercial insurance was not available on reasonable terms.

Source: Containerisation International (2001), November: 77; *Containerisation International* (2002), January: 18; *Fairplay* (2002), 17 January: 23, 33; *Fairplay* (2002), 24 January: 12; *www.shipownersclub.com/library/circulars/pages/war_risks_cancellations.htm; www.blazer.lanka.net/upali/island/2001/08/21/news12.html.*

3. Supply and demand with respect to main liner services

During 2001 there were clear indications that supply and demand were starting to diverge. The increases in tonnage, the addition of service strings by several carriers and the weakening of economic activity in North America could not overcome the optimism created by the accession of China to the WTO. By year's end it was clear that oversupply was a problem to contend with.

The estimates of cargo flows on the three major containerized routes for the first nine months of 2001 show only modest increases. In fact, these aggregates mask some fast-growing intraregional trade such as that between China and Japan, which grew 18 per cent during the same period.

In trans-Pacific trade, the year 2001 witnessed reduced carrier expectations for increases in cargo flows from 10 per cent at the beginning of the year to about 4 per cent by the third quarter. Actual cargo flows were much less. As table 37 indicates, the 3 per cent increase in the eastbound direction was balanced by zero growth in the opposite direction. Other indicators point to the same lacklustre result. Estimates of net slot utilization in the eastbound direction went down from 83.7 per cent in 1999 to 79.9 per cent in 2000 and 78.4 in the first half of 2001. A similar trend was apparent westbound: net slot utilization went from 57.8 per cent in 1999 to 53.1 in 2000 and 51.6 per cent by mid-2001. Anecdotal evidence from K Line supports this view: according to this information, eastbound slot utilization fell 1 per cent to 92 per cent during the second and third quarters of 2001, while westbound slot utilization decreased 7 per cent to 62 per cent. Deteriorating slot utilization was expected to continue in 2002. Excess supply across the Pacific led to reductions in capacity by major operators as indicated in table 38.

Table 37

Estimated cargo flows in major trade routes

(millions of TEU)

Year	Trans–Pacific		Asia–Europe		Transatlantic	
	Asia–USA	USA–Asia	Asia–Europe	Europe–Asia	USA–Europe	Europe–USA
2000	5.59	3.25	4.53	3.59	2.19	2.94
2001	5.76	3.25	4.61	3.63	2.20	3.02
% change	*3.0*	*0.0*	*1.7*	*1.1*	*0.4*	*2.7*

Source: Compiled by the UNCTAD secretariat based on data from *Containerisation International*, various issues.

Table 38

Capacity share for trans-Pacific trade

(percentages)

Operator	mid-2001	mid-2000
New World Alliance	17.4	19.9
Grand Alliance	15.3	14.4
Cosco/K Line/Yanming	14.2	14.7
United Alliance (Hanjin, Senator Lines, Cho Yang)	12.4	12.5
Maersk Sealand	11.5	11.5
Hanjin/Yangming (U.S. east coast all-water service)	2.0	2.3
Total	72.9	75.3

Source: Compiled by the UNCTAD secretariat.

On the transatlantic route, the dominant westward leg grew by 2.7 per cent while the eastward leg grew only marginally by 0.4 per cent. Nevertheless, anecdotal evidence for the fourth quarter of the year indicates that trade for the whole year was static if not worse: CP Ships reported a 7 per cent drop in volume, while ACL believed that volume slumped by 10 to 15 per cent and called for capacity reduction. As slot capacity is believed to have increased by 2.8 per cent in 2000 and by 5.3 per cent during 2001, excess supply has developed. For 2002 another 2 per cent growth in slot capacity is expected.

On the Asia–Europe trade routes, the modest increases in both directions indicated in table 37 need to be taken together with statements from the Far Eastern Freight Conference (FEFC), which is responsible for about 65 per cent of volume moving on these routes. Optimistic projections of 7 to 8 per cent growth in volume proved unrealistic, and by the end of 2001 FEFC expected westbound volume to growth by 0.25 per cent and eastbound volume to decrease by the same percentage. In North-South trade, the situation was similar.

4. Liner freight index

Table 39 shows movements in liner freight rates for cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range for the period 1999–2001. The overall index for 2001 went down by 3 points from the 2000 level to 114 points (1995 = 100), reflecting weak growth in both homebound and outbound trade. In homebound trade, the average level decreased by 9 points to 106 points in 2001. The decline was evident during the last four months of the year, when the index went below the 100 mark. This downward trend occurred despite repeated calls for implementing rate restoration programmes. The outbound index was steady at 121 points – only one point up from the average level of the previous year, and easing only from September onwards. All three indices went down during the first semester of 2002.

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

Table 40 provides data on the freight rates of liner services as a percentage of market prices for selected commodities and trade routes on certain years between 1970 and 2001. For rubber sheet, the average f.o.b price decreased less than the freight rates and BAF surcharges and resulted in a decreased freight ratio of 13.9 per cent for 2001. The f.o.b price for jute rose 18.3 per cent, while freight rates fell 50.3 per cent. This explains the drop in freight ratio to 15.5 per cent for 2001. The freight ratio for cocoa beans shipped from Ghana decreased slightly from 4.8 per cent to 4.1 per cent in 2001, mainly because of a 22.7 per cent increase in prices. 2001 was the second year in which no cocoa beans were shipped from Brazil. The c.i.f. price of coconut oil, lowest among the commodities listed in table 40, decreased in 2001 by around 30 per cent, while the freight rate decreased substantially to 57.7 per cent, resulting in a freight ratio of 15.5 per cent for 2001, much less than the 25.9 per cent reached the previous year. The ratio of liner freight rate to f.o.b. price for tea decreased from 5.9 to 5.3 per cent as a result of a 27.5 per cent decrease in freight rates and a 20 per cent reduction in price during 2001. The price for coffee shipped from Brazil to Europe decreased dramatically in one year by 36.7 per cent, while the freight rate decreased moderately by 1.4 per cent. The result was an increase of the freight ratio from 4.4 to 6.9 per cent in 2001. Coffee exports from Colombia to Europe suffered a substantial drop in prices, about 30 per cent during 2001, while freight rates rose by 25 per cent. These changes resulted in substantial increases of the freight ratio to 5.9 per cent for coffee shipped from Atlantic ports and 6.2 per cent for shipments from Pacific ones.

Table 39

Liner freight indices, 1999-2002

(monthly figures: 1995 = 100)

Month	Overall index				Homebound index				Outbound index			
	1999	2000	2001	2002	1999	2000	2001	2002	1999	2000	2001	2002
January	77	104	119	93	86	106	113	81	69	101	125	104
February	79	103	121	93	88	102	115	81	70	104	126	103
March	80	105	121	95	90	104	116	80	71	105	127	109
April	83	113	122	95	91	110	118	82	74	116	126	108
May	83	119	121	94	92	114	116	82	74	125	126	106
June	84	116	119	94	94	110	112	81	76	121	125	106
July	86	115	117		94	111	111		78	118	123	
August	87	122	112		98	122	107		77	122	117	
September	90	127	105		99	125	97		82	128	113	
October	92	130	103		99	128	91		86	133	115	
November	96	130	104		102	126	92		89	133	116	
December	98	125	102		105	122	89		92	129	114	
Annual average	86	117	114		95	115	106		78	120	121	

Source: Compiled by the 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.

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	2000	2001
Rubber	Singapore/Malaysia–Europe	10.5	18.5	8.9	n.a.	15.5	15	13.9
Jute	Bangladesh–Europe	12.1	19.5	19.8	6.4	21.2	37	15.5
Cocoa beans	Ghana–Europe	2.4	3.4	2.7	1.9	6.7	4.8	4.1
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.	25.9	15.5
Tea	Sri Lanka–Europe	9.5	10.4	9.9	6.9	10.0	5.9	5.3
Coffee	Brazil–Europe	5.2	9.7	6.0	5.0	10.0	4.4	6.9
Coffee	Columbia (Atlantic)–Europe	4.2	4.7	3.3	6.7	6.8	3.3	5.9
Coffee	Columbia (Pacific)–Europe	4.5	6.3	4.4	6.1	7.4	3.5	6.2

Source: Compiled by the 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. The prices of the remaining commodities are quoted in 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 1990–2001, the prices of the commodities were taken from the January 2002 issue of the *Monthly Commodity Price Bulletin*.

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 thereof. For the transport sector, table 41 provides estimates of total freight payments for imports and the percentage of total import value by country groups. In 2000 the world total value of import (c.i.f) increased by 13 per cent, while total freight paid for transport services increased by an impressive 27.1 per cent, reflecting the high level of freight rates that prevailed during the year (see also figure 8) The share of global freight payments in import value increased to 6.2 per cent from 5.5 per cent in 1999. In 1980 the share of freight costs in import value stood at 6.6 per cent, nearly 30 per cent higher than the average ratio in the 1990s. The regional comparison indicates that the share of freight costs in the imports of developed market-economy countries continues to be lower than that for developing countries, with the difference between the two groups fluctuating slightly. For 2000 the total value of imports by developed market-economy countries increased by 10.7 per cent while total freight costs increased by 27.4 per cent; thus freight cost as a percentage of import value stood at 5.2 per cent (4.5 per cent in 1999) as compared to 8.8 per cent (8.4 per cent in 1999) for developing countries. This difference is mainly attributable to global trade structures, regional infrastructure facilities, logistics systems, and the more influential distribution strategies of shippers in developed market-economy countries.

2. Regional trends

The total freight costs of developing countries increased from 8.4 per cent in 1999 to 8.8 per cent in 2000. Within this group, freight costs for African developing countries rose slowly but steadily from 12.1 per cent in 1999 to 13 per cent in 2000. This trend mainly reflects insufficient infrastructure facilities and inadequate management practices, specifically for transit transport, as well as the low productivity of inland transport and terminal equipment.

The subregional breakdown shows that the freight costs of West Africa increased slightly from 1999 to almost 14 per cent in 2000, while those of East and Southern Africa, including the Indian Ocean region, rose to 15.2 per cent from 14.1 per cent in 1999. The ratio of North Africa rose to 11.6 per cent, reflecting a relatively more efficient transport system compared to those of other African subregions. Imports to African landlocked countries continued to suffer from high freight costs, between 16.2 and 27.6 per cent in 2000, which primarily reflect inefficient transport organization and facilities, poor utilization of assets and weak managerial, procedural, regulatory and institutional systems, apart from overall inadequate infrastructure conditions.

Developing countries in Asia accounted for 68 per cent of import value and 65.5 per cent of freight payments among all developing countries in 2000 as compared to 61.3 and 58.2 per cent respectively for 1999. The freight factor of this region fluctuated above 8 per cent between 1990 and 2000, from 8.2 in 1990 to 8.5 per cent in 2000. The freight factor in the Middle East remainded constant at 9.7 per cent in 2000 (9.67 per cent in 1999). The remainder of Asia saw its ratio increase from 7.9 per cent in 1999 to 8.3 per cent in 2000.

For developing countries in America, the freight cost ratio increased to 8.6 per cent in 2000 from 7.7 per cent in 1999.

Within this region, Central America and Mexico had the lowest freight factor – 7.8 per cent – in 2000. This low freight ratio is largely attributable to Mexico, the biggest trading nation in the region, which had a freight factor of 7.3 per cent in 2000. Mexico accounted for 87 per cent of the total c.i.f. value of imports of the subregion (48 per cent of American developing countries). The countries of South America's western seaboard paid relatively high freight costs of 9.2 per cent in 2000 as compared to 10.2 per cent in 1999. The countries of South America's eastern seaboard registered a rate of 8.5 per cent. Developing countries in the Caribbean recorded high freight costs with a ratio of 11.9 per cent in 2000, compared to 10.5 per cent in 1999. Among landlocked countries in the Americas, Paraguay continued to pay high freight rates of 11.3 per cent while Bolivia's rate was 12.8 per cent.

Freight rates for developing countries in Europe decreased slightly in 2000 to 8.9 per cent, down from 9.2 per cent in 1999. Small island developing countries in Oceania also had reduced freight rates of 11.9 per cent, less than the previous year's 12.1 per cent. For island developing countries, long distances from major trading partners, low cargo volumes and high trans-shipment and feeder costs contribute to high freight costs.

Table 41

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

(millions of dollars)

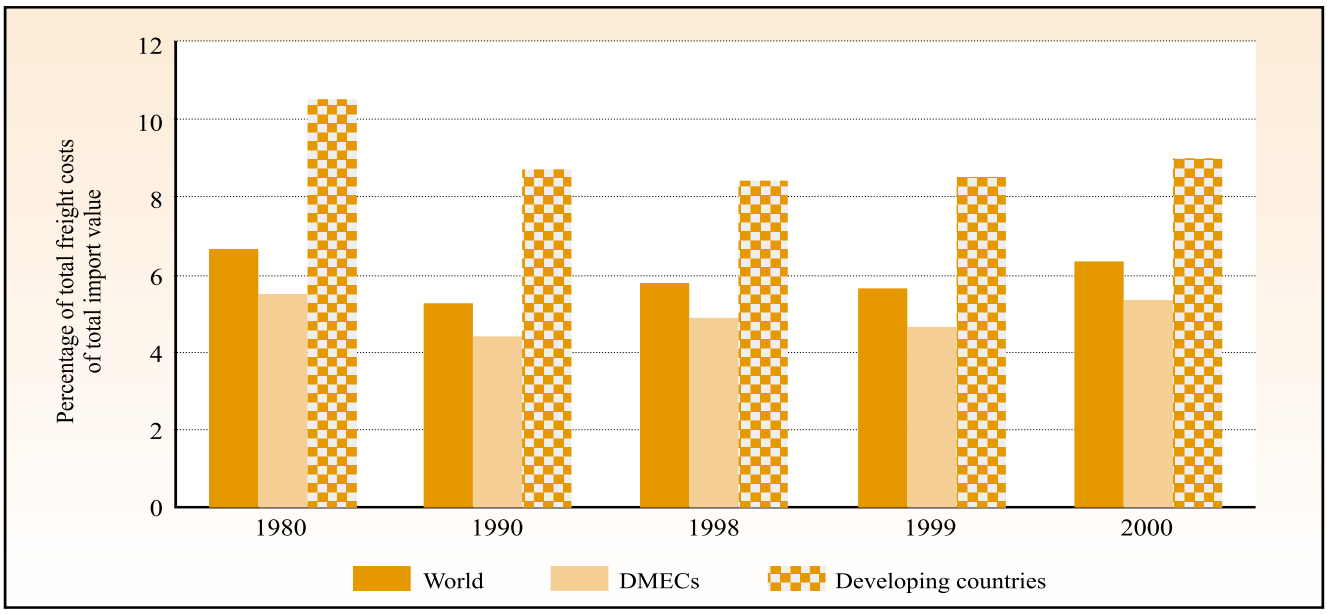
Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f)	Freight costs as % of import value
1980	World total	123 264	1 856 834	6.64
	Developed market-economy countries	78 286	1 425 979	5.49
	Developing countries–total	44 978	430 855	10.44
	of which:			
	Africa	10 432	77 757	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
1999	World total	302 160	5 472 985	5.52
	Developed market-economy countries	183 482	4 052 534	4.53
	Developing countries–total	118 677	1 415 200	8.39
	of which:			
	Africa	12 354	102 254	12.08
	America	26 658	348 200	7.66
	Asia	76 925	941 910	8.17
	Europe	2 103	22 836	9.21
	Oceania	638	5 251	12.14
2000	World total	384 013	6 187 292	6.21
	Developed market-economy countries	233 784	4 486 628	5.21
	Developing countries–total	150 229	1 700 664	8.83
	of which:			
	Africa	14 447	111 360	12.97
	America	34 624	403 428	8.58
	Asia	98 364	1 156 291	8.51
	Europe	2 182	24 454	8.92
	Oceania	612	5 130	11.94

Source: UNCTAD secretariat estimates based on data supplied by the International Monetary Fund.

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

Figure 8

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



Source: Table 41 of this publication.

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 1998–2000. The world growth rate for container port throughput (number of movements measured in TEUs) increased by 15.4 per cent in 2000. This was more than double the growth of the previous year, which was 7.3 per cent, and reflects the booming trading conditions that prevailed in 2000. Throughput for 2000 reached 225.3 million TEUs, an increase of 30 million TEUs from the 1999 level of 195.3 million TEUs.

The rate of growth for developing countries and territories was 14.5 per cent with a throughput of 94.1 million TEUs, which corresponds to 41.8 per cent of world total throughput. The growth rate was better than that of 1999 – 10.9 per cent – when developing countries' throughput was 82.1 million tons. Places with double-digit growth in 2000 and 1999 were Argentina, Bangladesh, Brazil, Colombia, Egypt, Hong Kong (China), India, Indonesia, Malaysia, Mexico, Morocco, Oman, Panama, the Philippines, Senegal, Trinidad and Tobago and Yemen. The recorded growth rate of developing countries varies 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 2001 are available for the leading 20 world ports handling containers, and the results are indicated in table 43. The list included 10 ports in developing countries and territories and socialist countries in Asia, with the remaining 10 located in market-economy countries. Of the latter, six ports were in Europe, three in the United States and one in Japan. Hong Kong (China) maintained its leadership even though it reported a drop of 1.1 per cent in growth rate. There were three newcomers on the list, all of them from Asia: Shezhen and Quingdao from China and Manila from the Philippines. As a result, nine ports lost their positions in the list while two moved up one place, Shanghai to place 5 and Bremerhaven to place 15. The top four places on the list remained unchanged. Only three ports, Shanghai, Hamburg and Port Klang, reported double-digit growth rates in 2001 and 2000. The top 20 ports for 2001 recorded a total of 107.4 million TEUs in the year 2000, equivalent to 47.7 per cent of the world throughput.

B. IMPROVING PORT PERFORMANCE

During 2001 average stevedoring productivity for container handling in five major Australian ports (Adelaide, Brisbane, Fremantle, Melbourne and Sydney) increased. Container movements per crane per hour increased by 11.9 per cent to 26.3 containers, while average productivity per vessel increased 11.4 per cent to reach 40.9 containers per ship per hour. Nevertheless, the total throughput of these ports increased by less than 1 per cent to 3.9 million TEUs.

Two years of impressive increases in container throughput were recorded in the Jawaharlal Nehru Port Trust (JNPT), which in 2001 celebrated its 12th anniversary. In March 2001, JNPT was the first port in India to pass the 1 million TEUs mark, reaching 1.19 million TEUs, an increase of

Table 42

Container port traffic of 48 developing countries and territories in 2000, 1999 and 1998

(in TEUs)

Country or territory	TEUs 2000	TEUs 1999	TEUs 1998	% change 2000/1999	% change 1999/1998
Hong Kong, China	18 100 000	16 210 762	14 582 000	11.7	11.2
Singapore	17 096 036	15 944 793	15 135 557	7.2	5.3
Republic of Korea	8 530 451	7 014 245	6 460 461	21.6	8.6
United Arab Emirates	5 055 026	4 930 299	4 531 625	2.5	8.8
Malaysia	4 612 615	3 941 777	3 026 447	17.0	30.2
Indonesia	3 863 569	2 660 439	2 203 274	45.2	20.7
Philippines	3 604 713	2 813 099	2 442 158	28.1	15.2
Thailand	3 268 541	2 892 216	2 638 906	13.0	9.6
Panama	2 369 715	1 649 512	1 425 788	43.7	15.7
Brazil	2 341 227	2 022 842	1 743 639	15.7	16.0
India	2 313 637	1 954 025	1 745 669	18.4	11.9
Sri Lanka	1 732 855	1 704 389	1 714 077	1.7	-0.6
Egypt	1 783 956	1 520 523	1 131 795	17.3	34.3
Saudi Arabia	1 502 893	1 448 338	1 366 746	3.8	6.0
Mexico	1 311 137	1 083 887	945 087	21.0	14.7
Oman	1 161 549	773 806	139 090	50.1	456.3
Argentina	1 141 113	1 021 973	806 674	11.7	26.7
Malta	1 082 235	1 091 364	1 118 741	-0.8	-2.4
Chile	1 065 413	743 364	758 992	43.3	-2.1
Pakistan	774 943	696 649	701 213	11.2	-0.7
Jamaica	765 977	689 677	671 130	11.1	2.8
Colombia	759 535	413 935	88 130	83.5	369.7
Venezuela	715 807	654 148	830 109	9.4	-21.2
Bahamas	572 224	543 993	470 047	5.2	15.7
Costa Rica	570 000	590 000	450 000	-3.4	31.1
Dominican Republic	509 389	n.a	n.a	-	-
Côte d'Ivoire	434 654	463 835	468 727	-6.3	-1.0
Bangladesh	456 007	392 137	345 327	16.3	13.6
Iran, Islamic Republic of	427 747	320 622	325 904	33.4	-1.6
Ecuador	414 104	378 000	407 434	9.6	-7.2
Peru	413 646	376 045	378 013	10.0	-0.5
Trinidad and Tobago	347 934	298 553	270 204	16.5	10.5
Morocco	366 692	322 968	275 710	13.5	17.1
Uruguay	287 298	250 227	265 892	14.8	-5.9
Algeria	297 489	270 742	228 160	9.9	18.7
Lebanon	263 000	271 409	290 409	-3.1	-6.5
Cyprus	259 096	239 077	214 030	8.4	11.7
Yemen	247 913	121 563	57 537	103.9	111.3
Kenya	236 928	232 510	248 451	1.9	-6.4
Nigeria	233 587	225 777	166 336	3.5	35.7
Tunisia	230 671	214 693	173 746	7.4	23.6

Table 42 (continued)

Country or territory	TEUs 2000	TEUs 1999	TEUs 1998	% change 2000/1999	% change 1999/1998
Ghana	209 484	235 743	199 028	-11.1	18.4
Guatemala	190 794	151 493	144 085	25.9	5.1
Kuwait	185 904	173 383	n.a	7.2	-
Senegal	165 000	148 740	115 039	10.9	29.3
Reunion	155 877	146 172	145 286	6.6	0.6
Mauritius	157 420	144 269	136 417	9.1	5.8
Martinique	152 376	141 700	135 700	7.5	4.4
Papua New Guinea	140 872	138 110	144 630	2.0	-4.5
Guam	132 689	145 191	163 855	-8.6	-11.4
Guadeloupe	129 991	104 000	103 473	25.0	0.5
Djibouti	127 126	128 791	136 217	-1.3	-5.5
Cameroon	127 000	121 563	118 374	4.5	2.7
Total	93 395 855	81 167 368	72 785 339	15.0	11.7
Other reported[a]	683 382	962 004	1 259 355	-29.0	-23.6
Total reported[b]	94 079 237	82 129 372	74 044 694	14.5	11.1
World total	**225 294 025**	**195 261 458**	**181 982 976**	**15.4**	**7.3**

Source: Derived from information contained in *Containerisation International Yearbook 2002* and from information otained 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.

33.7 per cent from previous year. In March 2002, after a 22.9 per cent increase, it reached 1.46 million TEUs, of which 0.88 million TEUs was achieved in the Nhava Sheva terminal, operated by P&O Ports, and the remaining 0.57 million TEUs in the terminal operated by JNPT. The port, which has gained ISO 9002 Certification, is still deemed too expensive, and suggestions to merge the two terminals in order to achieve economies of scale have been voiced.

In Rotterdam the number of spills by seagoing and inland vessels decreased by 13.6 per cent to 344 incidents, of which 74 required cleaning operations. This decrease is the result of increased awareness by bunker operators and more frequent inspections by the patrol fleet. New rules for compulsory pilotage have been applied in this port since mid-2001. Only vessels less than 70 metres long were exempted, and those between 70 and 90 metres long were exempted under very stringent conditions.

