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REVIEW OF MARITIME TRANSPORT 1999

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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Abbreviations

ACIS	Advance Cargo Information System
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of South-East Asian Nations
c.i.f.	cost, insurance and freight
dwt	deadweight tons
EDI	electronic data interchange
EDIFACT	electronic data interchange for administration, commerce and transport
FAK	freight all kinds
FIO	free in and out
f.o.b.	free on board
GDP	gross domestic product
grt	gross registered tons
HCL	Institute of International Container Lessors
IFTMCS	International Forwarding and Transport Message, Contract Status
IIMF	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
TROP	TEU revenue opportunity
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 UNCTAD secretariat of the United Nations Conference on Trade and Development. Its purpose is to identify the main developments in world maritime transport and to provide relevant statistical data. It focuses on the development of the maritime activities in developing countries as compared with other groups of countries, and the correlation between development of global trade and maritime transport activities in general. In order to maintain a balance between the information requirements of data users of those of providers of maritime transport services, this year's *Review* includes a chapter on trade and transport efficiency. Regional developments in Latin American economic and maritime transport are the subject of this year's special character.

SUMMARY OF MAIN DEVELOPMENTS

Development of the world economy and seaborne trade

- World output grew in 1998 by 2.0 per cent over 1997. The developed market-economy countries experienced growth of 2.2 per cent over the previous year, while developing countries (including China) recorded an average increase of 1.8 per cent. In 1999, the output growth rate of the world is expected to be 1.9 per cent, while the output of developed market-economy countries and developing countries is expected to be 1.9 per cent and 2.1 per cent respectively.

- The growth of world merchant trade declined significantly in 1998, to 3.5 per cent, as compared with an outstanding growth of 10.5 per cent in 1997. A plummeting fall in exports of the United States and Asia including China, pushed down world export growth to the relatively lower level in 1998.

- The total industrial production index of the Organisation for Economic Co-operation and Development (OECD) rose moderately in 1998, by 2.01 per cent, to 116.9 from 114.6 in 1997 (1990 = 100).

- World seaborne trade recorded its thirteenth consecutive annual increase in 1998, breaking the level of 5 billion tons for the first time, reaching 5.064 billion tons. The annual growth rate for 1998, however, turned downwards, registering 2.2 per cent, which was the lowest since 1987. This relatively lower rate of growth is expected to continue in 1999, owing mainly to the downward trade in the dry bulk cargo sector. A moderate recovery will be made in 2000 provided that dry bulk trade regains momentum.

- World maritime activities measured in ton-miles in global trade decreased by 1.1 per cent to 21,425 billion ton-miles in 1998, in comparison with 21,672 billion ton-miles in the previous year.

Development of the world fleet

- The world merchant fleet expanded to 788.7 million deadweight tons (dwt) at the end of 1998, representing a 1.6 per cent increase over 1997. The slower rate of fleet expansion was attributable primarily to newbuilding deliveries of 35.5 million dwt in 1998, while tonnage broken up and lost was registered at 23.5 million dwt, leaving a net gain of 12.0 million dwt.

- In 1998, containership tonnage increased significantly by 5 million dwt or 9 per cent over 1997, whilst ore-bulk-oil carriers declined by 2.5 million dwt or 12.5 per cent.

- In 1998, tonnage ownership of developed market-economy countries and developing countries increased marginally by 0.1 million dwt (0.05 per cent) and 0.9 million dwt (less than 1 per cent) while major open-registry

countries continued to increase their fleet by 15.8 million dwt or 4.4 per cent. The developing countries' share of tonnage registered in major open-registry countries has slowly increased, reaching nearly one third in 1998. On the other hand, the developed market-economy countries' share has been on a downward trend, representing 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 rather favourably in 1998. Tons of cargo carried per deadweight ton rose to 6.42, which was a record high. Ton-miles performed per deadweight ton fell in 1998 to 27,165, which was the lowest since 1994.

- World total surplus tonnage continued to decrease to 24.7 million dwt in 1998 (a new record low in terms of deadweight tons), or 3.1 per cent of the 1998 world merchant fleet. The surplus capacity in the oil-tanker sector increased very marginally to 17.3 million dwt in 1998, or 5.9 per cent of the total world tanker fleet, while overcapacity in the dry bulk sector decreased substantially to 5.8 million dwt, accounting for 2.3 per cent of the world dry bulk fleet.

Freight markets

- In 1998, liner freight rate developments of the transpacific trades and the Asia-Europe trades were different from those of the transatlantic trades. In the transpacific trades, the average eastbound revenue per 20-foot equivalent unit (TEU) rose by 6.6 per cent while the average westbound revenue per TEU fell significantly by 23.1 per cent from the freight level of the previous year. In the Asia-Europe trades, the average freight rates improved by 13.4 per cent, whilst those on the Europe-Asia trade fell by 13.7 per cent. Transatlantic trade showed a decline on both trade routes in 1998 by 5.2 per cent in the United States-Europe trade and by 3.5 per cent in the other direction.

- The 1998 dry bulk market ended with rates for all sizes at significantly lower levels than the year before. This can be attributed mainly to the Asian financial crisis and its negative influence on other areas, which had adversely affected dry bulk demand and consequently freight rate development.

- The stagnant trade of crude oil in 1998 failed to maintain the favourable freight rate level in overall tanker markets in the previous year. This trend was triggered by the Asian financial crisis and further deteriorated with other structural and commercial factors such as mergers between major oil companies. Their combined collective bargaining power in the market had an effect on the tanker freight market. It was another main factor that, in 1998, oil tanker newbuildings of 118 vessels aggregating 12.6 million dwt were delivered, as compared with 5.5 million dwt broken up and lost.

Total freight costs in world trade by groups

- World total freight payments as a proportion of total import value (the freight factor) have been on a downward trend, falling from as high as 6.64 per cent in 1980 to 5.22 per cent in 1990 and 5.24 per cent in 1997. The freight factor for the developed market-economy countries decreased to 4.40 per cent in 1990 to 4.17 per cent in 1997, while that of the developing countries declined to 8.04 per cent in 1997, as compared with 8.60 per cent in 1990. The freight factor for the African and Oceanic developing countries was the highest at 11.53 per cent and 12.36 per cent in 1997, whilst American developing countries registered the lowest of the developing country groups at 7.02 per cent.

Port development

- World container port traffic continued to expand in 1997 at a rate of 8.6 per cent over 1996, reaching 163.7 million TEUs, of which 83.3 million TEUs (or 50.9 per cent, compared with 50.3 per cent in 1996) were handled at the ports of developing countries.

Trade and transport efficiency

- In the overall area of transport, electronic commerce (e-commerce) will call for fundamental changes in various ways. Providers of transport and related logistics services will have to adapt e-commerce to their infrastructure, marketing and customer service. The present section outlines the interrelationships between the growth of e-commerce and the mechanism of the transport sector including multimodal transport.

- The International Convention on the Arrest of Ships, 1999, maintains a closed list of claims with some flexibility in certain categories, for example, in relation to loss or damage covering environmental claims.

Review of regional developments: Latin American economic and maritime transport developments

- Financial markets in some of the Latin American countries were affected adversely by the financial crisis in Asia, specifically from the last quarter of 1997. Having taken immediate action to tighten monetary and financial policies to ease the pressure, the fallout from the Asian crisis in Latin America was therefore relatively limited. Most countries in Latin America were expected to experience sharp economic slowdowns specifically since the second half of 1998 and throughout 1999 as the result of decline in private capital inflows and weakening of the prices of commodity exports. However, the slowdown would unlikely be prolonged.

- Governments' policies on commerce, which focus mainly on opening the region's economies, have significantly improved the economic conditions and consequently attracted foreign investment. Notwithstanding, the favourable circumstances, Latin America suffers from a chronic lack of presence in the shipping sector (owning only 4.4 per cent of the world fleet in deadweight terms). On the other hand, this region provides considerable opportunities for those who are looking to enter or expand their shipping connections with the region. In the liner sector, service providers will integrate their North/South operations, and decide which ports will act as 'hub ports' to effectively connect the East-West or 'round-the-world' services to the North/South services.

- The 1997 freight factor for the developing countries improved to 8.04 per cent from 8.60 per cent in 1990. Latin America's freight factor in 1997 improved from 8.17 per cent in 1990 to 7.02 per cent which was the lowest in the freight factors of all the regions of developing countries. Among the areas in Latin America, the freight factor varied significantly between 5.54 per cent for Central America and 11.1 per cent for the Caribbean. The landlocked countries, Bolivia and Paraguay, were very high at 11.10 per cent and 11.33 per cent, respectively.

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 setback to the world economy triggered by the Asian crisis in the middle of 1997 had repercussions throughout 1998. World output growth fell to 2.0 per cent in 1998 from 3.3 per cent in 1997, and the slowdown affected almost all regions and economic groupings (see table 1). Growth in developing countries was strongly influenced by the impact of the crisis on trade and commodity prices, capital inflows and financing costs, as a result of which it slowed dramatically from 5.4 per cent to 1.8 per cent. For the first time since 1988, growth in developed market-economy countries exceeded that of developing countries.

2. Despite this general slowdown, the fears of a global recession sparked by a downturn in the United States economy have proved unfounded, and by the beginning of 1999 there were already signs that conditions might be stabilizing. Widely anticipated in the aftermath of the global liquidity crisis in the autumn of 1998 which was triggered by the financial crisis in the Russian Federation, a global recession now appears less likely in the face of rapid reductions in interest rates, first in the United States and somewhat later in Europe, continued strong expansion in the United States, recovery of global equity markets and the relatively moderate impact of the Brazilian crisis. The United States economy maintained its 1997 growth rate of some 4 per cent, and unemployment fell to nearly 4 per cent without any appreciable impact on inflation. Although the deterioration of its trade balance resulted in a leakage of demand by almost 1.5 per cent of the gross domestic product (GDP), growth remained strong thanks to a rapid expansion of domestic demand. After expanding by 5 per cent in 1997, output in developing Asia (excluding China) contracted slightly.

3. Declining commodity prices and a strong dollar have contributed to the sustained growth in the United States by generating higher purchasing power and easing price pressures, but these factors had the opposite effect in developing countries. Thus, the brunt of the widely forecast adverse impact of the Asian crisis on growth in developed countries has in fact been borne by developing countries, particularly in Latin America, where growth fell from 5.4 per cent in 1997 to 2.1 per cent in 1998. The combination of declining terms of trade and reduced capital inflows necessitated restrictive domestic policies at the very time when world demand conditions were weakening. Nor did the transition economies escape the fallout from the Asian crisis, with output contracting by 1.3 per cent in 1998 after an increase - the first for several years - of 1.4 per cent in 1997.

4. While global recession has been avoided, disparities in economic performance among major developed market-economy countries have produced serious imbalances. Growth in the European Union was only slightly higher in 1998, while the Japanese economy contracted by nearly 3 per cent.

(b) Merchandise export

5. Growth in the volume of world trade, which began to slow with the onset of the Asian crisis in the middle of 1997, decelerated abruptly in 1998, along with a significant slowing of world output growth. Trade performance differed widely among regions, reflecting the changing pattern of demand and output growth and the impact of the decline in most

commodity prices. Sustained output growth in the United States and the European Union in 1998 was a key factor offsetting the slowdown in other regions, notably the severe contraction in Asia.

6. Growth in the volume of imports slowed down in all regions, with the exception of the European Union, but was particularly sharp in developing regions, and in Asia there was an absolute decline (see table 2). Among the developed countries, import growth was particularly strong in the United States, in continuation, at a slightly slower rate, of the expansion of the previous year, whereas in Japan there was also an absolute decline.

7. Differences in regional export performance were far less pronounced than for imports. The volume of exports rose most in the transition economies and the expansion was above the world average in the European Union and the United States. In Asia, export volume growth was substantially below the world average, especially with respect to intraregional trade, and in Japan there was even a small absolute contraction.

Table 1

World output, 1990-1999
(percentage change)

Country/region	1990-1995	1996	1997	1998 [a]	1999 [a]
World	1.9	3.3	3.3	2.0	1.9
Developed market-economy countries	1.7	2.9	2.9	2.2	1.9
***of which*:**					
United States	2.3	3.4	3.9	3.9	3.4
Japan	1.4	5.0	1.4	-2.8	-1.3
European Union	1.3	1.6	2.5	2.7	1.8
***of which*:**					
Germany	1.7	0.8	1.8	2.3	1.5
France	1.1	1.1	2.0	3.2	2.2
Italy	1.1	0.9	1.5	1.4	1.4
United Kingdom	1.2	2.6	3.5	2.1	0.6
Transition economies	-8.2	-1.5	1.4	-1.3	0.6
Developing countries	4.9	5.8	5.4	1.8	2.1
***of which*:**					
Latin America	3.3	3.6	5.4	2.1	0.8
Africa	1.1	3.9	2.7	2.9	2.6
Asia	6.4	7.1	5.8	1.6	3.3
of which:					
China	12.4	9.6	8.8	7.8	6.6

Source: UNCTAD secretariat calculations, based on data in 1990 dollars.

[a] Estimate.

Table 2

Exports and imports by major regions and economic groupings, 1990 - 1998
(percentage change in volume over previous year)

	Exports				Imports			
	1990-1995 annual average	**1996**	**1997**	**1998**	**1990-1995 annual average**	**1996**	**1997**	**1998**
World	6.0	5.5	10.5	3.5	6.5	6.0	9.5	4.0
Developed market-economy countries	5.3	5.2	10.2	3.4	5.6	5.4	8.5	7.4
of which:								
European Union	5.5	5.5	9.5	5.0	4.5	5.0	7.0	7.5
Japan	1.5	1.0	12.0	1.5	6.5	5.5	1.5	5.5
United States	6.4	6.3	11.8	2.4	6.9	5.6	12.1	10.9
Transition economies	5.0	6.5	12.5	10.0	2.5	16.0	17.0	10.0
Developing countries	9.0	6.9	12.3	3.4	10.1	6.6	10.8	4.5
of which:								
Africa	0.6	6.4	4.9	1.3	3.5	0.8	9.0	0.6
China	17.2	0.8	20.5	3.6	17.9	6.5	5.1	3.6
Latin America	8.0	11.0	11.0	6.5	12.0	8.5	22.0	9.5
Asia	12.6	6.2	12.4	1.4	13.7	5.8	7.0	10.1

Source: UNCTAD secretariat calculations, based on statistics of the WTO.

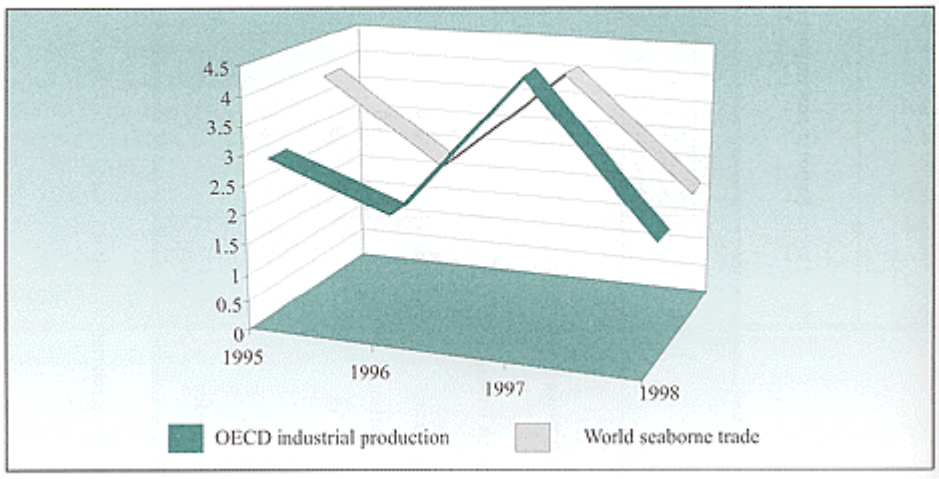
8. In value terms, world trade not only failed to grow; it underwent its strongest decline since 1982, with exports falling by 2 per cent (f.o.b.) and imports by 1 per cent (c.i.f.). And, for the first time in the post-war period, the share of primary products in world trade fell below 20 per cent, due to a continued increase in the value of trade in manufactures and a decline of trade in agricultural products, metals and fuels. The European Union was the only major region to record an increase in the value of exports (3 per cent), while in Japan there was a decrease of 8 per cent. The appreciation of the dollar in 1997 and most of 1998, together with the decline in prices of commodities (including oil), contributed to a decline in the dollar value of export earnings of developing countries for the first time since 1991. The decline was particularly severe in the Middle East (21 per cent) and Africa (16 per cent). While the value of imports rose in the European Union, North America and Latin America by around 5 per cent, there was a steep fall in Asia.

(c) OECD countries: industrial production

9. Apart from world output, industrial production of OECD countries (Organisation for Economic Co-operation and Development) is another fundamental indicator of the development of world seaborne trade. In 1998, the OECD industrial production index (1990=100) rose moderately by 2.01 per cent to 116.9 from 114.6 in 1997, when it had increased substantially by 4.48 per cent. This slowdown was not only due to an absolute decline in Japanese industrial production of -6.39 per cent, but also to some extent to moderate growth of only 3.67 per cent in the United States. The European OECD countries: industrial production in 1998 (index 111.4) slowed down very marginally from that in 1997 (index 107.7). World seaborne trade increased by a relatively small growth of 2.2 per cent in 1998, in a remarkable comparison with 1997, when it increased by 4.1 per cent (see graph 1).

Graph 1

Annual change in OECD industrial production and world seaborne trade, 1995–1998



Source: OECD, *Main Economic Indicators*, March 1999.

B. WORLD SEABORNE TRADE

(a) Overall seaborne trade

10. In close correlation to the development of world output, global maritime trade expanded at around 3 per cent per annum between 1990 and 1996. As growth of world economic activity increased to 3.3 per cent in 1970 and subsequently slowed down to 2.0 per cent in 1998, seaborne trade followed this pattern by growing 4.1 per cent in 1997 and 2.2 per cent in 1998. In line with the expected development of world output, seaborne trade growth in 1999 is expected to reach a similar rate as in 1998, as United States output is expected to grow at 3.4 per cent and that of the European Union at 1.8 per cent, while Japan will gradually recover from the negative growth of -2.8 per cent to approximately -1.3 per cent in 1999. Given these present developments and the prevailing expectations that Asian markets will continue their path to recovery, growth in total world maritime trade is expected to rebound to some 3 to 3.5 per cent in the year 2000 (see table 3 and graph 2).

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		1 125	
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	
1991	1 790	2.0	2 330	3.4	1 005	3.8	4 120	2.8
1992	1 860	3.9	2 360	1.3	990	-1.5	4 220	2.4
1993	1 945	4.6	2 385	1.1	993	0.3	4 330	2.6
1994	2 007	3.2	2 478	3.9	1 028	3.5	4 485	3.6
1995	2 049	2.1	2 602	5.0	1 082	5.3	4 651	3.7
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 [c]	2 223	1.9	2 950	2.3	1 227	2.3	5 173	2.2
2000 [d]	2 256	1.5	3 099	5.1	1 289	5.1	5 355	3.5

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.

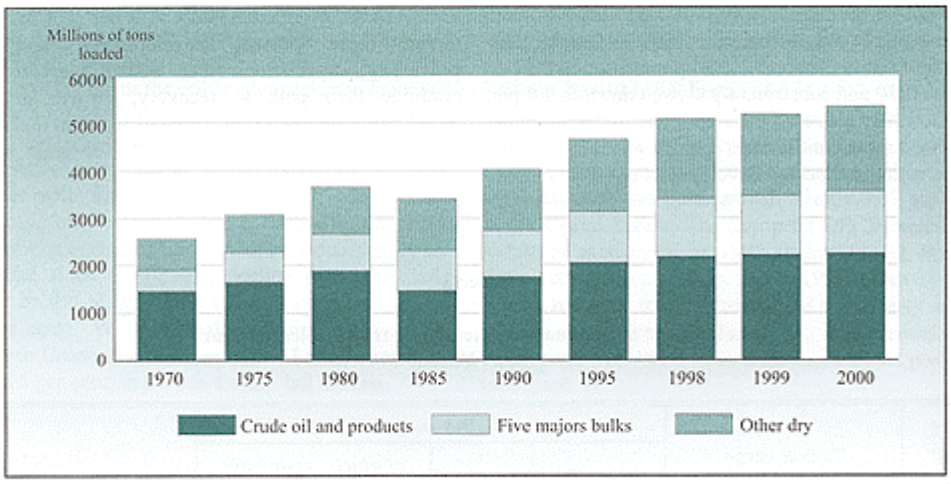
b Iron ore, grain, coal, bauxite/alumina and phosphate.

c Estimates.

d Forecast.

Graph 2

International seaborne trade for selected years



Source: Review of Maritime Transport, various issues.

(b) Tanker shipments

11. After a decade of negative growth of 0.6 per cent per annum in the 1980s, world tanker shipments revived in the 1990s, reaching an average annual growth rate of 3.4 per cent between 1990 and 1997. Growth in 1998 was, however, minimal at 0.4 per cent, resulting in a seaborne volume of 2.2 billion tons. The serious financial crisis that has prevailed in Asian countries since 1997 has been a hefty impediment to development of their economic activities, resulting in reduced oil demand in the major Asian economies.

12. Crude oil shipments increased marginally by 0.4 per cent to 1,633 million tons in 1998, from 1,626 million tons in 1997. The shipments are expected to grow at a relatively low rate of between 1 per cent and 2 per cent to 1,660 to 1,680 million tons in 1999. In parallel, trade structures continued to change. The major importers of crude petroleum are switching to securing crude oil from closer regional markets. This trend has particularly affected exports from the Middle East Gulf, which have thus suffered from a loss of market sharesince the second half of the 1990s, as the United States and European countries have diversified their imports to other regions. Asian economies remain dependent largely on Middle East Gulf crude oil, and are expected to do so over the next several years. Crude oil shipments from Latin America will increase substantially over the next few years. Predictably, the United States remains the primary market for Latin American crude oil, and is expected to receive approximately 90 per cent of all Latin American shipments for the years ahead. Exports from the Mediterranean, West Africa and Asia will suffer from stagnant trade in the next couple of years. At the receiving end, in particular, more than 80 per cent of Japan's crude oil are supplied by the Middle East Gulf, while northern and southern Europe's crude oil imports from non-European sources continue on a declining trend. These European countries should continue their reliance on European crude stocks, dampening the demand for imports from other regions, specifically from the Middle East Gulf. China's imports of crude oil are expected to slow down for the next couple of years.

13. The global trade in petroleum products in 1998 increased very marginally by 0.4 per cent. These shipments are expected to regain strength and to develop along the average growth path of between 2.0 and 3.0 per cent for the period of 1990–2000. The Far East serves as the largest source of seaborne

petroleum product exports, even though exports from Japan could decline over the next few years as exports to the Far East newly industrialized economies (NIEs) are expected to contract. The NIEs remain both a major supplier and a major consumer of petroleum products. Half of its petroleum product imports are intra-NIEs shipments, while the region receives shipments from Japan, the United States and the Middle East Gulf. In major import markets, total United States? demand will remain steady with an average annual growth rate of over 2.0 per cent for the near future. Inbound shipments from Latin America and Europe will satisfy most of the increasing United States demand. Japanese imports will continue to grow, however, at a slower pace than the demand in the United States. European demand for petroleum products is becoming more regionalized, while imports from non-European countries are expected to decline gradually after 1999.

(c) Dry cargo shipments

14. Total seaborne dry cargo trades grew at an annual rate of 5.7 per cent during the 10-year period from 1970 to 1980, based primarily on the strong growth of main dry bulk commodities of nearly 8 per cent per annum. Growth fell to 2.3 per cent a year during the next decade of the 1980s, when average rates were pushed down by trade performance in 1982 and 1983, because dry cargo movements suffered a decline of 2.6 per cent per annum. Since 1990, average growth rates have picked up again with trade expanding by 3.5 per cent a year. In 1998, the volume of overall dry cargo shipments grew by 3.7 per cent, reaching 2,884 million tons, while in 1999 trade is expected to grow at a lower rate of 2.3 per cent.

World crude steel production

15. In 1998, world crude steel production decreased by 2.8 per cent to 776 million tons. This production volume was, however, the second largest, following that of 800 million tons registered in the previous year. Regional analysis shows that Asia's share declined in 1998 by 2.3 per cent to 299 million tons, or 38.5 per cent of the world total. Most of this decline was due to reduced outputs in Japan, the Republic of Korea and India with production decreasing 10.5, 6.2 and 2.9 per cent, respectively. China and Taiwan Province of China, on the other hand, increased their share by 5.0 and 5.6 per cent. The European Union? s share increased marginally by 0.1 per cent to 160 million tons in 1998 based on increases in France (1.8 per cent), Spain (8.3 per cent) and Belgium (6.4 per cent). Production decreases were recorded in Germany (-2.1 per cent), Italy (-0.2 per cent) and the United Kingdom (-6.4 per cent). The output of North American producers was down by a marginal 0.4 per cent to 129 million tons, thus ending a seven-year period of consecutive production increases. The combined volume of the three major crude steel-producing regions decreased by 1.5 per cent to 588 million tons in 1998, but continued to dominate world steel production with a combined share of 76 per cent of world output.

World crude steel consumption

16. World steel consumption in 1998 declined marginally by 1.4 per cent to 690 million tons as compared with the record level of approximately 700 million tons in 1997. About 170 million tons of the total demand were traded on board ships. Steel consumption among the developed market-economy countries of the United States, Canada, Japan and Western Europe combined is estimated at nearly 380 million tons or 55 per cent of the total consumption, and is expected to maintain this level for the next couple of years. China is another major steel-consuming country, demanding 114 million tons in 1999, which is 7 million tons more than the demand of the previous year. China has been maintaining a steady year-on-year growth since the middle of the 1990s.[i]

Iron ore trade

17. Based on the decreased world steel production, the total volume of seaborne trade in iron ore also declined by 2.3 per cent to 420 million tons in 1998. It is expected that the world total iron ore shipments will fall to nearly 410 million tons in 1999, with some pick-up in volumes expected in 2000 and onwards.[ii] Changes in the regional distribution of steel production have of course also shaped iron ore import patterns in recent years, with the predominance of the European Union and Japanese markets declining in response to major rationalization programmes among the largest steel producers. At the same time, the new growth markets of China, the Republic of Korea and Taiwan Province of China are replacing the traditionally influential import markets. Specifically, Japanese steel production slowed down in 1998 and is expected to remain stagnant in 1999. Consequently, iron ore imports will decline further by around 4 per cent in 1999, but will recover in the year 2000. Iron ore shipments to NIEs and other Asian developing economies stagnated in 1998 and are expected to fall around 5 per cent in 1999 with recovery foreseen in the year 2000. On the other hand, European demand remains fairly robust, increasing by around 5 per cent both in 1999 and 2000.

This increased demand will be satisfied primarily by supply of iron ore for European steel production. At the global level, the two largest export markets, Australia and Brazil, generate more than three quarters of the seaborne iron ore shipments, with very distinct trade patterns. Australian exports are destined primarily to Asian markets, with 80 per cent of shipments going to steel producers in that region, i.e. Japan, China, Republic of Korea and Taiwan Province of China. Brazilian exports are less concentrated on one single import region, with Europe accounting for approximately 40 per cent and Asia around 45 per cent of export shipments.

Coal trade

18. Seaborne trade in coal has climbed by just over 7 per cent per annum on average to reach a level of 460 million tons in 1997 since 1980 when approximately 200 million tons were shipped. In 1998, coal was again the most important commodity traded, with volumes increasing to 465 million tons. Thermal coal rose to 288 million tons from 279 million tons in 1997, whereas the coking coal trade decreased to 177 million tons from 181 million tons. The overall coal trades are expected to expand at the average annual rate of 4.5 per cent for the next couple of years. Australia, the largest exporter, accounting for one third of the world total, increased its exports by less than 1 per cent in 1998 to 153 million tons. With over half of Australia's exports shipped to Japan, and another 17 per cent traded to the NIEs, Australia's market remains susceptible to any additional contractions by these markets in the future. Its coal shipments are expected to grow at 3.8 per cent per year for 1999 and 2000. Exports of the United States and Canada, the second-largest coal suppliers, decreased by nearly 1 per cent to 130 million tons in 1998. Both countries' exports will recover in 1999 and 2000 as the main shipments to Europe and Japan are expected to increase. Coal shipments from South Africa recorded a 2 per cent growth to almost 50 million tons in 1998. Most growth in South African exports will involve exports to Europe and is expected to grow at over 7 per cent per year in the next couple of years. Chinese coal exports, recording 35 million tons, will experience strong growth in 1999 and 2000, with the annual rate to exceed 8 per cent over the next few years. Asia, specifically Japan, remains the largest market for coal imports, with a total of 230 million tons imported in 1998. Reduced steel production led to lower demand for coking coal in these countries despite some modest growth in demand for thermal coal imports. Imports of both Japan and the NIEs are expected to Brazil, the major source of recover in 1999 and 2000. Europe imported about 145 million tons in 1998. European demand will continue to grow for the next few years, based primarily on increases in thermal coal imports.[iii]

Grain trade

19. The 1998 grain shipments decreased by 6.4 per cent to 190 million tons from 203 million tons in the previous year. Part of the decrease is due to increased production and stock piling in many of the world's major markets. El Niño's impact on grain production does not appear to have reduced production in Australia and Argentina greatly, but led to increased harvest in the United States in 1998. Grain shipments are slated to fall marginally in 1999 from the 1998 level but to increase again at the annual average rate of 2 per cent from 2000 and onwards. Exports from the United States recovered in 1998 from the declines in the previous year, exporting 96 million tons (92 million tons in 1997), as increased demand from the Middle East, Japan and Latin America boosted trade levels. These factors will result in United States' exports continuing to expand over the next few years. Exports from Canada in 1998 remained unchanged at 26 million tons in 1997, while Australia expanded significantly by nearly 10 per cent to 13 million tons. Both countries' traffic levels are expected to be flat over the period up to 2000. Latin America, mainly Argentina, decreased export shipments slightly to 26 million tons in 1998 as the trades with southern Europe and the Far East NIEs diminished. Exports from Latin America will revive at about 3 per cent per annum for the next couple of years. Japan's imports increased by nearly 1 per cent in 1998, and are expected to expand at about 2 to 3 per cent per year over the next few years. This could help United States' exports to Japan to increase as in 1998 two thirds of Japanese imports were traded with the United States. Unlike Japan, demand in the Far East NIEs has declined gradually since 1995 when 62 million tons were imported to 53 million tons in 1998, and this downward trend is expected to continue over the forthcoming couple of years. Middle Eastern countries' imports increased by over 5 per cent to 37 million tons in 1998. This trend will continue in 1999; thereafter the growth will, however, diminish to 3 to 4 per cent per year. Demand for northern Europe fell slightly this year to 24 million tons but is expected to recover in 1999 and onwards. Latin America's imports recovered from the decline in 1997, with overall levels up by 11 per cent to 21 million tons in 1998. After 1999, the market will slow down somewhat, with an average annual growth rate of approximately 5 per cent over 2000 and onwards.[iv]

(d) Liner shipments of containerized cargo

20. Total world liner trades continued to grow despite the Asian crisis and its repercussions. Total world liner shipments of containerized cargoes in 1998 reached 49.51 million TEUs C an increase of 1.8 per cent as compared with the volume of the previous year when the growth was registered at 8.5 per cent. It is expected that liner trades will recover only moderately in 1999, reflecting the fact that Japan's trades continue to be depressed, while those of the United States and Canada continue to expand, albeit at a slower rate than in 1998. Growth in overall liner trades will regain momentum in 2000 and onwards. The United States' liner trade grew by 5.1 per cent in 1998, but showed increasing direction imbalances. Imports increased by 14 per cent while exports reported a 5 per cent decline. The high increase in United States' imports is a result of the Asian financial crisis and the accompanying export boom following currency devaluations. The effects are expected to taper off in 1999 and 2000. In 1999, United States' liner trades are expected to grow at about 3 per cent (4 per cent for imports and less than 2 per cent for exports), and in 2000, reflecting the forecast recovery of Asian markets, expand at 5 to 6 per cent (6 per cent for imports and 5 per cent for exports). The pick-up of export trades will have a particularly beneficial impact on the provision of maritime services, as it provides for a relative decrease in directional imbalances and consequently a prerequisite for a sustained recovery of maritime markets. In 1998, Europe's combined imports and exports registered a moderate increase of 3.7 per cent, representing a total of 15.9 million TEUs (8.1 per cent for imports and -0.3 per cent for exports). North America and Latin America together account for about 40 per cent of Europe's imports. The Far East and Japan together account for about 35 per cent of Europe's imports. The Americas account for 37 per cent of Europe's exports while Asian trade accounted for 26 per cent of Europe's 1998 exports. These trades are expected to increase moderately in 1999, by 6 per cent for imports and 2 to 3 per cent for exports, and in 2000, by over 6 per cent for imports and over 4 to 5 per cent for exports. In 1998, Japan experienced a negative combined import and export growth of -2.3 per cent to 7.2 million TEUs (a decrease of 4.1 per cent for imports and a small increase of 0.5 per cent for exports). Japan's imports are dominated by trades with the United States and with Asian countries in terms of volume. Both import trades decreased by 6 per cent and 8 per cent respectively in 1998, will stagnate or marginally decline in 1999 and possibly recover in 2000. Japan's exports to the United States, Europe and Latin American countries increased in 1998 and will continue this upward trend in 1999 and 2000, whilst exports to other Asian countries, which account for 45 per cent of its total exports, declined by as much as 13 per cent in 1998, and will deteriorate further by 6 per cent in 1999, before recovering in 2000. Far Eastern NIEs (Hong Kong (China), the Republic of Korea and Taiwan Province of China) decreased their combined imports and exports by 5.6 per cent to 9.9 million TEUs in 1998 (a decrease of 10.1 per cent in imports and an increase of 0.6 per cent in exports). On the import side, the situation is expected to improve somewhat in 1999, with moderate growth resuming thereafter. A similar situation in their exports is forecast for the period 1999-2000. South-East Asian countries registered a growth of -3.7 per cent for combined imports and exports (-7.8 per cent for imports and 0.3 per cent for exports) in 1998. While the Asian crisis has lasted longer and spread more widely than initially expected, it is predicted that overall imports and exports will turn favourably in 1999 and expand moderately in 2000 and onwards.[v]

(e) World shipments by country groups

21. World seaborne trades stagnated at an annual average rate of 0.8 per cent between 1980 and 1990. They are expected to recover at an annual average rate of 3.4 per cent for the next decade of 1990-2000. In terms of regional trading activities, developing countries' trading volume in terms of goods loaded showed a negative annual average growth of -0.5 per cent during the period 1980-1990, but recovered in the 1990s reaching an annual average rate of growth of 3.9 per cent between 1990 and 1998. For cargo unloaded, developing countries' total volume increased at an annual rate of 3.0 per cent between 1980 and 1990. Growth improved in the 1990s to 3.8 per cent per annum since the beginning of the decade.

