UNCTAD/RMT(2000)/1

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

REVIEW OF MARITIME TRANSPORT 2000

Report by the UNCTAD secretariat

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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Symbols of United Nations documents are composed of capital letters combined with figures. Use of such a symbol indicates a reference to a United Nations document.

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ABBREVIATIONS

ACIS	Advance Cargo Information System
c.i.f.	cost, insurance and freight
dwt	deadweight tons
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
LNG	liquefied natural gas
LPG	liquefied petroleum gas
OECD	Organisation for Economic Co-operation and Development
OPEC	Organization of the Petroleum Exporting Countries
TEU	twenty-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.

Details and percentages presented in tables do not necessarily add up to the totals because of rounding.

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, Bahamas, Bermuda, Cyprus, Liberia and Panama, while some tables also included Malta and Vanuatu. In order 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 use of the term "countries" refers to countries, territories or areas.

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

Crude oil tankers:

ULCC	300,000 dwt plus
VLCC	150,000 - 299,999 dwt
Suezmax	100,000 - 149,999 dwt
Affiamax	50,000 - 99,999 dwt

Dry bulk carriers:

Capesize	80,000 dwt plus
Panamax	50,000 - 79,999 dwt
Handymax	35,000 - 49,999 dwt
Handy	20,000 -34,999 dwt

INTRODUCTION

The *Review of Maritime Transport* is an annual publication prepared by 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 the development of the maritime activities in developing countries as compared with other groups of countries, and to the correlation between the development of global trade and maritime transport activities in general. In order to maintain a balance between the information requirements of data users and those of providers of maritime transport services, this year's *Review* has more information on e-commerce in a chapter on trade transport efficiency. Regional developments in African economic and maritime transport are the subject of this year's special chapter.

SUMMARY OF MAIN DEVELOPMENTS

Development of the world economy and seaborne trade

- World output grew in 1999 by 2.7 per cent over 1998. The developed market-economy countries experienced growth of 2.5 per cent over the previous year, while developing countries (including China) recorded an average increase of 3.4 per cent. In 2000, the output growth of the world is expected to be 3.5-4.5 per cent while the output of developed market-economy countries and developing countries is expected to be 3.0-4.0 per cent and 5.0-5.5 per cent respectively.

- The growth of world merchandise exports continued to slow in 1999, to 3.9 per cent, as compared to 4.7 per cent in 1998, while that of imports increased slightly to 5.3 per cent from 4.5 per cent in the previous year. The slowdown in exports is accounted for by a contraction of exports in the transition economies as well as slower export growth in developing countries. The import improvement in 1999 was due mainly to a recovery in developing countries and also to sustained growth in developed market economy countries.

- The total industrial production index of the Organisation for Economic Cooperation and Development (OECD) rose moderately in 1999 by 3.0 per cent to 113.4 from 110.1 in 1998 (1995=100). This positive development was primarily due to the United States industrial production, which grew by 3.5 per cent in 1999.

- World seaborne trade recorded its fourteenth consecutive annual increase in 1999, reaching a record high of 5.23 billion tons. Annual growth, however, declined at a rate of 1.3 per cent, the lowest since 1987. Preliminary data available indicate that global maritime trade growth in 2000 is expected to be 2.0 per cent.

- Total maritime activities measured in ton-miles in global trade decreased to the minimal level of 21,480 billion ton-miles in 1999, in comparison with 21,492 billion ton-miles in the previous year.

Development of the world fleet

- The world merchant fleet expanded to 799.0 million deadweight tons (dwt) at the end of 1999, representing a 1.3 per cent increase over 1998. The relatively low rate of fleet expansion reflects the balance between newbuilding deliveries of 40.5 million dwt and tonnage broken up and lost of 30.7 million dwt, leaving a net gain of 9.8 million dwt.

- In 1999, tonnage ownership fell marginally by 0.3 per cent in developed market-economy countries, while major open-registry countries and developing countries increased their fleet by 0.3 per cent and 0.1 per cent respectively. The developing countries' share of tonnage registered in major open-registry countries has slowly increased, reaching about one third in 1999. On the other hand, the developed market-economy countries' share has pursued a downward trend,

representing about two thirds of the total tonnage registered in the major open-registry countries.

Productivity of the world fleet and supply and demand in world shipping

- The main operational productivity indicators for the world fleet developed favourably in 1999. Tons of cargo carried per dwt stood at 6.42, which was the same as in the previous year.

- World total surplus tonnage stood at 23.7 million dwt in 1999 (the lowest in the 1990s), or 3.0 per cent of the 1999 world merchant fleet. The surplus capacity in the oil-tanker sector declined to 14.0 million dwt, or 5.0 per cent of the total world tanker fleet, in 1999, while overcapacity in the dry bulk sector decreased to 7.9 million dwt, accounting for 3.2 per cent of the world dry bulk fleet.

Freight markets

- In the transpacific trades, the average annual revenue per TEU on the eastbound leg in 1999 increased by 34 per cent as compared with that in the previous year. On the westbound routes, the average annual rates per TEU in 1999 declined by 18.1 per cent from those in 1998. In the Asia/Europe trades, the average annual rates per TEU on the Europe-Asia routes in 1999 declined by 17.9 per cent as compared with those in 1998, while those on the Asia-Europe routes rose by 19 per cent in 1999 from the average level in 1998. The transatlantic trade remained the most problematic liner market in 1999. The average annual rates in 1999 plummeted by 23 per cent in the United States to Europe trade and 11.7 per cent in the opposite direction as compared with those in 1998.

- In 1999, the dry bulk supply and demand balance showed a clear improvement. The growth in demand was remarkably higher during the second half of 1999, specifically with strong demand from Asia for both coal and iron ore.

- In 1999, world crude oil production decreased by 1.5 per cent from the level of 1998. Accordingly the overall volume of the seaborne crude oil trade decreased by 2.0 per cent. Nevertheless, the overall shipments of petroleum products in 1999 increased by 2.0 per cent. The average rates paid for VLCC transportation from the Middle East Gulf to the West was WS 46.16, as compared with WS 58.2 recorded in 1998. On voyages to Japan, the average was WS 50.78, whereas it was WS 66.9 in 1998.

Total freight costs in world trade by groups

- World total freight payments as a proportion of total import value (the freight factor) have been following a downward trend, falling from as high as 6.64 per cent in 1980 to 5.22 per cent in 1990 and further down to 5.06 per cent in 1998. The freight factor for the developed market-economy countries decreased to 4.07 per cent in 1998 as compared with 4.17 per cent in 1997, while that of developing countries increased very marginally to 8.06 per cent in 1998 from 8.04 per cent in 1997. The freight factor for the African developing countries was higher at 11.36 per cent in 1998.

Port development

- World container port traffic continued to expand in 1998 at a rate of 6.7 per cent over 1997, reaching 165.0 million TEUs, of which 88.5 million TEUs (or 53.6 per cent, compared with 50.9 per cent in 1997) were handled at the ports of developing countries.

Trade and transport efficiency

- Many transport companies, including maritime carriers, are now providing a variety of information on their services on the Internet as well as enabling customers to process transactions online. In recent years there has been a considerable growth of infomediaries, which are creating market places and exchanges for transportation services. A brief description and selected examples of infomediaries or Internet transport portals are provided.

Review of regional developments: sub-Saharan African economic and maritime transport developments

- Sub-Saharan Africa's overall economic activities regained some momentum in 1995, sustaining the favourable development until 1998, when the

growth rate fell below 3.0 per cent, continuing downwards in 1999.

- Over the period from 1995 through 1999, the exports of sub-Saharan African countries expanded at an average annual rate of 4.0 per cent in value and 5.1 per cent in volume, with imports increasing at 6.3 per cent per year in value and 6.9 per cent in volume, as compared with 7.5 per cent in value and 8.0 per cent in volume for exports, and 6.5 per cent in value and the same growth in volume for imports of all developing countries.

- The total merchant fleet of all the sub-Saharan African countries has been decreasing in terms of deadweight tons, from 0.29 per cent of the world total in 1980 to 0.23 per cent in 1990, reaching 0.15 per cent in 1999. Tankers and general cargo ships account for 46.4 per cent and 29.1 per cent respectively of the total sub-Saharan fleets.

- Subregional exports of all non-liner dry cargoes have been expanding at the average annual growth rate of 3-4 per cent over the last several years. About 75 per cent of the total are exported from the southern coast. Imports have increased at the rate of 2-3 per cent annually. Nearly 60 per cent of total imports moved through the West coast of sub-Saharan Africa. Crude oil shipments from the western coast represent more than two thirds of the total, nearly half of which are destined for the United States. Exports of petroleum products, the majority of which are fuels for the United States, are fully dominated by the western coast while imports of petroleum products are mainly supplied equally by northern and southern Europe.

- Total liner cargo of both imports (54 per cent) and exports (46 per cent) are increasing at the average annual rate of 2.1 per cent from 2.0 million TEUs in 1998 to nearly 2.1 million TEUs in 2000, of which approximately half are loaded or discharged on the southern coast. Trades with Europe, the biggest trade partner, have been increasing at the average annual rate of 2.3 per cent, reaching a share of nearly 60 per cent of the total trade in TEU terms in 2000.

- Average freight costs of landlocked African countries in 1998 constituted a higher proportion of total import value (18.08 per cent) than the ratio for all African developing countries (11.36 per cent). In West Africa, Mali and Burkina Faso represented a higher percentage (29.57 per cent and 21.67 per cent respectively) in 1998. Rwanda registered the highest ratio in East Africa (29.91 per cent) while Malawi in southern Africa represented as much as 39.41 per cent.

BOX 1

Vessel and registry used n the Review of Maritime Transport

As in 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 Maritime Information Services in 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, passengers ro-ro passenger, tank barges, general cargo barges, fishing, offshore supply, and all other types
Total all ships	Summation of all above-mentioned vessel types

The following guidelines are offered by Lloyd's Maritime Information Service 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

This group of countries flies the flags of the Bahamas, Bermuda, Cyprus, Liberia, Malta, Panama and Vanuatu.

Source: Lloyd's Maritime Information Services (London).

Chapter I

DEVELOPMENT OF INTERNATIONAL SEABORNE TRADE

The first chapter of the Review *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]

(a) World output

General

1. The year 1999 was characterized by a comparatively significant stabilization of global economic conditions and a revival of world production and trade. The widely anticipated major disruptions, and even the threat of global recession, arising from the "Y2K computer bug", turned out to be a non-event. Although the risk itself may have been exaggerated, the absence of serious disruptions is perhaps a reflection of the massive business spending undertaken to cope with the problem. While there are no reliable figures, the most widely quoted amounts for such expenditure on global information technology (IT) range from $300 billion to $600 billion,[2] which is some 1B2 per cent of global GDP. It appears to have provided an important boost to the world economy, giving an additional stimulus to the United States and helping recovery in East Asia.

2. World GDP picked up significantly in 1999 to reach 2.7 per cent, having slowed to 1.8 per cent in 1998 from 3.4 per cent in 1997 (see table 1). Of particular significance is the turnaround from recession to growth in Japan and the transition economies as well as the recovery in developing countries. The major factor underlying faster growth in developing countries as a whole was the steep rebound in East Asia, which more than compensated for a mild slowdown in Africa and a more severe one in Latin America. As a consequence, overall growth in developing countries was again higher than that of developed countries, for the second time since 1988.

3. In 1999, United States output continued to maintain its expansion at a pace faster than 4 per cent. Its sustained import demand was the main driving force behind the improvement in the global economy and particularly in Asia and Europe. Following its recession in 1998, the Japanese economy rebounded sharply in the first half of 1999 but slowed again later in the year. Growth in the European Union (EU) was significantly lower in 1999 than in 1998 but developments during the year were positive. Despite increased monetary and financial convergence, growth rates continued to diverge considerably among EU countries.

Prospects and forecasts

4. While the prospects for the global economy have become considerably more optimistic since the end of 1999, the risk that global imbalances may create another financial disruption has become increasingly evident. The better-than-expected performance in 1999, in particular of the United States, East Asia and Brazil, has led to an upward revision of short-term forecasts of growth for all major economic regions. This tendency has been reinforced by the fact that the global economy has continued to gather strength as the expansion of demand and output has become more widespread. However, perceptions of such developments vary widely among various international organizations and other institutions. The forecast of world output growth in 2000 ranges from 3.5 per cent to 4.3 per cent, compared to an estimate of only 2.7 per cent, achieved in 1999. There are also significant differences in growth rates forecast for different regions. For example, there is much uncertainty associated with the widely expected slowdown of the United States economy and the recovery in Japan and Europe, while in the developing world there are

Table 1

World output, 1990-1999
(percentage change)

Country/region	1990-1995	1996	1997	1998	1999 [a]
World	2.1	3.5	3.4	1.8	2.7
Developed market-economy countries	1.8	3.1	2.9	2.0	2.5
***of which*:**					
United States	2.5	3.6	4.2	4.3	4.2
Japan	1.4	5.0	1.6	-2.5	0.3
European Union	1.6	1.6	2.5	2.7	2.3
***of which*:**					
Germany	2.0	0.8	1.5	2.2	1.5
France	1.1	1.1	2.0	3.4	2.7
Italy	1.3	1.1	1.8	1.5	1.4
United Kingdom	1.6	2.6	3.5	2.2	2.0
Transition economies	-6.9	-0.1	2.2	-0.6	2.4
Developing countries	4.9	5.7	5.5	1.3	3.4
***of which*:**					
Africa	1.3	5.2	3.0	3.0	2.7
Latin America	3.6	3.6	5.3	1.9	0.1
Asia	6.1	6.8	5.9	0.9	5.1
of which:					
China	12.0	9.6	8.8	7.8	7.1

Source: UNCTAD secretariat calculations, based on data in 1995 dollars.
[a] Estimate.

questions concerning the sustainability of the rapid expansion in the Republic of Korea and the likelihood of recovery in Argentina.

5. There are already some clear signals that suggest that the United States economy is starting to slow from its rapid pace of growth at the turn of the year, while the vigour of economic activity in Europe appears to be broadening but without great momentum. This has led some forecasters to start to mark down their optimistic forecasts for these economies. Recovery in most developing economies in East Asia has been stronger than expected, but there are signs of deceleration. The slowdown in China appears to have bottomed out, but the Chinese authorities still consider stimulus necessary. While recovery in Latin America is under way, the situation in Argentina remains fragile, the financial crisis in Ecuador is unresolved, and the sustainability of recovery in Brazil is crucially dependent on conditions in world markets.

(b) Merchandise trades

Recent developments in international trade

6. The deep recession and rapid recovery in emerging markets, together with the diverse movements of commodity prices, including oil, have given rise to sharp swings in international trade flows over the past few years as well as to considerable shifts in the commodity terms of trade. The widespread decline in economic activity during 1997B1998 was accompanied by a slowdown in the growth of world trade volumes. The decline in trade in 1998 was discernible in varying degrees in all developing regions and in the transition economies, but it was especially sharp for African exports and Asian imports.

7. The revival in world trade in 1999 in the wake of a similar pattern. The increase was greater in value than in volume on account of disparate movements in the prices of internationally traded goods and services. With the major exception of the transition economies, there was a sharp turnaround in all regions, particularly in value terms, as price declines levelled off. The return of financial stability and improved growth prospects in the crisis-stricken Asian economies led to a modest recovery in certain non-oil commodity prices of interest to developing countries.

8. The expectation for 2000 is for a moderate acceleration in the growth of the volume of world trade, mainly as the result of somewhat faster growth on the part of the EU economies, and economic recovery in Latin America and the transition economies. However, prospects are significantly dependent on developments in the pace and pattern of demand generation, primarily in industrial countries, as well as on movements in exchange rates, and hence on international capital flows.

Trends in imports and exports

9. The volume of world imports grew by some 5 per cent in 1999, a modest improvement over 1998, when it slowed sharply as the combined effects of the emerging-market financial crises resulted in massive cuts in imports in East Asia, Latin America and the transition economies (table 2). The improvement in 1999 was due mainly to a recovery in developing countries and also to sustained growth in developed countries, albeit at a relatively lower rate than in the previous year, whereas import volumes in the transition economies contracted by 10 per cent.

10. Among the developed countries, the United States economy maintained double-digit growth in import volumes for the third successive year. There was also a surge in Japan following a decline in 1998. By contrast, there was a significant deceleration in the EU countries. In the developing world, performance was also mixed. In Latin America, the volume of imports contracted after a relatively rapid expansion in the previous year. In Africa it stagnated, following moderate growth in 1998. For developing Asia, however, there was a sharp upturn from a contraction of almost 10 per cent in 1998 to an increase of some 7 per cent, in large part due to the impressive rebound in East Asia.

11. The volume of world exports is estimated to have risen less than in 1998. The slowdown is accounted forby a contraction of exports in the transition economies as well as somewhat slower export growth in developing the economic recovery in East Asia followed countries. For developed countries as a whole the export volume growth rate was maintained at the previous year's level. The sharp rebound in Japan, together with a high rate of expansion for the third successive year in the United States, compensated for the deceleration in the EU. Among the developing regions, there was a notable rebound in Africa and Asia, in contrast to a moderate slowdown in Latin America.

(c) OECD countries' industrial production

12. The industrial production of the OECD countries is another fundamental indicator for the global maritime transport sector. In 1999, the total OECD industrial production index (1995-100) rose moderately by 3.0 per cent to 113.4 from 110.1 in 1998, when it experienced a relatively poor increase of 1.8 per cent. The OECD's positive development sustained in 1999 was primarily due to the United States industrial production, which grew by 3.5 per cent, while the European OECD countries and Japan experienced below-average growth of 1.5 per cent and 0.4 per cent respectively. World seaborne trade increased by only 1.3 per cent in 1999 as compared to 1998, when it increased by 2.2 per cent (see graph 1).

B. WORLD SEABORNE TRADE

(a) Overall seaborne trade

13. Expanding world seaborne trade recorded its fourteenth consecutive annual increase in 1999, reaching a record high of 5.23 billion tons. Annual growth, however, slowed to a rate of 1.3 per cent. Sustainable demand in the United States and the Asian recovery were the main engines of the global trade expansion in 1999. The strength of United States private consumption helped the recovery in Asia. In 1999, the United States recorded a continuous import growth of consumer goods. Import expansion of Asia in 1999 offset the import contraction in terms of dry cargo volume in the previous year. On the other hand, crude oil imports to Europe from non-European countries registered a deceleration. Countries of Central and Eastern Europe recorded a marginal increase in imports, mainly due to the slowdown of imports into Russia and the Ukraine. Imports into Africa increased slightly in 1999. Socialist countries of Asia substantially increased their dry cargo imports in 1999. Despite relatively lower intraregional trade, Latin America recorded a favourable export expansion of dry cargo in 1999. Asian export growth improved substantially as

Table 2

Exports and imports by major regions and economic groupings, 1996-1999
(percentage change in volume over the previous year)

Country/region	Export volume				Import volume			
	1996	1997	1998	1999	1996	1997	1998	1999
World	6.1	10.7	4.7	3.9	6.9	10.0	4.5	5.3
Developed market-economy countries	4.9	10.0	4.3	4.3	5.3	9.3	8.0	6.5
***of which*:**								
Japan	1.0	12.0	-1.5	2.0	5.5	1.5	-5.5	9.5
United States	6.3	11.9	2.3	3.2	5.6	12.1	11.7	11.5
European Union	5.5	9.5	6.0	3.5	5.0	8.5	8.5	4.0
Transition economies	6.5	10.5	5.0	-3.0	16.0	13.5	5.0	-10.0
Developing countries	6.9	12.4	5.6	5.3	6.4	10.8	-3.8	4.2
***of which*:**								
Africa	8.9	6.5	-1.2	3.3	1.0	9.7	5.3	0.3
Latin America	11.0	11.5	7.5	7.0	8.5	22.5	8.5	-2.0
Asia	5.4	12.5	3.8	7.2	5.5	6.7	-9.7	7.3
of which:								
Newly-industrializing economies [a]	9.1	11.6	3.8	5.9	6.6	7.4	-10.0	6.9
ASEAN-4 [b]	4.8	12.1	11.0	11.2	2.0	5.0	-22.7	9.8
China	-0.8	20.5	3.7	8.3	7.5	5.5	2.3	13.1
Memo item:								
ASEAN-4 plus Republic of Korea	10.9	17.7	13.7	11.2	6.3	3.5	-22.0	18.1

Source: UNCTAD secretariat calculations, based on data available from the World Trade Organization (WTO).

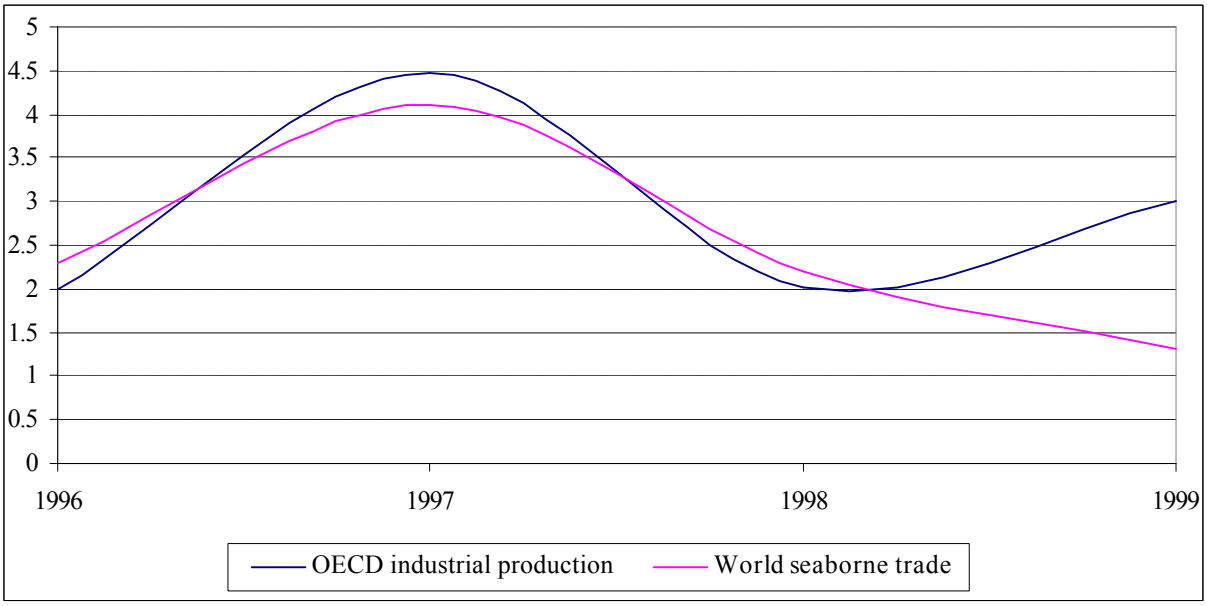
[a] Hong Kong (China), Republic of Korea, Singapore and Taiwan Province of China.

[b] Indonesia, Malaysia, the Philippines and Thailand.

both Japan's exports recovered and the five Asian developing countries (Indonesia, Malaysia, the Philippines, Thailand and the Republic of Korea), which had been affected considerably by the 1997B1998 financial crises, achieved favourable growth in their combined exports of dry cargo in 1999. The United States exports accelerated due to the dynamic performance of its intraregional trade. Export growth of Europe in the sector of dry cargo recorded a substantial increase in 1999. Countries of Central and Eastern Europe increased their exports marginally. Crude oil exports of Africa decreased considerably, but dry cargo increased moderately in 1999. Socialist countries of Asia recorded a moderate increase in exports in 1999. Preliminary data available indicate that global maritime trade growth in 2000 is expected to be 2.0 per cent (see graph 2 and table 3).

Graph 1

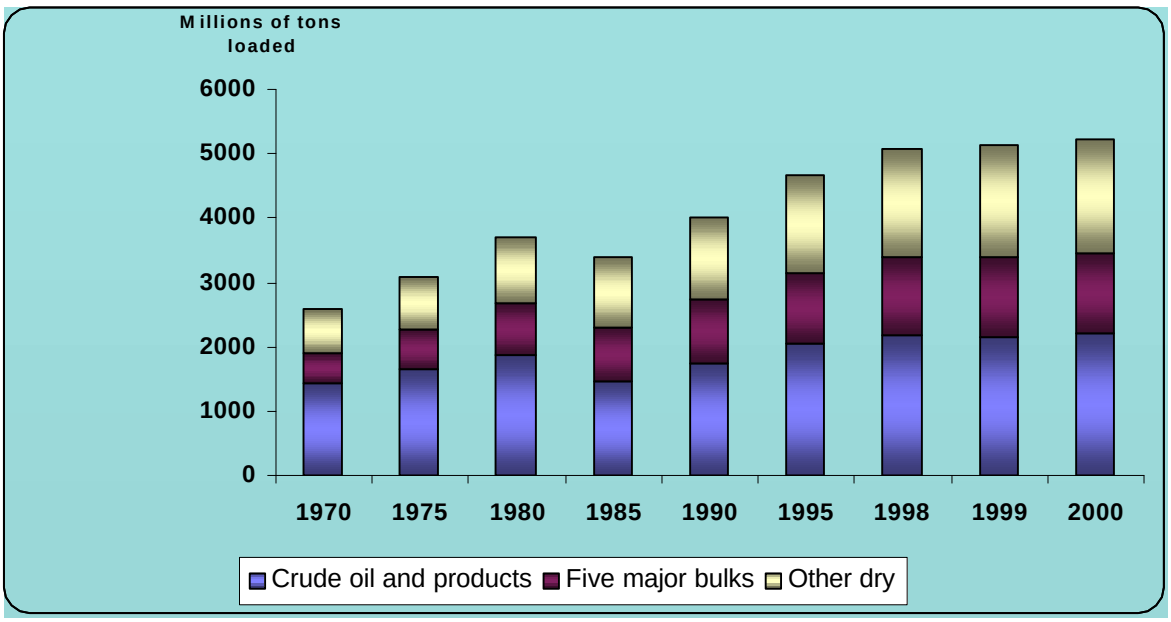
Annual change in OECD industrial production and world seaborne trade, 1996-1999



Source: OECD, *Main Economic Indicators,* April 2000.

Graph 2

International seaborne trade for selected years



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

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]			
	Millions of tons	Percentage annual change	Millions of tons	Percentage annual change	Millions of tons	Percentage annual change	Millions of tons	Percentage annual change
1970	1 442		1 124		448		2 566	
1975	1 644		1 428		635		3 072	
1980	1 871		1 833		796		3 704	
1985	1 459		1 923		857		3 382	
1990	1 755		2 253		968		4 008	
1995	2 049		2 602		1 082		4 651	
1996	2 127	3.8	2 631	1.1	1 092	0.9	4 758	2.3
1997	2 172	2.1	2 781	5.7	1 157	6.0	4 953	4.1
1998	2 181	0.4	2 884	3.7	1 200	3.7	5 064	2.2
1999	2 159	-1.0	2 970	3.0	1 233	2.8	5 129	1.3
2000 [c]	2 202	2.0	3 028	2.0	1 257	1.9	5 230	2.0

Sources: UNCTAD secretariat on the basis of annex II and data supplied by specialized sources.
[a] Including 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.

(b) Seaborne trade in tankers

Crude oil production

14. In 1999, world crude oil production decreased by 1.5 per cent or nearly 1.0 million barrels per day from the previous year. This decrease reflects production cuts in the producing regions, specifically the Organization of Petroleum Exporting Countries (OPEC). OPEC output declined by 3.9 per cent to 26.745 million barrels per day as compared to 27.828 million barrels per day in 1998. NonBOPEC production rose slightly by 0.2 per cent to 39.357 million barrels per day from 39.265 million barrels per day in the previous year. Total growth in production was marginalized, mainly because of OPEC's production curtailment. United States production decreased substantially by 5.2 per cent to 5.916 million barrels per day in 1999 as compared with its output in 1998, while Canada's output was also down by 4.9 per cent to 2.072 million barrels per day. Mexico significantly reduced its output by 5.3 per cent, to 2.913 million barrels per day. Output of the Middle East members of OPEC declined by 3.2 per cent to 18.508 million barrels per day in 1999, while other OPEC output was also reduced, dropping by 5.4 per cent to 8.237 million barrels per day. Meanwhile, North Sea production increased strongly by 7.7 per cent to 5.967 million barrels per day, and Russia's production remained almost unchanged, standing at 5.967 million barrels per day in 1999. All other countries' total production decreased by 1.5 per cent to 13.300 million barrels per day in 1999 as compared to 13.077 million barrels per day in the previous year.[3]

15. OPEC's oil production restraint and the consequent considerable price increase on world markets resulted in less trade in crude oil in 1999. Thus, crude oil shipments, accounting for 75 per cent of total oil trade, declined by about 2.0 per cent in 1999, while petroleum products rose 2.0 per cent. Overall petroleum shipments in 1999 declined by 1.0 per cent in terms of trade volume from the level of the previous year. In 2000, when petroleum markets tighten and OPEC's production restraint eases, total tanker cargo volume growth is expected to rebound to around 2.0 per cent.

Crude oil shipments

16. In 1999, the world's crude oil shipments decreased significantly by 2.0 per cent to 1,600 million tons from 1,633 million tons recorded in the previous year. The trade structure of crude oil continues to change. The United States has been diversifying its imports from the Middle East Gulf to other regions such as Latin America and West Africa. European countries have been procuring more crude oil from European sources, relying less on other markets, in particular the Middle East Gulf producers. On the other hand, Asian economies including Japan remain largely dependent on Middle East Gulf oil. In 1999, OPEC's sustained production cut reduced export volume from most of the cartel's members. Exports from the Middle East Gulf were constrained by the production cuts by several OPEC members, although the reduction was offset somewhat by increased exports from Iraq. The volume from West Africa declined as a result of Nigeria's reduced output. Reductions in Venezuela, and in Mexico (a non-OPEC member) also curbed crude oil exports from Latin America, while Indonesia's restraint helped to trim the total volume from South-East Asia. As a result, crude oil imports fell in 1999 in major import markets. In the United States, crude oil imports declined slightly in 1999, despite rising demand. A similar decline was observed in crude oil importing countries in Asia. Over the next couple of years, crude oil seaborne trade is likely to return to an annual growth of 2 per cent, which approximately matches global oil-demand growth. This trade will be led by Middle East Gulf shipments to Asia, which represent part of a pattern of regionalization in the global crude oil trade. Latin America will increase its supply to North America, while Eastern Europe, mainly the former Soviet Union, and West Africa will supply Western Europe.

Petroleum product shipments

17. The global trade in petroleum products in 1999 continued to increase steadily by 2.0 per cent to 560 million tons. One of the reasons for this sustained growth is the recovery of Asian demand, specifically the Far East newly industrialized economies (NIEs). Half of the NIEs' petroleum product imports are intra-NIEs shipments, the remainder being obtained from Japan, the United States and the Middle East Gulf. India commenced full-scale production at several refineries in 1999, thus reducing the volume of its off-shore procurements, mainly from the Middle East Gulf. In other major import markets, no significant changes were observed. The United States demand remained steady, comparatively more being imported from Latin America and Europe than from the Middle East Gulf. European demand for petroleum products remains more regionalized, thus resulting in less imports from non-European countries. This growth trend in volume terms and the prevailing pattern of trade are expected to continue for the next couple of years.

(c) Dry cargo shipments

General developments

18. In 1999, overall dry cargo shipments grew at a rate of 3.0 per cent, reaching approximately 2,970 million tons, consisting of main dry bulk cargo (1,233 million tons), minor dry bulk cargo (762 million tons) and other dry commodities including containerized cargo (975 million tons). This figure is down from the 3.7 per cent growth recorded in 1998. According to the preliminary data available, the growth of seaborne trade of total dry cargo in 2000 is expected to drop further to 2.0 per cent. The increase in main dry bulk commodities, which make up nearly 42 per cent of the total dry cargo trade, will continue to be supported by coal shipments with its trade expected to grow at more than 4 per cent in 2000. Limited growth of iron ore shipments is anticipated, while shipments of bauxite, alumina and phosphate rock will remain unchanged. Forecasts are difficult to make for the seaborne grain trade mainly because of unpredictable harvests, which primarily depend on weather conditions.

World crude steel production

19. World crude steel production in 1999 increased by 1.3 per cent to 787 million tons, which is the second largest quantity after the volume of 800 million tons which was registered in 1997. Asia's production regained momentum in 1999, increasing by 3.6 per cent to 308 million tons or 39.2 per cent of the world total. Most of this expansion was attributable to the increased volume in China, with its production growing by 8.0 per cent to 124 million tons or 15.7 per cent of the world total. Production in India, Japan and the Republic of Korea returned to a favourable production course, registering increases of 3.5, 0.7 and 2.9 per cent respectively. Their combined output of 160 million tons was 20.3 per cent of the world total. On the other hand, the European Union's production shrank by 3.1 per cent to 155 million tons, or 19.7 per cent of the world total, mainly due to the decreases in Germany (-4.5 per cent), Italy (-3.3 per cent)

and the United Kingdom (-5.9 per cent). Among the major producers in the European Union, only France recorded a positive but marginal increase of 0.4 per cent. The production of the United States declined by 1.4 per cent to 97 million tons or 12.4 per cent of the world total. The combined volume of the three major crude steel-producing regions, Asia, the European Union and North America, increased by 1.0 per cent to 593 million tons in 1999, and dominated world crude steel production with a combined share of 75.4 per cent of world output.[4]

World steel consumption

20. World steel consumption in 1999 increased marginally by 0.8 per cent to 699 million tons, approaching the record level of approximately 700 million tons in 1997. The steel consumption of Asia increased by 6.0 per cent to 303 million tons, while that of North America and the European Union declined by 5.9 per cent and 1.8 per cent respectively to 135 million tons each. The combined steel consumption of these three major regions increased slightly by 1.2 per cent to 572 million tons or 81.8 per cent of total world consumption. The consumption quantity of the three major regions corresponds to their production quantity (593 million tons). Based on the analysis by country, China's consumption in 1999 increased by 9.7 per cent to 125 million tons. Conversely, the Japanese steel market declined by 2.8 per cent to 68 million tons. Civil engineering was the only market showing growth in 1999. However, the Government of Japan's stimulus packages encouraged steel consumption. The Republic of Korea's steel consumption recovered remarkably by 28.9 per cent to 32 million tons. The United States reduced its consumption by 7.3 per cent to 109 million tons, registering, however, an import surge from Japan and the Republic of Korea.[5]

Iron ore trade

21. Although there was a small increase in total world steel production with Asia's increase offset by declines in the European Union and the United States, the total volume of seaborne trade in iron ore in 1999 decreased by 1.7 per cent to 410 million tons. In 1999, changes in the regional distribution of steel production have affected iron ore import patterns, with trades into Asia increasing, but those into Europe decreasing. This change in the distribution of steel production has impacted the exporters of iron ore. Exports from Australia to Asia increased by 3 per cent, whereas those from Brazil, which supplies Europe, declined by 5 per cent. Canada's iron ore exports were reduced significantly by 14 per cent and Sweden's trade also fell 13 per cent. On the basis of the preliminary data it is expected that total world iron ore shipments in 2000 will recover as demand strengthens in Asia (Japan, China, the Far Eastern NIEs) and Northern Europe.[6]

Coal trade

22. Coal shipments were again the largest dry bulk cargo in 1999, increasing by 1.5 per cent to 480 million tons. Thermal coal expanded by 3.3 per cent to 306 million tons, whereas coking coal decreased by 1.7 per cent to 174 million tons. Total sales from Australia, the largest exporter, showed continued strong growth in 1999, increasing by 4 per cent. Australia strengthened her dominant supply position to Japan, while Japan's imports from the United States and Canada fell. Overall coal exports from the United States dropped by 23 per cent to approximately 40 million tons from 52 million tons in 1998. Canada also reduced its coal exports by 3 per cent in 1999. Most of the increased demand of the Far Eastern NIEs was satisfied by the supply from Australian, Chinese and South-East Asian mines rather than those in North America. China's exports rose significantly by 19 per cent while Indonesia's exports increased similarly by about 20 per cent. Shipments to the Indian subcontinent remained strong, benefitting Australian and other Asian suppliers. South Africa's exports in 1999 are expected to decrease by about 3 per cent. Various forecasts indicate that total coal shipments will grow significantly by more than 4 per cent in 2000.[7]

Grain trade

23. World grain shipments increased by 7.1 per cent to 210 million tons in 1999. On the supply side, exports from the United States expanded remarkably by 18.3 per cent to 87.9 million tons, while Canada's exports increased by 6.2 per cent to 19.3 million tons. Australia's supply increased by 8.7 per cent to 20.6 million tons, whereas Argentina's exports plummeted by as much as 28.7 per cent to 17.3 million tons. Exports from the European Union to third countries expanded by about 17.2 per cent as compared with the results of the previous year, reaching 18.2 million tons. On the import side, shipments moving from Australia to the Far East and from Europe to the Middle East in 1999 were greater than in previous years. Japanese demand is expected to shrink by about 5 per cent in 1999. In contrast, demand by the other Far Eastern countries in that year is expected to

have recovered from its decline of 4.5 per cent in 1998. While the United States serves as a major supplier to world markets, its producers will be confronted with intensified competition from other suppliers, including Latin American and European producers, as well as those in Australia. According to preliminary data, the overall grain market will slow again in 2000 as small declines in European and Middle Eastern demand will offset an equally small improvement in Asian demand.[8]

(d) Liner shipments of containerized cargo

24. Total world liner shipments of containerized cargo in 1999 are expected to reach approximately 50 million TEUs C an increase of 1.0 per cent compared with the volume of the previous year, reflecting a substantial recovery from the Asian crisis and its aftermath. In 1999, the Asian economies continued to push up the trade volume of major liner routes such as Transpacific, Europe/Asia and intra-Asia. On the other hand, the sustained expansion of Asian exports has been causing a serious trade imbalance between the trade routes in the Transpacific and the Europe/Asia trades.

25. In 1999, the eastbound Transpacific trade recorded a continuation of the strong expansion representing 5.5 million TEUs in 1999. The strong import growth of the United States encouraged cargo movement mainly from the Republic of Korea, Taiwan Province of China and other South-East Asian countries. Growth will slow in 2000, as greater development in import and export trades with Japan and Hong Kong (China) remains uncertain. The Transpacific westbound trade increased marginally to 3.3 million TEUs in 1999 with greater expansion expected in 2000. The Europe/Asia trade produced a relatively small increase in volume in 1998, with a drop in eastbound business offsetting an increase in westbound trade. Recovery was clearly under way in 1999 with a total volume of 3.6 million TEUs in the westbound trade and 2.7 million TEUs on the eastbound leg. The imbalance will remain in 2000, as eastbound trade will increase slowly, but westbound trade with consumer goods and electrical goods, accounting for over 60 per cent of the total, will accelerate. Transatlantic trade in 1999 was made up of strong westbound trade (European exports to the United States) of 1.7 million TEUs and flat eastbound trade (United States exports to Europe), representing 1.4 million TEUs. In 2000, eastbound traffic will grow moderately, while westbound growth will slow considerably as the United States imports from Northern Europe are expected to decline from the high growth rate in 1999.