Maintaining excellent productivity in Singapore was not enough to retain another leading carrier, Evergreen. In April 2002, the carrier decided not to renew its current contract, which was due to expire the following August, and instead to move its major east-west services to Tanjung Pelepas (Malaysia), which is believed to offer rates 50 per cent lower.

In other ports, performance deteriorated because of several factors. During the second half of 2001, stoppages and strikes hit Durban, the major South African container port. By mid-September carriers were concerned, with excessive vessels delays ranging from 29 to 95 hours. In November trade unions opposed stevedoring companies' use of non-union labour through brokers, and this was followed by a dispute between the unions and the port operator company concerning the payment of bonuses. A one-week strike left a backlog of cargo and vessels, which by late December was almost cleared. However,

Table 43

Top 20 container terminals and their throughput, 2001 and 2000

(in TEUs)

Port	TEUs 2001	TEUs 2000	2001-2000	2000-1999
Hong Kong, China	17 900 000	18 100 000	-1.10	11.70
Singapore	15 520 000	17 040 000	-8.90	6.90
Busan	7 906 807	7 540 387	4.90	17.10
Kaohsiung	7 540 524	7 425 832	1.50	6.30
Shanghai	6 340 000	5 613 000	13.00	33.30
Rotterdam	5 944 950	6 275 000	-5.30	-1.10
Los Angeles	5 183 519	4 879 429	6.20	27.40
Shezhen	5 076 435	3 993 714	27.10	34.00
Hamburg	4 688 669	4 248 000	10.40	13.60
Long Beach	4 462 967	4 600 787	-3.00	4.40
Antwerp	4 218 176	4 082 334	3.30	13.00
Port Klang	3 759 512	3 206 428	17.20	25.70
Dubai	3 501 821	3 058 886	14.50	7.50
New York	3 316 275	3 006 493	10.30	5.00
Bremerhaven	2 896 381	2 712 420	6.80	24.40
Felixtowe	2 800 000	2 800 000	0.00	3.80
Manila	2 796 000	2 867 836	-2.50	33.60
Tokyo	2 770 000	2 960 000	-6.40	9.80
Quingdao	2 640 000	2 120 000	24.50	37.00
Gioia Tauro	2 488 332	2 652 701	-6.20	17.70

Source: *Containerisation International*, March 2002, and *Port Development International*, April 2002.

productivity did not cope with the remaining traffic, and in January 2002 carriers announced plans to impose a surcharge of $75 per TEU from mid-February when average vessel delays over the last two months exceeded 12 hours. Successive negotiations postponed this surcharge until May, but increases in port tariffs were announced for that month, together with the construction of a new container berth for Durban. Moreover, the South Africa Port Authority announced the start of the tendering process for construction of the $163 million Coega port on the east coast, north of Port Elizabeth.

Strikes also affected other ports. Dockers from European Union ports located in France, Greece, Portugal, Spain and Sweden stopped work on 6 November 2001 to protest the proposed EEC Directive authorizing carriers to undertake cargo handling. In the same month, Indian port workers also stopped work to protest the effects of globalization. During the last quarter of 2001, labour implemented go-slow tactics at the Chennai (India) port to protest the reallocation of personnel to the P&O container facility by the Chennai Port Trust Authority. This worker action reduced productivity in the port. The concessionaire took over the facility in December and brought in spare parts and new equipment to cope with the backlog and counter the $75-per-TEU surcharge imposed by feeder carriers to export boxes.

In other ports, operational efficiency suffered for different reasons. In Bremerhaven (Germany), a change of software for container handling resulted in chaos because the hardware was incompatible with computer terminals, and the north terminal was stalled for up to 12 hours. Rio Grande (Brazil) was battered by a severe storm over a weekend in October 2001, and in November heavy winds forced Barcelona to close for one day.

The provision of marine services was a concern in other ports. During 2001 in the United Kingdom ABP, the harbour authority on the Humber River in England, entered into conflict with Humber Pilots Ltd., the independent body to which its pilots belong. In early

December the pilots decided to strike, after a ruling by the London Court of Appeal had stated that they were indeed ABP employees and were therefore entitled to take this action within the framework of an industrial dispute. The strike started in mid-December and went on for about six weeks, with ABP countering it with newly engaged and trained pilots. Service to shipping was maintained, although with a number of incidents that prompted allegations of the pilots' lack of experience and limited number. By the end of January 2002, ABP terminated its agreement with Humber Pilots Ltd. and imposed its new pilotage service on the Humber.

A shortage of pilots was apparent in Indian ports, notably Mumbai, in early 2002. In India, a suspension of night navigation by the 50 pilots licensed to operate on the Hooghly River hampered Haldia Docks.

In the United States, the effect of restrictive practices used by some dry bulk terminals located on the lower Mississippi River came to the attention of the Federal Maritime Commission (FMC). Vessel operators and shipping agents had complained that those terminals had entered into exclusive arrangements with tug companies that resulted in price increases of between 12 and 51 per cent. The FMC also started an investigation of two long-standing exclusive tug arrangements in the ports of Everglades and Canaveral in Florida.

The impact of the financial crisis on port activity was evident in Argentina. Subsidies for Hidrovia, which is in charge of maintaining 1,000 kilometres of waterways used for international traffic in the River Plate, were reduced from $40 million to $22 million, and toll increases were announced for 2002. Also, after the freezing of bank accounts, the transfer of money was not possible for almost two weeks at the end of the year and created havoc for shipping agents, notably in connection with payments.

Disciplinary action took place in some ports. In Chittagong (Bangladesh), a number of port officials were suspended from duty following allegations of lack of interest into the investigation of a disappeared container in July 2001. In Thailand, similar measures were taken in connection with irregularities related to a dredging contract. In St. Petersburg (Russia), the fight against fraudulent clearance of cargoes led to more container inspections and staff suspensions.

In the Russian Federation, the transport minister said ports were handling more cargo, a 25-per cent increase up to the third quarter of 2001. Delays persisted due to a lack of wagons from regional railway companies. Major industrial companies began to show interest in port activities: Lukoil, the largest oil producer, won 22 per cent control of the port of Murmansk (Barents Sea); a large steelmaker, Severstal, acquired control of port management and stevedoring of the ports of Taganrog (Azov Sea) and Tuapse (Black Sea) in addition to controlling Vostochny (Far East); and another steelmaker acquired 60 per cent of the port company managing Nakhodka, in the Far East, to assure the reliability and control the cost of export facilities. In St. Petersburg, a $65 million new bulk terminal was opened in late December 2001 for shipping up to 7 million tons of potassium and phosphates and to recover some of the nearly 6 million tons being moved through non-Russian Baltic ports.

A number of existing facilities were expanded and new ones were commissioned during 2001. The innovative Ceres Paragon terminal in Amsterdam opened in June but, by the end of the year, had failed to attract users. A massive $465 million expansion of Le Havre (France) comprising six container berths, a jetty and a new access in the Seine river started in November. The finance includes a $34 million EEC subsidy and a 140 million Euros loan from the European Investment Bank. Barcelona awarded two contracts worth $290 million to extend its eastern and western breakwaters to a total of 6.8 kilometres, and work started in Algeciras to build a $16 million post-Panamax container terminal. In the Far East, the port of Kwangyang (Republic of Korea) completed four new container berths, one to be operated by Dongbu Co. and the others by HPH, Hanjin Shipping and Hyundai Merchant Marine respectively. In South Asia, construction delays at the QEII Colombo container terminal postponed its commissioning into 2002. Elsewhere, a 75-kilometre rail link between the two ends of the Panama Canal was commissioned in mid-year and started to move containers between the ports of Balboa (Pacific Ocean) and Manzanillo (Caribbean Ocean). The Zarate Container Terminal, a fully private financed facility located 90 kilometres upstream on the River Plate but close to the industrial area of Greater Buenos Aires, was commissioned in November. Also, a new 15-metre draught container terminal was commissioned at Pecem, near Fortaleza, in northeastern Brazil.

Port developments plans were announced in other ports, most of them financed by a combination of public and private funds. Container and LNG terminals valued at $129 million were under construction in Sines (Portugal) for commissioning in 2003. In 2002, the Republic of

Korea announced a $874 million investment to expand container facilities in Busan and Kwangyang, developing new ports in North Inchon and Mokpo and upgrading cargo handling facilities in a number of lesser ports. The depressed maritime trade of 2001 affected some developments: a scaled-down plan for a new container terminal in Laem Chabang was announced in February 2002. The 30-year lease would need a $61 million investment, instead of $75 million, and a guaranteed throughput of only 0.1 million TEUs, instead of 0.5 million TEUs, in the first year of operation. Elsewhere, the cost of inland transport infrastructure serving ports was borne partially by shippers. In the port of Los Angeles (USA), the Alameda Corridor Transportation Authority is levying a fee on the railroad moving traffic which is passed on to sea carriers using the railroad. Then the TransPacific Stabilization Agreement would charge $15 per loaded TEU to shippers, which would in effect pay about half of the investment of the Alameda Corridor. In Oakland, another port on the western coast of the United States, a new container terminal was completed in 2001 and a joint intermodal terminal in March 2002, as part of the port's expansion scheme.

Port performance also requires good relations with the neighboring city. Complaints from residents and tourist companies concerning container handling activities and expansion plans in the port of La Spezia (Italy) prompted the intervention of the port authority. In Rotterdam long-term plans were being prepared to convert the eastern part of the Waalhaven docks into residential areas.

C. INSTITUTIONAL CHANGE

In 2001, Hutchison Port Holdings (HPH) a global container terminal operator based in Hong Kong (China), reached a throughput of 27 million TEUs in its terminals located in 30 ports around the world, an increase of 6 per cent over the previous year. The financial result was similar, a 9 per cent increase in revenues to $2 billion. These results reflect the performance of terminals outside Hong Kong, including those acquired from the Philippine operator ICTSI in June 2001. Following approval from Directorate IV of the European Commission in charge of enforcing competition rules, HPH was able to take majority shareholding in the ECT terminal in Rotterdam provided its shares in Delta terminal, another major terminal in Rotterdam, were disposed of. HPH sold these to Maersk, which then took full control of the Delta Terminal and added it to the network operated by its subsidiary APM Termines (whose throughput in 2001 was about 15 million TEUs). Moreover, HPH signed an agreement to develop phase III of the port in Yantian, in mainland China, which will require a $850 million investment to add four container berths with a water depth of 16 metres by 2006.

In the same year, PSA, the operating company of the port of Singapore, reported a total throughput of 19 million TEUs and a 2.3 per cent decrease in revenue to $1.2 billion. In August 2001, after the European Commission competition authority cleared the merger of Hessenatie and Noordnatie, these two major container operators in Antwerp became a single company with estimated revenues of 450 million Euros and throughput of 3.8 million TEUs. The new company was subsequently purchased, in April 2002, by PSA, which bought 80 per cent of the shares. PSA's focus is on meeting customer requirements through the automation of physical handling and the use of information and communication technologies to facilitate procedures for shippers and carriers. To encourage the use of the port, the Maritime and Port Authority of Singapore offered 20 per cent rebates for dues applicable to container trades.

Mergers and acquisitions rarely occur between port authorities. However, the ports of Copenhagen (Denmark) and Malmö (Sweden), located across the Strait of Oresund, merged in 2001 after considering the business opportunities arising from the completion of the Oresund Bridge. The merger required that the Copenhagen Port Authority become a state-owned limited company. The decision seemed justified when, in early 2002, Toyota announced the setting-up of a dedicated vehicle logistics centre for 100,000 vehicles to cover the Nordic market. During the year, voters refused a proposal to merge the port authorities of Houston and Galveston in Texas (USA), and the Indonesian Parliament rejected a government proposal to merge the four major ports of the country into a single entity and thus replace the country's current port organization, where all commercial ports are allocated among four port companies on a geographical basis.

Flexible collaboration schemes are being put into practice by Flemish ports in Belgium and between Rotterdam and Flushing, another Dutch port at the entrance of the Scheld, with the aim of adapting to business opportunities. In Germany the public-sector collaboration between the city of Hamburg and neighbouring states to participate in the construction of the new container port in Wilhenhaven agreed in June 2001 suffered a delay when

the port of Hamburg decided to expand its own container facilities, including dredging of the Elbe River.

A major issue in port organization is regulation of companies, including the degree of foreign participation in joint ventures. In 2001 the Expenditure Commission set up by the Government of India suggested the establishment of a new body to supervise and regulate conservancy activities in major and minor ports of the country, including the functions that are now the responsibility of the Tariff Authority for Major Ports. The commission also suggested establishing commercial port companies, with current port trusts retaining only ownership of land and waterfront. Early in 2002, China's State Council announced the lifting of the ceiling of 49 per cent for foreign control and ownership of terminals in mainland ports.

Preliminary results of a survey conducted by UNCTAD in 50 African ports during the second half of 2001 to map the status of public- and private-sector partnerships in the region indicated that the private sector is involved in 76 per cent of cases. The main reason for private-sector involvement is the need to improve performance and quality of service (cited in 45 per cent of cases), while upgrading and enlarging infrastructure and attracting private investment come second at 17 per cent each. Concessions seem to be the preferred modality for involving the private sector, with fees linked to throughput in half of the cases and charged in local currency in two-thirds of the cases. The impact of privatization on employment seems to be mixed, with one-third of respondents citing a decrease in job opportunities, another third reporting no change and the remaining third actually confirming an increase in employment.

In ports of the European Union, diverse national legislation and practices have created uncertainty for providers of port services (e.g. cargo handling, marine services) and about the duties and responsibilities of the port authorities. In February 2001, a draft proposal for a Directive on Market Access to Port Services was presented by the European Commission to establish a Community legal framework and to lay down basic rules to remove restrictions hampering access for port services operators; improve the quality of service provided to port users; and contribute to reducing costs and promoting efficiency, flexibility, short-sea shipping and combined transport. Discussion went on during the year in the European Parliament and its relevant Committees and focused on points such as the number of authorized operators per category of cargo or service, the procedure for awarding authorizations and which technical requirements and restrictions to apply for security and environmental reasons. An amended proposal was ready after one year and received further comments from the European Sea Port Organization and the Federation of Ports in March 2002. The points raised included, among others, the need to exclude those ports handling only domestic traffic, the minimum requirement of two service providers per cargo category and the duration of the authorizations.

The difficulty of implementing new laws was evident in connection with the port of Santos (Brazil) when the decision to involve State and local authorities in the board of the authority was postponed until the next general election late in 2002.

D. SECURITY MEASURES IN PORTS

The terrorist attack on United States territory on 11 September 2001 prompted a review of security procedures applied in ports of the country. The subsequent discovery in a Southern European port of an illegal immigrant traveling to North America with confidential information related to likely United States targets heightened awareness of the risks involved. The discovery was made when the specially fitted container in which the illegal immigrant was living raised suspicions because of the undue noises it produced when stored in a container yard. In December 2001 the Port and Maritime Act of 2001 was enacted by the United States Congress. The Act provides for establishing a National Maritime Advisory Committee; conducting initial security evaluations and port vulnerability assessments; establishing local port security committees; preparing maritime security plans; and conducting employment investigations and restrictions for security-sensitive positions. It also gives authority to address security risks arising from foreign ports.

Recently, the Transportation and Infrastructure Committee of the United States House of Representatives approved the Antiterrorism Act 2002 (HR3983), which complements the Port and Security Act 2001. HR3983 provides for conducting security assessments in foreign ports and refusal of entry into United States ports for vessels transiting in ports with unsatisfactory security procedures.

The international framework for improved port security was discussed in several meetings of the International Maritime Organization (IMO) during the last quarter of

2001 and early 2002. The 22nd IMO Assembly, held in London in November 2001, agreed to hold a Conference on Maritime Security in December 2002, decided to step up technical cooperation to help developing countries address maritime security issues and focused on amendments to existing Convention such as SOLAS (the International Convention for the Safety of Life at Sea).

The proposal made by the United States Government was considered in a number of meetings held during 2002: the 29th Facilitation Committee and Ship-Port Interface Working Group from 7 to 11 January, the Inter-Sessional Working Group on Maritime Security from 11 to 15 February, the Legal Committee meeting from 22 to 26 April and the 75th Maritime Safety Committee meeting from 15 to 24 May. Discussion focused on the measures to be applied to shipping within the framework of the Conventions of SOLAS, Standards of Training Certification and Watchkeeping for Seafarers (STCW) and Suppression of Unlawful Acts against the Safety of Maritime Navigation (SUA treaties).

Measures of interest to ports focused on making the International Maritime Dangerous Goods Code mandatory, and on provisions to implement security plans and vulnerability assessments and install port security officers in ports. Of particular interest were the low rate of container inspection in United States ports, estimated at only 2 per cent, and the proposal for raising this percentage and conducting comprehensive inspections of containers under the Container Security Initiative. The latter has four core elements: identifying high-risk boxes, prescreening boxes before they land at United States ports, using adequate technology to prescreen high-risk boxes, and using smart and secure boxes. A pilot partnership with selected importers of goods to the United States mainland has been set up to devise and implement adequate security procedures. The aim is to inspect up to 50 per cent of containers before they reach the mainland. Ten selected foreign ports have been chosen to conduct container inspection. They are Shanghai, Hong Kong and Yantian (all in China); Kaoshiung (Taiwan Province of China); Singapore; Rotterdam (the Netherlands); Busan (Republic of Korea); Bremerhaven (Germany); Tokyo (Japan); and Genoa (Italy). However, pilot security procedures are being implemented in other ports (e.g. Antwerp, Belgium) on the basis of bilateral agreements.

Chapter 6

TRADE AND TRANSPORT EFFICIENCY

This chapter provides an update on the latest developments in the field of multimodal transport, including cargo rail services, information on the status of the main maritime conventions, and reports on relevant expert meetings and training activities organized by UNCTAD.

A. INTERNATIONAL REGULATION OF MULTIMODAL TRANSPORT

1. Ad Hoc Expert Meeting on Multimodal Transport

The Ad Hoc Expert Meeting on Multimodal Transport was convened by the Secretary-General of UNCTAD in Geneva from 26 to 27 November 2001 in order to review the impact on users and providers of multimodal transport of various laws and regulations adopted at the regional/subregional and national levels. The secretariat's document "Implementation of Multimodal Transport Rules" (UNCTAD/SDTE/TLB/2) was before the meeting for consideration.

The experts included representatives from operators and users of multimodal transport as well as from governments, members of the legal profession and academia. The experts recognized that the growing practice of multimodal transport had created the need for its regulation. This situation has prompted national governments and some regional and subregional organizations to enact laws on the subject. It was noted that while the United Nations Convention on International Multimodal Transport of Goods (1980) had not entered into force, it had significantly influenced such laws and regulations. Nevertheless, these laws and regulations diverged in important ways on key issues such as questions of liability, limitation of liability and time-bar. Despite many efforts in this area, there is no uniformity in the laws and regulations governing multimodal transport.

It was generally agreed that the existence of a widely acceptable global instrument would undoubtedly promote uniformity. The challenge was to create an instrument that would be considered feasible and acceptable by all interested parties, including providers, users and insurers of multimodal transport. It was, therefore, agreed that the matter required further study, particularly the key issues that would be governed by any such international instrument, including the appropriate basis for liability of the multimodal transport operator, limitation of such liability and the viability of a uniform system. Following the recommendations of the experts, the UNCTAD secretariat is preparing a study of the feasibility of a new international instrument on multimodal transport.

2. UNCITRAL Draft Instrument on Transport Law

In 2001, a UNCITRAL Working Group on Transport Law was established by the UNCITRAL Commission in order to consider elaboration of a new international instrument, initially focusing on port-to-port transport.[5] In view of the current proliferation of laws at the international level, this may be one of the most important developments in the field since the adoption of the United Nations Convention on the subject (Hamburg Rules 1978). The Working Group met in April 2002 in New York[6] to begin consideration of a "Draft Instrument on Transport Law" (Draft Instrument), which had been prepared by the CMI (Comité Maritime International) at the request of the UNCITRAL secretariat.[7]

The Draft Instrument consists of 17 chapters and, to a large extent, covers matters dealt with in existing maritime liability regimes, namely the Hague-Visby Rules and the Hamburg Rules. In addition, however, several chapters are devoted to matters currently not subject to international uniform law, such as delivery, freight and the transfer of the right of control and rights of suit. Not all of these areas would be subject to mandatory rules, and further debate may be needed before an international consensus emerges as to substantive non-mandatory regulation in these areas. The Draft Instrument also provides for electronic communication and the issue of electronic substitutes for traditional paper documents, largely by recognizing contractual agreements in this respect and by according electronic records the status of paper-based documents.

Importantly, and despite the limitation of the initial mandate of the Working Group to port-to-port transport, the Instrument has a broad scope of application and, as presently drafted, would cover all multimodal contracts for the international carriage of goods which include a sea leg.[8] As such, the proposed Draft Instrument represents an ambitious attempt to provide uniform regulation governing not only contracts for the carriage of goods by sea port-to-port but transport contracts generally. While uniform transport regulation may in principle be desirable,[9] it appears questionable whether the approach taken, namely the extension of a maritime regime to the whole transport chain, is the most appropriate solution.[10]

More particularly, there are a number of specific concerns regarding the extension of the proposed Draft Instrument to multimodal or door-to-door transportation:

The Draft Instrument provides for a "network system" of liability in cases where loss, damage or delay occurs solely before or after sea carriage. Certain mandatory provisions of applicable international conventions are given precedence. In some cases, therefore, where loss, damage or delay can be attributed to a stage of transport other than sea carriage, it would be necessary to identify any relevant international convention and apply certain of its provisions (on liability, limitation of liability and time for suit), while in all other respects (e.g. documentation) the provisions of the Draft Instrument would continue to be applicable. In a considerable number of cases, however, the provisions of the Draft Instrument based purely on maritime concepts and considerations would apply. Particularly in cases where loss, damage or delay cannot be localized, or where no relevant international convention is applicable, the Draft Instrument would provide the basis for the determination of liability. In a door-to-door context this raises particular concerns, given that the Draft Instrument contains provisions which allow the carrier to agree contractually that it shall not be responsible for certain parts of the transport or for some of a carrier's functions. As a result, a consignee of a door-to-door transport may be faced with the difficulty of identifying the responsible carrier or may find itself being responsible for certain of the carrier's functions.

At the request of the UNCITRAL secretariat, the UNCTAD secretariat has submitted a detailed article-by-article commentary on the provisions of the Draft Instrument.[11] Following is an extract from the commentary:

"**GENERAL OBSERVATIONS**

4. The Draft Instrument reproduced as Annex to UNCITRAL document A/CN.9/WG.III/WP.21 is entitled "Draft Instrument on Transport Law". To a large extent, it covers matters which are dealt with in existing mandatory liability regimes in the field of carriage of goods by sea, namely the Hague-Visby Rules[12] and the Hamburg Rules. In addition, the Draft Instrument also contains several chapters to deal with matters currently not subject to international uniform law, such as freight and the transfer of the right of control and of rights of suit. Special attention would need to be paid to some aspects of the Draft Instrument which present particular concerns:

Substantive scope of application

5. Despite the fact that the present mandate of the Working Group does not extend beyond consideration of port-to-port transportation, the Draft Instrument contains provisions which would extend its application to door-to-door transport (see also the title: "Draft Instrument on Transport Law"). According to the definition in Article 1.5 of the Draft Instrument, contracts for multimodal transportation involving a sea leg would be covered by the proposed regime. This gives rise to concern, as the Draft

Instrument has been drawn up by representatives of only maritime interests, the Comité Maritime International (CMI), without broad consultation of parties involved with and experienced in the other modes of transportation. As a result, the proposed regime is, in substance, based on maritime concepts and existing maritime liability regimes, which puts into question its suitability as a modern legislative framework to regulate liability where contracts involve several modes of transportation (e.g. air, road, rail or inland waterway carriage as well as sea carriage).