22. In the 1980s, the volume of goods loaded in developed market-economy countries grew at a moderate but above average rate of 2.8 per cent per annum. In the 1990s, growth slightly improved to 3.4 per cent per annum in line with average rates of growth of world trade. The development of cargo unloaded in the 1980s reflected movements in world trade with average growth rates of 0.7 per cent being attained. In the 1990s, the rate of growth of cargoes unloaded recovered, reaching some 3.0 per cent a year on average.

23. Summarized data on world seaborne trade by major cargo segments and country groups are shown in graph 3 and table 4. In terms of regional distribution, developing countries continue to be major exporters of crude oil (84 per cent of world exports) and generated 56 per cent of the world oil product shipments. Their share in dry cargo shipments, however, has been stagnating at around 31 per cent. Their share in world total exports remains at 51 per cent, while their share of goods unloaded stands at 28 per cent. The relatively lower import share basically reflects low participation in crude oil and oil product imports of 25 and 22 per cent of the world total imports, respectively. Their dry cargo import share stands at 30 per cent.

24. Among the developing countries, Asian countries maintained the highest share in goods loaded. In 1998, 44 per cent of crude oil, 37.3 per cent of products and 13.8 per cent of world dry cargo trade originated in developing countries of Asia. The majority of crude oil exports was shipped from Western Asia (the Middle East Gulf). Products loaded were traded nearly exclusively with other Asian countries. The share of crude oil exports has remained relatively stable during the 1990s, but is considerably below that of the 1970s and 1980s when around 57 per cent of world crude oil exports originated in Asian countries. At the same time, the share of product loadings has increased considerably reflecting the effort of oil-producing countries to further engage in downstream activities. The increasing share in dry cargo loadings reflects largely Asia's growing share in manufactures trades. This has resulted in expanding containerized general cargo loadings in both intercontinental and intra-Asian trades. In imports, Asian countries represent a relatively higher share of 22 per cent in world shipments of dry cargo, the majority of which are made up of coal from Australia, iron ore from Australia and South America and grain from North America and Australia.

25. The share of developing countries of America in goods loaded has remained relatively stable over the last 30 years at around 15 per cent. Neverthless, there have been some structural changes with the share of crude oil loadings increasing to some 17 per cent of world trade. In parallel however, the share in products loaded decreased from 36 per cent in 1970 to 28 per cent in 1980 and 13.7 per cent in 1998. The majority of crude oil and oil products which are generated mainly by Mexico and Venezuela, are exported to the United States. Exports of iron ore from Brazil and grain from Argentina constitute the majority of dry cargo loadings of the region. Their share for unloading shows 5 per cent for crude oil, 3.3 per cent for oil products and 4 per cent for dry cargo. Dry cargo includes coking coal from the United States and Australia, and containerizable general cargo from North America, Europe and the Far East.

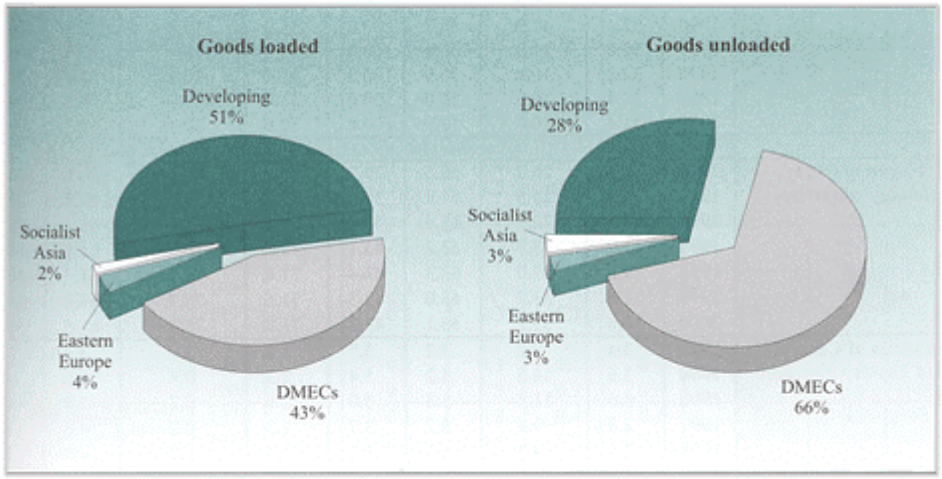
26. The share of goods loaded by African developing countries decreased considerably in the 1970s and has been relatively stagnant at around 10 per cent since 1980. In 1998, their share in goods loaded stood at 22.8 per cent of crude oil, 5.3 per cent of products and 3.8 per cent of dry cargo. Coal exports from southern Africa share a considerable portion of dry cargo exports. Crude oil exports, which hold the second largest share of the world total crude oil exports, are generated mainly in western and northern Africa. In terms of goods unloaded, their imports remain at a low level of 4 per cent of world trade, which is distributed fairly evenly over the three cargo groups.

27. The share of developed countries in goods loaded is maintained at around 43 per cent of world trade. Following considerable increases in the 1970s and 1980s, this share has been fairly constant since 1990 with only minor fluctuations. Crude oil and oil products account for 11.5 per cent and 33.5 per cent of the world total exports, while their imports account for 71.5 per cent for crude oil and 75.5 per cent for oil products. The United States remains the largest importer of crude oil growing at a rate of 2 to 3 per cent annually. Similarly, total United States' imports for oil products continue to grow at the same rate. Because of economic problems, Japanese crude oil imports will decline marginally in 1999 and afterwards will regain some momentum. Patterns in the oil product trades have seen some changes, the major ones being declines in Japanese exports to the Far Eastern NIEs and growing shipments from Europe to the United States. Europe's imports from non-European sources have been declining over the last years. In the dry bulk segment, developed market-economy countries have maintained market shares of 63 per cent for exports and 62 per cent for imports. Australia's coal shipments suffer from the drop in Asian demand, but are expected to recover in 1999 and onwards, with anticipated growth of 3 to 4 per cent annually. North America? s coal exports to the Far Eastern NIEs should remain depressed over the next few years. Australia's iron ore shipments fell as Asian demand shrank. Grain exports from the United States appeared to have recovered from the decline that occurred in 1997 as increased demand from the Middle East and Latin America boosted shipment levels. These factors should result in United States' exports continuing to expand over 1999 and 2000. Exports from both Canada and Australia

will suffer from reduced Asian demand. Of the total dry cargo shipments for exports and imports of the, developed market-economy countries containerizable liner cargo accounts for around 15 per cent each in exports and imports in terms of weight. These shipments are expected to grow at 2 to 3 per cent in 1999 and at a higher rate in 2000. The 1999 share of the countries of Central and Eastern Europe is expected to increase to 3.8 per cent from 3.7 per cent in 1998 for loading, resulting from a marginal increase in crude oil exports. The share in oil imports of the socialist countries of Asia in 1999 will decline marginally owing to China's limits on oil imports.

Graph 3

World seaborne trade by country groups
(percentage distribution of tonnage, 1998)



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

Table 4

World seaborne trade [a] in 1970, 1980, 1990, 1997-1998 and [b] 1999-2000 (estimates), by types of cargo and country groups

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	4 007	1 315	446	2 365	4 126
	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	525	2 993	5 149
	1999	1 663	560	2 950	5 173	1 658	536	3 062	5 256
	2000	1 681	575	3 099	5 355	1 676	550	3 216	5 442
		(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	49.6	100.0
	1990	32.1	11.7	56.2	100.0	31.9	10.8	57.3	100.0
	1997	32.8	11.0	56.1	100.0	32.3	10.4	57.4	100.0
	1998	32.2	10.8	56.9	100.0	31.4	10.2	58.4	100.0
	1999	32.1	10.8	57.0	100.0	31.6	10.2	58.3	100.0
	2000	31.4	10.7	57.9	100.0	30.8	10.1	59.1	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	81.4	61.7	66.9
	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	75.3	61.7	66.1
	1999	11.6	33.7	63.0	43.3	71.6	75.7	61.8	66.3
	2000	11.6	33.7	63.1	43.8	71.7	75.7	61.8	66.2
Countries of Central and Eastern Europe [d]	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	4.2
	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	9.5	3.2	3.8	1.4	0.2	4.6	3.1
	2000	2.9	9.5	3.2	3.8	1.4	0.2	4.6	3.2
Socialist countries of Asia [e]	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	0.3	3.4	2.5
	1997	1.6	0.9	2.3	1.9	1.1	2.3	3.6	2.7
	1998	1.5	0.9	2.3	1.9	2.4	2.5	3.6	3.1
	1999	1.5	0.9	2.3	1.9	2.3	2.4	3.6	3.1
	2000	1.5	0.9	3.2	1.9	2.3	2.4	3.6	3.1
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	18.0	29.1	26.3
	1997	83.7	56.0	31.3	51.2	26.0	20.8	29.9	27.7
	1998	84.1	56.6	31.2	51.0	24.8	21.9	30.2	27.6
	1999	84.0	55.9	31.5	51.0	24.6	21.7	30.0	27.5
	2000	84.0	55.9	31.4	50.6	24.6	21.7	30.1	27.6

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]		
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	2.3	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	22.6	5.1	3.8	10.0	4.9	2.1	3.9	4.0
	2000	22.6	5.1	3.8	9.8	4.9	2.1	3.9	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	3.8	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	3.3	4.1	4.3
	1999	17.2	13.5	13.0	14.4	5.0	3.3	4.1	4.3
	2000	17.2	13.5	13.0	14.3	5.0	3.3	4.0	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	10.9	19.9	16.5
	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	15.6	21.5	18.6
	1999	44.2	37.1	14.0	26.2	14.2	15.6	21.4	18.5
	2000	44.2	37.1	14.0	26.0	14.2	15.6	21.5	18.7
Europe [e]	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	0.5	0.6	0.6
	2000	-	0.2	0.3	0.2	0.5	0.5	0.6	0.6
Oceania [e]	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	-	0.5	0.1	0.1
	2000	-	0.1	0.4	0.2	-	0.5	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 Including the former USSR in data for 1970 and 1980.

e Estimates.

(f) Demand for shipping services

28. Data on total demand for shipping services in terms of ton-miles are provided in table 5. World seaborne trade in volume increased marginally by 2.2 per cent to 5,064 million tons in 1998 (see table 3), whilst the total shipping performance measured in ton-miles in 1998 decreased by 1.1 per cent to 21,425 billion ton-miles, as compared with a 4.8 per cent increase to 21,672 billion ton-miles in 1997. The decrease in ton-miles was attributable mainly to further changing trade structures and consequent reductions in average transport distances of oil products and some major dry bulk commodities such as coal and grain. In terms of market segments, demand for crude oil transport increased slightly by 1.9 per cent to 7,820 billion ton-miles in 1998, whereas the ton-miles for oil product shipments decreased by 3.9 per cent to 1,970 billion ton-miles. Crude oil and oil products are expected to grow at 1.5 per cent and 2.5 per cent per annum respectively, but annual average transport distances for oil and oil products have recently declined by nearly 1 per cent. On the basis of these preliminary data, it is expected that ton-miles of oil and oil products will remain almost unchanged or marginally increase in 1999. Transport services for the three major dry bulk commodities in 1998 decreased by 4.2 per cent, with iron ore down slightly by 0.6 per cent to 2,430 billion ton-miles, and coal and grain down substantially by 5.0 and 10.2 per cent to 2,215 and 1,050 billion ton-miles respectively. Iron ore and coal shipments are expected to grow at a rate of 4 to 5 per cent annually and grain at 1 to 2 per cent annually in the next couple of years. The average transport distance is expected to increase very marginally for iron ore and by 2 per cent per annum for coal, but remain unchanged for grain.

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
1993	7 391	1 775	2 001	1 949	1 038	4 840	18 994
1994	7 469	1 860	2 165	2 014	992	5 100	19 600
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	7 677	2 050	2 444	2 332	1 169	6 000	21 672
1998	7 820	1 970	2 430	2 215	1 050	5 940	21 425

Source: Fearnleys (Oslo), *Review 1998*.

[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

29. Comparative time-series data on the world fleet for 1996, 1997 and 1998 are provided in table 6. The world merchant fleet reached 788.7 million deadweight tons (dwt) at the end of 1998. This represents a 1.6 per cent increase over 1997, when the world fleet had expanded at a rate of 2.3 per cent as compared with 1996. The slower rate of fleet expansion was attributable primarily to an increase to 23.5 million dwt of tonnage broken up and lost, while the new building deliveries decreased only slightly to 35.5 million dwt from the level of 36.8 million dwt registered in 1997. The net tonnage gain of 12.0 million dwt in 1998 compared with a net gain of 17.7 million dwt in 1997.

30. The combined tonnage of oil tankers and dry bulk carriers continue to dominate the world fleet, representing 70.3 per cent of total tonnage in 1998, a slight decline from 71.3 per cent in 1997. General cargo ships and container ships accounted for 12.8 per cent and 7.8 per cent of total tonnage, respectively. Both types of tonnage continue to develop along a trend line that sees decreasing volumes of conventional general cargo and increasing container tonnage, even though container tonnage growth recorded at 9.0 per cent was somewhat less impressive than the rate of 15.1 per cent observed in 1997. This was due primarily to a further decline in dry bulk tonnage from 36.2 per cent in 1997 to 34.9 per cent end-1998, while oil tanker tonnage marginally increased to 279.5 million dwt end-1998 as compared to 272.0 million dwt the year before. Graph 4 illustrates world fleet size trends by principal types of vessel for the period 1980-1998.

World containership fleet

31. The world fleet of fully cellular containerships continued to expand substantially in 1998 in terms of both number of ships and their TEU capacity, reaching 2,365 ships of 4,062,000 TEUs by the end of 1998, which represented an increase of 7.3 per cent in the number of ships and 11.8 per cent in TEU capacity over the previous year (see table 7). At the same time, ship sizes continued to increase with average carrying capacity per ship growing from 1,581 TEUs in 1996 to 1,717 TEUs in 1998, reflecting the general need to reduce operating costs through economies of scale. This development will continue given the number of Panamax and post-Panamax presently on order. At the end of 1998, the new building orders for all sizes stood at 219 ships, aggregating 580,000 TEUs, scheduled to enter into service over the next couple of years, of which 73 ships were of the Panamax and post-Panamax size, with a total capacity of around 372,000 TEUs or 33 per cent (ships) and 64 per cent (capacity) of the total order book.

Age distribution of the world merchant fleet

32. Table 8 provides data on the age distribution of the world merchant fleet by types of vessels and by groups of countries and territories. For the third consecutive year, the average age of the world total fleet improved slightly in 1998, to 14.54 years from 14.77 years in 1997. By types of vessel, the average age of tankers, however, rose to 15.00 years in 1998 from the previous year's average of 14.68 years. The share of tanker tonnage aged 15 years and over increased to 55.1 per cent in 1998 from 54.5 per cent in 1997. The dry bulk carrier fleet continued to improve to 13.56 years in 1998 from 14.34 years in 1997, reflecting increased scrapping activities in this sector.

Table 6

World fleet size by principal types of vessel, 1996-1998 [a]
(end of year figures, in thousands of dwt)

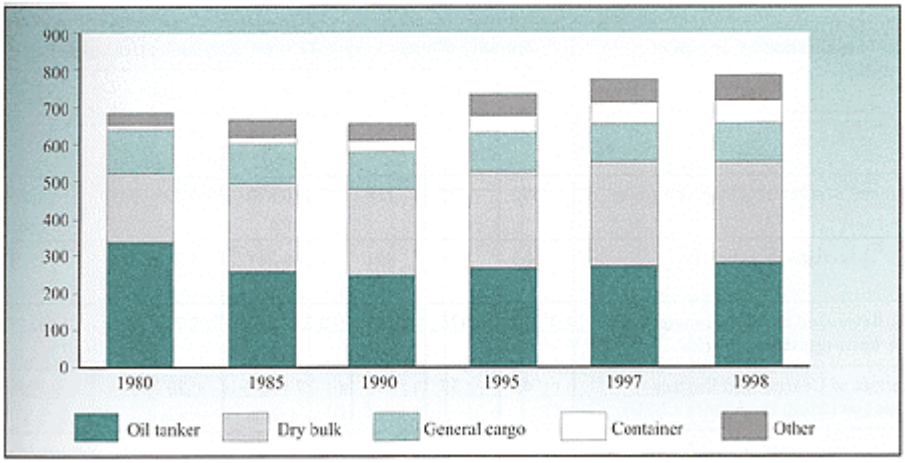
Principal types	1996	1997	1998	Percentage change 1997/1998
Oil tankers	271 454	272 023	279 509	2.8
	35.8	35.1	35.4	
Bulk carriers	272 564	281 012	275 519	-2.0
	36.0	36.2	34.9	
Ore/bulk/oil	21 922	20 256	17 720	-12.5
	2.9	2.6	2.2	
Ore/bulk	250 642	260 756	257 799	-1.1
	33.1	33.6	32.7	
General cargo ships	104 642	103 880	101 259	-2.5
	13.8	13.4	12.8	
Container ships	48 766	56 108	61 147	9.0
	6.4	7.2	7.8	
Other types of ships	60 745	62 904	71 291	13.3
	8.0	8.1	9.0	
Liquefied gas carriers	15 507	16 021	16 471	2.8
	2.1	2.1	2.1	
Chemical tankers	7 913	7 846	7 740	-1.4
	1.0	1.0	1.0	
Miscellaneous tankers	699	920	885	-3.8
	0.1	0.1	0.1	
Ferries and passenger ships	4 492	4 614	4 803	4.1
	0.6	0.6	0.6	
Others	32 134	33 503	41 392	23.5
	4.2	4.3	5.2	
World total	758 172	775 927	788 725	1.6
	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, 1980–1998



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

Table 7

Distribution of the world fleet and TEU capacity of fully cellular container ships by groups of countries, in 1996, 1997 and 1998
(end-of-year figures)

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares [a]		
	1996	1997	1998	1996	1997	1998
World total	1 954	2 204	2 365	3 089 682	3 632 070	4 061 653
				100.0	*100.0*	*99.9*
Developed market-economy countries	592	675	728	1 170 879	1 398 781	1 561 060
				37.9	*38.5*	*38.4*
Major open-registry countries	683	800	887	1 066 261	1 315 130	1 545 818
				34.5	*36.2*	*38.1*
Total, developed market-economy and major open-registry countries	1 275	1 475	1 615	2 237 140	2 713 911	3 106 878
				72.4	*74.7*	*76.5*
Countries of Central and Eastern Europe (including the former USSR)	45	35	35	27 120	23 276	26 331
				0.9	*0.6*	*0.6*
Socialist countries of Asia	98	99	90	95 882	96 739	94 863
				3.1	*2.7*	*2.3*
Developing countries	441	504	542	549 555	628 999	691 328
				17.8	*17.3*	*17.0*
of which in:						
Africa	5	8	10	4 779	9 117	11 026
				0.2	*0.3*	*0.3*
America	126	138	162	108 552	119 299	157 836
				3.5	*3.3*	*3.9*
Asia	305	353	365	431 669	496 028	516 431
				14.0	*13.7*	*12.7*
Europe	5	5	5	4 555	4 555	6 035
				0.1	*0.1*	*0.1*
Oceania	..	-	-	..	..	..
				..	..	..
Other, unallocated	95	91	83	179 985	169 145	142 253
				5.8	*4.7*	*3.5*

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 31 December 1998
(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) 1998 [a]	Average age (years) 1997[a]
World total	All ships	100	17.8	16.6	14.3	51.4	14.54	14.77
	Tankers	100	13.8	22.3	8.7	55.1	15.00	14.68
	Bulk carriers	100	22.3	13.7	19.3	44.7	13.56	14.34
	General cargo	100	8.9	9.2	15.6	66.3	17.28	17.42
	Container ships	100	33.9	18.2	14.8	33.0	10.99	11.85
	All others	100	14.2	14.5	14.2	57.1	15.57	15.28
Developed market-economy countries	All ships	100	17.5	16.9	15.6	50.0	14.41	14.68
	Tankers	100	13.0	18.1	10.1	58.8	15.68	15.45
	Bulk carriers	100	18.1	14.2	22.8	44.9	13.97	14.60
	General cargo	100	14.7	14.1	20.8	50.3	14.84	14.90
	Container ships	100	37.9	19.2	12.8	30.0	10.24	12.02
	All others	100	15.0	18.8	16.6	49.5	14.50	14.36
Major open-registry countries	All ships	100	19.1	17.5	12.8	50.7	14.30	14.48
	Tankers	100	14.4	24.1	7.0	54.6	14.83	14.10
	Bulk carriers	100	23.8	13.5	17.0	45.6	13.49	14.46
	General cargo	100	11.2	10.6	17.3	60.9	16.44	16.91
	Container ships	100	32.0	18.6	15.3	34.1	11.28	12.17
	All others	100	17.6	12.3	11.6	58.5	15.48	14.88
Subtotal	All ships	100	18.5	17.3	13.8	50.4	14.33	14.54
	Tankers	100	13.9	21.9	8.1	56.1	15.13	14.61
	Bulk carriers	100	22.3	13.7	18.6	45.4	13.63	14.49
	General cargo	100	12.4	11.8	18.5	57.2	15.88	16.22
	Container ships	100	34.9	18.9	14.1	32.1	10.78	12.08
	All others	100	16.2	15.7	14.2	53.8	14.96	14.59
Countries of Central and Eastern Europe	All ships	100	2.2	10.2	19.9	67.7	18.04	17.96
	Tankers	100	1.6	4.1	23.6	70.6	18.68	18.66
	Bulk carriers	100	0.0	10.6	19.6	69.9	18.47	18.39
	General cargo	100	3.3	10.4	19.0	67.2	17.86	17.75
	Container ships	100	8.6	12.5	25.5	53.4	15.86	14.24
	All others	100	3.3	14.8	18.1	63.7	17.29	17.11
Socialist countries of Asia	All ships	100	9.1	8.5	13.3	69.1	17.58	17.20
	Tankers	100	12.0	14.8	14.4	58.8	15.94	15.51
	Bulk carriers	100	10.5	9.0	13.2	67.3	17.23	16.80
	General cargo	100	2.2	3.9	11.0	83.0	19.90	19.48
	Container ships	100	28.6	15.6	26.7	29.1	11.27	11.01
	All others	100	5.4	6.8	9.7	78.1	18.93	18.51
Developing countries (excluding open-registry countries)	All ships	100	18.8	15.5	15.2	50.5	14.40	14.75
	Tankers	100	14.7	25.8	10.1	49.4	14.18	14.62
	Bulk carriers	100	27.2	13.4	23.3	36.1	12.22	13.00
	General cargo	100	5.5	5.0	10.2	79.3	19.13	19.00
	Container ships	100	36.2	16.4	9.1	38.3	11.39	10.81
	All others	100	10.4	11.0	13.4	65.2	16.93	16.80

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.

Container ships continued to represent the youngest fleet in 1998, with a decrease in average age from 11.85 years in 1997 to 10.99 years in 1998 as a high level of newbuilding activities continued to push down the average age of container tonnage. This is also reflected in the share of tonnage between 0 and 4 years of age, which increased to 33.9 per cent in 1998 as compared to 29.3 per cent in 1997.

33. By country grouping, the major open-registry countries continued to have the lowest average age of all ships (14.30 years in 1998 versus 14.48 years in 1997), as a growing tendency to place newbuildings under open-registry flags could be observed. Developed market-economy countries also benefited from a slight reduction in average age (14.41 years in 1998 as compared with 14.68 years in 1997) as did the fleets of developing countries (14.40 years in 1998 versus 14.75 years in 1997). The average age of tonnage registered in the socialist countries of Asia continued to increase, to an average age of 17.58 years in 1998 as compared with 17.20 years in 1997. The countries of Central and Eastern Europe continue to have the oldest fleet, with vessels built over 15 years ago representing 67.7 per cent of their total fleet.

Delivery of newbuildings

34. Newbuilding activities continued at a high level with deliveries amounting to 1,043 vessels of 35 million dwt in 1998 (see table 9). While deliveries were down from the 1996 and 1997 levels, they still represent the third largest shipyard output since 1980. This high level of output was sustained primarily by tanker deliveries of 12.6 million dwt, which was up 70.1 per cent from the 1997 level. At the same time, deliveries of dry bulk carrier tonnage decreased by 60 per cent to 11.4 million dwt. Deliveries of Aother vessels@, including general cargo and container ships, increased by about 7 per cent.

Demolition of ships

35. Trends in tonnage, types and average age of broken-up vessels are reflected in tables 10, 11 and 12. In 1998, total tonnage sold for demolition increased significantly by 10.4 million dwt or 70.3 per cent from the tonnage of the previous year to 25.2 million dwt, which accounted for 3.2 per cent of the world total deadweight tonnage. Dry bulk carriers accounted for half of the demolition sales volume in 1998, increasing continuously to 12.8 million dwt in 1998 from 8.2 million dwt in the previous year. Tanker tonnage sold for scrapping stood at 7.4 million dwt, about double the tonnage broken up in 1997. It has to be noted though that despite the unfavourable age distribution of the world tanker fleet, its share in tonnage sold for breaking remained relatively low at 29 per cent. The lack of incentive for tanker owners to scrap obsolete tonnage is also reflected in the fact that the average age of ships broken up has increased to over 28 years as compared to around 25 years at the beginning of the decade. Other ship types have a shortened trading life with dry bulk carriers being sold to breakers on average at 25.2 years, container ships at 25.5 years and general cargo ships at 26.7 years.

Table 9

Deliveries of newbuildings, 1980, 1985, 1990 and 1992-1998

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	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
1992	125	16 003	14	1 502	62	4 331	503	5 029	704	26 865
1993	128	17 559	5	426	97	7 832	652	5 950	882	31 767
1994	81	10 207	2	166	180	11 893	646	7 152	909	29 418
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	68	7 392	3	330	298	18 794	696	10 330	1 065	36 846
1998 c	118	12 578	-	-	215	11 443	710	11 025	1 043	35 046

Source: Fearnleys (Oslo), *Review 1998.* [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 1991-1998

Broken-up tonnage	1980	1991	1992	1993	1994	1995	1996	1997	1998
Tonnage sold for breaking (million dwt)	10.0	4.7	19.0	16.9	20.8	15.3	18.1	14.8	25.2
Share of broken-up tonnage in the total world fleet (percentage)	1.5	0.7	2.7	2.4	2.9	2.1	2.4	1.9	3.2

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, 1993-1998

(thousands of dwt and percentage shares)

Types of vessel	Thousand dwt						Percentages					
	1993	1994	1995	1996	1997	1998	1993	1994	1995	1996	1997	1998
Tankers	10 665	13 102	10 877	6 550	3 578	7 426	63.3	63.1	71.0	36.1	24.2	29.4
Combined carriers	2 040	2 559	1 228	1 861	423	1 435	12.1	12.3	8.0	10.3	2.9	5.7
Dry bulk carriers	2 645	3 829	2 135	7 632	8 161	12 847	15.7	18.4	13.9	42.1	55.1	50.9
Others	1 502	1 282	1 081	2 092	2 646	3 533	8.9	6.2	7.1	11.5	17.9	14.0
Total	16 852	20 772	15 321	18 135	14 808	25 241	100.0	100.0	100.0	100.0	100.0	100.0

Source: Fearnleys (Oslo), Review, various issues.

Table 12

Average age of broken-up ships by type from 1989 to 1998 [a] *(years)*

Year	Tankers	Dry bulk carriers	Container ships	General cargo ships
1989				
1990	24.9	23.1	27.2	25.5
1991	26.4	21.7	19.5	25.1
1992	25.3	22.0	19.0	24.8
1993	25.8	22.9	19.1	25.7
1994	24.7	24.0	22.9	26.4
1995	24.6	24.1	24.0	27.1
1996	26.1	24.5	24.0	25.8
1997	26.0	24.3	26.2	27.8
1998	28.2	25.3	22.8	26.9
	28.2	25.2	25.5	26.7

Source: Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics, 1999*, Nos. 1? 2.

[a] Ships of 300 grt and over.

B. OWNERSHIP OF THE WORLD FLEET

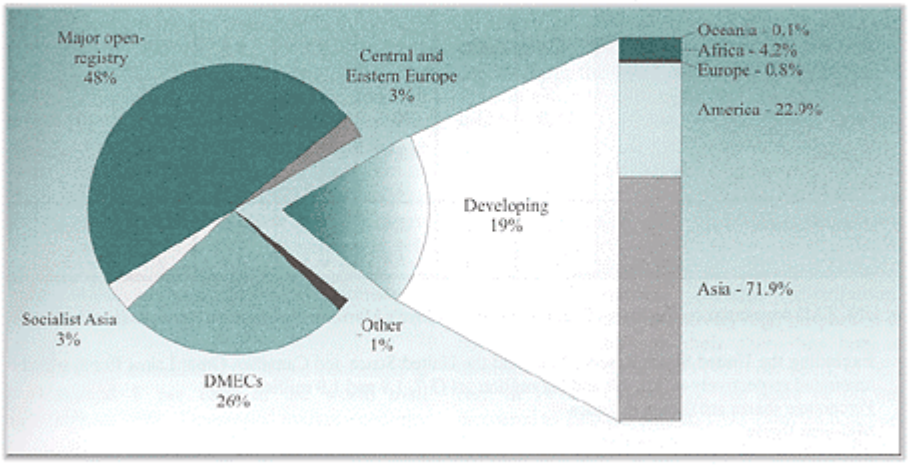
Distribution of world tonnage by country groups

36. In 1998, the world total fleet expanded by 1.7 per cent to 788.7 million dwt (see graph 5 and table 13). Tonnage ownership of developed market-economy countries increased very marginally by 0.1 million dwt to 202.6 million dwt, while major open-registry countries expanded their fleets by 15.8 million dwt or 4.4 per cent to a record high of 376.8 million dwt. Analysis of the open-registry fleets indicates that the share of tonnage owned beneficially by developing countries has increased continuously since 1980 - when their participation in open-registered tonnage was negligible - attaining nearly one third in 1998. On the other hand, developed market-economy countries' overall share has been on a downward trend, representing almost two thirds of the total tonnage registered in open-registry countries in 1998.

37. Tonnage registered in developing countries in 1998 increased marginally by 0.9 million dwt, or 0.6 per cent, to 150.8 million dwt. This increase was basically realized in Asian developing countries whose fleets increased by 0.9 million dwt or 0.8 per cent to 108.5 million dwt. They thus accounted for 72 per cent of the developing countries' total fleet. The fleet of developing countries in America remained almost unchanged at 34.5 million dwt, while the ownership position of African developing countries further deteriorated to a very low level of 6.3 million dwt. The shares of the socialist countries of Asia and the countries of Central and Eastern Europe of the world total deadweight continued to decline in 1998 to 3.3 per cent and 2.6 per cent, respectively.