26. Intra-Asia liner trade, the world's largest, is growing again strongly and steadily, with a total volume of 9.7 million TEUs moved in 1999. China is the major market for its Asian neighbours, accounting for 30 per cent of the intra-Asian imports and growing at 16 per cent in 1999, with a 6 per cent forecast in 2000. Other outstanding examples of recovery are Taiwan Province of China and the Republic of Korea, each growing at about 15 per cent in 1999 with a 13 per cent forecast in 2000. Hong Kong (China), which accounted for 14 per cent of the imports in 1999, will grow again in 2000. Japan, representing 13 per cent of the imports, is expected to expand at 6 per cent in 1999 and to be flat in 2000. The combined import volume of South-East Asian countries, making up 26 per cent of the imports, increased by 4 per cent in 1999 and is likely to expand at 8 per cent in 2000. From the export perspective, Taiwan Province of China is leading the market, accounting for 24 per cent of intra-Asian exports; these grew by 14 per cent in 1999 and are expected to increase by 8 per cent in 2000. It is also expected that Japanese and South-East Asian exports will grow faster in 2000 than in 1999, and that China's exports, accounting for 16 per cent of the intra-Asia total in 1999, will expand at the rate of 10 per cent in 2000.[9]

(e) World shipments by country groups

27. World seaborne trade in 1999 increased by 1.3 per cent compared with its figure in the previous year. Summarized data on world seaborne trade by major cargo segments and country groups are shown in table 4 and graph 3. The share of developed market-economy countries in goods loaded and unloaded in 1999 is 43.9 per cent and 65.5 per cent respectively of total world volume. For these countries, crude oil and petroleum products account for 11.7 per cent and 33.0 per cent of total world exports, while imports account for 71.3 per cent for crude oil and 72.0 per cent for petroleum products. In terms of the regional groupings, Europe, including the Mediterranean and United Kingdom, and intra-regional trades, remains the most important exporter and importer of crude oil and petroleum products, its combined share of the world total representing 14.6 per cent for exports and 29.0 per cent for imports. By country, the United States and Japan are the major importers of crude oil and petroleum

Table 4

World seaborne trade [a] in 1970, 1980, 1990, 1997-1999 and 2000 (estimates), 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	1 110	332	1 124	2 566	1 101	298	1 091	2 490
	1980	1 527	344	1 833	3 704	1 530	326	1 823	3 679
	1990	1 287	468	2 253	4 008	1 335	466	2 365	4 166
	1997	1 626	546	2 781	4 953	1 625	522	2 890	5 037
	1998	1 633	548	2 884	5 064	1 631	545	2 993	5 169
	1999	1 601	559	2 970	5 129	1 598	557	3 081	5 236
	2000	1 635	568	3 028	5 230	1 631	566	3 133	5 330
		(Percentage share of each category of goods in total)							
World total	1970	43.3	12.9	43.8	100.0	44.2	12.0	43.8	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	32.0	11.2	56.8	100.0
	1997	32.8	11.0	56.1	100.0	32.3	10.4	57.4	100.0
	1998	32.2	10.8	57.0	100.0	31.6	10.5	57.9	100.0
	1999	32.1	10.7	57.2	100.0	31.4	10.4	58.2	100.0
	2000	31.6	10.7	57.7	100.0	31.0	10.4	58.6	100.0
		(Percentage share of trade by groups of countries)							
Developed market-economy countries	1970	1.5	26.7	58.5	29.7	79.9	80.6	78.0	79.1
	1980	6.3	25.5	64.7	37.0	72.0	79.5	67.8	70.5
	1990	13.4	32.7	63.4	43.8	71.4	77.9	61.7	66.6
	1997	11.9	33.7	63.2	43.1	71.6	76.7	61.9	66.9
	1998	11.6	33.0	63.3	43.4	71.4	72.5	61.7	65.9
	1999	11.7	33.0	63.2	43.9	71.3	72.0	61.3	65.5
	2000	11.6	33.1	63.1	43.8	71.0	72.2	61.1	65.3
Countries of Central and Eastern Europe	1970	3.4	7.9	7.2	5.7	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
	1997	2.8	9.4	3.2	3.7	1.3	0.2	4.6	3.1
	1998	2.8	9.5	3.2	3.7	1.4	0.2	4.6	3.1
	1999	2.9	9.4	3.2	3.7	1.4	0.2	4.5	3.1
	2000	2.8	9.3	3.2	3.7	1.4	0.2	4.6	3.2
Socialist countries of Asia [d]	1970	-	-	1.2	0.5	0.5	0.1	2.2	1.2
	1980	1.4	1.7	1.0	1.2	1.4	1.6	4.0	2.7
	1990	2.5	0.9	2.0	2.0	1.8	4.6	3.4	3.0
	1997	1.6	0.9	2.3	1.9	1.8	6.0	3.6	3.4
	1998	1.5	0.9	2.3	1.9	2.4	6.1	3.6	3.5
	1999	1.5	1.3	2.3	1.9	2.4	6.3	3.7	3.6
	2000	1.5	1.2	2.3	1.9	2.5	6.4	3.7	3.6
Developing countries	1970	95.0	65.4	33.2	64.1	18.4	18.3	16.0	17.3
	1980	88.7	58.2	29.0	56.3	24.3	18.5	22.3	22.8
	1990	79.5	54.7	30.8	49.2	24.2	17.2	29.1	26.2
	1997	83.7	56.0	31.3	51.2	26.0	20.8	29.9	27.7
	1998	84.2	56.6	31.2	51.0	24.8	21.1	30.2	27.5
	1999	83.9	56.4	31.3	50.5	24.8	21.5	30.5	27.8

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]		
	2000	84.1	56.3	31.4	50.6	25.1	21.2	30.6	27.9
of which:	1970	25.4	2.3	9.4	15.4	1.7	4.2	3.8	2.9
Africa	1980	19.0	1.5	5.6	10.8	4.0	2.9	4.7	4.2
	1990	24.1	7.6	4.3	11.0	5.5	2.2	4.3	4.5
	1997	23.8	5.7	3.8	10.6	5.0	2.0	3.9	4.0
	1998	22.8	5.3	3.8	10.1	4.9	2.0	3.9	4.0
	1999	22.7	5.3	3.7	9.8	5.0	1.9	3.8	4.0
	2000	22.6	5.4	3.8	9.8	5.0	2.0	3.8	4.0
America	1970	12.2	36.0	14.3	16.2	10.5	5.2	4.6	7.3
	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	5.6	3.6	4.0	4.5
	1997	15.8	12.6	13.0	13.9	5.0	3.2	4.0	4.3
	1998	16.9	13.7	12.9	14.3	5.1	3.2	4.1	4.3
	1999	16.7	13.8	12.8	14.1	5.2	3.4	4.1	4.3
	2000	16.8	13.8	12.8	14.2	5.2	3.3	4.1	4.3
Asia	1970	57.4	27.0	8.6	32.0	6.1	8.4	7.4	7.0
	1980	57.3	28.1	9.7	31.0	6.9	9.8	12.0	9.7
	1990	42.1	34.9	12.6	24.7	12.4	10.5	19.9	16.4
	1997	44.1	37.4	13.8	26.4	15.5	14.8	21.4	18.8
	1998	44.4	37.3	13.8	26.2	14.3	15.0	21.5	18.6
	1999	44.5	37.0	14.1	26.1	14.1	15.3	21.9	18.8
	2000	44.6	36.8	14.1	26.1	14.4	15.0	21.6	18.9
Europe [d]	1970	-	-	-	-	-	-	-	-
	1980	-	-	-	-	-	0.2	-	-
	1990	-	0.2	0.3	0.2	0.7	0.5	0.7	0.7
	1997	-	0.2	0.3	0.2	0.5	0.4	0.6	0.5
	1998	-	0.2	0.3	0.2	0.5	0.5	0.6	0.6
	1999	-	0.2	0.3	0.2	0.5	0.4	0.6	0.6
	2000	-	0.2	0.3	0.2	0.5	0.4	0.6	0.6
Oceania [d]	1970	-	0.1	0.8	0.4	0.1	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	0.2	0.1
	1997	-	0.1	0.4	0.2	-	0.4	0.1	0.1
	1998	-	0.1	0.4	0.2	-	0.5	0.1	0.1
	1999	-	0.1	0.4	0.2	-	0.4	0.1	0.1
	2000	-	0.1	0.4	0.2	-	0.4	0.1	0.1

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

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

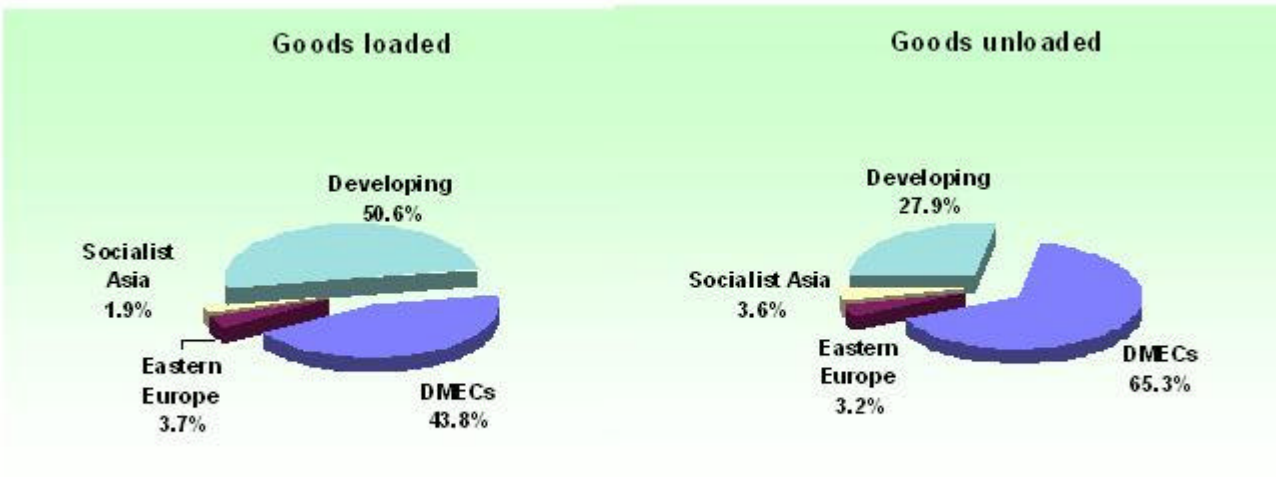
[b] See annex I for the composition of these groups, and note 4 thereto regarding the recording of trade of landlocked countries.

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

[d] Estimates.

Graph 3

World seaborne trade by country groups



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

products, with 23.7 per cent and 16.4 per cent respectively of total world imports. In the dry bulk segment, developed market-economy countries remain at 63.2 per cent for exports and 61.3 per cent for imports. Based on regional distribution, Europe is also the largest dry cargo market for exports and imports, with 21.2 per cent and 32.5 per cent respectively. A constant increase in the volume of intra-regional trade has been observed, while overall dry cargo export and import trades with third country groups are comparatively flat or slightly downward. By country, the United States' exports in 1999 were driven by grain shipments, representing an 18 per cent increase over the previous year. The increase in cargo unloaded is mainly attributable to the continued expansion of liner cargo from Asia. In 1999, Australia increased its exports of three major commodities C iron ore, coal and grain C by 3.0, 4.0 and nearly 9 per cent respectively. Japan's coal imports from Australia in 1999 expanded, whilst those from the United States and Canada weakened. Its demand for grain shrank in 1999, offsetting somewhat the expansion of other main dry bulk commodities.

28. The developing countries' share in total world exports remained at 50.5 per cent, while their share of imports stood at 27.8 per cent in 1999. Their trade structure in terms of volume reflected a sharp contrast with that of developed market-economy countries. The developing countries' combined share in crude oil and its products represented 76.8 per cent for exports and 24.0 per cent for imports in the world total, while in the case of the developed market-economy countries their combined share was at 17.2 per cent for exports and 71.5 per cent for imports. In the dry cargo segment, the developed market-economy countries share as a group in exports and imports represented 63.2 per cent and 61.3 per cent, which was almost double the developingcountries' group share of 31.3 per cent for exports and 30.5 per cent for imports.

29. There are some variations observable in the volume of goods loaded or unloaded among the developing countries, specifically in Asia. In 1999, Asian countries maintained 26.1 per cent and 18.8 per cent for exports and imports respectively of total world trade. The majority of crude oil exports (44.5 per cent of the world total or 53.0 per cent of the developing countries' total) was shipped in 1999 from Western Asia (the Middle East Gulf). Petroleum products loaded (37.0 per cent of the world total or 65.7 per cent of the developing countries' total) were traded mainly in the intra-Asian markets, including Japan. The increasing

share in the volume of dry cargo loaded reflected primarily the expansion of Asia's containerized trades in both international and intra-Asian markets. In the import segment, Asian countries kept a relatively higher share of 21.9 per cent in world shipments or 71.8 per cent of the developing countries' total. The majority of dry cargo unloaded consisted of three main dry bulk commodities from non-Asian countries.

30. The share of shipments for the developing countries of America has remained stable at 13-14 per cent for exports and unchanged at 4.3 per cent for imports since the early 1990s. Crude oil and petroleum products from Mexico and Venezuela, iron ore from Brazil and grain from Argentina are dominant in the region's outward trade volume, boosting the region's total dry cargo share to 12.8 per cent of the world total, while the dry cargo imports of the region remains at 4.1 per cent. The majority of these represent trades of manufactures with the United States and Europe, and imports of coking coal from North America and Australia.

31. The share of goods loaded by African developing countries continued to shrink to slightly lower than 10 per cent of the world total. In 1999 their share in loading crude oil, petroleum products and dry cargo was 22.7 per cent, 5.3 per cent, and 3.7 per cent respectively in total world trade. Crude oil shipments are generated mainly in Western and Northern Africa. Coal exports from southern Africa share a major portion of dry cargo exports. For imports, their trades have been stagnant at the low level of 4 per cent of world trade since the 1980s, distributed evenly over crude oil and petroleum products, and the dry cargo group. The share of countries in Central and Eastern Europe in 1999 continued to be stagnant at 3.7 per cent for loading, mainly owing to a marginal increase in both crude oil and its products. Their imports have remained at 3.1 per cent since the middle of the 1990s. Figure for the socialist countries in Asia have primarily reflected the trade activities of China, which are composed mainly of exports of coal and manufactures, and imports of iron ore.

(f) Demand for shipping services

32. Table 5 provides data on total demand for shipping services in terms of ton-miles. World seaborne trade in volume increased marginally by 1.3 per cent to 5,129 million tons in 1999, whilst the total shipping performance measured in ton-miles decreased to 21,480 billion ton-miles in 1999 from 21,492 billion ton-miles in the previous year. This represents the second consecutive decline after 14 years of continuous growth. By commodity, crude oil shipments in volume dropped by 2.0 per cent due to OPEC'c production cuts, whereas oil products increased by 2.0 per cent. In terms of transportation performance, crude oil decreased by 3.8 per cent to 7,500 billion ton-miles, whilst petroleum products increased by 2.0 per cent to 2,010 billion ton-miles. The decrease in ton-miles for crude oil was attributable mainly to the shortening of average transport distances brought about by changing trade routes as a result of production cuts in the Middle East Gulf OPEC members and the reduction in trade. One of the reasons for the increase in ton-miles for petroleum products may be that India and the Republic of Korea increased production, so the Middle East Gulf refineries had to develop markets in other consumer areas such as Europe and the United States. Consequently, average transportation distances for petroleum products increased.

33. In the dry bulk segment in 1999, iron ore decreased in volume for the second consecutive year. Accordingly, its transport performance declined by 3.7 per cent to 2,220 billion ton-miles. Coal and grain increased in volume by 4.2 per cent and 10.0 per cent respectively, pushing their shipping demand up to the highest level of 2,430 billion ton-miles and 1,170 billion ton-miles respectively. The shipping performance for the three main dry bulk commodities combined increased by 0.5 per cent to 5,820 billion ton-miles in 1999. In the category of other cargo, shipping performance also improved by 3.5 per cent to 6,150 billion ton-miles in 1999. The trade in containers is the most important commodity affecting the performance in ton-miles.

Table 5

World shipping performance by types of cargo, selected years
(billions of ton-miles)

Year	Oil		Iron ore	Coal	Grain [a]	Other cargo	Total trade
	Crude	Products					
1970	5 597	890	1 093	481	475	2 118	10 654
1980	8 385	1 020	1 613	952	1 087	3 720	16 777
1985	4 007	1 150	1 675	1 479	1 004	3 750	13 065
1990	6 261	1 560	1 978	1 849	1 073	4 440	17 161
1995	7 225	1 945	2 287	2 176	1 160	5 395	20 188
1996	7 363	2 040	2 227	2 217	1 126	5 705	20 678
1997	7 830	2 050	2 444	2 332	1 169	6 000	21 825
1998	7 793	1 970	2 306	2 419	1 064	5 940	21 492
1999	7 500	2 010	2 220	2 430	1 170	6 150	21 480

Source: Fearnleys (Oslo), *Review 1999*.

a Including wheat, maize, barley, oats, rye, sorghum and soya beans.

Chapter II

STRUCTURE AND OWNERSHIP OF THE WORLD FLEET

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

A. STRUCTURE OF THE WORLD FLEET

Principal types of vessel

34. Comparative time-series data on the world fleet for 1997, 1998 and 1999 are provided in table 6 and graph 4. The world merchant fleet amounted to 799.0 million deadweight tons (dwt) at the end of 1999. This represents a 1.3 per cent increase over 1998, when the world fleet had expanded at a rate of 1.6 per cent from the tonnage in 1997. The relatively low rate of fleet expansion was attributable primarily to an increase to 30.7 million dwt of tonnage broken up and lost, while the newbuilding deliveries increased slightly to 40.5 million dwt, leaving a net gain of 9.8 million dwt in 1999 as compared with a net gain of 12.0 million dwt in 1998.

35. The tonnage of oil tankers and dry bulk carriers continued to increase in 1999 by 1.1 per cent and 0.2 per cent respectively, representing 70.0 per cent of total tonnage in 1999, a slight decline from 70.3 per cent in the previous year. The fleet of general cargo ships increased in 1999 slightly by 0.2 per cent representing 12.7 per cent of the world total fleet. Containerships in terms of deadweight tonnage increased by 2.5 million dwt or 4.1 per cent, which now represented 7.9 per cent of the world total fleet. This relatively high rate of increase reflected the growing portion of manufactured goods being traded which are generally moving in containers. Tonnage of liquid gas carriers (mainly LNG and LPG carriers) and ferries/passenger ships have been steadily increasing in absolute terms (deadweight tonnage).

World containership fleet

36. The world fleet of fully cellular containerships continued to expand substantially in 1999 in terms of both number of ships and their TEU capacity, reaching 2,433 ships with a total capacity of 4,298,000 TEUs by the end of 1999, representing an increase of 2.9 per cent in the number of ships and 5.8 per cent in TEU capacity over the previous year (see table 7). Ship sizes also continued to increase with average carrying capacity per ship growing from 1,717 TEUs in 1998 to 1,766 TEUs in 1999, reflecting economies of scale for reduction in operating costs. At the end of 1999, 98 post-Panamax ships with an aggregated capacity of 523,500 TEUs were in service (average carrying capacity 5,342 TEUs), representing 4.1 per cent of the number of ships and 12.4 per cent of the TEU capacity of the world containership fleet. This development will continue, judging by the upward trend of post-Panamax newbuilding orders. Towards the end of 1999, the newbuilding orders for all sizes stood at 247 ships, with a total capacity of 803,000 TEUs, which were scheduled to enter into service over the next couple of years. Within these newbuildings, 56 ships with a total capacity of 324,700 TEUs were post-Panamax size, accounting for 22.7 per cent of the number of ships and 40.4 per cent in the capacity of the world order book.

37. The world containership fleet registered in major open-registry countries continued to expand in 1999 to 39.5 per cent of the world TEU capacity as compared to 38.1 per cent in 1998.

Table 6

World fleet size by principal types of vessel, 1997-1999 [a]
(end-of-year figures, in thousands of dwt)

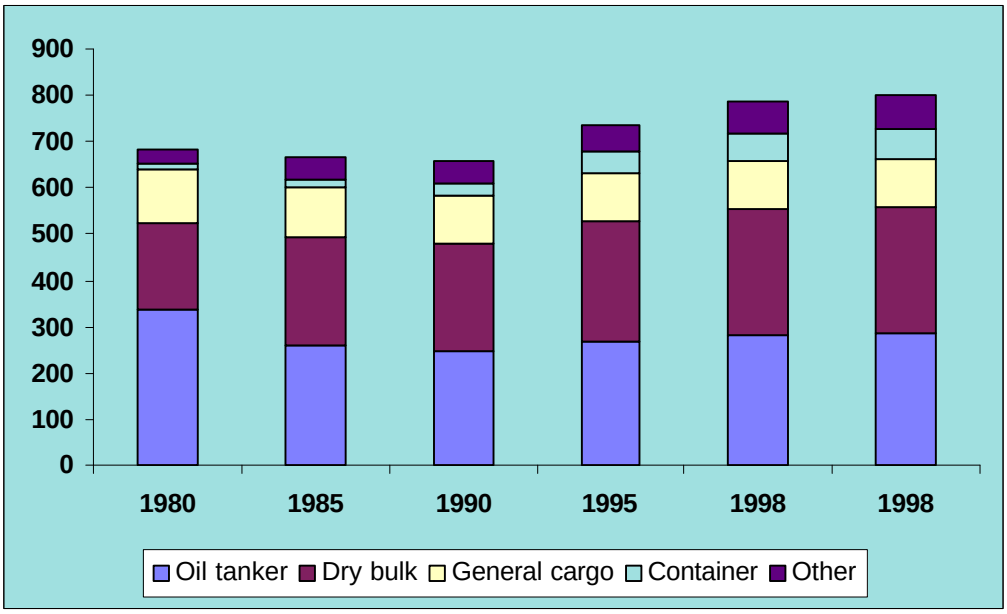
Principal types	1997	1998	1999	Percentage change 1998/1999
Oil tankers	272 023	279 509	282 458	1.1
	35.1	*35.4*	*35.4*	
Bulk carriers	281 012	275 519	276 091	0.2
	36.2	*34.9*	*34.6*	
Ore/bulk/oil	20 256	17 720	16 723	-5.6
	2.6	*2.2*	*2.1*	
Ore/bulk	260 756	257 799	259 368	0.6
	33.6	*32.7*	*32.5*	
General cargo ships	103 880	101 259	101 481	0.2
	13.4	*12.8*	*12.7*	
Container ships	56 108	61 147	63 637	4.1
	7.2	*7.8*	*8.0*	
Other types of ships	62 904	71 291	75 328	5.7
	8.1	*9.0*	*9.4*	
Liquefied gas carriers	16 021	16 471	17 334	5.2
	2.1	*2.1*	*2.2*	
Chemical tankers	7 846	7 740	7 813	0.9
	1.0	*1.0*	*1.0*	
Miscellaneous tankers	920	885	849	-4.1
	0.1	*0.1*	*0.1*	
Ferries and passenger ships	4 614	4 803	4 944	2.9
	0.6	*0.6*	*0.6*	
Others	33 503	41 392	44 388	7.2
	4.3	*5.2*	*5.6*	
World total	775 927	788 725	798 995	1.3
	100.0	*100.0*	*100.0*	

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

[a] Percentage shares are shown in italics.

Graph 4

World fleet size by principal types of vessel: selected years



Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

On the other hand, the share of the fleet registered in developed market-economy countries shrank slightly to 35.6 per cent from 38.4 per cent in 1998. For developing countries, the number of ships and TEU capacity increased substantially in 1999 (8.3 per cent) to 587 ships from 542 ships in 1998 and 16.2 per cent to 803,000 TEUs from 691,000 TEU's in 1998. Their share of the world total TEU capacity also increased to 18.7 per cent in 1999 from 17.0 per cent in 1998. The absolute increase of the container fleet in developing countries resulted mainly from increases in the fleet of developing countries of America, with an increase of 30 ships of 656,000 TEUs, which represented 50 per cent of the total increase of developing countries, followed by the developing countries of Asia, which increased their capacity by 15 ships of 55,800 TEUs as compared with the previous year. The group of developing countries of Africa almost doubled their total TEU capacity in 1997 as compared with 1996; since then, however, their capacity has remained at the low level of around 10,000 TEUs.

Age distribution of the world merchant fleet

38. Table 8 provides data on the average 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 decreased in 1999 for the fourth consecutive year to 14.09 years from 14.54 years in 1998. By type of vessel, the average age of tankers fell rather significantly to 13.91 years in 1999 from the previous year's average of 15.00 years. The share of tanker tonnage aged 15 years and over decreased to 47.6 per cent in 1999 from 55.1 per cent in 1998, reflecting increased scrapping activities in 1999 which stood at 16.7 million dwt (7.4 million dwt in 1998). The average age of the dry bulk carrier fleet rose slightly to 13.83 years. Containerships continued to be the youngest fleet in 1999, with a decrease in average age to 9.72 years from 10.99 years in 1998. This is explained by the fact that the high level of newbuilding activities continued to lower the average age of containerships. This trend is also reflected in the share of tonnage between 0 and 4 years of age, which continued to increase in 1999 to 36.1 per cent from 33.9 per cent in 1998.

Table 7

Distribution of the world fleet and TEU capacity of fully cellular container ships by groups of countries, in 1997, 1998 and 1999
(end-of-year figures)

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares [a]		
	1997	1998	1999	1997	1998	1999
World total	2 204	2 365	2 433	3 632 070	4 061 653	4 297 874
				100.0	*99.9*	*100.0*
Developed market-economy countries	675	728	693	1 398 781	1 561 060	1 530 655
				38.5	*38.4*	*35.6*
Major open-registry countries	800	887	944	1 315 130	1 545 818	1 698 576
				36.2	*38.1*	*39.5*
Total, developed market-economy and major open-registry countries	1 475	1 615	1 637	2 713 911	3 106 878	3 229 231
				74.7	*76.5*	*75.1*
Countries of Central and Eastern Europe (including the former USSR)	35	35	34	23 276	26 331	26 699
				0.6	*0.6*	*0.6*
Socialist countries of Asia	99	90	89	96 739	94 863	96 450
				2.7	*2.3*	*2.2*
Developing countries	504	542	587	628 999	691 328	803 135
				17.3	*17.0*	*18.7*
***of which* in:**						
Africa	8	10	10	9 117	11 026	10 719
				0.3	*0.3*	*0.2*
America	138	162	192	119 299	157 836	214 153
				3.3	*3.9*	*5.0*
Asia	353	365	380	496 028	516 431	572 212
				13.7	*12.7*	*13.3*
Europe	5	5	5	4 555	6 035	6 051
				0.1	*0.1*	*0.1*
Oceania	-	-	-	..	..	..
				..	..	..
Other, unallocated	91	83	86	169 145	142 253	142 359
				4.7	*3.5*	*3.3*

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

[a] Percentage shares are shown in italics.

Table 8
Age distribution of the world merchant fleet by types of vessel, as at 1 January 2000
(percentage of total dwt)

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) 1999 [a]	Average age (years) 1998 [a]
World total	All ships	100	19.1	18.7	12.9	49.3	14.09	14.54
	Tankers	100	16.6	23.6	12.1	47.6	13.91	15.00
	Bulk carriers	100	20.8	17.0	14.6	47.6	13.83	13.56
	General cargo	100	10.9	9.9	10.2	69.0	17.32	17.28
	Container ships	100	36.1	24.9	13.3	25.7	9.72	10.99
	All others	100	18.9	13.4	13.1	54.7	14.92	15.57
Developed market-economy countries	All ships	100	20.3	18.5	14.4	46.9	13.75	14.41
	Tankers	100	18.6	19.4	12.1	49.9	14.16	15.68
	Bulk carriers	100	15.8	17.3	16.7	50.2	14.58	13.97
	General cargo	100	17.6	17.1	13.4	51.9	14.58	14.84
	Container ships	100	40.8	21.3	14.9	23.0	9.16	10.24
	All others	100	19.4	16.4	17.4	46.8	13.92	14.50
Major open-registry countries	All ships	100	20.3	19.9	12.6	47.1	13.67	14.30
	Tankers	100	15.0	27.1	11.7	46.3	13.79	14.83
	Bulk carriers	100	23.5	15.5	14.5	46.6	13.55	13.49
	General cargo	100	14.7	11.3	11.4	62.6	16.23	16.44
	Container ships	100	35.3	27.4	12.2	25.1	9.61	11.28
	All others	100	24.5	12.6	9.7	53.2	14.24	15.48
Subtotal	All ships	100	20.3	19.4	13.3	47.0	13.70	14.33
	Tankers	100	16.3	24.2	11.8	47.7	13.93	15.13
	Bulk carriers	100	21.5	15.9	15.1	47.7	13.85	13.63
	General cargo	100	15.7	13.3	12.0	59.0	15.67	15.88
	Container ships	100	37.9	24.5	13.5	24.1	9.40	10.78
	All others	100	21.9	14.5	13.6	49.9	14.06	14.96
Countries of Central and Eastern Europe	All ships	100	2.1	7.0	15.0	75.8	19.01	18.04
	Tankers	100	1.8	1.5	14.2	82.5	20.00	18.68
	Bulk carriers	100	0.0	9.9	10.0	80.1	19.52	18.47
	General cargo	100	2.8	5.9	16.6	74.7	18.90	17.86
	Container ships	100	15.9	11.8	17.8	54.5	15.27	15.86
	All others	100	2.4	9.4	19.4	68.8	18.17	17.29
Socialist countries of Asia	All ships	100	5.3	14.5	7.4	72.9	18.05	17.58
	Tankers	100	3.5	24.1	11.8	60.6	16.51	15.94
	Bulk carriers	100	7.3	17.1	5.6	70.0	17.42	17.23
	General cargo	100	3.1	4.4	5.6	86.8	20.14	19.90
	Container ships	100	7.5	27.0	19.8	45.7	14.47	11.27
	All others	100	2.6	9.7	6.1	81.7	19.44	18.93
Developing countries (excluding open-registry countries)	All ships	100	19.6	17.9	12.1	50.4	14.19	14.40
	Tankers	100	20.6	21.7	13.1	44.6	13.32	14.18
	Bulk carriers	100	22.6	20.5	15.5	41.4	12.86	12.22
	General cargo	100	5.9	5.9	6.5	81.7	19.29	19.13
	Container ships	100	39.9	27.2	8.1	24.8	9.13	11.39
	All others	100	12.6	10.4	9.8	67.1	16.92	16.93

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

[a] To calculate the average age, it has been assumed that the ages of vessels are distributed evenly between the lower and upper limit of each age group. For the 15-years-and-over age group, the mid-point has been assumed to be 22 years.

39. By country grouping, the major open-registry countries continued to have the lowest average age of all ships (13.67 years in 1999 versus 14.30 years in 1998), as a growing tendency to register newbuildings under open-registry flags was observed. The group's share of tonnage between 0 and 4 years of age increased in 1999 to 20.3 per cent from 19.1 per cent in 1998. On the other hand, their share of tonnage of 15 years and over decreased in 1999 to 47.1 per cent from 50.7 per cent in 1998. Developed market-economy countries also reduced the average age of their fleet to 13.75 years in 1999 compared to 14.41years in 1998. In this group, the average age of containerships was 9.16 years in 1999 as compared with 10.24 years in 1998. The share of ships aged between 0 and 4 years increased to 40.8 per cent in 1999 from 37.9 per cent in 1998. The average age of all ships registered in developing countries (excluding major open-registry countries) decreased slightly in 1999 to 14.19 years as compared with 14.40 years in 1998. This group's containerships' average age improved substantially to 9.13 years in 1999 from 11.39 years in 1998, reflecting the high share of 39.9 per cent of ships between 0 and 4 years of age. The average age of tonnage registered in the socialist countries of Asia continued to increase to 18.05 years in 1999 from 17.58 years in 1998. The countries of Central and Eastern Europe continued to have the oldest fleet (19.01 years in 1999 versus 18.04 years in 1998) with vessels built more than 15 years ago representing 75.8 per cent of their total fleet (67.7 per cent in 1998).

Delivery of newbuildings

40. Newbuilding activities attained the highest level ever recorded in terms of deadweight tons with deliveries amounting to 40.5 million dwt in 1999 (see table 9). However, the total number of vessels delivered decreased to 940 units from 1,041 units in 1998. Thus the average size of tonnage increased to 43,000 dwt from 34,000 dwt in the previous year. This high level of delivery continued to be sustained primarily by tanker deliveries of 19.1 million dwt, which was up 51.1 per cent from the 1998 level. Another features was that more of the larger tankers were delivered in 1999 than in the previous year, with an average deadweight tonnage of 119,000 in 1999 compared to 105,000 in 1998. A similar trend was observed in the dry bulk carriers sector. The number of newbuildings decreased to 191 units in 1999 from 217 units in 1998, while total tonnage expanded to 12.6 million dwt from 11.6 million dwt, with the average deadweight tons per vessel increasing to 66,000 from 53,000 in 1998. Newbuildings for other types of vessels including general cargo ships and containerships as a whole shrank both in number and in deadweight tonnage to 585 units of 8.4 million dwt from 704 units of 11.1 million dwt in 1998.

Demolition of ships

41. Trends in tonnage, types and average age of broken-up vessels are shown in tables 10, 11 and 12. In 1999, total tonnage sold for demolition continued to increase substantially by 21.8 per cent from the tonnage of the previous year to 30.7 million dwt, which accounted for 3.9 per cent of the world total deadweight tons, as compared to 3.2 per cent in 1998. Sales of tankers for breaking up increased significantly by 124.3 per cent to 16.7 million dwt, which was more than double the 7.4 million dwt broken up in 1998. These sales were strongly influenced by the increasing pressure from law-enforcing governmental agents and environmental groups, coupled with the availability of newbuildings. ULCC/VLCC sales doubled from 16 units in 1998 to 35 units in 1999. Suezmaxes also doubled from 13 units in 1998 to 26 units in 1999, while Aframaxes actually tripled from 10 units in 1998 to 30 units in 1999. In the smaller category of crude oil tankers, 21 ships were sold for scrap in 1999, as compared to 13 units in the previous year. Due to the increased scrapping activity, the average age of tankers sold for demolition was significantly down from 28.2 years in 1998 to 26.2 years in 1999. Dry bulk carriers sold for scrap amounted to only 9.7 million dwt in 1999, down from 12.8 million dwt in 1998. Most of this reduction was accounted for by the reduction in the scrapping of larger size bulk carriers. Capesize units decreased to 19 in 1999 from 28 in 1998 while Panamax size showed less reduction, from 60 units in 1998 to 56 units in 1999. Sales of handy-size dry bulkers were down to 135 units in 1999 from 178 in the previous year. The average age of all dry bulk carriers broken up was 25.0 years in 1999. Other ship types also have a similar trading life with containerships being sold to breakers with an average age of 24.8 years and general cargo ships with an average age of 26.7 years in 1999.

Table 9

Deliveries of newbuildings, 1980, 1985, 1990, 1995-1999

Year	Oil tankers [a]		Combined carriers [a]		Dry bulk carriers [a]		Others [b]		Total	
	No. of vessels	Thousand dwt	No. of vessels	Thousand dwt	No. of vessels	Thousand dwt	No. of vessels	Thousand dwt	No. of vessels	Thousand dwt
1980	99	7 015	4	451	135	4 698	548	6 241	786	21 18,405
1985	72	3 945	10	683	339	14 739	529	5 283	950	24 650
1990	81	8 694	-	-	119	9 643	523	4 449	723	22 786
1995	83	10 862	-	-	254	15 405	672	7 416	1 009	33 683
1996	98	11 589	3	330	268	17 534	713	8 746	1 082	38 199
1997	69	7 491	3	330	299	18 853	696	10 169	1 067	36 843
1998	120	12 633	-	-	217	11 578	704	11 078	1 041	35 289
1999 [c]	160	19 085	4	440	191	12 606	585	8 400	940	40 531

Source: UNCTAD secretariat on the basis of data from Fearnleys (Oslo), *Review 1999*.

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, 1980 and 1993-1999

Broken-up tonnage	1980	1993	1994	1995	1996	1997	1998	1999
Tonnage sold for breaking (million dwt)	10.0	16.9	20.8	15.3	18.1	14.8	25.2	30.7
Share of broken-up tonnage in the total world fleet (percentage)	1.5	2.4	2.9	2.1	2.4	1.9	3.2	3.9

Sources: UNCTAD secretariat on the basis of data supplied by Fearnleys (Oslo), *Review*, various issues; and Lloyd's Maritime Information Services (London).

Table 11
Tonnage reported sold for breaking by types of vessel, 1995-1999
(thousands of dwt and percentage shares)

Types of vessel	Thousand dwt					Percentages				
	1995	1996	1997	1998	1999	1995	1996	1997	1998	1999
Tankers	10 877	6 550	3 578	7 426	16 654	71.0	36.1	24.2	29.4	54.2
Combined carriers	1 228	1 861	423	1 435	1 130	8.0	10.3	2.9	5.7	3.7
Dry bulk carriers	2 135	7 632	8 161	12 847	9 687	13.9	42.1	55.1	50.9	31.5
Others	1 081	2 092	2 646	3 533	3 253	7.1	11.5	17.9	14.0	10.6
Total	15 321	18 135	14 808	25 241	30 724	100.0	100.0	100.0	100.0	100.0

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

Table 12
Average age of broken-up ships by type from 1991 to 1999 [a]
(years)

Year	Tankers	Dry bulk carriers	Container ships	General cargo ships
1991	25.3	22.0	19.0	24.8
1992	25.8	22.9	19.1	25.7
1993	24.7	24.0	22.9	26.4
1994	24.6	24.1	24.0	27.1
1995	26.1	24.5	24.0	25.8
1996	26.0	24.3	26.2	27.8
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

Source: UNCTAD secretariat on the basis of data supplied by Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics*, *2000*, Nos. 1-2.

[a] Ships of 300 grt and over.