6. The current regulatory framework in the field of international multimodal transportation is notoriously complex and no uniform liability regime is in force internationally. As a result, liability is fragmented and cannot be assessed in advance.[13] While the development of uniform international regulation in the field may be desirable, any new international liability regime would have to offer clear advantages as compared with the existing legal framework in order to succeed. Any new but poorly designed or otherwise unsuccessful regime would only add to the current complexity without providing any benefits. The Draft Instrument does not appear to propose a solution which takes these considerations into account. It should be noted that, irrespective of the substantive merit of its provisions, the Draft Instrument does not provide for uniform levels of liability throughout all stages of a transport. Instead, it gives precedence to mandatory rules in unimodal Transport Conventions in cases where a loss or damage can be attributed to a particular stage of a multimodal transport (Art. 4.2.1). As a result of this 'network' approach to liability regulation, the determination of liability issues in door-to-door transactions would continue to involve the question of which particular regime may be applicable in a given jurisdiction and in a particular case. It is difficult to see in which way this approach would provide an improvement to the present regulatory framework. The analytical commentary in this document includes considerations relevant to the text of the Draft Instrument as presented. However, it is proposed to remove from the draft the provisions extending the scope of application of the regime beyond port-to-port transportation and to restrict the considerations of the Working Group, in accordance with its mandate, to maritime transport.

Substantive liability rules

7. The set of substantive liability rules proposed in the Draft Instrument appears to consist of a rather complex amalgamation of provisions in the Hague-Visby and Hamburg Rules, but with substantial modifications in terms of substance, structure and text. To a considerable extent, therefore, the benefits of certainty associated with the established meaning of provisions in existing regimes have been sacrificed. This should be borne in mind when considering the desirability of including in the Draft Instrument individual provisions which have been modelled on those in existing regimes, but where the context or wording has been modified significantly. Overall, the Draft Instrument appears to adopt a new approach to risk distribution between carrier and cargo interests, with a shift in balance favourable to carriers. In contrast to the Hague-Visby and Hamburg Rules, there is little evidence of any underlying intention to protect the interests of third parties to the contract of carriage.

Regulation of matters currently not subject to uniform international law

8. Chapters 9 (Freight), 11 (Right of control), 12 (Transfer of rights), and 13 (Rights of suit) in particular deal with matters of some complexity which are not currently regulated in any International Convention. The relevant national laws which are presently applicable in these areas are diverse and it can be assumed that there is no consensus at the international level. Against this background, any attempt at developing successful regulation needs to be made with a clear and carefully considered purpose and great attention to detail. As presented, the

proposed provisions contained in the Draft Instrument do not appear to be sufficiently clear and uncontroversial to make their inclusion in a new international regime desirable. The Working Group may therefore wish to consider more generally whether it is advisable at this stage to attempt to deal with these matters.

Structure and Drafting

9. Both in text and structure the Draft Instrument is unnecessarily complex and confusing. Unfortunately, little consideration appears to have been given to the need to ensure that internationally uniform rules are easy to understand and to apply. Many of the provisions are complicated, with extensive cross-referencing. Their understanding requires considerable legal expertise and often the proposed wording leaves much scope for interpretation. In many instances, lengthy and costly litigation may be required to clarify the meaning and application of provisions. There is obvious potential for considerable national differences in the interpretation of the proposed regulation; an outcome which would clearly be undesirable. The complexity of the Draft Instrument, as currently structured and drafted, makes assessment of its potential impact as a whole difficult. Unfortunately, there is thus the likelihood that efforts to amend the text of individual provisions may in turn create new problems which may not always be apparent. In fact, it is doubtful whether a text suitable for uniform regulation and workable in practice can be agreed on the basis of the Draft Instrument as presented."

B. TRADE FACILITATION

During 2001 there were a number of bilateral, regional and multilateral developments in trade facilitation. On 23 April 2001, Canada and Costa Rica announced a significant bilateral free trade agreement, with a whole chapter devoted to trade facilitation issues such as customs procedures and other trade formalities and a technical cooperation programme for implementing common procedures. More specifically, the countries agree to use risk assessment, exchange information (notably on best practices) and encourage cooperation and technical assistance for promoting compliance with the agreed measures. Moreover, they intend to pursue trade facilitation initiatives on a multilateral and hemispheric basis to reduce costs, make entry procedures transparent and ensure predictability for importers and exporters, and to commit themselves to consultations with representatives of the trading community. This is an outstanding example of what countries can achieve in terms of cooperation and capacity building in the field of trade facilitation.

Then, in June 2001, APEC trade ministers endorsed principles of trade facilitation worked out by this organization. The ministers recognized the importance of trade facilitation in freeing and opening trade and investment in the Asia-Pacific region and providing economic benefits to governments and businesses. They also recognized the importance of technical assistance and cooperation within APEC for applying the principles, in view of member countries' differing levels of development. Following are the non-binding principles endorsed by APEC trade ministers:

- Transparency
- Communication and consultations
- Simplification, practicability and efficiency
- Non-discrimination
- Consistency and predictability
- Harmonization, standardization and recognition
- Modernization and the use of new technology
- Due process
- Cooperation.

In November, the Declaration of the Fourth Ministerial Conference held in Doha (Qatar) under the auspices of WTO paved the way for a negotiation process and a potentially binding rule on trade facilitation. If explicit consensus is reached, the negotiation will start after the Fifth Ministerial Meeting to be held in Cancun, Mexico, in September 2003. In the meantime, the Council for Trade in Goods of WTO will review and as appropriate, clarify and improve relevant aspects of Articles V, VIII and X of the GATT 1994 as well as identify the trade facilitation needs and priorities of members, in particular those of developing countries.

Until now, trade facilitation activities have materialized mostly as a consequence of voluntary efforts by governments or the private sector in search of well-known benefits. Mandatory tools are still very rare in most trade-facilitation-related agreements, although these conventions are actually binding for contracting parties. Except for international transport agreements, which include simplified documentation requirements, most trade facilitation instruments recommend rather than impose or require measures viewed as effective or necessary. The situation may change radically in the coming years if WTO negotiations proceed as expected. They may lead to compulsory worldwide trade facilitation rules being part of a global compulsory legal environment for the trading system. This would constitute a major development requiring considerable effort from countries where trade facilitation lags.

C. PRODUCTION AND LEASING OF CONTAINERS

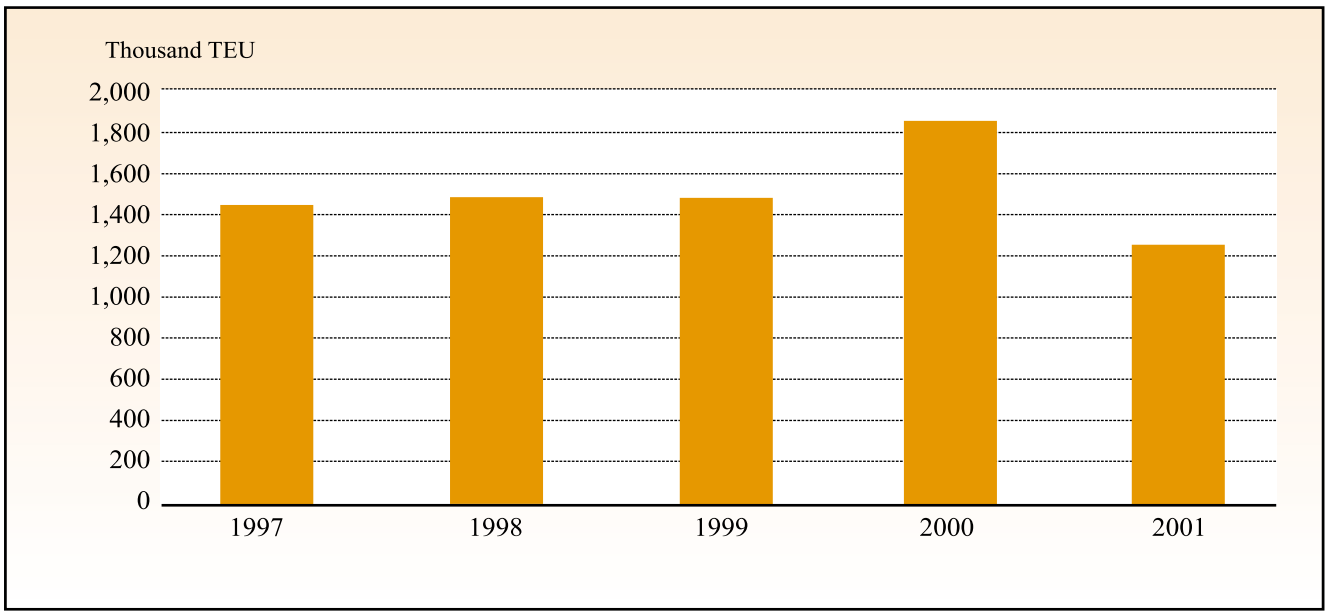
Revised figures for 2000 put container production at 1.9 million TEUs (see figure 9), of which 90 per cent were dry freight boxes. This high level of output required most container production plants, mainly located in China, to operate at full capacity all year. The majority of this total, about 1.25 million TEUs, was to fill the additional 0.6 million TEU slots of the expanded container ship fleet commissioned in 2001. About 0.55 million TEUs were needed to replace boxes disposed of during the year 2000, and another 0.1 million TEUs covered standard and regional box requirements from non-deep-sea carriers and land operators.

The world trade slump of 2001 caused a 34.2 per cent fall in container production to 1.25 million TEUs. The share of dry freight boxes fell to 85 per cent, with the balance being specials, reefers and other types of containers. This drop in box production was consistent with the sharp fall in container ship delivery and the low level of ordering for this type of vessel towards the end of 2001 and was also reflected by the 0.25 million TEUs of unclaimed new boxes at manufacturer yards. Plants were no longer operating at full capacity. There was large surplus production capacity in China, where only 50 per cent of the total capacity for dry freight production was in operation during 2001.

The evolution of the production of boxes other than the standard dry freight container unit is indicated in figure 10. Production of dry freight special containers (i.e. high cube, open-top, flat and others) continued its

Figure 9

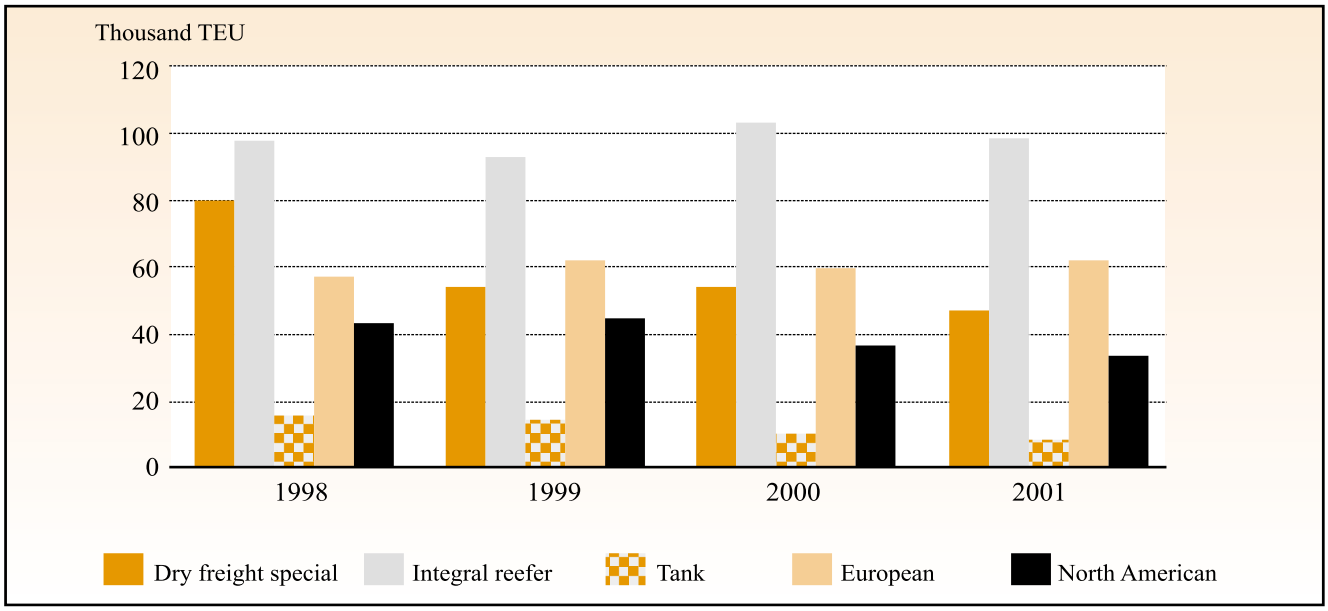
Annual total box production



Source: *Containerisation International Yearbook 2002.*

Figure 10

Annual production of boxes other than for standard dry freight



Source: Containerisation International Yearbook 2002.

downward trend. Production of integral reefer boxes peaked in 2000; the subsequent fall resulted from weaker demand despite the reduced price of these containers due to cheaper material costs. Production of tank containers mirrored that of dry freight special containers. Production of European containers, mostly swap-bodies, increased in 2001, suggesting higher demand for these boxes. Production of dry freight domestic specials (i.e. oversize non-ISO boxes) in the North American region continued to fall in 2001.

By mid-2001 the world container fleet was estimated at 15.1 million TEUs, of which 48.8 per cent was owned by container sea carriers, 45.1 per cent by container leasing companies and the remaining 6.1 per cent by others. As table 44 indicates, the utilization rate of the container leasing fleet went up during 2000 to reach 84.4 per cent at the beginning of 2001. However, poor box demand caused the amount of idle off-hired equipment to increase by close to 2 million TEUs and the utilization rate to decrease to about 75 per cent as the world leasing container fleet approached 7 million TEUs at the end of 2001. This resulted in lower revenues for container lessors.

Reduced prices for new boxes have whetted the appetite of lessees for new containers instead of the older ones and thus also contributed to reduced revenues for container lessors. As table 45 indicates, the brief increase in box prices during 1999–2000 did not last, and in the period 2000-2001 prices decreased 3.3 per cent, continuing the downward trend of past periods. Lessors, therefore, offered several options for leasing boxes to stop the decrease, using a blend of short- and long-term leasing contracts.

Table 44

Utilization of leased containers, 1997–2001

(percentages)

As of 1 January	Utilization level	% change
2001	84.39	6.8
2000	79.03	-2.4
1999	80.94	-4.7
1998	84.93	4.1
1997	81.55	

Source: Institute of International Container Lessors 13th Annual Leased Container Fleet Surveys.

Table 45

Rate of change in prices of new boxes

(percentages)

Year	Percentage change over previous year
1996	-12.5
1997	-11.9
1998	-8.1
1999	-17.6
2000	7.1
2001	-3.3

Source: *Containerisation International*, August 2001.

For instance, a number of top lessors moved empty boxes from high-cost depots located in low-demand areas in the United States, Europe and Japan to lower-cost depots located in high-demand areas such as China and developing Asia. Up to $30 million was spent yearly on chartering vessels to move empty containers. However, the attractiveness of moving off-hired boxes into China was overshadowed by the already high stock of unclaimed new containers.

The low demand for leased containers was also caused by the improved box utilization of the container fleet owned by sea carriers. Pooling of equipment between subsidiaries and alliance partners and use of e-commerce, especially in the area of Internet-based management and online equipment exchange services, contributed to the more efficient use of carriers' own containers.

D. CARGO TRANSPORT SERVICES IN THE RAIL INDUSTRY

1. Improving services in the rail industry

In 2001 capital investment for rail freight services allowed these to continue to operate at an adequate level of efficiency. At the beginning of the year, the Norfolk Southern Corp. budgeted $806 million for capital improvements, of which $449 million was for roadways and $256 million for equipment. Roadway spending included $264 million for rail, cross-tie, ballast and bridge programs; $63 million for new or improved intermodal facilities; US$ 35 million for marketing and industrial development initiatives; $35 million for signal and electrical projects; and $23 million for environmental projects and public improvements such as grade-crossing separations and crossing-signal updates. Canadian National Railroad (CN) also revealed its plan to continue to upgrade equipment. At the time of this announcement, CN received the last 40 Dash 9-44CW locomotives of the 360 units purchased over the five previous years. The new engines were 17 per cent more fuel-efficient than older locomotives.

In Europe, a similar effort to improve rail services was also evident. In the last quarter of 2001, for instance, SNCF, the French railway company, and Germany's Deutsche Bahn joined forces to develop ways of increasing cross-border freight traffic between the two countries. This initiative was motivated by the limited rail traffic between the two countries (a situation that has persisted despite the fact that they have the largest amount of freight traffic in Europe) and in anticipation of the increased competition that would result from the deregulation of European Union cross-border traffic in 2003. In the United Kingdom, the Strategic Rail Authority revealed a 10-year investment plan for improving the rail system, including modernization of the track and signalling system, wagon acquisition, improved staff training and the addition of tracks. Financing will come from the fund set aside by the Government of the United Kingdom, with $6 billion earmarked for improving rail freight services.

In late 2001, the United States Surface Transportation Board reviewed a number of plans for future rail investments. Among them was the proposal of the Dakota, Minnesota and Eastern Railroad Corporation to construct a 450-kilometre rail line into Wyoming's coal-rich Powder River Basin.

Joint services were also used to achieve higher efficiency in serving customers. For example, BNSF together with CSX International expanded its Ice Cold Express service into a coast-to-coast service covering southern California, Chicago, Montreal and Toronto, and the states of New York and New Jersey. Together with NS, BNSF consolidated services to provide transcontinental line-haul service with a shorter transit time for time-sensitive premium freight moving between southern California and Rutherford, Pennsylvania, and Croxton, New Jersey. This initiative was possible because BNSF owned the line-haul service between southern California and Chicago while NS owned the line between Chicago and the East Coast.

Security measures adopted in the United States after the terrorist attack of 11 September 2001 affected the efficiency of rail transport operations. Providing increased security for and control of rail freight with minimum traffic disruption was a challenge. Immediate measures taken involved the transport control of hazardous materials, their routing away from populated areas, and increased vigilance and cooperation with authorities to prevent possible threats. Long-term measures adopted include increased cooperation with the military; significant efforts to make security requirements compatible with trade needs by working closely with customers and national security agencies; the establishment of a Rail Freight Industry Crisis Centre; more frequent patrols and improved security at critical facilities, including a more secure information system; selected security constraints on operations near major public areas; and more thorough prehiring background checks.

Steps were taken by Canada and the United States to improve security, notably by increasing controls at transit points between the two countries. A declaration containing a set of action plans aimed at ensuring the secure flow of people and goods, secure infrastructure, and improved coordination and information sharing was signed in December 2001. Measures to ensure the flow of goods included plans for the establishment of complementary systems for commercial processing; the development of an integrated approach for processing truck, rail and marine cargo away from the border; the establishment of criteria for the creation of small, remote joint border facilities; the sharing of customs data; and the exchange of information and analyses to control marine in-transit containers.

2. Mergers and liberalization

In North America, CN proposed the acquisition of Wisconsin Central Transportation Corporation (WCTC) in 2001. After having its earlier $6.2 billion merger proposal for BNSF turned down by the Surface Transportation Board (STB), CN was cautious in presenting this $1.2 billion purchase proposal. The proposal suggested no detrimental effect on competition, as it would be a straightforward end-to-end integration without any interruption of current service. Moreover, the Railroad Transportation Committee of the National Industrial Transportation League supported CN's proposal as long as CN and WCTC could provide assurance that they would maintain all currently available interchanges, both physically and economically (i.e. retaining currently applicable rates and charges for those interchanges); would continue to provide the same standard of service after the merger; and would provide remedies if service failed to meet existing standards.

The Canadian Competitive Bureau and the STB finally approved the proposal. It was considered a minor merger, as it would have little effect on the existing competition. The slight change in operations and services was not expected to have a major impact on the environment and thus relieved CN of the requirement of a STB environmental review. The merger integrates CN's 18,600 kilometres of operating track in Canada and 6,260 kilometres in the United States with WCTC's 4,560 kilometres of track and track rights in the states of Wisconsin, Illinois, Minnesota, and Michigan (the Upper Peninsula) and the province of Ontario. In principle, no track segments would be abandoned as a result of this merger. To ensure this, the STB insisted on receiving progress reports for one year on the result and impact of the integrated operations.

In Australia, the privatization of rail companies was seen as a way of achieving more efficient and faster services and better rates. In 2001 the National Rail Corporation (NRC) and the New South Wales Freight Corp (NSWFC) were put up for sale. The NRC controlled access to the interstate standard-gauge network linking all state capitals and their ports, while NSWFC controlled access to and operation of the rail network of New South Wales, including the port of Sydney. The aim was to achieve a more competitive industry and increase the share of rail transport in the domestic and international freight markets. To facilitate the process, the federal and state governments agreed to recognize one mutually acceptable bidder identified through a tender process to be carried out separately by each government. The successful bidder would be free to outsource operations to small companies better attuned to the needs of regional shippers. Outsourcing is also happening in the western and southern regions of Australia. Managing and improving services in long-distance haulage is the main concern of larger operators which leave the smaller ones to service local markets.

E. THE STATUS OF CONVENTIONS

There are a number of international conventions affecting the commercial and technical activities of maritime transport. Box 3 gives the status of international maritime conventions adopted under the auspices of UNCTAD as of August 2002. Comprehensive and updated information

Box 3

Contracting States of selected conventions on maritime transport as of 31 August 2002

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, Sierra 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, Saint Vincent and the Grenadines, Tunisia, Uganda, United Republic of Tanzania, Zambia (**28**)
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	Monaco, Russian Federation, Spain, Saint Vincent and the Grenadines, Tunisia, Vanuatu **(6)**
International Convention on Arrest of Ships, 1999	Not yet in force – requires 10 contracting parties	Bulgaria, Estonia, Latvia, Spain **(4)**

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

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.ilo.org/home.html*
- The International Labour Organization (ILO) *www.ilo.org* and more specifically *ilolex.ilo.ch:1567/public/english/docs/convdisp.htm*
- The United Nations Commission on International Trade Law (UNCITRAL) *www.uncitral.org*.

F. INFORMATION & COMMUNICATIONS TECHNOLOGY IN TRANSPORT AND TRADE FACILITATION

1. Expert meeting on Electronic Commerce and International Transport Services: Best Practices for Enhancing the Competitiveness of Developing Countries

The Expert Meeting on "Electronic Commerce and International Transport Services: Best Practices for Enhancing the Competitiveness of Developing Countries" was convened under UNCTAD's auspices in Geneva from 26 to 28 September 2001. Experts examined the impact of electronic commerce on international transport services, including the issue's economic, operational, documentary and legal aspects. They recognized the importance of e-commerce as a vehicle for improving the efficiency of transport services and promoting the participation of developing countries in global trade.