Graph 5

World tonnage by country groups, 1998
(percentage distribution of dwt)



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

Table 13

Distribution of world tonnage (grt and dwt) by groups of countries of registration, 1980, 1990, 1997 and 1998 [a]

(end-of-year figures)

Flags of registration by groups of countries	Tonnage and percentage shares [b]							
	In grt (millions)				In dwt (millions)			
	1980 [c]	1990	1997	1998	1980 [c]	1990	1997	1998
World total	414.5	417.6	523.7	534.6	682.8	658.4	775.8	788.7
	100.0	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Developed market-economy countries	214.3	141.5	143.7	145.0	350.1	219.0	202.5	202.6
	51.7	*33.9*	*27.4*	*27.1*	*51.3*	*33.3*	*26.1*	*25.7*
Major open-registry countries	114.2	130.2	230.7	242.5	212.6	224.6	361.0	376.8
	27.6	*31.2*	*44.1*	*45.4*	*31.1*	*34.1*	*46.5*	*47.8*
Countries of Central and Eastern Europe (including the former USSR)	32.0	37.4	22.8	19.9	37.8	44.3	24.3	20.7
	7.7	*9.0*	*4.4*	*3.7*	*5.5*	*6.7*	*3.1*	*2.6*
Socialist countries of Asia	7.3	14.8	17.9	17.9	10.9	22.1	26.0	26.0
	1.8	*3.5*	*3.4*	*3.3*	*1.6*	*3.4*	*3.4*	*3.3*
Developing countries	44.7	87.9	100.2	101.2	68.4	139.7	149.9	150.8
	10.8	*21.0*	*19.1*	*18.9*	*10.0*	*21.2*	*19.3*	*19.1*
***of which* in:**								
Africa	4.9	5.3	5.1	5.1	7.2	7.3	6.5	6.3
America	14.5	16.7	23.8	24.4	21.8	25.5	34.4	34.5
Asia	25.0	55.2	70.2	70.6	39.1	89.5	107.6	108.5
Europe	0.1	8.3	0.9	0.9	0.2	13.8	1.2	1.3
Oceania	0.1	2.4	0.2	0.2	0.1	3.6	0.2	0.2
Other, unallocated	2.0	5.8	8.4	8.1	3.0	8.7	12.1	11.8
	0.5	*1.4*	*1.6*	*1.5*	*0.4*	*1.3*	*1.6*	*1.5*

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 1998 amounted respectively to 3.0, 1.0 and 1.2 million grt (3.7, 1.9 and 1.9 million dwt).

b Percentage shares are shown in italics.

c Mid-year figure.

Distribution of world tonnage by types of vessel

38. Table 14 provides more detailed data on fleet distribution by types of vessel and country groups for the years 1980, 1997 and 1998. In the oil tanker sector, the share of developed market-economy countries continued to decrease marginally to 29.8 per cent in 1998. Conversely, the open-registry countries' share increased to 51.2 per cent, reflecting the continuous trend, particularly for owners in developed market-economy countries to register tanker tonnage under open registries. Developing countries increased their share from 15.6 per cent to 15.9 per cent in 1998, reflecting primarily the increasing share of Asian developing countries, which rose in 1998 to 12.1 per cent of world tanker tonnage.

39. In the dry bulk carrier sector, the tonnage share of developed market-economy countries in the world total continued to decrease to 18.1 per cent in 1998. As in the case of tanker tonnage, major open-registry countries continuously expanded their share, reaching 53.5 per cent in 1998. The developing countries' share declined to 20.1 per cent as compared with 20.6 per cent in 1997. The share of developing countries in Asia decreased similarly to 15.6 per cent in 1998. Neverthless, dry bulk carriers represent the backbone of developing countries' fleets with a share of nearly 37 per cent of total tonnage owned and registered in this group.

40. In the sector of general cargo ships, the developed market-economy countries consolidated their share of ownership of such ships at around 20 per cent, while major open-registry countries continued to increase their share in 1998 reaching 37.0 per cent as compared with 36.1 per cent in 1997. Developing countries slightly decreased their share to 26.7 per cent in 1998 from 26.9 per cent in 1997. Nevertheless, it is in this type of vessel that the share of developing countries in the world fleet is continuously the highest.

41. The overall container ship sector continued to expand to around 8 per cent of the world total deadweight tons in 1998. Developed market-economy countries marginally increased their share of container ship deadweight tonnage to 37.1 per cent in 1998. The major open-registry countries' share continued to expand, reaching 38.6 per cent in 1998, most of which represented ships beneficially owned by owners in developed market-economy countries. The share of developed market-economy countries remained unchanged at 38.4 per cent. In absolute terms, the TEU capacity of developing countries increased from 629,000 TEUs to 691,000 TEUs in 1998, while their share of the world total TEU capacity decreased slightly to 17.0 per cent from 17.3 per cent in 1997. The absolute increase in capacity in developing countries was attributed to increases in the developing countries and regions in America (24 ships of 38,500 TEUs), which represented 62 per cent of the increase in the TEU capacity registered in developing countries, followed by the developing countries in Asia, which increased their capacity by 12 ships of 20,400 TEUs as compared with the previous year. The group of developing countries in Africa exceeded the level of 10,000 TEUs in 1998, representing 11,000 TEUs; however, their share in terms of TEU capacity remained at only 0.3 per cent of the world total TEUs.

The structure of the fleet of main country groups

42. Table 15 provides data on the structure of the merchant fleet of the main country groups. Developed market-economy countries' tonnage in combined oil tankers and dry bulk carriers reached 65.8 per cent of the group's total fleet, which is, however, a marginal decrease from 67.6 per cent in 1997. Their general cargo ships amounted to 10.0 per cent, which is slightly more than the 9.7 per cent in the previous year, while container ships accounted for 11.2 per cent as compared with 10.2 per cent in 1997. Major open-registry countries have a greater proportion of their fleets in the oil tanker and dry bulk carrier sectors, accounting for a combined 77.2 per cent in 1998, which continued to decline from the 1997 share of 78.2 per cent. Their share of general cargo ships (10.2 per cent) was slightly less than the 10.4 per cent in 1997. However, their share of container ships in 1998, representing 6.3 per cent, was higher than the 5.7 per cent in 1997. In absolute terms, the difference of container ship deadweight tonnage between developed market-economy countries and major open-registry countries is quite insignificant as compared with that of other main types of vessel. In developing countries, tonnage distribution is characterized by a comparatively high proportion of dry bulk carriers, although their share has been on a downward trend since 1991 (42.0 per cent), to 36.7 per cent in 1998. Conversely, the share of oil tankers increased to 29.6 per cent in 1998 from 28.6 per cent in 1991, while container tonnage increased from 3.7 per cent in 1991 to 7.0 per cent in 1998. In the countries of Central and Eastern Europe, general cargo ships are still dominant, accounting for 36.1 per cent in 1998 (as compared with 35.3 per cent in 1991), while container ships have remained at a low level of less than 2 per cent since 1991. The socialist countries of Asia continued to have a predominant share of both dry bulk carriers (45.0 per cent in 1998) and general cargo ships (around 30 per cent since 1996).

Table 14

Percentage shares of world tonnage by types of vessel and country groups, in 1980 (as at 1 July), 1997 and 1998 (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
	1997	775.9	100.0	35.1	36.2	13.4	8.1	7.2
	1998	788.7	100.0	35.6	34.9	13.1	7.8	8.6
				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
	1997	202.5	26.1	30.8	18.8	19.0	37.0	40.2
	1998	202.6	25.7	29.8	18.1	19.6	37.1	38.7
Major open-registry countries	1980	212.5	31.1	36.2	31.7	20.8	13.5	17.0
	1997	361.0	46.5	50.2	51.9	36.1	36.9	32.4
	1998	376.8	47.8	51.2	53.5	37.0	38.6	35.1
Countries of Central and Eastern Europe	1980	37.8	5.5	2.8	4.2	12.3	2.9	19.2
	1997	24.3	3.1	1.4	2.8	8.4	0.7	5.6
	1998	20.7	2.6	1.2	2.2	7.3	0.7	4.8
Socialist countries of Asia	1980	10.9	1.6	0.6	1.6	4.7	0.1	1.3
	1997	26.0	3.4	1.2	4.0	8.0	3.1	2.2
	1998	25.9	3.3	1.2	4.2	7.6	2.7	2.1
Developing countries	1980	68.4	10.0	7.7	9.2	17.6	7.6	12.0
	1997	149.9	19.3	15.6	20.6	26.9	17.7	18.8
	1998	150.8	19.1	15.9	20.1	26.7	17.3	18.5
***of which* in:**								
Africa	1980	7.1	1.0	1.1	0.1	2.3	..	2.1
	1997	6.5	0.8	0.8	0.5	1.6	0.3	1.9
	1998	6.3	0.8	0.6	0.5	1.6	0.3	1.8
America	1980	21.8	3.2	2.3	3.3	5.6	0.1	3.7
	1997	34.4	4.4	3.2	3.9	9.4	3.2	5.0
	1998	34.5	4.4	3.1	3.7	9.5	3.8	5.3
Asia	1980	39.1	5.7	4.3	5.7	9.8	2.7	5.7
	1997	107.6	13.9	11.6	15.9	15.4	14.1	11.8
	1998	108.5	13.8	12.1	15.6	15.3	13.0	11.2
Europe	1980	0.2	-	-	-	0.1	-	-
	1997	1.2	0.2	-	0.3	0.3	0.1	-
	1998	1.3	0.2	-	0.3	0.2	0.2	0.1
Oceania	1980	0.2	-	-	-	0.1	-	-
	1997	0.2	-	-	-	0.1	-	0.1
	1998	0.2	-	-	-	0.1	-	0.1
Other, unallocated	1980	3.0	0.4	0.2	0.6	0.9	1.6	0.1
	1997	12.1	1.6	0.8	1.9	1.5	4.7	0.8
	1998	11.8	1.5	0.7	1.9	1.8	3.7	0.8

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.

Table 15

Structure of the merchant fleets of the main country groups, as at 31 December 1998 [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	788.7	100.0	202.7	100.0	376.9	100.0	150.8	100.0	20.8	100.0	26.0	100.0
Oil tankers	280.6	35.6	83.5	41.2	143.7	38.1	44.6	29.6	3.5	16.8	3.4	13.1
Bulk carriers	275.5	34.9	49.9	24.6	147.4	39.1	55.4	36.7	6.1	29.3	11.7	45.0
General cargo	103.4	13.1	20.3	10.0	38.3	10.2	27.6	18.3	7.5	36.1	7.9	30.4
Container ships	61.2	7.8	22.7	11.2	23.6	6.3	10.6	7.0	0.4	1.9	1.6	6.2
Other ships	68.0	8.6	26.3	13.0	23.9	6.3	12.6	8.4	3.3	15.9	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.

C. REGISTRY OF VESSELS

The 35 most important maritime countries and territories

43. The ranking in terms of deadweight for the 35 most important maritime countries and territories is given in table 16. The table lists the number and deadweight tonnage of merchant vessels registered under the national flag and a foreign flag when the controlling interest of the vessel is located in another country or territory. In 1998, these 35 countries and territories controlled about 94 per cent of the world merchant fleet (93.6 per cent in 1997), the five largest controlling 50 per cent (49.9 per cent in 1997) and the top 10 controlling 67.3 per cent (67.4 per cent in 1997).

44. Among these countries and territories, the trend to register under a foreign flag continued in 1998. The total tonnage registered under foreign flags in 1998 reached 421.2 million dwt, representing 61.8 per cent of the 35 countries' total fleet, compared with 58.8 per cent in 1997 (and 56.3 per cent in 1996). Thus, nearly two thirds of the tonnage beneficially owned by the 35 countries and territories was not registered in the countries of domicile of the parent enterprises. Registry under foreign flags is a long-standing practice, mainly by owners from developed market-economy countries. In this context, it is notable that the 12 developing countries and territories (including Hong Kong (China), but excluding Taiwan Province of China) listed in the table had more than half (52.5 per cent of their tonnage registered under foreign flags. While this is a substantial share, there are considerable fluctuations among countries. In some developing countries and territories, foreign registry accounted for more than 80 per cent of their total tonnage (90.9 per cent for Saudi Arabia and 82.3 per cent for Hong Kong (China)), while others hardly made any use of foreign flag facilities (6.6 per cent for the Philippines, and 1.4 per cent for the Islamic Republic of Iran). For developed market-economy countries, the share of foreign-registered tonnage was considerably higher than in developing countries, reaching 67.2 per cent (up from 64.5 per cent in 1997).

Major open registries

45. The share of the world merchant fleet in foreign registers continued to expand. The tonnage distribution of the seven major open-registry countries by principal types of vessel can be seen in table 17. The total tonnage registered in 1998 increased by 7.7 per cent to 354.1 million dwt from 328.8 million dwt in the previous year. Panama continues to head the list, expanding its fleet in 1998 by more than 16.0 million dwt, and is followed by Liberia, whose fleet marginally increased by 0.6 per cent to 91.5 million dwt. The Bahamas and Malta expanded their fleets by 3.7 and 4.0 million dwt or 10.2 and 11.9 per cent, respectively, to 40.0 and 37.7 million dwt. Cyprus' fleet turned upward by 0.7 million dwt to 33.5 million dwt in 1998. The analysis by type of vessel shows that oil tankers represented 38.6 per cent of the total deadweight in 1998 as compared with 39.8 per cent in 1997, followed by dry bulk carriers, which maintained their share at 39.2 per cent in 1998 (39.3 per cent in 1997), and general cargo ships, with 9.6 per cent in 1998 (similar to 9.7 per cent in 1997). The share of container ships continued to increase, reaching 6.3 per cent in 1998 from a level of 5.9 per cent in 1997, a net increase of over 3.0 million dwt, reflecting the trend to flag out in this sector of the global maritime transport industry.

Nationality of vessels

46. The participation of nationals in the registry of the most important open or international registers is shown in table 18. The data compare the total tonnage registered in the selected countries of registry with the tonnage owned by the nationals of, and registered in, the countries of registry. For most open-registry countries, the share of tonnage owned by nationals is minimal or zero. On the other hand, for the two international registries, national ownership was 85 and 100 per cent. These proportions had not changed relative to those of the previous year.

47. For the seven major open-registry fleets, the true nationality of the vessels is analysed in table 19. In 1998, total tonnage of the 22 countries or territories accounted for 92.1 per cent of the total seven major open-registry fleets, increasing slightly from the level in 1997. Ownership is concentrated in 10 countries or territories, which control 78.2 per cent of the deadweight of vessels, as compared with 79.2 per cent in the previous year. Further, the top five countries or territories control 59.9 per cent (61.2 per cent in 1997). Greece was ranked first in 1998 for the fifth consecutive year with the largest share (22.8 per cent) of the total seven major open-registry fleets. Also Greece had the largest total foreign-flag ownership position, representing 87.06 million dwt (19.7 per cent of the total world foreign-flag tonnage), ahead of Japan with 75.53 million dwt (17.1 per cent of the total tonnage).

Table 16

The 35 most important maritime countries and territories, as at 31 December 1998 [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	800	2 353	3 153	42 779 308	87 055 822	129 835 130	67.05	17.90
Japan	854	2 107	2 961	19 235 050	75 553 460	94 788 510	79.71	13.07
Norway	893	732	1 625	29 159 263	24 955 190	54 114 453	46.12	7.46
United States	472	818	1 290	11 264 259	34 359 434	45 623 693	75.31	6.29
China	1 592	472	2 064	21 978 708	16 367 886	38 346 594	42.68	5.29
Hong Kong (China)	106	467	573	5 775 128	26 876 742	32 651 870	82.31	4.50
Germany	599	1 193	1 792	9 368 652	17 631 440	27 000 092	65.30	3.72
Republic of Korea	436	428	864	7 103 861	18 062 188	25 166 049	71.77	3.47
Sweden	159	244	403	1 329 804	19 459 860	20 789 664	93.60	2.87
United Kingdom	388	457	845	6 092 823	13 800 234	19 893 057	69.37	2.74
Singapore	454	286	740	11 229 246	7 822 562	19 051 808	41.06	2.63
Taiwan Province of China	167	313	480	7 617 309	10 370 568	17 987 877	57.65	2.48
Russian Federation	2 198	314	2 512	8 974 812	6 968 540	15 943 352	43.71	2.20
Denmark	409	268	677	6 630 008	7 110 456	13 740 464	51.75	1.89
India	363	66	429	10 675 879	1 452 937	12 128 816	11.98	1.67
Italy	451	134	585	7 350 167	4 627 974	11 978 141	38.64	1.65
Saudi Arabia	59	67	126	1 027 055	10 200 313	11 227 368	90.85	1.55
Turkey	434	56	490	8 595 095	706 575	9 301 670	7.60	1.28
Brazil	171	24	195	6 064 433	2 545 180	8 609 613	29.56	1.19
Belgium	23	136	159	97 812	7 597 029	7 694 841	98.73	1.06
Switzerland	14	213	227	695 502	5 554 514	6 250 016	88.87	0.86
Malaysia	239	51	290	5 158 178	991 586	6 149 764	16.12	0.85
Iran, Islamic Rep. of	148	2	150	5 670 242	82 087	5 752 329	1.43	0.79
Philippines	356	18	374	5 080 755	360 456	5 441 211	6.62	0.75
Netherlands	525	177	702	3 068 962	2 344 337	5 413 299	43.31	0.75
France	175	103	278	2 361 751	2 300 179	4 661 930	49.34	0.64
Indonesia	491	99	590	3 241 250	1 106 774	4 348 024	25.45	0.60
Romania	171	28	199	2 454 011	1 453 069	3 907 080	37.19	0.54
Kuwait	32	5	37	3 390 652	331 128	3 721 780	8.90	0.51
Spain	116	183	299	334 338	3 282 245	3 616 583	90.76	0.50
Finland	117	48	165	1 153 480	2 260 824	3 414 304	66.22	0.47
Ukraine	420	93	513	1 614 087	1 786 686	3 400 773	52.54	0.47
Australia	59	30	89	2 306 897	1 083 858	3 390 755	31.97	0.47
Canada	159	67	226	753 859	2 462 762	3 216 621	76.56	0.44
United Arab Emirates	35	109	144	744 542	2 233 927	2 978 469	75.00	0.41
Total (35 countries)	14 085	12 161	26 246	260 377 178	421 158 822	681 536 000	61.80	93.96
Percentage	53.7	46.3	100.0	38.2	61.8	100.0		
World total	16 452	13 241	29 693	284 309 431	441 072 349	725 381 780	60.81	100.00
Percentage	55.4	44.6	100.0	39.2	60.8	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).

Table 17

Tonnage distribution of major open-registry fleets, [a] as at 31 December 1998

Country	Oil tankers		Dry bulk carriers		General cargo		Container ships		Others		1998 total		1997 total	
	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt
Panama	417	40 603	1 231	67 955	1 361	12 197	456	13 113	741	8 311	4 206	142 179	3 867	126 161
Liberia	388	45 866	417	27 959	258	4 292	172	4 778	355	8 571	1 590	91 466	1 493	90 916
Cyprus	134	6 457	431	17 880	587	5 659	105	2 354	90	1 106	1 347	33 456	1 350	32 750
Bahamas	157	21 803	146	8 159	480	6 607	44	955	249	2 458	1 076	39 982	983	36 267
Malta	286	17 796	343	13 853	455	4 494	38	643	72	931	1 194	37 717	1 091	33 714
Bermuda	26	4 270	18	1 962	22	242	18	511	28	586	112	7 571	97	7 384
Vanuatu	1	5	28	1 095	42	380	0	0	51	275	122	1 755	119	1 603
Total	1 409	136 800	2 614	138 863	3 205	33 871	833	22 354	1 586	22 238	9 647	354 126	9 000	202 760

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 31 December 1998 [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	142 179	0	0.0
Liberia	91 467	0	0.0
Cyprus	34 092	636	1.9
Bahamas	40 276	294	0.7
Norwegian International Ship Registry	30 430	25 975	85.4
Malta	37 726	10	0.0
Danish International Ship Registry	6 537	6 538	100.0
Bermuda	7 570	0	0.0
Vanuatu	1 756	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 31 December 1998

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	11 906	171	13.0	16 658	517	11.7	24 135	732	72.1	7 092	176	17.7	-	-	-	20 826	515	55.2	107	2	6.1	80 724	2 113	22.8	87 056	2 353
Japan	6 140	154	6.7	56 849	1 622	40.0	306	25	0.9	904	30	2.3	-	-	-	-	-	-	547	25	31.2	64 746	1 856	18.3	75 553	2 107
United States	11 073	197	12.1	2 655	131	1.9	247	12	0.7	6 483	134	16.2	836	17	11.0	654	14	1.7	269	40	15.3	22 217	545	6.3	34 359	818
Hong Kong (China)	5 248	82	5.7	16 198	250	11.4	122	3	0.4	473	9	1.2	-	-	-	194	11	0.5	178	4	10.1	22 413	359	6.3	26 877	467
Norway	7 510	170	8.2	1 460	82	1.0	223	18	0.7	7 871	202	19.7	509	7	6.7	4 333	79	11.5	-	-	-	21 906	558	6.2	24 955	732
United Kingdom	2 724	51	3.0	600	59	0.4	230	15	0.7	1 934	113	4.8	4 113	43	54.3	468	6	1.2	-	-	-	10 069	287	2.8	13 800	457
China	4 898	86	5.4	7 785	227	5.5	271	19	0.8	-	-	-	-	-	-	494	15	1.3	-	-	-	13 448	347	3.8	16 368	472
Republic of Korea	1 513	16	1.7	15 970	336	11.2	36	2	0.1	-	-	-	-	-	-	42	5	0.1	-	-	-	17 561	359	5.0	18 062	428
Sweden	6 257	39	6.8	977	8	0.7	63	6	0.2	3 186	36	8.0	958	7	12.7	-	-	-	-	-	-	11 441	96	3.2	19 460	244
Germany	7 451	265	8.1	554	25	0.4	3 443	218	10.3	85	13	0.2	77	2	1.0	669	33	1.8	-	-	-	12 279	556	3.5	17 631	1 193
Saudi Arabia	7 536	25	8.2	165	14	0.1	-	-	-	2 012	7	5.0	25	2	0.3	-	-	-	-	-	-	9 738	48	2.8	10 200	67
Taiwan Province of China	580	11	0.6	7 990	258	5.6	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	8 570	269	2.4	10 371	313
Singapore	2 815	32	3.1	1 791	96	1.3	30	1	0.1	616	10	1.5	-	-	-	62	3	0.2	-	-	-	5 314	142	1.5	7 823	286
Denmark	404	12	0.4	254	16	0.2	-	-	-	511	50	1.3	34	2	0.4	-	-	-	70	1	4.0	1 273	81	0.4	7 110	268
Russian Federation	3 918	58	4.3	81	7	0.1	1 548	90	4.6	238	17	0.6	-	-	-	974	89	2.6	-	-	-	6 759	261	1.9	6 969	314
Switzerland	748	13	0.8	2 253	87	1.6	78	6	0.2	438	6	1.1	-	-	-	1 361	65	3.6	-	-	-	4 878	177	1.4	5 555	213
Italy	547	6	0.6	255	10	0.2	81	5	0.2	947	24	2.4	-	-	-	1 617	43	4.3	-	-	-	3 447	88	1.0	4 628	134
Belgium	1 813	15	2.0	517	4	0.4	113	3	0.3	586	21	1.5	-	-	-	-	-	-	-	-	-	3 029	43	0.9	7 597	136
France	-	-	-	700	18	0.5	-	-	-	399	22	1.0	-	-	-	-	-	-	-	-	-	1 099	40	0.3	2 300	103
Spain	95	1	0.1	308	45	0.2	139	8	0.4	825	8	2.1	-	-	-	-	-	-	-	-	-	1 367	62	0.4	3 282	183
Croatia	623	13	0.7	-	-	-	-	-	-	77	3	0.2	-	-	-	597	26	1.6	-	-	-	1 297	42	0.4	1 635	67
Finland	-	-	-	-	-	-	-	-	-	2 006	31	5.0	-	-	-	87	1	0.2	-	-	-	2 093	32	0.6	2 261	48
Subtotal	83 799	1 417	91.5	134 020	3 812	94.4	31 065	1 163	92.7	36 683	912	91.8	6 552	80	86.4	32 378	905	85.8	1 171	72	66.7	325 668	8 361	92.1	403 852	11 403
Others	7 668	173	8.5	8 159	394	5.6	2 391	184	7.3	3 299	164	8.2	1 018	32	13.6	5 339	289	14.2	585	50	33.3	28 459	1 286	7.9	37 220	1 838
Total	91 467	1 590	100.0	142 179	4 206	100.0	33 456	1 347	100.0	39 982	1 076	100.0	7 570	112	100.0	37 717	1 194	100.0	1 756	122	100.0	354 127	9 647	100.0	441 072	13 241

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

D. SHIPBUILDING AND SECOND-HAND MARKET

Newbuilding orders

48. In 1998, newbuilding contracts for six major ship types, aggregating 42.5 million dwt, were placed, falling, however, by 25.8 per cent, as compared with those contracts in 1997, which were a record high for a single year (57.2 million dwt) (see table 20). In the tanker sector, the stagnant trade of crude oil in 1998 failed to maintain the favourable freight level in overall tanker markets in the previous year. Owners who had experienced less attractive charter rates in 1998 also showed some reluctance to place new orders for tanker tonnage. Nevertheless, orders for 280 vessels totalling 21.9 million dwt were placed in 1998, thus maintaining a relatively high level of tonnage demand compared with earlier years, but way below the activities registered in 1997. Newbuilding orders for dry bulk carriers decreased considerably in 1998, as substantial deliveries of dry bulk tonnage in 1997 exercised a depressing effect on freight rates during 1998. Additionally, 1997 order volumes had remained relatively high at 18.9 million dwt, despite the downturn of the charter market. This increasing supply of ships, coupled with rather uncertain market prospects, did not induce owners to maintain ordering for newbuildings at the same level as in 1994B1995 and 1997. Thus, the volume of new dry bulk carriers ordered in 1998 decreased by as much as 34.2 per cent to 11.8 million dwt, as compared with 18.0 million dwt in 1997.

49. Container ships have been an important segment of newbuilding orders during the 1990s, filling the order books of yards, particularly in the Far East and Europe. Freight rates on shipments to Asia collapsed and thus time-charter rates were under substantial pressure. In spite of the rather pessimistic market developments, newbuilding orders for container ships rose sharply (65.1 per cent) in 1998, from 3.6 million dwt in the previous year to 6.0 million dwt. A few of the liner companies, partly in conjunction with German financial institutes, reportedly placed orders for large sizes of 4,000 TEUs and above. For other types of vessel, such as general cargo ships and passenger ferries, the level of newbuilding activity remained comparatively stable. A total for these vessels of 2.7 million dwt was ordered in 1998, in comparison with 2.9 million dwt in 1997.[7]

Tonnage on order

50. Table 21 shows world tonnage on order, by groups of countries of registry and by principal types of vessel. World tonnage on order at the end of 1998 reached 82.2 million dwt, a slight increase of 1.2 per cent over the previous year. Tonnage on order by developed market-economy countries amounted to 25.5 million dwt, representing 31.0 per cent of the world total tonnage on order, as compared with 22.0 million dwt or 27.1 per cent in 1997. Major open-registry countries accounted for 45.4 million dwt or 55.2 per cent of tonnage on order, as compared with 43.6 million dwt or 53.7 per cent in 1997.

51. Developing countries: tonnage stood at 8.0 million dwt or 9.8 per cent of the world total tonnage on order at the end of 1998, as compared with 9.5 million dwt or 11.7 per cent in 1997. Tonnage on order by Asian developing countries, which accounted for 83.4 per cent of developing countries: total tonnage ordered in 1998, decreased by 1.9 million dwt from 8.6 million dwt in 1997. The share of the countries of Central and Eastern Europe continued to decrease slightly in 1998, falling to 1.1 million dwt or 1.3 per cent of the world total on order, while the share of the socialist countries of Asia declined in 1998, ending the year with 1.4 million dwt or 1.7 per cent of the world total on order as compared with 1.5 million dwt or 1.8 per cent in the previous year. There has been virtually no growth in the African fleet with the level of newbuilding orders falling to only 0.01 per cent of the 1998 world total on order. Their share continues the downward trend observed in previous years, from 0.4 per cent in 1996 to 0.1 per cent in 1997.

Table 20

Newbuilding contracts placed for the main types of ship [a] during 1994? 1998 and 1999

(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
1994	256	13 833	339	19 896	2	220	227	1 493	242	6 497	118	159	1 184	42 098
1995	243	9 143	381	22 418	4	440	345	2 449	345	8 562	144	224	1 462	43 236
1996	274	13 875	271	14 250	-	-	257	2 107	292	6 978	144	155	1 238	37 365
1997	428	32 516	282	17 983	2	220	299	2 701	166	3 618	96	149	1 273	57 187
January 1998	17	1 545	30	2 449	-	-	19	136	5	89	13	32	84	4 251
February 1998	22	1 288	21	1 463	-	-	19	192	15	313	11	30	88	3 286
March 1998	24	1 636	10	571	-	-	14	174	12	442	9	3	69	34 2 826
April 1998	33	2 512	25	1 512	-	-	18	142	3	25	12	35	91	4 226
May 1998	21	1 830	6	126	-	-	32	358	36	1 393	8	13	103	3 720
June 1998	19	1 139	14	977	-	-	32	246	26	890	6	1	97	3 253
July 1998	29	2 353	12	1 042	-	-	65	436	30	1 214	13	54	149	5 099
August 1998	16	1 651	13	851	-	-	48	221	5	287	11	13	93	3 023
September 1998	26	1 397	10	1 174	-	-	42	280	8	332	5	11	91	3 194
October 1998	29	3 415	16	857	-	-	15	120	15	339	7	11	82	4 742
November 1998	24	2 578	6	791	-	-	8	32	10	306	8	13	56	3 720
December 1998	20	578	3	22	-	-	21	151	13	345	14	15	71	1 111
Total 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

Source:*Shipping Statistics and Market Review, 1998*, 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 the end of 1998 *(thousands of dwt)*

Countries of registry	All ships	Oil tankers	Dry bulk carriers	General cargo	Container ships	Other ships
World total	82 180	41 231	19 801	5 687	7 473	7 987
Developed market-economy countries	25 515	12 666	3 703	2 589	3 516	3 041
Major open-registry countries	45 379	23 151	13 340	1 645	3 108	4 135
Countries of Central and Eastern Europe	1 053	232	350	247	-	224
Socialist countries of Asia	1 394	127	626	296	291	54
Developing countries, total	8 013	4 858	1 687	791	276	401
***of which* in:**						
Africa	10	3	-	1	-	6
America	1 313	598	340	254	73	48
Asia	6 686	4 257	1 347	532	203	347
Europe [a]	-	-	-	-	-	-
Oceania	4	-	-	4	-	-
Unallocated	827	198	95	120	283	131

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

[a] Not reported.

52. The developing countries' share of tonnage on order increased in 1998 for general cargo ships to 13.9 per cent (11.6 per cent in 1997). On the other hand, their share in the 1998 order book for oil tankers, dry bulk carriers, container ships and other types of vessel decreased to 11.8 per cent, 8.5 per cent, 3.7 per cent and 5.0 per cent, respectively, from 11.9 per cent, 9.7 per cent, 17.3 per cent and 9.9 per cent, respectively, in 1997. The share of Asian developing countries in orders for oil tankers, dry bulk carriers, container ships and other types of vessel in 1998 declined to 10.3 per cent, 6.8 per cent, 2.7 per cent and 4.3 per cent, respectively, as compared with 11.3 per cent, 8.7 per cent, 15.4 per cent and 8.0 per cent in 1997, while their share in orders for general cargo ships continued to rise slightly to 9.4 per cent, in comparison with 9.3 per cent in 1997.

Price of newbuildings and second-hand tonnage

53. Newbuilding prices for the main types of vessel are indicated in table 22. Overall price levels for newbuildings in 1998 ended the year significantly down from those of the previous year, except in the case of 75,000 m^3 LPG carriers. The downward pressure on prices was due to significantly reduced ordering activities, which led to increasing competitive pressures particulary on Asian yards. The decline in prices continued well into 1999. Only around mid-year did owners start to place orders again in anticipation of increasing prices, thus prompting the inevitable albeit marginal price increases. Analysis by vessel type shows that oil tanker newbuilding prices for all sizes declined by 9 to 12 per cent in 1998 from the 1997 level. Newbuilding prices for overall dry bulk carriers also declined substantially in 1998, as the volume contracted in 1998 fell drastically by 34.2 per cent from the previous year, standing at 27.9 per cent of the total contract volume in 1998. The price for 2,500 TEU full container ships declined by 15.7 per cent in 1998, whilst overall container ship newbuilding contracts in 1998 rose dramatically by 65.1 per cent to 6.0 million dwt, accounting for 14.1 per cent of the total newbuilding contracts in 1998 (6.3 per cent in 1997). This increase, however, was not sufficient to halt the downward trend of shipbuilding prices.