B. OWNERSHIP OF THE WORLD FLEET

Distribution of world tonnage by country groups

42. The total world fleet continued to expand in 1999 by 1.3 per cent to 799 million dwt (see table 13 and graph 5). Tonnage of developed market-economy countries increased marginally by 0.6 million dwt to 203.2 million dwt. Major open-registry countries in 1999 expanded their tonnage substantially by 7.9 million dwt or 2.1 per cent to a record high of 384.7 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 1999 increased substantially by 2.8 million dwt or1.9 per cent to 153.6 million dwt. This increase resulted from the investments made by shipowners in Asian developing countries, whose fleets expanded by 3.7 million dwt or 3.4 per cent to 112.2 million dwt, accounting for 73 per cent of the developing countries' total fleet. The fleets for other groups of developing countries were marginally reduced in 1999. The fleet of developing countries of America decreased by 0.6 million dwt to 33.9 million dwt, while that of African developing countries also decreased, by 0.2 million dwt to 6.1 million dwt. The shares of the socialist countries of Asia and the countries of Central and Eastern Europe in total world tonnage also continued to decrease in 1999 to 3.2 per cent and 2.3 per cent respectively.

Table 13

Distribution of world tonnage (dwt) by groups of countries of registration, 1980, 1990, 1998 and 1999 [a]

(end-of-year figures)

Flags of registration by groups of countries	**Tonnage and percentage shares** [b] ***in millions of dwt***			
	1980 [c]	**1990**	**1998**	**1999**
World total	682.8	658.4	788.7	799.0
	100.0	*100.0*	*100.0*	*100.0*
Developed market-economy countries	350.1	219.0	202.6	203.2
	51.3	*33.3*	*25.7*	*25.4*
Major open-registry countries	212.6	224.6	376.8	384.7
	31.1	*34.1*	*47.8*	*48.1*
Countries of Central and Eastern Europe (including the former USSR)	37.8	44.3	20.7	18.3
	5.5	*6.7*	*2.6*	*2.3*
Socialist countries of Asia	10.9	22.1	26.0	25.8
	1.6	*3.4*	*3.3*	*3.2*
Developing countries	68.4	139.7	150.8	153.6
	10.0	*21.2*	*19.1*	*19.2*
***of which* in:**				
Africa	7.2	7.3	6.3	6.1
America	21.8	25.5	34.5	33.9
Asia	39.1	89.5	108.5	112.2
Europe	0.2	13.8	1.3	1.2
Oceania	0.1	3.6	0.2	0.2
Other, unallocated	3.0	8.7	11.8	13.4
	0.4	*1.3*	*1.5*	*1.7*

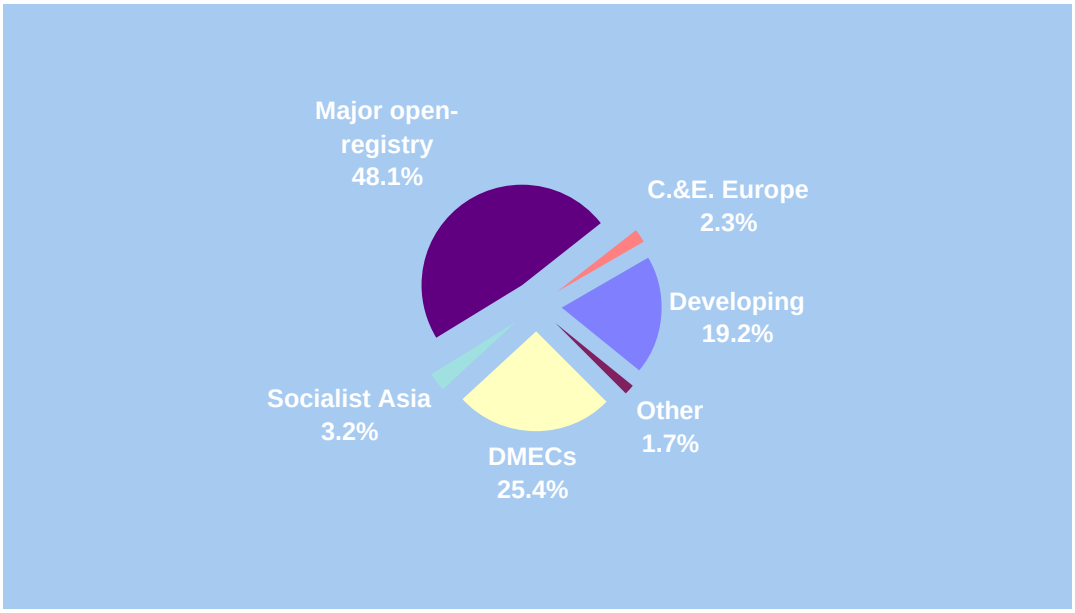
Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

[a] Excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets, which in 1999 amounted respectively to 3.7, 1.9 and 1.9 million dwt.

[b] Percentage shares are shown in italics.

[c] Mid-year figure.

Graph 5
World tonnage by country groups, 1999
(percentage distribution of dwt)



Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London)

Distribution of world tonnage by types of vessel

43. Table 14 provides more detailed data on fleet distribution by types of vessel and country groups for 1980, 1998 and 1999. In the oil tanker sector, the share of developed market-economy countries stopped its continuous decrease, but increased only marginally to 30.5 per cent in 1999 from 29.8 per cent in 1998. Conversely, the open-registry countries' share decreased slightly to 50.2 per cent, as compared to 51.2 per cent in the previous year. These very small fluctuations in both country groups still reflect the continuous trend, specifically for owners in developed market-economy countries, to prefer to register tanker tonnage under open registry. Developing countries continued in 1999 to increase their share from 15.9 per cent to 16.2 per cent; this represented in particular the continuously increasing share of Asian developing countries, which expanded in 1999 to 12.9 per cent of the world tanker fleet.

44. In the dry bulk carrier sector, the tonnage share of developed market-economy countries in the world total continued to decrease to 17.0 per cent in 1999, which stood at one third of the share in 1980 (52.7 per cent). Major open-registry countries continuously expanded their share, amounting to 54.9 per cent in 1999, as compared to 53.5 per cent in 1998. The developing countries' share remained flat in 1999 at 20.1 per cent, while the share of developing countries of Asia in 1999 was also at virtually the same level (15.7 per cent) as in the previous year (15.6 per cent). Dry bulk carriers represent the most important fleet of developing countries with a share of nearly 36 per cent in 1999 (37 per cent in 1998) of the total tonnage owned and registered in this group (see annex IIIb). The fleet developments, in the sector of general cargo ships, of the three major country groups, including developing Asia, were very similar to that of the dry bulk carrier sector. Nevertheless, the developing countries' share in the general cargo ship sector, represents 26.5 per cent, which is the highest in this country group's share in the five principal types of vessel.

45. The world containership fleet remained at 8 per cent of the world total deadweight tons in 1999. Developed market-economy countries decreased their share of containership deadweight tonnage to 34.6 per cent in 1999. On the other hand, the major open-registry countries' share continued to expand, reaching 39.8 per cent in that year, approximately two-thirds of which represented containerships beneficially owned by owners in developed market-economy countries. The share of developing countries increased very slightly to 18.8 per cent, of which 13.6 per cent was shared by Asian developing countries.

Table 14

Percentage shares of world tonnage by types of vessel and country groups, in 1980 (as at 1 July), 1998 and 1999 (as at 31 December) [a]

Country group	Year	Total dwt		Oil tankers	Bulk carriers [b]	General cargo ships	Container ships	Other ships
		Million dwt	Percentage of world total	Percentage share by vessel type				
World total	1980	682.8	100.0	49.7	27.2	17.0	1.6	4.5
	1998	788.7	100.0	35.6	34.9	13.1	7.8	8.6
	1999	799.0	100.0	35.5	34.5	13.0	8.0	9.0
				Percentage share by group of countries				
Developed market-economy countries	1980	350.1	51.3	52.5	52.7	43.4	74.3	50.4
	1998	202.6	25.4	29.8	18.1	19.6	37.1	38.7
	1999	203.2	25.4	30.5	17.0	19.2	34.6	38.6
Major open-registry countries	1980	212.5	31.1	36.2	31.7	20.8	13.5	17.0
	1998	376.8	47.2	51.2	53.5	37.0	38.6	35.1
	1999	384.7	48.1	50.2	54.9	37.7	39.8	36.6
Countries of Central and Eastern Europe	1980	37.8	5.5	2.8	4.2	12.3	2.9	19.2
	1998	20.7	2.6	1.2	2.2	7.3	0.7	4.8
	1999	18.3	2.3	1.0	1.8	6.7	0.7	4.4
Socialist countries of Asia	1980	10.9	1.6	0.6	1.6	4.7	0.1	1.3
	1998	25.9	3.2	1.2	4.2	7.6	2.7	2.1
	1999	25.8	3.2	1.3	4.1	7.5	2.6	2.0
Developing countries	1980	68.4	10.0	7.7	9.2	17.6	7.6	12.0
	1998	150.8	18.9	15.9	20.1	26.7	17.3	18.5
	1999	153.6	19.2	16.2	20.1	26.5	18.8	17.5
of which in:								
Africa	1980	7.1	1.0	1.1	0.1	2.3	..	2.1
	1998	6.3	0.8	0.6	0.5	1.6	0.3	1.8
	1999	6.0	0.8	0.6	0.5	1.6	0.3	1.7
America	1980	21.8	3.2	2.3	3.3	5.6	0.1	3.7
	1998	34.5	4.3	3.1	3.7	9.5	3.8	5.3
	1999	33.9	4.2	2.7	3.5	9.5	4.7	4.8
Asia	1980	39.1	5.7	4.3	5.7	9.8	2.7	5.7
	1998	108.5	13.6	12.1	15.6	15.3	13.0	11.2
	1999	112.2	14.0	12.9	15.7	15.2	13.6	10.9
Europe	1980	0.2	-	-	-	0.1	-	-
	1998	1.3	0.2	-	0.3	0.2	0.2	0.1
	1999	1.2	0.2	-	0.3	0.2	0.2	-
Oceania	1980	0.2	-	-	-	0.1	-	-
	1998	0.2	-	-	..	0.1	..	0.1
	1999	0.2	-	-	..	0.1	..	0.1
Other, unallocated	1980	3.0	0.4	0.2	0.6	0.9	1.6	0.1
	1998	11.8	1.5	0.7	1.9	1.8	3.7	0.8
	1999	13.4	1.7	0.8	2.1	2.4	3.5	0.9

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

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

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

The structure of the fleet of main country groups

46. Table 15 provides data on the structure of the merchant fleet of the main country groups as at 1 January 2000. Developed market-economy countries' tonnage in tankers increased in 1999 by 3.1 million dwt to 42.6 per cent of the group's total fleet from 41.2 per cent in the previous year. Their dry bulk carriers decreased by 2.9 million dwt to 23.1 per cent from 24.6 per cent in 1998. Their general cargo ships and containerships shrank slightly to 9.8 per cent and 10.8 per cent respectively as compared to 10.0 per cent and 11.2 per cent in 1998. Major open-registry countries increased their total fleets substantially by 7.8 million dwt. A greater proportion of their fleets was in the oil tanker and dry bulk carrier sectors, with both ship types accounting for 76.4 per cent of their fleet in 1999. Their oil tankers decreased in 1999 by 1.3 million dwt to 37.0 per cent of the group's total fleet from 38.1 per cent in 1998 whilst the dry bulk carriers increased in 1999 by 4.2 million dwt to 39.4 per cent as compared to 39.1 per cent in the previous year. Their general cargo ships increased in 1999 by 0.8 million dwt, accounting for 10.2 per cent of the group's total fleet, which remained unchanged from their 1998 proportion. Their containership fleet expanded in 1999 by 1.7 million dwt to 6.6 per cent of their total fleet from 6.3 per cent in 1998.

47. In developing countries, tonnage distribution is characterized by a comparatively high proportion of dry bulk carriers and oil tankers, representing 36.1 per cent and 29.9 per cent respectively in 1999. In absolute terms, their 1999 tonnage in dry bulk carriers and oil tankers stood at 55.5 million dwt and 46.0 million dwt as compared to 47.0 million dwt and 86.6 million dwt for developed market-economy countries. The share of general cargoships in this group remained stable in 1999 at 27.5 million dwt compared to 27.6 million dwt in 1998, while containerships increased significantly by 1.4 million dwt to 7.8 per cent in 1999 from 7.0 per cent in the previous year. In the countries of Central and Eastern Europe, general cargo ships are relatively dominant, accounting for 37.7 per cent in 1999, as compared to 36.1 per cent in 1998. On the other hand, containerships 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 decreased in 1999 to 11.3 million dwt (from 11.7 million dwt in 1998) or 43.8 per cent (45.0 per cent in 1998) for dry bulk carriers, and 7.8 million dwt (7.9 million dwt in 1998) or 30.2 per cent (30.4 per cent in 1998) for general cargo ships. Conversely, the absolute tonnage of containerships increased by 0.1 million dwt in 1999 to 1.7 million dwt or 6.6 per cent (6.2 per cent in 1998).

C. REGISTRY OF VESSELS

The 35 most important maritime countries and territories

48. The ranking in terms of deadweight for the 35 most important maritime countries and territories is provided in table 16. In 1999, these 35 countries and territories controlled 94.2 per cent of the world merchant fleet (94.0 per cent in 1998). Finland, which was listed 31st and the United Arab Emirates 35th in 1998, were replaced by Monaco and Thailand in 1999. With a total tonnage of 3.0 million dwt and 2.8 million dwt, each represented 0.4 per cent of the world total fleet. The five largest countries controlled 50.7 per cent (50.0 per cent in 1998) and the top 10 countries controlled 67.7 per cent (67.3 per cent in 1998) of the world total fleet.

49. It is notable that among these countries and territories the trend to register under a foreign flag continued in 1999. The total tonnage registered under foreign flags in 1999 increased to 431.2 million dwt representing 62.5 per cent of the 35 countries' total fleet, as compared with 421.2 million dwt or 61.8 per cent in 1998. It is a recent trend that developing countries and territories have continued to register their tonnage under foreign flags. In 1999, the 11 developing countries and territories listed in the table (including Hong Kong (China), but excluding Taiwan Province of China) had more than half their total tonnage registered under foreign flags representing 52.9 per cent (52.2 per cent in 1998). In spite of the continuous trend for flagging out by developing countries, there are significant differences among these countries. The foreign registry of Saudi Arabia and Hong Kong (China) amounted to 91.8 per cent and 79.2 per cent respectively, while the Islamic Republic of Iran, the Philippines and Kuwait made significantly less use of the benefits of foreign flag facilities, which represented 1.3, 10.5 and 9.4 per cent respectively of their fleets. For developed market-economy countries, the share of foreign-registred tonnage slightly increased to 67.5 per cent in 1999 from 67.2 per cent in 1998.

Table 15

Structure of the marchant fleets of the main country groups, as at 1 January 2000 [a]
(millions of dwt and percentage shares)

	World		Developed market-economy countries		Major open-registry countries		Developing countries		Countries of Central and Eastern Europe		Socialist countries of Asia	
	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%
Total fleet	799.0	100.1	203.2	99.9	384.7	100.0	153.6	99.9	18.3	100.0	25.8	100.0
Oil tankers	283.6	35.5	86.6	42.6	142.4	37.0	46.0	29.9	2.9	15.8	3.6	14.0
Bulk carriers	276.1	34.6	47.0	23.1	151.6	39.4	55.5	36.1	4.9	26.8	11.3	43.8
General cargo	103.8	13.0	20.0	9.8	39.1	10.2	27.5	17.9	6.9	37.7	7.8	30.2
Container ships	63.7	8.0	22.0	10.8	25.3	6.6	12.0	7.8	0.4	2.2	1.7	6.6
Other ships	71.8	9.0	27.6	13.6	26.3	6.8	12.6	8.2	3.2	17.5	1.4	5.4

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

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

Table 16

The 35 most important maritime countries and territories, as at 1 January 2000 [a]

Country or territory of domicile [b]	Number of vessels			Deadweight tonnage				
	National flag [c]	Foreign flag	Total	National flag	Foreign flag	Total	Foreign flag as percentage of total	Total as percentage of world total
Greece	752	2 495	3 247	40 677 401	92 704 187	133 381 588	69.50	18.21
Japan	809	2 093	2 902	17 397 386	76 076 404	93 473 790	81.39	12.76
Norway	905	737	1 642	28 727 816	27 202 931	55 930 747	48.64	7.64
United States	502	926	1 428	12 009 757	36 857 906	48 867 663	75.42	6.67
China	1 621	551	2 172	22 316 216	17 179 402	39 495 618	43.50	5.39
Hong Kong (China)	132	424	556	6 573 740	24 965 979	31 539 719	79.16	4.31
Germany	498	1 445	1 943	7 500 404	21 813 852	29 314 256	74.41	4.00
Republic of Korea	455	441	896	7 199 786	18 033 248	25 233 034	71.47	3.44
Taiwan Province of China	163	346	509	7 603 196	12 088 206	19 691 402	61.39	2.69
United Kingdom	405	454	859	7 168 426	11 858 280	19 026 706	62.32	2.60
Singapore	459	277	736	11 569 710	7 190 637	18 760 347	38.33	2.56
Denmark	418	297	715	7 192 069	8 904 651	16 096 720	55.32	2.20
Russian Federation	2 142	348	2 490	8 539 161	7 455 812	15 994 973	46.61	2.18
Sweden	174	222	396	1 552 409	13 638 886	15 191 295	89.78	2.07
Italy	489	142	631	8 752 856	4 819 852	13 572 708	35.51	1.85
India	372	59	431	10 797 389	1 277 592	12 074 981	10.58	1.65
Saudi Arabia	52	71	123	902 652	10 124 808	11 027 460	91.81	1.51
Turkey	465	82	547	8 793 721	843 505	9 637 226	8.75	1.32
Brazil	168	23	191	6 087 542	2 802 672	8 890 214	31.53	1.21
Belgium	24	143	167	114 514	7 505 297	7 619 811	98.50	1.04
Malaysia	242	54	296	5 366 937	1 059 726	6 426 663	16.49	0.88
Iran, Islamic Rep. of	152	2	154	6 031 318	82 087	6 113 405	1.34	0.83
Switzerland	13	203	216	720 545	5 383 154	6 103 699	88.19	0.83
Netherlands	548	202	750	3 393 197	2 688 357	6 081 554	44.21	0.83
France	177	103	280	2 554 922	2 894 052	5 448 974	53.11	0.74
Philippines	339	20	359	4 354 359	509 739	4 864 098	10.48	0.66
Indonesia	489	108	597	3 176 111	1 297 135	4 473 246	29.00	0.61
Kuwait	33	6	39	3 433 393	356 216	3 789 609	9.40	0.52
Spain	106	217	323	299 914	3 453 705	3 753 619	92.01	0.51
Australia	58	28	86	2 065 838	1 104 147	3 169 985	34.83	0.43
Ukraine	393	100	493	1 473 874	1 677 408	3 151 282	53.23	0.43
Canada	163	66	229	770 619	2 350 462	3 121 081	75.31	0.43
Monaco	-	122	122	-	3 045 840	3 045 840	100.00	0.42
Thailand	227	51	278	2 270 436	569 787	2 840 223	20.06	0.39
Romania	129	35	164	1 273 537	1 423 366	2 696 903	52.78	0.37
Total (35 countries)	14 074	12 893	26 967	258 661 151	431 239 288	689 900 439	62.51	94.18
Percentage	52.2	47.8	100.0	37.5	62.5	100.0		
World total	16 359	13 985	30 344	281 458 796	451 076 290	732 535 086		
Percentage	53.9	46.1	100.0	38.4	61.6	100.0		

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

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

[b] The country of domicile indicates where the controlling interest of the fleet is located, in terms of the parent company. In several cases, this has required certain judgements to be made. Thus, for instance, Greece is shown as the country of domicile with respect to 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] Including 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).

Major open registries

50. The share of the world merchant fleet in foreign registers continued to expand but to a lesser extent in 1999 than in the previous year. Tonnage distribution of the seven major open-registry countries by principal types of vessel is shown in table 17. The total tonnage registered in 1999 increased moderately by 2.2 per cent to 362.1 million dwt from 354.1 million dwt in the previous year, which had expanded significantly by 7.7 per cent. Panama continued to lead the list, enlarging its fleet in 1999 by 4.2 million dwt or 3.0 per cent. Liberia had the second largest increase with its fleet growing marginally by 1.7 per cent. The combined tonnage of these two countries amounts to one third of the total tonnage of the seven major open-registry countries. In 1999, Malta increased its fleet substantially by 7.0 per cent to 40.3 million dwt while Cyprus and the Bahamas reduced their tonnage by 2.3 per cent and 0.4 per cent to 32.7 million dwt and 39.8 million dwt respectively. The analysis by type of vessel indicated that dry bulk stood at 39.4 per cent of the total deadweight in 1999 as compared with 39.2 per cent in 1998, followed by oil tankers, which cut back their share to 37.6 per cent in 1999 from 38.6 per cent in the previous year. Combined tonnage of these two types of vessels accounts for 77.0 per cent of the total deadweight. General cargo ships (3,333 ships) accounted for 33.5 per cent of the total number of ships, reflecting the trend of the maritime industry to flag out in this sector, followed by dry bulk carriers of 2,678 ships or 26.9 per cent of the total.

Nationality of vessels

51. Table 18 indicates the participation of nationals in the registry of the most important open or international registers. The data compare the total tonnage registered in selected countries of registry with the tonnage owned by the 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 of nationals of the two international registries was nearly 85 and 100 per cent. These two countries (Norway and Denmark) were ranked third and twelfth of the 35 most important maritime countries in 1999.

52. The true nationality of the vessels registered in the seven major open-registries is analysed in table 19. In 1999, total tonnage of the 22 countries or territories accounted for 92.1 per cent of the total seven major open-registry fleets, which was the same level as in 1998. However, Croatia, which had been listed as twenty-first in 1998, disappeared from the list, and was replaced by Monaco. Ownership is concentrated in the 10 largest countries or territories, which control 78.1 per cent of the deadweight of vessels registered in the seven major open-registry countries, as compared with 78.2 per cent in the previous year. Similarly, the top five countries or territories control 60.6 per cent (59.9 per cent in 1998). Greece was ranked first in 1999 for the sixth consecutive year with the largest share (22.5 per cent) of the total seven major open-registry fleets. In 1999, this country also had the largest foreign-flag ownership, representing 88.17 million dwt or 19.4 per cent of the total world foreign-flag tonnage, followed by Japan with 76.72 million dwt or 16.9 per cent of the total tonnage. Both countries' combined foreign-flag tonnage accounted for one-third of the total world tonnage under foreign flags.

Table 17

Tonnage distribution of major open-registry fleets, [a] as at 1 January 2000

Country	Oil tankers		Dry bulk carriers		General cargo		Container ships		Others		1999 total		1998 total	
	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt
Panama	415	39 623	1 273	71 097	1 413	12 914	457	13 371	795	9 388	4 353	146 393	4 206	142 179
Liberia	389	46 549	411	27 145	281	4 853	198	5 494	354	8 947	1 633	92 988	1 590	91 466
Cyprus	128	6 287	419	17 348	578	5 546	107	2 365	93	1 151	1 325	32 697	1 347	33 456
Bahamas	153	21 303	149	8 175	485	6 786	50	1 105	258	2 472	1 095	39 841	1 076	39 982
Malta	297	18 551	375	14 945	514	5 011	42	718	85	1 118	1 313	40 343	1 194	37 717
Bermuda	24	3 967	22	2 628	21	232	17	478	27	555	111	7 860	112	7 571
Vanuatu	1	5	29	1 236	41	373	1	28	56	296	128	1 938	122	1 755
Total	1 407	136 285	2 678	142 574	3 333	35 715	872	23 559	1 668	23 927	9 958	362 060	9 647	354 126

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

[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 the nationals of, and registered in, the country or territory of registry in the total fleet of the most important open and international registers, as at 1 January 2000 [a]

(thousands of dwt)

Country or territory of registry	Total tonnage registered in the country of registry	Tonnage owned by nationals of, and registered in, the country of registry	Share of tonnage owned by nationals in the total registered fleet (%)
Panama	146 393	0	0.0
Liberia	92 988	0	0.0
Cyprus	32 697	683	2.1
Bahamas	39 841	288	0.7
Norwegian International Ship Registry	29 301	24 765	84.5
Malta	40 343	36	0.1
Danish International Ship Registry	6 561	6 465	98.5
Bermuda	7 860	0	0.0
Vanuatu	1 938	0	0.0

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

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 at 1 January 2000

Flag country / Country or territory of domicile	Liberia			Panama			Cyprus			Bahamas			Bermuda			Malta			Vanuatu			Subtotal			Total foreign-flag fleet	
	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels	%	Thousand dwt	No. of vessels
Greece	11 519	166	12.4	16 623	522	11.4	23 639	713	72.3	7 608	179	19.1	-	-	-	22 074	563	54.7	107	2	5.5	81 570	2 145	22.5	88 173	2 409
Japan	5 689	145	6.1	58 771	1 644	40.1	307	23	0.9	720	32	1.8	-	-	-	150	1	0.4	582	26	30.0	66 219	1 871	18.3	76 717	2 132
United States	13 021	199	14.0	2 784	147	1.9	134	11	0.4	7 931	154	19.9	843	19	10.7	637	14	1.6	317	43	16.4	25 667	587	7.1	37 980	903
Hong Kong (China)	5 173	85	5.6	15 305	237	10.5	96	1	0.3	473	9	1.2	428	3	5.4	317	13	0.8	178	4	9.2	21 970	352	6.1	26 617	463
Norway	9 691	183	10.4	1 534	88	1.0	362	29	1.1	7 840	204	19.7	206	5	2.6	4 286	79	10.6	-	-	-	23 919	588	6.6	29 525	778
United Kingdom	2 199	48	2.4	566	60	0.4	193	14	0.6	1 768	120	4.4	4 346	44	55.3	611	9	1.5	-	-	-	9 683	295	2.7	13 490	464
China	4 187	83	4.5	8 756	252	6.0	267	18	0.8	-	-	-	-	-	-	469	13	1.2	-	-	-	13 679	366	3.8	17 536	536
Republic of Korea	1 513	16	1.6	16 221	357	11.1	52	3	0.2	-	-	-	-	-	-	124	8	0.3	-	-	-	17 910	384	4.9	18 383	440
Sweden	4 364	29	4.7	987	9	0.7	24	6	0.1	2 307	34	5.8	948	6	12.1	-	-	-	-	-	-	8 630	84	2.4	13 963	224
Germany	8 493	310	9.1	587	26	0.4	3 455	230	10.6	67	8	0.2	77	2	1.0	896	41	2.2	-	-	-	13 575	617	3.7	19 784	1 335
Saudi Arabia	7 536	25	8.1	166	16	0.1	-	-	-	2 080	8	5.2	25	2	0.3	-	-	-	-	-	-	9 807	51	2.7	10 264	69
Taiwan Province of China	904	20	1.0	9 142	283	6.2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	10 046	303	2.8	11 989	350
Singapore	2 815	32	3.0	1 605	87	1.1	30	1	0.1	628	12	1.6	-	-	-	45	2	0.1	-	-	-	5 123	134	1.4	7 703	292
Denmark	426	15	0.5	217	13	0.1	-	-	-	500	48	1.3	-	-	-	-	-	-	84	1	4.3	1 227	77	0.3	8 170	290
Russian Federation	4 252	63	4.6	125	14	0.1	1 486	85	4.5	210	11	0.5	-	-	-	1 026	93	2.5	-	-	-	7 099	266	2.0	7 314	323
Switzerland	780	14	0.8	2 120	84	1.4	60	6	0.2	623	9	1.6	-	-	-	1 428	65	3.5	-	-	-	5 011	178	1.4	5 717	218
Italy	451	5	0.5	255	10	0.2	54	1	0.2	891	21	2.2	-	-	-	1 786	55	4.4	-	-	-	3 437	92	0.9	4 829	145
Belgium	1 551	9	1.7	665	5	0.5	113	3	0.3	174	17	0.4	-	-	-	23	1	0.1	-	-	-	2 526	35	0.7	7 792	142
France	-	-	-	1 004	19	0.7	-	-	-	377	19	0.9	-	-	-	-	-	-	-	-	-	1 381	38	0.4	3 456	107
Spain	95	1	0.1	361	52	0.2	139	8	0.4	825	8	2.1	-	-	-	-	-	-	-	-	-	1 420	69	0.4	3 363	195
Monaco	-	-	-	433	16	0.3	-	-	-	521	30	1.3	-	-	-	729	28	1.8	-	-	-	1 683	74	0.5	2 931	118
Finland	-	-	-	-	-	-	-	-	-	1 578	25	4.0	-	-	-	87	1	0.2	-	-	-	1 665	26	0.5	1 821	46
Subtotal	84 659	1 448	91.1	138 227	3 941	94.4	30 411	1 152	93.0	37 121	948	93.2	6 873	81	87.4	34 688	986	85.9	1 268	76	65.4	333 247	8 632	92.1	417 517	9,572
Others	8 329	185	8.9	8 166	412	5.6	2 286	173	7.0	2 720	147	6.8	987	30	12.6	5 655	327	14.1	670	52	34.6	28 813	1 326	7.9	37 034	4 316
Total	92 988	1 633	100.0	146 393	4 353	100.0	32 697	1 325	100.0	39 841	1 095	100.0	7 860	111	100.0	40 343	1 313	100.0	1 938	128	100.0	362 060	9 958	100.0	454 551	13 888

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

D. SHIPBUILDING AND THE SECOND-HAND MARKET

Newbuilding orders

53. In 1999, newbuilding contracts for six major ship types, aggregating 49.6 million dwt, were placed, increasing by 16.9 per cent in comparison with the contracts in 1998 (see table 20). In the tanker sector, deteriorating world trade in crude oil in 1999 further pressured the freight level in overall tanker markets, particularly in the middle-larger crude oil tankers. Owners and speculators who expected uncertain near-future tanker markets were reluctant to place new orders for tanker tonnage, although newbuilding prices were at a significantly low level. Eventually, 206 units aggregating 16.8 million dwt were ordered in 1999, as compared with 280 units totalling 21.9 million dwt in 1998. The 1999 newbuilding orders for dry bulk carriers more than doubled the record of the previous year to 346 units of 23.9 million dwt, concentrating on the last quarter of the year. This reflects the fact that in 1999 the dry bulk supply and demand balance improved, in particular as the growth in demand was remarkably higher during the second half of 1999 than in the first six months.

54. Newbuilding orders for containerships continued to rise substantially by 20 per cent to 170 units totalling 7.2 million dwt in 1999 as compared to 178 units of 6.0 million dwt. These newbuilding tonnages reflect the recent trend for the enlargement of ships such as post-Panamax containerships, which represented an average tonnage of 42,000 dwt in 1999 in comparison with 34,000 dwt in 1998. The newbuilding orders for general cargo ships declined signficiantly in 1999 to 162 units of 1.3 million dwt from 333 units totalling 2.5 million dwt in 1998. On the other hand, the orders for passenger ferries were flat as regards the number of vessels, but increased substantially to a total of 348,000 dwt in 1999 from 231,000 dwt in the previous year, also reflecting the existence of larger vessels in 1999 (average 3,000 dwt) than in 1998 (average of 2,000 dwt).

Tonnage on order

55. World tonnage on order, by groups of countries of registry and by principal types of vessel are shown in table 21. World tonnage on order at the end of 1999 stood at 83.5 million dwt, representing a marginal increase of 1.6 per cent over the previous year. Tonnage on order by developed market-economy countries amounted to 26.6 million dwt, accounting for 31.8 per cent of the world total tonnage on order, as compared with 25.5 million dwt or 31.0 per cent in 1998. Major open-registry countries had 41.4 million dwt or 49.5 per cent of world tonnage on order, as compared with 45.4 million dwt or 55.2 per cent in 1998. The share of the countries of Central and Eastern Europe continued to decrease in 1999, to 0.7 million dwt or 0.9 per cent of the world total on order, whilst the share of the socialist countries of Asia increased in 1999, ending the year with 2.1 million dwt or 2.5 per cent of the world total on order compared with 1.4 million dwt or 1.7 per cent in 1998.

56. Developing countries' tonnage increased significantly to 10.5 million dwt or 12.6 per cent of the world total tonnage on order at the end of 1999, as compared with 8.0 million dwt or 9.8 per cent in 1998. Tonnage on order by Asian developing countries increased substantially by 2.7 million dwt to 9.4 million dwt at the end of 1999, which accounted for 89.3 per cent of the developing countries' total tonnage on order. There was some growth in the African newbuilding orders, rising to 0.15 per cent of the world total on order at the end of 1999, as compared with only 0.01 per cent in 1998, while American developing countries reduced their share to 1.13 per cent of the world total on order in 1999 from 1.60 per cent in the previous year.

57. In 1999, dry bulk carriers on order at the end of the year increased substantially by 23.9 per cent to 24.5 million dwt accounting for 29.4 per cent of the world total on order. For this type of vessel, developed market-economy countries and major open-registry countries accounted for 19.4 per cent and 64.8 per cent, representing a combined share of more than 80 per cent. The volume of containerships on order also expanded in 1999 by 33.3 per cent to 10 million dwt at the year end, representing 11.9 per cent of the world total on order. For containerships on order, developed market-economy countries and major open-registry countries accounted for 40 per cent each. Developing countries' containership orders increased from 0.3 million dwt in 1998 to 1.0 million dwt in 1999, which accounted for 10 per cent of the total. Asian developing countries had 0.9 million dwt or 87.5 per cent of the developing countries' total on order. Oil tanker orders declined in 1999 by 10.4 per cent to 37.0 million dwt, accounting for 44.2 per cent of the world total on order. Developing countries had 6.9 million dwt on order, representing 18.7 per cent of the total, of which Asian developing countries increased by 53.0 per cent to 6.5 million dwt or 94.4 per cent of the developing countries' total.

Table 20

Newbuilding contracts placed for the main types of ship [a] during 1995-1999 and 2000 *(number of ships, thousands of dwt)*

Year	Tankers		Bulk carriers		Combined carriers		General cargo ships		Container vessels		Passenger ferries		Total [b]	
	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt
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
January 1999	18	965	7	268	-	-	11	133	5	68	8	22	49	1 456
February 1999	12	915	22	909	-	-	19	187	3	81	15	43	71	2 135
March 1999	9	168	4	205	-	-	14	138	10	501	7	26	44	1 038
April 1999	17	1 015	24	2 064	-	-	11	56	14	480	10	11	76	3 626
May 1999	22	2 199	22	1 370	-	-	15	114	1	5	13	30	73	3 718
June 1999	19	1 521	28	1 980	-	-	14	136	8	531	10	73	79	4 241
July 1999	14	1 159	47	3 318	-	-	14	93	27	1 141	11	30	113	5 741
August 1999	16	2 029	28	1 504	-	-	6	62	27	1 232	6	26	83	4 853
September 1999	20	1 515	47	3 058	-	-	1	39	12	597	4	12	84	5 221
October 1999	23	1 815	37	3 054	-	-	28	113	9	156	16	24	113	5 162
November 1999	24	2 223	40	2 955	-	-	13	40	24	1 349	8	34	109	6 601
December 1999	12	1 298	40	3 249	-	-	16	212	30	1 042	8	17	106	5 818
Total 1999	206	16 822	346	23 934	-	-	162	1 323	170	7 183	116	348	1 000	49 610
January 2000	17	1 337	37	2 095	-	-	16	84	18	904	20	20	108	4 440
February 2000	12	786	39	3 138	-	-	17	130	37	2 095	7	18	112	6 167
March 2000	33	2 366	29	1 110	-	-	10	64	19	930	6	7	97	4 477

Source: UNCTAD secretariat on the basis of data from *Shipping Statistics and Market Review, 1999*, Institute of Shipping Economics and Logistics (Bremen), Nos. 1/2.

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 at 1 January 2000
(thousands of dwt)

Countries of registry	All ships	Oil tankers	Dry bulk carriers	General cargo	Container ships	Other ships
World total	83 544	36 962	24 540	4 589	9 965	7 488
Developed market-economy countries	26 596	12 601	4 766	2 301	3 989	2 939
Major open-registry countries	41 393	16 468	15 914	1 170	4 068	3 773
Countries of Central and Eastern Europe	744	351	63	194	-	136
Socialist countries of Asia	2 056	368	762	264	634	28
Developing countries, total	10 543	6 896	1 608	570	1 000	469
of which in: Africa	122	3	75	-	40	4
America	946	380	272	177	85	32
Asia	9 414	6 512	1 261	333	875	433
Europe [a]	60	-	-	60	-	-
Oceania	1	-	-	1	-	-
Unallocated	2 212	280	1 427	90	273	142

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).
[a] Not reported.

Prices of newbuildings and second-hand tonnage

58. Table 22 indicates newbuilding prices for the main types of vessel. In 1999, prices for all the main types and sizes of newbuildings continued to decline significantly below those of the previous year, although total newbuilding contracts in 1999 expanded by nearly 10 million dwt from the level of the previous year. The downward pressure on prices in 1999 continue to be mainly due to the increasing competitiveness of Asian shipyards. The Republic of Korea and Japan have been dominating the world shipbuilding market, while China recently expanded its building capacity, securing a substantial increase in its order book in 1999. Korean shipyards have become the most competitive in the world, mainly due to the rapid enhancement of their productivity and technology coupled with the depreciation of the currency. Japanese shipyards have endeavoured to overcome unfavourable exchange rates, and strong dry bulk carrier demand in 1999 helped them to secure new orders. Nevertheless major shipyards in Japan have still been under pressure to become more competitive in the world shipbuilding market. Analysis by vessel type shows that oil tanker newbuilding prices for all sizes declined by 10 to 14 per cent in 1999 from their 1998 level. Newbuilding prices for all dry bulk carriers also fell significantly in 1999 by 8 to 21 per cent from the previous year's level, varying substantially in accordance with the size of the bulkers. However, the volume contracted in 1999 increased dramatically by nearly 90 per cent over the order book of the previous year. Prices of 2,500 TEU cellular containerships and 125,000 m^3 LNG vessels declined by 16.7 per cent and 14.9 per cent respectively in 1999. The downward trend of shipbuilding prices thus continued for all types and sizes of vessel.