Experts from developing countries noted that their difficulties with the increased use of e-commerce in transport resulted from inadequate basic infrastructure, the limited availability of computers and Internet access, and lack of basic knowledge. In some cases obsolete transport systems and communications infrastructures also played a role. The experts expressed the view that investment in transport and in information and communication technology (ICT) needed to be promoted and coordinated at the national level, with Governments being invited to become model users of ICT in dealing with citizens. The experts considered that a regulatory environment should be introduced that would favour a reduction in telecommunications and Internet charges and that North-South and South-South joint ventures between transport operators would allow a beneficial transfer of know-how and capital for developing national capacity.

Experts from developed countries explained that the use of ICT is an integral part of the business plan and commercial success of companies. ICT is used to optimize information flows within the company and also to communicate with customers. They expressed their full confidence in the transfer of information via the World Wide Web. In the field of transport, representatives of two major carriers, Maersk Sea Land and UPS, said that these companies are working to establish partnerships with customers based on agreed procedures that simplify transport services. Experts explained that the use of ICT in ports is geared to developing port community platforms on which exchange of information between different parties can be done securely and confidentially and at different levels of technological sophistication. Paramount for building these platforms is the involvement of customs and the port authority and the use of simplified and transparent procedures. In this connection, useful guidelines are provided by CEFACT Recommendation No. 4 on Trade Facilitation Bodies *(see www.unece.org/cefact)*.

The experts also considered the legal uncertainties arising from the use of electronic means of communication in international trade and transport. In particular, it was noted that national laws and transport conventions require "written", "signed" and "original" documents. In this context, it was explained that the UNCITRAL Model Laws on Electronic Commerce (1996) and on Electronic Signatures (2001) aimed at providing States with a set of internationally acceptable rules for fostering e-commerce. More specifically, Articles 16 and 17 of the Model Law dealing with the issue of carriage of goods provide general principles pertaining to electronic transport documents. Future work in UNCITRAL would focus on the preparation of an international convention on electronic contracting.

In discussing the role of transport documents in international trade, the experts highlighted the functions of bills of lading as evidence of contract, receipts for goods and documents of title, as well as their essential role in letters of credit. They stressed that in most transactions information and evidence of facts were the essential ingredients, and that negotiable documents were required only for transferring title to goods in transit. In this connection, it was recalled that the ICC Uniform Customs and Practice for Documentary Credit (UCP 500)

included non-negotiable sea waybills and stressed the importance of evidence and authentication issues.

The experts considered the challenge of replacing the negotiable bill of lading with an electronic alternative and the need for an internationally agreed legal solution. They also recognized the value of contractual arrangements as a means for supplementing the existing transport laws and conventions in an electronic environment. Two contractual systems aiming at replacing trade and transport documents with electronic substitutes were reviewed: @GlobalTrade and Bolero. The former was an open system at the pilot stage in which users would not need to pay registration charges or acquire new software. Applicants would pay their credit-issuing banks a fee for issuance of letters of credit through @GlobalTrade. This system uses non-negotiable electronic sea waybills. The Bolero system is a closed one, available only to members. As the Bolero Bill of Lading was not recognized by law, the Rule Book provided the contractual basis that was binding on all members. After two years in operation, the challenges are encryption regulations and the need to build the confidence of potential customers.

The experts agreed on a number of recommendations addressed to national Governments and enterprises, to the international community and to UNCTAD. These recommendations can be found in the document TD/B/COM.3/38–TD/B/COM.3/EM.12/3 of October 2001 (*see www.unctad.org/en/pub/pubframe.htm*).

2. Electronic commerce and international transport services: recent developments

The Commission on Enterprise, Business Facilitation and Development at its sixth session, held in February 2002, having examined the recommendations adopted by the Expert Meeting on Electronic Commerce and International Transport Services, recommended that the UNCTAD secretariat do the following

> "(a) Keep under review and monitor developments relating to economic, commercial, legal and infrastructure aspects of electronic commerce affecting international transport services, and analyse the implications thereof for developing countries, and furthermore collect and disseminate this information to member countries."[14]

In April 2001 the UNCITRAL Working Group on Transport Law began consideration of a Draft Instrument on Transport Law with a view to establishing a new international instrument initially focusing on port-to-port transport.[15] The Draft Instrument has been prepared by the Comité Maritime International (CMI) and, as currently drafted, covers multimodal transport involving a sea leg. The important feature of the Draft Instrument is that it envisages the use of "electronic records" and "paper transport documents" in both negotiable and non-negotiable forms. It grants electronic communications the same legal status as paper transport documents. The Draft Instrument leaves all matters relating to the use of a negotiable electronic record subject to agreement between the carrier and the shipper and permits the parties to switch from a negotiable transport document to a negotiable record and vice versa. Thus, concerns have been raised regarding the protection of third parties and problems which may arise in the process of switching from one form of documentation to another. Furthermore, the draft is at its preliminary stage and will require considerable amendment. At the request of the UNCITRAL secretariat, the UNCTAD secretariat has provided a detailed article-by-article commentary on the Draft Instrument. The commentary is available at both the UNCTAD[16] and UNCITRAL[17] websites.

If and when agreement on a new international liability regime is reached, the inclusion of provisions on electronic communications will provide an important step in removing legal barriers to further development of international transport. It should be recalled that requirements for a paper "document" and "manual signatures" in the existing transport conventions such as the Hague and Hague-Visby Rules constitute important obstacles to the use of electronic means of communications.[18]

3. Development of ICT in maritime transport and ports

A survey conducted in 2001 on the status of 150 ICT companies providing Internet-based services in the transport field indicated that about one-third of these companies had gone bankrupt, 18 per cent were inactive, 17 per cent had been purchased by other companies, 16 per cent were revising their business model and only 16 per cent were conducting business as originally planned. There were several reasons for this result. A number of cargo auction portals for liner shipping did not gain the favour of lines because they focused only on price, omitting descriptions of services, which are an important element for shippers; nor were they supported by shippers, since the anonymity of quotations put a

carrier known to the shipper on the same footing with other carriers. The fact that the portals bypassed freight forwarders and took no responsibility for the results of transactions compounded the above problems. A number of portals aiming to replace shipbrokers underestimated the importance of personal contacts in these transactions. Other portals that provided information for transport decision makers were deemed to require high computer literacy from users and to offer them an excessive number of options. However, portals dealing with the exchange of equipment, such as containers, fared better.

Although the prospects for the surviving companies are better, their success is not guaranteed. Some carriers are providing shippers with flexible options for accessing their own portals with maximal flexibility and convenience. NYK, while developing its own e-commerce initiative, Pegasus, has announced that it will join the three main portals, GT Nexus, INTTRA and Cargo Smart. Other carriers are part of large conglomerates, which include large ICT companies serving a variety of industries. Maersk Data Group has more than 2,500 staff members and works with the banking, finance, insurance and agriculture industries and the military as well as in shipping. The market share of business conducted online is definitely growing: during 2001 the United States domestic carrier CSX reported an increase of online bookings from 15 to 55 per cent.

ICT companies appear to have less difficulty helping carriers and transport service providers execute joint processes more efficiently. SynchroNet Marine (*www.synchronetmarine.com*) offers four products for optimizing container management. One product maximizes the potential for cooperative container management between short-sea and deep-sea carriers in Asia and Europe. Another allows carriers to search databases of available containers by origin and destination and for immediate or spot cargo bookings. Yet a third product enables carriers to reposition containers along many routes. The fourth product was launched in the first quarter of 2002 in conjunction with the port authority of Oakland (USA) and trucking companies serving the port. It aims to rationalize container movements in the metropolitan area and thus reduce gate and road congestion, as well as to minimize movements of empty trucks and protect the environment.

Using ICT for port communities provides a major opportunity to make joint transport processes more efficient. Seaport activities require the handling of large information flows, which involve many parties with different commercial and administrative objectives. Over the years, tailor-made ICT networks have been built in some ports, reflecting the institutional arrangements and commercial and administrative practices of port authorities, shipping agents, port and terminal operators, customs, freight forwarders, and so forth. Experience indicates that a long-term and integrated vision of the port community is a prerequisite for building up ICT networks that adequately serve those parties.

The Belgian ports provide a good illustration of the process. The complex ICT networks required by the large port of Antwerp (see box 4 for details) have their counterpart in the Enigma (Electronic Network for Information in the Ghent Maritime Area) network, a compact equivalent recently established in Ghent, another Flemish port (2,892 vessels and 24 million tons in 2000) that is smaller than Antwerp's and mostly serves bulk trades. Enigma was developed during 1999–2000 to provide a centralized platform for handling all data and communications concerning seagoing vessels' movements and their services, including stevedoring. Since the port is located inland, information exchanges for incoming vessels include their movements at sea, in rivers, locks and canals, and then within the port area. Connections to other services, such as those of the Belgian customs, or to other ports concerning advance data on hazardous cargo are included. Access to the server is through Internet sites or a local area network. A commercial version of this network is being launched by Cosmos, which is one of the two leading suppliers (along with Navis) of software for managing data and cargo handling systems in container terminals.

Ghent's approach to developing ICT networks mirrors that of Valencia, a Spanish port of similar size (5,677 vessels and 21.2 million tons in 2000) that is however, mostly involved in container trade. In effect, the initiative for building the network comes from the port authority and focuses on services provided to the vessels. Work is underway to enlarge the network to other parties of the port community, notably those dealing with cargo clearance (i.e. customs agents), which use the customs electronic services. Inforport Valencia is the company in charge of maintaining and developing this network, and the Valencia Port Authority and Portel are its main shareholders. The latter is a joint venture between the Spanish Port Authority and the Spanish Telephone Company (Telefonica), which promotes the use of ICT in ports.

In these two examples, the customs authorities maintain their own national networks, notably for cargo declaration, clearance and duty assessment, which are used by parties dealing with cargo. Work to link these networks to those of the port is still in process.

G. OTHER DEVELOPMENTS

During 2001 a comprehensive review of the 22-year-old Trainmar programme was conducted by an independent evaluation team. The team recommended that pedagogic capacity-building and substantive support be continued but that the Trainmar programme in its present form be terminated. The evaluation team also made a number of other recommendations, notably for dismantling the Trainmar Central Support Team and strengthening the Human Resources Development (HRD) Section with pedagogical and substantive resources, developing an integrated curriculum in the port sector, using modern information and communications technologies in future activities and elaborating a coherent and comprehensive strategy for training activities which are to be regarded as means for capacity building in the port sector.

Collaboration between the HRD and the Transport Section within UNCTAD's Division for Services Infrastructure for Development and Trade Efficiency was reinforced to gain synergies from pedagogical and substantive matters. The HRD Section set up a website, *www.unctad.org/hrdsite*, to provide free information on the section's training activities as well as to exchange materials and information on a members-only basis. It also organized an international meeting in collaboration with the Douro and Leixoes Port Authority of Portugal for developing an international strategy for human resources development for port communities in developing countries.

The meeting took place in Porto (Portugal) from 13 to 16 May 2002 and was attended by more than 68 delegates from 30 countries. The strategy was based on four elements: an integrated approach to capacity building and training; forging partnerships among port training institutions of developing and developed countries; the intensive use of distance-learning techniques; and the development of a website to exchange information and promote cooperation between partners. Specific plans of action were developed for English-, French- and Portuguese-speaking developing countries. These plans take into account the different levels of implementation and commitments for the Port Certificate Programme and seek to promote a balanced institution-building capacity for port communities of developing countries. They also promote partnerships between port communities located in different regions and pave the way for establishing partnerships with public- and private-sector institutions.

Box 4

ICT development in a large port: The case of Antwerp

Antwerp is one of the largest ports in the European Union. In 2000 more than 16,000 seagoing vessels and 57,000 barges visited the port, which handled 130 million tons of cargo. The port is located mostly on the right bank of the Scheldt River but is presently expanding to the left bank. The port's total surface exceeds 13,000 hectares, and it encloses 2 hectares of deep water, 130 kilometres of berths, 276 kilometres of roads and 960 kilometres of railway tracks. The Antwerp Port Authority provides the infrastructure, and private-sector companies and operators are in charge of port activities.

Initiatives to implement ICT use for port activities were begun in the mid-1980s by non-profit organizations set up by the public and private sectors. The City of Antwerp set up Telepolis to provide ICT services to the port authority, to the city's public services (i.e. the police and the fire brigade) and to its health and social care system.

APICS (Antwerp Port Information and Control System) was defined and developed during 1985–1988 and finally commissioned in April 1989. APICS is the information tool for planning, assistance and control relating to maritime and inland navigation for all vessel movements for this port. Users of APICS are the Harbour master office, the tug service, the financial service and the port authority's general management functions. The information provided by the system ensures vital functions such as deployment of tugs and pilots, planning of lock and bridge operations, billing, concession management and the collection and processing of statistics.

Box 4 (continued)

A major subsystem of APICS is the Vessel Traffic Service (VTS), which enhances safe navigation in heavy-traffic areas within the port and allows better lock planning and the ordering of pilots and tugs in and out of controlled waters. This service comprises the following elements: a Bright Display Radar system located in five critical areas of the port; a closed-circuit television with high sensitivity, panoramic tilt and zoom enable colour cameras to control two lock complexes; and two environmental wind sensors mounted on 10-metre poles with local and remote display for warning about severe wind conditions. Real-time information on the situation of locks and bridges and meteorological conditions is available in a control room, with additional links to the police and fire brigade. Road traffic panels warn drivers about conditions in critical areas. Telephone, normal, VHF (very high frequency) and UHF (ultrahigh frequency) radio communications are used to maintain ongoing contact with vessels, barges, tugs and pilots.

APICS carries numerous communications for the more than 300 terminals and printers scattered around the port. A dedicated coaxial cable is installed on the right bank of the river, and leased lines are being used on the left bank and in the Netherlands. Radio frequency modems provide communications for data, voice and video signals and radar. Online and offline back-up systems ensure permanent operation. The central database has 20 gigabytes of information, and more than 700,000 EDI (electronic data interchange) messages are handled each year.

In 1986, Seagha was established by Antwerp's Chamber of Commerce and Industry together with the six trade organizations of the port (two for cargo handling companies, two for freight forwarders, one for shipping agents and one for shipowners). This organization aims to convey the expanding volume of EDI communications, which at that time were transmitted between parties on a bilateral basis, through a single and reliable platform. In this way each party can use a single point of entry for all its incoming and outgoing communications.

The product Seagha Clearing enables each party to reach all its commercial partners even if they were connected to different EDI networks and use different connection methods (e.g. telephone, fax, email, web page, EDI). It also enables connection to networks located elsewhere (e.g. in other ports). More specifically, this product allows transmission of standardized EDI and free-format messages, connections through X400 to an unlimited list of international networks worldwide, archiving of messages, tracking of sent and received messages and related follow-up, and direct access through the following protocols: TCP/IP, X25, X400 and OFTP. Parties using it include importers, exporters, banks, truck companies, sea carriers, barge carriers, freight forwarders, terminal operators, terminal depots, Belgian railways, Belgian Customs, tallying services, and others. The number of companies and messages grew steadily from 1993 to 2000, from 132 companies exchanging 500,000 messages to 465 companies exchanging 5,100,000 messages.

The product Seagha Bridge is conversion software which translates between the individual format used by a given party and the UN/Edifact standard used by Seagha Clearing. The product Mapping allows Seagha users to convert their messages into another format such as EDI, email, XML, HTML or ANSIX12, which commercial partners may prefer. Products for PC applications are also available and may be of interest to companies having medium- or entry-level technological capability: Expag exchanges information between freight forwarders and agents; Sadbel allows communication with customs; Dangerous Goods sends dangerous goods notifications; and Shipbrokers' Clerk System allows connection to the port authority's APICS system.

Efforts are underway to replace all PC applications with web-based ones, which will use Edifact messages in the background. In early 2002 Vessel Manager was launched. This web version of the Shipbrokers' Clerk System has two modules: BERTH and WASDIS. The first offers traditional functions such as notification of incoming vessels, requests for shifting, and priorities for services. The second allows compliance with the European Community Directive that combats illegal dumping by asking users to send compulsory electronic waste disposal notifications as of mid-January 2002.

Source: Presentation made at the workshop "IT and ETI in Transport Business", Antwerp, Belgium, 11-15 March 2002.

Chapter 7

REVIEW OF REGIONAL DEVELOPMENTS: LATIN AMERICA

This chapter focuses on maritime developments in developing countries and territories in the Americas, including inland transport.

A. ECONOMIC BACKGROUND

The period covered by this review (1999–2001) was an unsettled one for countries of Latin America and the Caribbean. The financial crisis of 1997 had a severe impact on economic growth, which slowed to 2.3 per cent in 1998 and bottomed out in the following year, when it reached 0.4 per cent (see table 46). Countries in Latin America were most affected by the slowdown; nine of the 20 countries listed in table 46 registered negative growth in either 1998 or 1999, and in one country the economy contracted in both years. Of the 10 countries achieving positive growth, the best performers were those closely linked to the United States economy, including the Dominican Republic, Mexico and countries in Central America. The largest country in South America, Brazil, achieved much less growth. The 12 Caribbean countries performed well, with only three registering negative growth in 1998 or 1999.

During 1999 domestic demand was sluggish and was curtailed by currency devaluations in Brazil, Chile, Colombia and Ecuador. The fiscal deficit increased because of rebuilding in some countries in Central America and the Caribbean after Hurricanes Mitch and Georges, earthquakes in Colombia's coffee-producing areas and pressure for social spending in other countries. Investment was also sluggish as a result of high interest rates in a year in which many domestic banks faced difficulties and were reorganized or merged. Incoming financial flows were less than half of those of 1997, and in most countries foreign payments required the use of reserves.

The strong rebound of economic output in Latin America and the Caribbean in 2000 resulted from economic growth in the United States, in the euro zone and in the Far East, which fuelled demand and lifted the price of crude oil. Seven countries in Latin America (Brazil, Chile, Cuba, the Dominican Republic, Honduras, Mexico and Nicaragua) and four in the Caribbean (Belize, Grenada, St. Kitts and Nevis and Trinidad and Tobago) registered output increases above the regional average of 4.1 per cent, with the best performers taking advantage of the high United States demand. Economic contraction was focused only in the River Plate area and affected three countries.

Domestic demand for countries in the region expanded by 4.5 per cent, mostly because of increased consumption in an environment of low inflation rates or the use of dollars as national currency, as in Ecuador. Strict control of fiscal expenditures and improved tax collection reduced public deficits to 2.3 per cent of GDP and reduced public investments in some key sectors (e.g. agriculture) and social expenditures. Domestic private investment did not rise due to the paucity of bank loans and high interest rates. Proceeds from privatizations increased by 50 per cent from 1999 levels to $18.5 billion, with Brazil and Mexico representing almost 70 per cent and 23 per cent of the privatization in the regionrespectively. Increased competition resulted in transnational companies' matching producing and consumption areas across national borders – for example, for gas in Mercosur and electricity in Central America.

Table 46

Percentage growth of GDP at 1995 constant market prices for countries in Latin America and the Caribbean, 1998–2001

Countries or territories	1998	1999	2000	2001
Argentina	3.8	-3.4	-0.6	-3.8
Bolivia	5.2	0.4	1.8	0.0
Brazil	0.3	0.9	4.3	1.7
Chile	3.6	-0.1	4.9	3.0
Colombia	0.5	-4.1	2.7	1.5
Costa Rica	8.3	8.1	1.7	0.3
Cuba	1.3	6.8	5.5	3.0
Dominican Republic	7.3	8.0	7.8	3.0
Ecuador	1.0	-9.5	2.8	5.0
El Salvador	3.8	3.3	2.0	1.5
Guatemala	5.1	3.9	3.1	2.0
Haiti	-1.1	2.3	1.2	-0.9
Honduras	3.3	-1.5	5.0	2.5
Mexico	5.1	3.6	6.8	-0.1
Nicaragua	4.1	7.4	4.7	2.0
Panama	4.6	3.5	2.6	0.5
Paraguay	-0.6	-0.1	-0.6	1.5
Peru	-0.5	0.9	3.0	-0.5
Uruguay	4.4	-2.9	-1.5	-2.5
Venezuela	0.7	-5.8	4.0	2.8
Subtotal - Latin America	**2.3**	**0.4**	**3.9**	**0.5**
Antigua and Barbuda	5.0	4.9	2.6	-
Barbados	5.3	3.1	3.0	-1.5
Belize	2.0	5.9	10.1	-2.0
Dominica	3.1	1.3	0.7	-
Grenada	7.6	7.5	6.5	2.5
Guyana	-2.2	3.9	3.0	1.0
Jamaica	-1.0	0.7	0.5	1.5
Saint Kitts and Nevis	1.1	3.5	7.1	-
Saint Lucia	3.0	3.4	0.6	-
Saint Vincent and the Grenadines	5.8	4.2	2.0	-
Suriname	1.9	-2.4	0.1	-
Trinidad and Tobago	5.3	7.8	5.0	1.0
Total - Latin America and the Caribbean	**2.3**	**0.4**	**4.1**	**0.5**

Source: For 1998–2000: *Anuario Estadístico de America Latina y el Caribe* (2002), ECLAC publication LC/G.2151-P/B, February: 68. For 2001: Estimates from *Balance preliminar de las economías de América Latina y el Caribe*, (2001) ECLAC publication LC/G-2153-P/E, statistical appendix, table A-1. The ECLAC classification for Latin America includes the Caribbean countires of Cuba and Haiti.

However, the fragility of the recovery was evident one year later. Low prices for commodities and slackening demand in industrialized countries during the second half of the year affected most countries in the region. The price index for minerals estimated by ECLAC is the lowest in the last five years, and price indexes for some agricultural products, such as coffee, are at historical lows. The preliminary estimate of economic growth for countries in Latin America and the Caribbean during 2001 is, at 0.5 per cent, barely above the output growth of 1999. The economies of seven countries contracted, and not a single country showed output growth beyond 5 per cent. By the end of the year, Argentina had defaulted on its debt and the ripples of the collapse had affected neighbouring countries, notably Uruguay.

As table 47 indicates, the value of exports for the 37 countries in Latin America and the Caribbean for the year 2000 reached $369.8 billion, equivalent to 6 per cent of world exports for that year. Imports for these countries reached $374.1 billion, equivalent to 5.8 per cent of world imports. The increases over the value of exports and imports reached in 1999 were 20.0 and 15.9 per cent respectively. Preliminary figures for 2001 suggest a decrease in the value of exports and imports for the year.

The contribution of the various regional country groupings to the value of the region's international trade is also indicated in table 47. Mercosur comprises four countries (Argentina, Brazil, Paraguay and Uruguay) and its exports make up 23.2 per cent of the region's total. The Andean Community (CAN) comprises five countries (Bolivia, Colombia, Ecuador, Peru and Venezuela) and contributes 16.4 per cent of regional exports. The Caribbean includes 20 countries and territories (Anguilla, Antigua and Barbuda, Aruba, the Bahamas, Barbados, Belize, Cuba, Dominica, the Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Montserrat, the Netherlands Antilles, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago), including those belonging to the Caribbean Common Market (CARICOM), the Organization of States of the Eastern Caribbean and the Caribbean Basin Initiative of the United States government. These countries together contribute 4.8 per cent of the regional exports. The five countries of the Central American Common Market (MCCA) include Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua and contribute 4 per cent of the regional exports. The remaining three countries, Chile, Mexico and Panama, do not belong to any of these groups and contribute 45, 4.9 and 1.6 per cent respectively to the region's exports. Exports from Mexico, a partner of the North America Free Trade Area (NAFTA) together with the United States and Canada, include *maquila* – foreign-owned assembly plants.