Table 22

Representative newbuilding prices in 1980, 1985, 1990, 1996-1998 and 1999
(millions of dollars)

Type and size of vessel	1980	1985	1990	1996	1997	1998	Percentage change 1997/1998	1999				
								January	February	March	April	May
30 000 dwt bulk carrier	17	11	24	19	20	19	-5.0	14	14	14	14	36 14
32 000 dwt tanker	19	18	29	32	32	29	-9.4	26	26	26	26	26
70 000 dwt bulk carrier	24	14	32	28	28	23	-17.9	18	18	18	18	18
80 000 dwt tanker	28	22	42	43	42	37	-11.9	33	32	32	32	32
120 000 dwt bulk carrier	32	27	45	41	40	37	-7.5	33	32	32	32	33
250 000 dwt tanker	75	47	90	85	82	74	-9.8	68	67	67	67	67
125 000 m^3 LNG [a]	200	200	225	255	255	235	-7.8	200	200	200	200	200
75 000 m^3 LPG	77	44	78	67	67	68	1.5	58	58	58	58	58
15 000 dwt general cargo ship	14	12	24	21	21	21	0.0	19	19	19	19	19
2 500 TEUs full container ship	..	26	52	50	51	43	-15.7	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.

54. Transactions of second-hand vessels remained at a relatively low level throughout 1998. Prices were actually affected by the dramatic fall in newbuilding prices. Prices for five-year-old tankers fell by 30 to 40 per cent from the level of 1997, with the exception of Suezmax sizes that fared slightly better, but still suffered price decreases of between 20 and 25 per cent. Sale and purchase activity of second-hand bulk tonnage was also slack, reflecting the poor state of the dry bulk freight markets, which did not encourage any speculative buying and thus most buyers waited for even further reductions in prices throughout 1998 and the beginning of 1999. The lack of activity and the resulting downward pressure on prices was prevalent in all market segments. Panamax sizes as well as Capesizes, which traditionally attract a certain amount of speculative buying, were not in demand and could not thus exercise any relief on the overall second-hand market for bulk carriers (seetable 23).

Table 23
Second-hand prices for five-year-old vessels, 1992-1998
(as at end of year, in millions of dollars)

Vessel	**1992**	**1993**	**1994**	**1995**	**1996**	**1997**	**1998**	**Percentage change 1997/1998**
30 000 dwt tanker	14.5	18.0	18.0	20.0	22.0	23.0	16.0	-30.4
80 000 dwt tanker	22.0	31.0	30.0	31.0	33.0	..	..	..
130 000 dwt tanker	29.0	34.5	34.0	35.5	40.0	41.5	..	..
45 000 dwt dry bulk carrier	17.5	18.5	20.7	22.0	18.5	18.0	13.0	-27.8
70 000 dwt dry bulk carrier	19.0	19.5	21.5	23.0	20.5	21.0	14.5	-31.0
150 000 dwt dry bulk carrier	33.0	33.0	32.0	28.0	26.5	30.0	23.5	-21.7

Source: Fearnleys (Oslo), *Review 1998*.

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

55. The development of main operational productivity indicators for the world fleet is reflected in table 24 and graph 6. Available data reveal that while tons of cargo carried per deadweight ton (dwt) in 1998 rose to a new record high of 6.42, ton-miles performed per deadweight ton fell to 27,165. This points to a considerably lower operational productivity than in 1997, when performance level reached nearly 28,000 ton-miles per dwt. Nevertheless, it remained within the general level of productivity observed in the second half of the 1990s. The decrease in ton-miles as compared to 1997 was attributed mainly to further changing trade structures and consequently more reductions in average transport distances of oil products and some major dry bulk commodities such as coal and grain, thus affecting the ratio of port to productive sea time. These potentially adverse effects were partly offset by recent positive developments such as modernization of vessels, increases in consignment sizes and improved port conditions, which enabled the shipping industry to accommodate increased demand (up by 2.2 per cent in 1998) despite relatively low increases in carrying capacity (up by 1.6 per cent). In 1999 and onwards, world seaborne trade is expected to grow at a rate of 2.5 to 3.5 per cent and the world fleet is expected to expand at 1.5 to 2.5 per cent. On the basis of these preliminary estimates, 1999 and onwards are expected to maintain an average level of operational productivity performed during the period of 1994-1998.

56. Table 25 provides supplementary details about ton-miles performed by oil tankers, dry bulk carriers, combined carriers and the residual fleet. Ton-miles per deadweight ton of oil tankers and dry bulk carriers decreased in 1998 by 0.2 per cent and 8.3 per cent, respectively, as compared with 1997, while ton-miles per deadweight ton of combined carriers and the residual fleet increased by 2.6 per cent and 2.8 per cent, respectively, over the previous year. The total deadweight tonnage of combined carriers declined substantially by 12.5 per cent to 17.7 million dwt in 1998. This type of tonnage is now employed mainly in the tanker trades. The operational flexibility of combined carriers is no longer a criteria for owners to either invest in or even hold on to this comparatively expensive ship type. The decline in combined tonnage available is indicative thereof and could usher in the demise of this vessel type. Ton-miles per deadweight ton of dry bulk carriers continued to decline significantly, falling by 8.3 per cent in 1998. This can be explained by the correlation between supply and demand: the total carrying capacity of dry bulk carriers maintained in 1998 a similar level to that of 1997, while the growth of overall dry bulk commodities declined to 3.7 per cent in 1998, as compared with 5.7 per cent in 1997. As indicated in table 26, these trends are also borne out by the data on operational productivity in terms of cargo carried per deadweight ton. There was an increase in tons carried per deadweight ton by combined carriers and the residual fleet. The performance of dry bulk carriers declined again in terms of tons carried per deadweight ton in 1998, which had ceased to decline in the previous year.

Table 24

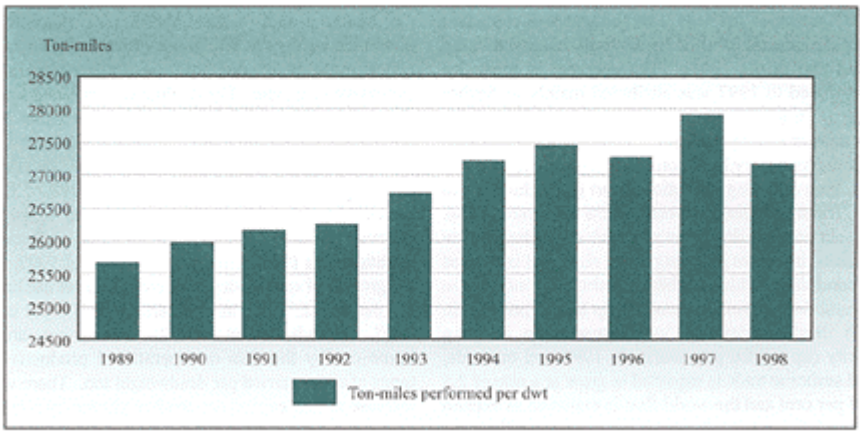
Cargo carried and ton-miles performed per deadweight ton (dwt) of the total world fleet, 1989-1998

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
1989	638.0	3 891	16 385	6.10	25 680
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

Sources: World fleet: Lloyd's Maritime Information Services (London) (mid-year data for 1989**B**1990, year-end data for 1991**B**1998); 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 (dwt) of total world fleet, 1989–1998



Source: UNCTAD calculations based on table 24.

Table 25

Estimated productivity of tankers, bulk carriers, combined carriers [a] and the residual fleet,[b] 1989-1998

(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
1989	6 960	30 000	3 629	18 560	1 247	37 450	4 566	25 780
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	41712	5 993	28 350
1997	9 251	34 923	4 660	18 253	955	43807	6 269	29 063
1998	9 307	34 845	4 464	16 744	944	44 952	6 206	29 880

Source: UNCTAD secretariat on the basis of 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, 1989B1998

(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
1989	1 398	6.02	639	3.27	211	6.34	1 612	9.10
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

Sources: UNCTAD secretariat oon the basis of Fearneleys(Oslo), *Review Bulk Trades* and *World Bulk Fleet*, various issues, and other specialized souces.

[a]See footnote b to table 25.

B. SUPPLY AND DEMAND IN WORLD SHIPPING

Surplus tonnage

57. A comprehensive summary of the balance of tonnage supply and demand for the 1991-1998 period is provided in table 27. The total surplus tonnage further decreased to a record low of 24.7 million dwt or 3.1 per cent of the 1998 world merchant fleet. This favourable result was due largely to continuously positive trade developments which have characterized shipping markets since the mid-1990s, when surplus tonnage was still around 10 per cent. In 1998, the correlation between supply and demand reflected the fact that world seaborne trade again grew marginally faster than overall tonnage supply.

The supply-and-demand mechanism by type of vessel

58. Carrying capacity in the oil tanker sector increased slightly in 1998 by 0.4 million dwt to 291.0 million dwt (see table 28 and graph 7). As a result, there continues to be an overcapacity of 17.3 million dwt or 5.9 per cent of the total world tanker fleet. This supply/demand gap is comparable to the one prevailing in 1997 (5.8 per cent), but constitutes a remarkable improvement over 1996 when 10.1 per cent of the total world tanker fleet was surplus. Overcapacity in the dry bulk sector also decreased significantly in 1998 to a new record low of 5.8 million dwt, representing a decline of 4.5 million dwt and accounting for 2.3 per cent of the world dry bulk fleet, a level that can be considered as representing full employment.

59. With regard to conventional general cargo tonnage, the overcapacity situation remained relatively stable in 1998 with supply capacity surpassing demand by approximately 1.6 million dwt or 2.6 per cent of the relevant world fleet. This reflects reduced demand for conventional tonnage that goes hand in hand with disinvestment by owners particularly in developed countries with high labour costs. As far as containerized tonnage is concerned, 1998 saw a considerable amount of newbuilding activities adding some 8 million dwt to the existing fleet, thus increasing supply capacity by approximately 12 per cent. Even though newbuildings delivered in 1998 continued to a large extent to be the result of earlier speculative ordering, particularly by German investors, markets were able to absorb this tonnage, thus generating full employment of the world unitized fleet.

Table 27
Tonnage oversupply in the world merchant fleet, 1991-1998
(end-year figures)

	1991	1992	1993	1994	1995	1996	1997	1998
	Million dwt							
World merchant fleet	683.5	694.7	710.6	719.8	734.9	758.2	775.9	788.7
Surplus tonnage [a]	64.2	71.7	72.0	63.4	50.8	48.8	29.0	24.7
Active fleet [b]	619.3	623.0	638.6	656.4	684.1	709.4	746.9	764.0
	Percentages							
Surplus tonnage as a percentage of the world merchant fleet	9.4	10.3	10.1	8.8	6.9	6.4	3.7	3.1

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 28

Analysis of tonnage oversupply by main type of vessel, 1991-1998 [a]
(average yearly figures in millions of dwt)

	1991	1992	1993	1994	1995	1996	1997	1998
Supply of world tanker fleet	273.5	283.4	284.6	282.9	277.0	285.1	290.6	291.0
Total tanker fleet surplus [b]	39.8	41.8	43.5	39.0	28.8	28.8	17.0	17.3
Share of surplus fleet in the world tanker fleet (per cent)	14.6	14.7	15.3	13.8	10.4	10.1	5.8	5.9
Supply of world dry bulk fleet	235.0	237.3	238.6	242.6	252.9	257.2	260.9	257.1
Dry bulk fleet surplus [b]	20.7	25.1	23.6	20.3	17.9	17.2	10.3	5.8
Share of surplus in the world dry bulk fleet (per cent)	8.8	10.6	9.9	8.4	7.1	6.7	3.9	2.3
Supply of world conventional general cargo fleet	63.5	63.0	62.1	61.9	62.0	62.7	62.0	60.5
Conventional general cargo fleet surplus	2.2	2.7	2.8	2.2	2.0	1.4	1.7	1.6
Share of surplus in the world conventional general cargo fleet (per cent)	3.5	4.3	4.5	3.6	3.2	2.2	2.7	2.6
Supply of world unitized fleet [c]	40.3	43.0	45.7	49.8	53.4	59.3	65.7	73.1
Surplus of unitized fleet	0.4	0.7	0.7	0.5	0.7	0	0	0
Share of surplus in the world unitized fleet (per cent)	1.0	1.6	1.5	1.0	1.3	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 as shown in this table are averages for the years shown and therefore differ from the world figures in table 27. This table excludes tankers and dry bulk carriers of less than 10,000 dwt and conventional general cargo/unitized vessels of less than 5,000 dwt.

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

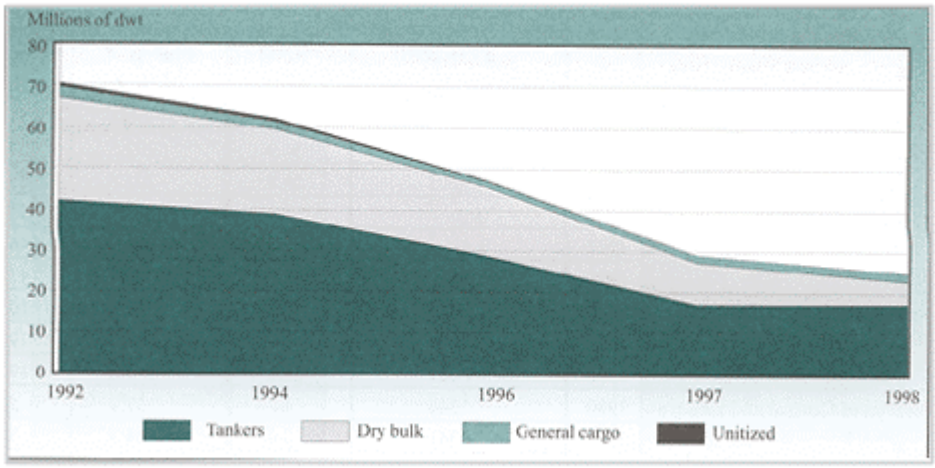
c Unitized fleet includes here fully cellular container ships, partly cellular container ships, ro-ro ships and barge carriers.

C. COMPARISON OF CARGO TURNOVER AND FLEET OWNERSHIP

1. The correlation between cargo volume generated by different country groups and their fleet ownership is summarized in tables 29 and 30. Data contained in table 29, together with the analysis of beneficial ownership of fleets under open registry flags, reveal that the share of developed market-economy countries in world tonnage has gradually receded from nearly 80 per cent in 1980 to around 55 per cent in 1999 which would reflect their share in world trade. Thus, while the flag position of developed market-economy countries has been dramatically reduced, ownership either under national or foreign flags is maintained at a level considered necessary to support their trade position. The share of developing countries in the world cargo turnover has stagnated over the last two decades at slightly less than 40 per cent (39.6 per cent in 1980; 39.4 and 39.2 per cent in 1997 and 1998, respectively). Tonnage owned under national flags had increased in the 1980s from 10 to nearly 20 per cent of the world fleet, but has stagnated ever since. Beneficially owned tonnage, however, has developed more positively from around 10 per cent in 1980 to approximately 35 per cent in 1998 as owners in developing countries are also resorting increasingly to open-registry facilities. The share of world trade generated by the countries of Central and Eastern Europe remained at 3.4 per cent, thus considerably short of the share of 4.7 per cent obtained in 1980. Similarly, the flag position of these countries declined from 5.5 per cent in 1980 to a mere 2.6 per cent in 1998. The socialist countries of Asia increased their share in world trade to 2.5 per cent, while at the same time improving their share in world tonnage from 1.6 per cent in 1980 to 3.3 per cent in 1998. Despite these long-term improvements, the short-term analysis shows that between 1997 and 1998 these countries were not in a position to increase their share in world trade, while their share in world tonnage decreased marginally from 3.4 to 3.3 per cent over the same time period.

Graph 7

Trends in surplus capacity by main vessel type



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

Table 29

Comparison between total cargo turnover and fleet ownership by groups of countries in 1980, 1997 and 1998

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
	1997	5 487	54.9	202.5	26.1
	1998	5 601	54.8	202.6	25.7
Major open-registry countries	1980	[b]	[b]	212.6	31.1
	1997	[b]	[b]	361.0	46.5
	1998	[b]	[b]	376.8	47.8
Developing countries	1980	2 926	39.6	68.4	10.0
	1997	3 934	39.4	149.9	19.3
	1998	4 007	39.2	150.8	19.1
Countries of Central and Eastern Europe (including the former USSR)	1980	346	4.7	37.8	5.5
	1997	341	3.4	24.3	3.1
	1998	351	3.4	20.7	2.6
Socialist countries of Asia	1980	146	2.0	10.9	1.6
	1997	248	2.5	26.0	3.4
	1998	254	2.5	26.0	3.3
World total [a]	1980	7 383	100.0	682.8	100.0
	1997	9 990	100.0	775.9	100.0
	1998	10 213	100.0	788.7	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.

61. Table 30 provides data on the shipping engagement of the leading trading nations. While data clearly indicate positions of countries as net importers or exporters of shipping services, it is also evident that all major trading nations pursue policies aimed at maintaining minimum control over shipping as major trade support service. Thus, countries such as China (including Hong Kong), Japan, Denmark and Norway are net suppliers of maritime services and are prominent among the most important cross-trading nations. Many of the major trading nations, while maintaining an important ownership position and, to a lesser extent, flag position, are major importers of shipping services. The United States, Germany and France figure among this group. While in 1998 the United States generated nearly 15 per cent of world trade, it owned 6.3 per cent of world tonnage with only 1.6 per cent of world tonnage flying the United States flag. Similarly, Germany and France generated 9.2 per cent and 5.4 per cent of world trade, respectively, as compared to a tonnage ownership position of 3.7 per cent and 0.6 per cent and a flag share of 1.3 per cent and 0.3 per cent, respectively. While the large differences in ownership and flag shares reflect cost considerations and the competitiveness of fleets registered under national flags, the important shares in tonnage beneficially owned indicate clearly a desired linkage between fleet size and foreign trade volume.

Table 30

Maritime engagement of 30 major trading nations
(as at the end of 1998)

Country/territory	Share of world trade generated, in terms of value	Share of world fleet beneficially owned, in terms of dwt
United States	14.9	6.29
Germany	9.2	3.72
Japan	6.1	13.07
United Kingdom	5.4	2.74
France	5.4	0.64
Italy	4.2	1.65
Canada	3.8	0.14
Hong Kong, China	3.3	4.50
Netherlands	3.5	0.75
Belgium-Luxembourg	3.0	1.06
China	3.0	5.29
Republic of Korea	2.1	3.47
Singapore	1.9	2.63
Spain	2.2	0.50
Taiwan Province of China	2.0	2.48
Mexico	2.3	0.21
Malaysia	1.2	0.85
Sweden	1.4	2.87
Switzerland	1.5	0.86
Thailand	0.9	0.52
Australia	1.1	0.47
Austria	1.2	0.02
Brazil	1.0	1.19
Russian Federation	0.9	2.20
Ireland	1.0	0.03
Saudi Arabia	0.8	1.55
Indonesia	0.8	0.60
Denmark	0.8	1.89
Norway	0.7	7.46
Turkey	0.8	1.28
Total	86.4	70.93

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

CHAPTER IV

TRADE AND FREIGHT MARKETS

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

A. LINER SHIPPING MARKET

(a) Developments in liner markets [8]

Concentration processes

62. The liner shipping industry continues to be characterized by two distinct processes of concentration and vertical integration. Tables 31 and 32 give a picture of the supply-side dynamics of container shipping and reflect ongoing concentration processes. It is interesting to note that among the 20 leading companies, 12 originate in Asian countries. These companies account for more than 55 per cent of the TEU capacity of the top 20. The presently ongoing process of competitive positioning of companies will lead to further concentration and the emergence of new mega-carriers. The merger of P&O and Nedlloyd in 1997, which created a company with a carrying capacity of 250,000 TEU, started a process that was followed up by Asian carriers in 1997 and 1998. In March 1997, Hanjin acquired a majority share in DSR-Senator Lines and in 1998 NOL bought up APL, thus boosting the Singapore-based carrier's capacity to 200,000 TEU. Apart from the quantitative capacity effect, the purchase allowed NOL access to management systems and techniques developed by APL, thus ensuring continued competitiveness of the company. The latest move was that of Maersk Line acquiring shipping internal activities of Sea-Land in July 1999, thus creating a giant carrier of a total capacity of 550,000 TEU, a class of its own. Other companies, particularly those of developing countries, still have to make the necessary decisions on their future competitive positioning either as a global player or more of a niche carrier.

63. The need to respond to global transport requirements of large shippers and, at the same time, to rationalize the use of existing assets and new investments has been at the root of the major carriers' moves to enter into "global alliances". The creation of global alliances marks the culmination of an evolutionary process of improving transport efficiency through cooperative mechanisms. These processes started with the introduction of containerization in the early 1970s, when operating consortia were created with the aim of reducing investment risks in what was considered to be a highly capital-intensive industry. Later on and particularly during the early 1990s efforts were geared increasingly towards the introduction of mechanisms to safeguard revenues, such as trade-wide stabilization agreements. Today, shipping lines entering global alliances generally expect to realize advantages, both with regard to the cost of shipping and transport services as well as to their marketing. Synergies can be expected not only in the actual ocean carriage, but even more so in equipment management, pre- and post-transportation, including terminal operations. It is particularly the inland portions of the transport chain and the container management where the potential for rationalization gains appears to be the most important. The problem of empties is a major one in container shipping, the magnitude of which is also reflected in the statistics of major ports of the world. In 1998, for instance, 25 per cent of containers handled in the port of Long Beach, California were empty. In terms of TEU, this means that the port handled about 1 million empty boxes. This problem was greatly exacerbated by the Asian crisis. In some Asian trades, the ratio of outgoing to incoming cargoes is reported to have deteriorated to 3:1. This not only causes immense cost of repositioning and container logistics, but has also had adverse effects on rate restoration efforts. While different cargo requirements may make certain empty movements indispensable also in balanced trades, there appears nevertheless to be considerable scope for cost reductions through improved equipment interchange facilities in the context of container logistics within new cooperative arrangements.

Table 31

Leading 20 container service operators (September 1998) on the basis of number of vessels and total shipboard capacity (TEUs)

Ranking	Operator	Country/territory	Total TEU	Tonnage contracted	Millions of TEU carried (1998)
1	Maersk Line	Denmark	346 123	81 256	3.1
2	Evergreen Line/Uniglory	Taiwan Province of China	280 237	89 404	3.5
3	P&O /Nedlloyd	UK /Netherlands	250 858	39 630	2.5
4	Mediterranean Shipping	Switzerland	220 745	7 900	1.6
5	Hanjin Shipping	Republic of Korea	213 081	5 300	2.0
6	Sea-Land Service	United States	211 358	-	3.2
7	COSCO	China	202 094	24 684	3.5
8	NOL/APL	Singapore/United States	201 075	-	2.1
9	NYK Line	Japan	163 930	-	1.7
10	Mitsui OSK Lines	Japan	133 681	10 000	1.4
11	Hyundai Merchant	Republic of Korea	116 644	-	1.5
12	Marine	Israel	111 293	-	1.1
13	Zim Israel Navigation	Canada	105 322	-	1.1
14	CP Ships	France	91 600	4 400	1.1
15	CMA/CGM	Germany	90 879	33 600	1.3
16	Hapag-Lloyd	Hong Kong (China)	90 063	11 000	1.6
17	OOCL	Japan	89 717	6 912	1.0
18	K Line	Taiwan Province of China	79 840	26 000	1.2
19	Yangming Marine	Kuwait	59 331	7 600	0.5
20	UASC Safmarine/CMBT Lines	South Africa	55 584	-	0.7

Source: *Containerisation International,* November 1998.

Table 32

Estimated capacity of global alliances in container shipping, 1998

Grouping	Total capacity (TEUs)	Capacity share (%)
Grand Alliance: Hapag-Lloyd; NYK; P&O Nedlloyd; MISC; OOCL	635 730	11
New World Alliance: Hyundai; NOL/ APL; MOL;	270 500	5
Maersk/Sea-Land	557 481	10
Evergreen/Uniglory	280 237	5
United Alliance: Hanjin; DSR-Senator; Cho Yang; UASC	272 412	5
COSCO/K-Line/Yangming Group	371 651	6
Subtotal	2 388 011	42
Other lines	3 411 989	58
Total world capacity	5 800 000	100

Sources: *Containerisation International*, November 1998 and various press articles.

Vertical integration - shipping companies move into logistics

64. Companies have to realize that the cost-saving potential of alliances is after all limited as they do not address some of the major cost elements, that is cost of cargo acquisition and administration, thus stopping short of making the real cuts that companies might seek in order to improve their profitability and competitiveness. Furthermore, alliances will at some stage have to address the issue of inland transport and logistics. Some of the major problems of shipping lines are linked to pre- and onward carriage and equipment control, which are essential elements of implementing differentiation strategies. Consequently, it does not appear logical that alliances up to now concentrate on the port-to-port side of the transport business, the more so as the same shipping lines seek increasingly to ensure long-term profitability through diversification into logistics services. Based on this consideration, it appears safe to assume that presently existing cooperative structures are also a passing phenomenon. Additionally, growth through mergers and takeovers enables the company to address some of the issues that alliances could not resolve, i.e. the improvement of its revenue-earning potential. Companies get caught in a 'vicious' cycle whereby rationalization gains are immediately passed on in terms of lower freight rates, thus having only marginal impact on company profitability. The perpetual erosion of revenues per TEU due to pre-emptive rebating has in a way become a characteristic of the industry. It appears, therefore, important that shipping companies spend more effort to increase and stabilize revenues. Some lines complain that the share of full-cost rated containers has in some trades declined from 80 to as low as 20 per cent. Rate restoration measures would need to be based on clearer competitive positioning with concentration on differentiation strategies that could sustain higher revenues. Such strategies will have to be based on more sophisticated market segmentation, better-adapted tariff structures and the development of logistics services tailored to individual shippers- requirements.

65. Major shipping lines are increasingly moving into logistics services in an attempt to implement differentiation strategies, while maintaining ocean carriage as a core business. This move from ? hardware based - service suppliers into a service industry that is know-how and information technology driven is expected to open new opportunities for shipping lines. It opens the door to an industry that is estimated to provide for an annual business volume of around $40 billion and, most importantly, for above average growth rates. Shippers require global logistics services from carriers, freight forwarders or other suppliers. The provision of these services profoundly changes shipper/carrier relations as much as the concept has changed transport requirements of shippers:

(a) The logistics service suppliers are integrated in the production and marketing processes of the shipper; this is the single most important change for both shipper and carrier.

(b) Multinational customers increasingly demand global solutions and one-stop logistics services;

(c) Prices and conditions negotiated in the context of such global contracts bear little resemblance to traditional ocean tariffs - or for that matter any commodity and route-oriented unimodal tariffs; and

(d) Only a limited number of global carriers are in a position to compete for such contracts.

66. Shipping lines moving into logistics services compete increasingly with freight-forwarding companies that produce similar competing services. In fact, the freight-forwarding industry can be considered more of a forerunner in logistics services than liner shipping or, for that matter, other modal carriers. Freight forwarders were pressured into multimodal and logistics services, as they had to realize already in the 1970s that there was only a limited future, if any, in traditional agency based freight-forwarding services. Today, the freight-forwarding industry goes through a consolidation process, which is similar to that of the shipping industry. Additionally, linkages are becoming closer and more freight-forwarding companies team up in one way or another with shipping or other transport companies.

67. Further concentration processes on the sea leg could characterize future development, with companies providing shipping as a core around which logistics services will be built. This concentration process will further change the competitive environment on the sea leg, enable remaining companies to provide the necessary investment in hardware and employ them in a commercially viable fashion. Those companies that will not be among the global carriers can be expected to engage increasingly in niche operations,

or become shareholders in globally operating companies or continue to provide global shipping and logistics services without owning or even operating sea-based assets.

(b) Freight level of main liner services

68. In 1998, in the transpacific trades, the average eastbound revenue per TEU rose by 6.6 per cent to $1,495, while the westbound revenue fell significantly by as much as 23.1 per cent to $994 (see table 33). The eastbound increase in ratio is attributed mainly to burgeoning exports caused by Asian currency devaluation. Thus, carriers were in a strong position to implement an increase in general tariff rates. For the westbound revenue, the situation was completely different. As a result, directional imbalances between the eastbound and the westbound trades further deteriorated in 1998, when westbound shipments dropped to only 64 per cent of eastbound moves (see table 34) from 78 per cent in 1997. Preliminary information on cargo movements in 1999 indicates a further deterioration of the directional imbalance. While eastbound cargo volumes are expected to expand further, westbound shipping volumes will drop by nearly 5 per cent. This development will clearly be an impediment to rate restoration in the westbound trades. Furthermore, the entry into force on 1 May 1999 of the Ocean Shipping Reform Act of 1998 can be expected to contribute to further downward pressure on freight rates in trades with the United States.

69. In the Asia-Europe trades in 1998, cargo movements on both directions were of almost the same pattern as the transpacific trades. With Asian exports continuously expanding by 6 per cent and imports marginally declining, the average freight rates in the Asia-Europe trade improved by 13.4 per cent to $1,307 per TEU, whilst those on the Europe-Asia trade fell by 13.7 per cent to $897 per TEU. In the Asian export trades, the drop in freight rates was particularly pronounced during 1996 and 1997, followed by a gradual recovery in the course of 1998. This recovery continued in the first quarter of 1999 with westbound rates improving to almost the level of 1995. Given the continuous growth in cargo movement in the westbound trade, freight rates are expected to rise further during 1999. Conversely, freight rates in Asian import trades have continued to fall and reach unprecedented low levels in the first quarter of 1999. The trade imbalance is expected to continue for most of the year, adversely affecting both load factors and rate levels in the eastbound trade.

70. In the transatlantic trades, cargo movements in both directions in 1998 increased by 4 per cent (United States-Europe) and 9 per cent (Europe-United States). Nevertheless, average freight rates per TEU for 1998 in the eastbound trade slipped by 5.2 per cent to $1,414, and those in the westbound trade were down by 3.5 per cent to $1,226. These declines of freight rates were the direct result of carriers resigning from the conference and, indirectly, of uncertainty surrounding the changing regulatory environment, following various directives from the European Commission and the implementation of the Ocean Shipping Reform Act 1998. Regulatory uncertainty and pressures on freight rates continued to affect the trades in 1999. Freight rates slipped further in the first quarter of 1999 reaching new lows of $1,185 (down 9.4 per cent) in the eastbound trades and $1,100 (down 7.4 per cent) in the westbound trades. Over a 12-month period, this represents a revenue erosion of 20 per cent eastbound and 15 per cent westbound.

Table 33

Freight rates (average in markets) on the three major liner trade routes from the first quarter of 1997 to the second quarter of 1999
(dollars per TEU)

	Transpacific		Europe-Asia		Transatlantic	
	Asia-United States	United States-Asia	Europe-Asia	Asia-Europe	United States-Europe	Europe-United States
1997						
First quarter	1 473	1 280	995	1 112	1 459	1 302
Change (%)	-4.5	-7.5	-12.5	-13.2	-10.0	-0.7
Second quarter	1 407	1 277	1 036	1 156	1 444	1 246
Change (%)	-4.5	-0.2	4.1	4.0	-1.0	-4.3
Third quarter	1 369	1 428	1 067	1 187	1 602	1 274
Change (%)	-2.7	11.8	3.0	2.7	10.4	0.0
Fourth quarter	1 362	1 182	1 056	1 157	1 458	1 261
Change (%)	-0.5	-17.2	-1.0	-2.5	-9.0	-1.0
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

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

Table 34

Cargo movements on the three major liner trade routes for 1996-1998 and forecasts for 1999 and 2000

(thousands of TEUs)

	Transpacific		Asia-Europe		Transatlantic	
	Asia-United States	United States-Asia	Asia-Europe	Europe-Asia	United States-Europe	Europe-United States
1996	4 104	3 520	3 142	2 584	1 219	1 421
1997	4 662	3 615	3 290	2 734	1 276	1 556
Growth (%)	13.6	2.7	4.7	5.8	4.7	9.5
1998	5 221	3 326	3 487	2 710	1 327	1 696
Growth (%)	12.0	-8.0	6.0	-0.9	4.0	9.0
1999	5 466	3 266	3 633	2 713	1 362	1 738
Growth (%)	4.7	-1.8	4.2	0.1	2.6	2.5
2000	5 838	3 328	3 811	2 900	1 399	1 788
Growth (%)	6.8	1.9	4.9	6.9	2.7	2.9

***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.

c) Supply and demand of main liner services

71. In the liner trades to and from Asia (transpacific and Europe? Asia), imbalance between supply and demand is improving marginally (see table 35). A number of Asian-based carriers have begun restructuring their operational programmes, including through various tonnage placements or redeployments, in an effort to ensure their survival in the face of falling revenues. The imbalance in cargo movements between the eastbound and the westbound trade routes will continue to force all carriers serving the Asian trades to pay additional operating expenses as the need for repositioning empty boxes increases.