59. About 120 oil tankers (over 10,000 dwt) changed hands in 1999, compared with approximately 90 ships in 1998. In 1999, quality modern tonnage offered for sale remained limited for most of the year. Prices for vintage double-hull Aframaxes built in the

Table 22

Representative newbuilding prices in 1980, 1985, 1990, 1997-1999 and 2000
(millions of dollars)

Type and size of vessel	1980	1985	1990	1997	1998	1999	Percentage change 1998/1999	2000				
								January	February	March	April	May
30 000 dwt bulk carrier	17	11	24	20	19	15	-21.1	16	16	16	15	15
32 000 dwt tanker	19	18	29	32	29	25	-13.8	25	26	26	26	28
70 000 dwt bulk carrier	24	14	32	28	23	19	-17.4	22	23	23	23	23
80 000 dwt tanker	28	22	42	42	37	32	-13.5	31	32	33	36	37
120 000 dwt bulk carrier	32	27	45	40	37	34	-8.1	35	35	35	38	38
250 000 dwt tanker	75	47	90	82	74	66	-10.8	65	66	66	69	72
125 000 m^3 LNG [a]	200	200	225	255	235	200	-14.9	200	200	180	180	180
75 000 m^3 LPG	77	44	78	67	68	58	-14.7	58	58	58	58	58
15 000 dwt general cargo ship	14	12	24	21	21	19	-9.5	19	19	19	19	19
2 500 TEUs full container ship	..	26	52	51	42	35	-16.7	35	35	35	35	35

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

a LNG, liquiefied natural gas; LPG, liquefied petroleum gas; TEU, twenty-foot equivalent unit.

early 1990s stayed firm at unchanged levels in 1999. Late 1980s-built Suezmax tonnage fell around 10 per cent from the 1998 level, whilst double-hull units built in the early to middle 1990s were subject to marginal price adjustments. In the case of dry bulk carriers, nearly 350 units between 20,000 and 250,000 dwt were sold in 1999. During the first half of that year, a relatively large number of 1980s-built dry bulkers of over 100,000 dwt were circulated in the market for sale. After August, most of these large units, mainly Capesize tonnages, were employed in charter markets, and thus fewer ships of this size were available in the sale and purchase market. Throughout the year, the price for dry bulk carriers increased by 15-20 per cent over its level in 1998, specifically for modern tonnages. Interest in buying Panamaxes accelerated in 1999 with about 100 ships sold, doubling the number of sales in 1998. Owing to a relatively firm chartering market in the last six months, the majority of the Panamaxes purchased were 1980s-built units. Thus, quality early 1990s-built tonnages changed hands at price levels more than 15 per cent higher than in 1998. In the segment of 20-50,000 dwt dry bulkers, more than 220 units were sold in 1999. Greek buyers again dominated the market for second-hand dry bulk tonnage. Most of them were interested in 1980s-built Handymaxes. They also contributed to an increase in prices, specifically for early-middle 1990s-built tonnages, which became nearly 20 per cent higher than in the previous year.

Table 23

Second-hand prices for five-year-old vessels, 1993-1999

(as at end of year, in millions of dollars)

Vessel	1993	1994	1995	1996	1997	1998	1999	Percentage change 1998/1999
30 000 dwt tanker	18.0	18.0	20.0	22.0	23.0	16.0	16.0	± 0
80 000 dwt tanker	32.0	31.0	30.0	31.0	33.0	..	-	-
130 000 dwt tanker	34.5	34.0	35.5	40.0	41.5	..	-	-
45 000 dwt dry bulk carrier	18.5	20.7	22.0	18.5	18.0	13.0	15.5	19.2
70 000 dwt dry bulk carrier	19.5	21.5	23.0	20.5	21.0	14.5	17.0	17.2
150 000 dwt dry bulk carrier	33.0	32.0	28.0	26.5	30.0	23.5	27.5	17.0

Source: UNCTAD secretariat on the basis of data supplied by Fearnleys (Oslo), *Review 1999*.

Chapter III

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

Estimate of tons and ton-miles per dwt

60. The main indicators of operational productivity for the world fleet are shown in table 24 and graph 6. Tons of cargo carried per deadweight ton (dwt) in 1999 maintained the same level as in the previous year at 6.42, which had been a new record high, whilst ton-miles performed per deadweight ton fell substantially to 26,884. This represents the lowest operational productivity below 27,000 since 1993, when it fell to 26,730, thus continuing a downward movement already observed in 1998. The deterioration in ton-miles per dwt was a reflection of the continuing changes in trade structures, particularly in the crude oil trades and some major dry bulk trades such as iron ore (see chapter I, International Seaborne Trade). In 1999, some positive developments such as the enlargement of consignment and vessel sizes, improved port conditions and only marginal growth (1.3 per cent) in vessel supply, were offset by decreasing growth in total demand (to 1.3 per cent from 2.2 per cent in 1998) resulting in stagnating volumes per dwt and lower operational productivity in terms of ton-miles.

Table 24

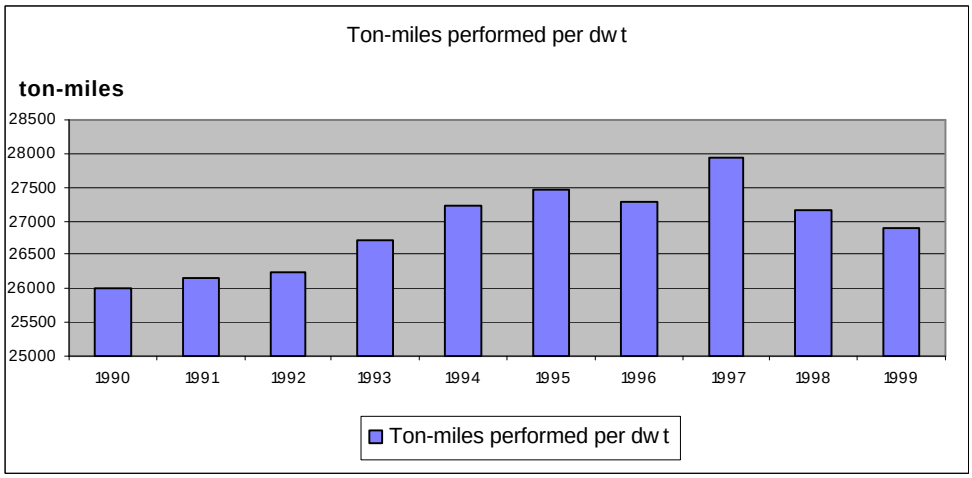
Cargo carried and ton-miles performed per deadweight ton (dwt) of the total world fleet, 1990-1999

Year	World fleet (millions of dwt)	Total cargo carried (millions of tons)	Total ton-miles performed (thousands of millions of ton-miles)	Tons of cargo carried per dwt	Ton-miles performed per dwt
1990	658.4	4 008	17 121	6.09	26 000
1991	683.5	4 120	17 873	6.03	26 150
1992	694.7	4 220	18 228	6.07	26 240
1993	710.6	4 330	18 994	6.09	26 730
1994	719.8	4 485	19 600	6.23	27 230
1995	734.9	4 651	20 188	6.33	27 470
1996	758.2	4 758	20 678	6.28	27 272
1997	775.9	4 953	21 672	6.38	27 931
1998	788.7	5 064	21 425	6.42	27 165
1999	799.0	5 129	21 480	6.42	26 884

Sources: World fleet: Lloyd's Maritime Information Services (London) (mid-year data for 1990, year-end data for 1991-1999); total cargo carried: UNCTAD secretariat; ton-miles: Fearnleys (Oslo), *Review*, various issues. Data compiled by the UNCTAD secretariat.

Graph 6

Index of ton-miles performed per deadweight ton of total world fleet, 1990-1999



Source: UNCTAD calculations.

61. Indicative data on ton-miles performed by oil tankers, dry bulk carriers, combined carriers and the residual fleet are provided in table 25. Ton-miles per deadweight ton of oil tankers continued to decrease in 1999 by 4.6 per cent as compared with 1998, while ton-miles per deadweight ton of dry bulk carriers, combined carriers and the residual fleet increased by 0.7, 3.6 and 1.4 per cent, respectively, over the previous year. The continuously deteriorating performance by oil tankers is attributable mainly to changing regional structures of crude oil trades, which have consequently resulted in less ton-mile performance on the part of the whole oil tanker sector. Imbalance between supply and demand is another factor. The total carrying capacity of oil tankers increased by 1.0 per cent in 1999 while the growth of crude oil and oil products decreased by 1.0 per cent. Dry bulkers' ton-miles per deadweight ton increased nearly 1.0 per cent in 1999, clearly contrasting the negative B8.3 per cent in the previous year and halting the downward trend prevailing since 1994. In 1999 total dry bulk cargo increased by 3.0 per cent as compared with its volume in 1998, while carrying capacity of dry bulkers remained flat with no particular increase. Nevertheless, performance is still considerably below the maximum of over 19,000 ton-miles/dwt observed in 1993/1994. Performance of combined carriers continued to increase as in previous years, reaching 46,500 ton-miles per dwt. The relevance of these data is, however, somewhat reduced by the decreasing size and importance of this type of tonnage that is mainly deployed in oil trades. Total ton-miles performed stand at only 10 per cent of the total for oil tankers.

62. Table 26 provides supplementary data on operational productivity in terms of cargo carried per deadweight ton. Cargo volumes in tons carried per deadweight ton of oil tankers continued to decrease by 3.9 per cent in 1999 over the previous year. Those cargo volumes carried per deadweight ton of dry bulk carriers, combined carriers and the residual fleet increased by 1.3, 3.4 and 1.9 per cent respectively compared with those in 1998. This analysis indicates that the same trends as those in terms of ton-miles per deadweight ton prevailed in 1999.

Table 25

Estimated productivity of tankers, bulk carriers, combined carriers [a] and the residual fleet, [b] 1990-1999
(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
1990	7 376	30 810	3 804	18 770	1 164	36 040	4 777	25 960
1991	7 884	30 920	4 035	18 680	1 049	33 620	4 905	26 980
1992	8 190	31 420	4 061	18 770	1 012	32 440	4 965	26 620
1993	8 735	32 900	4 257	19 297	1 012	34 896	4 967	25 524
1994	9 001	34 250	4 435	19 392	908	34 789	5 256	26 007
1995	8 980	34 393	4 500	18 672	925	38 542	5 785	27 706
1996	9 061	34 663	4 442	18 371	926	41 712	5 993	28 350
1997	9 251	34 923	4 660	18 253	955	43 807	6 269	29 063
1998	9 307	34 845	4 464	16 744	944	44 952	6 206	29 880
1999	9 065	33 242	4 486	16 858	931	46 550	6 423	30 297

Source: UNCTAD secretariat on the basis of data from Fearnleys (Oslo), *Review*, *World Bulk Trades* and *World Bulk Fleet*, various issues, and other specialized sources.

a Tankers, bulk carriers and combined carriers of 50,000 dwt and above.

b The residual fleet refers to all vessels included in table 15, excluding tankers, bulk carriers and combined bulk carriers of the size range indicated in footnote [a].

Table 26

Estimated productivity of tankers, bulk carriers, combined carriers and the residual fleet, 1990-1999
(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
1990	1 427	5.96	667	3.29	203	6.28	1 680	9.13
1991	1 485	5.82	707	3.27	196	6.38	1 722	9.47
1992	1 550	5.95	709	3.28	194	6.22	1 762	9.45
1993	1 665	6.27	744	3.37	192	6.62	1 738	8.89
1994	1 702	6.48	769	3.36	174	6.67	1 861	9.21
1995	1 738	6.66	770	3.20	177	7.38	1 993	9.55
1996	1 785	6.83	765	3.16	177	7.97	2 057	9.71
1997	1 847	6.97	810	3.17	185	8.49	2 152	9.88
1998	1 848	6.92	797	2.99	184	8.80	2 130	10.06
1999	1 813	6.65	807	3.03	182	9.10	2 192	10.25

Sources: UNCTAD secretariat on the basis of data from Fearnleys (Oslo), *Review*, *World Bulk Trades* and *World Bulk Fleet*, various issues, and other specialized sources.

[a] See footnote b to table 25.

The supply and demand mechanism by type of vessel

63. Tonnage supply in the oil tanker sector decreased substantially in 1999 by 9.2 million dwt to 281.8 million dwt. This indicates that oil tanker newbuildings delivered in 1999 stood at 6.5 million dwt while deleted tonnage reached nearly 16 million dwt. As a result overcapacity was reduced to 14.0 million dwt or 5.0 per cent of the total world tanker fleet, while seaborne trade for oil tankers declined by 1.0 per cent in 1999 compared with the previous year (see table 27 and graph 7). In 1999, nearly 1.0 million dwt of dry bulker newbuildings were delivered while tonnages of nearly 12.5 million dwt were deleted from shipping industries. Thus the total dry bulk fleet supply was reduced substantially by 11.4 million dwt. On the other hand, main dry bulk commodities increased by 2.8 per cent in 1999 over the previous year. Despite some favourable factors, overcapacity in the dry bulk sector increased significantly in 1999 to 7.9 million dwt, representing an increase of 2.1 million dwt and accounting for 3.2 per cent of the world dry bulk fleet. In actual fact the tonnage deleted in 1999 decreased by approximately 25 per cent over the previous year's figure. This means that further deletion of aged uneconomical dry bulkers should be promoted in order to bring the supply and demand mechanism into better balance. In the sector of the general cargo fleet, overcapacity remained relatively stable in 1999 with supply capacity exceeding demand by 1.8 million dwt or 3.0 per cent for the world fleet of this sector. The surplus tonnage of general cargo vessels has followed a downward trend since the early 1990s. In the unitized fleet sector, 3.0 million dwt of containership newbuildings were delivered in 1999, topping up the 8 million dwt tonnage delivered in the previous year. Although newbuildings of this sector have been increasing, liner shipping industry markets have been able to absorb these tonnages, thus resulting in full employment of the world unitized fleet.

Table 27

Analysis of tonnage oversupply by main type of vessel, 1992-1999 [a]

(average yearly figures in millions of dwt)

	1992	1993	1994	1995	1996	1997	1998	1999
Supply of world tanker fleet	283.4	284.6	282.9	277.0	285.1	290.6	291.0	281.8
Total tanker fleet surplus [b]	41.8	43.5	39.0	28.8	28.8	17.0	17.3	14.0
Share of surplus fleet in the world tanker fleet (per cent)	14.7	15.3	13.8	10.4	10.1	5.8	5.9	5.0
Supply of world dry bulk fleet	237.3	238.6	242.6	252.9	257.2	260.9	257.1	245.7
Dry bulk fleet surplus [b]	25.1	23.6	20.3	17.9	17.2	10.3	5.8	7.9
Share of surplus in the world dry bulk fleet (per cent)	10.6	9.9	8.4	7.1	6.7	3.9	2.3	3.2
Supply of world conventional general cargo fleet	63.0	62.1	61.9	62.0	62.7	62.0	60.5	59.9
Conventional general cargo fleet surplus	2.7	2.8	2.2	2.0	1.4	1.7	1.6	1.8
Share of surplus in the world conventional general cargo fleet (per cent)	4.3	4.5	3.6	3.2	2.2	2.7	2.6	3.0
Supply of world unitized fleet [c]	43.0	45.7	49.8	53.4	59.3	65.7	73.1	76.1
Surplus of unitized fleet	0.7	0.7	0.5	0.7	0	0	0	0
Share of surplus in the world unitized fleet (per cent)	1.6	1.5	1.0	1.3	0.0	0.0	0.0	0.0

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

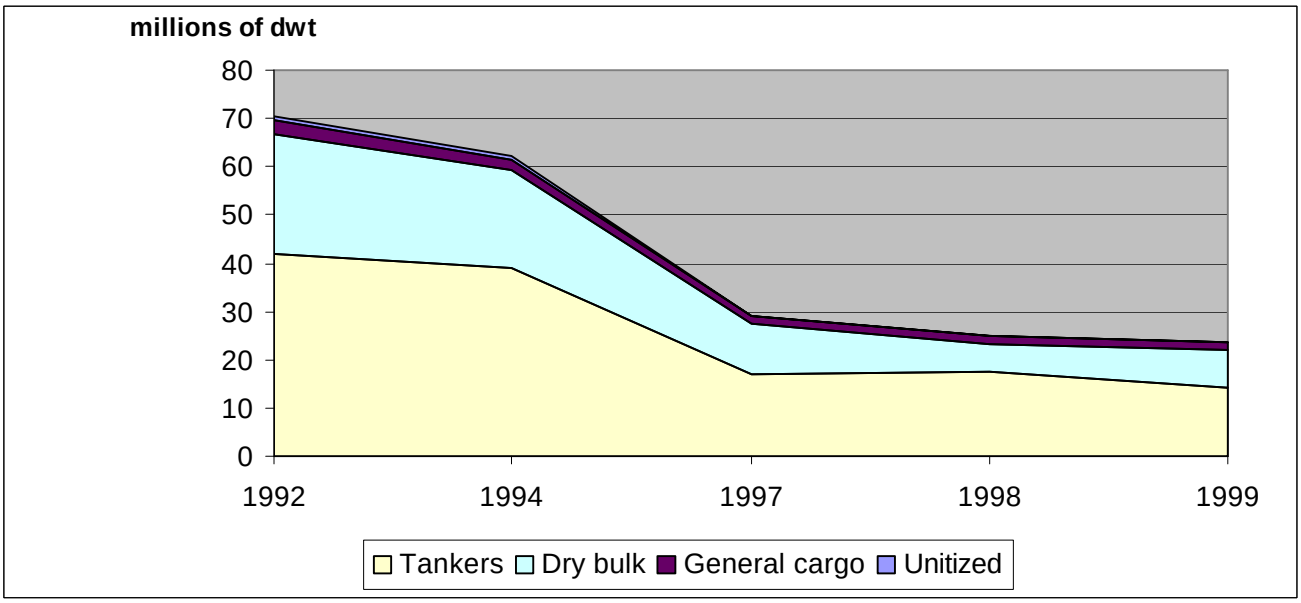
a Aggregates for all sectors shown in this table are averages for the years indicated and therefore differ from the world figures in table 28. This table excludes tankers and dry bulk carriers of less than 10,000 dwt and conventional general cargo/unitized vessels of less than 5,000 dwt.

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.

Graph 7

Trends in surplus capacity by main vessel type in selected years



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

B. SUPPLY AND DEMAND IN WORLD SHIPPING

Surplus tonnage

64. An indicative summary of the balance of tonnage supply and demand for the 1992-1999 period is provided in table 28. The total surplus tonnage in 1999 continued to decrease by 1.0 million dwt to a new record of 23.7 million dwt or 3.0 per cent of the world merchant fleet from 3.1 per cent in 1998. This improved balance was largely attributable to the continuously increasing trade volume, specifically since 1997, which reached nearly 5.0 billion tons, when surplus tonnage was halved to 3.7 per cent as compared to the level of 6.4 to 10.3 per cent for the previous years (1991-1996). In 1999, growth of tonnage supply and demand was evenly balanced.

C. COMPARISON OF CARGO TURNOVER AND FLEET OWNERSHIP

65. 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 55 cent of world seaborne trade in 1999 compared with about 54 per cent in 1980. The tonnage share of developed market-economy countries has been significantly reduced from nearly 80 per cent in 1980 to 57 per cent in 1999. Their ownership either under national flag (25 per cent of the world total in 1999) or foreign flags (32 per cent of the world total in 1999) is maintained to support their trade position. The share of developing countries in world cargo turnover has remained at a level of slightly less than 40 per cent. Their tonnage owned under national flags had increased from 10 per cent of the world fleet in the 1980s to nearly 20 per cent in the 1990s, while beneficially owned tonnage has expanded to nearly one third of the total beneficially-registered tonnage or 16 per cent of the world fleet as owners in developing countries have also been resorting to open-registry facilities. The share of world cargo turnover generated by the countries of Central and Eastern Europe remained at 3.4 per cent in 1999, unchanged from the 1998 level, but significantly less than 4.7 per cent in 1980. Their fleet position also declined from 5.5 per cent to 2.3 per cent in 1999. The socialist countries of Asia

increased their share in world trade to 2.8 per cent in 1999, while they improved their share in world tonnage from 1.6 per cent in 1980 to 3.2 per cent in 1999. The short-term analysis indicates a different aspect in that these countries increased their share in world trade from 2.2 per cent in 1996 to 2.8 per cent in 1999, while their share of national flags in world tonnage decreased from 3.8 per cent in 1996 to 3.2 per cent in 1999. On the other hand, China increased its tonnage under foreign flags to 43.5 per cent of its total fleet in 1999 from 36.12 per cent in 1996.

Table 28

Tonnage oversupply in the world merchant fleet, 1992-1999
(end-year figures)

	1992	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**1999**
	Million dwt							
World merchant fleet	694.7	710.6	719.8	734.9	758.2	775.9	788.7	799.0
Surplus tonnage [a]	71.7	72.0	63.4	50.8	48.8	29.0	24.7	23.7
Active fleet [b]	623.0	638.6	656.4	684.1	709.4	746.9	764.0	775.3
	Percentages							
Surplus tonnage as a percentage of the world merchant fleet	10.3	10.1	8.8	6.9	6.4	3.7	3.1	3.0

Sources: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London), and *Lloyd's Shipping Economist* (London), various issues.

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

b World fleet minus surplus tonnage.

Table 29

Comparison between total cargo turnover and fleet ownership by groups of countries in 1980, 1998 and 1999

Country grouping	Year	Total of goods loaded and unloaded (millions of tons)	Percentage of world total	Merchant fleet (millions of dwt)	Percentage of world total
Developed market-economy countries	1980	3 965	53.7	350.1	51.3
	1998	5 601	54.8	202.6	25.7
	1999	5 677	54.8	203.2	25.4
Major open-registry countries	1980	[b]	[b]	212.6	31.1
	1998	[b]	[b]	376.8	47.8
	1999	[b]	[b]	384.7	48.1
Developing countries	1980	2 926	39.6	68.4	10.0
	1998	4 007	39.2	150.8	19.1
	1999	4 045	39.0	153.6	19.2
Countries of Central and Eastern Europe (including the former USSR)	1980	346	4.7	37.8	5.5
	1998	351	3.4	20.7	2.6
	1999	356	3.4	18.3	2.3
Socialist countries of Asia	1980	146	2.0	10.9	1.6
	1998	254	2.5	26.0	3.3
	1999	287	2.8	25.8	3.2
World total [a]	1980	7 383	100.0	682.8	100.0
	1998	10 213	100.0	788.7	100.0
	1999	10 365	100.0	799.0	100.0

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

a Including unallocated tonnage indicated in annex III (b).

b All goods loaded and unloaded are included in the volume of developing countries.

66. Information on 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. This reflects an aspect of trade-supporting policies for exploiting maritime transport as a trade complement. It is generally considered that maritime capabilities, specifically the ownership of substantial tonnage, are essential for the country's trade support and promotion. The table also shows many similarities as well as differences in the shipping services of the leading trading nations. Major trading countries such as Japan, China (including Hong Kong), Republic of Korea, the United Kingdom, 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 they maintain a relevant ownership position and, to a lesser extent, national flag position. The United States, France and Canada come into this group. In 1999 the United States generated more than 15.3 per cent of world trade while it owned 6.7 per cent of world tonnage with only 1.6 per cent of such tonnage flying the national flag. Similarly, France and Canada generated 5.1 and 4.0 per cent respectively of world trade as compared to a tonnage ownership position of 0.7 and 0.4 per cent, and a national flag share of 0.3 and 0.1 per cent respectively.

Table 30

Maritime engagement of 25 major trading nations
(as at the end of 1999)

Country/territory	Percentage share of world trade generated, in terms of value	Percentage share of world fleet in terms of dwt
United States	15.3	6.67
Germany	8.8	4.00
Japan	6.4	12.76
United Kingdom	5.1	2.60
France	5.1	0.74
Italy	3.9	1.85
Canada	4.0	0.43
Hong Kong, China	3.1	4.31
Netherlands	3.4	0.83
Belgium-Luxembourg	3.1	1.04
China	3.1	5.39
Republic of Korea	2.3	3.44
Singapore	2.0	2.56
Spain	2.2	0.51
Taiwan Province of China	2.0	2.69
Malaysia	1.3	0.88
Sweden	1.3	2.07
Switzerland	1.4	0.83
Thailand	0.9	0.39
Australia	1.1	0.43
Brazil	0.9	1.21
Russian Federation	1.0	2.18
Saudi Arabia	0.8	1.51
Denmark	0.8	2.20
Norway	0.8	7.64
Total	80.1	

Source: UNCTAD secretariat on the basis of data supplied by the World Trade Organization (WTO).

Chapter IV

TRADE AND FREIGHT MARKETS

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

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A. LINER SHIPPING MARKET

(a) Developments in liner markets

General developments

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

Groupings of liner operators

68. The processes of competitive positioning of liner operating companies, the majority of which were made during the three-year period (1997B1999), led eventually to the emergence of new mega-carriers. Table 31 gives the latest profile of the supply-side dynamics of container shipping through concentration processes. The top 10 companies' total carrying capacity at the beginning of 2000 increased by 11 per cent from that of the previous year, accounting for 51 per cent of the world total capacity. Similarly the top 20s increased by 9 per cent, sharing 69 per cent of the world total. The need to respond to rapidly increasing global transport requirements and to rationalize the use of existing assets and new investments led major carriers to enter into groupings or "alliances" in the endeavour to reduce operation costs and promote their marketing strength by integrating service structures through tie-ups or groupings. Under strategic programmes of major carriers, carrying capacity of the containerships in service on the East-West trunk routes continued to increase. At the beginning of 2000, 98 post-Panamax ships with an average carrying capacity of 5,300 TEUs per ship, were in service on the main East-West liner routes. At the end of 1999, 56 post-Panamax ships with a total capacity of 325,000 TEUs were on order. Given the delivery of these large newbuildings in the next couple of years, total carrying capacity of post-Panamaxes will be nearly 850,000 TEU. Table 32 provides estimated carrying capacity of "alliances" on the three major liner trades (Asia/North America, Asia/Europe-Mediterranean and North America/Europe-Mediterranean). At the beginning of 2000, all the alliances' carrying capacity reached 2.17 million TEUs, which accounted for approximately 45 per cent of the world total containerships' carrying capacity. Other liner operators, particularly mid-sized companies, still have to make the necessary decisions on their future competitive positioning, either as a global operator or as more of a niche carrier.

Containership market developments

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

Table 31

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

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

Source: *Kaiun (Shipping)*, June 2000.
Note: Including TEU capacity of ro-ro vessels and other types of vessels engaged in container service.

chosen as a base year as it is considered to be the last year when a remunerative rate level could be achieved. The development of time charter rates is reflected in table 33. In terms of TEU capacity, the world containership fleet continued to expand by 14, 18 and 12 per cent in 1996, 1997 and 1998 respectively until 1999 when growth slowed to 6 per cent. On the other hand, the Asian economic and financial crisis since 1997 hit not only the liner shipping trades between Asia and its major trading patners, but equally those among intra-regional countries. Charter rates drifted in the doldrums towards the end of 1998 and further into 1999. During the first half of 1999 charter rates remained depressed. This particularly related to size groups typically engaged in intercontinental or intra-Asian trades. Smaller tonnage, both geared and gearless, took less of a dip with specific employment patterns helping to weather the storm. In summer 1999, when growth of world containership carrying capacity proved to be halved from that of 1998, and Asia's economic recovery had already been encouraging global and regional liner shipping trades, rates generally picked up, with particularly positive development in the segments of larger vessels, both geared and gearless. The positive mood prevailed through the second half of 1999 and extended well into the year 2000. In fact, rates for larger geared vessels nearly doubled between mid-1999 and mid-2000.

Table 32

Estimated carrying capacity of alliances, January 2001

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

Source: Kaiun (Shipping), June 2000.

Table 33

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

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

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

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

(b) Freight level of main liner services

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

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

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

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

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

Table 34

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

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

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

Note: European trades do not include the Mediterranean.

Table 35

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

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

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

Note: European trades do not include the Mediterranean.

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

74. On the Europe-Asia trade routes, ships' annual total carrying capacity increased by 4 per cent in 1999, while cargo volume increased by 5.2 per cent on the eastbound route (Europe to Asia) and by 13.2 per cent on the westbound (Asia to Europe) route. As a result, average capacity utilization on both trade routes improved to 71.5 per cent from 67.8 per cent in 1998, with increasing trade imbalancces making it difficult for shipowners both to attract eastbound cargoes and to resolve problems of empty repositioning. In 2000, capacity is expected to increase by about 5.0 per cent, while cargo availability will grow at 7.0 per cent for the eastbound and 5.1 per cent for the westbound trades, resulting in further improvements in average space utilization to 72.1 per cent.

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

Table 36

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

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

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

Note: European trades do not include the Mediterranean.

(d) Liner freight index

76. Table 37 indicates the developments of liner freight rates on cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range from 1997 to date. The overall 1999 liner freight index decreased by 3 points to an average level of 86 (1995-100), reflecting the market situation in both homebound and outbound trades. In the homebound trade, the average level in 1999 increased by 6 points as compared with that in the previous year, reaching the same index in 1997 (95). The average level for the first quarter of 1999 decreased to 89 from 91 for the same period in 1998. This drop reflects a significant plummet by 9.4 per cent in the liner freight rates in the United States-Europe trade for the first quarter of 1999 from the rates for the last quarter of 1998. Since then, the monthly average index in 1999 was higher than in 1998. This upward trend is mainly attributable to the continuous rise in freight rates in the AsiaBEurope liner business, representing an increase of 6.8 per cent over the year. Conversely, the average outbound index in 1999 fell significantly by 12 points from the average level in 1998. Specifically, the average index for the first quarter in 1999 decreased substantially by 30 points from the level for the same quarter in 1998. This decrease reflects primarily the remarkable fall in freight rates in the first quarter of 1999 by 11.3 per cent from the average freight rates for the last quarter in 1998 in the Europe-Asia trade, and the continuous decrease during the first half of 1999 in the Europe-United States trade. The upward trend in the liner frieght rates on both homebound and outbound trade routes in the last half of 1999 continued to the first quarter of 2000, representing over 100 each month, thus reflecting on the overall index for the same period in 2000.

Table 37

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

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

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

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

77. Table 38 provides data on freight rates of liner services as a percentage of market prices for selected commodities and trade routes in certain years between 1970 and 1999. The ratio of liner freight rates to the prices of jute, rubber sheet and coconut oil continued to stand at a higher level, compared with the rates for other commodities. Freight rates for jute in 1999 increased by 17.3 per cent, while the f.o.b. price also rose by 6.6 per cent. The f.o.b. price for jute is much lower than that of other commodities. This explains the high freight ratio. The f.o.b. price for rubber sheet fell by 12.7 per cent in 1999 when the freight rates rose by 6.4 per cent, thus arriving at a freight ratio of 16.3 per cent. The high ratio of coconut oil is attributable primarily to greatly increased freight rates in 1999, which rose by 27.8 per cent, albeit the c.i.f. price also increased by 12.0 per cent. The ratio of coffee and cocoa beans from Brazil to Europe in 1999 stood at 2.8 per cent and 6.0 per cent respectively. The freight rates rose by 26.7 per cent and 40.7 per cent each while the c.i.f. price fell by 27.1 per cent and 32.1 per cent respectively. The high increase in freight rates and the decrease in c.i.f. prices for the commodities mentioned turned out to be the ratio of small percentage. This is because the absolute freight amount is very small compared with the c.i.f. price. Similar mechanisms of fluctuations in freight rates and c.i.f. prices are applicable to coffee from Colombia (both Atlantic and Pacific) and cocoa beans from Ghana, although in those cases both freight rates and c.i.f. prices in 1999 decreased substantially compared with their levels in the previous years.

Table 38

Ratio of liner freight rates to prices of selected commodities

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

Sources: UNCTAD secretariat on the basis of data supplied by the Royal Netherlands Shipowners' Association (data for 1970-1989) and conferences engaged in the respective trades (data for 1990-1999).

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) and tea, the average of the daily prices in London is quoted. Prices of the remaining commodities are quoted on f.o.b. terms. Freight rates include, where applicable, bunker surcharges and currency adjustment factors, and a tank cleaning surcharge (for coconut oil only). Conversion of rates to other currencies is based on parities given in *International Financial Statistics*, published by the International Monetary Fund (IMF). Annual freight rates were calculated by taking a weighted average of various freight rates quoted during the year, weighted by their period of duration. For the period 1990-1999, the prices of the commodities were taken from UNCTAD, *Monthly Commodity Price Bulletin*, March 2000.

B. DRY BULK SHIPPING MARKET

(a) Dry bulk trade

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

Steel production, iron ore and coal trades

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

80. The world seaborne trade in iron ore declined by 1.7 per cent to 410 million tons in 1999 from 417 million tons in 1998. Exports from Brazil decreased by 5 per cent to 135 million tons, whereas Australia registered an increase of 3 per cent to 136 million tons. Canada's iron ore exports continued to decline by approximately 14 per cent to about 27 million tons in 1999, while Sweden's exports also decreased by as much as 13 per cent to 14 million tons. In 1999, world coal shipments continued to increase by 1.5 per cent to 480 million tons from 473 million tons in the previous year. Exports from Australia maintained strong growth in 1999. China's coal exports rose significantly by 19 per cent to 38 million tons, whereas South Africa's exports fell by 3 per cent to 63 million tons. Coal exports from the United States in 1999 plunged dramatically to 37 million tons from 52 million tons in 1998, while Canada's coal exports declined by 3 per cent to 34 million tons in 1999. Coal exports from Indonesia in 1999 expanded by as much as 20 per cent to 48 million tons. On the importing side, both Japan and the Republic of Korea increased their coal imports by 4 per cent each to 137 million tons and 55 million tons respectively in 1999. Imports into Taiwan Province of China were up by 10 per cent to 41 million tons.

Grain trade

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

(b) Dry bulk freight rates

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

Dry bulk time-charter (trips)

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

favourably in 1999, as compared with those in 1998, on the four major trade routes, i.e. Atlantic round voyage, Pacific round voyage, Continent/Far East and Far East/Continent. The annual average rate for modern Capesize tonnage on the four major trade routes climbed dramatically by 67.0 per cent, to $17,200 per day in 1999 from $10,300 per day in 1998, when the rates had fallen by 41 per cent from the 1997 level. For the Atlantic round voyage, the tonnage was employed at the average rate of $16,700 per day in 1999, whereas it was only paid at $8,600 per day in 1998. In the Pacific trade, the average rate rose to $16,700 per day in 1999 from $11,700 per day in 1998. The annual average rate for modern Panamax tonnage on the four major trade routes was up significantly by 58.2 per cent to $8,700 per day in 1999, as compared with $5,500 per day in 1998. A round voyage in the Atlantic was paid at the average rate of $8,400 per day in 1999, while it washired at $4,600 per day in 1998. In the Pacific it was employed at $9,300 in 1999, as compared with $5,900 per day in the previous year. Modern Handymax tonnages on the four major trade routes were employed at the annual average rate of $7,500 per day in 1999, which turned out to be 21 per cent higher than the daily rate of $5,900 in 1998. For the Atlantic round voyage, the average rate of $7,300 per day was paid in 1999, while the charter-hire for the same trade in 1998 was registered at $5,200 per day. In the Pacific trade, the rates for round voyages averaged $7,100 per day in 1999, as compared with $6,500 per day in 1998.[10]

Table 39

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

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

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

a Compiled by the German Ministry of Transport.

b Compiled and published by Lloyd's Ship Manager.

Dry bulk time-charter (periods)

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

Dry bulk trip-charter

85. The year 1999 started in dismal circumstances for Capesize tonnages, with no encouraging signs in sight. Rates stood at record low levels in most trades, with iron ore shipments for Tubarao (Brazil)/Rotterdam being paid at $3.50 per ton. Iron ore trades on the Brazil/China route were paid at $4.90 per ton. Tonnages for the Richards Bay/Rotterdam coal trade were hired at $4.25 per ton. From July until October 1999, charter-rates for Capesize increased significantly. Rates for the iron ore trade on the Brazil/China route stood at $8.65 per ton in October and climbed further to $11.00 per ton in November. Coal shipments from Australia to Europe moved from the lowest rate of $5.50 per ton in January 1999 to $11.25 per ton in November of that year. Taking the development of iron ore trades as a reference rate, the average freight rate for iron ore on the Brazil/Europe (Rotterdam) in Capesize vessels was up to $4.43 per ton in 1999 from $4.17 per ton in 1998. Fluctuations were significant in the rate of $3.20B6.50 with the highest rate towards the end of 1999. The reference rate for coal from Hampton Roads/Richards Bay to the Far East in Capesize tonnages increased from an annual average of $8.68 per ton in 1998 to $8.80 per ton in 1999.

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

C. CRUDE OIL AND PETROLEUM PRODUCTS SEABORNE FREIGHT MARKET

(a) Seaborne trade in crude oil and petroleum products

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

(b) Tanker freight rates

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

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

Very large crude carriers (VLCCs)

89. The year 1999 was difficult for owners of VLCCs, who were adversely affected by the shortage of cargo in the trades from the Middle East Gulf owing to the reduction of OPEC output. Consequently, VLCCs were increasingly engaged on the trade routes from West Africa in 1999, where smaller tonnages such as Suezmax tankers are typically employed. The OPEC agreement to cut crude oil output hit any hopes of a recovery of rates in the large tanker sector, for the Middle East Gulf loading in particular. VLCC shipments from the Middle East Gulf fell to the low WS 40s to Asian destinations by April 1999, with one fixture dropping to the high WS 30s. Depressed VLCC rates had a knock-on effect in the markets other than the Middle East Gulf, as owners sought cargoes for their VLCCs elsewhere, such as West Africa to the United States where freights were around WS 50B55 and to Asia where rates of up to WS 42 were paid. In May 1999, increased liftings booked for July 1999 loading boosted VLCC rates from the Middle East Gulf, especially eastbound. Asian discharge trades pushed into the WS 50s and as high as WS 57 for Japanese ports. However, this was only a temporary peak, and later in the period rates eased down to around WS 50. In June and July 1999, rates for VLCCs from the Middle East Gulf plunged back below WS 40 as cargo for Far Eastern destinations dried up. From August 1999, high crude oil prices actually dampened what owners had hoped to be an upturn in demand as the northern winter approached and stockpiling took place as usual, while VLCCs were fixed from the Middle East Gulf to Asian destinations at WS 50, rising by the end of September 1999 to WS 55. On the other hand, western destinations earned about WS 50. In October 1999, despite strong trading volumes for crude oil shipments, VLCC rates slipped back slightly, to about WS 45 to eastern destinations, with rates for Europe-bound cargo about 2 points below that. Liftings from West Africa for Asian destinations were also hovering in the WS 40s. In November 1999, VLCC rates to the Far East, such as the Republic of Korea and Japan, fluctuated around WS 50 as demand picked up. Similarly, in West Africa rates for VLCCs also reflected favourable returns, paid at WS 55 to the United States Gulf. Towards the end of the year, a lack of VLCC tonnage and owners holding out caused rates to firm. Rates for over 250,000 tonners from the Middle East Gulf to the Republic of Korea reached the mid- to high WS 60s.