Table 47

Value of international trade of Latin American and Caribbean countries

(billions of current $)

	Exports			Imports		
	1999	**2000**	**2001**	**1999**	**2000**	**2001**
Value of trade for 37 countries in Latin America and the Caribbean	307.9	369.8	254.8	322.7	374.1	254.5
Mercosur	76.3	86.0		79.6	85.7	
CAN	44.6	60.7		34.5	39.3	
Caribbean countries	15.1	17.9		27.7	31.3	
MCCA	14.3	14.7		18.2	19.6	
Mexico	136.7	166.4		142.0	174.5	
Chile	15.6	18.1		13.9	16.7	
Panama	5.3	5.9		6.7	7.0	
Percentage growth in volume of merchandise trade for countries in Latin America and the Caribbean	7.0	11.0	2.4	2.1	13.9	0.4

Source: Panorama de la inserción internacional de América Latina y el Caribe 2000–2001, ECLAC publication LC/G.2149-P/E, tables II.1a, II.2 and II.5a. Data for 2001 are provisional and from January to September only. All data come from balance-of-payment sources.

B. MERCHANDISE TRADE

The foreign trade structure of the countries of Latin America and the Caribbean is shown in table 48, which shows figures for 2000. The important share of commodities (food items, agricultural products, ores and fuels) in exports is reflected in their 30.8 per cent share of the value of total exports. Within this category crude oil stands out with a total of $45.5 billion. The main export destination was the United States market, with a share of almost 60 per cent of the total. Other countries within the region were a clear second destination with a share of 16.2 per cent. In short, destinations within the hemisphere accounted for about three-quarters of exports from countries in Latin America and the Caribbean. Exports to Europe accounted for another 10 per cent and those to Japan and other Asian countries for 5.6 per cent.

The share of commodities in the region's imports stood at 11.4 per cent in 2000. Expenses fluctuate around $13 billion for each of the three major imported commodities – food items, agricultural products and fuel. The United States is the major source for these imports, providing 51.1 per cent, while countries within the region account for 15.5 per cent. All told, imports originating within the hemisphere account for two-thirds of total imports. The shares of imports from Europe and Japan and other Asian countries are roughly equal – 13.1 and 12.3 per cent respectively. Together, they make up about a quarter of the total.

For the top 10 countries in Latin America and the Caribbean, the destinations of exports and origins of imports for 2000 are indicated in table 49. The share of the United States market is larger for those countries closer to it. The share of regional trade is greater in South America, notably between Mercosur countries.

Table 48

Foreign trade structure of selected products of Latin American and Caribbean countries, 2000

Exports from the region	Billion $	Destination of exports (%)					
		USA	Japan	Europe	Asia	Region	Other
All products	341.8	59.5	2.2	10.1	3.4	16.2	8.6
of which:							
Food items	22.7	19.4	3.2	26.3	7.9	24.3	18.9
Agricultural	28.5	37.1	6.0	25.3	6.2	13.3	12.1
Ores	8.6	6.8	21.4	22.5	17.5	9.8	21.9
Fuel	45.5	67.1	0.8	7.1	1.0	14.9	9.0
All other	236.6	6.5	1.2	6.9	2.6	16.3	6.5
Imports to the region	**Billion $**	**Origin of imports (%)**					
		USA	**Japan**	**Europe**	**Asia**	**Region**	**Other**
All products	362.5	51.1	4.2	13.1	8.1	15.5	7.9
of which:							
Food items	13.2	36.1	0.1	12.8	5.0	40.6	5.5
Agricultural	13.00	45.6	0.1	4.1	4.1	32.7	13.4
Ores	1.9	24.6	0.2	5.9	4.4	45.5	19.4
Fuel	13.4	11.6	0.3	1.1	4.3	53.7	29.0
All other	321.0	53.8	4.8	14	8.6	12.0	6.8

Source: *Panorama de la inserción internacional de América Latina y el Caribe 2000–2001*, ECLAC publication LC/G.2149-P/E, tables 1b and 1c.. Data from 33 countries come from trade sources and have been collected following a different methodology than that indicated in table 55.

Table 49

Foreign trade structure of selected Latin American and Caribbean countries, 2000

Country	Exports (billion $)	Destination of exports (%)					
		USA	Japan	Europe	Asia	Region	Other
Argentina	26.3	12.0	1.5	16.5	6.8	47.9	15.3
Brazil	55.1	24.1	4.5	23.6	6.9	24.8	16.2
Chile	18.2	16.4	14.2	21.9	14.9	22.1	10.6
Colombia	13.6	50.6	1.8	11.9	1.1	28.6	6.0
Costa Rica	5.9	52.0	0.9	19.5	3.6	18.8	5.2
Dominican Republic	5.7	n.a.	n.a.	n.a	n.a.	n.a.	n.a.
Mexico	166.4	88.6	0.6	3.2	0.7	3.1	3.8
Panama	5.9	44.8	1.0	17.9	2.9	24.0	9.4
Peru	7.0	31.0	5.7	16.0	16.0	21.7	9.6
Venezuela	34.0	59.6	0.8	5.4	0.6	19.5	14.0
Country	**Imports (billion $)**	**Origin of imports (%)**					
		USA	Japan	Europe	Asia	Region	Other
Argentina	23.8	19.1	4.0	22.0	10.3	34.6	10.0
Brazil	55.9	23.2	5.3	23.9	10.2	21.1	16.4
Chile	16.7	19.7	4.2	16.5	12.7	35.8	11.1
Colombia	11.1	34.0	4.6	16.0	8.0	27.6	9.8
Costa Rica	6.1	51.2	3.6	10.2	3.9	25.2	5.9
Dominican Republic	9.7	n.a.	n.a.	n.a	n.a	n.a.	n.a.
Mexico	174.5	73.1	4.0	8.4	7.4	2.6	4.6
Panama	7.0	35.7	7.2	8.7	6.3	25.7	16.4
Peru	7.3	23.4	6.6	12.9	10.5	38.4	8.1
Venezuela	16.1	37.8	3.4	18.0	6.9	25.0	9.0

Source: Panorama de la inserción internacional de América Latina y el Caribe 2000–2001, tables II.5a and II.5b. ECLAC publication LC/G.2149-P/E and Annex.

C. MERCHANT FLEET IN DEVELOPING COUNTRIES AND TERRITORIES IN THE AMERICAS

1. General situation

Table 50 indicates the percentages of exports by sea in volume and value for six developing countries in Latin America. The percentage fluctuates from 40.7 to 97.5 per cent when export volumes are considered and from 16.7 to 86 per cent when export values are taken into account. The low percentages of seaborne trade for Mexico, the largest trading nation, was a result of rail and road transport with their major trading partner, the United States. For the other five countries seaborne trade was extremely important.

2. General situation of merchant fleets

Table 51 shows the merchant fleet registered in developing countries of America, excluding open registries (the Bahamas, Bermuda and Panama). The share of the merchant fleet registered in these countries has steadily increased since 1980, when it stood at 3.2 per cent of the world fleet. It increased to 3.5 per cent in 1990 and reached 4.2 per cent in 2000. In 2001 the same share was maintained. Current tonnage owned by these countries amounts to 34.6 million dwt.

The geographical ownership has changed dramatically since 1980. Countries on the eastern coast of South America owned 58 per cent of the regional fleet in 1980. Their share decreased slightly to 56.6 per cent by 1990

Table 50

Share of seaborne trade in exports from Latin America and the Caribbean in 2000

Country	Percentage of exports going by sea measured by	
	Volume in metric tons	Value in $
Argentina	83.8	70.2
Brazil	97.5	74.2
Chile	95.7	86.0
Colombia	97.2	74.7
Mexico	40.7	16.7
Peru	97.5	73.5

Source: Compiled by the UNCTAD secretariat from data in *Maritime Profile of Latin America and the Caribbean* (2002), ECLAC, *http://www.eclac.cl/transporte/perfil/expmdo00.asp.*

and was more than halved by the year 2000, when it was only 20.4 per cent. In 2001 the share decreased to 19.2 per cent. This trend was mirrored by countries on South America's western coast, whose share decreased from 12.5 per cent in 1980 to 10.8 per cent by 1990 and to 4.8 per cent in 2000, after which it stabilized in 2001. Gains occurred for countries in and around the Caribbean region, including Mexico and others in Central America: they almost trebled their share from 29.5 per cent in1980 to 32.6 per cent in 1990 and 74.8 per cent during the last decade.

The composition of the fleet in 2000 was as follows: 22.5 per cent were tankers, 29.2 per cent dry bulk carriers, 28.8 per cent general cargo vessels, 10.9 per cent container ships and 9 per cent other types of vessels. For 2001 there was a slight increase in the share of tankers, dry bulk carriers and container ships, which reached 23.8, 30.3 and 10.9 per cent respectively. The shares of general cargo and other vessels fell to 26 and 8.8 per cent respectively. Over the last 20 years the main changes have been the reduction in the share of tankers and the appearance and proliferation of container ships. The main difference between the current composition of the regional fleet and that of the world fleet was the share of general cargo vessels in the regional fleet (26 per cent for 2001), which was more than double than of the world (only 12 per cent for the same year).

Table 52 gives a closer look at the merchant fleet of these countries. Nine countries beneficially own vessels amounting to 6.35 million dwt in open registers, notably in Panama. Thus the fleet owned by developing countries in America is 18.4 per cent larger than is indicated in table 51. However, the five countries in table 60 have merchant fleets with substantial ownership by nationals of countries outside the region, notably the United States. These five countries contributed to the large share of the Caribbean and Central American areas in the composition of the regional fleet. Taking into consideration that the beneficially owned fleet in these countries amounts to 19.44 million dwt, the merchant fleet of developing countries of American amounted to 21.47 million dwt, that is 37.9 per cent smaller than that indicated in table 51.

3. Age distribution of merchant fleets

The average age of the fleet of developing countries in America at the beginning of 2002, as computed in table 51, was 17.2 years (see table 53). The fleet is thus older than those of developing countries and the world, which at the beginning of 2002 were 13.9 and 13.7 years old respectively. Bulk carrier and general cargo vessel fleets of developing countries in America were the oldest, at 19.2 and 18.2 years old respectively. The container ship fleet, however, at 9.1 years old, was younger than those of developing countries and the world, which were 11.1 and 10.8 years old respectively.

The supply of seafarers from developing countries in America reached 70,000, including officers and ratings; this is 5.7 per cent of the world supply, which in the year 2000 reached 1.2 million seafarers. The share of the merchant fleet registered in these countries was 4.2 per cent.

Table 51

Merchant fleets of the world and those registered in Latin American countries, selected years

(in thousand dwt)

	Year	Total	Tanker	Dry bulker	General cargo	Container	Others
World total	1980	682 768	339 324	185 652	115 824	11 243	30 725
	1985	664 800	261 439	232 107	105 846	19 939	45 469
	1990	658 377	245 936	234 659	102 676	25 955	49 151
	1995	734 917	267 650	261 628	104 129	43 849	57 660
	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
Latin America – total[a]	1980	21 794	7 914	6 183	6 547	37	1 113
	1985	23 283	7 354	7 765	6 363	102	1 699
	1990	25 529	7 501	9 025	6 348	364	2 291
	1995	29 798	8 236	9 238	8 104	1 486	2 734
	2000	34 051	7 645	9 934	9 837	3 540	3 095
	2001	34 556	8 223	10 448	8 999	3 789	3 057
East coast of South America	1980	12 649	4 866	3 893	3 491	0	399
	1985	15 345	5 576	5 749	3 173	78	769
	1990	14 459	5 119	6 303	1 907	214	916
	1995	10 650	4 652	3 975	736	326	961
	2000	6 923	3 039	2 625	687	196	376
	2001	6 652	2 906	2 580	589	192	385
West coast of South America	1980	2 717	484	929	1 212	0	92
	1985	2 914	651	880	1 190	0	193
	1990	2 770	558	973	1 022	0	217
	1995	1 763	429	581	372	22	360
	2000	1 646	615	370	236	77	348
	2001	1 641	609	382	200	80	370
Others (including Caribbean, Central America, Mexico)	1980	6 428	2 564	1 361	1 844	37	622
	1985	5 024	1 127	1 136	2 000	24	737
	1990	8 300	1 824	1 749	3 419	150	1 158
	1995	17 384	3 155	4 682	6 996	1 138	1 413
	2000	25 482	3 991	6 939	8 914	3 267	2 371
	2001	26 263	4 708	7 526	8 210	3 517	2 302

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

[a] Tonnages registered in the Bahamas, Bermuda and Panama are not included in the Latin American subregion total, since these are classified as open registries.

Table 52

Fleet ownership in developing countries and territories in the Americas

Country or territory	Total tonnage registered under national flag	Tonnage beneficially owned by		Share of tonnage beneficially owned by nationals under open registries	Share of tonnage registered under national flag controlled by foreign owners[a]
		nationals under open registries	foreign owners[a] under national flag		
	thousand dwt			percentage share	
Antigua and Barbuda	6 071	-	5 855	-	96.4
Argentina	312	1 040	-	333.3	-
Belize	2 002	-	781	-	39.0
Brazil	5 959	2 683	-	45.0	-
Cayman Islands	3 184	-	2 539	-	79.7
Chile	915	1 057	-	115.5	-
Colombia	82	43	-	52.4	-
Cuba	92	291	-	316.3	-
Honduras	1 158	-	328	-	28.3
Mexico	1 180	136	-	11.5	-
Peru	200	171	-	85.5	-
Saint Vincent and the Grenadines	10 105	-	8 602	-	85.1
Uruguay	46	94	-	204.3	-
Venezuela	1 307	835	-	63.9	-
Total		6 350	19 440	-	-

Source: Compiled by the UNCTAD secretariat from data provided by Lloyd's Register – Fairplay.

[a] In this table, "foreign owners" means owners who are nationals of countries outside the Latin American region.

Table 53

Age distribution of the merchant fleet of countries in Latin America by types of vessel, as of 1 January 2002

(percentage of total dwt)

Country or grouping	Types of vessels	Total	0–4 years	5–9 years	10–14 years	15 years and over	Average age (years) 2001[a]
World total	All ships	100.00	19.11	18.60	12.47	49.83	13.87
	Tankers	100.00	19.44	23.26	14.55	42.76	13.24
	Bulk carriers	100.00	17.59	18.95	11.92	51.54	13.73
	General cargo	100.00	14.09	10.48	10.57	64.87	16.17
	Container ships	100.00	30.13	23.79	11.45	34.64	11.03
	All others	100.00	18.31	14.43	12.56	54.70	14.92
Developing countries (including open-registry countries)							
	All ships	100.00	17.79	17.74	11.36	53.10	14.31
	Tankers	100.00	21.47	21.38	16.68	40.47	12.71
	Bulk carriers	100.00	19.97	19.63	11.43	48.97	13.09
	General cargo	100.00	7.82	7.48	7.30	77.40	18.46
	Container ships	100.00	26.63	29.37	8.19	35.82	11.18
	All others	100.00	11.27	9.98	9.16	69.59	17.43
Developing countries (excluding open-registry countries)							
	All ships	100.00	10.86	11.92	8.17	69.05	17.10
	Tankers	100.00	14.83	11.25	9.05	64.86	16.60
	Bulk carriers	100.00	1.72	7.35	7.70	83.23	19.22
	General cargo	100.00	7.86	8.65	8.47	74.96	18.25
	Container ships	100.00	30.96	38.28	5.34	25.42	9.21
	All others	100.00	10.37	6.28	9.32	74.04	18.23
Antigua and Barbuda	All ships	100.00	30.43	29.45	6.98	33.14	10.14
	Tankers	100.00	0.00	30.27	0.00	69.73	16.06
	Bulk carriers	100.00	6.42	3.92	0.00	89.65	18.33
	General cargo	100.00	25.54	18.86	10.92	44.67	12.08
	Container ships	100.00	36.52	40.29	4.82	18.36	7.80
	All others	100.00	35.94	23.31	1.63	39.13	10.37
Anguilla	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	0.00	100.00	20.00
Argentina	All ships	100.00	4.31	2.28	8.91	84.50	18.21
	Tankers	100.00	38.57	0.00	0.00	61.43	13.06
	Bulk carriers	100.00	0.00	0.00	0.00	100.00	20.00
	General cargo	100.00	0.00	0.00	3.68	96.32	19.71
	Container ships	-	-	-	-	-	-
	All others	100.00	0.06	3.88	13.73	82.34	18.39

Table 53 (continued)

Country or grouping	Types of vessels	Total	0–4 years	5–9 years	10–14 years	15 years and over	Average age (years) 2001[a]
Barbados	All ships	100.00	58.63	19.22	1.72	20.43	6.81
	Tankers	100.00	93.64	0.00	0.00	6.36	3.14
	Bulk carriers	100.00	38.67	59.29	0.00	2.04	5.33
	General cargo	100.00	0.00	7.48	11.81	80.71	18.08
	Container ships	100.00	100.00	0.00	0.00	0.00	2.00
	All others	100.00	0.00	34.36	3.50	62.14	15.25
Bolivia	All ships	100.00	1.67	0.52	5.75	92.06	19.17
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	100.00	0.00	0.00	0.00	100.00	20.00
	General cargo	100.00	0.00	1.59	17.58	80.82	18.39
	Container ships	-	-	-	-	-	-
	All others	100.00	10.81	0.00	0.00	89.19	18.05
Brazil	All ships	100.00	2.07	17.81	14.18	65.95	16.18
	Tankers	100.00	1.64	22.06	16.44	59.86	15.52
	Bulk carriers	100.00	1.85	5.49	14.31	78.35	17.81
	General cargo	100.00	2.98	52.57	5.12	39.34	12.22
	Container ships	100.00	0.00	44.08	0.00	55.92	14.27
	All others	100.00	6.29	1.11	19.47	73.11	17.16
British Virgin Islands	All ships	100.00	0.00	3.52	7.76	88.71	18.92
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	5.51	12.14	82.35	18.31
Belize	All ships	100.00	2.53	1.74	5.73	90.01	18.86
	Tankers	100.00	0.16	1.07	1.88	96.89	19.68
	Bulk carriers	100.00	0.00	0.00	0.34	99.66	19.97
	General cargo	100.00	1.82	2.28	3.47	92.43	19.10
	Container ships	100.00	0.00	0.00	24.46	75.54	18.04
	All others	100.00	5.83	2.12	9.35	82.70	17.93
Cayman Islands	All ships	100.00	17.87	13.76	9.72	58.64	14.22
	Tankers	100.00	26.61	11.34	3.28	58.77	13.47
	Bulk carriers	100.00	0.00	20.74	22.53	56.73	15.50
	General cargo	100.00	0.00	2.12	10.58	87.30	18.88
	Container ships	100.00	0.00	0.00	0.00	100.00	20.00
	All others	100.00	42.98	16.30	0.63	40.09	10.09
Chile	All ships	100.00	2.20	10.20	4.21	83.39	17.94
	Tankers	100.00	0.00	21.19	0.00	78.81	17.25
	Bulk carriers	100.00	0.00	0.00	0.00	100.00	20.00
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	100.00	0.00	36.35	0.00	63.65	15.27
	All others	100.00	5.28	11.85	10.08	72.80	16.70

Table 53 (continued)

Country or grouping	Types of vessels	Total	0–4 years	5–9 years	10–14 years	15 years and over	Average age (years) 2001[a]
Colombia	All ships	100.00	1.69	1.80	1.27	95.24	19.36
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.76	99.24	19.94
	Container ships	-	-	-	-	-	-
	All others	100.00	5.33	5.66	2.59	86.43	18.10
Costa Rica	All ships	100.00	7.99	8.39	4.33	79.28	17.12
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	-	-	-	-	-	-
	Container ships	-	-	-	-	-	-
	All others	100.00	7.99	8.39	4.33	79.28	17.12
Cuba	All ships	100.00	0.00	0.00	0.54	99.46	19.96
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	100.00	0.00	0.00	0.00	100.00	20.00
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	1.01	98.99	19.92
Dominica	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	0.00	100.00	20.00
Dominican Republic	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	0.00	100.00	20.00
Ecuador	All ships	100.00	41.44	0.10	2.88	55.58	12.30
	Tankers	100.00	57.78	0.00	0.00	42.22	9.60
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.37	10.46	89.17	19.12
El Salvador	All ships	100.00	7.97	0.00	0.00	92.03	18.57
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	-	-	-	-	-	-
	Container ships	-	-	-	-	-	-
	All others	100.00	7.97	0.00	0.00	92.03	18.57

Table 53 (continued)

Country or grouping	Types of vessels	Total	0–4 years	5–9 years	10–14 years	15 years and over	Average age (years) 2001[a]
Falkland Islands (Malvinas)	All ships	100.00	0.00	8.62	48.06	43.32	15.03
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	8.71	48.59	42.70	14.98
Grenada	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	0.00	100.00	20.00
Guatemala	All ships	100.00	5.36	0.00	0.00	94.64	19.04
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	-	-	-	-	-	-
	Container ships	-	-	-	-	-	-
	All others	100.00	5.36	0.00	0.00	94.64	19.04
Guyana	All ships	100.00	0.00	0.00	4.35	95.65	19.65
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	8.24	91.76	19.34
Haiti	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	0.00	100.00	20.00
Honduras	All ships	100.00	0.17	0.31	6.68	92.84	19.39
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	100.00	0.00	0.00	0.00	100.00	20.00
	General cargo	100.00	0.26	0.31	4.51	94.92	19.55
	Container ships	100.00	0.00	0.00	0.00	100.00	20.00
	All others	100.00	0.21	0.59	16.01	83.20	18.61
Jamaica	All ships	100.00	1.32	1.33	0.00	97.35	19.59
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	26.36	26.53	0.00	47.10	11.81

Table 53 (continued)

Country or grouping	Types of vessels	Total	0–4 years	5–9 years	10–14 years	15 years and over	Average age (years) 2001[a]
Mexico	All ships	100.00	2.75	0.26	14.57	82.42	18.31
	Tankers	100.00	0.00	0.00	23.18	76.82	18.15
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	6.19	0.58	6.79	86.44	18.27
Nicaragua	All ships	100.00	0.00	0.00	12.93	87.07	18.97
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	15.00	85.00	18.80
Paraguay	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	100.00	0.00	0.00	0.00	100.00	20.00
	All others	100.00	0.00	0.00	0.00	100.00	20.00
Peru	All ships	100.00	5.39	16.87	3.26	74.48	16.58
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	7.47	23.37	4.51	64.64	15.26
Saint Kitts and Nevis	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	-	-	-	-	-	-
Saint Vincent and the Grenadines	All ships	100.00	1.40	3.72	7.12	87.75	18.69
	Tankers	100.00	1.13	0.71	0.00	98.16	19.70
	Bulk carriers	100.00	0.00	4.43	4.08	91.48	19.10
	General cargo	100.00	1.83	2.16	10.03	85.97	18.59
	Container ships	100.00	5.99	31.53	11.26	51.22	13.92
	All others	100.00	4.56	1.93	12.20	81.31	17.95
Suriname	All ships	100.00	6.26	3.16	35.28	55.30	15.64
	Tankers	100.00	0.00	0.00	100.00	0.00	12.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	38.29	19.32	0.00	42.39	10.60

Table 53 (continued)

Country or grouping	Types of vessels	Total	0–4 years	5–9 years	10–14 years	15 years and over	Average age (years) 2001[a]
Turks and Caicos Islands	All ships	100.00	0.00	0.00	0.00	100.00	20.00
	Tankers	-	-	-	-	-	-
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	0.00	0.00	0.00	100.00	20.00
Trinidad and Tobago	All ships	100.00	1.19	0.00	21.46	77.35	18.07
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	1.41	0.00	25.43	73.16	17.71
Uruguay	All ships	100.00	2.57	7.10	0.98	89.35	18.54
	Tankers	100.00	0.00	0.00	0.00	100.00	20.00
	Bulk carriers	-	-	-	-	-	-
	General cargo	100.00	0.00	0.00	0.00	100.00	20.00
	Container ships	-	-	-	-	-	-
	All others	100.00	3.11	8.60	1.18	87.11	18.23
Venezuela	All ships	100.00	12.80	11.55	6.32	69.33	15.69
	Tankers	100.00	15.14	25.58	10.37	48.91	13.12
	Bulk carriers	100.00	0.00	0.00	0.00	100.00	20.00
	General cargo	100.00	0.00	5.47	0.62	93.90	19.24
	Container ships	100.00	0.00	0.00	0.00	100.00	20.00
	All others	100.00	16.99	0.67	4.94	77.40	16.46

Source: 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.