72. On the Europe-Asia trade route, the situation is different from the transpacific trade because of the nature of the trade, in which heavy goods, mainly in 20-foot containers, move east, and lighter goods (such as consumer durables, electrical goods, garments and footwear), which are more suited to 40-foot and 45-foot containers, are moving west. The need to reposition empty eastbound containers has thus increased considerably for reasons of both trade imbalance and structural imbalance. Carriers are responding to this situation by trying to attract return cargoes in order to minimize empty moves. This course of action has very often been a major cause of the dramatic decline in revenue per container.

73. On the transatlantic trade routes, the imbalance of cargo movements between the eastbound and the westbound is less by comparison with other trade routes. The The space utilization on both eastbound and westbound is expected to increase marginally in 1999, but will remain the lowest of the three major trade routes. Furthermore, capacity utilization is expected to decline again in 2000 when supply capacity will increase by 4.1 per cent from the level of 1999, with demand growing by only 2.8 per cent.

Table 35

Supply (ships carrying capacity) and demand (cargo volume) in transpacific, Europe-Asia and transatlantic trades, 1998-2000
(in 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	6 896	5 221	75.7	
	Westbound	6 896	3 326	48.2	62.0
1999	Eastbound	6 992	5 466	78.2	
	Westbound	6 992	3 266	46.7	62.4
2000	Eastbound	7 278	5 838	80.2	
	Westbound	7 278	3 328	45.7	63.0
Europe-Asia					
1998	Eastbound	4 687	2 710	57.8	
	Westbound	4 687	3 487	74.4	66.1
1999	Eastbound	4 753	2 713	57.1	
	Westbound	4 753	3 633	76.4	66.8
2000	Eastbound	4 948	2 900	58.6	
	Westbound	4 948	3 811	77.0	67.8
Transatlantic (United States-Europe)					
1998	Eastbound	2 443	1 327	54.3	
	Westbound	2 443	1 696	69.4	61.9
1999	Eastbound	2 477	1 362	55.0	
	Westbound	2 477	1 738	70.2	62.6
2000	Eastbound	2 579	1 399	54.2	
	Westbound	2 579	1 788	69.3	61.8

***Sources*:** UNCTAD secretariat on the basis of data supplied by 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

74. Table 36 reflects the development of liner freight rates on cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range from 1996 to date. The overall 1998 liner freight index decreased by four points to an average level of 93 (1991=100), reflecting the market situation in both homebound and outward trades. The average container index declined by four points from the level of the previous year, while the conventional general cargo index also declined by three points. This indicates that the overall index reflects both the continuing pressures on container rates and the other market niches available for the operators of general cargo vessels. The general downward movement observed in 1998 came to a halt in early 1999. By April 1999, all indices except the container index had picked up and surpassed the 1998 averages.

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

75. Table 37 provides data on freight rates of liner services as a percentage of market prices for selected commodities and trade routes for selected years between 1970 and 1997. Prices for cocoa beans and tea fell, while those for the other commodities increased. Overall freight rates except for jute were under more pressure than in the previous year, with some bringing about a considerable decrease in the freight/price ratio. The most significant decrease in the ratio was observed in the Brazilian cocoa beans trade, where prices increased by 3.5 per cent, while freight rates decreased by as much as 40.9 per cent. The ratio for the Ghana cocoa beans also decreased considerably because of a large decrease in freight rates (-28.2 per cent) versus an increase in prices (15.8 per cent), while the decrease in the ratio for tea was attributable to a decline in freight rates (-10.0 per cent). The substantial increases in the ratio for jute was attributable primarily to a significant increase in freight rates, which rose by 12.9 per cent, while its f.o.b. price fell by 14.2 per cent. The percentage ratio for the Colombian coffee trades (both Atlantic and Pacific) also increased based on a decrease in prices in the range of 28.2 per cent while freight rates remained stable. In general it can be stated that, with the exception of jute shipments from Bangladesh and rubber exports from Malaysia, the continuing pressure on freight rates has been beneficial to the trades, even though this pressure is not always of such a magnitude as to compensate fully for falling f.o.b. returns of a number of commodities of primary export interest to developing countries.

B. DRY BULK SHIPPING MARKET

(a) Dry bulk trade

76. In 1998, total dry bulk shipments showed a moderate growth of 3.7 per cent, of which main bulk commodities increased by 3.7 per cent and other dry bulk commodities by 3.4 per cent. World crude steel production decreased by 2.8 per cent to 776.4 million tons, with a corresponding reduction in shipments of raw material inputs to the steel industry. Iron ore shipments decreased by 2.3 per cent to 420 million tons. Coal was the largest commodity by volume, marginally increasing by 1.1 per cent to 465 million tons, of which the coking coal trade was down by 2.2 per cent to 177 million tons. The grain trade also decreased by 6.4 per cent to 190 million tons. The trading pattern for grain changed drastically from the previous year. Exports from the United States increased significantly, whereas those from Argentina and Australia decreased, thus reversing the 1997 development when Argentina and Australia benefited from reductions in United States' exports.

Steel production, iron ore and coal trades

77. The world steel industry produced 776.4 million tons of crude steel in 1998, representing a decrease of 2.8 per cent from 799 million tons in 1997. There were, however, considerable regional differences in production development. China's crude steel production rose by 5.0 per cent to 114.3 million tons in 1998 from 108.9 million tons in 1997, whereas Japan's crude steel production decreased by 10.5 per cent to 93.5 million tons. The Republic of Korea's production decreased by 6.2 per cent to 39.9 million tons, while Taiwan Province of China increased its production by 5.6 per cent to 16.9 million tons. The combined production of the four countries or territories, China, Japan, the Republic of Korea and Taiwan Province of China, decreased by 2.7 per cent to 264.6 million tons in 1998. This represents 34.1 per cent of the total world production of crude steel. The European Union increased its output by 0.1 per cent to 160 million tons, and the United States' production decreased by 0.8 per cent to 97.7 million tons. The former Soviet Union experienced a decline of 8.1 per cent to 74.4 million tons,[9] thus reversing again the positive development observed in 1997 when marginal growth was recorded.

Table 36
Liner freight indices, 1996-1999
(monthly figures: 1991=100)

Month	Overall index				Homebound index				Outbound index				Container index				Conventional general cargo index			
	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999
January	94	96	97	90	89	90	90	85	99	102	103	95	92	91	91	83	96	100	103	97
February	93	98	96	89	87	91	90	87	98	104	101	91	91	92	90	80	96	103	102	98
March	93	98	96	91	87	92	91	89	99	104	102	92	91	92	91	82	96	103	102	100
April	94	96	95	96	88	90	89	90	100	102	100	101	92	90	89	83	97	102	101	107
May	95	96	93	96	89	90	88	91	101	101	98	102	92	90	87	84	98	101	100	108
June	95	96	94	98	89	90	89	92	100	102	99	103	92	90	87	86	98	102	100	109
July	93	97	93		86	91	88		98	103	98		89	91	87		96	103	99	
August	92	99	93		86	93	88		97	105	98		88	92	86		95	105	99	
September	92	98	90		86	91	85		98	104	95		89	91	84		95	103	96	
October	93	95	88		87	89	83		99	101	92		90	89	82		96	101	94	
November	93	95	89		87	89	85		98	100	93		89	88	83		96	100	96	
December	94	96	88		88	90	84		100	102	93		91	90	82		97	102	95	
Annual average	93	97	93	93	87	90	87	89	99	102	98	97	90	90	87	83	96	102	99	103

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.

Table 37
Ratio of liner freight rates to prices of selected commodities

Commodity	Route	Freight rate as percentage of price [a]						
		1970	1975	1980	1985	1990	1997	1998
Rubber	Singapore/Malaysia**B**Europe	10.5	18.5	8.9	..	15.5	10.3	13.3
Jute	Bangladesh**B**Europe	12.1	19.5	19.8	6.4	21.2	23.4	30.8
Cocoa beans	Ghana**B**Europe	2.4	3.4	2.7	1.9	6.7	-	3.9
Coconut oil	Sri Lanka**B**Europe	8.9	9.1	12.6	12.6	..	-	13.7
Tea	Sri Lanka**B**Europe	9.5	10.4	9.9	6.9	10.0	4.5	3.9
Coffee	Brazil**B**Europe	5.2	9.7	6.0	5.0	10.0	1.5	1.6
Coffee	Colombia (Atlantic) - Europe	4.2	5.7	3.3	6.7	6.8	2.3	3.2
Cocoa beans	Brazil**B**Europe	7.4	8.2	8.6	6.9	11.0	5.1	2.9
Coffee	Colombia (Pacific) - Europe	4.5	6.3	4.4	6.1	7.4	2.4	3.4

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 1990-1998).
[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 1990-1997, the prices of the commodities were taken from UNCTAD, *Monthly Commodity Price Bulletin*, March 1999.

78. Seaborne iron ore trade decreased by 2.3 per cent to 420 million tons in 1998 from 430 million tons in 1997. Exports from Brazil rose by 2.0 per cent to 142.5 million tons, whereas Australia suffered a decrease of about 7 per cent to 140 million tons. Canada's exports decreased by about 1 per cent from 32 million tons in 1997, whereas India's exports were 4.5 per cent larger than the 16.5 million tons in the previous year. Sweden decreased its exports by 13 per cent to 16 million tons. On the import side, trade with Japan decreased by 4.7 per cent to 121 million tons in 1998, while imports to China also decreased by 6 per cent to 52 million tons. The European Union enjoyed a stable year for steel production in 1998, with demand for iron ore up 4.1 per cent to 135 million tons.[10]

79. The world seaborne coal trade increased moderately to 465 million tons in 1998 from 460 million tons in 1997. Thermal coal showed favourable growth from 279 million tons to 288 million tons, whereas coking coal fell back moderately to 177 million tons from 181 million tons. Exports from Australia once again showed strong growth (by 6.5 per cent) reaching 167.6 million tons for total exports, while the United States' exports fell by nearly 17 per cent to 52 million tons. Exports from Canada also decreased by about 1.5 per cent to 35 million tons. In South-East Asia, Indonesia's coal exports increased by about 4.5 per cent to nearly 40 million tons. China and South Africa increased exports by 5.1 and 3.2 per cent, respectively, to 32.3 million tons and 65 million tons in 1998. On the import side, Japan's coal imports decreased by 1.5 per cent to 131.5 million tons. Imports to the Republic of Korea increased by about 6 per cent to approximately 53 million tons. The imports of Taiwan Province of China were up marginally by 1 per cent, to some 37 million tons.[11]

80. In the grain trade, specifically until the middle of 1998, trends and patterns in supply and demand were affected by surpluses in the major consuming regions. World grain stock again increased significantly after the record-low level registered at the end of the crop year ending June 1996. Large-scale consumer countries or country groups, such as China, Eastern Europe and Japan, remained the most important markets. Major suppliers such as Argentina, Australia, Canada, the European Union and the United States continued to dominate the supply side in 1998. Grain shipments in 1998 decreased to 190 million tons from 203 million tons in 1997. In 1998, United States? exporters remained at almost the same level of 74.3 million tons as in 1997, whereas Canada? s exports fell by as much as 32 per cent to 18.2 million tons from 26.7 million tons in 1997. Argentina? s exports rose by 14.6 per cent to 24.3 million tons in 1998, whereas Australia's exports were down significantly by 17.5 per cent to 18.9 million tons. Exports from the European Union to third countries were about 5.6 per

cent lower than the year before, registering 18.2 million tons.[12]

(b) Dry bulk freight rates

81. After the increase in economic growth in Western Europe and the United States in 1997, which stimulated the dry bulk charter market, it appeared, at the end of 1997 and heading into 1998, that the Asian financial crisis had adversely affected dry bulk demand and consequently freight rate development. The 1998 dry bulk market ended with rates for all sizes at significantly lower levels than the year before (see table 38).

Dry bulk time-charter (trips)

82. The overall average time-charter trip rates fell substantially in 1998, as compared with those in 1997. The annual average rate for modern Capesize tonnage on the four major trade routes was down in 1998 by as much as 41 per cent to $9,100 per day from $15,400 per day in 1997. For the Atlantic round voyage, the tonnage was paid at the average rate of $8,250 per day in 1998, while it was hired at $15,000 per day in 1997. For the same trade in the Pacific, the average rate fell to $10,250 per day in 1998 from $14,750 per day in 1997. The annual average rate for modern Panamax also fell significantly by 32 per cent to $5,900 per day in 1998 from $8,650 per day registered in the previous year. Average rates for round voyages in the Atlantic and in the Pacific were registered at $4,900 per day and $6,700 per day, respectively, in 1998 as compared with $8,850 per day and $8,600 per day, respectively, in 1997. Modern handymax tonnages were paid at the annual average rate of $6,000 per day in 1998, which was about 20 per cent less than $7,450 per day paid in the previous year. For the Atlantic round voyage, the average rate of $5,100 per day was paid in 1998, as compared with $6,300 per day in 1997. In the Pacific trade, the average rate for round voyages was fixed at $6,500 per day in 1998, while $7,300 per day was earned in 1997.[13]

Dry bulk time-charter (periods)

83. The time-charter period market was much lower in 1998 than in 1997, with registered fixtures down in number by about 40 per cent. Specifically, period time-charter fixtures for Capesize decreased drastically. Shipowners tried to avoid committing tonnage at unsatisfactory rate levels, and cargo owners also showed a modest interest in fixing tonnage for period employment given the uncertain trade situation. In general, at the end of 1998, the rates demanded for a three-year period were significantly higher than for a 12-month period. As far as time-charter rates for different sizes of vessels are concerned, rate developments did not follow a clear pattern in 1998. As could be expected, the average time-charter rates for 12-month period for middle-aged handy-sized tonnage showed greater stability. Nevertheless, rates declined by some 25 per cent from $8,000 per day in 1997 to $6,000 per day in 1998. Modern Capesize tonnage was fixed at $11,900 per day, down by 22 per cent from the level of $15,300 paid in 1997. Modern Panamax tonnage was most severely affected by the rate decline, with tonnage being chartered for $7,700 per day down from the level of $10,900 per day experienced in 1997.[14]

Dry bulk trip-charter

84. The dry bulk trip-charter market started the year in an optimistic mood with Capesize tonnages of about 750,000 dwt in total reported sold for scrapping in the first couple of months, and only up to 11 vessels of similar size to be delivered in 1998. However, with the surplus of Panamax tonnage adversely affecting Capesize rates and growing uncertainty surrounding chartering activities specifically for larger vessels by Asian traders, rates started to fall in early March 1998. Given the continued restraint exercised by charterers, overall freight levels continued to fall gradually until the end of the third quarter. Early in the last quarter, the market conditions improved moderately due mainly to increased volumes of Australian prompt sales of coal to Europe.[15]

85. Rate levels in major bulk trades consistently developed along the lines indicated by the global index contained in table 38. Thus, in the coal trades from Hampton Roads to Japan the annual average freight rate declined by 35 per cent to $8.70 per ton from $13.45 per ton in 1997. In the beginning of 1998, the market was still relatively strong with freight levels of nearly $13.00 per ton paid during the first quarter. Since then, however, freight rate levels gradually and continuously declined to $7.00 per ton at the end of the year. Similarly, rates in the iron ore trades from Brazil to Europe fell by 30 per cent to $4.15 per ton from $5.90 per ton in 1997. Also, these trades started the year relatively strongly at rate levels of $5.00 to $5.50 during the first quarter. After that rates came under pressure and fell to $3.30 per ton mid-1998 and slightly recovered to $4.00 per ton at the end of the year. In the grain trades from the US Gulf to Japan, average rates declined from $23.25 per ton in 1997 to $15.35 per ton in 1998. Again markets were still relatively strong at the beginning of the the year with rates of $19.00 being paid during the first four months, followed by an extreme drop in rates to approximately $12.80 per ton at the end of the year.

Table 38

Dry cargo freight indices, 1996-1999
(monthly figures)

Period	Dry cargo tramp time-charter [a] (1991 = 100)				Dry cargo tramp trip-charter [b] (July 1965 to June 1966 = 100)			
	1996	1997	1998	1999	1996	1997	1998	1999
January	83	84	74	48	207	209	189	166
February	77	87	64	51	202	197	186	170
March	80	91	71	62	192	199	171	169
April	81	89	70	61	192	197	173	172
May	82	82	66	70	196	190	173	173
June	73	81	62	66	195	184	177	176
July	66	87	57		186	183	167	
August	58	90	55		189	196	165	
September	57	85	54		186	190	164	
October	65	82	59		176	191	165	
November	75	79	58		188	189	170	
December	80	75	52		211	186	168	
Annual average	73	84	62	60	193	193	172	171

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.

Highest and lowest freight rates for major dry bulk trades

86. Table 39 indicates the highest and lowest freight rates reported during 1997 and 1998 in selected major bulk trades. Rates reflect the overall weak dry bulk market in 1998 with both the highest and lowest rates down significantly from the previous years levels. Generally declining markets observed during 1998 also caused the margins between the highest and lowest rates to widen. These margins were particularly important in the grain and iron ore trades.

87. The lowest freight rate levels and the widest relative margins were recorded in the Brazil/Continental Europe iron ore trade, where rates decreased by more than 50 per cent in the course of the year. The average freight rates for iron ore on this trade route fell from $6.15 in 1997 to $4.70 per ton in 1998. Similarly, rates in the Brazil/Japan trade fluctuated heavily, with the lowest rates 60 per cent below the highest ones recorded in the year. Average rates declined from $10.60 in 1997 to $6.30 per ton in 1998. Average freight rates for coal from Richards Bay to continental Europe fell from $7.00 per ton in 1997 to $5.30 per ton in 1998. Fluctuations, however, were not as pronounced as in the iron ore trades of Brazil.

88. Total grain shipments in the major trades decreased by 13 million tons to 190 million tons in 1998. Ratewise, the United States (Gulf of Mexico)/Japan saw a decrease of 34 per cent in the annual average spot rate from $22.90 per ton to $15.10 per ton. Rate fluctuations in this trade were significant and the monthly average rate fell from $20.40 per ton in January to $12.70 per ton in September. The annual average rate for the United States (Gulf of Mexico)/continental Europe trade also decreased by 21 per cent.

Table 39

Freight rates for selected commodities, 1997 and 1998

Commodity	Route	Freight rate range			
		1997 ($/ton)		1998 ($/ton)	
		High	Low	High	Low
Grain	United States (Gulf of Mexico)/continental Europe	13.00	10.25	11.00	6.75
Grain	United States (Gulf of Mexico)/Japan	25.55	20.70	22.00	10.80
Coal	Richards Bay/continental Europe	7.80	6.40	7.00	4.00
Iron ore	Brazil/Japan	12.75	9.50	9.75	4.00
Iron ore	Brazil/continental Europe	6.60	5.85	7.00	3.25

Source: Drewry Shipping Consultants Ltd. (London), *Shipping Statistics and Economics*, 1998–1999, various issues.

C. OIL AND OIL PRODUCTS SEABORNE FREIGHT MARKET

(a) Seaborne trade in oil and oil products

89. In 1998, world crude oil production increased by 1.9 per cent or 1.7 million barrels per day over 1997. This increase reflects production growth in the main producing regions with the exception of Africa. The Organization of Petroleum Exporting Countries' (OPEC) output was up by 2.35 per cent to 30.697 million barrels per day compared with 29.99 million barrels per day in 1997. Non-OPEC production rose by 1.58 per cent to 42.75 million barrels per day compared with 42.09 million barrels per day in the previous year. Total growth was less than expected as oil prices stagnated at relatively low levels. United States production rose slightly by 0.97 per cent to 8.37 million barrels per day in 1998 as compared with the output in 1997, while Canada's output was up by 1.18 per cent to 2.57 million barrels per day. Mexico increased its output by 2.05 per cent to 3.48 million barrels per day. African output fell by 4.29 per cent to 6.86 million barrels per day. Output of the Middle East increased by 2.82 per cent to 20.55 million barrels per day. Western European ouptut increased by 5.65 per cent to 6.66 million barrels per day. The former Soviet Union and Eastern Europe increased their production slightly by 0.69 per cent, totalling 7.60 million barrels per day. Asian countries including the Pacific Rim reduced their output by 2.02 per cent to 7.26 million barrels per day.[16]

90. In 1998, the overall volume of the seaborne crude oil trade increased marginally by 0.4 per cent to 1,633 million tons from 1,626 million tons in 1997. Trade structures are changing with major crude oil-importing countries switching sources to regional export-markets that are closer. This trend is evident in exports from the Middle East Gulf, which continued to suffer from a deterioration in market share which had set in in the mid-1990s, even though Asian economies remain dependent largely on crude oil from the Middle East Gulf . Crude oil shipments from Latin America are expanding and the United States remains the largest market for Latin American crude oil. Exports from the Mediterranean, West Africa and Asia are stagnant. Northern European crude oil exports are on the upward trend, depending largely on increased demand in the United States. At the receiving end, in particular, more than 80 per cent of Japan=s crude oil is supplied by the Middle East Gulf, while Europe=s crude oil imports from non-European sources continue the declining trend. China=s imports of crude oil are on the downward trend.

91. Overall shipments of oil products in 1998 increased very marginally by 0.4 per cent to 548 million tons from 546 million tons in 1997. The Far East (including Japan) serves as the largest source of seaborne petroleum product exports. The NIEs remain both a major supplier and a major consumer of petroleum products. Half their imports are intra-NIEs shipments, while the region receives shipments from Japan, the United States and the Middle East Gulf. As the largest import markets, total United States demand remains steady with an average annual growth rate of over 2.0 per cent. Inbound shipments from Latin America and Europe provide for most of the increasing United States demand. Japan, the second largest consumer market, continues a steady level of imports, but at a slower pace than the United States. European demand for petroleum products is concentrated increasingly on intraregional sources, with imports from non-European countries declining gradually.

(b) Tanker freight rates

92. In 1998 oil products increased only marginally to 1,633 million tons and 548 million tons, respectively. The stagnant trade of crude oil in 1998 failed to sustain the favourable freight levels that had prevailed in tanker markets during the previous year. The market weakness is a reflection of both supply- and demand-side developments. In 1998, new oil tankers aggregating 12.6 million dwt were delivered, as compared with 5.5 million dwt broken up and lost, thus increasing supply capacity by more than 7 million dwt. Demand was weak not only because of the Asian financial crisis, but also because of structural developments in the petroleum industry. 1998 was a year of consolidation in the petroleum business in which unprecedented mergers between major oil companies became a reality. More than a mere strategic policy for rationalization, these mergers indicate that their combined collective bargaining power in the market will become stronger. To react to such developments there was much talk among tanker owners about the creation of tonnage pools reducing competition and supporting freight rate levels. One pool was created by combining one Scandinavian and one American-controlled Suezmax fleet. Consolidation was also realized in chartering practices and the trend of combining smaller oil cargo lots into larger vessels continued throughout the year. Tanker ports were also expanded to accommodate very large crude carriers (VLCCs) in support of this strategy.

Very large crude carriers (VLCCs)

93. A downward trend in the VLCC market prevailed from December 1997 to the early months of 1998. A surplus of VLCC units in the Middle East Gulf put pressure on freights, which softened to the Worldscale (WS) 50s for both the eastbound and the westbound voyages. West African fixing, however, continued at the WS 80 level for westbound trades. From the second half of March 1998 onwards, the VLCC market from the Middle East Gulf regained momentum due to brisk demand on the eastern routes, coupled with relatively stronger needs for modern units. However, these tentative favourable factors did not prevail throughout 1998, given the prolonged economic slowdown in Asian countries. Freight continued to be paid at around the WS 70 level depending mainly on discharge options. Rate levels in westbound trades from the Middle East Gulf and West African trade were maintained at around WS 60 until end-July. Since the end of the third quarter, OPEC cutbacks reflecting signs of widespread economic recession, combined with high crude oil inventories and low oil prices, clearly had a dampening effect on the main markets. Furthermore, tonnage was plentiful, eastern charters were not very active and shipments were postponed due to high inventories in the east as well as in the west. Freights therefore continued to slide into the WS 40s to the Far East. At the end of November 1998, the end-year revival in VLCC demand led the market to drive forward. Consequently, freights bottomed out to the higher WS 50s with additional premiums of about 5 Worldscale points for the Far East options (see table 40).

Medium-sized crude carriers

94. In early 1998, decreasing demand and the combination of Suezmax consignments for VLCC shipments out of West Africa put considerable pressure on Suezmax and, consequently, on Aframax rates. The rate level decreased to WS 100 level from an average of WS 111 in 1997, and remained almost unchanged to August 1998. In September, rates for Suezmax units came under considerable pressure. With a very heavy build-up of available tonnage also including modern units, competition for cargoes became quite fierce and voyages even to the United States dropped all the way to WS 55.

Table 40

Tanker freight indices, 1996-1999

(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			
	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999	1996	1997	1998	1999
January	61	59	55	62	120	114	105	92	158	164	142	114	228	256	171	159	178	198	155	164
February	67	58	69	49	120	109	97	94	154	156	133	137	230	238	176	144	202	201	147	168
March	61	62	72	38	114	120	106	89	178	201	146	128	233	223	162	158	228	194	161	177
April	49	52	70	41	117	110	92	86	161	182	122	121	221	214	155	157	210	181	157	210
May	57	63	75	49	114	111	98	76	153	183	120	124	212	203	152	165	215	203	63 171	196
June	67	64	74	42	106	107	105	74	160	173	136	113	204	181	161	159	241	186	167	160
July	70	70	75		101	100	100		136	160	129		181	176	160		217	176	168	
August	63	83	60		101	111	89		139	148	120		180	170	152		185	180	165	
September	54	76	47		98	114	79		133	153	107		174	164	151		212	182	158	
October	55	90	54		110	115	82		138	167	117		197	150	161		198	165	147	
November	60	74	49		108	111	88		148	139	120		187	184	182		190	180	133	
December	57	55	59		107	110	96		166	150	138		234	175	166		188	141	161	
Annual average	60	67	63	47	110	111	95	85	152	165	127	123	207	194	162	157	205	182	157	179

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

Aframax units came under increased pressure in the North Sea where the market deteriorated further to WS 75? 78 for short trips. Since October, overall Aframax market rates turned back to WS 85/90 as conditions improved. West Africa, the customary hub of Suezmax fixing remained hampered by Nigerian export disruptions. Demand was slow, hence a lackluster development in freights. At the end of the year, Suezmax freights climbed to WS 90 after a spurt of fresh momentum, which competed favourably with VLCCs for combined cargoes. In the Aframax market, the North Sea saw an upswing to WS 120-130.

Small crude and product carriers

95. The overall markets for products for the first six months of 1998 were depressed as compared with the same period in the previous year. A relatively warm winter in the northern hemisphere, as well as refineries building up stocks and consequent overcapacity, specifically in Asia, have contributed to falling rates in the market. Since August, the same trend has been witnessed as in 1997 rates fell and remained low until December. The voyages from Latin America saw the weak trend continuing, with freights falling to WS 103 for 50,000 tonners, while the North Sea? United States trade paid WS 130 level for the same size. In December, the 50,000 tonners saw a different market profile in Latin America. Caribbean Sea voyages to the United States Atlantic coast paid up to WS 158, while those to the east coast of Mexico hit the WS 160 mark.

Handy-size dirty carriers

96. The unfavourable market trend continued in the early months of 1998. In May and June, 25,000 dwt class tankers were paid at WS 180 in intra-European trades. By comparison, 30,000 dwt size tonners were booked at WS 140 in the Mediterranean trades. The main focus remained on the North Sea trade routes for the months of October and November when freights for 25,000 tonners dropped to below WS 160, while very few Mediterranean cargoes of 30,000 ton lots were reportedly booked at as low as WS 110-130. In the last month, the North Sea market improved with a boost in freights to a higher level of WS 180 for 25,000 dwt tonners.

Clean-cargo carriers

97. From December 1997, the Caribbean market remained firm at up to WS 220-230, while the Mediterranean trades slipped back to WS 150 because of a lack of enquiries. This market trend continued in the early months of 1998, and then freights in all markets slowed down until September 1998. In the last two months in 1998, slightly activated chartering activities for clean cargo in the Caribbean produced a steep rise in numbers of up to WS 260 for 25,000 to 30,000 ton lots. Mediterranean demand was, however, slow, with rates for 30,000 tonners receding to WS 180.

Tanker period-charter market

98. The time-charter market in 1998 was lower than it was in the previous year. Deals were more difficult to come by in view of the uncertain immediate future of the tanker market, and consequently, rates were down in all segments compared to the interesting time-charter market seen in 1997. Charterers were not willing to commit themselves to period-time charters on the same scale as seen in previous years.

99. On the VLCC front, three major charterers committed two or more such tankers for periods varying from one to five years. The longer periods were covered by one major charterer at fixed rates in the region of $30,000 per day on newbuildings. In addition to these fixtures, a Japanese charterer secured a 300,000 dwt tanker for $37,500 per day for a period of eight months; this fixture was concluded in the middle of 1998.

100. In view of the Asian financial crisis, a number of Asian shipowners opted for selling newbuildings and then taking them back on bareboat charter for 10-year periods. Similarly, at the very end of the year, a Norwegian shipowner sold two 1998-built 300,000 tonners to a German shipowner and chartered the same vessels back for a period of up to 10 years at around $24,500 per day on average.

101. The Suezmax market was fairly active with several oil companies taking vessels for period time charter. The cover taken rarely went beyond 24 months, with the most usual period being 6 to 12 months. During the course of 1998, rates for modern double-hull vessels declined from $25,000 per day into the low $20,000 region by the end of the year.

102. Modern Aframax tankers were fixed at rates as high as $21,500 per day. An older, 1980-built unit was fixed for 12 months at a rate of $12,500 per day. Time-charter rates for product tankers dropped sharply in 1998 as reflected in the weaker spot market in 1998. A rate of $13,750 per day was paid for a vessel of 45,000 dwt, built in 1996, for three years straight time-charter. It is reasonable to expect a

continued weakening of the time-charter market as the spot market fails to materialize.

D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE

Trends in global import value and freight costs

103. Table 41 provides estimates of total freight payments for imports and the percentage of total import value by country groups. While the world total value of imports (c.i.f.) increased further by 4.29 per cent in 1997, total freights paid for transport services rose by a slightly lower rate of 4.20 per cent. The relative share of global freight payments in import value remained fairly stable at 5.24 per cent as compared to 5.25 per cent in 1996 (see graph 8). This stability has prevailed for the whole of the 1990s, despite decreases in the prices of raw materials where the incidence of freight costs is most significant. This implies an absolute decline in freight costs and is indicative of the role that maritime transport has been playing as an engine for the growth of world trade. The longer-term analysis further supports the positive role that shipping plays in the promotion of trade by reducing economic distances. In 1980 the share of freight costs in import value stood at 6.64 per cent or nearly 30 per cent above the ratio prevailing in the 1990s. The regional analysis reveals, however, that the benefits of reduced freight costs are not evenly distributed. Relative freight costs incurred in the import trades of developed market-economy countries continued to be only half as high as that of developing countries, with the gap between the two groups tending to widen. For 1997, developed market-economy countries? freight costs were 4.17 per cent, as compared to 8.04 per cent for developing countries. The reasons for this are differences in trade structures, regional infrastructure facilities, distribution systems and their management, and the more influential shipping strategy of shippers of developed market-economy countries when negotiating with shipowners or liner operators/conferences for larger cargo volumes.

Regional trends

104. Notwithstanding this general trend, there are of course large variations in freight cost ratios among the countries of each of the groups in table 41. Among the major trading nations in the group of developed market-economy countries, Canada, Germany and the United Kingdom incurred relatively low freight cost ratios of 2.40, 2.68 and 2.78 per cent, respectively. The United States and France recorded moderate ratios of 3.24, while Japan's ratio was as high as 8.13 per cent, followed by Italy (6.36 per cent) and Spain (5.58 per cent), as compared to 4.17 per cent for the overall developed market-economy countries as a group. The higher rates of these countries can be explained primarily by geo-locational factors and trade structures, but also to some extent by differences in distribution costs, including cargo-handling activities in ports.

105. The relative freight charges of developing countries steadily decreased from 10.44 per cent in 1980 to 8.04 per cent in 1997. Within this group, African countries had benefited from reduced freight charges in the 1980s, but have followed an upward trend in the present decade, with the ratio increasing from 11.05 in 1990 to 11.53 per cent in 1997. Unlike most other developing countries, African countries have only to a lesser extent ? if at all ? been able to benefit from transport improvements and corresponding cost reductions. This high ratio largely reflects insufficient infrastructure facilities, below average productivity of transport and terminal equipment and low capacity utilization due to inadequate management practices. The subregional breakdown shows that the freight ratios of West and East African countries remained at above average levels in 1997, at 12.89 and 13.83 per cent respectively, while the ratio for North African countries was 8.89 per cent, reflecting primarily trade patterns with a high share of intra-Mediterranean trade. The import trades of African landlocked countries continued to be adversely affected by high relative freight costs: the ratio for Malawi was 39.41 per cent, Rwanda 29.91 per cent, Mali 29.57 per cent, Chad 25.54 per cent and Burkina Faso 21.67 per cent.