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

Medium-sized crude carriers

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

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

92. Aframax tonnages experienced unfavourable markets, specifically in the first half of 1999. Forty-three Aframax newbuildings were delivered against only 27 units sold to the breakers. The average rates in the three major loading areas for Aframax tankers, the Mediterranean, North Sea and Caribbean, were down by about 5 per cent in 1999 compared to the average paid in 1998. Approximately 27 per cent of the Aframax fleet existing in 1999 was built in 1980 or before. These old Aframaxes were virtually excluded from trading to the United States owing to that country's regulations, and thus were employed for other destinations, adversely affecting market rates thereof. During the first quarter of 1999, Aframax tonnages for North Sea loading were paid at WS 85B95 for European discharge. As the summer season approached in the northern hemisphere, Aframax tonnages suffered a fall in freights as the summer maintenance period in the North Sea, coupled with the seasonal reduction in volumes from the Caribbean, reduced rates for 80,000 tons to WS 80 for North Sea liftings. From May to August 1999, Aframax rates edged down, with 80,000 tons for North Sea loading to European continental destinations paid at WS 80, and further slipped to the middle of the WS 70s. Similar trends in freights were observed in the Caribbean and Mediterranean markets. Towards the end of 1999, demand for Aframax tonnages became firmer with increased cargo bookings creating a shortage of this size of tanker. Rates for 80,000 tons to Japan from the Middle East Gulf went as high as WS 120, while freights for cargoes from the Mediterranean to northern Europe reached WS 115. Intra-Europe trades in 80,000 tonners paid up to WS 160.

Small crude and product carriers

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

Handy-size clean and dirty carriers

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

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

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

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

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

[b] VLCC, very large crude carrier; ULCC, ultra-large crude carrier.

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

Tanker period-charter market

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

96. The period time-charter market for petroleum products reflected the gloom in the spot market and the flood of newbuilding deliveries. At the beginning of the year, an early 1990s-built 47,000 dwt product carrier obtained $12,500 per day for a 12-month charter. Since then, the market continued to slide. In May, a 1990s-built 41,000 dwt product tanker was paid at $11,000 per day for 12 months. In June, another 1991-built unit was fixed at a relatively higher rate of $12,600 per day. The July-September period marked the doldrums when period time-charter rates for 30,000 dwt product carriers built in the early 1990s went to around $10,000 per day for a 12-month charter. Activity for clean, product carriers remained low until December, when eight vessels were chartered with 45,000 dwt class paid at $12,000 per day and 30,000 dwt class at $10,500 per day.

D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE

Trends in global import value and freight costs

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

Table 41

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

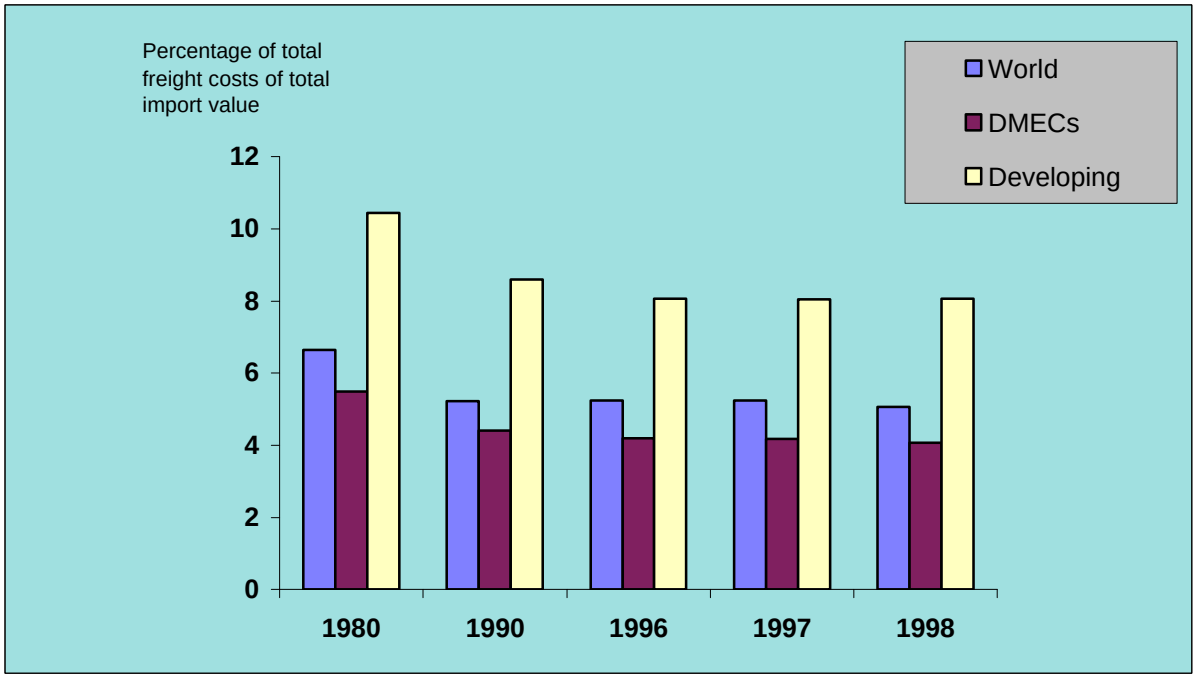
Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
1980	World total	123 264	1 856 834	6.64
	Developed market-economy countries	78 286	1 425 979	5.49
	Developing countries C total	44 978	430 855	10.44
	of which in:			
	Africa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

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

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

Graph 8

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



Source: Table 41.

Regional trends

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

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

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

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

101. Developing countries in America as a whole continued to pay the cheapest freight costs for their imports of all the developing countries, with a freight factor of 6.86 per cent in 1998 compared to 8.17 per cent in 1990. Within this region, Central America had the lowest freight factor of 5.12 per cent in 1997. This relatively low ratio is largely attributable to the fact that Mexico, the biggest trading nation in the region, had the lowest freight factor of 4.42 per cent, while actually accounting for 85.6 per cent of the total c.i.f. value of imports of the subregion (37.4 per cent of all American developing countries) and paying 73.9 per cent of the total freight costs of the subregion (24.1 per cent for the whole region) in 1998. The countries of the South American eastern seaboard continued to pay relatively low freight costs at 6.65 per cent. Among these countries, Uruguay benefited from the advantage of direct services, paying as little as 4.5 per cent. Argentina and Brazil followed, paying 6.5 per cent each. The countries of the South American western seaboard registered the rate of 8.88 per cent. Colombia paid the cheapest freights of this subregion at 6.4 per cent, while Peru incurred the highest freight factor of 16.4 per cent. The countries on the northern seaboard continued to pay relatively higher freights at 10.2 per cent. The landlocked countries in the Americas, Bolivia and Paraguay, continued to remain among the high-freight-paying countries in the region with the ratio of 11.0 per cent each, while their freight factor was much lower than those of African landlocked countries.

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

Chapter V

PORT DEVELOPMENT

This chapter covers container port hroughput for developing countries, improving port performance, institutional changes in ports and special needs of small ports.

A. CONTAINER PORT TRAFFIC

103. Table 42 gives the latest available figures on reported world container port traffic in developing countries and territories for 1997 and 1998. The world growth rate for container port throughput (number of movements measured in TEUs) increased to 6.7 per cent in 1998 from 2.6 per cent in 1997, which is closer to the annual containerized throughput growth rate of 9 per cent experienced during the first half of the decade. The throughput for 1998 (1997) was over 165.0 (as against 154.6) million TEUs, which is an annual increase of slightly over 10.4 (3.9) million TEUs.

104. The rate of growth for developing countries and territories was 12.6 per cent in 1998 with a total throughput of 88.5 million TEUs (accounting for slightly more than 53 per cent of total throughput), which was an increase compared to the 3.1 per cent growth rate in 1997. Countries with double digit growth in both 1997 and 1998 were the Republic of Korea, Panama, Malta, Venezuela, Argentina, Honduras, Bangladesh, Trinidad and Tobago and Mauritius. The growth in developing countries is uneven from year to year, owing sometimes to strong fluctuations in trade and sometimes to improved data or lack of data.

105. Initial figures for 1999 are available for the main ports, including those of developing countries and of the socialist countries of Asia, with seven ports from these countries ranking among the top 20 container ports. Their throughput is shown in table 43, together with the annual percentage increase for each of the past two years. In 1999, Hong Kong (China) bounced back with double digit growth to become the world leader in total number of movements, overtaking Singapore which had its growth rate fall to 5.3 per cent. This is a good result for Hong Kong, reflecting the economic recovery in Asia and paralleled with strong growth through other Chinese ports on the mainland. The port of Shanghai had a percentage change of 37.3 per cent or an increase of 1,144,000 TEUs and the ports of Yantian and Qingdao were also in the top 30 ports for the first time. This reflects the continued growth of Chinese exports, especially to North America and Europe.

B. IMPROVING PORT PERFORMANCE

106. Changing trade flows and the competitive strategies of the vessel operators are impinging on the way in which port authorities and terminal operators must adapt. Pressure is being exerted to cut costs and to provide services for a new fleet of mega-vessels now being brought on stream. At the same time port investment requirements have skyrocketed. The expansion is being driven by two pressures. First, the overall container volume continues to grow and outlook for trade expansion appears favourable. Secondly, the arrival of the mega-vessels, 5,000 TEUs and greater, is driving the need for transhipment hubs and for feeder ports. To be considered as a hub, ports must have post-Panamax cranes, deep water, a large amount of back-up land, and direct intermodal connections, often via on-dock rail. However few ports have meaningful guarantees that their investment in facilities will be recaptured. Ports choosing to become hubs are extremely vulnerable to the changing fortunes and desires of both large shipping lines and alliances.

107. One means of cutting costs that is appropriate for terminals with high labour costs and with proven ability to maintain hi-tech equipment is through automation. ECT's Rotterdam operation is roughly 50 per cent automated and PSA Corp has invested in this type of technology for its Pasir Panjang terminal. Thamesport in England, as a relatively new t erminal, has

Table 42

Container port traffic of 41 developing countries and territories in 1998 and 1997

(in TEUs)

Country or territory	Container traffic 1998	Container traffic 1997	Percentage change 1998/1997	Percentage change 1997/1996
China	24 729 085	19 929 241	24.1	5.5
Singapore	15 100 000	14 135 300	6.8	9.2
Republic of Korea	6 331 416	5 636 876	12.3	11.0
Taiwan Province of China	6 271 053	5 693 339	10.1	27.6
United Arab Emirates	4 475 789	4 133 578	8.3	10.2
Philippines	3 166 716	2 491 990	27.1	6.6
Malaysia	3 014 564	2 843 248	6.0	11.5
Thailand	2 638 906	2 123 671	24.3	3.5
Indonesia	2 233 394	2 478 674	-9.9	40.5
Panama	1 997 372	1 580 933	26.3	156.2
India	1 828 836	1 738 406	5.2	15.2
Sri Lanka	1 714 077	1 687 184	1.6	24.4
South Africa	1 560 272	1 467 153	6.3	2.5
Saudi Arabia	1 380 804	1 286 806	7.3	12.1
Brazil	1 345 395	1 376 537	-2.3	-3.4
Malta	1 118 741	704 427	58.8	11.5
Venezuela	830 109	606 036	37.0	147.1
Argentina	806 674	720 247	12.0	35.8
Egypt	802 071	993 554	-19.3	9.1
Chile	774 343	711 112	8.9	12.3
Mexico	665 721	832 475	-20.0	21.9
Jamaica	573 114	496 682	15.4	3.9
Honduras	446 613	365 864	22.1	15.6
Ecuador	407 434	375 894	8.4	16.2
Peru	378 013	321 568	17.6	-4.2
Bangladesh	345 327	300 476	14.9	13.9
Iran, Islamic Republic of	325 904	260 095	25.3	6.4
Lebanon	289 562	309 719	-6.5	19.5
Trinidad and Tobago	270 204	239 952	12.6	19.7
Morocco	245 382	210 688	16.5	-1.1
Cyprus	214 030	402 700	-46.9	-28.6
Guam	169 571	164 470	3.1	5.9
Papua New Guinea	152 845	149 870	2.0	14.5
Mauritius	136 417	116 956	16.6	10.7
Martinique	135 700	141 650	-4.2	5.6
Cameroon	118 238	116 578	1.4	9.8
Senegal	115 039	110 836	3.8	12.0
United Republic of Tanzania	108 363	103 433	4.8	4.6
Guadeloupe	103 473	99 643	3.8	-0.3
Haiti	96 612	60 186	60.5	-6.4
Reunion	95 122	122 600	-22.4	-1.6
Total	87 512 301	77 640 647	-	-
Other reported [a]	981 919	959 059	-	-
Total reported [b]	88 494 220	78 599 706	12.6	3.1
World total	165 006 036	154 629 432	6.7	2.6

Sources: Derived from information contained in *Containerisation International Yearbook, 2000* and from information obtained by the secretariat directly from terminal operators or port authorities.

a Comprising developing countries and territories where less than 95,000 TEU 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 amongst the largest ports, total omissions may be estimated at 5 to 10 per cent.

Table 43
Top 20 container terminals and their throughput, 1999 and 1998
(in TEUs)

Ranking 1999	Ranking 1998	Port	1999 TEU	1998 TEU	Change 1999	Change 1998
1	2	Hong Kong, China	16 100 000	14 582 000	10.4	0.6
2	1	Singapore	15 900 000	15 100 000	5.3	9.1
3	3	Kaohsiung	6 985 360	6 271 050	11.4	10.1
4	5	Busan	6 439 590	5 945 610	8.3	1.6
5	4	Rotterdam	6 400 000	6 010 500	6.5	10.7
6	6	Long Beach	4 408 480	4 097 690	7.6	17.0
7	10	Shanghai	4 210 000	3 066 000	37.3	20.6
8	8	Los Angeles	3 828 850	3 378 220	13.3	14.3
9	7	Hamburg	3 750 000	3 550 000	5.6	6.7
10	9	Antwerp	3 614 260	3 265 750	10.7	10.4
11	13	New York	2 863 340	2 465 990	16.1	2.5
12	11	Dubai	2 844 630	2 804 104	1.4	7.8
13	12	Felixstowe	2 700 000	2 523 640	7.0	4.8
14	21	Port Klang	2 550 419	1 820 020	40.1	8.0
15	13	Tokyo	2 399 000	2 198 690	9.1	2.8
16	19	Tanjung Priok	2 273 300	1 898 070	19.8	-0.6
17	16	Gioia Tauro	2 253 400	2 125 640	6.0	46.4
18	22	Bremenhaven	2 180 960	1 812 441	20.3	8.6
19	17	Kobe	2 176 000	2 100 880	3.6	-5.5
20	15	Yokohama	2 172 920	2 091 420	3.9	-12.1

Source: *Containerisation International*, March 2000 and *Port Development International*, April 2000.

invested considerably in this technology. In 1998, the terminal handled over 500,000 TEU with 360 staff, of which 150 are traditional dock workers. All operations at the terminal are regulated by a central computer system. Six post-Panamax ship-to-shore cranes work the vessels. For the discharge operation, the crane driver inputs the container serial number into the central computer. The computer then informs the tractor driver to which of the nine stacks in the container yard he has to deliver the container. There are 18 rail? mounted gantries (RMG), which are fully automated without drivers. The RMG picks up the container and the central computer informs the crane where to stack it. Lorry drivers coming to pick up imports or drop off exports are given smart cards. These allow the control centre to place drivers in queues and regulate loading and unloading to maximize efficiency. Lorry drivers go to the stack entrances where their containers are taken from or into the stack by the RMG. The next step in automation is the planned installation of automatic guided vehicles for the transfer operation between stack and ship.

108. Increasing terminal productivity and performance will increase terminal capacity without capital investment. To achieve this, efficient and cost effective connections to the hinterland of a port are required. On-dock rail systems are one method of providing freight transport efficiency. This is a system where the rail-heads end as near to the quayside as possible, so that the boxes can be transferred from the ship into the yard and then on to rail.

This lessens the need for sizable terminal yards and separate intermodal exchange facilities. An added advantage of the system is the use of the more environmentally-friendly transport mode of rail rather than road.

109. An example of this system is in the US port of Tacoma at Hyundai Merchant Marine Terminal. The terminal has a quay length of 600 meters, a container yard area of 24.3 hectares and a rail yard of 8.1 hectares. The handling equipment consists of four post-Panamax ship-to-shore gantries, a fleet of reach stackers and terminal tractors. The direct ship to rail transfer works with the tractor-trailers taking the containers from the cranes and hauling them 300 meters to the rail yard where the reach stackers transfer them on to the rail wagons. Container dwell time in the terminal has been reduced to 8 to 12 hours versus the normal dwell time of 6 to 7 days with road trucks.

110. In October 1999, Ceres Terminals Incorporated, through their Dutch company, and Amsterdam Port Authority, started work on a new container terminal concept for the mega-ships. The first phase of the terminal will have three berths, two marginal ones and one 'indented' berth - totalling 1,050 meters of berthing capacity. The indented berth will allow a minimum of 300 moves per hour with up to ten cranes working both sides of the ship. The indented berth is 64 metres wide and 400 metres long and can accommodate ships with a maximum beam of 50 metres. The cranes have an outreach of 22 containers and will be serviced by a fleet of 39 of the latest straddle carriers. The straddle carriers have a lifting capacity of 50 tons, lift one-over-three and use a Global Positioning System (GPS) linked to a yard management computer system. Two-thirds of the costs are being financed by the Amsterdam Port Authority and the remainder by Ceres. The area of the first phase is 50.6 hectares and is scheduled to be completed in 2001, and a second phase of 68.8 hectares with a second indented berth will be operational in 2003.

C. INSTITUTIONAL CHANGE

111. Large multi-port operating companies continued to seek new operating concessions, thus consolidating the trend towards public/private partnerships in the container terminal sector. The major international firms are Hutchinson Port Holdings (HPH), PSA Corp, P&O Ports, International Container Terminals Incorporated.

112. HPH operates at present in 18 ports in the Bahamas, China, Indonesia, Myanmar and Panama, and in 1999 estimated that it handled about 10 per cent of global port container throughput. Other major terminal operators are P&O Ports with 21 container terminals in 19 countries and interests in a further 30 ports. Their terminals are found in the following developing countries with the approximate volumes in thousands of TEUs shown in brackets (Argentina (500), China (750), India (470), Indonesia (1,100), Mozambique (25), Pakistan (190), the Philippines (540), Sri Lanka (310), and Thailand (340)). PSA Corp, in addition to four terminals in Singapore, operates eight others in Brunei, China (Dalian and Fuzhou), India (Tuticorin and Pipavav), Italy, Portugal and Yemen and has entered into an agreement to manage a terminal in Inchon, Republic of Korea. International Container Terminal Services, Inc. (ICTSI), in addition to Manila, operates one terminal in Argentina, two in Mexico, and one each in Pakistan, Saudi Arabia and the United Republic of Tanzania. Stevedoring Services of America (SSA) and Ceres Terminals operate mostly in the United States. SSA operates seven terminals in the United States and one terminal in Panama. Ceres provides stevedoring and terminal operations in 20 locations throughout North America as well as in Amsterdam, Odessa and Moscow.

113. South America's privatization of ports is continuing, especially in the Mercosur countries, with the exception of Uruguay, where several attempts to privatize the container terminal in Montevideo have failed. In Chile, the container terminals in Valparaiso and San Antonio, plus the multi-purpose terminal at San Vicente have been leased to private companies as operating concessions. In each case the prices paid were well above initial expectations.

114. In Brazil, the privatized terminals in Santos, Rio de Janeiro, Rio Grande and Paranagua have all achieved better traffic performances. The terminal operators in Santos have made big improvements in productivity rates and efficiency levels. This has resulted from the programme to upgrade equipment, from the improved balance in trade and from fewer ships with more cargo. In Rio de Janeiro, since privatization, the waiting time for a berth of from 24 to 30 hours has been eliminated, and crane productivity has improved from six moves per hour up to 20. There is still need for reform in the high manning levels for working container vessels and that will allow the lowering of cargo handling charges. There are a number of smaller Brazilian ports that are

in the process of asking for tenders from private companies to operate their container facilities.

115. In Argentina, the various private terminal operators in Buenos Aires have continued to invest in new equipment, although cargo flows are expected to decline by at least 10 per cent in 1999 as a result of the Brazilian currency devaluation. A consortium led by Manila-based ICTSI won a concession to operate the container terminal in the port of Rosario and a programme to upgrade the facilities was started. However, the operator faced heavy losses and the consortium has subsequently withdrawn from the lease.

D. SPECIAL NEEDS OF SMALL PORTS

116. To better understand the needs of the least developed countries in their port sector the following extract has been made from a study on port development for an island least developed country. The Republic of Kiribati consists of 33 islands scattered over 4,500 km east-west and 1,800 km north-south of a wide expanse of the Central Pacific Ocean and has at present a population of about 80,000. Tarawa atoll, where Betio Port is located, is isolated at a distance of about 4,500 km from a major trade partner Australia, about 4,300 km from New Zealand, and 5,200 km from Japan. Almost all the islands of the country consist of coral atolls with poor soil for agricultural activities and hence depend on imports for most foods and other necessities. Major export commodities are copra and fish. However, the trade balance has shown a heavy deficit since the exhaustion of phosphate reserves in 1979. Due to these peculiar geographical and social conditions, sea transport constitutes a lifeline supporting Kiribati's economic activities, while port facilities are indispensable infrastructure connecting sea and land transport for foreign and domestic cargoes.

117. The major port of the country, Betio, the most important port of the Line Islands Group, London Wharf in Christmas Island and all the other outer island ports are suffering from a serious deterioration of their services because of a long absence of investment to improve facilities. Betio Port is the sole gateway for foreign trade and the centre of domestic sea transport. However, no significant work has been done on improving the port since the development works for port facilities for small boats that were undertaken about 30 years ago. In consequence, Betio Port experiences problems of inefficient and unsafe port operations due to the deterioration of its facilities that lack the necessary capacity for the present trade.

118. The current situation of the deteriorated port is such that the port is unable to perform the functions required for modern trade without urgent rehabilitation and improvement. Betio Port further lacks the capacity to deal with containerization. Since large container ships cannot berth alongside the quay wall in the port, containers are transferred from ship to shore, or vice-versa, by using barges and a tug. This handling system reduces cargo handling efficiency. Full containers are handled only with a fixed tower crane in the container yard and are stacked 5 high within the reach of the crane. Average handling time for these containers stacked at random is about twice that of containers normally handled in other international ports. The extremely small area for stacking containers makes handling efficiency worse. Better management information systems could assist the port operator to improve performance in the port.

119. In Betio and the other outer island ports, maintenance dredging has been neglected resulting in difficult and inefficient entry and berthing operations for small vessels. In terms of containerized imports, container traffic is expected to increase from 1,600 TEU in 1993, to 2,500 in 2000 and 3,200 in 2005. Total tonnage will rise from about 62,000 tons in 1993 to 86,000 tons in 2000 and to 109,000 tons in 2005. A development plan to construct a new wharf allowing alongside berthing of 90 per cent of the ships calling at Betio Port has been drawn up. However, an economic analysis of the project shows a low internal rate of return because of the small volume of cargo and the large capital investment required to bring the facilities up to an international standard.

120. While this is an extreme case, it illustrates the problem that ports in the least developing countries are facing. There are 32 LDCs that border the ocean, of which 11 are island countries. The improvements required are essential for the sound growth of the countries' economies, but the low rate of return deters the private sector from either lending or investing funds. Consequently governments must often depend on ODA or loans on concessionary terms to make the required improvements, although the amount of these funds continues to decline.

Chapter VI

TRADE AND TRANSPORT EFFICIENCY

This chapter provides an update on the impact of the latest developments in the field of multimodal transport and on the emerging role of internet-based transportation service providers, as well as providing information developments in the legal sector and with training.

A. DEVELOPMENTS IN MULTIMODAL TRANSPORT

(a) General developments

121. The year 1999 passed with one disturbing question about what might happen after New Year's eve on 31 December 1999. The Year 2000 bug, commonly known as Y2K, was one of numerous potential disasters that many people, including transport operators, were doing their utmost to avoid. The bug was taken seriously because virtually everyone would be affected through the global interconnectivity of computer networks. Solving the problem would mean making sure that all computers correctly stated the date and time when they entered the millennium. Ignoring the problem would have a directly disruptive effect on institutions whose data precisions depended on the time element of database information, such as bank accounting, airline scheduling, market analysis, and many more. This disquiet had driven most of the world's major institutions to undertake basic computer software and hardware preparations to ensure that their worldwide computing networks were Y2K compliant.

122. International trading flows were among those heavily affected by the financial crisis experienced by Asia and Russia. In the area of trade facilitation, the impact of the crisis was also reflected by the negative growth and revenue of the container leasing and production industries that these countries had to endure during that period. The crisis was short-lived, however, and by the third quarter of 1999 demand had gradually improved in Asia and Russia alike.

123. E-commerce started to have an impact on the logistic industry. It began to redefine the efficiency of distribution by adding yet another dimension in the area of the supply chain. Bigger companies had begun cultivating the power of e-commerce to address the needs of their individual clients and distributors more efficiently by forming a community of supply-chains. The hope was that the new model of distribution would eventually reduce unnecessary inventory buildups held by trading partners. Analysts suggested that such a model would allow the distribution system to flow not in the traditional linear way but in more of a networked manner. In a similar way, E-trade facilitation had also given rise to a new type of trader who would offer and be able to facilitate interchanges of container equipment for shipping lines. Such traders, now called e-lessors, would grow to become an integral and important part of the players in the container leasing industry.

(b) E-trade facilitation

124. Trade facilitation now has a new dimension "trade facilitation" (etf). The newly developed Internet technology, when combined with the vast knowledge and expertise of the shipping world, may become the centralizing environment for the complex and dispersed global industry of shipping. At one level, an etf web site may become a virtual marketplace that brings together transport users and providers from around the world. As a system, it helps to streamline the current overburdened administrative aspect of the transport industry. E-trade facilitation can be the catalyst for a substantial change which will redefine the management of trade within the industry.

125. A good example of an etf site may be the LevelSeas.com site. This provides market intelligence, online charting, pre- and post-fixture activities, risk management tools, and freight derivatives to constitute a comprehensive freight management service for the seaborne wet and dry bulk commodity shipping community. The site delivers added value to the participants of the industry by providing greater market access and greater efficiency, and by lowering costs. The site does not discriminate against any player in the industry.

126. Another type of etf instrument serves as a tool in helping to manage one segment of the supply chain. An example is that of stevedores and chief officers working interactively on the same stowage plan. Currently, a website developed by a joint effort of Canada-based Autoship Systems Corporation (ASC) and the Internet Service Provider/Active Server Pages (ISP/ASP)-provider Stargate allows for a load-planning software to be used remotely through the site. All that a user needs is a PC with an internet connection. Another site, called Vendor Interface, is also a new etf instrument, which provides a channel for managing the drayage segment of intermodal shipments. The site is developed by Cysive Inc. and Hub Group. The idea is to enable Hub Group and its drayage partners to keep permanently in touch by means of the Internet. The site is designed to improve operational efficiency, eliminate redundancy and provide processing of orders all day long. For shippers, the site offers increased information visibility throughout the supply chain, and high quality communication and tracking. For operators, such as Multimodal Transport Operators, on the other hand, the site become a means to select appropriate carriers for each shipment based on cost, dates, location and cargo. This is all done online, where shipments are offered for carriers, terms are set, and deliveries identified and authorized.

127. With a digitial camera, etf may help to reduce truck queues at marine container and intermodal terminal gates. By having webcams, digital cameras designed for the Internet, installed at the gates, one may access a designated site for information that would cut down on idle trucking time and help to track containers. Sites, such as eModal.com, gather information from shipping lines and sort and consolidate it into an easy-to-read format ready for enquiries on specific containers.

128. A more advanced etf system uses the latest and more sophisticated Global Positioning System/Global System for Mobile Communication (GPS/GSM) tracking unit. It has an antenna and dual band GSM modem. The unit is designed to locate moving units such as containers, trailers, trucks or rail freight cars. As a system, it gathers data from the unit to be processed and stored in an information centre where customers may obtain relevant information via fax, telephone, Short Message Service (SMS), Wireless Application Protocol (WAP) or over the Internet. As regards tracking transport equipments, the system would gather the positions and status of any number of tracking units installed on the equipment and process them into a formatted table that could be evaluated by any combination of fleet management or dispatching systems owned by customers. This system is now being used in Europe and is commonly known as the MobileHound SAM Cargo System. The system sends the gathered data to proTime "Fleet Services" information centre to be processed.

129. A simpler yet integrated system for monitoring all stages of the supply chain is also starting to evolve as another type of etf system. This supply chain monitoring system relies heavily on the information coming from all those involved with a shipment, such as producers, transporters and storage providers, freight forwarders and surveyors. The system processes the information to provide an unobstructed and timely view of critical logistics data. It also allows participants to sequence and optimize the bulk material supply function. Stolt-Nielsen SA is currently implementing the system, calling it TransLink, an internet-based, open logistics system for chemical and related materials shipped in bulk.

130. Sea Box, a US container trading and design company, established a virtual marketplace on the Internet, which is called ISOContainers.com, a site for buying intermodal equipment worldwide. It is a 24-hour service, which includes a real-time inventory that is globally available in over 200 international inland and port cities. Customers may enquire about the type, location, condition and cost of the equipment, as the facts are always updated every quarter of an hour. This is just another new feature of the evolving E-trade facilitation.

(c) Container leasing industry

A general overview

131. The container leasing industry has been in a difficult leasing market for the past few years. The utilization rate has deteriorated. The per diem rental rates and the prices of new boxes have plummeted, affecting the direct investment strategies of carriers and lessors alike.

132. Lessors have found themselves in direct competition with shipping lines and other transport operators in terms of acquiring new containers. Responding to the drop in prices of new boxes, lines and other transport operators acquired about 720,000 TEU in 1998, which was a 30 per cent jump from the purchases made a year earlier. Lessors, on the other hand, were not fully able to adjust their rental rates to the fall in prices of new containers because of the massive number of boxes they bought when prices were substantially higher. The rental rates had to remain somewhat rigid in order to cover the depreciation cost of older boxes. The new and cheaper boxes acquired by carriers thus significantly reduced carriers' demand for the relatively more expensive leased containers. Responding to the weak world demand for containers, lessors consequently had to curtail their purchases for new containers, and in 1998 acquired only 755,000 TEU containers, i.e. 45,000 TEU less than what they bought a year earlier. The share of boxes owned by carriers, in the meantime, increased substantially in meeting world demand for containers.

133. In general, the weak world demand for leased containers had led to the worsening of the utilization rates of leased boxes and the growing stockpiles of idle containers at unattractive locations in Europe and North America. Indeed, lessors were facing tough times in generating a profit. Compared with the newcomers to the industry, long-established lessors were holding a wide range of equipment that had higher depreciation rates than their own replacement cost.

134. Thus, besides restricting their purchases of new containers, lessors began to look for other cost-saving strategies, such as fleet mergers and management takeovers, mainly to achieve economies of scale. As shown in table 44, Genstar and Sea Containers merged in 1998 to form GE SeaCo with a more than 1.1 million TEU making it the second largest player in the industry. Textainer Group decided to expand its fleet by acquiring smaller sized PriceSource in 1998 and Xtra International in 1999. Such consolidations obliged the newly formed leasing companies to retire a large number of old containers that were classified as uneconomic. As a result, for the past few years, the fall in the lessors' direct investment was minimized as the yearly disposal rate was maintained at around 300,000 TEU (see table 45). The fact that older containers were retired earlier through consolidations, and that the top five leasing companies controlled about 70 per cent of the leasing market share, the rental rates adjusted better to the changes in prices of new containers. This, in turn, helped to prevent the utilization rate of leased containers from falling too fast.

135. Retiring older containers through consolidations, however, did not entirely remove the problem of idle containers at low-demand areas. The companies with the largest stockpiles had to relocate their idle containers to areas with higher demand for export containers as this was cheaper in the long run than paying the mounting storage cost.

136. As mergers promote economies of scale that streamline performance within the industry, e-commerce also has contributed some degree of efficiency. Despite its young age, e-commerce has encouraged the birth of a new category of transport operators who own very few or not even a single container. Lessors are beginning to realize the growing importance of the role of e-commerce in marketing and servicing as part of their cost-saving strategies.

137. The fundamental challenges for lessors may be summarized as finding ways to meet the actual demand for leasing containers while generating profit near the break-even point and managing the reallocation of the growing mountains of idle boxes stranded at low demand locations around the world. Lessors agree that the answer to such challenges may begin with a substantial recovery of the market for leasing containers, in which an increase in demand for new boxes is generated by the growth of a more balanced world trade.

138. Entering the year 2000, the industry faced the lingering question of when the market would improve sufficiently to allow for a substantial return on their investment. Recent signs, however, supported a growing anticipation of the long awaited arrival of better market condition. The leasing companies, on the other hand, were hard to convince. Two years ago, similar signs had appeared showing a world market demand initially headed for improvement as containers' utilization rate increased to almost 85 per cent towards the beginning of 1998. The price of new containers also showed an improvement as it was expected to increase for two reasons: first, it was assumed that it had reached its lowest price level and, second, the Chinese Government had established a price floor for new containers in the first quarter of 1998.

Table 44

Operating container fleets of major lessors and total industry for 1997-1999
(rounded figures in TEU and include all container types)

Leasing Company	End 1999	End 1998	End 1997
Transamerica Leasing	1 180 000	1 175 000	1 240 000
GE SeaCo [a]	1 155 000	1 135 000	
Genstar Container [a]			855 000
Sea Containers [a]			290 000
Textainer Group	865 000	615 000	480 000
PrimeSource [b]			55 000
Xtra International [b]		230 000	225 000
Triton Container Intl	695 000	585 000	495 000
Interpool Group [c]	520 000	500 000	425 000
Florens Container Corp [d]	455 000	445 000	435 000
CAI	345 000	285 000	220 000
Cronos Group	340 000	350 000	355 000
Gateway Container Corp	240 000	165 000	100 000
Capital Lease	155 000	125 000	80 000
Gold Container	105 000	75 000	50 000
Amficon	73 000	50 000	35 000
United Container Systems	55 000	47 000	35 000
Carlisle Leasing	38 500	29 000	20 000
Waterfront Container Leasing	25 500	15 000	10 000
Other	385 000	344 000	300 000
Total operating lease	6 632 000	6 170 000	5 705 000
Estimated finance lease [e]	1 000 000	920 000	850 000

Source: IICL and companies' own data.

a Genstar and Sea Containers fleets merged to form GE SeaCo in 1998.

b Textainer acquired PrimeSource fleet in 1998 and Xtra International fleet in 1999.

c Includes some finance lease.

d Includes containers leased to Cosco.

e Includes all other containers financed by established transport leasing companies.

Table 45
New container purchases by major lessors in 1997-1999
(rounded figures in TEU and include all container types)

Leasing company	1999	1998	1997
Transamerica Leasing	55 000	50 000	40 000
GE SeaCo [a]	60 000	30 000	35 000
Textainer Group	75 000	105 000	65 000
PrimeSource [b]			5 000
Xtra International [b]		15 000	25 000
Triton Container Intl	135 000	120 000	95 000
Interpool Group [c]	70 000	85 000	85 000
Florens Container Corp [d]	45 000	35 000	100 000
CAI	65 000	70 000	45 000
Cronos Group	5 000		30 000
Gateway Container Corp	75 000	65 000	100 000
Capital Lease	36 000	45 000	80 000
Gold Container	30 000	25 000	20 000
Amficon	25 000	17 000	8 000
United Container Systems	10 000	12 000	8 000
Carlisle Leasing	9 500	9 000	8 000
Waterfront Container Leasing	12 500	7 000	6 000
Other	38 000	65 000	45 000
Total fleet purchases	746 000	755 000	800 000
Total fleet disposals	305 000	290 000	310 000
Total net increase	441 000	465 000	490 000

Source: IICL and companies' own data.

[a] Genstar and Sea Containers fleets merged to form GE SeaCo in 1998.

[b] PrimeSource fleet acquired by Textainer in 1998, Xtra International fleet acquired by Textainer in 1999.

[c] Includes some finance lease, but excludes around 50,000 TEU acquired through buy/lease-back.

[d] Includes equipment leased to Cosco.

139. The 1998 signs turned out to be a disappointment as prices of new boxes fell further while the availability of low interest rates in the financial market continued. Such a combination sent carriers and other transport operators out on a buying spree for new boxes. The outcome was a sharp increase of lines' and other transport operators' holdings of new boxes as they purchased 31 per cent more than the previous year. Lessors, on the other hand, restricted their procurement behaviour, as in 1998 their direct investment had dropped almost 6 per cent to 755,000 TEU from the 800,000 TEU purchased a year earlier.

140. Moreover, the Asian financial crisis worsened the situation. Over the rest of 1998 and the first half of 1999, the procurement behaviour of both lines and lessors was curtailed heavily. In 1999, carriers and transport operators acquired only 5,000 TEU more than their 1998 purchases of 720,000 TEU, while lessors maintained their procurement level at about 9,000 TEU below their 1998 purchases of 755,000 TEU.

141. The drop in demand for import and export containers in and out of Russia and countries in Asia was so significant that it caused an unbalanced flow of

containers worldwide, which again put additional pressure on the off-hire boxes buildups that accounted for 25-30 per cent of available equipment for hire. The severity of the imbalance in the flow of trade worsened as the United States economy grew stronger. It caused the utilization rate to fall to a little above 80 per cent at the beginning of 1999; a 5 per cent drop from the level attained a year earlier as more than 1.2 million TEU were off-hired from the total available fleet of 5.8 million. At this point, the lease rates had fallen approximately 40 per cent over the past four years, which was proportional to the fall in new container prices over the same period. All of these factors thus contributed to the 15 per cent decrease in revenues for the container leasing industry between 1998 and 1999.

142. The crisis in Asia and Russia turned out to be short-lived. Starting in the third quarter of 1999, signs of recovery appeared. First of all, in addition to the improved flow of traded goods, prices of new containers started to increase, partly because of the higher cost of plywood flooring needed in the production of containers. Lines and transport operators responded by not buying as many new containers as the previous year; in other words, they acquired only 5,000 TEU more than the 720,000 TEU purchased a year earlier, and allocated more of their requirements to the leasing of additional boxes. An increase of interest rates in the United States and a temporary slowdown in the rate of containership deliveries also contributed to the change in the direct investment behaviour of carriers. The increase in leasing demand was reflected through the 2 per cent increase of average utilization rates due to the rehiring of idle containers.

143. In short, the stronger world demand for trade and the increase in prices of new containers strengthened the belief that the price increase will continue and contribute to a sustainable recovery of the leasing industry. If this recovery persists, lessors are likely to increase their procurement levels in 2000.

Anticipation of recovery

144. However, lessors have yet to see a significant improvement in per diem lease rates. As the new box prices are on the rise, lessors hope for leasing rates to increase.

145. When carriers resorted to leasing to meet their demand for containers, they preferred to engage in a transaction that locked in low-priced deals for a three-to-five year period. This is possible with lessors placing their new containers on term lease. For lessors, the term lease is also favourable because, in the long run, its capital investment cost will be lower than average. By the end of 1999, the volume of rental fleets on term-lease contract had reached 50 per cent, while 35 per cent were tied to master-lease contract and the remaining 15 per cent were off-hired.