D. SHIPPING SERVICES IN LATIN AMERICA AND THE CARIBBEAN

The shipping services of countries in Latin America and the Caribbean are organized to serve bulk and liner cargoes. In 2000, ports of the region loaded 750.6 million tons, the equivalent of 25.7 per cent of loaded cargoes from ports of developing countries and 12.7 per cent of loaded cargoes from world ports. The share of tanker cargo in this total was 46 per cent, while 54 per cent were dry cargoes, including liner cargo. Unloaded cargoes in the region's ports were 359.8 million tons, equivalent to 18.9 per cent of unloaded cargoes in the ports of developing countries and 5.8 per cent of unloaded cargoes in world ports. Preliminary figures for 2001 show an increase of 3.2 per cent in loaded tonnage to 774.5 million tons.

Estimates of the amounts of bulk and liner cargoes for selected countries appear in table 54. These countries account for more than 90 per cent of exports and 70 per cent of imports. Argentina and Brazil, on the eastern coast of South America, account for about half of loaded tonnage. Countries on South America's northern coast, Venezuela and Colombia (which straddles this coast and the western coast), account for about a quarter of loaded tonnage. Along the western coast, Chile and Peru and western Colombia account for about a tenth of loaded tonnage. Mexico is by far the largest trader outside South America and accounts for 18 per cent of loaded tonnage.

For the selected countries, bulk cargoes make up the largest share of exports, 86.6 per cent of the total, which is almost equally split between tanker cargoes (47.7 per cent) and dry bulk cargo (54.3 per cent). Bulk cargoes also make up the largest share of imports, 81.3 per cent, but tanker cargo is only 29.3 per cent while dry bulks are 71.3 per cent. Export liner cargo accounts for 13.3 per cent of total exports, twice as much as liner imports. Import liner cargo makes up 18.5 per cent of total imports.

1. Crude oil and oil product shipping services

Exports of crude oil are made through specialized terminals integrated within the operations of the oil companies. For instance, PDVSA (Petróleos de Venezuela S.A.) owns a number of oil export terminals and 21 tankers for carrying crude oil abroad, partly to its 2.4 mbpd network of refineries in the Caribbean, the United States and Europe.

Export terminals are mainly located around the Caribbean, as it is the case for the three major terminals of Cayo Arcas, Dos Bocas and Pajaritos operated by the Mexican oil company PEMEX (Petróleos Mexicanos). In 2001 these terminals loaded 46.8, 28.5 and 30.1 million tons respectively. Venezuelan terminals are located in the Maracaibo Lake and along the sea coast, as is the Colombian terminal at Coveñas, which in 2000 loaded about 20 million tons.

Table 54

Estimated international traffic for types of shipping services in selected Latin American countries, 2000

(millions of metric tons)

Country	Exports				Imports			
	Bulk cargoes		Liner and other cargo	Total exports	Bulk cargoes		Liner and other cargo	Total imports
	Liquid	Dry			Liquid	Dry		
Argentina	20.0	39.1	11.9	71.0	2.7	11.5	8.8	23.0
Brazil	4.6	176.7	52.1	233.4	33.2	44.1	9.2	86.5
Chile	0.7	21.5	11.3	33.5	0.4	48.1	6.3	54.8
Colombia	24.7	32.1	7.4	64.2	0.9	7.2	3.7	11.8
Mexico	93.7	25.3	7.6	126.6	16.0	24.2	9.9	50.1
Peru	2.3	9.0	2.3	13.6	4.5	4.2	3.0	11.8
Venezuela	143.5	14.0	1.0	158.5	2.3	5.2	6.0	13.6
Total	289.5	317.7	93.6	700.8	60.0	144.5	46.9	251.6

Source: Compiled by the UNCTAD secretariat from data in *Maritime Profile of Latin America and the Caribbean* (2002), ECLAC, *http://www.eclac.cl/transporte/perfil/.*

Aframax tonnage is chartered for shipping oil from the Caribbean to the Louisiana Oil Offshore Platform (LOOP) terminal on the United States Gulf Coast, other terminals along the United States eastern seaboard and refineries located on some islands in the Caribbean. Rates from Mexico to the United States eastern seaboard were at WS 198 in March 2000 and rose during the year to a peak of WS 361 in December. By November 2001, however, the rates had dropped to WS 137. After a brief recovery around year's end, the downward trend continued, with rates reaching WS 105 by March 2002 – the time-charter equivalent of $12,900 a day. In that month, fixtures for a 70,000 dwt tanker from Cayo Arcas to the LOOP terminal were at WS 112 while fixtures to the Netherlands were at WS105, those from Coveñas to the United States Gulf Coast at WS 102 and those from Puerto La Cruz (Venezuela) to Houston (United States) at WS 120. Smaller tankers are used to ship crude oil from other South American exporters. In March 2002, tankers of 50,000 dwt fetched WS 160 for trips from Esmeraldas (Ecuador) to the United States Gulf Coast and eastern seaboard.

Imports of crude oil are made from West Africa, from where 8.3 million tons were loaded in 2000, and the Middle East Gulf, notably into Brazil. Tonnage at or above the Suezmax level is engaged for this trade by oil companies. In March 2002, Petrobras, the Brazilian oil company, chartered two 10-year old vessels with capacities of 108,712 and 141,950 dwt for 12 to 24 months at $28,000 and $34,000 per day respectively. In the same month, for shipping crude oil from West Africa to Brazil, the same company chartered a 130,000-dwt tanker at WS 72 and a 260,000-dwt tanker at WS 45.

Trade of clean oil products, notably from refineries to United States ports, is important in the Caribbean. Smaller tankers in the range of 25,000–35,000 dwt are engaged for this transport. Typical spot rates on the route Curacao-to-Houston route rose from $7.50 per ton in March 2000 to $11.60 per ton in March 2001 and then dropped to $6.90 a year later. Time charter equivalents for a 30,000-dwt tanker stood at $8,600 per day in March 2002. Elsewhere, crude oil imports may be linked to coastal domestic trade of crude oil and oil products. This is the case for Brazilian imports of crude oil going into Petrobras terminals, such as that of Angra dos Reis, through which 4.3 million tons were imported in 2000 to complement the domestic unloading of 3.5 million tons. This port, together with those of São Sebastião and Aratu, which handled 45.7 and 18.9 million tons respectively, thus participates in significant coastal trade of crude oil, oil products, gas and petrochemical products.

There are also marginal traffics such as those shipping liquid bitumen in tankers from PDVSA terminals in North America, Europe and the Far East. Exports of this specialized and patented fuel reached 6.3 million tons in 2001. LNG traffic is not well developed, with exports from Trinidad to the United States and Spain reaching 2.1 bcm in 1999. However, it may be poised to increase, with new findings in Trinidad and, more significant, the large Bolivian finding, which would start exports from the western coast of South America to markets in Mexico and California. (The latter experienced repeated power outages during 2000.)

2. Dry bulk cargo shipping services

The dry bulk trade is mainly centered in South America. From the eastern coast, iron ore and grain are exported from Brazil and grain from Argentina; exports of iron ore are also made from the western coast; and from the northern coast, coal is exported from Colombia and Venezuela.

The largest ports are those operated by Companhia Vale do Rio Doce (CVRD) in Tubarão and Ponta da Madeira in central and northern Brazil, which in 2000 reached a throughput of 72.6 and 44.5 million tons, consisting largely of iron ore exports. In the same year, another large operator exported 22.7 million tons of iron ore from the port of Sepetiba. Imports of coal for steel manufacturing come through the ports of Praia Mole and Sepetiba, which handled 8.4 and 3.5 million tons respectively in 2000. These imports are complemented by significant coastal trade in iron ore – about 2.2 million tons unloaded in Praia Mole – which led to exports of 6.7 million tons of steel products from this port. Similarly, coastal trade in bauxite and alumina led to exports of aluminium products through private terminals located near the port of Itaqui. Vessels over 100,000 dwt are engaged in the iron ore trades from Brazil. During 2000, rates from Brazil to Northern Europe rose from $7.50 in March to $8.70 in November. Rates then dipped to a low of $3.90 in November 2001; since then, a slight improvement has been observed, and in March 2002 rates were at $4.90 per ton. These rate fluctuations were mirrored in the Brazil-China routes: during 2000, rates rose from $11.50 per ton in March to $13.50 in November; they then fell to $6.05 in December 2001 and climbed to $7.75 by March 2002.

Along South America's western coast, iron ore exports are made through the ports of Huasco (Chile) and San Nicolas (Peru). In 2000 the Chilean port, owned by a subsidiary of CAP S.A., the largest steel manufacturer in Chile, loaded 5.5 million tons of iron ores, mainly from Asian countries (46 per cent to Japan, 13 per cent to the Republic of Korea and Indonesia and 14 per cent to Malaysia). In the same year, the Peruvian port, part of a mining joint venture with Chinese investors, exported 3.7 million tons to steelmakers of that country. A new private port, Ventanas, is operating in central Chile, serving several dry bulk traffics.

Coal exports from Colombia are the largest dry bulk exports from the northern coast of South America. Thermal coal is mined from El Cerrejon Basin by the joint venture Intercor-Carbocol and shipped by rail about 150 kilometres to Puerto Bolivar, from where 22.9 million tons were shipped to the United States and European markets in 2000. Another exporter uses rail, barges and a floating facility offshore Cienaga and shipped 8.7 million tons of thermal coal in the same year. Venezuelan thermal coal comes from Guasare Basin, is trucked about 85 kilometres and then uses barges to reach a floating facility close to the navigation channel of Maracaibo Lake.

Cape-size tonnage is engaged for coal exports. Representative single-voyage rates from Puerto Bolivar to Northern Europe in March 2000 reached $7.70 per ton. After peaking in November of that year at $8.40 per ton, rates have fallen steadily. They were $5.95 in March 2001 and $4.85 per ton one year later – a decrease of 18.5 per cent.

Small dry-bulk vessels in the range of 15,000 to 35,000 dwt are used in the grain trades of the region. Major exporters are the port of Paranagua in southern Brazil, which exported 14 million tons of grain out of 28.3 million tons of total throughput, and a number of Argentinean ports along the Parana River, including topping-off facilities. Imports are spread out in many ports of the region, often general-cargo ones. Sometimes the same port handles exports and imports. In 2000 the port of Santos (Brazil) exported 3 million tons of soya beans and imported 2 million tons of wheat.

In March 2002 shipments of heavy grain from Paranagua (Brazil) to Western Europe in a 35,000 dwt vessel and to Japan in a 30,000 dwt vessel were made at $16 and $26 per ton respectively. Two shipments from the River Plate (Argentina) to Morocco in 25,000 dwt vessels fetched $21 and $22 per ton. Typical fixtures for imports into Venezuela in vessels in the 15,000–30,000 dwt range were made at $11.90 per ton – 12.8 per cent lower than a year earlier.

Bulk cargoes figure prominently in the still-developing trade between South America and Africa. An estimate made with 1998 data for seven countries (Argentina, Brazil, Chile, Colombia, Peru, Uruguay and Venezuela) shows that exports to Africa were only 3 per cent of total exports, at 12.6 million tons. Imports reached 7.5 per cent of the total imports of these seven countries and represented a total of 12.1 million tons. Countries along the eastern seaboard of South America, notably Brazil, were more relevant in this South-South trade. South American exports were iron ore, grains, and sugar and molasses, which for 1998 reached 3.1, 3.1 and 2.7 million tons respectively. Egypt and Libya are major importers of these cargoes. African exports included crude oil (about 8.3 million tons, mainly from West Africa) and coal (about 2 million tons from South Africa).

3. Liner and other shipping services

Containerized traffic of the region reached 9.1 million TEUs in 2001. As table 55 indicates, exports reached 4.8 million TEUs, or 52.5 per cent of the total. The growth rate for containerized trade was 1.7 per cent, far below the 7.6 per cent achieved for 2000. The forecasts for 2002 and 2003 are 4.6 and 5.2 per cent respectively. The structure of the containerized traffic is also indicated in table 55. The shares of North America and Europe in exports from the region were almost the same – 32.5 and 31.2 per cent respectively. Intraregional destinations for exports come next with a share of 16.7 per cent, ahead of Asian destinations (11.6 per cent). North America's share in regional imports was clearly the largest at 33.4 per cent, followed by Europe and Asia's respective shares of 22.8 and 21.8 per cent. The share of imports from the region was 18.4 per cent.

Traffic from South America's eastern seaboard accounted for 36.5 per cent of regional containerized traffic. On this coast Europe's share of exports and imports was larger – 37.4 and 32.5 per cent – than that of North America, which reached only 27.5 and 29.6 per cent respectively. The two other areas, Mexico and Central America and the Caribbean (the latter including also the northern coast of South America), have almost equal shares of the regional traffic – 23.8 and 22.4 per cent respectively – and traded mainly with North America, the destination for over 40 per cent of their exports.

Imports from North America to the Caribbean totalled 42.5 per cent. The western coast of South America accounted for 17.3 per cent of regional containerized traffic. The largest share of exports from this coast, 29.5 per cent, had Europe as their destination, while the largest share of imports, 29.9 per cent, originated in North America. For this coast Asia had a share of about a fifth in exports and imports, and more than a fourth of imports originated within the region.

Table 55

Destination of export and origin of import container traffic from selected trading areas in Latin America and the Caribbean, 2001

		Destination of exports (%)					
Trading areas	**Total exports (thousand TEU)**	**Africa**	**Asia**	**Europe**	**North America**	**Within region**	**Unallocated**
Mexico and Central America	933.8	0.3	7.3	23.1	41.3	21.4	6.6
Caribbean	814.0	0.8	3.5	26.7	44.1	23.6	1.3
East coast of South America	2 086.8	3.6	12.4	37.4	27.5	11.0	8.1
West coast of South America	963.3	0.4	20.7	29.5	24.8	18.6	6.0
Regional total	4 797.9	1.9	11.6	31.2	32.5	16.7	6.2
		Origin of imports (%)					
Trading areas	**Total imports (thousand TEU)**	**Africa**	**Asia**	**Europe**	**North America**	**Within region**	**Unallocated**
Mexico and Central America	1 239.0	1.5	30.1	21.2	29.9	13.2	4.1
Caribbean	1 229.9	0.2	16.7	16.2	42.5	23.8	0.6
East coast of South America	1 253.5	2.3	18.8	32.5	29.6	14.5	2.2
West coast of South America	618.5	0.7	21.1	19.3	29.9	26.3	2.4
Regional total	4 341.9	1.3	21.8	22.8	33.4	18.4	2.3
Total exports and imports	9 139.8						

Source: Compiled by the UNCTAD secretariat on the basis of data in *Maritime Profile of Latin America and the Caribbean* (2002), ECLAC, supplied by DRI-WEFA. *www.eclac.cl/transporte/perfil/index.htm.*

Containerized traffic in the region, like such traffic elsewhere in the world, is characterized by the use of trans-shipment ports and feeder vessels and direct calls. There are a number of trans-shipment ports in the Caribbean, while direct calls are more prevalent along the eastern and western coasts of South America. However, the deployment of larger vessels along the main east-west routes of the northern hemisphere is poised to change this state of affairs in South America, which has been served for many years by container ships in the 1,000-to-2,500-TEUs range. In 1999 Evergreen introduced four 10-year-old vessels with a capacity of 3,500 TEUs on the routes from the eastern seaboard of South America to the Far East. This was followed by Hamburg-Süd's deployment of 3,800 TEU vessels to trade along the eastern seaboard of South and North

America. One of these vessels called at Suape, a deep-water port in northern Brazil, which was expected to become a trans-shipment center. Labour troubles in early 2002 temporarily dampened those hopes.

Table 56 indicates container throughput in TEUs in the region's ports. Total throughput for 2000, including trans-shipment, reached 14.8 million TEUs, an impressive 10.2 per cent increase from 1999 that was not repeated in 2001, when traffic stagnated. Major trans-shipment ports were those in Panama, Kingston (Jamaica), Freeport (the Bahamas) and, to a lesser extent, Cartagena (Colombia). The share of Panamanian ports is poised to increase since the opening in late 2001 of the 47-kilometre railway linking Balboa (on the Pacific coast) and Colon (on the Caribbean coast). The $70 million investment is expected to move initially about 300,000 containers per year, with an average transit time of three hours.

In addition to trans-shipment activity, there are a number of shipping services in the Caribbean making direct calls to several island destinations, which are strongly linked to the United States market. In 2000 Caribbean exports to this market were estimated at 0.14 million TEUs, while imports reached 0.52 million TEUs. The shares of the main carriers moving exports were 19.7 per cent for Maersk-Sealand, 16.8 per cent for Tropical Shipping and 10.5 per cent for Antillean Lines. For imports, the three main carriers were Tropical Shipping with a share of 21 per cent, Seaboard Marine with 11.4 per cent and Maersk-Sealand with 10.9 per cent. Although Maersk-Sealand and other worldwide carriers operating in the Caribbean rely on their feeder networks to serve these islands, other carriers such as Tropical Shipping, Antillean Lines and Seaboard Marine provide niche services from ports in Florida. These carriers make direct calls to serve specific islands' needs, such as garment traffic and deliveries of groceries and cruise supplies.

Estimates of the shares of the five largest carriers in trade between the United States and South America were based on traffic during the first nine months of 2001. The share for exports from South America are as follows: 15.3 per cent for Maersk-Sealand, 10.8 per cent for MSC, 8.6 per cent for CSAV, 7.7 per cent for Crowley American Transport and 6.2 per cent for Dole Ocean Cargo Express. The shares for imports are 13.5 per cent for Maersk-Sealand, 11.3 per cent for Crowley American Transport, 8.2 per cent for CSAV, 7.8 per cent for MSC and 7 per cent for Seaboard Marine.

CSAV (Compañía Sudamericana de Vapores), the largest sea carrier from the region, is the only one included in the above list. CSAV is also among the world's top 20 container carriers. This Chilean company took over two other regional lines, Libra (Brazil) and Montemar (Uruguay), and has now global coverage, deriving 82.7 per cent of its revenues from outside the country. It has also diversified into port activities and, since 2000, has had a controlling interest as operator in three Chilean ports, San Antonio, San Vicente and Iquique. Other regional carriers have a complementary role to play – for instance, by focusing in cabotage (i.e. transporting vehicles within Mercosur) – while others have been merged into the services of carriers from outside the region. This is the case with FMC, from Colombia, which was purchased by another regional carrier, TMM Lines from Mexico, which in turn was subsequently purchased by CP Ships (Canada).

The introduction of larger container ships to the eastern seaboard of South America by major carriers such as Maersk-Sealand, MSC and P&ON prompted regional carriers to establish Mercosur cabotage services to complement international services that called only in large ports such as Santos and Buenos Aires. During recent years, Transroll, Docefrota and Global from Brazil covered the routes from the River Plate into the Amazon River, while Feeder Lines and Crowley serviced, from the River Plate, inland destinations along the Parana and Paraguay Rivers as well as coastal destinations in southern Argentina.

Data for freight rates for containerized cargo are sketchy, but the rates probably mirror the downward trend of those along the main containerized routes. Sample freight rates presented in the WTO Symposium on Assessment of Trade in Services (Geneva, 14–15 March 2002) for a 20-foot container shipped from four South American ports in April 2001, including the BAF surcharge and emission of a bill of lading, are shown in table 57. Since then, freight rates have been falling. Anecdotal evidence for early 2002 indicates rates as low as $700 per 20-foot container from the eastern coast of South America to Europe and a 26.9 per cent reduction (to $950) in shipments of wine in 20-foot containers from Chile. For some commodities, minor increases have been detected – for example, a 4 per cent increase in shipments of fruit in high cube reefer containers.

Table 56

Container port traffic in developing countries and territories in America

(in TEUs)

	1999	2000	2001
SOUTH AMERICA			
Argentina	1 076 102	1 126 712	1 010 040
Buenos Aires	1 076 102	1 126 712	1 010 040
Brasil	1 894 964	2 340 836	1 980 094
Belem	47 283	49 108	-
Fortaleza	54 400	69 400	-
Itajai	90 862	106 899	130 000
Manaus	27 654	86 944	-
Paranagua	194 939	252 879	281 941
Rio de Janeiro	204 289	217 332	-
Rio Grande	261 722	317 161	360 468
Salvador	79 106	95 349	-
Santos	774 959	987 708	1 047 685
Sepetiba	-	3 681	-
Suape	45 600	62 800	80 000
Vitoria	114 150	91 575	80 000
Chile	859 195	933 653	908 951
Antofagasta	41 904	48 752	47 152
Arica	73 927	65 366	54 350
Iquique	90 748	107 545	105 250
San Antonio	374 474	455 604	410 796
Valparaiso	278 142	256 386	291 403
Colombia	730 301	759 535	618 711
Barranquilla	66 992	75 049	57 549
Buenaventura	250 299	236 168	-
Cartagena	347 023	395 680	516 310
Santa Marta	65 987	52 638	44 852
Ecuador	400 442	414 104	453 646
Guayaquil	400 442	414 104	453 646
Peru	381 643	414 767	482 210
Callao	378 045	413 646	480 706
Matarani	3 598	1 121	1 504
Uruguay	250 117	287 298	301 641
Montevideo	250 117	287 298	301 641
Venezuela	755 007	788 589	741 946
La Guaira	237 782	237 782	123 751
Maracaibo	20 910	-	-
Puerto Cabello	496 315	550 807	618 195
Total East Coast	**3 221 183**	**3 754 846**	**3 291 775**
Total West Coast	**1 891 579**	**1 998 692**	**1 844 807**

Table 56 (continued)

	1999	2000	2001
Total North Coast	**1 235 009**	**1 311 956**	**1 360 657**
Total South America	**6 347 771**	**7 065 494**	**6 497 239**
Mexico & Central America			
Costa Rica	608 097	585 427	577 621
Puerto Limon	608 097	585 427	577 621
El Salvador	11 132	14 815	-
Acajutla	11 132	14 815	-
Guatemala	211 173	235 013	201 090
Saint Tomas de Castilla	211 173	235 013	201 090
Honduras	277 106	184 839	403 356
Puerto Castilla	3 770		64 424
Puerto Cortes	273 336	184 839	338 932
Mexico	1 127 552	1 311 229	1 378 032
Altamira	181 624	182 997	208 340
Ensenada	21 191	28 859	45 000
Lazaro Cardenas	4 468	759	-
Manzanillo	321 893	426 717	457 946
Mazatlan	15 228	16 811	18 315
Progreso	43 017	60 181	72 000
Salina Cruz	7 511	5 333	3 211
Tampico	47 898	49 462	29 552
Tuxpan	199	96	341
Veracruz	484 523	540 014	543 327
Nicaragua	8 184	104 993	0
Corinto	8 184	104 993	-
Panama	2 234 179	2 550 981	1 571 028
Balboa	-	-	358 868
Coco Solo	180 300	181 300	-
Cristobal	1 175 673	1 353 727	1 212 160
Las Minas Bay			
Puerto Manzanillo	878 206	1 015 954	-
Total Caribbean Coast	**4 087 816**	**4 389 010**	**3 247 787**
Total Pacific Coast	**389 607**	**598 287**	**883 340**
Total Mexico & Central America	**4 477 423**	**4 987 297**	**4 131 127**
Caribbean			
Bahamas	543 993	572 224	0
Freeport	543 993	572 224	-
Nassau			
Barbados	71 577	68 600	0
Bridgetown	71 577	68 600	-

Table 56 (continued)

	1999	2000	2001
Belize	19 945	25 537	26 900
Belize City	19 945	25 537	26 900
Cayman Islands	43 650	0	0
Georgetown	43 650		
Cuba	123 000	250 000	270 000
Habana	123 000	250 000	270 000
Grenada			11 708
St. George's			11 708
Guadeloupe	104 000	226	184
Pointe-à-Pitre	104 000	226	184
Jamaica	709 442	894 779	579 870
Kingston	709 442	894 779	579 870
Martinique	141 700	0	0
Fort-de-France	141 700		
Dominican Republic	460 067	509 389	529 356
Boca Chica	24 364	25 916	19 052
Rio Haina	415 629	460 184	487 827
Santo Domingo	20 074	23 289	22 477
Santa Lucia	45 167	41 037	0
Castries	26 667	27 050	
Vieux Fort	18 500	13 987	
Trinidad and Tobago	298 553	347 934	2 699 921
Point Lisas	46 071	65 447	
Port of Spain	252 482	282 487	2 699 921
Total Caribbean	**2 561 094**	**2 709 726**	**4 117 939**
Total Latin America	**13 386 288**	**14 762 517**	**14 746 305**

Source: Containerisation International – Perfíl Marítimo, *http://www.eclac.cl/transporte/perfil/.*

Table 57

Examples of freight rates per 20-foot container

(in $)

From / to	Miami	New York	Hamburg
Santos (Brazil)	1 890	1 920	1 460
Buenaventura (Colombia)	1 850	1 875	1 395
Callao (Peru)	1 875	1 925	1 480
Valparaiso (Chile)	1 865	1 925	1 662

Source: www.wto.org/english/tratop_e/serv_e/symp_assessment_serv_marchoz_e.htm.