106. Developing countries in Asia account for the vast majority of imports and consequently also of freight payments of developing countries. Both in the short and long term, freight factors have declined and reached a level of 7.95 per cent in 1997, as compared with 10.41 per cent in 1980 and 8.19 per cent in 1990. The freight factor was 8.79 per cent in West Asia in 1997, showing 13.59 per cent in the Islamic Republic of Iran and 13.07 per cent in Kuwait as the highest in this subregion. The freight factor in South and East Asia was 7.82 per cent. Among major importing countries in this group, the Republic of Korea and Singapore paid relatively low levels of freight costs at 5.22 and 5.58 per cent of import value respectively, while Malaysia and Thailand paid freight costs as high as 9.36 and 9.60 per cent respectively. India and Indonesia incurred high freight costs of 10.32 and 10.55 per cent, respectively.

Table 41

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

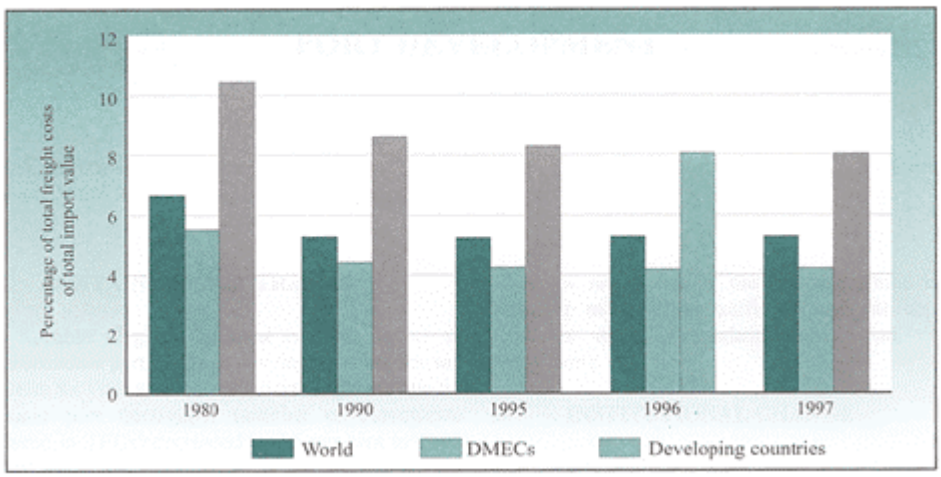
Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
1980	World total	123 264	1 856 834	6.64
	Developed market-economy countries	78 286	1 425 979	5.49
	Developing countries ? total	44 978	430 855	10.44
	of which in:			
	Africa	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 ? 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
1996	World total	259 940	4 954 040	5.25
	Developed market-economy countries	151 145	3 604 494	4.19
	Developing countries ? total	108 795	1 349 546	8.06
	of which in:			
	Africa	12 073	105 821	11.41
	America	21 929	309 560	7.08
	Asia	72 263	906 714	7.97
	Europe	1 842	21 866	8.42
	Oceania	688	5 585	12.32
1997	World total	270 868	5 166 460	5.24
	Developed market-economy countries	155 603	3 732 257	4.17
	Developing countries - 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

Source: UNCTAD secretariat on the basis of data c.i.f./f.o.b. factors supplied by IMF and IMF 's import data.

[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 data or other reasons.

Graph 8

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



Source: UNCTAD secretariat.

These variations can be explained to a certain extent by differences in trade and shipping patterns, particularly in the liner sector, where the growing importance of feeder operations tends to place those countries not covered by main line services at a relative disadvantage.

107. Developing countries in America continued to register the most favourable freight factor of all the developing countries, with 7.02 per cent in 1997 (8.85 and 8.17 per cent in 1980 and 1990). Within this region, as in the previous year, Central America had the lowest freight factor of 5.54 per cent in 1997. This favourable ratio reflects that Mexico, the biggest trading nation in the subregion, had a freight factor of only 4.42 per cent, actually accounting for 77.1 per cent of the total import c.i.f. value of the subregion and paying 61.5 per cent of the total freight costs of the subregion. In 1997, the countries of the South American eastern seaboard also paid relatively low freight costs at 6.62 per cent, while those of Uruguay were as low as 4.51 per cent. The countries of the South American western seaboard paid freight costs at the rate of 8.92 per cent. Peru paid at 16.42 per cent while all other countries in this subregion incurred rates between 6.5 and 9.5 per cent. The countries on the northern seaboard paid freights at 10.26 per cent, the second highest in this region, with Guinea paying at the higher rate of 12.85 per cent and Guyana at the lower rate of 8.95 per cent. The Latin American landlocked countries, i.e. Bolivia and Paraguay, had to bear freight charges of 11.10 and 11.33 per cent, respectively. While these were among the highest in the region they are considerably lower than those encountered in landlocked countries in other regions of the world.

108. Small island developing countries in the Caribbean and Oceania paid higher freights at 11.10 and 12.36 per cent, respectively, in 1997. These high freight costs reflect the comparatively high freight rates for ocean transport in the island developing countries. Long distances, low cargo volumes, transhipment and high feedering costs contribute to the higher level of freight charges.

Chapter V

PORT DEVELOPMENT

This chapter covers container port throughput for developing countries, institutional changes in ports and port reform in South America, and port tariff regulation.

A. CONTAINER PORT TRAFFIC

109. Table 42 gives the latest available figures on world container port traffic in developing countries and territories for 1996 and 1997. The world growth rate for container port throughput (number of movements measured in TEUs) decreased to 8.6 per cent in 1997 from 9.8 per cent in 1996, which is less than the average annual containerized trade growth of 10 per cent experienced since the late 1980s. The throughput for 1997 was over 163.74 million TEUs, which is an annual increase of slightly over 13.0 million TEUs.

110. The rate of growth for developing countries and territories was 9.3 per cent in 1997 with a total throughput of 83.3 million TEUs (accounting for slightly more than 50 per cent of total throughput), which was a decrease compared to the 10.2 per cent growth rate in 1996. Countries with double digit growth in 1996 and 1997 were the Republic of Korea, Malaysia, Mexico, Argentina, Chile, Honduras, Bangladesh, Kuwait and Morocco. The extraordinary growth that both Singapore and Hong Kong have been maintaining slowed, but it was still over 9 per cent, and gave an annual growth of over 1 million TEUs for each port. 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.

111. Initial figures for 1998 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 1998, Singapore became the world leader in total number of movements, overtaking Hong Kong, China which had a growth rate of only 0.6 per cent. This low rate is due to the fact that China is now shipping more of its traffic through its container terminals on the mainland rather than through Hong Kong.

B. INSTITUTIONAL CHANGE

112. Private firms are forming partnerships with the public sector to develop and manage container-handling facilities. Concessions and build-operate-transfer agreements (BOTs) are rapidly growing where public and private investors share financial risks. Labour is an impediment to partnerships because it resists institutional changes, as frequently the new organization requires less staff to operate the concession. Events in Chile and India have illustrated labour=s reluctance to accept these changes and at the same time their power to delay developments in the privatization procedures.

113. In 1998, the International Association of Ports and Harbors (IAPH) did a global survey of its members, and received an 80 per cent response, in order to determine the extent of the private sector=s involvement in the port industry. The vast majority of the 188 respondents, 78 were from developing countries, said that most port assets were owned by the port authority. The exception was for handling equipment for bulk terminals, where ownership was equally divided between the public and private sectors. Approximately 25 per cent of handling equipment at container and break-bulk terminals was provided and owned by private companies. The majority of port authorities were fully responsible for navigational aids, harbour master services, dredging, warehousing and port information services. Other public and private bodies provided most of the services such as pilotage, stevedoring, towage, ships agents, land transport and other shipping services. One third of the port authorities provided stevedoring

Table 42

Container port traffic of 26 developing countries and territories in 1997 and 1996 (in TEUs)

Country or territory	Container traffic 1997 [a]	Container traffic 1996	Percentage change 1997/1996	Percentage change 1996/1995
Hong Kong, China	14 667 231	13 460 373	9.0	13.6
Singapore	14 135 300	12 943 900	9.2	13.9
Taiwan Province of China	8 516 485	7 866 432	8.3	7.4
Republic of Korea	5 838 876	5 077 538	15.0	17.7
China	5 697 274	5 438 046	4.8	15.1
United Arab Emirates	3 653 578	3 750 359	-2.6	9.7
Malaysia	2 975 898	2 549 641	16.7	18.9
Philippines	2 507 473	2 338 274	7.2	-15.7
Thailand	2 100 000	2 052 296	2.3	10.8
Indonesia	1 920 363	1 764 392	8.8	7.1
South Africa	1 464 279	1 431 096	2.3	24.3
India	1 803 342	1 508 428	19.6	8.3
Brazil	1 533 786	1 424 424	7.7	22.8
Sri Lanka	1 687 184	1 356 301	24.4	5.8
Saudi Arabia	1 296 941	1 148 093	13.0	-7.9
Egypt	993 564	911 075	9.1	-4.8
Mexico	902 874	683 124	32.2	15.2
Panama	773 968	617,182	25.4	7.8
Argentina	720 247	530 336	35.8	29.3
Chile	709 103	633 124	12.0	37.0
Malta	704 427	632 048	11.5	0.5
Pakistan	505 413	555 347	-9.0	7.3
Jamaica	496 882	478 100	3.9	16.6
Côte d'Ivoire	416 111	309 713	34.4	-52.3
Cyprus	402 700	564 000	-28.6	31.6
Venezuela	385 107	245 237	57.0	1.7
Ecuador	375 894	323 377	16.2	5.6
Peru	372 351	335 795	10.9	-30.0
Honduras	365 864	316 522	15.6	10.0
Bangladesh	300 478	263 849	13.9	10.0
Lebanon	277 625	259 247	7.1	33.3
Iran, Islamic Republic of	254 454	244 450	4.1	1.4
Kuwait	*250 000*	*225 000*	11.1	25.6
Kenya	*240 000*	*220 000*	9.1	37.5
Morocco	236 034	213 014	10.8	35.9
Costa Rica	228 960	212 052	8.0	10.7
Trinidad and Tobago	209 531	200 387	4.6	30.1
Nigeria	*200 000*	180 190	11.0	-1.0
Uruguay	201 964	164 915	22.5	-2.2
Ghana	*172 300*	*152 400*	13.1	1.5
Guam	162 706	155 311	4.8	8.0
Jordan	161 000	139 317	15.6	9.9
Syrian Arab Republic	*150 000*	*135 000*	11.1	-44.0
Dominican Republic	*150 000*	*135 000*	11.1	9.0
Papua New Guinea	149 874	130 918	14.5	-3.8
Martinique	141 650	134 110	5.6	13.1
Total	81 409 091	74 409 733	9.4	- -
Other reported [b]	1 863 926	1 771 151	5.2	- -
Total reported [c]	83 273 017	76 180 884	9.3	10.2
World total	163 744 214	150 752 558	8.6	9.8

Sources:Derived from information contained in *Containerisation International Yearbook, 1999* and from information obtained by the secretariat directly from terminal operators or port authorities.

[a] Data in italics are estimates made by the UNCTAD secretariat.

[b] Comprising developing countries and territories where less than 140,000 TEU per year were reported or where a substantial lack of data was noted.

[c] 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, 1998 and 1997
(in TEUs)

Ranking 1998	Ranking 1997	Port	1998 TEU	1997 TEU	Change 1998	Change 1997
1	2	Singapore	15 100 000	14 135 000	6.8	9.1
2	1	Hong Kong, China	14 650 000	14 567 000	0.6	7.4
3	3	Kaohsiung	6 271 000	5 693 340	10.1	1.9
4	4	Rotterdam	6 030 000	5 445 000	10.7	6.8
5	5	Busan	5 320 000	5 233 880	1.6	5.0
6	6	Long Beach	4 100 000	3 504 600	17.0	11.8
7	7	Hamburg	3 560 000	3 337 480	6.7	7.7
8	9	Los Angeles	3 383 000	2 959 710	14.3	13.7
9	8	Antwerp	3 278 000	2 969 200	10.4	11.9
10	11	Shanghai	3 050 000	2 530 000	20.6	31.1
11	10	Dubai	2 804 000	2 600 100	7.8	8.6
12	12	New York	2 519 000	2 456 890	2.5	11.5
13	13	Tokyo	2 450 000	2 382 630	2.8	5.9
14	15	Felixstowe	2 360 000	2 251 380	4.8	4.0
15	-	Gioia Tauro	2 121 000	1 448 400	46.4	153.2
16	14	Yokohama	2 047 000	2 328 000	-12.1	-12.9
17	17	Kobe	1 944 000	2 056 750	-5.5	52.9
18	20	Tanjung Priok	1 898 000	1 908 700	-0.6	5.0
19	-	Bremerhaven	1 850 000	1 703 000	8.6	1.0
20	-	Algeciras	1 825 000	1 537 630	18.7	13.2

Source: *Port Development International*, January 1999.

and cargo handling services, one third of these services was provided by private companies and the remaining one third by other public organizations. Private companies have become increasingly involved in port operations a trend that is expected to continue over the next few years.

114. The worldwide alliance of container ship owners has resulted in the use of larger ships, the development of feeder networks with hub ports and a permanent demand for higher productivity and lower rates. The development of the hub and feeder network has also led to the emergence of multi-port operating companies, such as Hutchinson Port Holdings, P&O Ports, PSA Corp and Stevedoring Services of America, which operate dozens of terminals around the world. Advances in communications and information technology allow terminal operators to increase their productivity through better planning and reduced dwell time of cargo in the port.

115. The European Commission was investigating whether the planned sale of 50 per cent of the shares in European Container Terminals (ECT) to Hutchinson Port Holdings (HPH) was an obstruction to free market forces. Shipowners and competing container terminal operators claimed that ECT's position would be too dominant in northwest Europe, with HPH as a major shareholder and

the city council through the Rotterdam Municipal Port Management (RMPM) serving as both port manager as well as an ECT shareholder. On 30 July 1999, HPH and RMPM advised the Commission they had decided to abandon this transaction and HPH will only hold a 35 per cent interest. RMPM will also hold 35 per cent with the remaining 30 per cent being held by financial institutions (28 per cent) and employees (2 per cent). HPH presently operates in 17 ports including Bahamas, China, Indonesia, Myanmar and Panama. Other major terminal operators are P&O Ports (four terminals in Australia and others in Argentina, China, Hong Kong (China), India, Indonesia, New Zealand, Pakistan, Philippines, Russia, Sri Lanka, Thailand and United Kingdom); PSA Corp (in addition to four terminals in Singapore, it operates seven others in Brunei, China, India, Italy, Portugal and Yemen); and International Container Terminal Services, Inc. (ICTSI) (in addition to Manila, ICTSI operates two terminals in Argentina, two in Mexico, and one each in Pakistan and Saudi Arabia). Stevedoring Services of America (SSA) and Ceres Terminals operate mostly in the United States, but have terminals also in Panama (SSA), Canada and Ukraine (both Ceres). With the recent merger of parts of Sea-Land to A. P. Moller, Maersk/Sea-Land now operates 24 terminals, and CSX Corporation only nine.

C. PORT REFORM IN SOUTH AMERICA

116. National ports have not developed fast enough to keep up with the economic growth in South America. Only in the last three or four years have governments taken steps to handle the growing traffic. Port reform and private participation have been accepted but the rate of implementation varies greatly from country to country.[17] Privatization in Chile began in 1981, but is only now entering the final phase with the dismantling of its national port authority, Emporchi. Venezuela started privatization in 1991, and it has not yet been fully implemented. In Uruguay, steps towards privatization were started in 1992, but there have been considerable delays in awarding the concession for the container terminal. Argentina began to privatize in 1993; its largest port, Buenos Aires, is completed and work is progressing in other ports. Colombia embarked on its reform the same year; the management and operation of all its ports have been decentralized. Brazil started its reform in 1995, but its labour issues have not yet been resolved.

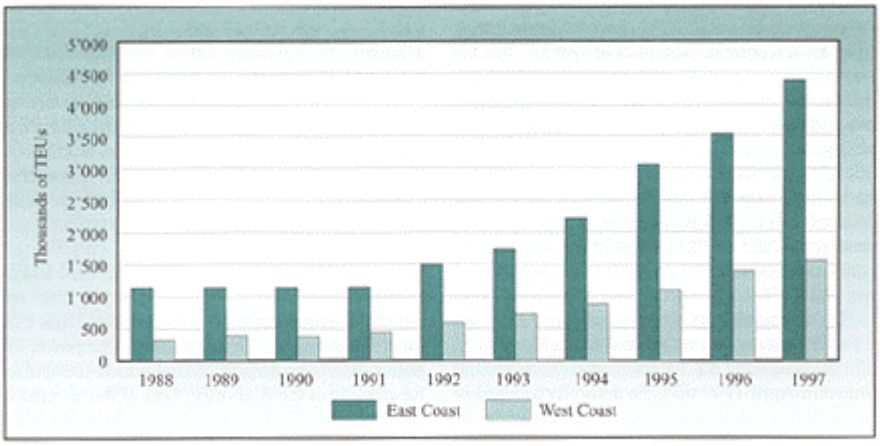
117. Ports on the South American continent still face a number of problems. Most ports cannot handle large vessels or large numbers of containers and customs delays are common.[18] Poorly maintained inland transport infrastructure is causing congestion and ports in the centres of cities have no room for expansion. Venezuela's four main ports - Puerto Cabello, La Guaira, Guanta and Maracaibo - handle 80 per cent of its imports and exports. In the year 2000, more than 65 per cent of its general cargo will be containerized but no port is capable yet of handling the container ships and there are no berths that can accommodate the weight of a ship-to-shore gantry crane. Puerto Cabello has invested in 12 mobile cranes which can be accommodated weight-wise, have a delivery and installation time of 11 to 14 weeks and cost about $3 million. Colombia's four main public ports - Cartegena, Barranquilla, Santa Marta and Buenaventura - have been transferred to the States and municipalities in which they are located, and, in turn, rent the ports to regional port companies on a 20-year non-renewable lease. These companies contract operators to manage the facilities. From 1993 to 1998, these ports reduced their operating costs by 65 per cent and increased productivity of container vessels from 10 to 40 containers per ship hour and that of general cargo ninefold to 4,500 tonnes per day. Ship time in port dropped from an average of 10 days to 15 hours and total tonnage more than doubled to 10.5 million tonnes. The port of Cartegena plans to have five post-Panamax gantries and 12 rubber tyred gantries in operation by the year 2000.

118. In Chile, the State-owned port authority, Emporchi, is being dismantled and its functions divided among 10 competitive port companies that will be responsible for the development and maintenance of infrastructure. The private sector is being given long-term operating concessions. The main container ports are Valparaiso and San Antonio, which handled 270,000 and 370,000 TEUs, respectively, in 1998. As land for expansion is limited in both these ports, the Government is promoting the construction of a new mega port, with private funds, 1,440 kilometres north of Santiago and close to Chile's largest copper-producing region. In Uruguay, there have been three attempts to grant a BOT concession for the Montevideo container terminal. Lack of political will and transparency has resulted in the successful bids being rejected in each attempt, which has raised doubts in the minds of foreign investors as to the seriousness of the Government in granting these concessions.

119. Argentina's port-reform process, which started in 1991, has increased productivity in the port of Buenos Aires by 530 per cent and reduced the workforce from 8,000 to 1,600. Three private operators have concessions for handling containers in the port and there is another operator outside the port area controlled by the Buenos Aires port authority. In 1998, these four terminals handled 1.25 million TEUs. In Brazil, the three main ports are Santos, Rio de Janeiro and Sepetiba. The law for modernizing ports was passed in 1993, but it has been difficult to implement it. Labour interests in the port of Santos strongly influenced local politicians which resulted in a lengthy tendering process. Finally, in July 1997, the authority to conduct the tender process was granted to the National Economic and Social Bank of Brazil. Within three months, a 25-year operating concession was auctioned off in public and after two months the operator had increased productivity by 40 per cent. By end-1999, the box handling tariff will have been reduced to $150 from the pre-auction tariff of $500. Since employers are not free to negotiate stevedoring arrangements, there are still some labour problems even though the number of dock workers in Santos has been reduced from 12,000 to 1,000. Because of South America? s major port reform, the long-term growth prospects for the industry are very good. Graph 9 shows how container traffic has increased in the past 10 years on the two coasts of South America.[i]

Graph 9

Growth of container throughput in South America [a]



Sources: Based on information from *Containerisation International Yearbook* (various issues) and UNCTAD secretariat estimates.

a On the east coast this includes data from the ports of Colombia, Venezuela, Brazil, Uruguay and Argentina and for the west coast Colombia (Buenaventura), Ecuador, Peru and Chile.

D. PORT TARIFF REGULATION

120. One of the principles of privatization proposed by the UNCTAD secretariat is that once awarded a concession, the private or private/public operator should be free to set tariffs, if no de facto monopoly exists. At the same time, the operator is obliged to meet all legal and fiscal requirements, and to pay corporate taxes. However, if a monopoly exists or would be created by the concession, the government should set the ceiling on the basis of the tariffs proposed in the private company=s bid.

121. In its economic reforms, the Government of India has stressed liberalizing the economy in the last five years and decided to open up the port sector for privatization. This decision was taken not merely because of a lack of resources for developing additional port capacity, but also to introduce competition between port trusts and private operators, and among the port trusts themselves.

122. Eleven major ports handle over 80 per cent of India=s import/export traffic. The Government believed, in light of India=s present stage of development, that the economy should not be exposed to any traffic destabilization in these ports and recommended a cautious approach until the pace of the privatization picked up and open market conditions stabilized. Accordingly, the Government proposed to set up a neutral body to regulate tariffs and so guard against private monopolies. The (prospective) private operators also seemed to prefer tariffs regulated by an autonomous body rather than by the port trusts or the Government.

123. In the event, the Government amended the Major Port Trusts Act and established a regulatory body. The Tariff Authority for Major Ports (TAMP) was constituted in April 1997 with the authority to regulate tariffs for both vessels and cargo and also rates for leasing of properties. This body is made up of one full-time Chairman and two part-time members.

124. The Authority=s jurisdiction is restricted to matters relating to tariffs in major ports and their BOT operators. It has no jurisdiction over the >safety= and >conservancy= aspects of port management in major ports, nor over public or private minor ports. The Authority is expected to streamline the tariff structure and the tariff-setting process. The approval of rates and the conditionalities of their application will allow the Authority to make operations more efficient. These power will provide the leverage required to have the port trusts make improvements. The regulation of tariffs is meaningful only if it improves the quality of service.

125. The Authority is expected to approve rates and conditionalities for leasing port property to ensure that it maximizes income generation so that tariffs do not have to recover all the fixed costs. It is an autonomous quasi-judicial body and is expected to introduce objectivity and transparency. Towards this end, it has decided to prepare regulations governing the modalities of its operations, its theories, principles and approaches.

126. A workshop was organized to develop guidelines for regulating tariffs. Consultations with the major ports and the Government to finalize these guidelines and approve these regulations are still in progress. Client orientation is an aspect emphasized by the Authority. Sessions are organized at the port level directly or through the Chamber of Commerce and Industry and joint hearings are held to hear any objections to proposals for changing tariffs.

127. The Authority=s decisions are final and cannot be appealed back to the Authority. For redress, aggrieved parties have to approach the High Court of Law. However, the Government has the power to issue policy directives on port pricing which could affect the functioning of the Authority. One of the benefits of this system is that the port trusts can no longer automatically pass on cost increases to users and thus have been forced to introduce methods to improve operations.

Chapter VI

TRADE AND TRANSPORT EFFICIENCY

This chapter discusses the developments in multimodal transport, the impact of the latest developments in electronic information technology, the efficiency of transport operations and the new international convention on the arrest of ships, 1999.

A. DEVELOPMENTS IN MULTIMODAL TRANSPORT

General developments

128. Growth and globalization of world economic activities continue to lead the development in the logistics market. Along with simpler procedures for the delivery of goods, consumers expect service companies to provide an efficient door-to-door delivery for a flat rate. These companies usually own entire fleets of air/land/sea vehicles and modern distribution centres. Traditional freight forwarders, on the other hand, have just begun to improve their operations through acquisitions, mergers and alliances to eliminate the gap of logistics in their global transport chain.

129. Through information and communication technology, logistics users are more informed. The airline industry, for example, uses electronic data interchange (EDI), which allows them to inform their customers of the status of their cargoes more quickly and more frequently. Many similar benefits have encouraged logistics providers to use the Internet for news and information on their transport services and products. Logistics information on the Internet ranges from such services as scheduling, cargo movement status, on-line support and reservation and price quotations, to a company's profile.

130. Steps have been taken to resolve some problems caused by the lack of a proper regulatory framework for multimodal or door-to-door transport. Some years ago, the countries members of the Cartagena Agreement, the Andean Pact,[20] agreed on a harmonized multimodal transport regime, which has now been made a law in the Andean Pact countries. In 1996, the Latin American Association for Integration (ALADI) agreed to promote a similar regime for the rest of Latin America. While it is not common law, these initiatives favour the introduction of legal regimes that have the same structure. The European Commission began studying a multimodal transport regime, which was also dealt with by the Economic Commission for Europe's Inland Transport Committee. In Asia, the ASEAN initiative to pursue an agreement similar to the Cartagena Agreement, was supposed to have been completed by the end of 1998, but had a temporary setback when one of the member countries decided to review its position. The ASEAN secretariat hopes to move forward in 1999. In addition, the International Chamber of Commerce (ICC) in Paris established an Ad Hoc Working Group on Multimodal Transport to investigate the possibilities of resurrecting the United Nations Convention on International Multimodal Transport of Goods, which had only 9 contracting parties[21] out of the 30 required for it to enter into force. The popular view was that rather than revising that Convention, the ICC should promote the UNCTAD/ICC Rules for Multimodal Transport Documents which had been introduced in 1992. Finally, the new draft legislation for the United States Carriage of Goods by Sea, which is likely to become law in 1999, is actually a multimodal transport law that goes well beyond the port-to-port limits introduced by the Hamburg Rules.

131. The initiatives show that the present situation, where no one knows what levels of responsibility will prevail and what the limits may be at the beginning of a multimodal transport, has become an impediment to efficient door-to-door transport. The use of multimodal transport documents, based mainly on the UNCTAD/ICC Rules, is increasing as companies phase out the old documents that were based on the ICC 1975 Rules for Combined Transport Documents, and which are no longer supported by the ICC.

Rail transport and landbridges

132. In 1998, there were many initiatives that helped increase the efficiency of train transport in order to improve domestic and international trade.

Liberalization is a step governments have taken towards better transport flows and networks. In 1998, for example, the Government reduced its share in India's Container Corporation (CONCOR) from 77 per cent to 51 per cent, a move intended to increase the private sector's share in the decision-making that would affect CONCOR's performance.

133. This bold move by the Indian Government came when the increase in the railway freight rate had just been announced and it was a factor that would squeeze the market for CONCOR. CONCOR must always compete with road carriers for transport containers. In 1998, Indian Railways had some 250,000 wagons with approximately a 625,000 ton capacity, which had not changed much since 1994; the volume of railway transport has not increased as much as road transport.

134. Therefore, the Indian Government has granted CONCOR more autonomy which allows CONCOR to set up joint ventures, establish subsidiaries, and help to develop ports in cooperation with the shipping industry. As a consequence, CONCOR allocated Rs 2.53 billion for terminal development, Rs 3.8 billion for rolling stock, and Rs 1.2 billion for improving terminal handling and communications technology and acquiring general-purpose containers. CONCOR has also envisaged setting up a freight-forwarding subsidiary to improve its share of general goods traffic.

135. The globalization of international trade has also led to interesting developments in rail transport in different countries. Trade and investment between China and Taiwan Province of China, for instance, have continued to improve despite their political differences. It has been projected that towards the year 2030 the volume of goods traded and transported between the two may increase to 517 million tons per year. To accommodate this increase in demand with a lower transport cost, proposals go as far as linking Taiwan Province of China with the mainland by a tunnel. One connection could be either between Jinmen and Penghu, Jinjiang and Nantou, Nanri Island and Miaoli, or Pingtan Island and Xinzhu. The Taiwanese private sector, however, has responded to the projected increase in demand for transport by investing in the development of depots in China, particularly in the Shanghai and Shenzhen ports.

136. The Republic of Korea and China also have to improve trade efficiency between them. A study, which should be completed by 2002, is being done to determine the feasibility of trains of the Republic of Korea transporting containers by ferry to ports in China and then continuing their journey on the Trans-China Railroad (TCR) and of setting up a train-ferry transportation system, with departure ports at Inchon, Pyongtaek or Kunsan-Changhang.

137. At the northern part of China's international trading link, there is a new landbridge service connecting China with Europe. The Rotterdam Municipal Port Management authority said that Rotterdam-based Multimodal Logistics is now offering a rail transport service, for containers from Rotterdam to north-west China - the Marco Polo Rail Express. There are connections at Alma-Ata and Druzhba. The approximate transit time is between two and three weeks depending on its destination in China - either Alataw-Shankou, Jinghe, Wusu, Ürümchi, Turpan, Korla or Hami/Yumen. Multimodal Logistics will have its own agents in China to handle transport and paperwork.

138. A longer landbridge, the Trans-Asia rail link, will link Singapore and Europe. The International Union of Railways originated the idea and India has decided to participate. There are, however, two incomplete railroads: one is the 500-km rail track between Zahedan and Kaharman, which is being constructed by the Islamic Republic of Iran, and the other is the 800-km track in Myanmar. Until its completion, containers will have to be transported by ship from Singapore to a port in Bangladesh or India and then by rail through Pakistan, Iran and Turkey to Europe. The transit time between Singapore and Europe will be reduced by two weeks. Each country bears the cost of closing the gap of the railway link in its own country. The link is expected to be operational by 2001 after problems of cross-border formalities are resolved.

139. In Latin America, operators are showing an interest in intermodalism, especially in landbridge services that connect the Atlantic and Pacific coasts. Last year, for instance, a proposal was made to link Bolivia's Eastern Railway and the Andean railway to establish an inter-oceanic landbridge linking the Chilean port of Arica with the Brazilian Port of Santos. The plan includes the construction of a 388-km track between Santa Cruz and Aiquile and a 100-km track to close the gap between Cerro del Mutun in Bolivia and Puerto Bush on the Brazilian border.

140. In the freight train section in Australia, a recommendation was recently made to privatize all State-owned and nationally owned freight rail operations, which excludes bids from other Government-owned companies. The infrastructure

will cost about A$ 2.75 billion in the next 13 years, and could be funded more adequately by the private sector. For railfreight operations to compete with road carriers, it was also suggested that fuel subsidies, currently shared by rural and mining industries, be extended to cover rail operations.

141. Europe handled the problem in the rail freight industry differently. Inefficiency is due to the lack of corporate accountability for the quality of its final output and cost, and is usually worsened with corporate size. Some form of decentralization is needed to remedy the situation. The recent restructuring of Intercontainer-Interfrigo (ICF), the largest pan-European intermodal networks operator, is a good example. There are now four companies responsible for each of the four corridors: the North-South corridor serving Scandinavia, Germany, Switzerland, Italy; the West corridor serving the United Kingdom, Benelux, France, the Iberian Peninsula and Italy; the South-East corridor for Austria, the Balkans and adjacent countries; and the North-East corridor serving Germany, Poland, and the Commonwealth of Independent States (CIS). Each company is a commercially-independent unit of which the participating railways are the major shareholders. The Basle office provides most of the operational services for new companies. In 1997, deliveries totaling 1,286,286 TEUs in both rail and maritime traffic across Europe were managed by ICF. Maritime traffic alone was 617,000 TEUs.

Trade facilitation initiatives: the example of Nepal

142. The Government of Nepal is making a major investment to improve its link to the sea, partly through a soft-loan credit from the World Bank and partly by the Government's contributions. Nepal will construct a large Inland Clearance Depot (ICD) at Birgunj on the border with India. The customs terminal in that town is the largest inland customs-clearance point in South Asia, and the new facility, which will be linked by direct container block-train services to Calcutta, will boost its capacity by almost 100 per cent. The two road terminals at the border towns of Biratnagar and Bhairahawa will also be enlarged and upgraded.

143. The Nepalese Government is handling the development of this improved access to the sea by combining improvements in infrastructure with a series of – software - initiatives, the largest of which is the introduction of the Automated System for Customs Data (ASYCUDA) at Nepal's main customs entry points. This work began in 1996 and will terminate in the year 2000 when the new ICD at Birgunj will begin to operate. Tracking containers between Calcutta and the three border stations will be handled by the Advance Cargo Information System (ACIS) in a special version that takes into account the fact that a large share of the land transport will continue to go by road. Streamlined procedures and the reduction and simplification of trade and transport documents will be done by the Project Implementation Unit, established by the Government. This work includes assistance to Nepal's freight-forwarding industry, modernizing transport laws, and updating insurance provisions for door-to-door transport.