146. Traditionally, master-lease option would have earned 30 per cent more than those generated by term lease. Currently, however, the master-lease option has become less attractive because, in addition to its return being almost no different from the return generated by term lease, it would generate higher revenue only when the world demand for trade becomes much stronger and the stockpile of idle containers is substantially reduced. For now, the competitive term-lease contracts will continue to be the major source of income for the leasing industry.

147. Overall, in 2000, lessors are expected to continue their procurement strategy as the certainty of recovery grows. There is also a prospect for further mergers and management takeover, as revenue and container reallocation problems continue in 2000. Container replacement will remain an important task undertaken mostly by larger companies. The tendency to expand the fleet will remain part of the strategies of mid- and smaller-sized companies to generate higher returns.

148. The total leased fleet has grown by 7-8 per cent during the past two years and will continue to grow in the new millennium. In particular, leasing demand is likely to continue pushing for the expansion of the dry freight high cube container fleet. Table 46 shows that dry freight high cube has steadily expanded about 30 per cent every year for the past three years. The volume of dry freight special boxes, however, has increased slightly, suggesting that purchases made for this type of container were mainly for replacement.

149. Table 47, in addition, clearly shows that leasing demand for all sizes is growing except for the 48 ft containers. The demand for 20 foot, 40 foot, and 45 foot containers has increased by 14.16 per cent, 25.08 per cent, and 28.79 per cent, respectively.

Table 46

Global fleet of containers on operating lease by type, 1997-1999
(in TEU)

Container type	End 1999	End 1998	End 1997
Dry freight standard	4 545 000	4 420 000	4 230 000
Dry freight high cube	1 165 000	905 000	690 000
Dry freight special [a]	354 000	335 000	310 000
Reefer	277 000	262 000	250 000
Tank	76 000	74 000	70 000
US domestic	146 000	135 000	120 000
European swapbody [b]	42 000	39 000	35 000
Total operating lease	6 605 000	6 170 000	5 705 000

Source: IICL and companies' own data.

a Includes cellular pallet-wide units.

b Includes swap tanks and non-cellular units.

Table 47

Global fleet of containers on operating lease by size, 1999 and 1998
(*in TEU*)

Container size	January 2000	January 1999
20 foot	2 086 993	1 828 071
40 foot	4 218 648	3 372 784
45 foot	35 638	27 671
48 foot	24	24
Other	815	330

Source: IICL 2000 and 1999.

Container production

150. At the beginning of 1999, the price of a new 20 ft standard container was less than $1,350 and the price of a new 40 ft standard container was a little over $2,100. As the lowest in more than two decades, the 1999 container prices were also 45 per cent lower than the prices quoted four years earlier. Toward mid-1999, however, the prices started to increase and, by the third and fourth quarters, the prices of new boxes were 2-3 per cent and 5 per cent higher than the prices quoted at the start of 1999, respectively. The increase in the 1999 prices of new boxes absorbed the 50 per cent increase in the cost of Indonesian plywood for box flooring.

151. China remained the major supplier of new boxes representing 66 per cent of the global dry freight container production (see table 48). Because most of the manufacturers were located in the central and southern areas of China, where resources and raw material were relatively cheaper, China was able to produce boxes at very competitive prices dictating the world price of new containers.

152. At the end of 1999, the price of new 20 ft containers was about $1,460-1,480 across China. This increase in the price of new containers was reportedly welcomed by the industry as an inevitable result of the recovery from the Asian financial crisis, and should the price continue to increase, it would help producers in their cost-saving effort to generate revenue for the industry. An early reaction to the price hike was the setting of prices by container producers with their larger customers on volume production for the year 2000.

153. The fall in container output in 1999, which had initially been predicted to be 10 per cent, actually stood at a 2 per cent drop (see graph 9). The reason for the output not to drop any more than 2 per cent was the increase in demand for new containers that originated from the stronger world demand for trade following the end of the Asian crisis, and from the streamlining of the industry that went through continuing consolidations, which ensured a more efficient production of new boxes. In other words, with the improvement in the terms of trade and the speedy recovery from the Asian financial crisis, the increasing demand for new boxes was expected to continue or remain at current levels, sustaining an increase in the price of new containers.

154. The composition of production in 2000 is also expected to follow the trend from the past couple of years. As shown in table 49, total production was dominated by the demand for dry containers totalling about 1.2 million TEUs. Dry freight containers produced in 1999 and 1998 constituted about 84 per cent of the global production. The other types of boxes, comprising 11.7 per cent of world box production, had changed in composition. In particular, the production of tank and special boxes fell by 25 per cent and 15 per cent, respectively. On the other hand, productions of swapbodies increased by more than 20 per cent.

Table 48

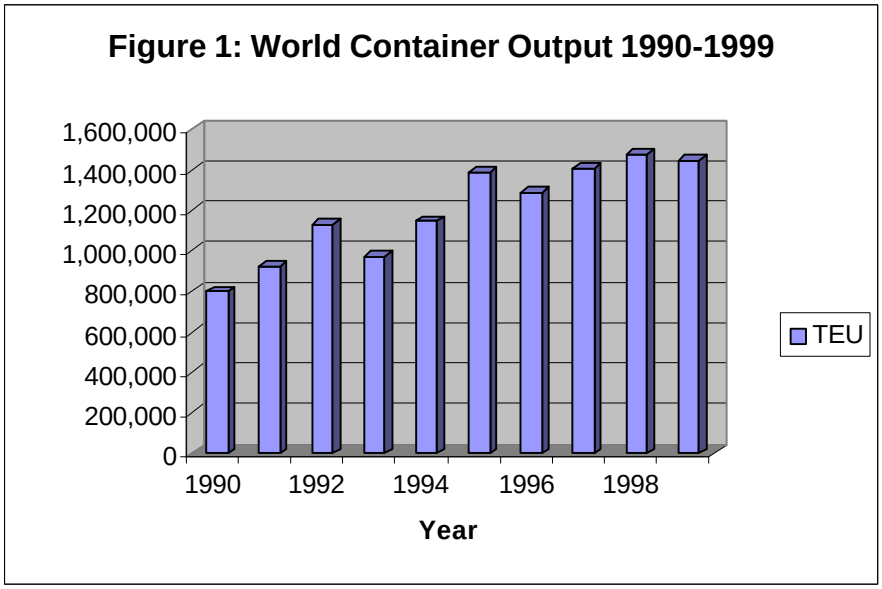
Global container production by country/region for 1998 and 1999

Container size	January 2000	January 1999
20 foot	2 086 993	1 828 071
40 foot	4 218 648	3 372 784
45 foot	35 638	27 671
48 foot	24	24
Other	815	330

Source: *Containerisation International*, January 2000.
Note: Totals include maritime and regional container types; some 1999 totals are estimated.

Graph 9

World container output, 1990-1999



Source: *Containerisation International*, January 2000.
Note: Totals include maritime and regional container types.

Table 49

Global container production by main type for 1998 and 1999

Container type	1998	1999
Dry freight standard and high	1 225 000	1 210 000
Dry freight special	77 000	65 000
Reefer	95 000	87 000
Tank	15 500	12 000
European (swapbody)	34 000	42 000
US domestic	28 500	29 000
Total	1 475 000	1 445 000

Source: *Containerisation International*, January 2000.

B. ELECTRONIC COMMERCE AND ITS IMPACT ON TRANSPORT

The emerging role of Internet-based transportation service providers

155. Major transport companies, including maritime carriers, are now providing a variety of information about their services on the Internet as well as enabling customers to process transactions online. In addition, in recent years there has been a considerable growth of infomediaries, which are creating marketplaces, and exchanges for transportation services. This section provides a brief description and selected examples of such infomediaries or Internet transport portals.

156. Internet transport portals are websites that are designed to bring together large numbers of transportation service buyers and sellers and thus match their offers and requirements. They function in the same way as more general web portals such as Yahoo, Excite, Infoseek, etc., except that they specialize in enabling the search for information on, and carrying of transactions in, transport.

157. The following are examples of online capabilities that they provide:

Shippers posting their requirements for tonnage, rates, delivery time and other conditions;
Carriers posting their available capacity, rates, routing, delivery time and other conditions;
Shippers viewing rates and information on capacity available from carriers;
Shippers responding to offers of capacity, delivery time and rates set by carriers;
Carriers responding to loads offered by shippers at carriers' posted rates;
Carriers and shippers making contracts based on mutually agreed offers;
Printing and receiving bills of lading;
Cargo booking and confirmation;
Cargo notification;
Payment;
Tracking movements of shipments along the transport chain.

158. Box 2 gives selected example of Internet transport portals. They demonstrate the range of services being offered and the ways in which they affect the activities of carriers and intermediaries. While there is a high degree of similarity or overlap between the services being offered by the different Internet portals, there are at the same time important variations as regards their scope and the objectives they pursue.[13]

159. A number of features can be summarized from the examples outlined in Box 2. Many of the services are designed for accessing by carriers, intermediaries and shippers. In such cases, in theory, the systems should benefit all the three groups. Some of the services are intended to arrange direct transactions between carriers and shippers and to bypass intermediaries. To the extent that the services do indeed bypass the intermediaries, the net effect would be to reduce their participation in the transportation chain. However, in so far as forwarders and other intermediaries can, in practice, have the same access as shippers to the services concerned, there appears to be no mechanism for them to be excluded.

160. A few service providers, such as FreightDesk, are dedicated to transportation intermediaries and the shippers they serve. Such services would enhance the role of intermediaries rather that diminish it. The argument advanced by the developers of FreightDesk is that intermediaries will always be needed because they have trading knowledge that carriers and shippers lack. This may be the case in most existing business-to-business transactions in which the professional expertise of intermediaries may be required to organize shipments.

161. Intermediaries may offer a number of advantages which may ensure continued demand for them. The main attraction in using intermediaries, such as forwarders, lies in their experience and specialized knowledge of a wide range of matters regarding transportation, packing, formalities related to letters of credit, customs, import licenses, etc.

Box 2

Selected examples of Internet-based transportation service providers

TRADIANT

Tradiant offers a business-to-business market exchange for freight transportation services that brings together carriers, shippers and freight forwarders. It enables carriers and shippers to participate in a global online market for containerised cargo. On Tradiant's website, shippers or forwarders can request rate quotes for one-time shipments and also for contracts for periodic shipments over time. On the other hand, carriers can provide quotes in response to requests initiated by shippers.

When requesting quotes, shippers or forwarders can specify a price and also choose to send a request to all carriers, carriers of a certain type or class, or named carriers. Having received quotes, a shipper may then accept or act on a quote accordingly.

In addition to enabling the request and offer process, Tradiant facilitates the handling of actual transactions between carriers and shippers. This includes the establishment of a physical contract, online cargo booking, documentation, shipment control and payment across all modes of transport. According to Tradiant, its system helps small to medium-sized forwarders by providing them with a state-of-the-art technology platform that is normally available to freight forwarders with large technology budgets. It enables forwarders to manage a large number of quotes and contracts from many shippers in a short time and at relatively low cost. Tradiant's services are free for shippers. It charges the carriers a transaction fee for each quote or offer that results in a booking.

iShip

iShip provides an Internet-based shipping service that allows shippers and carriers to make shipping transactions online. Its focus is mainly on small-sized shipments. It allows users of shipping services to access and compare rates and services that are provided by major integrated carriers, such as UPS, FedEx, Airborne, U.S. Postal Services, Yellow Freight System, etc. It provides answers to basic shipping questions, such as the cost of shipment by alternative carriers, delivery times, by weight and destination, etc.

Users of shipping services can obtain information on a range of providers of shipping services. They can also get access to shipment tracking tools and secure data for billing purposes. Online vendors can add shipping features to their website by linking to the appropriate iShip.com URLs and thus provide buyers with information on shipping prices and options.

iShip also gives buyers of shipping services the possibility of bidding for rates. It assembles information from sellers of shipping services which is then matched with preferences expressed by users of the services. The bidding is completed by iShip providing a matrix of shipping rates for various carriers selected by the user.

GoCargo

GoCargo is a web-based auction for transport services. It is independent, without any affiliation with shippers or service providers. Through its Internet website, it provides access to shippers of all sizes to receive multiple competing bids from service providers in an auction format. By viewing and evaluating alternative options that match their needs, shippers are able to select services. For service providers, GoCargo receives information on cargo opportunities that match the provider's profile.

National Transportation Exchange (NTE)

The NTE is a United States national business-to-business e-commerce trading exchange for member shippers and truck carriers. It is used by shippers, forwarders, brokers, third party logistics intermediaries and truckload freight carriers. It creates a transportation-trading marketplace by providing shared information on shipment time, transport availability, prices, routing and service levels.[14]

NTE has around 500 industry user members. Users of truck transport looking for truck capacity service post their requirements on the Exchange and these are matched with available carriers' capacity. Carriers use the Exchange to find compatible freight that would fill out empty space on their trucks. The Exchange determines minimum, market-based prices on every shipment entered and consignors can enter freight at any price at or above the set minimum. Shipments quoted at lower than the minimum are not accepted. The Exchange also provides users with up-to-date information on the movement of shipments.

Celarix

Celarix is a provider of a web-based transport exchange that combines the ability to buy and sell transportation services and also to manage and monitor the entire logistics process. Through the exchange, information is provided from sellers, carriers, customs brokers, freight forwarders and consolidators (NVCCs). Shippers can buy transportation services online. They can instantly communicate their requirements to many service providers, while service providers can offer available shipping space to the entire marketplace or selected users. Negotiations are thus permitted, leading to the securing of transportation service contracts and online cargo booking and confirmation.[15]

FreightDesk

This is an online transportation service provider dedicated to transportation intermediaries and the shippers served by the intermediaries. It is not an online auction but deals with managing logistics processes from the standpoint of freight forwarders, customs brokers, NVOCCs and their customers. The founders of FreightDesk take the view that forwarders and other intermediaries will always be needed on the transportation chain because they have "the domain knowledge of trading that carriers and shippers intrinsically lack". They contend that freight forwarders should not have to face extinction because of the new market in online transportation auctions through which shippers of any size theoretically can buy their transportation directly from carriers. The intermediary is a domain expert which cannot be replaced by software. The complexity of international trading means that there is a need for middlemen.[16]

The approach of FreightDesk is to use Internet-based communications capabilities to give forwarders a range of up-to-date tools that make them more effective and attractive to shippers and more economically viable. Such tools also enable small and medium-sized freight forwarders to survive alongside much bigger intermediaries. Thus unlike some other service providers, FreightDesk develops a partnership with freight intermediaries instead of trying to bypass them in the transportation chain.

Carrierpoint

Carrierpoint is an online transportation market that allows shippers and carriers to offer shipments, communicate prices and share information. Its founders aim at permitting carriers and shippers to create a true market environment free of middlemen or hidden charges. Shippers post available shipments on the marketplace and then matching carriers are notified, upon which they can communicate their current market prices. The carriers' prices are then communicated to the posting shippers along with each carrier's service characteristics. The shipper uses this information to select the best carrier for their posted shipments.[17]

The providers of CarrierPoint point out that their service is not an auction. Shippers are not required to accept the lowest bid. Both the shippers and carriers can set bid terms and reserves are not binding. Also postings can be discriminatory in that shippers can specify who will see their shipments.

Tranzlink

Tranzlink is an electronic marketplace for freight transportation transactions for truckload shippers, brokers and carriers in North America. Participants in the trading system can match loads, negotiate contracts and confirm pick-ups and delivery details online. The system provides a dual-track capability, that is broker/carrier and shipper/carrier trading environments.[18]

Through the Internet, shippers post available loads showing pick-up date, origin, destination, type of equipment needed, type of commodity, estimated target price and other additional information. Carriers can accept a job as posted or bid online along with other carriers, until an arrangement is agreed upon between the shipper and a carrier. Similarly, carriers post details of available equipment, including locations and desired destinations. Shippers, brokers and logistics companies can view these and enter competitive bids. When a bid is accepted a confirmation containing essential details such as costs, delivery times and cargo weight is sent to the shipper.

E-Transport

E-Transport is a marketplace where buyers and sellers of transportation services can conduct transactions electronically. It is designed to connect all trading partners including shippers, carriers and transportation intermediaries and ports. Users of transportation services can check tariff rates for shipping specific commodities from origin to destination. Through the marketplace shippers and carriers can negotiate rates and service contracts. They can use E-Transport's browser tools to enter shipment details, book cargo, generate documentation, rate and audit bills and track shipments.[19]

162. More importantly, though, many freight forwarders have now expanded the scope of their services to become door-to-door logistics providers. Thus, while an individual shipper may search the required information on the Internet, the range of services that a forwarder can offer creates a value added service which shippers are prepared to continue to buy from forwarders. Also experience gained so far indicates that the rapid growth of e-commerce is placing heavy demands on e-retailers in fulfilling orders. In many cases such retailers lack the necessary logistics networks needed to meet the requirements of buyers. There has therefore been a tendency for them to outsource services from third party logistics providers, including forwarders. The emerging Internet-based transportation services provide the intermediaries with tools for improving their efficiency and access to shippers. Thus, rather than being bypassed their positions may be strengthened.

Other related impacts of Internet transport portals

163. Increased competition between carriers: The growth of Internet transport portals and related exchanges, auctions and other market mechanisms are likely to intensify competition between carriers in the supply of transportation services. Even though carriers of all sizes would have access to cargoes through the Internet, the competition is likely to drive out small carriers from the industry. This in turn would encourage higher degrees of concentration in the industry in the form of domination by large integrators or carriers operating in large consortia or global alliances. However, even cooperation arrangements such as global alliances are likely to be unstable due to the intra-alliance competition that would be encouraged by transport exchanges, auctions, etc. In the long run, this scenario may favour the domination of freight markets by large integrators and other large individual carriers "protected" from competition via vertical integration or mergers.

164. Pricing in liner conference services: The growth of transport exchanges and auctions provide opportunities for direct contact between carriers and shippers and thus greater partnership between them. This would lead to further reduction of the already diminishing role of liner conferences in influencing the pricing of services. There will be greater reliance on confidential price negotiations and contracts between shippers and individual lines. In some major trades individual contracts already account for the majority of liner shipments.

165. An empirical assessment of the real impact of web transport portals is generally hard to make, however. There are no consistent data or information on the overall volume of transport services that are traded on the portals. This problem is likely to persist if carriers and shippers place emphasis on confidentiality, for example with regard to rates.

166. In addition to the data problem, there is a perception in the industry that carriers may be uncertain as regards the legal position of the transactions that may be carried out on the portals. For example carriers could fear that posting rates on a portal by a number of them could be interpreted as price fixing by collusive means in contravention of certain antitrust laws.

The position of developing countries

167. The majority of Internet transport portals that have been established so far are located in developed countries. However, the services they provide are, in principle, accessible to carriers and shippers around the world, including developing countries. Thus, in as far as trade access is concerned, buyers and sellers of transport services in developing countries are not disadvantaged by the geographical location of the portals. Indeed for e-commerce generally, there is evidence that some e-retailers in developing countries prefer to market their products on websites located in developed countries where the markets are larger, payment mechanisms are suitable and the degree of sellers' and buyer's confidence is higher.

168. On the other hand, however, the location in developing countries of Internet portals, including those for transport services, would benefit developing countries in the form of service revenues and also greater control of overall website operations for the services provided.

C. EXPERT MEETING ON CAPACITY-BUILDING IN THE AREA OF ELECTRONIC COMMERCE: LEGAL AND REGULATORY DIMENSIONS

169. In order to assess the potential impact developing countries of the legal and regulatory proposals currently being discussed in international forums and the policies to be considered by developing countries and the international community to stimulate the participation of smaller players in global electronic commerce,[20] an Expert Meeting on Legal Dimensions of Electronic Commerce was convened under UNCTAD auspices in Geneva in July

1999. The Expert Meeting, having acknowledged that most of the existing rules and legislation would in general also apply to electronic commerce, expressed concern that the existing paper-based legal systems might be insufficient to accommodate electronic commerce and might create uncertainty. In particular, the requirements in national laws for written, signed or original documents were considered as constituting barriers to the development of electronic commerce. The importance of establishing an internationally acceptable harmonized legal framework for electronic signatures and authentication was particularly highlighted by the Experts. During the Meeting the following specific concerns[21] of developing countries were singled out:

The lack of internationally acceptable rules and guidelines for the recognition of electronic signatures, digital signatures and certification authorities;

Restrictions imposed on the export of technology, especially with respect to state-of-the-art encryption standards;

The need for an international scheme for registration of domain names;

Problems arising from the application of traditional principles on jurisdiction and applicable law in an electronic environment;

The need for wider dissemination of information on international developments pertaining to the legal and regulatory aspects of electronic commerce, as well as a need for training and education, especially for small and medium-sized enterprises;

The need for technical assistance to developing countries, and particularly the least developed countries (LDCs), in adapting their national law to accommodate electronic commerce.

170. To address some of those concerns, the Expert Meeting adopted a number of recommendations[22] addressed to national Governments, to the international community as well as to UNCTAD. The following reflect some of the recommendations adopted at the Expert Meeting:

To examine the existing national legal infrastructure to assess if paper-based form requirements prevent laws from being applied to electronic transactions and to determine whether such form requirements should be adjusted to make their laws technology-neutral and permit their interpretation and application in an electronic environment.

171. In reviewing their legal infrastructures, Governments are encouraged to give consideration to using the UNCITRAL Model Law on Electronic Commerce, as well as other instruments on electronic commerce prepared by UNCITRAL and other organizations, as a basis for preparing new laws or adjusting current laws. Where appropriate, Governments should also consider the introduction of rules to give certainty with regard to the legal effect of using specific technologies within a technologically neutral legal infrastructure.

172. Developed country Governments are urged to dismantle barriers to global electronic commerce for developing countries by removing restrictions on the export of technology, especially with respect to state-of-the-art encryption systems and products, as well as associated technologies and computer systems.

173. Governments of developed and developing countries, especially those that are members of regional economic groupings, are encouraged to establish cooperative relationships so as to increase their capacity to deal with the complexity of the issues that have arisen due to the development of information and communication technologies in such areas as taxation, customs, intellectual property, domain names, computer crime, Internet content regulation, privacy and data protection, consumer protection, certification authorities, and the role of accreditation and standardization bodies.

174. Governments of developing countries are encouraged to participate in the preparation of various legal instruments being considered in international forums and to promote public awareness and education of all aspects of electronic commerce and the opportunities and benefits it offers.

175. Finally, the international community is requested to provide assistance to developing countries in reviewing and adapting their national laws to accommodate electronic commerce, promoting awareness, education and training in the legal and regulatory aspects affecting electronic commerce.

176. Box 3 provides the status of international maritime conventions adopted under the auspices of UNCTAD as at 10 July 2000.

Box 3

Contracting States of selected conventions on maritime transport as at 10 July 2000

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 of Great Britain and Northern Ireland, 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, Kenya, Lebanon, Lesotho, Malawi, Morocco, Nigeria, Romania, Senegal, Sierra Leone,Tunisia, Uganda, United Republic of Tanzania, Zambia **(26)**
United Nations Convention on International Multimodal Transport of Goods, 1980	Not yet in force - 30 contracting parties	Burundi, Chile, Georgia, Malawi, Mexico, Morocco, Rwanda, Senegal, Zambia **(9)**
United Nations Convention on Conditions for Registration of Ships, 1986	Not yet in force - 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 - 10 contracting parties	Monaco, Russian Federation, St. Vincent and the Grenadines, Tunisia, Vanuatu **(5)**
International Convention on Arrest of Ships, 1999	Not yet in force - 10 contracting parties	-

Source: For official status see www.un.org/Depts/Treaty.

D. OTHER DEVELOPMENTS

177. The TRAINMAR programme provides a system for locally-managed training for shore-based professionals in the fields of international transport, port management, and logistics, with a view to improve maritime trade. It ensures, through continuous and flexible cooperation among Training Centres, that a wide range of training is available effectively and economically. Each cooperating centre joins a regional network, maintaining regular contact with other centres; the regional networks also remain in contact and all are linked to a Central Support Team (CST) at UNCTAD's headquarters in Geneva. Efforts and resources are shared and each member has access to the latest information, experience and products. The training that results is organized and conducted professionally by local staff trained in the TRAINMAR approach, and is shaped to meet the needs of the community. Trainers who have gained experience through TRAINMAR have been able to conduct wider training in other countries, and in topics not considered to be the domain of UNCTAD, such as portworker training using materials prepared by the International Labour Organisation (ILO) and increasingly implemented through TRAINMAR.

Asia/Pacific Region

178. In this region, TRAINMAR is currently active in Egypt, India, Malaysia, Pakistan, Papua New Guinea, the Philippines, Sri Lanka and Thailand. Members meet periodically to prepare plans for joint actions, which in 1999 have included a regional system of quality control applied to new courses being developed, and with help from the CST at members' request, the initiation of two projects to bring technology-based training methods into regular use for meeting the demands of an increasingly privatized maritime trade sector.

179. New interest has been expressed during 1999 from institutes in countries not currently involved with TRAINMAR, notably in Western Asia but also in Nepal, the first landlocked country of the region to recognise the benefits offered by network membership, and Australia where there is a willingness to help as well as share with centres in other countries. Greater membership in Western Asia may lead to the creation of a separate network there. Also, following contacts with countries of the Pacific, a project proposal has been prepared to support the creation of a separate TRAINMAR network.

Latin America and the Caribbean

180. The TRAINMAR network has been very active in the Latin America and Caribbean region thanks to the more than 20 associate members, gathered in three regional networks (Southern Cone, Central America and Caribbean Basin). Faced with changing structures, partners and clients in the maritime business, TRAINMAR capacities had to be adapted to reflect new training demands, which include transport logistics, quality and environmental aspects, information technology and the concept of port community services. To meet these new challenges, new products and services have been developed over the past year, to the growing satisfaction of the wider port, transport and shipping communities served by TRAINMAR.

181. In South America, the TRAINMAR South American Association (ATAS), a non-profit private organization was created in 1996 to enhance the coordination of the regional TRAINMAR activities and better represent the interests and objectives of the TRAINMAR members in South America. Since that date, the association, jointly supported by UNCTAD and the German Agency for Technical Cooperation (GTZ), has developed an important number of new training materials and additional services to training.

182. In Central America, TRAINMAR has been working hand in hand since 1987 with COCATRAM, the Central American Commission for Maritime Transport. National port authorities or responsible commissions in each of the six countries of the Central American isthmus, excluding Panama, have been implementing TRAINMAR through their respective training or human resources sections. After privatization of port activities touched Panama, TRAINMAR activities have been coordinated there by the Panama Maritime Authority. Strong and long-lasting horizontal cooperation mechanisms among members allow for an intensive annual work programme, with more than 80 per cent of the courses being port centered.

183. The Caribbean Basin network is a successful combination of public and private port companies, universities and non-profit organizations working towards the goal of providing high quality training services, in three languages, with a strong emphasis on the transport logistics sector. A diploma programme in The Logistics of International Transport of Goods has been successfully developed and implemented in

Colombia, Panama and Guadeloupe, thanks to a technical and financial partnership with the French Ministry of Foreign Affairs. Contrary to most TRAINMAR network members around the world, each Caribbean network member is specialized in one activity: course development, multimedia development, course delivery, consulting, etc. To accelerate its integration as an efficient training provider, the Caribbean Basin network decided in 1998 to standardize all its working procedures in order to obtain a quality certification following ISO 9002 quality standard.

Other regions

184. In Eastern Europe, TRAINMAR has established two centres in Constanza, Romania, and Batumi, Georgia, with the hope of creating a regional network by the Black Sea. So far, the training needs analysis has been completed in both countries, and training plans are being prepared for 2000. In Romania, 8 courses were delivered for the benefit of the local port and shipping community, as well as future TRAINMAR course developers. In Georgia, traditional TRAINMAR and IPP (Improving Port Performance) courses are being translated into Russian with a view to a wider use in Russian speaking countries. In both countries, TRAINMAR is cooperating with the German Agency for Technical Cooperation (GTZ) in the framework of port modernization technical assistance projects.

185. In Africa, cooperation between centres is being reactivated after a period without structured cooperation among the various qualified centres still active individually. In March 2000, trainers or managers from Angola, Benin, Cameroon, Cape Verde, Gabon, The Gambia, Guinea, Senegal, Togo and the United Republic of Tanzania met in Las Palmas, Canary Islands, where UNCTAD was requested to support renewed cooperation among the interested countries.

Chapter VII

REVIEW OF REGIONAL DEVELOPMENTS: SUB-SAHARAN AFRICA

This chapter reviews and analyses the global and intraregional trades in sub-Saharan Africa, along with developments in transport and related services.

A. ECONOMIC BACKGROUND

(a) General situation

186. The economies of sub-Saharan Africa have recently been influenced by three main developments. The first were movements in commodity prices. The persistent weakness of non-oil commodity prices continues to constrain growth in many countries in sub-Saharan Africa. Secondly, pressures for structural reforms have increased, in some cases because of the economic difficulties brought on by depressed commodity prices in recent years. Thus, increased attention has been given by Governments to preparations for the privatization of public utility and transportation companies in many of the sub-Saharan African countries, in order to improve the business and investment environment. Thirdly, the economic outlook is also being shaped by various improvements in trade and political cooperation. Several positive developments have been cited, including the implementation of the common external tariff by the West African Economic and Monetary Union, and plans for establishing free-trade areas in the Common Market for Eastern and Southern Africa and also in the Southern African Development Community in 2000.

187. For sub-Saharan Africa as a whole, growth in economic activities, measured by GDP, has been projected to grow by around 3 per cent in 1999 and 5 per cent in 2000. This aggregate figure masks the fact that some countries such as Cameroon, Côte d'Ivoire, Ghana, Sudan, United Republic of Tanzania and Uganda have been performing relatively well in macroeconomic terms. Growth of 4.0-5.5 per cent was projected for most of these countries in 1999, with further strengthening expected in 2000, and inflation has in general been held at low-to-moderate single-digit levels. This relatively strong performance can be attributed in part to continued appropriate macroeconomic policies.

(b) Macroeconomic performances

Real GDP

188. The GDP growth of sub-Saharan Africa was stagnant for the period from 1991 through 1994, compared to the average annual growth of 2.3 per cent for the 1981-1990 period. Their overall economic activities regained some momentum in 1995, and sustained this positive development until 1998, when the growth rate fell below 3.0 per cent, and was also less than 3.0 per cent in 1999. A similar trend is observed in the GDP growth rate fluctuation of developed market-economy countries. This reflects how sub-Saharan African countries' economic performance as a whole has been closely related to those of the advanced economies. However, the trend in sub-Saharan Africa was in sharp contrast with that of all developing countries, specifically Asian developing countries, until the end of 1997. In 1998, the Asian economic and financial crisis adversely affected the overall economic performance of all country groups, including sub-Saharan developing countries. In 1999 all groups, including the sub-Saharan group, seem to be recovering gradually from the economic and financial slowdown (see table 50).

189. In West Africa, the economies of this subregion have continued to develop favourably since 1995, after a number of countries went through a phase of negative growth in previous years. In 1998, despite the Asian crisis, countries in this subregion generally performed well, recording positive growth rates which had been above the average rate of sub-Saharan Africa, with the

Table 50
Real GDP of the developing countries of sub-Saharan Africa
(annual percentage change, 1981-1998)

	Average 1981-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
World	3.4	1.8	2.5	2.7	4.0	3.8	4.3	4.2	2.5	3.0
Developed market-economy countries	3.1	1.2	2.0	1.3	3.2	2.6	3.2	3.2	2.2	2.8
Developing countries	4.2	4.9	6.7	6.5	6.8	6.1	6.6	5.8	3.2	3.5
Africa	2.5	1.8	0.2	0.7	2.4	3.0	5.9	3.1	3.4	3.1
Sub-Saharan Africa	2.3	1.7	0	1.5	2.0	4.0	5.5	3.9	2.7	2.9
West Africa										
Benin	1.1	4.7	4.0	3.5	4.4	4.6	5.5	5.7	4.5	
Burkina Faso	2.8	10.0	2.5	-0.8	1.2	4.0	6.0	4.8	6.2	
Cape Verde	2.6	-34.1	-18.4	87.9	12.7	2.2	2.6	2.2	3.6	
Côte d'Ivoire	1.0	0	-0.2	-0.2	2.0	7.1	6.8	6.0	5.4	
Gambia	3.4	2.2	4.4	6.1	3.8	-3.4	5.3	0.8	9.9	
Ghana	2.1	5.3	3.9	5.0	3.8	4.5	3.5	4.2	4.6	
Guinea	3.1	2.4	3.5	4.9	4.0	4.4	4.6	4.8	4.6	
Guinea-Bissau	2.4	5.1	1.1	2.1	3.2	4.4	4.6	5.4	-28.1	
Liberia	-	-	-	-	-	-	-	-	-	
Mauritania	4.5	2.6	1.7	5.5	4.6	4.5	4.7	4.8	3.5	
Mali	2.0	-0.9	8.4	-2.4	2.2	6.4	4.0	6.7	3.6	
Niger	0	2.5	-6.5	1.4	4.0	2.6	3.4	3.3	8.4	
Nigeria	2.0	6.0	2.6	2.2	-0.6	2.6	6.4	3.1	1.9	
Senegal	2.5	-0.4	2.2	-2.2	2.9	5.5	5.2	5.0	5.7	
Sierra Leone	0.8	-8.0	-9.6	0.1	3.5	-10.0	5.0	-20.2	0.7	
Togo	1.1	-0.7	-4.0	-16.4	16.8	6.8	9.7	4.3	-1.0	
Central Africa										
Burundi	4.5	5.0	0.7	-5.9	-3.7	-7.3	-8.4	0.4	4.5	
Cameroon	3.3	-3.8	-3.1	-3.2	-2.5	3.3	5.0	5.1	5.0	
Central African Republic	2.0	-0.6	-6.4	0.3	4.9	6.0	-3.3	5.7	4.8	
Chad	5.0	10.4	2.4	-1.8	5.7	0.9	3.7	4.1	6.8	
Congo, Democratic Republic of the	0.7	-8.4	-10.5	-13.5	-3.9	0.7	0.9	-5.7	-5.0	

Table 50 (continued)

	Average 1981-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Congo, Republic of	5.2	2.4	2.6	-1.0	-5.5	4.0	6.3	-1.9	3.5	
Equatorial Guinea	2.2	-3.6	17.0	7.1	6.8	16.2	27.8	71.2	22.0	
Gabon	1.6	6.1	-3.3	2.4	3.4	7.0	5.1	5.3	2.1	
Rwanda	2.2	-4.3	6.6	-8.3	-49.5	32.8	15.8	12.8	9.5	
Sao Tomé and Principe	-1.5	1.2	0.7	1.1	2.2	2.0	1.5	1.0	2.7	
Southern Africa										
Angola	2.1	0.7	-1.0	-27.0	1.4	11.3	11.7	6.6	-0.2	
Botswana	10.9	7.4	3.0	2.0	3.4	4.7	6.9	7.8	6.0	
Lesotho	4.6	4.1	4.6	3.7	3.7	6.0	9.7	4.1	-5.4	
Malawi	2.2	8.7	-7.3	9.7	-10.2	15.4	9.0	4.9	3.1	
Mozambique	0.1	4.9	-8.1	8.7	7.5	4.3	7.1	11.3	12.0	
Namibia	-0.6	5.7	9.5	-2.0	6.7	3.4	2.9	1.8	1.7	
Swaziland	6.6	2.5	1.3	3.3	3.5	3.0	3.6	3.7	2.0	
Zambia	1.0	0	-1.7	6.8	-8.6	-4.3	6.4	3.5	-2.0	
Zimbabwe	4.4	5.5	-9.0	1.3	6.8	-0.6	7.3	3.2	1.6	
East Africa										
Djibouti	0.3	0.5	-0.2	-3.9	-2.9	-3.6	-3.7	0.7	0.8	
Eritrea	-	-	-	-2.5	9.8	2.9	6.8	7.9	3.0	
Ethiopia	1.9	-4.7	-5.1	13.4	3.5	6.1	10.9	5.9	-1.0	
Kenya	4.3	1.4	-0.8	0.4	2.6	4.4	4.1	2.1	1.5	
Somalia	-	-	-	-	-	-	-	-	-	
Sudan	2.5	7.0	5.2	2.8	5.3	4.4	4.7	6.7	5.0	
Uganda	3.6	1.0	3.1	8.4	5.3	10.5	8.1	5.2	5.5	
United Republic of Tanzania	3.3	2.1	0.6	1.2	1.6	3.6	4.5	3.5	3.3	
Indian Ocean										
Comoros	2.4	-5.4	8.5	3.0	-5.3	-3.9	-0.4	0	1.0	
Madagascar	0.5	-6.3	1.2	2.1	0	1.7	2.1	3.7	3.9	
Mauritius	4.9	6.4	4.8	6.7	4.3	3.5	5.1	5.5	5.6	
Seychelles	3.6	2.7	6.9	6.5	-0.8	-0.6	4.7	4.3	2.3	

Source: Compiled by the UNCTAD secretariat on the basis of data in IMF, *World Economic Outlook*, October 1999.

exception of Guinea-Bissau, Sierra Leone and Togo. The economy of Sierra Leone had fluctuated drastically since 1990. Nigeria, the most influential economy in this subregion, saw its economic growth fall below 2.0 per cent in 1998, adversely affected by the drop in oil exports mainly as a result of the Asian crisis.

190. In the Central African subregion, most countries have maintained a relatively reasonable course of growth since 1995, with an exception of the Democratic Republic of the Congo, which continued to contribute negatively to the overall GDP growth of the subregion. The performance of the three oil exporters in the subregion has been generally stable since 1995. Cameroon recovered in 1995 from a prolonged depression in the oil sector as well as in the agricultural sector. The economic performance of both the Republic of the Congo and Gabon has been strong since 1995 thanks to higher oil production until 1997, which declined by 3-5 per cent in both countries in 1998. This has resulted in lower rates of growth.

191. In Eastern and Southern Africa, Zambia's GDP continued to experience wide fluctuations between negative and positive growth rates since 1990, despite the Government's wide-ranging reform programme. Angola, the largest oil-producer in the subregion, recovered, after a sharp decline in 1993 in economic activities, until 1998 when it had a small negative growth rate mainly due to the slowdown in the non-oil industry. Zimbabwe has been experiencing fluctuations of positive GDP growth except in 1992 and 1995. Kenya registered higher growth in 1995 and 1996 as strict budgetary management resulted in improvements in the financial situation, although since 1997 a decline in the growth rate has been observed. GDP growth in the United Republic of Tanzania has been relatively stable since the early 1990s. Mozambique has had very positive results since 1992.

(c) Total trade in goods

192. Table 51 compares developments of annual trades in goods of sub-Saharan Africa with those of all developing countries. In the sub-Saharan African developing countries, the unfavourable developments of both exports and imports in value and volume respectively over the period from 1991 through 1993 corresponded to the low growth in GDP of developed market-economy countries. On the other hand, favourable trade expansion of all developing countries for the same period was largely attributed to the increased intraregional trades of East and South-East Asia.