Exports from developing countries in America also create a significant demand for reefer vessels. Bananas are exported from Costa Rica, Ecuador, Panama and Saint Lucia, among others, and represent a large share of these countries' export earnings – up to 50 per cent for Saint Lucia in 1998 and about a fifth of earnings for each of the others. These exports were badly hit by climatic events (El Niño current affected Ecuadorian production, and Hurricane Mitch wiped out most Central American plantations in late 1998) but have since recovered. European Community import quotas affected Latin American exports and allegedly caused the collapse of Chiquita Brands in early 2002. The banana trade accounted for more than a third of the demand for conventional reefer vessels.

Deciduous fruits, exported from Chile and Brazil, accounted for approximately another fifth of the demand for conventional reefer vessels, while citrus fruits from Brazil were responsible for an additional tenth. In total, these cargoes accounted for about two-thirds of the demand for conventional reefer vessels. The use of reefer containers for carrying these commodities is having a major impact on the demand for conventional reefer vessels and is likely to exercise downward pressure on freight rates with the introduction of large container ships in South American trades. Other cargoes carried include meat from the eastern coast of South America and minor liquid bulks, such as exports of citric concentrates from Santos (Brazil), which were carried in specialized reefer tankers.

Liner and other shipping services make use of public ports. During the last decade, these ports have been the focus of major institutional change, namely the introduction of private operating companies for providing cargo-handling services, including the provision of equipment and infrastructure. Panamanian ports together with the port of Buenos Aires were the first ones to award concessions to private companies for operating terminals for handling container and other cargoes.

The port of Rio Grande was the first to follow in Brazil and then the port of Santos awarded a concession for its first container terminal, located on the left bank, in 1997; this was followed with a concession on the right bank of berths for conversion into another container terminal. In 1999 the Peruvian authorities awarded the concession of the port of Matarani, and in the following year concessions were given in the Chilean ports of San Antonio, Valparaiso, Iquique and Mejillones. In late 2001 Boluda, a Spanish private shipowner, won a concession to carry out pilotage, towage, mooring and stevedoring services in five Costa Rican ports (Caldera, Golfito, Punta Arenas, Punta Morales and Quepos). In other ports, notably in Colombia, private involvement is mainly smaller lesser operators restricted to providing cargo-handling services in various parts of the port.

There are indications that the involvement of the private sector has raised efficiency and reduced costs. In Buenos Aires, annual productivity per worker rose from 800 to 3,000 tons per year over a period of four years, while costs fell from $450 to $120 per container. In the port of Cartagena (Colombia), average vessel time at berth for container ships decreased from 72 to 16 hours as productivity increased from 7 to 20 container movements per hour, and the cost per box was slashed from $984 to $228.

Also, private-sector involvement has required countries to develop coherent regulations governing the activities of these operators in line with trade requirements. In 2000 authorities in Argentina relaxed the rules that forbade mergers between operators, and soon afterward the two major local operators merged. Awarding concessions that place operators on an equal footing is not always easy, as is demonstrated by the case of Exolgan in Buenos Aires, where the timing and conditions of the concessions were not the same, and by recent events in Panama. In Panama, one operator making substantial fixed payments on its contract asked to have the same conditions as other operators that were basically making variable payments related to traffic.

E. INLAND TRANSPORT DEVELOPMENTS IN SOUTH AMERICA

The inland transport network in Latin America is not well developed. As table 58 indicates, the road and railway density per 1,000 square kilometres is well below the densities found in more developed parts of the world.

One of the decisions of the first meeting of the Presidents of all South American countries, held in Brasilia in August 2000, was to emphasize the development of physical infrastructure for the establishment and integration of multimodal networks. A plan of action, the IIRSA (Integration of South America Regional Infrastructure) initiative, has been prepared, and a number of priority corridors have been set up linking the opposing coasts of South America. Regional financial institutions and private investors are expected to channel investments into transport, energy and telecommunications along these corridors

Table 58

Inland transport networks

Country or region	Rail network		Road network	
	Distance (km)	Density (km per thousand km² of territory)	Distance (km)	Density (km per thousand km² of territory)
Japan	20 165	53.37	1 160 000	3 434
European Union	153 802	47.50	3 559 351	1 099
USA	230 674	24.61	6 370 241	680
Latin America	113 796	5.77	3 251 245	158

Source: Compiled by the UNCTAD secretariat on the basis of data from the International Union of Railways (figures from 2000) and the International Road Transport Union (figures from 1996).

The IIRSA initiative provides a medium-term framework for developments that otherwise would have been implemented piecemeal by countries. It would also address the high cost of inland transport for the international trade of landlocked countries. A study conducted by the International Trade Centre in 2000 for Bolivia[19] indicated that the share of inland transport costs up to the port of loading for exports from Santa Cruz were between 46.3 and 60.5 per cent of the transport costs incurred up to the port of destination in Northern Europe, with the percentages for import cargoes fluctuating between 49.8 and 70 per cent.

Hidrovia, a long-standing project to promote transport along the Paraguay and Parana Rivers for access to the sea through the River Plate, has generated an estimated 10 million tons per year. Weekly and fortnightly barge services were established in 1999 and now move approximately 30,000 TEUs per year, about half of it to Asuncion (Paraguay), with freight rates being about $300 per TEU. The financial crisis in Argentina at the end of 2001 resulted in the suspension of the $40 million subsidy for dredging along the Parana River and River Plate access. A halt in this activity would threaten one of Paraguay's routes to the Atlantic Ocean and would similarly cloud prospects for Bolivian traders.

In Brazil the consolidation of railway networks have given inland shippers better access to ports. In 2000 CVRD took control of the FCA railway to complement its own EFVM railway and started logistics activities to serve shippers from the landlocked state of Minas Gerais through the port of Vitoria and potentially through Sepetiba. In early 2002, railway consolidation in the states of São Paulo and Matto Grosso resulted in the establishment of Brasil Ferrovias, which will reduce the cost of grain transport to the port of Santos. In Mexico, Group TMM, one of the largest logistics and distribution companies in the region, has a controlling interest in TFM (Transportación Ferroviaria Mexicana), which is responsible for over 40 per cent of cargo freight in the country, and operates a terminal in the port of Manzanillo in a joint venture with SSA – the US global port operator. MSC has recently renewed its terminal contract in this port, which is expected to raise its throughput to 0.5 million TEUs by the end of 2002.

F. ESTIMATES OF FREIGHT COSTS IN LATIN AMERICAN COUNTRIES

Cost factor for import trade

In 2000 developing countries in America accounted for 23.7 per cent of the total value of imports and 23 per cent of the total value of freight of all developing countries. In that year the total freight costs of American developing countries as a proportion of import value were 8.58 per cent (see table 59), which is slightly below the average of 8.83 per cent for developing countries. It is, however, higher than the 5.21 per cent achieved by developed market-economy countries and the 6.21 per cent world average.

The regional average masks wide differences among trading areas. The cost factor for the import trades of Caribbean countries is the highest, at 11.92 per cent, followed by the cost factor for countries on the northern coast of South America, 10.52 per cent. The cost factor was higher along South America's western coast, (9.22 per cent) than on the eastern coast (7.87 per cent). The lowest cost factor, 7.87 per cent, is found in Mexico and Central America. The regional average is heavily influenced by the cost factor of the largest economies of the region, Brazil and Mexico, 7.30 per cent. Peru has the highest percentage, 16.42 per cent.

Table 59

Estimates of total freight costs for imports of South American and Caribbean countries, 2000

Country or group	Value of imports (c.i.f.)	Estimates of total freight cost	Freight costs as % of import value
Antigua and Barbuda	876	71	8.1
Bahamas	3 679	388	10.6
Bermuda	4 385	393	9.0
Greenland	422	38	9.0
Barbados	927	98	10.6
Cuba	2 828	253	9.0
Dominica	147	16	10.6
Dominican Republic	10 426	1 567	15.0
Grenada	208	20	9.8
Haiti	1 157	140	12.1
Saint Pierre and Miquelon	53	5	9.8
Jamaica	3 192	434	13.6
Saint Kitts and Nevis	186	20	10.6
Saint Lucia	345	31	9.0
Saint Vincent and the Grenadines	162	15	9.0
Trinidad and Tobago	2 353	248	10.6
Subtotal	**31 346**	**3 736**	**11.9**
Argentina	25 420	2 881	11.3
Bolivia	1 670	215	12.8
Brazil	61 875	4 515	7.3
Falkland Islands (Malvinas)	67	6	9.0
Paraguay	3 060	347	11.3
Uruguay	3 466	163	4.7
Subtotal	**95 558**	**8 125**	**8.5**
Belize	443	40	9.0
Costa Rica	6 533	888	13.6
El Salvador	4 629	560	12.1
Guatemala	6 007	586	9.8
Honduras	4 966	675	13.6
Mexico	191 904	14 002	7.3
Nicaragua	1 736	183	10.6
Panama	3 379	357	10.6
Subtotal	**219 597**	**17 290**	**7.9**
Chile	16 693	1 004	6.0
Colombia	11 538	1 033	9.0
Ecuador	4 031	393	9.8
Peru	7 586	1 245	16.4
Subtotal	**39 848**	**3 676**	**9.2**

Table 59 (continued)

Country or group	Value of imports	Estimates of total freight cost	Freight costs as % of import value
Guyana	535	48	9.0
Suriname	471	53	11.3
Venezuela	16 073	1 696	10.6
Subtotal	**17 079**	1 798	10.5
Total	**403 428**	**34 624**	**8.6**

Source: UNCTAD secretariat estimates based on data supplied by the International Monetary Fund.

Endnotes

1 The totals collected by BP include crude oil, shale oil, oil sands and natural gas liquids (NGL, the liquid content of natural gas when this is recovered separately).

2 The accession of China to WTO would have little impact in the next few years, since the two domestic State companies, Sinopec and Petrochina, control the wholesale and retail markets in the country.

3 Measured at 15°C and 1,013 millibars.

4 For more information, see *www.vhss.de/englisch/hax.html*.

5 For further information on the background to the establishment of the UNCITRAL Working Group, see UNCITRAL document A/CN.9/WG.III/WP.21, available at *www.uncitral.org*.

6 See UNCITRAL document A/CN.9/510, "Report of the Working Group on Transport Law on the Work of its Ninth session".

7 The CMI International Subcommittee submitted its "Draft Instrument on Transport Law" to the UNCITRAL secretariat in December 2001. The text of the proposal, together with the CMI's explanatory notes, is contained (subject to minor and editing changes by the secretariat) in the Annex of UNCITRAL document A/CN.9/WG.III/WP.21, which was presented to the Working Group for consideration. The document is available in all official United Nations languages at *www.uncitral.org*.

8 Article 1.5 of the Draft Instrument. According to its Article 4.2.1, the Draft Instrument would give precedence to mandatory provisions of applicable international unimodal conventions in cases of localized losses. In large parts of the world no such convention applies to transportation by land.

9 For an overview of the diversity of national and regional approaches to multimodal liability regulation and the problems created by the current fragmented liability framework, see the Report and Comparative Table on "Implementation of Multimodal Transport Rules" (UNCTAD/SDTE/TLB/2 and Add.1) prepared by the UNCTAD secretariat.

10 Note that concerns in this respect have been expressed by the secretariats of UNCTAD and UNECE; see UNCITRAL document A.CN.9/WG/WG.III/WP.21 Add.1, Annex 1, paragraphs 8 and ff. and Annex 2, paragraphs 5–6.

11 The commentary, together with comments by the United Nations Economic Commission for Europe (UNECE), is available at *www.uncitral.org* (document A.CN.9/WG/WG.III/WP.21 Add.1). The UNCTAD commentary, with the text of the Draft Instrument integrated for ease of reference, is also available at www.unctad.org (document UNCTAD/SDTE/TLB/4).

12 International Convention for the Unification of Certain Rules of Law Relating to Bills of Lading 1924 (Hague Rules), as amended in 1968 and 1979.

13 For an overview of existing regulations, see the Report and comparative table on *Implementation of Multimodal Transport Rules* prepared by the UNCTAD secretariat (UNCTAD/SDTE/TLB/2 and Add.1).

14 See the report by UNCTAD's Commission on Enterprise, Business Facilitation and Development on its sixth session, document no. TD/B/EX(28)/5, especially paragraph 13 of the recommendations.

[15] See Section A.2 of this chapter.

[16] See UNCTAD document UNCTAD/SDTE/TLB/4.

[17] See UNCITRAL document A/CN.9/WGIII.21/Add.1.

[18] See UNCTAD document TD/B/COM.3/EM.12/2, paragraphs 37–42.

[19] Apoyo a la consolidación y expansión de las exportaciones de Bolivia – Support to consolidation and expansion of Bolivian Exports (Proyecto BOL/61/73). ITC/DTCC/00/2501 (28 March 2000).

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, Panama and Vanuatu.

[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 1998–2001

(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
	1998	11.9	53.1	481.3	546.3	418.2	114.7	330.2	863.1
	1999	14.4	53.3	429.4	497.1	427.4	119.7	290.6	837.7
	2000	12.0	53.9	431.9	497.9	445.9	131.6	319.3	896.8
	2001	11.7	51.5	383.7	447.0	457.8	135.2	310.9	903.9
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
	1998	59.7	44.7	1 093.5	1 197.9	432.1	109.7	1 519.7	2 061.5
	1999	58.1	43.7	1 108.6	1 210.4	420.9	106.1	1 499.2	2 026.2
	2000	59.9	44.5	1 117.9	1 222.3	424.8	106.6	1 502.2	2 033.6
	2001	59.6	44.3	1 086.7	1 190.6	426.8	104.8	1 466.7	1 998.3
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
	1998	0.0	6.6	111.6	118.2	220.3	48.4	494.6	763.2
	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	3.8	133.8	137.6	215.0	49.2	527.8	791.9
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
	1998	12.4	6.1	366.0	384.5	23.0	3.1	17.3	43.4
	1999	12.7	6.2	366.0	384.9	25.0	3.4	17.3	45.7
	2000	12.8	6.3	424.2	443.3	25.7	3.5	16.5	45.7
	2001	12.8	6.3	409.1	428.2	25.7	3.5	16.6	45.8
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
	1998	0.0	0.0	129.1	129.1	11.2	0.0	19.7	30.9
	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	134.6	134.6	11.5	0.0	20.2	31.7
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
	1998	84.0	110.5	2 181.5	2 376.0	1 104.8	275.9	2 381.4	3 762.1
	1999	85.2	107.8	2 154.6	2 347.6	1 099.5	278.5	2 317.3	3 695.3
	2000	84.7	108.5	2 233.6	2 426.8	1 122.8	290.8	2 400.5	3 814.1
	2001	84.1	105.9	2 147.9	2 338.0	1 136.7	292.7	2 342.2	3 771.7

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
	1998	43.0	14.3	152.0	209.3	20.0	2.0	54.2	76.2
	1999	59.6	19.9	174.0	253.5	24.3	2.2	48.0	74.5
	2000	64.3	21.4	186.2	271.9	24.3	2.2	48.3	74.8
	2001	65.3	21.8	189.0	276.0	24.7	2.2	49.0	75.9
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
	1998	23.6	6.7	151.5	181.8	28.8	34.8	172.7	236.3
	1999	17.0	6.0	197.4	220.4	36.6	25.8	217.5	279.9
	2000	17.0	5.5	244.9	267.4	70.0	22.3	283.7	375.9
	2001	17.2	5.6	247.4	270.1	60.5	26.6	293.7	380.8
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
	1998	113.0	36.9	51.4	201.3	8.7	6.0	83.6	98.3
	1999	112.0	37.3	52.4	201.7	10.5	8.0	87.8	106.3
	2000	134.9	38.1	55.8	228.8	50.1	8.6	87.4	146.1
	2001	133.8	36.0	34.5	204.3	40.0	3.5	62.7	106.2
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
	1998	163.6	1.8	21.2	186.6	4.3	4.4	31.9	40.6
	1999	165.4	1.9	22.1	189.4	4.2	4.2	36.5	44.9
	2000	176.4	1.8	21.8	200.0	4.0	4.1	36.5	44.6
	2001	174.3	1.8	22.4	198.6	3.9	4.1	37.7	45.8
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
	1998	0.0	0.0	6.0	6.0	0.7	4.3	16.5	21.5
	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	17.1	22.6
	2001	0.0	0.0	6.3	6.3	0.7	4.9	17.7	23.3
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
	1998	276.6	38.7	78.6	393.9	13.7	14.7	132.0	160.4
	1999	277.4	39.2	80.5	397.1	15.4	16.9	140.9	173.2
	2000	311.3	39.9	83.7	434.9	54.8	17.5	141.0	213.3
	2001	308.1	37.8	63.2	409.2	44.6	12.5	118.1	175.3

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
	1998	94.2	29.0	53.6	176.8	33.1	35.7	64.2	133.0
	1999	89.7	29.3	53.9	172.9	32.2	35.7	68.1	136.0
	2000	91.6	28.7	41.3	161.6	32.8	36.3	71.7	140.8
	2001	97.8	29.2	40.1	167.1	32.9	34.0	72.8	139.8
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	1998	118.9	60.8	259.1	438.8	43.9	19.9	79.9	143.7
	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	291.9	476.5	39.6	20.1	75.5	135.3
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
	1998	38.6	2.8	73.5	114.9	13.5	7.9	34.2	55.6
	1999	42.7	3.4	76.8	122.9	15.0	7.1	36.9	59.0
	2000	39.3	3.4	87.9	130.6	15.1	5.3	63.9	84.3
	2001	39.3	3.4	88.2	130.9	15.3	5.3	64.3	84.9
Subtotal: Developing countries in America	1970	135.8	19.6	160.4	315.8	115.5	15.5	50.1	181.1
	1980	188.9	97.5	242.5	528.9	203.9	16.1	98.4	318.6
	1990	171.1	55.5	298.3	524.9	75.0	16.8	95.5	187.5
	1998	251.7	92.6	386.3	730.6	90.5	63.5	178.3	332.3
	1999	254.0	93.4	392.4	739.7	86.2	62.8	174.7	323.7
	2000	253.7	93.4	403.6	750.6	87.2	61.6	211.0	359.8
	2001	260.1	94.2	420.3	774.5	87.8	59.5	212.6	359.9
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	50.0	54.9	68.4
	1990	463.9	74.8	30.5	569.2	15.6	7.1	107.0	129.7
	1998	824.4	129.6	51.2	1005.2	5.2	6.7	90.9	102.8
	1999	805.3	114.5	76.8	996.6	7.0	8.2	118.5	133.7
	2000	842.1	105.7	78.3	1026.1	7.0	8.7	124.5	140.2
	2001	850.5	109.3	75.2	1035.0	7.1	8.3	120.9	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
	1998	62.1	108.1	508.5	678.7	263.7	134.2	645.6	1 043.5
	1999	61.1	110.1	519.1	690.3	266.0	145.0	708.5	1 119.5
	2000	59.1	101.6	527.5	688.2	306.3	148.1	700.4	1 154.8
	2001	59.6	101.9	543.6	705.1	306.8	147.6	721.8	1 176.2

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: Developing countries in Asia	1970	623.7	89.3	92.6	805.6	54.8	24.3	75.0	154.1
	1980	874.9	96.7	178.2	1 149.8	106.0	31.9	218.5	356.2
	1990	542.5	163.2	283.5	989.2	166.0	48.7	469.9	684.6
	1998	886.5	237.7	559.7	1 683.9	268.9	140.9	736.5	1 146.3
	1999	866.4	224.6	595.9	1 687.0	273.0	153.2	827.0	1 253.2
	2000	901.2	207.3	605.8	1 714.3	313.3	156.8	824.9	1 295.0
	2001	910.1	211.2	618.8	1 740.2	313.9	155.9	842.7	1 312.5
Developing countries in Europe	1970 [f]	..	-	-	..	-	0.3	0.7	1.0
	1980 [f]	-	-	0.1	0.1	-	0.5	0.6	1.1
	1990	0.3	1.1	7.4	8.8	8.7	2.4	17.7	28.8
	1998	0.0	2.1	14.6	16.7	6.3	2.0	9.8	18.1
	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
Developing countries in Oceania (n.e.s.)	1970	-	0.2	9.5	9.7	0.6	1.6	2.9	5.1
	1980	-	0.7	8.4	9.1	1.6	2.3	3.5	7.4
	1990	-	0.3	8.0	8.3	-	2.3	3.6	5.9
	1998	3.9	0.1	1.8	5.8	0.0	5.8	5.4	11.2
	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
Subtotal: Developing countries	1970	1 041.4	116.9	368.4	1 526.7	184.9	54.2	169.7	413.8
	1980	1 354.1	200.2	532.3	2 086.6	372.0	60.3	406.6	838.9
	1990	1 023.9	255.6	693.7	1 973.0	323.5	80.3	688.2	1 092.0
	1998	1 418.7	371.2	1 041.0	2 830.9	379.4	226.9	1 062.0	1 668.3
	1999	1 401.7	359.4	1 085.7	2 846.9	381.0	240.8	1 157.9	1 779.7
	2000	1 470.2	342.9	1 110.5	2 923.6	461.8	243.9	1 192.6	1 898.3
	2001	1 482.4	345.5	1 120.1	2 948.0	453.0	236.1	1 189.3	1 878.4
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
	1998	1 569.3	502.7	3 526.0	5 598.1	1 533.0	539.6	3 670.3	5 742.9
	1999	1 563.5	493.1	3 611.7	5 668.3	1 541.5	547.3	3 740.7	5 829.5
	2000	1 636.3	478.3	3 775.2	5889.8	1678.9	559.2	3 925.0	6 163.1
	2001	1 649.0	478.7	3 704.5	5832.2	1674.9	557.6	3 874.2	6 106.7