144. Nepal is also trying to improve transport efficiency. For years, most Nepalese exports and imports have been delivered through the Calcutta port in eastern India. From April 1998 to January 1999, the Calcutta Dock System handled about 360,000 tons of Nepalese goods, but there were running demurrage charges at the dock of about $1.8 million. In order to lower the cost, the Government has started to convert a warehouse at the Netaji Subhas Dock at the Calcutta port into a 4900 m^2 freight station, which will be operated by the Nepalese State-owned Transit Warehousing Company. Calcutta's Haldia Dock Complex handled about 140,000 tons of Nepalese cargo between April 1998 and March 1999 and is also included in the plan which is for Nepal's Transit Warehousing Company to build a warehouse in Haldia.

Container leasing industry

145. At the beginning of 1999, the leasing fleet of containers in operation reached 5,593,880 TEUs, an increase of 7.92 per cent over the previous year, according to the Institute of International Container Lessors (IICL). A total of 5,228,880 TEUs belongs to major companies in the industry, which concentrate on leasing standard dry freight containers of various lengths (table 44).

146. In 1998, 40-foot containers were the favourite with market demand preference stronger than in 1997. This was evident from the fact that 40-foot containers had a demand preference of 1.73 in 1998 compared to 1.8 per cent in 1997. Table 45 depicts the trend of shares of 40-foot containers over 1994-1998 as a result of changes in market demand preference

Table 44

Percentage of dry freight containers owned by major companies in the leasing industry, as at the beginning of 1999

Length	Percentage
20 foot	34.96
40 foot	64.50
45 foot	0.53
48 foot	0.0005
Other	0.006

Source: Institute of International Container Lessors 11th Annual Leased Container Fleet Survey.

Table 45

Trend of shares of 40-foot leased containers due to changes in market demand preference, 1994-1998

As at beginning of	40-foot containers operated by top companies	Percentage annual change
1994	61.23	
1995	61.83	0.97
1996	62.23	0.65
1997	62.30	0.11
1998	63.42	1.80
1999	64.50	1.73

Source: Institute of International Container Lessors 11th Annual Leased Container Fleet Survey.

147. The increase of almost 8 per cent in the total world fleet of leased containers is attributed to the increase of world trade and the more competitive prices for containers in 1998. The Asian crisis, however, affected the underlying trends. For instance, 694,015 TEUs of containers acquired by major lessors in 1998 were only slightly lower than the total in 1997, due mainly to the dampening effect of the crisis on the growth of trade. The trade imbalance driven by the crisis was indirectly stated as the 4.7 per cent rate of reduction in the utilization level of leased containers during 1998. As at the beginning of 1999, the utilization level had declined to 80.94 per cent. Table 46 displays the 'less-than-full-capacity' trend of leased container utilization levels for 1995-1999. The temporary improvement in 1997 came at the advent of the crisis, when exports surged from countries with newly devalued currencies. The utilization level dropped dramatically in the following year as the trade imbalance worsened. Leasing companies, moreover, have continued operating with a costly 14 per cent to 20 per cent levels of idle containers over the past five years.

Table 46

Utilization of leased containers, 1995-1999
(in percentages)

As at 1 January	Utilization level	Percentage annual change
1995	86.95	
1996	85.37	-1.8
1997	81.55	-4.5
1998	84.93	4.1
1999	80.94	-4.7

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

148. The recent economic turmoil has been less evident from the trend of container specials operated by major leasing companies. IICL revealed that leased container specials was 9.5 per cent or 496,781 TEUs of the total leased container fleet operated by major companies at the beginning of 1999. This figure excluded the high-cube dry freight containers. Table 47 notes the changes in the composition of leased container specials at the beginning of 1999 and 1998 and also changes in the high-cube dry freight container. It is interesting that the growth of specials in the absence of high-cube dry freight containers remained between 7 and 8 per cent since 1994, consistent with the continuing growth of world trade. The only evidence of the impact of the trade imbalance was the slight drop in the share of leased specials to 9.5 per cent during 1998 from the 9.8 per cent during 1997.

149. Economies of scale were still the strategy during 1998 to deal with the depressed situation. For example, Genstar and Sea Containers merged to form GE-SeaCo operating 1,130,000 TEUs as at January 1999. Textrainer Equipment acquired the whole fleet of PrimeSource. Table 48 shows the share of leased fleets operated by major companies as at January 1999.

150. The consistent low prices of boxes also continued to attract newcomers to the industry. Pentanum Global started with a fleet of 3,000 TEUs in 1997 and expanded to acquire 12,000 TEUs more in 1998.

151. The consistent growth of world trade actually imposed a high demand for extra containers to serve the trade volumes. Trade imbalances due to Asia's depressed financial situation and the extreme drop in prices of boxes created a difficult situation for the leasing industry, as the low price of boxes motivated most shipping lines to acquire new boxes rather than secure leasing contracts. This trend was strengthened by the imbalances of trade that continued to burden leasing companies with accruing costs of idle containers that ended up in unwanted drop-off areas. The expectation that such a cost would automatically be incorporated into the freight rate had a direct effect on the demand for leased containers. Such an expectation was later confirmed by the gradual increase of freight rates from Asia during 1998

Table 47

Composition of leased container specials as at the beginning of 1999 and 1998, with changes in the high-cube dry freight containers
(in TEUs)

Type of container	As at January 1999	As at January 1998	Change (%)
High-cube dry freight	810 528	661 156	22.59
High-cube reefer	113 736	94 612	20.21
Open top/open side	137 422	127 092	8.13
Platform flats	7 177	9 200	-21.99
Collapsible flats	68 002	67 860	0.21
Other flat racks	5 148	1 770	190.85
Tank containers	20 674	19 259	7.35
Reefers	119 434	119 835	-0.33
Dry bulk	1 275	1 340	-4.89
Ventilated	9 831	9 867	-0.36
Cellular pallet wide	14 083	10 356	35.99
Others	0	1 500	-100.00
Total	1 307 310	1 123 847	16.32

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

Table 48

Share of leased fleets operated by major companies, as at January 1999
(in TEUs)

Company	**Fleet**
Transamerica Leasing	1 609 000
GE-SeaCo	1 130 000
Textainer Equipment	615 000
Triton Containers	595 000
Interpool Group	495 000
Florens Container Corporation	455 000
Cronos Group	350 000
Container Applications	285 000
Xtra International Group	255 000
Gateway Container Corporation	170 000
Capital Lease	125 000
Gold Container	75 000
United Container Systems	47 000
Amficon Container Leasing	46 000
Catu/Maritainer	45 000
Bridgehead Container Services	28 500
Carlisle Leasing	28 000
Pentanum Global	15 000
Consent Equipment	14 500
Waterfront	11 000
Others	215 000
Total operational lease	6 160 000
Estimated finance lease	920 000
Total leased fleet	7 080 000

Source: *World Cargo News*, February 1999, p. 20.

152. The overall growth of world trade continued to help spur the market demand for new containers in 1998. The world output of containers was estimated to be 1,460,000 TEUs in 1998, representing a 4.66 per cent increase over the year before. The increase, however, was weaker than the 9.84 per cent registered in 1997 (see table 49).

153. The slowdown of production in 1998 was due in part to the prevailing depressed economic situation in Asia. At the start of 1998, market demand for containers remained strong and was met with equally strong purchases of new containers. The low price of new boxes was one reason for such purchases, but the currency devaluation was another since the initial surge of export from Asia led to a high number of purchases from the region as a matter of practicality. This trend was progressively dampened by the increasing degree of trade imbalance that, in turn, resulted in the lower rate of growth of world trade. Such a slowdown affected the world production of containers almost evenly across different types (see table 50). The production in North America was notably lower than its previous year.

154. The price for new boxes continued to fall in 1998. Production in China increased from 945,000 TEUs in 1997 to 995,000 TEUs in 1998 representing almost 70 per cent of the total world production (see table 51). Chinese factories continued to concentrate on the production of dry freights and reefers. As a consequence, many other countries had lowered their supply, shown by the drop in production in the majority of Asian, Central and Eastern European countries and territories, in the Commonwealth of Independent States (CIS), and Central and South American countries. Although the Republic of Korea and Thailand were also affected, their early economic recovery, because of a more competitive exchange rate, helped improve their production.

Table 49

World container output, 1994 to 1998
(in TEUs)

Year	Output (TEU)
1994	1 140 000
1995	1 375 000
1996	1 270 000
1997	1 395 000
1998 [a]	1 460 000

Source: *Containerisation International*, January 1999, p. 54.

[a] Estimates.

Table 50

World container production by type, 1997-1998

(in TEUs)

Type of container	**1998** [a]	**1997**
Dry freight standard, including high-cube	1 200 000	1 150 000
Dry freight special	75 000	70 000
Refrigerated	95 000	92 000
Tank containers	19 000	17 000
Specific regional ? North America	18 500	21 000
Specific regional ? Europe	30 000	25 000
Specific regional ? Other	22 500	20 000
World total	1 460 000	1 395 000

Source: *Containerisation International*, January 1999, p. 55.

[a] Estimates.

Table 51

World container production by countries/regions, 1997 and 1998 (estimates)

(in TEUs)

Country or region	**1998** [a]	**1997**
China	995 000	945 000
Republic of Korea	75 000	56 000
Indonesia	47 000	50 000
Malaysia	38 000	41 000
Taiwan Province of China	35 000	37 500
India	20 000	28 000
Thailand	15 000	4 000
Other Asia	5 000	7 000
North America	25 000	21 000
Central/South America	13 000	14 000
West Europe	97 500	94 000
Central/East Europe and CIS	62 500	69 000
South Africa	26 500	25 000
Other	5 000	3 500
Total	1 460 000	1 395 000

Source: *Containerisation International*, January 1999, p. 54.

[a] Estimates.

B. ELECTRONIC COMMERCE AND ITS IMPACT ON TRANSPORT

155. Electronic commerce (e-commerce) is a generic term describing commercial transactions and related activities that rely on data processed and transmitted by electronic means. This could be by telephone, fax, television, electronic data interchange (EDI) and Internet. It also refers to institutional arrangements and activities that may influence and be affected by electronic exchange of commercial information. The *Review of Maritime Transport, 1998* provided information on developments concerning electronic transport documents. The present section examines various aspects of transport, other than documentation.

156. Electronic commerce is expected to expand rapidly and involve most businesses, institutions and individual consumers. Also it is projected that the range of products, in world trade, that will be traded electronically will increase considerably. It is therefore evident that e-commerce is a matter of concern to all economic sectors, including transport. In the area of transport, there is no doubt that e-commerce will call for fundamental changes in various ways. Providers of transport and related logistics services will have to adapt their infrastructure, marketing and customer service, so as to provide support to the electronic marketplace. The rest of this section outlines the interrelationships between the growth of e-commerce and the transport sector.

157. E-commerce involves two broad types of product. First are products for which all elements of transactions (advertising, ordering, billing, purchasing, payment and distribution) may be completed electronically. Examples of these products are software, newspapers, music, films, customer services, games and videos. The second type includes products for which transactions can be effected electronically, but the actual delivery to destination requires the use of physical transport facilities. This includes the transport of goods as well as passengers.

158. It is important to bear in mind that a number of other developments, particularly developments in industrial production systems, deregulation and globalization of economic activities generally, are having profound effects on transport. It is therefore fair to say that many of the expected impacts of e-commerce on transport will have the effect of reinforcing developments which are already affecting transport.

159. In e-commerce, transactions are faster than traditional commercial transactions. The identification of products by buyers, comparison of prices, ordering, invoicing, payment and arranging for delivery can be automated and completed over very short periods of time. Traders in e-commerce will inevitably want to link their electronic sales to a transportation or distribution system that meets their requirements. This will in turn put pressure on transportation systems to respond by providing faster, more reliable and more frequent services. Transport operators are already providing customers with speedy services. For example, some airlines offer guaranteed 'same day' deliveries, for urgent, small cargo shipments in certain regional networks. Such fast services are achieved through the extensive utilization of available flight connection, especially among lines operating through alliances.

160. E-commerce makes it possible for transactions to take place continuously, without limitations caused by distance between buyers and sellers. This means that sellers can reach a much larger number of customers, while buyers get access to potentially unlimited sources of products. Also buying and selling take place without being constrained by availability of space in warehouses and shops. All this helps to expand the scope of the market and hence the number of 'physical' origins and destinations for products to be transported. In turn, this would increase the overall demand for transportation, even though the total volume of traded goods may remain unchanged.

Greater utilization of computer and communications technology in transport operations and management

161. Given that the very essence of e-commerce is the processing of transactions by electronic means, it is inevitable that transport services and operations serving e-commerce will also need to rely to a considerable degree on information processed and transmitted electronically. Specifically, there will be increased demand for the application of advanced computer and communications technology, in order to optimize the use of existing transport networks. To a very large extent, providers of transport services are already applying state-of-the-art information technology that would support e-commerce.

162. A great deal of transport-related information is now available on the Internet. For example, in many trades agents or shippers using liner shipping now have access, on line, to information on tariffs, tariff rules and sailing schedules. In liner trades in and out of the United States, for instance, all freight rates, rate changes and terms filed with the United States Federal Maritime Commission are available on the Internet. To add to this, shipping agents and shippers can readily avail themselves with shipping software packages, either sold or offered free of charge by transport companies, which allow them to calculate, on line, rates for specific commodities and origins and destinations and to ascertain rate changes on a continuous basis. Information is also available on independent action rates and on service contracts rates. All this means that shippers or intermediaries can obtain shipping information more expeditiously, more cheaply and make more accurate rate calculations.

163. Table 52 gives examples of the range of products or services provided by transport-related enterprises through electronic means. It is evident that the growth of e-commerce will foster more widespread provision of these services. On the other hand, it can be expected that the availability of these services will in turn facilitate the growth of e-commerce itself. It is significant also to note that the greater use of Internet in transport operations is creating a large market for computer software packages developed either by transport companies or independent program developers. In time these may constitute significant trade volumes in software, most likely traded electronically.

Table 52

Examples of service providers and services provided by electronic means

Airlines - passenger and cargo	**Shipping lines**	**Seaports**	**Express mail/parcels delivery companies**	**Road transport operators**
Passenger reservation; ticketing; on-line information on passenger fares; flight schedules; flight connections; tracking of shipments; electronic payment; automated aircraft boarding; baggage reconciliation information.	On-line information on ship sailing schedules, tariffs, independent action rates and service contracts; rate changes, surcharges; calculation of rates; negotiating rates, sending shipping advice, transmitting booking requests and booking confirmation, sending packing lists, export declaration, shipping instructions, generating commercial invoices, producing bills of lading, confirmation of loading, authorizing payment, tracking of shipments.	On-line notification of port tariff schedules; control of shipping traffic, guiding into harbour ships of different characteristics; information on incoming and outgoing ships, information on dangerous substances and safety readiness in relation thereto, information on cargo characteristics, guidance into harbour ships of different characteristics.	Processing invoices and shipping labels, notifying recipients of shipment details via e-mail; tracking the status of shipments; on-line information on delivery schedules and routing, prices; delivery schedules; automated sorting of packages; shipping documentation.	En-route driver information, route guidance, traffic control, vehicle scheduling, electronic payment, on-line price information, safety readiness.

Expansion of exchanges from private networks (EDI) to open-type networks (Internet)

164. For over two decades or so, transport and other enterprises have been using computers to exchange information and thus replace paper documents, such as purchasing orders, invoices, advanced shipping notices, etc., for commercial and administrative transactions. The system that has developed, electronic data interchange (EDI), facilitates the exchange of data through a structured way which has to be familiar to both sender and receiver, through bilateral agreements and a process of standardization of the information system. The formats have been established by standards organizations. Some of these systems are unlikely to be or cannot be readily integrated into other electronic information systems directly. This tends to limit their application to specific kinds of transaction and to large enterprises and institutions. On the other hand, e-commerce and its main tool, the Internet, are essentially based on non-structured information. This makes it open and accessible to a greater number of users, including individuals. This change implies that a substantially larger volume of transport-related information will be exchanged electronically when compared to the more traditional EDI.

165. Traditionally, the transport chain has consisted of various participants, including suppliers or sellers of goods, agents, providers of transport services, retailers and the final consumer. The

emergence of e-commerce makes it possible for a given participant in the transport chain to interact quickly and at low cost with any of the participants on the chain, without following the ordered sequence on the chain. Thus, for example, an airline can deal on-line directly with passengers, without using the services of agents. A manufacturer of a product may sell directly to a distant final consumer without going through retailers or sales agents. This clearly opens totally new types of relationships and competitive forces in the transportation chain.

166. The combination of greater speed in commercial transactions and the increase in the number of trade origins and destinations will enhance the creation of new features in transportation systems. As sellers will respond quickly to orders from buyers, sizes of consignments shipped will tend to be smaller, since sellers will group consignments into bulk loads before shipment and they will be able, to a greater extent, to bypass warehouses. An outgrowth of this will be the expansion of courier and parcel services, specializing in the transportation of small consignments. This type of delivery service has enjoyed fast growth in recent years and it is expected to get a further boost from the growth of e-commerce.

167. Transport services that were traditionally protected from foreign competition, for example road and rail services as well as postal services, will become more and more exposed to competition from foreign operators offering fast, door-to-door services. The impact of this is, in part, being manifested by recent developments in some countries in which enterprises, such as national road hauliers and postal services, have expanded their operations beyond national borders, mainly as a means of countering foreign competition into their traditionally protected markets.

168. As e-commerce traders have to deal with numerous customers around the world, their transport requirements can be met by getting access to global transport and logistics networks. In this regard, experience has shown that traders prefer to use service providers that can supply comprehensive and integrated global services which traditionally have been supplied individually by forwarders, agents, transport companies and financial and insurance companies. However, because of large financial requirements for operating such integrated services, transport companies are more likely to enter into horizontal alliances with other transport service providers and also vertically with forwarders, agents, and insurance and financial institutions.

Implications for developing countries

169. Available data show that developing countries generally have a relatively small share of the world's e-commerce transactions. In large part, this is attributed to their limited access to the infrastructure needed for e-commerce, especially Internet connections. Their participation is also constrained by the high user charges for existing infrastructure, such as telephones and fax. Given that the conduct of e-commerce is closely linked to the application of advanced information technology in the supply of transport services, the lack of requisite communications infrastructure means the lack of an adequate facilitation of e-commerce in transportation systems. Therefore governments and enterprises, specifically in developing countries need to spearhead efforts in ensuring the development of communications infrastructure to support not only e-commerce transactions but also transport systems that can promote such trade.

170. As far as global transport and logistics operations are concerned, very few enterprises from developing countries have been major participants in them. It was suggested earlier that e-commerce would lead to an expansion in the demand for transport services. This could open opportunities for transport enterprises in developing countries. At this stage, it is unclear to what extent developing country enterprises could benefit from the new opportunities. However, they could participate in e-commerce through entering into alliances with established service providers in developed countries. This will help them not only to have access to trade generated from all parts of the world, but it will also allow them to acquire the required information technology.

C. INTERNATIONAL CONVENTION ON ARREST OF SHIPS, 1999

171. The Diplomatic Conference of the United Nations and the International Maritime Organization (IMO), on 12 March 1999, unanimously adopted the new International Convention on Arrest of Ships, in Geneva.

172. The preparatory work on the new Convention began following the adoption at UNCTAD in 1993 of the International Convention on Maritime Liens and Mortgages (MLM) by the UN/IMO Conference of Plenipotentiaries on Maritime Liens and Mortgages. The arrest being a means of enforcing maritime liens and mortgages, it was considered necessary to revise the 1952 Convention on Arrest of Ships so as to closely align the two conventions and to ensure that all claims giving rise to a maritime lien under the 1993 MLM would have a right of arrest under the new Arrest Convention.

173. Among the critical issues that had to be dealt with by the Conference to reach agreement was the definition of a 'maritime claim' and whether the Convention should adopt a similar approach to that of the 1952 Convention and provide for a closed list of claims giving rise to a right of arrest, or whether it should adopt a flexible approach of providing an open-ended list of claims and avoiding exclusion of genuine maritime claims from having a right of arrest. The Conference reached a compromise whereby a closed list of claims is maintained, with some flexibility in certain categories, for example, in relation to loss or damage covering environmental claims.

174. Another important issue which gave rise to a lengthy debate was the provision dealing with the so-called sister ship arrest. The text of the new Convention clearly sets out the cases in which a ship may be re-arrested or another ship arrested for the same claim; for instance, if the nature or amount of the security provided is inadequate, or when the provider of the security is unlikely to be able to fulfill his obligations.

175. Another development is that, unlike the 1952 Convention, the new instrument generally grants jurisdiction to the courts of the State in which an arrest has been made or security has been provided to obtain release from arrest. Concerning the recognition and enforcement of foreign judgements, the new Convention provides that these judgements shall be recognized and given effect with respect to the arrested ship or to the security provided in order to obtain its release, on condition that the defendant had been given reasonable notice of such proceedings and reasonable opportunity to present his case and that such recognition is not against public policy.

176. The new international rules on arrest apply to all ships, whether or not they are seagoing and whether or not they are flying the flag of a State party, although State parties can enter a reservation on this provision when acceding to the Convention.

177. The text of the Convention is deposited with the Secretary-General of the United Nations and will be open for signature by any State at the United Nations Headquarters, New York, from 1 September 1999 to 31 August 2000 and shall thereafter remain open for accession. The Convention will enter into force six months after the date on which 10 States have expressed their consent to be bound by it. Information on the number of contracting parties to selected other international conventions on maritime transport is shown in table 53.

Table 53

Signatories to selected conventions on maritime transport

Name of Convention	Number of contracting parties or countries that have ratified/acceded to the Convention	
	31 December 1995	30 June 1999
United Nations Convention on a Code of Conduct for Liner Conferences, 1974	78	78
United Nations Convention on International Multimodal Transport of Goods, 1980	7	9
United Nations Convention on Conditions for Registration of Ships, 1986	10	11
United Nations Convention on the Carriage of Goods by Sea, 1978 (Hamburg Rules)	23	26
International Convention on Maritime Liens and Mortgages, 1993	2	4

Chapter VII

REVIEW OF REGIONAL DEVELOPMENTS: LATIN AMERICAN ECONOMIC AND MARITIME TRANSPORT DEVELOPMENTS

This chapter reviews and forecasts the global and intraregional trades in Latin American developing countries, together with developments in transport and related services.

A. ECONOMIC BACKGROUND

178. Financial markets in some of the Latin American emerging-market countries, such as Brazil, Argentina, Chile and Mexico were adversely affected by the financial crisis in Asia, specifically from the last quarter of 1997. These countries in a good association and some other emerging-market countries took immediate action to tighten monetary and financial policies to ease the pressure. The fallout from the Asian crisis in Latin America was therefore relatively limited. Latin American overall financial markets stabilized after these measures were adopted and implemented. Actually the average current account balance was improved somewhat in 1998. However, this was achieved at the cost of a consequent slowdown of economic growth, which should appear in 1999 (see table 54). Some countries, particularly Brazil, have relied heavily on privatization proceeds to finance and offset significant portions of their current account deficits.

179. In general most countries in Latin America were expected to experience sharp economic slowdowns specifically after the second half of 1998 and throughout 1999 as the result of the decline in private capital inflows and the weakening of the prices of commodity exports. However, the slowdown would unlikely be prolonged, provided that there is no further deterioration in the external environment and that the countries maintain, and where necessary, strengthen the stabilization mechanisms in their financial policy frameworks.[22]

Latin America's GDP and trade growth

180. Overall Latin American GDP and trade growth slowed substantially in 1998 from the tremendously high levels recorded in 1997. Falling commodity prices, a slowdown in private capital inflows in the second half of 1998 and weaker export markets within the region and in Asia contributed to this development. Remarkable differences in economic performance occurred for the two largest economies in the region, with trade and output growth slowing strongly in Brazil, while Mexico's trade and output performance remained well above the regional average. Better access to the rapidly expanding United States market and a higher share of manufactures in its merchandise exports are among the factors that explain why Mexico's trade and output developments were superior to those of the other Latin American economies.

181. For Latin America as a whole, the growth in the volume of merchandise imports continued to exceed that of merchandise exports by a large margin, and the region's trade expansion - both imports and exports - remained stronger than the global average. Latin America's merchandise export value, on the other hand, decreased by 2 per cent in 1998, as the expansion of Mexico's exports was more than offset by the decline in exports of all other Latin American countries combined. Latin America's outstandingly strong import growth performance throughout the 1990-1997 period became less dynamic in 1998, although at 5 per cent, this region, together with Western Europe, recorded the highest import growth rate of any region. Mexico's import growth rate of 14 per cent contrasted with the relative stagnation of imports in other Latin American countries.[23]

Merchandise trade

182. Data on the foreign trade structure of Latin American countries in terms of commodity groups and direction of trade are shown in table 55. Major export items are manufactured goods (48 per cent of total exports) which are traded mainly with North America with a share of nearly two thirds of the total, and all food items (23 per cent) traded with Europe and North America. Imports are dominated largely by manufactured goods, which account for 76 per cent of the total import trade. Equal in terms of geographic structure, they are dominated by trades with North American countries (40 per cent of all imports). Intraregional trade is developing substantially, accounting for 21 per cent of all exportsand 19 per cent of all imports of Latin American countries.

183. Tables 56 and 57 provide data on selected Latin American countries' import value (f.o.b.) and volume, and their percentagewise proportion by region of origin, in 1997. All countries except Mexico imported nearly half or more of their total imports in weight from the Latin American region, with Paraguay, Peru and Bolivia's intraregional imports representing 85.7 per cent, 74.7 per cent and 74.2 per cent, respectively. However, in terms of f.o.b. value, their share fell to 63.3 per cent, 36.1 per cent and 43.9 per cent, respectively, and those of other countries also declined to around one third of the total. These variations reflect the fact that Latin American countries import more high value-added manufactures from outside the region than from inside. Mexico maintained a high level of intraregional trades with the United States and Canada - nearly 85 per cent of its total in terms of both weight and volume.

Table 54

Selected Latin American countries- real GDP, 1999-2000

Country	1997	1998	1999	2000
Latin America	**5.2**	**2.3**	**-0.5**	**3.5**
Argentina	8.6	4.2	-1.5	3.0
Brazil	3.2	0.2	-3.8	3.7
Chile	7.1	3.3	2.0	4.6
Colombia	3.1	0.2	-	3.0
Dominican Republic	8.1	7.0	7.3	6.4
Ecuador	3.5	0.2	-5.0	1.5
Guatemala	4.1	4.9	3.9	5.0
Mexico	7.0	4.9	2.0	3.0
Peru	7.2	1.5	4.5	6.5
Uruguay	5.1	4.5	-1.0	3.1
Venezuela	5.9	-0.4	-3.6	1.8

Source: IMF *World Economic Outlook*, May 1999.

Table 55

Foreign trade structure of Latin American countries, 1995

(*world total in thousands of millions of US dollars; all regional allocations in percentages)*

	World total	North America	Europe	Japan	Latin America	Others
	Value	**Percentage**				
	Exports from Latin America					
All products	230.6	47.0	17.6	3.9	21.0	10.5
of which: **All food items**	52.1	24.2	32.8	5.1	17.2	20.7
Agricultural raw materials	8.5	25.6	30.2	10.1	15.4	18.7
Ore and metals	20.8	21.0	30.2	17.5	13.3	18.0
Fuels	34.4	58.4	8.1	1.5	29.3	2.7
Manufactured goods	111.1	60.9	9.2	1.2	22.6	6.1
	World total	**North America**	**Europe**	**Japan**	**Latin America**	**Others**
	Imports to Latin America					
All products	252.5	38.3	21.4	7.3	19.2	13.8
of which: **All food items**	23.0	36.0	19.5	0.1	39.0	5.4
Agricultural raw materials	5.3	50.8	5.7	0.4	24.3	18.8
Ore and metals	5.6	32.0	8.4	0.5	49.6	9.5
Fuels	2.0	15.4	4.4	0.2	48.9	31.1
Manufactured goods	192.4	40.0	24.5	9.5	13.0	13.0

Source: UNCTAD, *Handbook of International Trade and Development Statistics, 1996-1997*, (United Nations publication, Sales No. E/F.98.11.D.16), tables 3.1 and 3.2.

Table 56

Selected Latin American countries' import f.o.b. value by region of origin, 1997
(in millions of dollars)

1997	Latin America	Europe	North America	Asia and the Pacific	Africa	Others	Total
Argentina	9 528.79	8 791.54	6 637.80	3 042.79	320.70	70.70	28 392.32
Bolivia	777.57	278.45	438.02	273.30	2.27	1.24	1 770.85
Brazil	15 895.41	18 551.56	17 554.88	8 432.06	847.40	43.83	61 325.14
Colombia	3 994.52	3 070.16	5 810.58	1 415.21	38.40	81.45	14 410.32
Ecuador	1 623.66	889.08	1 431.97	507.12	57.70	10.52	4 520.05
Mexico	2 742.34	9 991.94	91 363.61	5 560.47	140.07	9.78	109 808.21
Paraguay	1 979.68	354.31	328.01	441.51	21.87	0.12	3 125.50
Peru	2 847.96	1 430.93	2 363.79	1 225.85	16.78	0.72	7 886.03
Uruguay	1 784.00	710.26	388.08	335.79	48.53	210.99	3 477.65
Venezuela	3 192.37	2 437.13	6 378.51	1 081.58	69.23	0.00	13 158.82

Source: ECLAC, on the basis of the Data Bank of Foreign Trade of Latin America and the Caribbean.

Table 57

Selected Latin American countries' import volume by region of origin, 1997
(in thousands of tons)

1997	Latin America	Europe	North America	Asia and the Pacific	Africa	Others	Total
Argentina	13 125.90	3 452.45	3 005.28	1 608.96	1 562.01	15.38	22 769.98
Bolivia	1 149.35	80.28	231.59	87.66	1.26	0.20	1 550.34
Brazil	39 445.05	14 823.18	21 355.19	12 060.12	4 224.04	201.01	92 108.59
Colombia	6 354.78	1 362.33	5 820.81	760.30	85.86	50.00	14 434.08
Ecuador	2 419.60	588.30	1 571.56	325.04	268.45	14.83	5 187.78
Mexico	5 620.89	4 606.12	85 637.09	2 019.51	1 919.34	10.49	99 813.44
Paraguay	2 216.59	61.93	91.55	127.95	89.69	0.06	2 587.77
Peru	9 944.51	598.64	1 974.89	747.67	38.94	0.96	13 305.61
Uruguay	2 482.55	584.84	173.29	274.69	140.74	69.22	3 725.33
Venezuela	4 447.83	1 516.66	5 743.00	430.89	380.09	0.00	12 518.47

Source: ECLAC, on the basis of the Data Bank of Foreign Trade of Latin America and the Caribbean.

B. SHIPPING ACTIVITIES OF LATIN AMERICA

(a) General situation

184. The economic and industrial outlook for Latin America in the medium term is, on the whole, encouraging. Governments' policies on commerce, which focus mainly on opening the region's economies, have significantly improved the economic conditions and consequently have ushered in an era of economic stability, which is continuing to attract foreign investment. Notwithstanding these favourable circumstances, Latin America suffers from a chronic lack of presence in the shipping sector (owning only 4.4 per cent of the world fleet in terms of deadweight). On the other hand, this region provides considerable opportunities for those who are looking to enter, or expand their shipping connections with, the region. In the liner sector specifically, the region has been endeavouring to improve its ability to cope with the needs of containerized traffic. At present, a number of service providers are in the process of integrating their ? North/South? operations, while ports position themselves in the race to become ? hub ports? . On the East Coast, Brazil has a number of contenders including Rio Grande and Santos. However, Buenos Aires (Argentina) and Montevideo (Uruguay) equally might be in the picture. On the west coast, various Chilean ports will be vying with Callao (Peru) or Guayaquil (Ecuador). The competitive position of each of these ports is influenced heavily by policy decisions, particularly those on infrastructure development and on privatization. In Latin America, physical transport links have a problematic history resulting in inefficiencies. Removing the bond of the State was recognized, not only by most Latin American countries but also by local and foreign operators, as the solution to the specific Latin American transport problems.

(b) Merchant fleets in Latin America

General situation of merchant fleets

185. Table 58 provides data on the overall development of the merchant fleets of the world and Latin American countries by principal types of ship. The total tonnage of all the Latin American countries increased from 3.2 per cent of the world total in 1980 to 3.9 per cent in 1990, reaching 4.4 per cent in 1998. General cargo ships and container ships represented the most steady expansion of the world total respectively from 5.6 per cent and 0.3 per cent in 1980, to 6.1 per cent and 1.4 per cent in 1990, and to 9.5 per cent and 3.8 per cent in 1998.