Table 51

Total trade in goods of sub-Saharan Africa and developing countries
(annual percentage change 1981-1999)

			Average 1981-1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Sub-Saharan Africa	**Value**	Export	-1.2	-4.3	-0.1	-5.0	4.6	18.5	10.8	1.5	-13.9	3.0
		Import	-1.1	1.4	5.2	-3.2	2.9	21.5	4.3	5.4	-3.3	3.7
	Volume	Export	0.5	2.2	0.9	0.9	3.1	9.2	9.2	5.4	-0.7	2.5
		Import	-0.5	1.9	3.3	0.8	2.9	12.8	8.4	8.1	1.7	3.3
Developing countries	**Value**	Export	0.8	0.8	7.7	4.6	15.3	23.1	9.5	8.2	-7.2	3.9
		Import	2.7	9.6	13.9	9.4	9.8	20.6	8.1	6.7	-5.3	2.6
	Volume	Export	2.5	6.3	10.1	8.5	12.9	14.7	5.8	12.4	4.6	2.4
		Import	1.9	7.7	14.5	10.5	8.3	14.4	7.0	10.4	-1.3	2.0

Source: IMF, *World Economic Outlook*, October 1999

193. Over the period from 1995 through 1999, the exports of sub-Saharan African countries increased at an average annual rate of 4.0 per cent in value and 5.1 per cent in volume, with imports increasing at 6.3 per cent per year in value and 6.9 per cent in volume. Over the same period, the exports of all developing countries expanded at an average annual growth rate of 7.5 per cent in value and 8.0 per cent in volume, while imports also increased at 6.5 per cent in value as well as in volume. In 1998, growth of trades (exports and imports) of sub-Saharan African countries as well as all developing countries fell drastically to a negative level, while those of the previous three years (1995-1997) represented an average growth rate of 10-14 per cent per year. This particular decline in growth is largely attributable to the adverse effects of the Asian crisis.

B. GENERAL SITUATION OF MERCHANT FLEETS OF AFRICA

Merchant fleets in sub-Saharan African countries

194. Table 52 provides data on the overall development of the merchant fleets of the world and sub-Saharan African countries by principal types of ship. Total tonnage of all the sub-Saharan African countries decreased from 0.29 per cent of the world total in 1980 to 0.23 per cent in 1990 and reached 0.15 per cent in 1999. Tankers and general cargo ships account for 46.4 per cent and 29.1 per cent respectively of the total sub-Saharan fleets. Tanker tonnage increased very slowly but steadily from 459,000 dwt in 1980 to 561,000 dwt in 1999, whilst total tonnage of general cargo ships has been shrinking constantly from 1.4 million dwt in 1980 to 0.8 million dwt in 1990, and further down to 0.35 million dwt in 1999. Dry bulker tonnage increased to 74,000 dwt in 1999 from 20,000 dwt in the previous year, which only accounted for a minimal portion of the world dry bulker fleet. No containerships were registered in this subregion. West Africa shares 75.6 per cent of the total tonnage of this subregion, standing at 0.9 million dwt in 1999 as compared with 1.3 million dwt in 1980 and 1.1 million dwt in 1990. While West Africa's tankers almost doubled the tonnage in 1980 to 535,000 dwt in 1999, general cargo ships in deadweight tons have plummeted from 966,000 dwt in 1980 to only 137,000 dwt in 1999. The merchant fleet of East Africa makes up 15.0 per cent of the total sub-Saharan fleet, representing 182,000 dwt, which remain unchanged from the tonnage in 1980, albeit with large year-to-year fluctuations since then. The majority of this area's fleet is made up of general cargo ships, the tonnage of which remained unchanged since the early 1990s representing 147,000 dwt in 1999 (148,000 dwt in 1980 and 91,000 dwt in 1985). Total tonnage of Central Africa and Southern Africa has been steadily declining, reaching 18,000 dwt and 95,000 dwt respectively in 1999.

Table 52

Merchant fleets of the world and those registered in sub-Saharan African 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
	1998	788 725	280 668	275 514	103 388	61 183	67 972
	1999	798 995	283 617	276 072	103 862	63 669	71 776

Table 52 (continued)

	Year	Total	Tanker	Dry bulker	General cargo	Container	Others
Sub-Saharan Africa - total	1980	1 985	459	-	1 416	-	110
	1985	1 647	448	-	1 032	-	167
	1990	1 554	453	-	819	-	282
	1995	1 373	526	39	570	-	238
	1998	1 169	533	19	386	-	231
	1999	1 210	561	74	352	-	223
West Africa	1980	1 309	277	-	966	-	66
	1985	1 106	298	-	691	-	117
	1990	1 102	439	-	451	-	212
	1995	785	501	-	268	-	16
	1998	860	508	-	176	-	176
	1999	915	535	74	137	-	169
Central Africa	1980	362	141	-	191	-	30
	1985	269	141	-	110	-	18
	1990	155	-	-	121	-	34
	1995	115	1	38	41	-	35
	1998	36	1	19	6	-	10
	1999	18	1	-	7	-	10
Southern Africa	1980	133	15	-	111	-	7
	1985	164	4	-	140	-	20
	1990	151	4	-	127	-	20
	1995	143	3	-	116	-	24
	1998	106	3	-	76	-	27
	1999	95	4	-	61	-	30
East Africa	1980	181	26	-	148	-	7
	1985	108	5	-	91	-	12
	1990	146	10	-	120	-	16
	1995	184	22	-	145	-	17
	1998	167	21	-	128	-	18
	1999	182	21	-	147	-	14

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

Note: Tonnages registered in the Liberia, South Africa and African island countries are not included.

C. MOVEMENTS OF NON-LINER DRY CARGO AND MAJOR DRY BULK CARGO

195. Table 53 indicates movements of all non-liner dry cargo and major dry bulk cargo (coal, iron ore and grain) to and from the subregions of sub-Saharan Africa. Subregional analysis of exports shows that all non-liner dry cargoes have been expanding at the average annual growth rate of 3-4 per cent over the past several years. About 75 per cent of the total is exported from the southern coast. Imports have increased at the rate of 2-3 per cent yearly. Nearly 60 per cent of total imports were moved through the West coast of sub-Saharan Africa. The southern coast followed with about 30 per cent of total imports. For the major commodities, the iron ore export shipments originated from the southern and western coasts. South Africa exported about two-thirds of the total iron ore exports, and Liberia exported the majority of the western coast shipments. The coal exports from the southern coast, which were dominated by South Africa, continued to show an upward trend, representing about 55 million tons in 1999. For grain imports, the trade is shared by the western coast, the eastern coast and the southern coast at 50, 20 and 30 per cent respectively. The United States has been the biggest grain supplier to all the sub-Saharan African subregions, acounting for more than half of the total imports of the region, followed by Northern Europe.

Age distribution of the merchant fleet

196. Table 54 provides data on the age distribution of the merchant fleet of developing countries of Africa by types of vessel as at the beginning of 2000. The average age of African developing countries' fleets (19.47 years) continued to be older than the world average (14.09 years) or the developing countries' average (13.75 years). The share of vessels aged 15 years and over stands at 82.7 per cent as compared with 49.3 per cent for the world total and 46.9 per cent for the developing countries' total. Similar large differences in age distribution are observed in individual ship types, except for the average age of containerships, which was 10.79 years as compared with 9.72 years and 9.16 years for the world total and the developing countries, respectively. The combined tonnage of tankers and general cargo shipsregistered in African countries accounted for 53 per cent of the total African fleet. The average age of tankers and general cargo ships stood at 21.80 years and 20.71 years. The tonnage aged 15 years and over represents 98.8 per cent for tankers and 90.2 per cent for general cargo ships. The tanker tonnage of the Libyan Arab Jamahiriya, Nigeria and Egypt make up 34, 33 and 23 per cent (90 per cent in total) of the African tanker fleet. The average age of these three countries' tanker tonnage reached nearly 22 years. The tanker tonnage aged 15 years and over of these countries represents over 98 per cent. Egypt and Algeria share 34 per cent and 18 per cent respectively of the total African general cargo ship fleet. The average age of general cargo ships registered in these two countries are 20.17 years and 21.63 years respectively. The tonnage aged 15 years and over is 87 per cent for Egypt and 96 per cent for Algeria.

Table 53

Exports and imports of all dry cargo, [a] iron ore, coal and grain of sub-Saharan African subregions, 1998-2000
(thousands of tons)

		West coast			East coast			Southern coast			Total		
		1998	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**
All dry cargo [a]	Export	34 519	34 248	34 671	782	812	860	92 887	97 597	104 368	128 188	132 657	139 899
	Import	14 793	15 139	15 239	2 437	2 626	2 740	6 973	7 176	7 288	24 203	24 941	25 267
Iron ore	Export	12 065	12 159	12 516	0	0	0	23 648	24 235	26 186	35 713	36 394	38 702
	Import	0	0	0	0	0	0	19	20	20	19	20	20
Coal	Export	83	96	108	1	1	1	50 919	54 776	59 073	51 003	54 873	59 182
	Import	5	6	6	3	4	4	1 815	1 799	1 824	1 823	1 809	1 834
Grain	Export	447	461	481	158	166	173	723	757	764	1 328	1 384	1 418
	Import	3 226	3 521	3 561	1 182	1 356	1 443	1 898	2 108	2 162	6 306	6 985	7 166

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by DRI/McGraw-Hill, *World Sea Trade Service Review*, 1999; and other specialized sources.

[a] Non-liner dry cargo

Table 54

Age distribution of the merchant fleet of developing countries of Africa by types of vessel, as at 1 January 2000 *(percentage of total dwt)*

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) [a]
World total	All ships	100	19.1	18.7	12.9	49.3	14.09
	Tankers	100	16.6	23.6	12.1	47.6	13.91
	Bulk carriers	100	20.8	17.0	14.6	47.6	13.83
	General cargo	100	10.9	9.9	10.2	69.0	17.32
	Container ships	100	36.1	24.9	13.3	25.7	9.72
	All others	100	18.9	13.4	13.1	54.7	14.92
Developing countries (excluding open-registry countries)	All ships	100	20.3	18.5	14.4	46.9	13.75
	Tankers	100	18.6	19.4	12.1	49.9	14.16
	Bulk carriers	100	15.8	17.3	16.7	50.2	14.58
	General cargo	100	17.6	17.1	13.4	51.9	14.58
	Container ships	100	40.8	21.3	14.9	23.0	9.16
	All others	100	19.4	16.4	17.4	46.8	13.92
Developing countries in Africa	All ships	100	5.5	5.3	6.6	82.7	19.47
	Tankers	100	0.6	0.4	0.2	98.8	21.80
	Bulk carriers	100	15.3	14.7	2.7	67.3	16.47
	General cargo	100	1.9	2.5	5.4	90.2	20.71
	Container ships	100	18.8	0.0	74.7	6.6	10.79
	All others	100	3.3	4.9	11.1	80.7	19.50
of which:							
Algeria	Tankers	100	0.0	0.0	0.0	100.0	22.00
	Bulk carriers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	3.7	96.3	21.63
	All others	100	1.2	0.0	1.7	97.1	21.59
Angola	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	3.4	96.6	21.66
Benin	All others	100	0.0	0.0	0.0	100.0	22.00
Cameroon	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	12.4	6.9	3.3	77.5	18.18
Cape Verde	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	27.6	3.4	0.3	68.8	15.96
	All others	100	1.6	0.0	16.8	81.6	20.00
Comoros	All others	0	0.0	0.0	0.0	0.0	0.00
Congo	All others	100	0.0	0.0	0.0	100.0	22.00
Côte d'Ivoire	Tankers	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	0.0	100.0	22.00
Democratic Rep. of the Congo	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	0.0	100.0	22.00
Djibouti	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	0.0	100.0	22.00

Table 54 *(continued)*

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) [a]
Egypt	Tankers	100	0.0	0.1	0.5	99.4	21.94
	Bulk carriers	100	27.4	13.5	31.0	28.1	11.40
	General cargo	100	3.0	4.7	5.5	86.9	20.17
	Container ships	100	100.0	0.0	0.0	0.0	2.00
	All others	100	5.0	15.8	12.1	67.1	17.42
Equatorial Guinea	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	4.4	95.6	21.56
Ethiopia	Tankers	100	0.0	0.0	100.0	0.0	12.00
	General cargo	100	0.0	15.6	56.0	28.4	14.06
Gabon	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	15.0	85.0	20.50
	All others	100	0.0	9.3	18.4	72.3	18.77
Gambia	All others	100	28.4	0.0	10.1	61.4	15.29
Ghana	Tankers	100	0.0	0.0	0.0	100.0	22.00
	Bulk carriers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.8	1.0	3.0	95.1	21.37
Guinea	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	0.0	100.0	22.00
Guinea-Bissau	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	9.1	90.9	21.09
Kenya	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	76.9	0.0	23.1	10.47
	All others	100	3.0	19.7	2.1	75.1	18.21
Libyan Arab Jamahiriya	Tankers	100	1.7	0.0	0.0	98.3	21.66
	General cargo	100	0.0	0.0	21.0	79.0	19.90
	All others	100	10.5	27.5	0.8	61.3	15.72
Madagascar	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	6.2	18.3	10.3	65.2	16.99
Mauritania	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	1.0	0.9	22.4	75.7	19.43
Mauritius	General cargo	100	0.0	11.9	0.0	88.1	20.22
	Container ships	100	0.0	0.0	100.0	0.0	12.00
	All others	100	42.8	0.7	1.4	55.2	13.22
Morocco	Tankers	100	0.0	32.6	0.0	67.4	17.11
	General cargo	100	1.0	4.8	0.0	94.2	21.08
	Container ships	100	60.3	0.0	0.0	39.7	9.94
	All others	100	0.2	9.3	36.3	54.2	16.94
Mozambique	General cargo	100	0.0	6.3	0.0	93.7	21.06
	All others	100	3.6	7.6	31.0	57.9	17.06

Table 54 *(continued)*

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) [a]
Nigeria	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	6.0	0.0	0.0	94.0	20.80
	All others	100	8.5	2.2	3.3	86.0	19.64
St. Helena	All others	100	0.0	0.0	0.0	100.0	22.00
Sao Tome and Principe	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	Container ships	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	0.0	100.0	22.00
Senegal	General cargo	100	0.0	0.0	49.2	50.8	17.08
	All others	100	0.0	5.0	8.2	86.8	20.43
Seychelles	General cargo	100	3.9	0.0	0.0	96.1	21.22
	All others	100	33.5	59.3	7.2	0.0	5.69
Sierra Leone	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	13.4	10.5	76.2	18.96
Somalia	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	0.0	100.0	22.00
Sudan	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	6.3	93.7	21.37
Togo	Bulk carriers	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	11.5	88.5	20.85
Tunisia	Tankers	100	0.0	0.0	0.0	100.0	22.00
	Bulk carriers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	14.5	0.6	1.0	83.9	18.91
Uganda	General cargo	100	0.0	0.0	0.0	100.0	22.00
United Republic of Tanzania	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	6.9	3.9	23.7	65.4	17.64

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London).

a To calculate the average age, it has been assumed that the ages of vessels are distributed evenly between the lower and upper limit of each age group. For the 15-years-and-over age group, the mid-point has been assumed to be 22 years.

D. MOVEMENTS OF CRUDE OIL AND PETROLEUM PRODUCTS

197 Crude oil and petroleum products movements of sub-Saharan Africa are shown in table 55. Crude oil shipments from the West coast represented more than two-thirds of the total, and were mainly exported by Nigeria in West Africa, and the other smaller producers such as Cameroon, the Democratic Republic of the Congo and Gabon in Central Africa. Angola, the second largest oil producing country in sub-Saharan Africa, exported nearly one-fifth of the region's total, dominating the crude oil shipments from the southern coast. By destination of crude oil shipments, nearly half the total was destined for the United States, followed by Northern Europe (a share of nearly a quarter) and Southern Europe (about 10 per cent). Exports of petroleum products, the majority of which are fuels for the United States, were dominated by the West coast (Nigeria), with more than 90 per cent of the total quantity shipped. Imports of petroleum products, which were mainly supplied equally by Northern and Southern Europe, moved through the West coast, and represented nearly 80 per cent of the total imports.

E. LINER CARGO MOVEMENTS

198. Table 56 shows movements of containerized liner cargo from 1998 to 2000 between the sub-Saharan African countries (including South Africa) and the three major trading partners (North America, Asia and Europe). Total traffic of both imports (54 per cent) and exports (46 per cent) have increased at an average annual rate of 2.1 per cent (imports at 0.8 per cent and exports at 3.6 per cent) from 2.0 million TEUs in 1998 to nearly 2.1 million TEUs in 2000, of which approximately half are loaded or discharged on the Southern coast. About two-thirds of the volume through the Southern coast are traded by South Africa. The West coast accounts for about one-third of the total trade volume.

199. In terms of trade partners, trades with Europe, the most important trade partner, have increased at an average annual rate of 2.3 per cent, reaching nearly 60 per cent of the total trade in 2000. The average shares of European trade generated by the western, eastern and southern African subregions were at 44 per cent, 13 per cent and 43 per cent respectively and also represented 70 per cent, 60 per cent and 50 per cent of the total trade transacted by each of the three subregions for the period from 1998 to 2000. For Europe, the import and export ratio was 53 to 47. Trades with North America have been growing slowly (2.0 per cent yearly). The total volume traded in 1998 amounted to 227,000 TEUs, and is estimated to reach 236,000 TEUs in 2000 or 11.4 per cent of the total trade. The regional distribution of North American trade among the West, East and Southern coasts was 30, 10 and 60 per cent respectively, and the ratio between imports and exports was 56 to 44. The trade with Japan, the Far Eastern NIEs and South-East Asia was nearly one-fifth of the total trade, but its share has declined since 1998. The ratio between import and export boxes was almost even, and two-thirds of this trade are with southern Africa (mainly South Africa).

Table 55

Exports and imports of all petroleum, crude oil and petroleum products of sub-Saharan African subregions, 1998-2000
(thousands of tons)

		West coast			East coast			Southern coast			Total		
		1998	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**
All petroleum	Export	117 838	119 361	120 088	206	208	218	49 449	52 571	55 472	167 493	172 140	175 778
	Import	4 994	5 345	5 516	578	592	606	1 746	1 798	1 847	7 318	7 735	7 969
Crude oil	Export	106 747	107 733	108 051	0	0	0	46 944	50 082	52 919	153 691	157 815	160 970
	Import	0	0	0	0	0	0	0	0	0	0	0	0
	Export	10 592	11 121	11 515	0	0	0	968	991	1 003	11 560	12 112	12 518
	Import	3 701	4 054	4 227	116	116	112	644	686	706	4 461	4 856	5 045

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by DRI/McGraw-Hill, *World Sea Trade Service Review*, 1999; and other specialized sources.

Table 56

Liner cargo movements (containerized) between the West, East and Southern coasts of sub-Saharan Africa and country groups of major trading partners, and all countries of the world, 1998-2000
(*thousands of TEUs*)

		West coast of Africa			East coast of Africa			Southern Africa [a]			Total		
		1998	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**
United States	In	17	18	19	6	6	6	54	57	59	77	81	84
	Out	39	39	38	15	14	14	63	64	64	117	117	116
	Subtotal	56	57	57	21	20	20	117	121	123	194	198	200
Canada	In	8	8	9	1	1	1	8	9	9	17	18	19
	Out	5	5	5	3	3	3	8	9	9	16	17	17
	Subtotal	13	13	14	4	4	4	16	18	18	33	35	36
Subtotal	In	25	26	28	7	7	7	62	66	68	94	99	103
	Out	44	44	43	18	17	17	71	73	73	133	134	133
	Subtotal	69	70	71	25	24	24	133	139	141	227	233	236
Japan	In	6	6	5	5	4	4	49	49	48	60	59	57
	Out	7	6	6	4	3	4	25	23	23	36	32	33
	Subtotal	13	12	11	9	7	8	74	72	71	96	91	90
Far Eastern NIEs	In	10	11	11	3	3	3	55	54	55	68	68	69
	Out	18	16	17	9	8	9	46	42	43	73	66	69
	Subtotal	28	27	28	12	11	12	101	96	98	141	134	138

Table 56 (continued)

		West coast of Africa			East coast of Africa			Southern Africa [a]			Total		
		1998	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**	**1998**	**1999**	**2000**
South-East Asia	In	18	18	20	7	8	8	35	34	37	60	60	65
	Out	41	39	40	16	16	17	37	37	39	94	92	96
	Subtotal	59	57	60	23	24	25	72	71	76	154	152	161
Subtotal	In	34	35	36	15	15	15	139	137	140	188	187	191
	Out	66	61	63	29	27	30	108	102	105	203	190	198
	Subtotal	100	96	99	44	42	45	247	239	245	391	377	389
Northern Europe	In	162	166	172	54	56	57	179	188	197	395	410	426
	Out	227	227	226	55	55	56	185	187	190	467	469	472
	Subtotal	389	393	398	109	111	113	364	375	387	862	879	898
Southern Europe	In	55	58	60	18	19	20	53	56	58	126	133	138
	Out	66	69	69	21	22	22	67	68	68	154	159	159
	Subtotal	121	127	129	39	41	42	120	124	126	280	292	297
Subtotal	In	217	224	232	72	75	77	232	244	255	521	543	564
	Out	293	296	295	76	77	78	252	255	258	621	628	631
	Subtotal	510	520	527	148	152	155	484	499	513	1 142	1 171	1 195
Total	In	276	285	296	94	97	99	433	447	463	803	829	858
	Out	403	401	401	123	121	125	431	430	436	957	952	962
	Total	679	686	697	217	218	224	864	877	899	1 760	1 781	1 820
World total	In	296	306	318	103	106	110	494	509	529	893	921	957
	Out	448	449	450	144	145	149	506	508	517	1 098	1 102	1 116
	Total	744	755	768	247	251	259	1 000	1 017	1 046	1 991	2 023	2 073

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter, 1999.

[a] Including South Africa.

F. COSTS OF TRANSPORT IN AFRICAN DEVELOPING COUNTRIES

(a) Cost factor for import trades

200. Table 57 provides estimates of total freight payments for imports and the freight costs as a percentage of total import value by country groups. For sub-Saharan Africa (excluding South Africa), freight costs a percentage of total import value were five percentage points higher than the average for all developing countries. Freight costs of landlocked African developing countries were 10 percentage points higher than the total developing countries' average. In 31 out of the 43 countries in sub-Saharan Africa, freight costs on imports were 50 per cent higher than the average for all developing countries, and for 13 of those countries the costs were more than double.

Table 57

Estimates of total freight costs on imports of African countries (excluding South Africa), 1998
(millions of US dollars)

Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
1998	World total	255 829.38	5 051 387	5.06
	Developed market-economy countries	154 542.61	3 794 696	4.07
	Developing countries - total	101 286.77	1 256 691	8.06
	of which in:			
	America	25 274.34	368 251	6.86
	Asia	60 480.00	745 916	8.11
	Africa	12 860.53	113 236	11.36
	Northern Africa	4 881.56	54 220	9.00
	Western Africa	4 851.89	36 208	13.40
	Eastern Africa	1 404.31	10 797	13.01
	Southern Africa	1 028.57	6 261	16.43
	Indian Ocean	694.21	5 750	12.07
	Sub-Saharan Africa	7 978.97	59 016	13.52
	Landlocked African countries	**2 222.83**	**12 296**	**18.08**

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

[a] It should be noted that the IMF figures are imperfect estimates, and part of the relatively high international transport costs of sub-Saharan imports is due to their composition, in particular the importance of a few bulky, low-value commodities, particularly petroleum products, cereals and fertilizer.

(b) Comparison of transit and ocean freight costs of imports to selected African land-locked countries

201. A comparison between ocean freight charges paid for containerized imports and inland transit costs shows the relative importance of the inland costs. The difference was very significant with the land-transport rate factor varying between 1 and 4, suggesting that the biggest potential for reducing total transport costs for imports and exports of landlocked developing countries would be to reduce the level of costs for the inland transit operations (see table 58). These operations, conducted between the port area and the destination/originating area, included other services such as handling at terminals, warehouses and inland depots, storage, security for avoiding loss by pilferage of goods and return of containers on time to avoid demurrage.

Table 58

Comparison of transit and ocean freight costs of imports to selected African landlocked countries from north-western Europe, 1999
(US dollars per TEU)

	Approximate land transit distance and freight rate			Approximate ocean freight rate		
	Distance (km)	**Mode**	**Freight rate (US$)**	**Port**	**Freight rate (US$)**	
Ndola (Zambia)	3 119	Rail	4 174	Durban (South Africa)	1 125	3.7
Ndola (Zambia)	1 424	Road	3 751	Beira (Mozambique)	1 050	3.5
Blantyre (Malawi)	825	Road	3 360	Beira (Mozambique)	1 200	2.8
Kigali (Rwanda)	1 867	Road	4 400	Mombasa (Kenya)	1 350	3.3
Kampala (Uganda)	1 187	Road	1 375	Mombasa (Kenya)	1 200	1.2
Ouagadougou (Burkina Faso)	1 192	Road	1 192 [a]	Abidjan (Côte d'Ivoire)	1 250	0.9
Niamey (Niger)	1 170	Road	2 500	Lomé (Togo)	1 350	1.6

Source: UNCTAD secretariat.

[a] Charges for loading/discharging to/from vehicles at port area are not included.

(c) Freight costs in selected landlocked countries in Africa

202. Landlocked developing countries in Africa continued to suffer from excessive transport costs. High import transport costs inflated the consumer prices of imported goods, and high transport costs for exports undermined their competitiveness in foreign markets. International transport costs are defined as the direct and indirect costs which are incidental to the transportation of goods from their point of loading to their destinations. The major elements accounting for the high freight costs for landlocked developing countries included inefficient transport facilities and their management, imbalanced trades, inadequate overall infrastructure, and inefficient or cumbersome government regulations (see table 59).

Table 59

Estimates of total freight costs of total import value in world trade by selected African landlocked countries, 1998
(millions of US dollars)

	Estimate of total freight costs of imports	Total import value	Freight costs as percentage of import value
West Africa			
Burkina Faso	138.89	641	21.67
Mali	365.79	1 237	29.57
Niger	91.52	630	14.53
East Africa			
Burundi	20.17	157	12.85
Rwanda	85.53	286	29.91
Uganda	86.88	890	9.76
Southern Africa			
Malawi	319.63	811	39.41
Zambia	183.70	1 119	16.42
Zimbabwe	381.71	2 971	12.85

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

G. IMPROVING TRANSPORT OPERATIONS AND SERVICES THROUGH ACIS

203. As a response to high transport costs and low operational efficiency on African transport routes, the UNCTAD secretariat has developed the Advance Cargo Information System (ACIS), an IT-based tracking system designed to improve transport operations and services to customers. ACIS gives information on cargo in advance of its arrival across different modes and interfaces. By making appropriate information available, ACIS allows the effective logistics management of a transport chain. It is composed of a railway system called RailTracker, PortTracker for ports, LakeTracker for lakes, and RoadTracker which is still under development.

204. RailTracker is a computerized wagon, locomotive and train reporting system that tracks cargo and wagons throughout their movement. It thus increases the efficiency of freight operations, enabling railways to plan the movement of wagons much more effectively by always knowing where the wagons are, and whether they are fit for running, empty or loaded. This improves the short-term train planning by providing information on when empties will be available. In addition, based on up-to-date records of usage of equipment, it enhances the planning of maintenance of rolling stock and locomotives. RailTracker also enables the railways to satisfy customer's requests for information about the whereabouts of their goods at any given time and generates statistics and performance indicators for decision making.

205. Tanzania Railways Corporation (TRC) is one of the railways on which RailTracker has been successfully installed.[13] While it has provided customers with current information on the location of their consignments, the system has provided TRC management with useful information enabling them to better serve customers. The successful installation and implementation of the RailTracker computer system has had significant benefits to TRC at both strategic and tactical management levels. The major achievements of the information system have been:

(a) Reduction of:

- (i) Wagon turn-around time from an average of 18 days in 1994 to currently 13 days;
- (ii) Wagon detention at terminals from an average of 8 days to 4 days;
- (iii) Average daily interchange balance from 203 to 108 wagons;
- (iv) Average dwell time of foreign wagons from an average of 28 days to 12 days;
- (v) Locomotive detention at terminal and in transit yards;
- (vi) Transit times from an average of 15 days to 3 days.

(b) Increase of:

- (i) Locomotive and wagon utilization, when in use, from 280 km per day to 380 km for locomotives and from 73 km per day to 120 km for wagons;
- (ii) Wagon productivity from an average of 20 loadings to 28 loadings per annum.

(c) Production of on-time performance statistics which allow the development of strategies for improvement of the business and organization in general.

(d) Commercial benefits:

- (i) The ability to respect delivery times, either agreed with customers or set by TRC, through daily monitoring of wagon movements;
- (ii) The ability to inform customers of the status and position of their cargo while on the TRC network;[14]
- (iii) The more reliable supply of wagons to customers through the ability to trace and control wagons;
- (iv) Daily information on payments received and outstanding, assists in the control of cash flow and allocation of equipment;
- (v) Daily freight loading statistics assist in meeting weekly targets.

206. RailTracker has contributed to improving services to TRC customers and utilization of rolling stock. Surveys done by TRC on customer needs have indicated that the second most important requirement was information on the location of cargo. RailTracker has provided a tool to allow TRC to progress from the days of "ask tomorrow" to nearly perfect information on the location of cargo. The improvements in information systems, together with other corporate strategies, has enabled TRC to increase and sustain their market share for services compared to the low demand of the early 1990s.

Box 4

Transit transport services accessing to sea ports in selected landlocked countries in Africa

West Africa

Burkina Faso

As a landlocked country, with the nearest coastal ports in neighbouring Côte d'Ivoire, Ghana and Togo, Burkina Faso's transport costs are a significant consideration for any business with export or import activities. The Government is undertaking a $360 million transport sector development programme, funded by the World Bank, which aims to develop a coherent transport policy and regulatory framework, rehabilitate the road and rail networks, and restructure the transport parastatals. There are 12,100 km of road networks, but only 16 per cent are paved. Some 90 per cent of the transport programme's funds have thus been allocated to road maintenance and construction.

Mali

Even by regional standards, transport communications are poor, especially in the isolated western region. This region is only linked to Bamako by the extremely dilapidated railway line between Bamako and Dakar (Senegal), which has been virtually unchanged since its completion in 1924. Road transport in the north has been further disrupted by a conflict. A five-year $250 million road maintenance programme repair scheme is under way, mostly funded by donors. Total road networks represent 15,100 km, but only12.1 per cent of which are paved.

Niger

Despite considerable donor-funded expansion work, Niger's transport system remains inadequate. In 1994, for example, less than 8 per cent of the country's road network (10,100 km) was paved, although access to neighbouring countries has improved following work on the 428-km road between Zinder and Agadès, which is scheduled to form part of the trans-Sahara highway. Although there is no railway system as yet, the emphasis in transport development is on diversifying and improving access to seaports: as a landlocked country, Niger has to rely on the ports of Lomé (Togo) and Tema (Ghana) for its maritime transport.

Eastern Africa

Burundi

Burundi has no railways and 14,500 km of roads, 7 per cent of which are paved. Burundi's main export routes are by road to Mombasa (Kenya) via Rwanda and Uganda, and to Dar es Salaam (United Republic of Tanzania). The road to Mombasa is better, although the Tanzanian route crosses only one border. The Burundi transport parastatal, Otraco, is barely surviving. The once vibrant privately-owned public transport sector has been harmed since 1993 by increased insecurity on most routes, fuel price increases and shortages of spare parts.

Rwanda

Nearly all of Rwanda's imports and exports travel over 1,500 km to Mombasa (Kenya) and Dar es Salaam (United Republic of Tanzania) via the region's road network. This keeps transport costs high, particularly since new weight limits for freight travelling through East Africa were imposed in 1998 and 1999. Rwanda's arterial roads are serviceable and better than their Ugandan and Tanzanian counterparts. Rwanda has about 1,200 km of tarred roads and another 12,000 km of unpaved main and secondary roads, which are vulnerable to damage from heavy rain. After years of State control, commercial transport is now largely in private hands.

Box 4 *(continued)*

Uganda

The road network was earmarked for priority spending, not only on the major routes, but also on rural feeder roads, because of their importance in agricultural marketing. Landlocked Uganda is heavily dependent on transport links through Kenya and most of its foreign trade passes through Mombasa. The Government wants to reduce this dependence by developing links through the United Republic of Tanzania, via the lake port of Mwanja. Huge progress has been made in the road rehabilitation programme. Major trunk roads, such as the "northern corridor" route, have been completely resurfaced, and the condition of most urban and regional roads is much improved (although funding for upkeep is a problem). The road transport system still suffers from a shortage of vehicles and spares, but the situation is improving rapidly, with about 126,214 vehicles in use in 1996 compared with 31,000 in 1987.

Competition for business between the ocean ports of Mombasa and Dar es Salaam has produced some benefits for Uganda's traders. The Tanzanian port has attracted business from Mombasa by cutting down transit times from 10-14 days to 5-10 days, granting a 60-day moratorium on demurrage and opening shipping offices in Kampala. Goods shipped through Dar es Salaam use the Tanzanian railway link to Mwanza, from where there is a wagon ferry link to Port Bell almost daily. In response, the Kenyan authorities have introduced more trains between Kampala and Mombasa, which now run on a daily basis, subject to cargo availability. Meanwhile, a scheme to open a third route to the Indian Ocean, between Kampala, and Durban in South Africa, is suffering delays.

Southern Africa

Malawi

As a landlocked country highly dependent on overland movement of exports and imports, Malawi's transport network and its connections to neighbouring countries is of the utmost economic importance. The shortest, cheapest trade routes are to the Mozambican ports of Nacala and Beira. Until 1982 around 95 per cent of Malawi's trade passed through those two ports, but throughout the 1980s and early 1990s the Mozambican civil war severely disrupted these crucial external trade routes, forcing much of the export and import traffic to be routed through distant ports in South Africa and the United Republic of Tanzania. Total transport costs increased by $50 million to $75 million per year, with insurance and freight costs rising from around 20 per cent of the cif import value in the early 1980s to 40 per cent by the later 1980s and only falling to 35-40 per cent in the mid-1990s.

The end of the hostilities in Mozambique should benefit Malawi in the form of shorter and cheaper rail and road routes to the ports on the Mozambican coast. Railway routes in Mozambique sustained severe damage during the civil war and comprehensive rehabilitation on both sides of the border has been slow despite World Bank financing. The improved security situation in Mozambique has already led to a rise in traffic through Beira port, although traffic on the railway line between Blantyre and Beira has not increased significantly.

Malawi's domestic road network is inadequate. At the time of independence in 1964 the country had 10,124 km of roads, of which only 431 km were bitumen-paved. By 1985 the road network had increased to only 11,051 km, although the length of bitumen roads had increased to 2,061 km. By 1999 the road system had been expanded to 16,500 km, 19 per cent of which were paved.

Box 4 *(continued)*

Zambia

Zambian post-independence transport policy has primarily been concerned with securing access to regional ports. Beira in Mozambique is the nearest major port and is linked by rail to Lusaka, via Harare in Zimbabwe. Further away, but better equipped and also accessible by rail, is Durban (South Africa). Dar es Salaam (United Republic of Tanzania), which was extensively used for Zambian trade when Beira and Durban were inaccessible for political reasons, has recently experienced a shrinking of its market share, but continues to handle around 70 per cent of Zambia's exports and 40 per cent of its imports.

Zambia has 66,800 km of roads, of which approximately 12,000 km are paved. The road network was in poor condition, but in 1998 the National Roads Board announced a $1 billion investment programme for the road sector, to run for 10 years. Money for this is derived from donors, a fuel levy and counterpart funding, but some form of user charges are also envisaged.

Zimbabwe

Zimbabwe is a landlocked country with a well-developed road network that includes 15,000 km of tarred roads. Its closest access to the sea which is the port of Beira, lies eastwards through Mozambique. From the mid-1960s until the mid-1980s successive border closures, first by Zambia and then by Mozambique, followed by South Africa's destabilization war in Mozambique, forced Zimbabwe to reroute nearly all its overseas traffic through distant South African ports. With the return of peace, Beira has slowly regained its former importance.

Zimbabwe has a direct rail link with Zambia via the Victoria Falls, which in theory continues to the Tanzanian port of Dar es Salaam; in addition, there are two links with Mozambique, to the ports of Beira and Maputo, and two links with South Africa, one through Botswana, the other via Beitbridge. Another link is planned between Beitbridge and Bulawayo. The National Railways of Zimbabwe (NRZ) has been reformed with the aid of the World Bank. It is now required to operate commercially in preparation for privatization.

Source: EIU (The Economic Intelligence Unit), *Country Profile and Country Report*, various issues, 1999 and 2000; and UNCTAD secretariat report, *The Least Developed Countries 2000 Report*, (UNCTAD/LDC/2000).

Notes

1. This section is based on UNCTAD's analysis of the world economic performance and prospects contained in UNCTAD, *Trade and Development Report, 2000*, New York and Geneva, 2000.

2. Figures given by individual companies and national estimates are not comparable,since spending on hardward replacement, for example, is not always included. Estimates higher than the $600 billion given by the Gartner Group include $675 billion by Software Productivity Research and $1,200 billion by Cap Gemini.

3. Energy Intelligence Group.

4. International Iron and Steel Institute, London.

5. *International Bulk Journal*, various issues.

6. *International Bulk Journal*, various issues; DRI/McGraw Hill, *World Sea Trade Service Review*, 1999; Fearnleys (Oslo), *Review 1999*.

7. *International Bulk Journal*, various issues; DRI/McGraw Hill, *World Sea Trade Service Review*, 1999; Fearnleys (Oslo), *Review 1999*.

8. *International Bulk Journal*, various issues; International Wheat Council, *Grain Market Report*, March 1999; DRI/McGraw Hill, *World Sea Trade Service Review*, 1999; Fearnleys (Oslo), *Review 1999*.

9. DRI/McGraw Hill, *World Sea Trade Service Review*, 1999; various specialized sources.

10. *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1999*; Drewry Shipping Consultants, *Shipping Statistics and Economics*, various issues; and various other specialized sources.

11. *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1999*; Drewry Shipping Consultants, *Shipping Statistics and Economics*, various issues; and various other specialized sources.

12. *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1999*; Drewry Shipping Consultants, *Shipping Statistics and Economics*, various issues; and various other specialized sources.

13. The examples have been complied on the basis of information published on the Internet by the enterprises concerned. While not based on a direct survey of the enterprises, the information is nevertheless considered to be meaningful.