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 2001

(in grt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total [d]	**578 593 528**	**156 956 128**	**168 459 664**	**92 209 468**	**67 237 224**	**93 731 044**
Developed market-economy countries						
Australia	1 914 654	246 822	627 031	88 024	44 670	908 107
Austria	35 320	..	..	35 320	..	..
Belgium	166 029	3 659	..	1 055	..	161 315
Canada	2 729 639	339 084	1 321 209	146 334	14 541	908 471
Denmark	7 163 419	1 307 636	204 281	539 308	3 645 722	1 466 472
Finland	1 595 368	304 081	104 869	432 415	..	754 003
France	4 693 715	1 950 171	355 131	279 805	478 263	1 630 345
Germany	6 309 871	50 689	2 460	514 418	5 063 992	678 312
Gibraltar	816 820	342 991	84 619	162 732	82 959	143 519
Greece	28 709 930	14 890 125	9 026 072	555 292	1 712 963	2 525 478
Iceland	193 357	516	415	1 587	..	190 839
Ireland	301 761	..	25 609	55 833	5 006	215 313
Israel	611 396	1 270	..	8 374	592 514	9 238
Italy	9 697 966	1 426 332	1 869 143	1 701 829	893 677	3 806 985
Japan	14 576 537	3 341 053	3 089 438	1 986 343	599 530	5 560 173
Luxembourg	1 469 208	629 887	13 945	102 689	79 014	643 673
Netherlands	6 901 696	37 576	81 593	2 702 881	1 792 764	2 286 882
New Zealand	187 708	56 605	12 456	12 288	..	106 359
Norway	22 613 342	7 575 045	4 047 613	4 082 899	48 349	6 859 436
Portugal	1 211 088	431 923	214 032	272 873	38 074	254 186
South Africa	413 915	3 906	..	437	268 518	141 054
Spain	2 148 277	598 400	42 150	425 027	93 579	989 121
Sweden	2 959 065	101 063	29 200	1 751 923	..	1 076 879
Switzerland	501 975	..	463 409	24 346	..	14 220
Turkey	5 899 911	772 010	3 178 198	1 206 530	223 627	519 546
United Kingdom	12 277 719	3 819 044	988 564	1 152 358	2 387 073	3 930 680
United States	23 621 605	9 055 771	4 086 351	2 232 774	4 147 813	4 098 896
Subtotal	159 721 291	47 285 659	29 867 788	20 475 694	22 212 648	39 879 502
Open-registry countries						
Bahamas	33 458 723	14 468 644	5 355 698	6 418 461	1 892 159	5 323 761
Bermuda	5 422 694	1 660 729	1 884 861	306 982	437 171	1 132 951
Cyprus	22 905 623	3 802 817	11 850 764	3 867 394	2 300 902	1 083 746
Liberia	52 128 953	18 854 335	11 769 702	4 556 628	8 464 556	8 483 732
Malta	27 190 755	10 650 576	10 678 284	3 750 102	978 772	1 133 021
Panama	123 254 405	28 847 710	50 004 089	17 179 973	15 308 655	11 913 978
Vanuatu	1 496 422	3 545	528 530	421 918	30 808	511 621
Subtotal	265 857 575	78 288 356	92 071 928	36 501 458	29 413 023	29 582 810

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Central and Eastern Europe						
Albania	25 170	..	..	23 870	..	1 300
Armenia	..	..	..	..	..	..
Azerbaijan	647 501	175 431	..	93 903	..	378 167
Belarus	..	..	..	..	..	..
Bulgaria	955 596	113 991	517 371	216 733	56 380	51 121
Czech Republic	..	..	..	..	..	..
Estonia	348 838	8 952	33 004	123 098	..	183 784
Georgia	280 996	21 053	4 999	203 583	1 350	50 011
Hungary	..	..	..	..	..	..
Kazakhstan	13 096	..	..	4 360	..	8 736
Kyrgyzstan	..	..	..	..	..	..
Latvia	74 934	3 767	..	15 482	..	55 685
Lithuania	394 870	5 437	79 720	172 433	..	137 280
Moldova	..	..	..	..	..	..
Poland	624 687	5 391	390 513	24 225	..	204 558
Romania	638 930	63 530	142 772	244 656	..	187 972
Russian Federation	10 361 701	1 432 047	783 435	3 778 998	258 633	4 108 588
Slovakia	15 191	..	..	15 191	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	46 510	6 156	2 613	16 966	..	20 775
Ukraine	1 454 756	45 303	100 203	613 642	27 462	668 146
Former USSR	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	15 882 776	1 881 058	2 054 630	5 547 140	343 825	6 056 123
Socialist countries of Asia	..	..	..	..	..	..
China	16 648 194	2 351 500	6 633 815	4 748 673	1 457 559	1 456 647
Democratic People's Republic of Korea	698 203	12 486	62 895	544 559	..	78 263
Viet Nam	1 073 906	157 973	122 449	579 780	35 690	178 014
Subtotal	18 420 303	2 521 959	6 819 159	5 873 012	1 493 249	1 712 924
Developing countries in Africa						
Algeria	963 940	19 180	172 695	214 429	..	557 636
Angola	63 141	3 016	..	27 281	..	32 844
Benin	1 003	..	..	..	..	1 003
Cameroon	13 573	..	..	652	..	12 921
Cape Verde	16 518	1 151	..	9 033	..	6 334
Comoros	53 801	37 300	..	15 969	..	532
Congo	3 402	..	..	..	..	3 402
Côte d'Ivoire	8 646	789	..	..	..	7 857
Djibouti	2 493	..	..	299	..	2 194
Egypt	1 400 318	208 241	585 720	374 640	48 146	183 571
Equatorial Guinea	37 225	..	..	5 820	..	31 405
Ethiopia	81 933	2 492	..	79 441	..	..
Gabon	12 541	652	..	4 165	..	7 724

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Gambia	1 884	..	..	..	..	1 884
Ghana	123 127	6 904	199	18 288	..	97 736
Guinea	11 645	..	..	808	..	10 837
Guinea-Bissau	6 459	..	..	1 414	..	5 045
Kenya	19 137	4 708	..	2 611	..	11 818
Libyan Arab Jamahiriya	255 770	81 448	..	76 492	..	97 830
Madagascar	43 441	10 734	..	18 522	..	14 185
Malawi	..	..	..	..	..	..
Mauritania	47 394	..	..	299	..	47 095
Mauritius	97 370	..	3 922	17 922	47 522	28 004
Morocco	461 469	8 661	..	125 338	25 805	301 665
Mozambique	38 035	..	..	5 901	..	32 134
Nigeria	405 485	286 768	..	38 611	..	80 106
Saint Helena	789	..	..	..	..	789
Sao Tome and Principe	190 428	10 582	62 107	108 688	1 152	7 899
Senegal	48 011	..	..	1 145	..	46 866
Seychelles	33 971	..	..	18 491	..	15 480
Sierra Leone	13 148	..	..	490	..	12 658
Somalia	6 343	851	..	2 802	..	2 690
Sudan	42 978	832	..	39 927	..	2 219
Togo	8 107	..	..	2 603	..	5 504
Tunisia	202 706	19 678	17 066	21 631	..	144 331
Uganda	1 697	..	..	1 697	..	..
United Republic of Tanzania	38 817	4 347	..	20 735	..	13 735
Zaire	..	..	..	..	..	..
Subtotal	4 756 745	708 334	841 709	1 256 144	122 625	1 827 933
Developing countries in America						
Anguilla	701	..	..	592	..	109
Antigua and Barbuda	4 698 311	4 876	251 288	1 899 958	2 480 578	61 611
Argentina	445 118	49 351	33 678	100 040	..	262 049
Barbados	687 331	349 673	161 636	73 398	13 020	89 604
Belize	1 830 439	311 005	144 573	732 768	86 206	555 887
Bolivia	174 042	65 263	24 946	56 879	..	26 954
Brazil	3 699 436	1 570 668	1 418 192	308 243	158 192	244 141
Cayman Islands	2 083 983	519 350	632 464	375 430	11 772	544 967
Chile	884 733	99 767	223 543	122 316	69 601	369 506
Colombia	65 645	5 962	..	38 820	..	20 863
Costa Rica	2 978	..	..	..	..	2 978
Cuba	100 685	3 424	4 808	38 181	..	54 272
Dominica	2 233	..	..	1 522	..	711
Dominican Republic	9 385	..	..	5 360	..	4 025
El Salvador	1 493	..	..	..	..	1 493
Ecuador	305 895	219 359	..	2 319	..	84 217
Falkland Islands	54 707	..	..	591	..	54 116

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Grenada	1 009	..	..	779	..	230
Guatemala	4 556	..	..	..	..	4 556
Guyana	15 169	125	..	7 033	..	8 011
Haiti	1 172	..	..	892	..	280
Honduras	968 966	184 155	74 133	415 936	7 484	287 258
Jamaica	23 111	1 930	..	20 024	..	1 157
Mexico	910 583	454 001	..	52 446	..	404 136
Montserrat	..	..	..	..	..	..
Nicaragua	3 619	..	..	498	..	3 121
Paraguay	47 052	4 480	..	36 783	823	4 966
Peru	255 598	30 185	..	40 947	..	184 466
Saint Kitts and Nevis	300	..	..	300	..	..
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	7 081 393	458 723	2 994 857	2 705 975	173 392	748 446
Suriname	5 221	1 842	..	2 525	..	854
Trinidad and Tobago	26 593	998	..	3 154	..	22 441
Turks and Caicos Islands	1 095	..	..	227	..	868
Uruguay	74 269	5 799	..	7 143	..	61 327
Venezuela	872 187	374 238	120 753	52 662	953	323 581
British Virgin Islands	3 376	..	..	1 217	..	2 159
Subtotal	25 342 384	4 715 174	6 084 871	7 104 958	3 002 021	4 435 360
Developing countries and territories in Asia						
Bahrain	338 091	80 699	42 963	63 486	96 308	54 635
Bangladesh	387 563	62 893	5 672	269 613	14 233	35 152
Brunei Darussalam	362 694	239	..	2 018	..	360 437
Cambodia	..	..	..	..	..	..
Hong Kong, China	13 875 860	1 537 453	8 893 094	879 387	2 373 686	192 240
India	6 722 912	2 549 207	2 705 702	427 760	109 268	930 975
Indonesia	3 622 666	838 416	343 909	1 532 011	148 752	759 578
Iran, Islamic Republic of	3 945 164	1 845 641	1 142 275	618 905	154 201	184 142
Iraq	240 582	101 717	..	69 957	..	68 908
Jordan	42 094	..	..	36 109	5 097	888
Kuwait	2 291 672	1 627 704	17 012	136 200	214 436	296 320
Lebanon	301 653	842	125 848	166 533	..	8 430
Malaysia	5 209 161	872 364	1 446 561	598 011	707 674	1 584 551
Maldives	66 642	4 449	..	57 557	..	4 636
Myanmar	379 819	2 935	162 346	185 047	..	29 491
Oman	24 360	313	..	4 289	..	19 758
Pakistan	247 915	49 595	..	150 517	31 707	16 096
Philippines	6 030 632	141 739	3 751 069	1 441 569	67 694	628 561
Qatar	690 812	213 804	141 617	107 378	190 678	37 335
Republic of Korea	6 397 423	842 678	2 874 401	955 571	708 115	1 016 658
Saudi Arabia	1 139 575	224 489	..	488 695	149 368	277 023
Singapore	21 191 626	8 646 756	4 884 791	2 463 016	3 616 106	1 580 957

Annex III (a) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Sri Lanka	153 708	5 637	77 191	54 139	..	16 741
Syrian Arab Republic	498 214	1 461	54 017	438 984	..	3 752
Thailand	1 771 382	231 437	391 641	863 210	136 759	148 335
United Arab Emirates	750 142	234 129	483	137 138	214 436	163 956
Yemen	73 757	51 348	..	2 557	..	19 852
Subtotal	76 756 119	20 167 945	27 060 592	12 149 657	8 938 518	8 439 407
Developing countries in Europe						
Croatia	775 958	8 905	527 075	123 855	8 819	107 304
Slovenia	1 891	..	..	276	..	1 615
Yugoslavia	3 498	..	..	..	..	3 498
Subtotal	781 347	8 905	527 075	124 131	8 819	112 417
Developing countries in Oceania						
Fiji	28 729	2 910	..	4 988	..	20 831
Kiribati	4 198	..	..	3 728	..	470
Nauru	..	..	..	..	..	..
Papua New Guinea	77 040	1 811	..	55 675	..	19 554
Samoa	..	..	..	..	..	..
Solomon Islands	8 625	..	..	2 314	..	6 311
Tonga	342 843	30 923	48 690	220 008	..	43 222
Tuvalu	35 516	..	..	11 669	..	23 847
Subtotal	496 951	35 644	48 690	298 382		114 235
Developing total	108 133 546	25 636 002	34 562 937	20 933 272	12 071 983	14 929 352
Unallocated	10 578 037	1 343 094	3 083 222	2 878 892	1 702 496	1 570 333

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 2001

(in thousand dwt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total [d]	825 652	285 519	294 589	99 872	77 095	68 577
Developed market-economy countries						
Australia	2 319	408	998	73	57	783
Austria	46	..	..	46	..	..
Belgium	189	7	..	2	..	180
Canada	1 309	550	163	138	19	439
Denmark	8 587	2 302	366	564	4 171	1 184
Finland	1 226	510	154	359	0	203
France	6 280	3 664	689	328	575	1 024
Germany	7 450	76	5	652	6 346	371
Gibraltar	1 180	650	155	181	109	85
Greece	48 368	27 942	16 357	700	1 866	1 503
Iceland	13	1	0	2	0	10
Ireland	181	0	36	81	7	57
Israel	712	3	..	7	699	3
Italy	10 305	2 475	3 456	1 124	914	2 336
Japan	17 913	6 088	5 618	2 479	600	3 128
Luxembourg	2 125	1 159	20	56	100	790
Netherlands	7 477	61	152	3 393	2 016	1 855
New Zealand	167	91	17	13	..	46
Norway	30 699	14 180	7 368	3 813	66	5 272
Portugal	1 777	804	388	325	45	215
South Africa	359	5	..	0	262	92
Spain	2 185	1 105	70	358	136	516
Sweden	1 787	159	39	981	0	608
Switzerland	890	..	829	40	..	21
Turkey	9 270	1 455	5 455	1 633	281	446
United Kingdom	15 288	6 913	1 817	1 130	2 629	2 799
United States	29 420	16 857	5 598	1 613	4 424	928
Subtotal	207 522	87 465	49 750	20 091	25 322	24 894
Open-registry countries						
Bahamas	48 860	27 097	9 424	7 148	1 957	3 234
Bermuda	8 396	3 421	3 635	299	459	582
Cyprus	35 832	6 471	20 704	4 802	2 721	1 134
Liberia	78 484	34 780	20 930	4 391	9 984	8 399
Malta	44 272	18 843	18 445	4 486	1 137	1 361
Panama	185 051	52 567	89 516	14 281	16 955	11 732
Vanuatu	1 460	5	851	283	35	286
Subtotal	402 355	143 184	163 505	35 690	33 248	26 728

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	28	..	..	27	..	1
Armenia	0	..	..	..	..	0
Azerbaijan	502	231	..	105	..	166
Belarus	0	..	..	..	..	..
Bulgaria	1 381	179	829	269	67	37
Czech Republic	0	..	..	..	..	..
Estonia	246	15	48	126	0	57
Georgia	348	36	8	272	2	30
Hungary	0	..	..	..	..	..
Kazakhstan	6	..	..	2	..	4
Kyrgyzstan	0	..	..	..	..	..
Latvia	54	6	0	17	0	31
Lithuania	381	9	116	194	0	62
Moldova	0	..	..	..	..	..
Poland	793	8	668	19	0	98
Romania	782	97	229	305	0	151
Russian Federation	9 564	2 062	1 103	4 125	298	1 976
Slovakia	19	..	..	19	..	..
Tajikistan	0	..	..	..	..	..
Turkmenistan	37	8	3	15	..	11
Ukraine	1 304	75	160	698	30	341
Former USSR [e]	0	..	..	..	..	..
Uzbekistan	0	..	..	..	..	..
Subtotal	15 445	2 726	3 164	6 193	397	2 965
Socialist countries of Asia						
China	24 048	3 815	11 095	6 327	1 761	1 050
Democratic People's Republic of Korea	920	24	105	736	0	55
	..	..	..	..	..	..
Viet Nam	1 554	257	195	835	32	235
Subtotal	26 522	4 096	11 395	7 898	1 793	1 340
Developing countries of Africa						
Algeria	1 068	30	288	278	..	472
Angola	65	5	..	42	..	18
Benin	0	..	..	..	..	..
Cameroon	6	..	..	1	..	5
Cape Verde	20	2	..	14	..	4
Comoros	92	67	..	25	..	..
Congo	1	..	..	..	..	1
Côte D'Ivoire	5	1	..	..	..	4
Djibouti	1	..	..	1	..	..
Egypt	2 037	361	996	496	58	126
Equatorial Guinea	15	..	..	7	..	8

Annex III (b) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Ethiopia	102	4	..	98	..	..
Gabon	8	1	..	4	..	3
Gambia	2	..	..	..	..	2
Ghana	99	11	0	23	0	65
Guinea	5	..	..	0	..	5
Guinea-Bissau	2	..	..	0	..	2
Kenya	18	8	..	2	..	8
Libyan Arab	..	..	..	..	..	..
Jamahiriya	291	165	..	84	..	42
Madagascar	47	17	..	23	..	7
Malawi	0	..	..	..	..	..
Mauritania	23	..	..	1	..	22
Mauritus	109	..	5	17	69	18
Morocco	398	14	0	128	34	222
Mozambique	30	..	..	11	..	19
Nigeria	650	552	..	49	..	49
Saint Helena	0	..	..	..	..	..
Sao Tome and	..	..	..	..	..	..
Principe	259	16	105	129	1	8
Senegal	24	..	..	2	..	22
Seychelles	28	..	..	18	..	10
Sierra Leone	5	..	..	1	..	4
Somalia	6	2	..	2	..	2
Sudan	53	1	..	51	..	1
Togo	7	..	..	3	..	4
Tunisia	173	32	26	30	..	85
Uganda	3	..	..	3	..	..
United Republic of	..	..	..	..	..	
Tanzania	37	8	..	25	..	4
Zaire	0	..	..	..	..	..
Subtotal	5 689	1 297	1 420	1 568	162	1 242
Developing countries of America						
Anguilla	1	..	..	1	..	..
Antigua and Barbuda	6 071	8	398	2 406	3 185	74
Argentina	312	89	52	130	..	41
Barbados	1 116	640	264	105	17	90
Belize	2 002	554	237	1 034	86	91
Bolivia	247	106	44	74	0	23
Brazil	5 959	2 694	2 484	341	190	250
Cayman Islands	3 148	931	1 086	413	13	705
Chile	915	167	382	80	80	206
Colombia	82	10	..	51	..	21
Costa Rica	1	..	0	..	..	1
Cuba	92	5	6	46	..	35
Dominica	2	..	..	2	..	0
Dominican Republic	7	..	..	6	..	1
Ecuador	444	379	..	4	..	61

Annex III (b) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
El Salvador	0	..	..	..	..	..
Falkland Islands [f]	36	..	..	0	..	36
Grenada	1	..	..	1	..	..
Guatemala	4	..	..	..	..	4
Guyana	14	..	..	8	..	6
Haiti	1	..	..	1	..	..
Honduras	1 158	342	124	591	7	94
Jamaica	25	3	..	22	..	..
Mexico	1 180	745	..	36	..	399
Montserrat	0	..	..	..	..	..
Nicaragua	2	..	..	1	..	1
Paraguay	52	9	40	2	1	
Peru	200	53	..	65	..	82
Saint Kitts and Nevis	1	..	..	1	..	..
Saint Lucia	0	..	..	..	..	..
Saint Vincent and the Grenadines	..	..	..	..	..	..
Suriname	10 105	826	5 211	3 451	208	409
Trinidad and Tobago	6	3	..	3	..	..
Turks and Caicos Islands	11	1	..	3	..	7
Uruguay	..	..	..	..	..	..
Venezuela	0	..	..	0	..	..
British Virgin Islands	46	8	..	4	..	34
Subtotal	1 307	650	200	78	1	378
	8	..	..	1	..	7
	34 556	8 223	10 488	8 999	3 789	3 057
Developing countries and territories of Asia						
Bahrain	450	153	60	98	100	39
Bangladesh	526	107	9	369	19	22
Burnei Darussalam	349	0	..	3	..	346
Cambodia	0	..	..	..	..	..
Hong Kong, China	23 207	2 784	16 357	1 191	2 670	205
India	10 645	4 492	4 583	519	143	908
Indonesia	4 543	1 325	546	2 103	194	375
Iran, Islamic Rep. of	6 642	3 489	1 958	855	179	161
Iraq	332	170	..	96	..	66
Jordan	54	..	0	47	7	0
Kuwait	3 633	2 933	27	140	227	306
Lebanon	429	1	204	214	..	10
Malaysia	7 248	1 527	2 567	784	870	1 500
Maldives	96	9	..	83	..	4
Myanmar	533	5	270	244	..	14
Oman	15	0	..	6	..	9
Pakistan	363	91	..	217	42	13
Philippines	8 568	202	6 392	1 607	76	291
Qatar	1 040	375	270	158	204	33
Republic of Korea	9 425	1 588	5 209	1 181	825	622

Annex III (b) (continued)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Saudi Arabia	1 386	430	..	522	156	278
Singapore	32 799	15 533	9 090	2 227	4 272	1 677
Sri Lanka	243	10	150	73	..	10
Syrian Arab Republic	744	2	85	656	..	1
Thailand	2 686	419	646	1 307	186	128
United Arab Emirates	938	385	1	183	227	142
Yemen	120	98	..	3	..	19
Subtotal	117 014	36 128	48 424	14 886	10 397	7 179
Developing countries of Europe						
Croatia	1 124	12	923	147	11	31
Slovenia	1	0	0	0	0	1
Yugoslavia	1	0	0	0	0	1
Subtotal	1 126	12	923	147	11	33
Developing countries of Oceania						
Fiji	24	4	..	5	..	15
Kiribati	4	..	..	4	..	0
Nauru	0	..	..	..	..	0
Papua New Guinea	84	3	..	70	..	11
Samoa	0	..	..	..	..	0
Solomon Islands	6	..	..	2	..	4
Tonga	467	50	92	279	..	46
Tuvalu	58	..	..	16	..	42
Subtotal	643	57	92	376	0	118
Developing total	159 028	45 717	61 347	25 976	14 359	11 629
Other unallocated	14 780	2 331	5 428	4 024	1 976	1 021

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 (see box 1).

[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).