14. See www.nte.com

15. See www.celarix.com

16. See www.freightdesk.com

17. See www.carrierpoint.com

18. See www.tranzlink.com

19. See www.e-transport.com

20. See UNCTAD report Legal Dimensions of Electronic Commerce (TD/B/COM.3/EM.8/2), 4 May 1999.

21. See paras. 32 - 35 of the Report of the Expert Meeting.

22. *Ibid*, as regards the Agreed Conclusions and Recommendations, paras. 4 - 13.

23. Based on a paper presented by the Chief Commercial Manager, Tanzanian Railways Corporation, at the International IRCH/UIC Railway Seminar held in Stockholm, Sweden in July 1999.

24. RailTracker enables a customer to view the location of his cargo directly through the Internet or by direct connection to the system via leased communication lines.

Annex I

Classification of countries and territories

Code 1	Canada	United States of America
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	

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
St. 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
St. Pierre and Miquelon
Saint Kitts and Nevis
Saint Lucia
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

Code 9.3 *South America — Northern Seaboard*

Guyana
French Guyana
Netherlands Antilles
Suriname
Venezuela

Code 9.4	*South America - Western Seaboard*	
	Chile	Ecuador
	Colombia	Peru
Code 9.5	*South America - Eastern Seaboard*	
	Argentina	Falkland Islands (Malvinas) [a]
	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	

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

Notes to Annex I

(1) 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.

(2) The groups of countries or territories used for presenting statistics in this *Review* are made up as follows:

Developed market-economy countries and territories: Codes 1, 2, 3, 4 and 5.

Countries of Central and Eastern Europe and Republics of the former Soviet Union: Code 6.

Socialist countries of 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.

(3) In certain tables, where appropriate, major open-registry countries are recorded as a separate group. The group comprises Bahamas, Bermuda, Cyprus, Liberia, Malta, Panama and Vanuatu.

(4) 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.

Annex II

World seaborne trade [a] according to geographical area, 1970, 1980, 1990, 1998-1999 and 2000 (estimates)
(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	266.3	272.3	73.4	103.6	128.0	305.0
	1980	0.5	6.9	498.0	505.4	274.3	71.4	170.1	515.8
	1990	1.4	25.8	515.1	542.3	274.9	100.8	227.6	603.3
	1998	2.0	31.0	658.9	691.9	384.0	136.0	306.7	826.7
	1999	2.0	32.0	665.8	699.8	372.0	138.0	312.2	822.2
	2000	2.0	33.0	678.0	713.0	380.0	142.0	320.0	842.0
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	-	7.5	96.7	104.2	255.0	100.3	526.4	881.7
	1999	-	8.5	98.4	106.9	252.0	101.0	537.9	890.9
	2000	-	9.0	100.0	109.0	255.0	103.0	543.0	901.0
Australia and New Zealand	1970	-	1.3	92.3	93.6	18.8	2.9	15.4	37.1
	1980	-	1.5	148.4	149.9	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	12.0	1.8	350.2	364.0	17.0	8.0	22.8	47.8
	1999	12.0	1.8	378.5	392.3	17.0	8.0	23.2	48.2
	2000	12.3	2.0	385.0	399.3	17.5	8.5	24.0	50.0
Europe	1970	16.3	81.7	243.6	341.6	608.2	101.0	465.9	1 175.1
	1980	95.7	79.3	387.4	562.4	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	175.8	140.6	615.5	931.9	482.2	150.0	978.6	1 610.8
	1999	173.0	142.0	628.6	943.6	472.0	153.0	1 002.2	1 627.2
	2000	175.0	144.0	640.0	959.0	480.0	154.0	1 015.0	1 649.0
South Africa	1970	-	-	13.1	13.1	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	-	-	104.2	104.2	26.0	1.0	11.4	38.4
	1999	-	-	107.1	107.1	26.0	1.0	11.6	38.6
	2000	-	-	109.0	109.0	26.0	1.0	12.0	39.0
Subtotal: Developed market-economy countries	1970	17.0	88.6	656.9	762.5	879.6	240.5	850.6	1 970.7
	1980	96.2	87.8	1 186.3	1 370.3	1 100.9	259.1	1 235.3	2 595.3
	1990	172.7	152.7	1 428.0	1 753.4	953.4	363.0	1 459.2	2 775.6
	1998	189.8	180.9	1 825.5	2 196.2	1 164.2	395.3	1 845.9	3 405.4
	1999	187.0	184.3	1 878.4	2 249.7	1 139.0	401.0	1 887.1	3 427.1
	2000	189.3	188.0	1 912.0	2 289.3	1 158.5	408.5	1 914.0	3 481.0

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 (including the Former USSR)	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	45.0	52.0	92.0	189.0	23.0	1.3	137.2	161.5
	1999	46.0	52.5	93.7	192.2	23.0	1.3	139.7	164.0
	2000	46.0	53.0	96.0	195.0	23.5	1.3	144.0	168.8
Socialist countries of Asia									
Socialist countries of Asia [d]	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	23.9	21.3	80.4	125.6
	1998	24.0	5.0	66.1	95.1	39.0	33.1	107.3	179.4
	1999	24.5	7.0	67.3	98.8	39.0	35.0	114.2	188.2
	2000	24.5	7.0	70.0	101.5	40.0	36.0	117.0	193.0
Developing countries and territories									
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	231.8	25.0	36.0	292.8	69.0	4.5	66.5	140.0
	1999	227.0	25.5	36.6	289.1	69.0	4.5	67.7	141.2
	2000	230.0	26.0	38.0	294.0	70.0	4.5	68.0	142.5
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	141.0	3.5	62.7	207.2	4.5	3.2	32.1	39.8
	1999	136.0	3.5	63.8	203.3	4.5	3.2	32.7	40.4
	2000	140.0	4.0	65.0	209.0	4.6	3.5	33.0	41.1
Eastern Africa	1970	-	1.2	16.1	17.3	5.5	2.6	8.3	16.4
	1980	-	0.9	6.3	7.2	6.2	2.0	9.9	18.1
	1990	-	0.6	9.3	9.9	6.4	2.6	16.0	25.0
	1998	-	0.5	10.6	11.1	7.0	3.0	17.6	27.6
	1999	-	0.5	10.8	11.3	7.0	3.0	17.9	27.9
	2000	-	0.5	11.0	11.5	7.1	3.1	18.0	28.2
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	372.8	29.0	109.3	511.1	80.5	10.7	116.2	207.4
	1999	363.0	29.5	111.2	503.7	80.5	10.7	118.3	209.5
	2000	370.0	30.5	114.0	514.5	81.7	11.1	119.0	211.8
Developing countries in America									
Caribbean, Central and North America	1970	-	5.1	40.3	45.4	29.5	10.0	17.7	57.2
	1980	53.5	29.6	53.5	136.6	62.8	8.9	30.2	101.9
	1990	95.3	18.8	47.5	161.6	33.7	11.2	35.4	80.3
	1998	142.0	30.0	59.7	231.7	37.0	11.5	43.7	92.2
	1999	138.0	31.0	60.8	229.8	37.0	12.0	45.0	94.0
	2000	140.0	32.0	62.0	234.0	38.0	12.0	46.0	96.0

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]		
South America: Western Seaboard	1970	4.6	1.6	29.8	36.0	4.1	1.5	5.9	11.5
	1980	7.6	3.4	26.7	37.7	4.9	1.4	13.7	20.0
	1990	17.4	8.2	36.0	61.6	3.5	1.3	14.4	19.2
	1998	25.0	10.0	45.5	80.5	4.0	1.5	18.4	23.9
	1999	25.0	10.0	46.3	81.3	4.0	1.8	18.7	24.5
	2000	26.0	10.5	48.0	84.5	4.2	1.8	19.0	25.0
South America: Northern and Eastern Seaboard	1970	131.2	112.9	90.3	334.4	81.9	4.0	26.5	112.4
	1980	127.8	64.5	162.3	354.6	136.2	5.8	54.5	196.5
	1990	58.4	28.5	214.8	301.7	37.8	4.3	45.7	87.8
	1998	109.1	35.0	266.7	410.8	41.5	4.5	59.4	105.4
	1999	105.0	36.0	273.5	414.5	41.5	5.0	61.5	108.0
	2000	109.0	36.0	278.0	423.0	42.0	5.0	63.0	110.0
Subtotal: Developing countries in America	1970	135.8	119.6	160.4	415.8	115.5	15.5	50.1	181.1
	1980	188.9	97.5	242.5	528.9	203.9	16.1	98.4	318.4
	1990	171.1	55.5	298.3	524.9	75.0	16.8	95.5	187.3
	1998	276.1	75.0	371.9	723.0	82.5	17.5	121.5	221.5
	1999	268.0	77.0	380.6	725.6	82.5	18.8	125.2	226.5
	2000	275.0	78.5	388.0	741.5	84.2	18.8	128.0	231.0
Developing countries in Asia									
Western Asia	1970	601.9	66.2	7.6	675.7	12.9	1.7	18.6	33.2
	1980	800.6	54.5	12.3	867.4	8.6	5.0	54.9	68.5
	1990	463.9	74.8	30.5	569.2	15.6	7.1	107.0	129.7
	1998	660.0	95.0	36.1	791.1	18.0	7.0	117.5	142.5
	1999	650.0	96.0	36.7	782.7	18.0	8.0	120.6	146.6
	2000	665.0	97.0	38.0	800.0	18.5	8.0	123.0	149.5
Southern and Eastern Asia (n.e.s.)	1970	35.0	23.7	89.3	148.0	54.7	23.3	61.9	139.9
	1980	74.3	42.2	165.9	282.4	97.4	26.9	163.5	287.8
	1990	78.6	88.4	253.0	420.0	150.4	41.6	362.9	554.9
	1998	65.1	109.3	363.0	537.4	216.0	75.0	526.8	817.8
	1999	62.0	111.0	381.5	554.5	208.0	77.0	554.8	839.8
	2000	65.0	112.0	389.0	566.0	216.0	77.0	565.0	858.0
Subtotal: Developing countries in Asia	1970	636.9	89.9	96.9	823.7	67.6	25.0	80.5	173.1
	1980	874.9	96.7	178.2	1 149.8	106.0	31.9	218.4	356.3
	1990	542.5	163.2	283.5	989.2	166.0	48.7	469.9	684.6
	1998	725.1	204.3	399.1	1 328.5	234.0	82.0	644.3	960.3
	1999	712.0	207.0	418.2	1 337.2	226.0	85.0	675.4	986.4
	2000	730.0	209.0	427.0	1 366.0	234.5	85.0	688.0	1 007.5
Developing countries in Europe	1970 [e]	-	-	-	-	-	-	-	-
	1980	-	-	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	-	1.0	8.6	9.6	8.0	2.5	18.0	28.5
	1999	-	1.0	8.8	9.8	8.0	2.5	18.3	28.8
	2000	-	1.0	9.0	10.0	8.5	2.5	19.0	30.0

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 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	-	0.5	11.4	11.9	-	2.5	2.9	5.4
	1999	-	0.5	11.6	12.1	-	2.5	3.0	5.5
	2000	-	0.5	12.0	12.5	-	2.5	4.0	6.5
Subtotal: Developing countries	1970	1 054.6	217.5	372.7	1 644.8	202.7	54.6	174.5	431.8
	1980	1 354.1	200.2	532.3	2 086.6	372.0	60.3	406.5	838.8
	1990	1 023.7	255.6	693.7	1 973.0	323.5	80.3	688.2	1 092.0
	1998	1 374.0	309.8	900.3	2 584.1	405.0	115.2	902.9	1 423.1
	1999	1 343.0	315.0	930.4	2 588.4	397.0	119.5	940.2	1 456.7
	2000	1 375.0	319.5	950.0	2 644.5	408.9	119.9	958.0	1 486.8
World total	1970	1 109.8	332.5	1 123.7	2 566.0	1 101.0	298.5	1 090.6	2 490.1
	1980	1 527.4	343.9	1 832.5	3 703.8	1 530.0	325.8	1 823.3	3 679.1
	1990	1 287.0	467.6	2 253.0	4 007.6	1 335.0	465.9	2 365.0	4 165.9
	1998	1 632.8	547.7	2 883.9	5 064.4	1 631.2	544.9	2 993.3	5 169.4
	1999	1 600.5	558.8	2 969.8	5 129.1	1 598.0	556.8	3 081.2	5 236.0
	2000	1 634.8	567.5	3 028.0	5 230.3	1 630.9	565.7	3 133.0	5 329.6

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 Estimates.

e Unknown.

Annex III (a)

Merchant fleets of the world by flag of registration, [a] groups of countries and types of ship [b] as at 1 January 2000 *(in grt)*

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total [d]	**546 793 758**	**155 122 191**	**158 295 524**	**93 216 994**	**55 457 838**	**84 701 211**
Developed market-economy countries						
Australia	2 110 264	246 822	803 914	78 199	37 410	943 919
Austria	71 069	..	..	71 069	..	..
Belgium	141 027	3 659	..	467	..	136 901
Canada	2 499 642	251 377	1 337 781	127 739	1 714	781 031
Denmark	6 070 321	675 274	464 190	699 082	2 758 498	1 473 277
Finland	1 658 401	302 879	90 204	486 716	..	778 602
France	4 940 980	2 273 248	539 417	281 707	459 359	1 387 249
Germany	6 576 906	8 124	2 460	875 340	5 019 578	671 404
Gibraltar	451 073	288 029	15 904	40 825	47 361	58 954
Greece	24 894 945	13 157 937	7 748 770	686 802	1 331 499	1 969 937
Iceland	192 091	2 135	415	2 690	9 650	177 201
Ireland	219 743	191	8 351	69 875	5 006	136 320
Israel	728 435	1 270	..	8 374	709 026	9 765
Italy	8 059 801	1 668 490	1 850 808	1 325 759	599 915	2 614 829
Japan	17 072 627	5 006 102	3 552 071	2 122 390	745 558	5 646 506
Luxembourg	1 344 812	543 469	92 763	103 277	16 801	588 502
Netherlands	5 991 412	160 346	75 959	2 236 423	1 611 158	1 907 526
New Zealand	279 204	80 152	12 456	11 098	..	175 498
Norway	23 554 187	9 194 733	3 942 947	4 029 054	82 588	6 304 865
Portugal	1 189 684	423 306	160 187	334 034	31 687	240 470
South Africa	423 562	4 048	..	437	268 518	150 559
Spain	1 903 372	582 571	42 150	325 253	93 079	860 319
Sweden	2 947 912	102 135	31 831	1 829 380	..	984 566
Switzerland	439 140	..	393 107	16 290	..	29 743
Turkey	6 328 468	584 449	3 939 105	1 227 884	165 242	411 788
United Kingdom	9 386 508	3 096 072	765 460	715 143	1 751 282	3 058 551
United States	18 885 517	7 907 033	1 783 137	2 004 676	3 641 504	3 549 167
Subtotal	148 361 103	46 563 851	27 653 387	19 709 983	19 386 433	35 047 449
Open-registry countries						
Bahamas	29 659 640	13 242 910	4 943 187	6 326 268	1 085 477	4 061 798
Bermuda	6 186 973	2 651 998	1 910 630	321 895	550 815	751 635
Cyprus	23 662 326	3 986 660	11 454 198	4 651 506	2 415 256	1 154 706
Liberia	54 562 067	21 515 057	14 365 824	4 956 449	4 748 135	8 976 602
Malta	28 225 425	12 170 751	9 984 212	4 258 410	781 683	1 030 369
Panama	106 038 662	23 883 735	42 865 046	16 505 403	12 706 737	10 077 741
Vanuatu	1 444 160	11 352	518 169	492 730	30 808	391 101
Subtotal	249 779 253	77 462 463	86 041 266	37 512 661	22 318 911	26 443 952
Central and Eastern Europe and former USSR						
Albania	21 362	..	..	9 123	..	2 239
Armenia	..	..	..	..	..	..
Azerbaijan	660 500	176 101	..	93 716	..	390 683
Belarus	..	..	..	..	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Bulgaria	1 036 034	145 191	518 181	261 549	56 380	54 733
Czech Republic	..	..	..	..	..	..
Estonia	455 565	8 286	64 653	191 570	..	191 056
Georgia	136 586	75 890	230	33 569	..	26 897
Hungary	11 869	..	..	11 869	..	..
Kazakhstan	9 253	..	..	1 677	..	7 576
Kyrgyzstan	..	..	..	..	..	..
Latvia	125 139	8 799	..	48 408	..	67 932
Lithuania	426 181	4 097	109 615	177 596	..	134 873
Moldova	..	..	..	..	..	..
Poland	1 326 045	5 314	993 047	79 988	..	247 696
Romania	1 221 752	68 193	320 271	633 995	7 580	191 713
Russian Federation	10 763 907	1 428 992	919 165	3 889 174	278 572	4 248 004
Slovakia	15 191	..	..	15 191	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	44 454	1 896	5 226	16 577	..	20 755
Ukraine	1 822 513	56 430	161 353	804 575	45 307	754 848
Former USSR [e]	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	18 076 351	1 979 189	3 091 741	6 278 577	387 839	6 339 005
Socialist countries of Asia						
China	16 318 358	2 084 321	6 647 784	4 844 272	1 360 107	1 381 874
Dem. People's Rep. of Korea	658 217	6 276	53 467	503 181	..	95 293
Viet Nam	864 722	105 477	94 175	468 200	17 845	179 025
Subtotal	17 841 297	2 196 074	6 795 426	5 815 653	1 377 952	1 656 192
Developing countries of Africa						
Algeria	1 004 690	33 423	172 360	227 003	..	571 904
Angola	65 749	3 016	..	30 126	..	32 607
Benin	1 118	..	..	..	..	1 118
Cameroon	13 600	..	..	199	..	13 401
Cape Verde	20 523	1 151	..	13 161	..	6 211
Comoros	744	..	..	609	..	135
Congo	3 788	..	..	..	..	3 788
Côte d'Ivoire	9 508	789	..	..	..	8 719
Djibouti	4 356	..	..	1 967	..	2 389
Dem. Rep. of the Congo	..	..	..	..	..	..
Egypt	1 433 915	210 146	600 744	412 806	14 063	196 156
Equatorial Guinea	43 916	..	..	8 030	..	35 886
Ethiopia	96 154	2 492	..	93 662	..	..
Gabon	15 711	652	..	6 571	..	8 488
Gambia	2 036	..	..	..	..	2 036
Ghana	117 661	5 971	199	14 014	..	97 477
Guinea	10 883	..	..	808	..	10 075
Guinea-Bissau	6 350	..	..	1 640	..	4 710
Kenya	20 589	4 708	..	2 611	..	13 270
Libyan Arab Jamahiriya	443 845	267 329	..	82 025	..	94 491
Madagascar	42 553	10 734	..	17 951	..	13 868
Malawi	..	..	..	..	..	..
Mauritania	48 581	..	..	299	..	48 282
Mauritius	150 319	..	3 922	35 470	90 788	20 139

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Morocco	448 455	12 476	..	111 469	18 129	306 381
Mozambique	36 329	..	..	6 594	..	29 735
Nigeria	433 726	265 279	..	91 287	..	77 160
Saint Helena	789	..	..	..	..	789
Sao Tome and Principe	42 120	998	..	32 052	1 152	7 918
Senegal	47 635	..	..	1 778	..	45 857
Seychelles	23 991	..	..	9 605	..	14 386
Sierra Leone	17 430	3 126	..	490	..	13 814
Somalia	6 288	851	..	3 312	..	2 125
Sudan	43 078	832	..	39 927	..	2 319
Togo	42 823	..	40 662	..	..	2 161
Tunisia	199 547	19 678	17 066	25 094	..	137 709
Uganda	3 394	..	..	3 394	..	..
United Republic of Tanzania	37 489	4 347	..	20 632	..	12 510
Subtotal	4 939 683	847 998	834 953	1 294 586	124 132	1 838 014
Developing countries of America						
Anguilla	1 387	..	..	1 278	..	109
Antigua and Barbuda	3 627 858	4 876	196 488	1 466 228	1 924 971	35 295
Argentina	502 916	100 123	33 678	101 698	..	267 417
Barbados	724 797	349 673	161 636	120 985	13 020	79 483
Belize	2 369 002	321 106	198 041	1 179 647	52 312	617 896
Bolivia	179 526	18 641	48 909	95 043	7 580	9 353
Brazil	3 950 202	1 776 880	1 453 256	356 160	133 922	229 984
Cayman Islands	1 164 588	123 053	526 339	337 602	33 682	143 912
Chile	824 471	99 767	203 168	142 926	41 311	337 299
Colombia	96 886	5 962	..	62 759	..	28 165
Costa Rica	5 732	..	..	..	..	5 732
Cuba	130 108	3 424	2 316	64 516	..	59 852
Dominica	2 233	..	..	1 522	..	711
Dominican Republic	10 078	..	..	5 854	..	4 224
Ecuador	309 223	223 047	..	2 319	..	83 857
El Salvador	1 598	..	..	..	..	1 598
Falkland Islands [f]	45 477	..	..	735	..	44 742
Grenada	1 009	..	..	779	..	230
Guatemala	4 561	..	..	..	..	4 561
Guyana	14 030	125	..	5 794	..	8 111
Haiti	1 172	..	..	892	..	280
Honduras	1 220 872	130 884	133 203	585 227	8 757	362 801
Jamaica	3 647	1 930	..	..	..	1 717
Mexico	919 723	463 801	..	22 390	..	433 532
Montserrat	..	..	..	..	..	..
Nicaragua	4 293	..	..	498	..	3 795
Paraguay	43 361	4 480	..	30 542	823	7 516
Peru	300 837	46 972	15 297	52 100	..	186 468
Saint Kitts and Nevis	300	..	..	300	..	..
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	7 105 622	569 479	2 632 293	2 940 336	149 472	814 042
Suriname	6 482	1 842	..	2 525	..	2 115
Trinidad and Tobago	21 846	998	..	2 604	..	18 244
Turks and Caicos Islands	975	..	..	227	..	748

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Uruguay	63 282	5 799	..	627	..	56 856
Venezuela	657 581	222 059	115 817	56 003	953	262 749
Virgin Islands, British	3 988	..	..	1 217	..	2 771
Subtotal	24 319 663	4 474 921	5 720 441	7 641 333	2 366 803	4 116 165
Developing countries and territories of Asia						
Bahrain	291 714	53 551	33 149	63 764	96 308	44 942
Bangladesh	377 722	60 710	5 672	279 032	..	32 308
Brunei Darussalam	362 187	239	..	2 018	..	359 930
Cambodia	..	..	..	..	..	..
Hong Kong, China	8 010 981	515 473	5 270 926	772 249	1 342 692	109 641
India	6 929 927	2 709 727	2 747 618	528 432	99 529	844 621
Indonesia	3 249 425	837 614	379 830	1 315 010	44 082	672 889
Iran, Islamic Rep. of	3 547 831	1 754 027	956 688	648 958	10 145	178 013
Iraq	510 618	361 306	..	76 933	..	72 379
Jordan	42 100	..	20 576	15 539	5 097	888
Kuwait	2 456 457	1 644 299	17 012	241 837	214 436	338 873
Lebanon	322 196	842	152 147	159 506	5 378	4 323
Malaysia	5 246 821	918 836	1 513 278	645 961	653 422	1 515 324
Maldives	89 914	4 351	..	78 889	..	6 674
Myanmar	540 232	2 935	301 086	185 031	24 415	26 765
Oman	21 327	313	..	2 544	..	18 470
Pakistan	308 190	49 595	30 436	179 712	31 707	16 740
Philippines	7 650 814	159 465	4 822 044	1 832 576	123 475	713 254
Qatar	748 901	262 604	141 617	131 394	186 290	26 996
Republic of Korea	5 735 459	403 509	2 708 385	870 838	811 822	940 905
Saudi Arabia	1 214 550	219 241	..	525 111	222 425	247 773
Singapore	21 995 025	9 779 323	4 694 570	2 837 934	3 277 140	1 406 058
Sri Lanka	194 585	5 326	77 191	99 308	..	12 760
Syrian Arab Republic	445 277	..	29 590	406 714	..	8 973
Thailand	1 956 057	361 188	476 140	860 773	118 514	139 442
United Arab Emirates	789 400	248 168	19 740	171 258	214 436	135 798
Yemen	25 267	1 886	..	2 557	..	20 824
Subtotal	73 062 977	20 354 528	24 397 695	12 933 878	7 481 313	7 895 563
Developing countries of Europe						
Croatia	869 686	10 842	503 583	168 442	81 565	105 254
Slovenia	1 767	..	..	276	..	1 491
Yugoslavia	4 416	..	..	918	..	3 498
Subtotal	875 869	10 842	503 583	169 636	81 565	110 243
Developing countries of Oceania						
Fiji	28 668	3 164	..	5 502	..	20 002
Kiribati	4 198	..	..	3 728	..	470
Nauru	..	..	..	..	..	..
Papua New Guinea	64 842	2 862	..	44 663	..	17 317
Samoa	..	..	..	..	..	..
Solomon Islands	10 557	..	..	2 706	..	7 851
Tonga	25 071	..	..	16 044	..	9 027
Tuvalu	43 109	..	..	19 262	..	23 847
Subtotal	176 445	6 026	..	91 905	..	78 514
Developing total	103 374 637	25 694 315	31 456 672	22 131 338	10 053 813	14 038 499
Other unallocated	9 361 117	1 226 299	3 257 032	1 768 782	1 932 890	1 176 114

Annex III (b)

Merchant fleets of the world by flag of registration, [a] groups of countries and types of ship [b] as at 1 January 2000

(in dwt)

	Total fleet	Oil tankers	Bulk carriers	General cargo[c]	Container ships	Other types
World total [d]	**798 995 409**	**283 616 922**	**276 071 792**	**103 862 286**	**63 668 810**	**71 775 599**
Developed market- economy countries						
Australia	2 686 181	408 265	1 312 552	58 377	47 326	859 661
Austria	100 323	..	..	100 323	..	..
Belgium	149 459	6 725	..	594	..	142 140
Canada	1 018 437	408 324	162 507	117 769	1 910	327 927
Denmark	7 420 796	1 193 806	872 819	802 909	3 157 354	1 393 908
Finland	1 239 524	507 956	134 182	386 854	..	210 532
France	7 292 503	4 431 806	1 018 615	360 447	518 273	963 362
Germany	7 788 310	11 189	5 458	1 060 953	6 326 244	384 466
Gibraltar	728 470	553 526	27 048	35 961	62 445	49 490
Greece	42 532 146	25 056 587	13 905 133	901 756	1 406 863	1 261 807
Iceland	83 576	2 704	650	2 902	12 400	64 920
Ireland	154 409	274	12 271	101 147	6 807	33 910
Israel	832 066	2 512	..	7 276	817 795	4 483
Italy	9 768 821	2 801 375	3 496 973	926 251	652 997	1 891 225
Japan	22 722 864	8 996 357	6 543 126	2 684 016	744 744	3 754 621
Luxembourg	1 959 629	999 820	172 821	56 904	23 045	707 039
Netherlands	6 607 344	267 239	104 488	2 800 229	1 782 875	1 652 513
New Zealand	332 665	123 304	17 039	10 742	..	181 580
Norway	35 388 032	17 427 752	7 057 692	3 822 551	101 934	6 978 103
Portugal	1 630 041	732 342	287 112	385 629	40 024	184 934
South Africa	368 980	5 276	..	142	262 351	101 211
Spain	2 053 020	1 049 385	70 002	293 184	136 144	504 305
Sweden	1 846 038	161 473	43 543	1 032 700	..	608 322
Switzerland	779 020	..	714 217	28 318	..	36 485
Turkey	10 174 199	1 056 089	6 848 270	1 749 404	212 793	307 643
United Kingdom	11 913 096	5 582 545	1 410 607	653 421	1 935 935	2 330 588
United States	25 676 029	14 835 484	2 768 001	1 587 513	3 781 271	2 703 760
Subtotal	203 245 978	86 622 115	46 985 126	19 968 272	22 031 530	27 638 935
Open-registry countries						
Bahamas	44 941 434	24 899 807	8 670 665	7 431 149	1 191 604	2 748 209
Bermuda	10 468 519	5 339 735	3 696 211	313 339	554 697	564 537
Cyprus	36 669 359	6 876 774	19 836 970	5 824 686	2 895 366	1 235 563
Liberia	85 186 919	39 902 879	25 282 279	4 972 475	5 589 192	9 440 094
Malta	46 749 434	22 148 889	17 079 394	5 370 264	939 802	1 211 085
Panama	158 947 251	43 181 644	76 149 410	14 833 839	14 117 996	10 664 362
Vanuatu	1 727 675	17 477	858 203	378 920	34 183	438 892
Subtotal	384 690 591	142 367 205	151 573 132	39 124 672	25 322 840	26 302 742
Central and Eastern Europe and former USSR						
Albania	20 112	..	..	18 871	..	1 241
Armenia	..	..	..	..	..	..
Azerbaijan	507 498	232 550	..	102 685	..	172 263
Belarus	..	..	..	..	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo[c]	Container ships	Other types
Bulgaria	1 501 591	269 935	812 426	311 843	67 117	40 270
Czech Republic	..	..	..	..	..	..
Estonia	363 058	13 386	100 795	188 292	..	60 585
Georgia	183 760	119 995	214	45 547	..	18 004
Hungary	14 930	..	..	14 930	..	..
Kazakhstan	4 742	..	..	787	..	3 955
Kyrgyzstan	..	..	..	..	..	..
Latvia	101 497	15 355	..	47 694	..	38 448
Lithuania	414 576	7 286	160 212	189 980	..	57 098
Moldova	..	..	..	..	..	..
Poland	1 855 351	7 458	1 648 361	71 345	..	128 187
Romania	1 618 256	103 165	520 130	830 422	8 435	156 104
Russian Federation	9 950 401	2 054 108	1 312 237	4 180 096	316 723	2 087 237
Slovakia	19 489	..	..	19 489	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	36 524	3 389	6 690	15 198	..	11 247
Ukraine	1 667 473	89 660	265 694	880 772	45 576	385 771
Former USSR [e]	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	18 259 258	2 916 287	4 826 759	6 917 951	437 851	3 160 410
Socialist countries of Asia						
China	23 701 202	3 383 357	11 102 133	6 450 921	1 647 825	1 116 966
Democratic People's Republic of Korea	846 600	11 687	87 797	682 804	..	64 312
Viet Nam	1 256 145	169 586	150 910	682 646	16 030	236 973
Subtotal	25 803 947	3 564 630	11 340 840	7 816 371	1 663 855	1 418 251
Developing countries of Africa						
Algeria	1 110 761	52 547	288 145	295 498	..	474 571
Angola	69 697	4 523	..	48 166	..	17 008
Benin	210	..	..	..	..	210
Cameroon	5 669	..	..	298	..	5 371
Cape Verde	24 000	1 525	..	18 813	..	3 662
Comoros	1 039	..	..	1 039	..	..
Congo	660	..	..	..	..	660
Côte d'Ivoire	5 866	1 170	..	..	..	4 696
Djibouti	4 900	..	..	4 450	..	450
Democratic Republic of the Congo	..	..	..	..	..	..
Egypt	2 092 569	364 688	1 035 173	543 641	17 728	131 339
Equatorial Guinea	19 350	..	..	10 271	..	9 079
Ethiopia	119 688	3 618	..	116 070	..	..
Gabon	11 631	742	..	7 096	..	3 793
Gambia	1 865	..	..	..	..	1 865
Ghana	92 076	8 600	260	17 714	..	65 502
Guinea	4 754	..	..	285	..	4 469
Guinea-Bissau	2 187	..	..	540	..	1 647
Kenya	19 096	7 631	..	1 981	..	9 484
Libyan Arab Jamahiriya	667 090	536 832	..	91 357	..	38 901
Madagascar	45 113	16 927	..	21 432	..	6 754
Malawi	..	..	..	..	..	..
Mauritania	22 234	..	..	721	..	21 513
Mauritius	189 723	..	5 274	40 682	130 915	12 852

	Total fleet	Oil tankers	Bulk carriers	General cargo[c]	Container ships	Other types
Morocco	383 786	20 427	..	112 061	25 205	226 093
Mozambique	25 228	..	..	12 597	..	12 631
Nigeria	677 859	519 135	..	115 313	..	43 411
Saint Helena	478	..	..	..	..	478
Sao Tome and Principe	36 250	1 753	..	28 113	1 500	4 884
Senegal	22 353	..	..	2 034	..	20 319
Seychelles	22 683	..	..	11 556	..	11 127
Sierra Leone	11 150	6 138	..	944	..	4 068
Somalia	6 756	1 528	..	4 019	..	1 209
Sudan	53 241	1 222	..	51 195	..	824
Togo	74 400	..	73 703	..	..	697
Tunisia	169 855	32 390	26 355	30 468	..	80 642
Uganda	2 743	..	..	2 743	..	..
United Republic of Tanzania	36 292	7 874	..	24 566	..	3 852
Subtotal	6 033 252	1 589 270	1 428 910	1 615 663	175 348	1 224 061
Developing countries of America						
Anguilla	1 998	..	..	1 998	..	..
Antigua and Barbuda	4 677 636	8 201	313 720	1 835 882	2 477 604	42 229
Argentina	599 303	180 681	51 950	131 289	..	235 383
Barbados	1 161 959	639 650	264 173	154 434	17 500	86 202
Belize	3 052 426	574 768	323 074	1 694 943	55 431	404 210
Bolivia	244 486	27 808	87 187	107 779	8 200	13 512
Brazil	6 383 570	3 066 962	2 538 854	388 495	166 181	223 078
Cayman Islands	1 756 222	209 289	925 728	387 861	38 183	195 161
Chile	1 011 995	165 672	349 330	121 227	50 622	325 144
Colombia	119 413	9 898	..	80 794	..	28 721
Costa Rica	1 208	..	..	..	..	1 208
Cuba	156 263	4 698	3 190	83 324	..	65 051
Dominica	2 710	..	..	2 165	..	545
Dominican Republic	8 388	..	..	7 176	..	1 212
Ecuador	446 604	385 218	..	3 625	..	57 761
El Salvador	..	..	..	..	..	..
Falkland Islands [f]	31 061	..	..	630	..	30 431
Grenada	950	..	..	950	..	..
Guatemala	3 752	..	..	..	..	3 752
Guyana	12 518	..	..	6 737	..	5 781
Haiti	963	..	..	793	..	170
Honduras	1 520 735	240 240	221 413	867 193	8 333	183 556
Jamaica	3 299	3 065	..	..	..	234
Mexico	1 226 578	763 595	..	24 400	..	438 583
Montserrat	..	..	..	..	..	..
Nicaragua	1 978	..	..	1 175	..	803
Paraguay	48 789	8 892	..	35 768	2 181	1 948
Peru	266 995	79 184	25 566	81 169	..	81 076
Saint Kitts and Nevis	550	..	..	550	..	..
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	10 131 017	1 009 881	4 499 449	3 733 208	183 086	705 393
Suriname	7 213	3 035	..	3 156	..	1 022
Trinidad and Tobago	8 885	1 473	..	2 567	..	4 845
Turks and Caicos Islands	161	..	..	161	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo[c]	Container ships	Other types
Uruguay	38 077	8 377	..	1 241	..	28 459
Venezuela	936 717	375 377	193 564	76 216	1 180	290 380
Virgin Islands, British	2 092	..	..	1 439	..	653
Subtotal	33 866 511	7 765 964	9 797 198	9 838 345	3 008 501	3 456 503
Developing countries and territories of Asia						
Bahrain	369 750	97 002	44 110	97 950	99 848	30 840
Bangladesh	518 725	101 640	8 903	388 426	..	19 756
Brunei Darussalam	349 619	270	..	2 585	..	346 764
Cambodia	..	..	..	..	..	..
Hong Kong, China	13 190 911	930 195	9 748 471	949 012	1 482 032	81 201
India	11 209 341	4 826 148	4 626 532	656 976	131 363	968 322
Indonesia	4 153 738	1 333 425	615 756	1 808 081	56 081	340 395
Iran, Islamic Rep. of	6 097 330	3 408 113	1 612 245	904 936	11 560	160 476
Iraq	834 687	659 715	..	105 185	..	69 787
Jordan	59 344	..	33 399	19 063	6 635	247
Kuwait	3 884 391	2 960 938	26 984	306 321	226 769	363 379
Lebanon	483 216	1 490	253 750	216 087	7 285	4 604
Malaysia	7 577 465	1 633 737	2 671 072	861 506	799 368	1 611 782
Maldives	132 843	8 691	..	117 615	..	6 537
Myanmar	792 307	4 713	504 832	243 853	25 297	13 612
Oman	10 879	460	..	2 996	..	7 423
Pakistan	458 723	91 021	52 164	260 445	41 682	13 411
Philippines	11 111 975	234 182	8 300 712	2 061 088	156 811	359 182
Qatar	1 153 965	466 067	270 329	202 259	197 645	17 665
Republic of Korea	8 655 548	767 375	4 912 113	1 068 902	950 278	956 880
Saudi Arabia	1 442 954	409 275	..	570 818	216 760	246 101
Singapore	34 635 484	17 621 495	8 659 836	2 599 905	3 879 297	1 874 951
Sri Lanka	287 640	9 961	149 581	121 293	..	6 805
Syrian Arab Republic	679 412	..	44 082	625 952	..	9 378
Thailand	3 068 395	687 640	784 392	1 310 147	160 594	125 622
United Arab Emirates	1 042 535	409 830	36 720	235 923	227 034	133 028
Yemen	25 821	3 185	..	3 061	..	19 575
Subtotal	112 226 998	36 666 568	43 355 983	15 740 385	8 676 339	7 787 723
Developing countries of Europe						
Croatia	1 227 748	13 826	867 682	216 709	98 334	31 197
Slovenia	782	..	..	234	..	548
Yugoslavia	2 232	..	..	1 326	..	906
Subtotal	1 230 762	13 826	867 682	218 269	98 334	32 651
Developing countries of Oceania						
Fiji	24 391	3 605	..	5 764	..	15 022
Kiribati	4 100	..	..	3 446	..	654
Nauru	..	..	..	..	..	..
Papua New Guinea	70 852	2 736	..	55 103	..	13 013
Samoa	..	..	..	..	..	..
Solomon Islands	6 905	..	..	2 481	..	4 424
Tonga	29 297	..	..	18 500	..	10 797
Tuvalu	68 395	..	..	25 733	..	42 662
Subtotal	203 940	6 341	..	111 027	..	86 572
Developing total	153 561 463	46 041 969	55 449 773	27 523 689	11 958 522	12 587 510
Other unallocated	13 434 172	2 104 716	5 896 162	2 511 331	2 254 212	667 751

Notes to Annex III

Source: Lloyd's Maritime Information Services (London).

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 3.1 million grt (3.7 million dwt), 1.0 million grt (1.9 million dwt) and 1.2 million grt (1.9 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 sovereignty over the Falkland Islands (Malvinas).