186. A subregional analysis reveals that, since 1985, the total tonnage of the countries of both the East Coast and West Coast of South America has been decreasing with the exception of container ships. The fleet expansion of other Latin American regions, such as Central America, the Caribbean and Mexico, had offset the decrease of the South American countries, resulting in a continuous increase in the total fleets of Latin American countries. Container ships of Central America, the Caribbean and Mexico had constantly increased from 0.3 per cent of the world total in 1980, to 0.6 per cent in 1990 and 3.4 per cent in 1998. It has to be borne in mind, however, that approximately 75 per cent of the container ship tonnage was registered in the smaller open-registry countries, such as Antigua and Barbuda, and St. Vincent and the Grenadines. These two countries accounted for nearly 95 per cent of the container ship tonnage increase observed in 1998. Thus the container tonnage ownership position of major Latin American trading nations remains unsatisfactory.

Age distribution of the merchant fleet

187. Table 59 provides data on the age distribution of the merchant fleet of Latin American countries by types of vessel as at the end of 1998. Latin American fleets continue to be far older than the world total or developing countries' totals. The share of vessels aged 15 years and over is around 70 per cent as compared with around 50 per cent of the world total and the developing countries' total. The same general picture emerges with regard to individual ship types, except for container tonnage, where the average age of ships registered in Latin American countries is 8.95 years, as compared with 10.99 years and 11.39 years of the world total and the developing countries' total, respectively. In the majority of Latin American leading economies, i.e. Argentina, Chile, Colombia, Mexico, Peru and Venezuela, it is observed that in each of the five groups of vessel types, ships of 20 years or over account for the majority of the total tonnage. Another leading economy, Brazil, has been contributing to lowering the average ages of all types of vessel, specifically with container ships (6.98 years). Container ships of Antigua and Barbuda, and tankers and bulk carriers of Barbados stood at 7.73 years, 3.18 years and 2.38 years, respectively, reflecting a certain number of newbuildings registered under open-registry conditions.

Table 58

Merchant fleets of the world and those registered in Latin American countries, selected years 1980-1998 *(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
Latin America - total	1980	21 794	7 914	6 183	6 547	37	1 113
	1985	23 283	7 354	7 765	6 363	102	1 699
	1990	25 529	7 501	9 025	6 348	364	2 291
	1995	29 798	8 236	9 238	8 104	1 486	2 734
	1998	34 522	8 718	10 102	9 808	2 298	3 597
East Coast of South America	1980	12 649	4 866	3 893	3 491	0	399
	1985	15 345	5 576	5 749	3 173	78	769
	1990	14 459	5 119	6 303	1 907	214	916
	1995	10 650	4 652	3 975	736	326	961
	1998	8 608	3 823	2 908	635	169	1 071
West Coast of South America	1980	2 717	484	929	1 212	0	92
	1985	2 914	651	880	1 190	0	193
	1990	2 770	558	973	1 022	0	217
	1995	1 763	429	581	372	22	360
	1998	1 599	480	336	322	51	410
Others (including Caribbean, Central America, Mexico)	1980	6 428	2 564	1 361	1 844	37	622
	1985	5 024	1 127	1 136	2 000	24	737
	1990	8 300	1 824	1 749	3 419	150	1 158
	1995	17 384	3 155	4 682	6 996	1 138	1 413
	1998	24 315	4 415	6 858	8 851	2 078	2 116

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

Note: Tonnages registered in the Bahamas, Bermuda and Panama are not included in Latin American subregion total.

Table 59

Age distribution of the merchant fleet of developing countries of Latin America by types of vessel, as at 31 December 1998

(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	17.8	16.6	14.3	51.4	14.54
	Tankers	100	13.8	22.3	8.7	55.1	15.00
	Bulk carriers	100	22.3	13.7	19.3	44.7	13.56
	General cargo	100	8.9	9.2	15.6	66.3	17.28
	Container ships	100	33.9	18.2	14.8	33.0	10.99
	All others	100	14.2	14.5	14.2	57.1	15.57
Developing countries (excluding open-registry countries)	All ships	100	18.8	15.5	15.2	50.5	14.40
	Tankers	100	14.7	25.8	10.1	49.4	14.18
	Bulk carriers	100	27.2	13.4	23.3	36.1	12.22
	General cargo	100	5.5	5.0	10.2	79.3	19.13
	Container ships	100	36.2	16.4	9.1	38.3	11.39
	All others	100	10.4	11.0	13.4	65.2	16.93
Developing countries in America	All ships	100	9.9	8.3	10.9	70.8	17.66
	Tankers	100	13.2	10.5	8.0	68.3	16.99
	Bulk carriers	100	4.9	7.2	15.3	72.6	18.41
	General cargo	100	5.2	6.8	8.4	79.6	19.10
	Container ships	100	45.3	15.3	17.0	22.4	8.95
	All others	100	6.5	5.7	8.8	78.9	18.94
of which:							
Antigua and Barbuda	Tankers	100	22.1	0.0	0.0	77.9	17.58
	Bulk carriers	100	6.0	0.0	16.3	77.7	19.17
	General cargo	100	19.8	21.3	21.4	37.5	12.71
	Container ships	100	48.4	22.0	12.7	16.8	7.73
	All others	100	36.8	4.1	0.0	59.1	14.03
Anguilla	General cargo	100	0.0	0.0	0.0	100.0	22.00
Argentina	Tankers	100	19.4	0.0	0.0	80.6	18.12
	Bulk carriers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	4.2	0.0	95.8	21.37
	All others	100	1.2	5.4	15.3	78.1	19.42
Barbados	Tankers	100	94.1	0.0	0.0	5.9	3.18
	Bulk carriers	100	98.1	0.0	0.0	1.9	2.38
	General cargo	100	3.3	10.4	19.0	67.2	17.86
	All others	100	3.3	14.8	18.1	63.7	17.29
Bolivia	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
Brazil	Tankers	100	11.2	20.4	10.5	57.8	15.63
	Bulk carriers	100	6.5	13.1	21.0	59.4	16.64
	General cargo	100	19.1	32.9	2.0	46.0	13.05
	Container ships	100	50.2	0.0	49.8	0.0	6.98
	All others	100	0.1	2.4	17.8	79.7	19.84
Belize	Tankers	100	0.0	0.9	1.1	98.0	21.76
	Bulk carriers	100	0.0	0.0	0.5	99.5	21.95
	General cargo	100	0.4	1.2	1.9	96.5	21.55
	Container ships	100	0.0	0.0	51.7	48.3	16.83
	All others	100	1.5	1.7	11.2	85.6	20.33

Table 59 (continued)

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) [a]
Cayman Islands	Tankers	100	27.8	25.2	24.9	22.0	10.15
	Bulk carriers	100	0.0	0.0	67.2	32.8	15.28
	General cargo	100	0.0	1.8	41.7	56.5	17.56
	Container ships	100	0.0	0.0	54.4	45.6	16.56
	All others	100	0.0	26.3	16.7	57.1	16.40
Chile	Tankers	100	0.0	17.4	0.0	82.6	19.39
	Bulk carriers	100	0.0	0.0	11.6	88.4	20.84
	General cargo	100	0.3	0.0	8.7	90.9	21.05
	Container ships	100	15.3	44.0	0.0	40.8	12.36
	All others	100	18.5	13.5	12.0	56.0	15.08
Colombia	Tankers	100	0.0	0.0	3.2	96.8	21.68
	General cargo	100	0.0	0.0	6.1	93.9	21.39
	All others	100	0.8	2.9	8.0	88.4	20.63
Costa Rica	All others	100	0.0	8.3	0.0	91.7	20.76
Cuba	Tankers	100	0.0	0.0	45.4	54.6	17.46
	Bulk carriers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	0.2	99.8	21.98
	All others	100	0.0	0.1	0.2	99.8	21.99
Dominica	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
Dominican Republic	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
Ecuador	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	8.8	9.0	82.2	19.78
Falkland Islands [b]	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	29.7	43.5	26.8	13.20
Grenada	General cargo	100	0.0	0.0	0.0	100.0	22.00
Guyana	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	8.5	91.5	21.15
Haiti	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
Honduras	Tankers	100	0.0	0.0	1.8	98.2	21.82
	Bulk carriers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.3	0.2	2.4	97.1	21.67
	Container ships	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.3	0.2	1.8	97.7	21.73
Jamaica	Tankers	100	0.0	0.0	0.0	100.0	22.00
	All others	100	100.0	0.0	0.0	0.0	2.00
Mexico	Tankers	100	0.0	14.8	18.4	66.8	17.94
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	Container ships	100	100.0	0.0	0.0	0.0	2.00
	All others	100	0.0	4.3	5.2	90.5	20.84
Nicaragua	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	14.9	0.0	85.1	19.77
Paraguay	Tankers	100	0.0	0.0	0.0	100.0	22.00
	General cargo	100	0.0	0.0	25.7	74.3	19.43
	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

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) [a]
Peru	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	33.8	17.9	1.2	47.1	12.44
Saint Kitts and Nevis	General cargo	100	0.0	0.0	0.0	100.0	22.00
Saint Vincent and the Grenadines	Tankers	100	0.3	0.0	0.0	99.7	21.94
	Bulk carriers	100	0.7	7.9	6.7	84.8	20.03
	General cargo	100	2.5	3.8	5.3	88.4	20.40
	Container ships	100	31.1	0.0	10.0	58.9	14.78
	All others	100	13.4	4.1	4.8	77.6	18.20
Suriname	Tankers	100	0.0	49.4	50.6	0.0	9.53
	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	21.9	0.0	0.0	78.1	17.62
Turks and Caicos Islands	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
Trinidad and Tobago	General cargo	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.0	0.0	28.3	71.7	19.17
Uruguay	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	0.5	3.4	16.5	79.6	19.74
Venezuela	Tankers	100	0.0	0.0	23.6	76.4	19.64
	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
	Container ships	100	0.0	0.0	0.0	100.0	22.00
	All others	100	0.2	5.2	0.4	94.2	21.14

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.

[b] 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).

(c) Liner shipping services in Latin America

188. Latin America, specifically South America, experienced a period of rapid container traffic growth during the 1990s, with a major surge in import traffic driving the market. Trade liberalization and the breakdown of cargo reservation arrangements have been inducing significantly traffic demand, actually encouraging both North-South niche carriers and the globally operating East-West mega-carriers to enter the trades or to upgrade previously existing engagements. In trade, some consolidation is in evidence, however, there remains considerable growth potential. The current issue on liner shipping services is how relevant facilities will be improved with the aim of maximizing liner service efficiency, i.e. developing transhipment ports as hubs for the main-haul operations, and as centres for regional feederoperations.

Structure of liner-cargo movement

189. The Latin American trades in particular have been the focus of liner operators' grouping, vessel-sharing agreements and other attempts at rationalization. Some of the major east-west liner operators have been making inroads into the trades to expand their presence in this fast-growing business, while smaller carriers based in Latin America recognize the potential for an active involvement as feeder carriers in their overseas trade. Table 60 indicates liner-cargo movements between Latin American countries and the three major areas (North America, Europe and the Far East) of their trading partners. In 1998, total cargo movements amounted to 5.50 million TEUs, of which 40 per cent each were loaded and discharged on the East Coast and the Caribbean.

190. North America is the largest trading partner with a 57 per cent of the total trade, representing 3.2 million TEUs. The ratio among the East Coast, West Coast and the Caribbean stands at 20:30:50, and the ratio between import and export is 46:54. Europe traded 1.6 million TEUs, sharing one third of the total. The ratios among the East Coast, the West Coast and the Caribbean are approximately 20:50:30. The trades with Japan and the Far Eastern NIEs represent 13 per cent of the total. This trade was highly imbalanced with imports to South America and the Caribbean amounting to two thirds of the export volume only. The ratio among the West Coast, the East Coast and the Caribbean stands at 30:50:20, respectively.

Table 60

Estimated liner-cargo movements between Latin American countries and major trading partners, 1998

(in thousands of TEUs)

	United States	**Canada**	**Northern Europe**	**Southern Europe**	**Japan**	**Far Eastern NIEs**	**Total**
West Coast of South America							
Exports	248	20	125	53	73	76	595
Imports	300	39	82	55	30	30	536
East Coast of South America							
Exports	389	36	269	144	120	121	1 079
Imports	536	90	244	143	38	70	1 121
Caribbean							
Exports	658	97	197	56	34	21	1 063
Imports	679	66	158	76	54	72	1 105
TOTAL							
Exports	1 295	153	591	253	227	218	2 737
Imports	1 515	195	484	274	122	172	2 762
Total	2 810	348	1 075	527	349	390	5 499

Source: UNCTAD secretariat on the basis of data supplied by DRI/McGraw-Hill, *World Sea Trade Service Review*, Third Quarter, 1998.

Liner shipments and demand for tonnage

191. Liner shipments and demand for the relevant tonnage in the three major trade routes of South America and the Caribbean are shown in table 61. On the basis of the structure of liner cargo movement and the liner shipping mechanism, it was estimated that the total cargo quantity of the three major trades of South America and the Caribbean expand at an average annual growth rate of 6.8 per cent over the period from 1998 through to the year 2000. However the growth of trade may be given a downward adjustment as GDP growth for this region is expected to fluctuate around a lower growth path for 1999-2000. At the same time, supply of liner tonnage will increase at least at the same rate as demand generated by trade expansion.

Table 61

Estimated liner shipments and resulting tonnage requirements in the three major trades of South America and the Caribbean

Trade route		1998	1999	2000
North America (United States and Canada)	Cargo (thousand tons)	15 157	16 411	17 745
	Ships (thousand dwt)	1 648	1 784	1 929
Europe (including Mediterranean)	Cargo (thousand tons)	9 270	9 706	10 185
	Ships (thousand dwt)	1 288	1 348	1 415
Japan and Far Eastern NIEs	Cargo (thousand tons)	6 250	6 581	6 950
	Ships (thousand dwt)	672	708	747
TOTAL	Cargo (thousand tons)	30 677	32 698	34 880
	Ships (thousand dwt)	3 608	3 840	4 091

Source: UNCTAD secretariat on the basis of data supplied by DRI/McGraw-Hill, *World Seatrade Service Review*, various issues.

North-South liner services for Latin American trade

192. Table 62 summarizes container ship deployment for the North-South trades as at 1 January 1996 and 1998 respectively. Comparison of the data from 1 January 1998 to similar figures for 1 January 1996 underlines all trends which have characterized the past two years in the North-South trades. The momentum of the containerization process in this type of trade is shown in the overall figures, which rose from 384 ships in 1996 to517 ships in 1998 (up 35 per cent), the most spectacular rises being in the trades with Latin America. Table 63 indicates container carrying capacity of major operators deployed in the main North-South trades. In terms of capacity by trade, global carriers accounted for 70 per cent of multi-trade operations such as Asia/South Africa/South America and dominated in Australasia (over 50 per cent) and Africa (45 per cent). Only in Latin America were they weaker (41 per cent), owing to the strength of regional carriers (45 per cent).

193. Cooperation between liner operators has developed rather differently in the North-South than in the East-West trades, owing mostly to the varying degrees of historical involvement of specific lines in specific trades, and the small scale or complete absence of North-South activities by certain carriers. In the North-South trades, consortia have tended to be conference-based and their membership subjected to Now, thanks to the rapid increase in the container ship chartering markets (of tramp-owned ships), and the responsiveness of tramp-owners to market needs, container ship operators are able to retonnage minor trade routes also at least at a few months' notice.

194. New vessel-sharing agreements emerge very often, almost always involving larger and faster vessels, and have become so commonplace that the use of ships over-2,000 TEUs on the higher volume routes is the norm rather than the exception. The most recent developments in the North-South liner services have centred on the trade between the East Coast of the United States and that of South America. In the first, Crowley American Transport (CAT), which had introduced seven ships of 2,100 to 2,480 TEUs, announced the addition of Ivaran Lines as a slot-charterer, enabling the latter to fill the gap left by its split with Columbus/Alianca. The second involves no less considerable fluctuations reflecting changing conference positions in the trade. Larger operators now dominate in these groupings, either directly or via subsidiaries. In the traditional North-South operation, in which ships were built to serve for years, and flexibility only came through adding or withdrawing ships and amending frequency, efficient liner service has become very difficult for operators. than six carriers - Pan-American Independent Line, Zim, Di Gregorio, DSR-Senator, Cho Yang and Hanjin - filed with the United States Federal Maritime Commission (FMC) for a joint service using seven 2,100 TEU ships, which were chosen to replace the 12 smaller units currently engaged in their two separate operations. On the other hand, DSR-Senator, Cho Yang and Hanjin together schemed another development, where all three collaborated in the East-West trades. The three lines can use the operation to relay South American-bound cargoes from Europe or the Far East via United States ports; which became the third major route in the North-South trades or trade integration. In Latin America, this trend was most clearly discernible in the development of hub-port activities in Panama. Another example is Evergreen, which has this type of operation on the new United States East Coast/East Coast of South America service, thereby bringing the subregion into its worldwide network.

Table 62

Container ship deployment summary for North-South trades
(1 January 1996 and 1 January 1998)

	1 January 1996				1 January 1998			
	Vessels		Capacity		Vessels		Capacity	
	No. of ships	Percentage	TEUs	Percentage	No. of ships	Percentage	TEUs	Percentage
Global carriers	167	43.5	249 721	43.3	249	48.2	410 888	49.3
North-South carriers	97	25.3	147 307	25.6	131	25.3	215 481	25.8
Regional carriers	120	31.2	179 324	31.1	137	26.5	207 724	24.9
TOTAL	384	100.0	576 352	100.0	517	100.0	834 093	100.0

Source: LSE/Boxfile Containership database.

Table 63

Container ship carrying capacity of major operators in main North-South trades, as at 1 January 1998
(by carrier/region)

Carrier	Multi-trade		Australasia		Latin America		Africa		Total	
	Vessels	TEU Capacity	Vessels	TEU Capacity	Vessels	TEU Capacity	Vessels	TEU Capacity	Vessels	TEU Capacity
P&O Nedlloyd	10	18 803	21	38 976	9	16 150	11	19 228	51	93 157
Mediterranean Shipping Company	12	28 395	4	6 017	12	15 986	17	25 495	45	75 893
Maersk Line	1	1 613	4	6 498	18	28 041	16	19 867	39	56 019
Compañia Sudamericana de Vapores	3	4 839	-	-	21	34 582	-	-	24	39 421
SCL (Safmarine/CMBT)	-	-	-	-	-	-	17	31 566	17	31 566
Contship Containerlines	7	11 777	6	16 800	1	2 462	-	-	14	31 039
Cosco	11	20 243	7	8 820	-	-	-	-	18	29 063
NYK Line	5	8 055	7	13 096	6	7 826	-	-	18	28 977
Hamburg Süd	-	-	8	9 408	10	19 258	-	-	18	28 666
Sea-Land	-	-	-	-	16	25 467	-	-	16	25 467
Delmas (inc. ANZDL)	-	-	4	6 092	3	3 003	11	15 549	18	24 644
Wilhelmsen Lines	-	-	9	20 900	-	-	-	-	9	20 900
Evergreen	11	19 632	-	-	-	-	-	-	11	19 632
CGM	4	6 404	-	-	8	12 166	1	1 054	13	19 624
MOL	-	-	3	5 022	6	10 337	2	3 786	11	19 145
Crowley	-	-	-	-	10	18 072	-	-	10	18 072
Kien Hung	9	14 120	-	-	-	-	-	-	9	14 120
Blue Star	-	-	8	11 006	1	2 468	-	-	9	13 474
Transroll	-	-	-	-	7	12 506	-	-	7	12 506
Subtotal top 20	73	133 881	81	142 635	128	208 324	75	116 545	357	601 385
Others (42 carriers)	6	9 949	25	38 192	55	78 792	30	40 849	116	167 782
GRAND TOTAL	79	143 830	106	180 827	183	287 116	105	157 394	473	769 167

Source: LSE/Boxfile Containership database.

Ocean freight rates of liner services and overland transport charges

195. Table 64 provides data on ocean and inland freight rates quoted in inbound trades to Bolivia and Argentina via Chile. Land-transport freight for imports to Bolivia is much higher than those of any of the three ocean legs. The land portion for La Paz accounts for 52 per cent of the total freight for United States' trades, 48 per cent for Europe and 43 per cent for Asia. Similarly, that for Santa Cruz accounts for 63 per cent for United States' trades, 59 per cent for Europe and 55 per cent for Asia. On the other hand, the inland freight for imports to Mendoza (Argentina) stood at a lesser percentage portion than that to Bolivia, accounting for 38 per cent of the United States' trade and 33 per cent and 29 per cent of the European and Asian trades, respectively. Similar freight development has been observed for imports and exports to/from Bolivia in trade with Far Eastern countries (see table 65). Freights for the combined road and rail transport between Buenos Aires-San Antonio/Valparaiso are quoted at $1,800 for a 20-footer, while all-ocean transport via Cape Horn (Buenos Aires-San Antonio/Valparaiso) is quoted at $1,200 for a 20-footer and $1,600 for a 40-footer.

Table 64

Average through-rates (basic tariff rates) for imports to Bolivia (La Paz and Santa Cruz) via Chile (Arica) and imports to Argentina (Mendoza) via Chile (Valparaiso and San Antonio), 1998/1999
(in dollars per TEU)

Trade route	Ocean freight	Land-transport freight to			Additional surcharges			Total		
		La Paz	Santa Cruz	Mendoza	La Paz	Santa Cruz	Mendoza	La Paz	Santa Cruz	Mendoza
United States	1 100	1 800	2 800	800	530	530	200	3 430	4 430	2 100
Europe	1 400	1 800	2 800	800	530	530	200	3 730	4 730	2 400
Asia	1 750	1 800	2 800	800	530	530	200	4 080	5 080	2 750

Sources: ECLAC/The Chilean Chamber of Shipping; K Line, Japan.

Table 65

Average through-rates (basic tariff rates) for imports and exports to/from Bolivia (La Paz and Santa Cruz) via Chile (Arica) in trade with Far Eastern countries, 1998/1999
(in dollars per TEU)

Trade	Ocean freight	Land-transport freight		Additional surcharges	Total	
		La Paz	Santa Cruz		La Paz	Santa Cruz
Exports from Bolivia	1 280	1 800	2 800	200	3 280	4 280
Imports to Bolivia	2 000	1 800	2 800	530	4 330	5 330

Sources: ECLAC/The Chilean Chamber of Shipping; K Line, Japan.

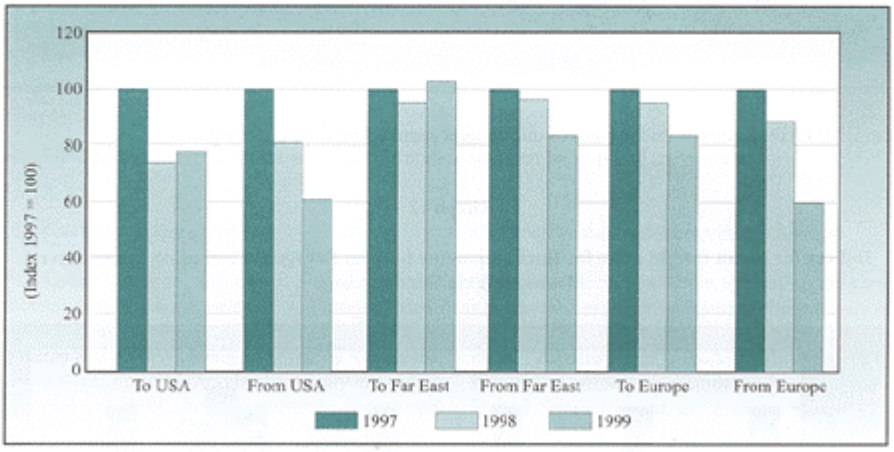
Development of ocean (liner) freight indices on major trade routes

196. Graphs 10 to 13 indicate variations during the period 1997-1999 of ocean freight rates for liner shipments, quoted for selected South American countries' (Brazil, Argentina, Paraguay and Bolivia) trades with the United States, Europe and the Far East. It is notable that freight rate indices for the four countries' trade with the United States have been continuously on the downward trend since 1997.

Looking into each country's trades, indices for Brazil on all trade routes except the outbound to the Far East in 1999 are falling year by year.[24] In Argentina, the trade with the Far East has been rather flat while the outbound trade to Europe is constantly up, albeit that the trade from Europe continued to fall. Overall indices on the trades of Paraguay are declining while those on the trades of Bolivia fluctuate less than those of the other countries. Its outbound trade to the Far East and both outbound and inbound trades with Europe indicate favourable trends.

Graph 10

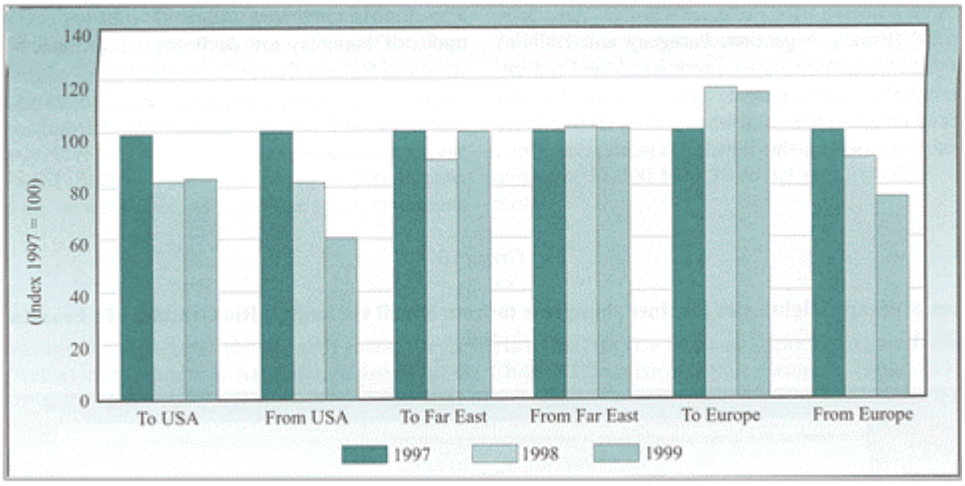
Indices of ocean freight rates for liner shipments to/from Brazil via Santos, Rio Grande, São Francisco do Sul



Source: UNCTAD secretariat on the basis of information supplied by shipping companies.

Graph 11

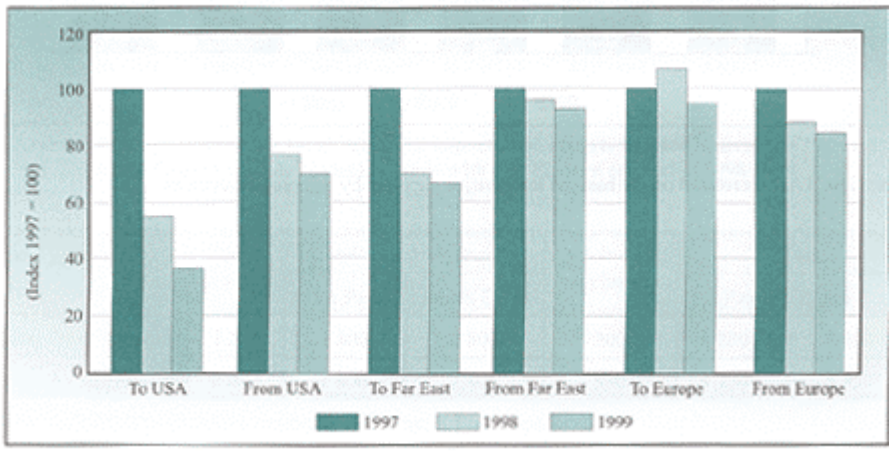
Indices for ocean freight rates for liner shipments to/from Argentina via Buenos Aires



Source: UNCTAD secretariat on the basis of information supplied by shipping companies.

Graph 12

Indices for ocean freight rates for liner shipments to/from Paraguay (including inland (river) transport) via Buenos Aires



Source: UNCTAD secretariat on the basis of information supplied by shipping companies.

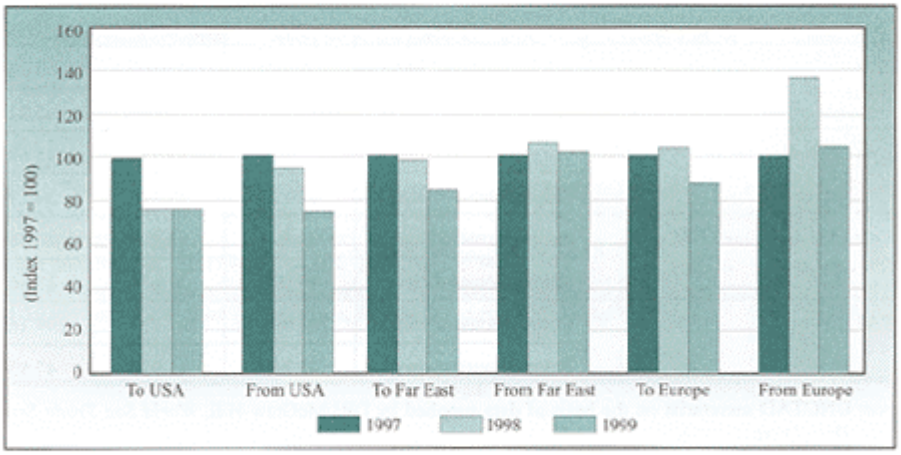
197. Latin America (South America and the Caribbean) supplies approximately one third of world seaborne iron ore trade. Brazil alone exported nearly 140 million tons in 1998, being followed by Venezuela, Chile and Peru. For coal exports, the rapidly expanding steam coal markets have increased opportunity specifically for Colombia, which shipped nearly 28 million tons in 1998, indicating prospects to reach more than 30 million tons per year in the early part of the new century. Grain is an important commodity of South America? s exports. Approximately 24 million tons of grain were exported in 1998 by Argentina where improving economic conditions encouraged investment in the agricultural sector, which was influential in increasing the exports of crops. Table 66 shows estimates of major dry bulk cargo shipments and tonnage demand. Europe remains the largest market for Latin America? s overall dry bulk cargoes. In 1999 the growth of dry bulk trades with Asia is expected to be negative, but unlike Asia, European trades continue to increase. Overall dry bulk cargo shipments and demand for tonnages are expected to expand by 1 to 2 per cent in 1999 and by higher rates in 2000.

Crude oil and oil product shipping services

198. Crude oil production in South America and the Caribbean is expected to increase continuously into the early 2000s. Venezuela, Colombia and Brazil can be main suppliers of crude oil, provided that foreign investment continues to be available. The United States remains the primary market for Latin American production, and is expected to receive 90 per cent of all Latin American shipments. For refined oil products, there is a continuing opportunity for regional oil-product-producing countries, such as Venezuela, Colombia and Brazil, to expand their market presence, especially in the United States whose refining capacity is stagnating owing to environmental costs. Table 67 shows estimates for major oil and oil product shipments and tonnage requirements. The supply and demand mechanism for crude petroleum and its products of this region is largely (nearly 90 per cent) subject to trade expansion with the United States. In these circumstances, supply and demand for these shipments is expected to grow from 3 to 4 per cent in 1999 and from 2 to 3 per cent in 2000.

Graph 13

Indices for ocean freight rates for liner shipments to/from Bolivia, including inland transport via Arica



Source: UNCTAD secretariat on the basis of information supplied by shipping companies.

Table 66

Major dry bulk shipments and corresponding dry bulk tonnage requirements in the major trades of South America and the Caribbean

Trade		1998	1999	2000
North America (United States and Canada)	Cargo (thousand tons)	65 457	65 366	66 762
	Ships (thousand dwt)	5 114	5 107	5 216
Europe (including Mediterranean)	Cargo (thousand tons)	132 748	139 288	145 643
	Ships (thousand dwt)	22 125	23 215	24 274
Japan and Far Eastern NIEs	Cargo (thousand tons)	84 692	83 077	86 761
	Ships (thousand dwt)	18 020	17 676	18 460
TOTAL	Cargo (thousand tons)	282 897	287 731	299 166
	Ships (thousand dwt)	45 259	45 998	47 950

Source: UNCTAD secretariat on the basis of data supplied by DRI/McGraw-Hill, *World Sea Trade Service Review*, Third Quarter, 1998.

Table 67

Oil and oil product shipments and corresponding tanker tonnage requirements for the major trades of South America and the Caribbean

Trade		1998	1999	2000
North America (United States and Canada)	Cargo (thousand tons)	237 672	247 329	253 921
	Ships (thousand dwt)	37 726	39 259	40 305
Europe (including Mediterranean)	Cargo (thousand tons)	17 514	17 500	17 276
	Ships (thousand dwt)	3 503	3 500	3 455
Japan and Far Eastern NIEs	Cargo (thousand tons)	6 034	5 787	5 548
	Ships (thousand dwt)	2 011	1 929	1 849
TOTAL	Cargo (thousand tons)	261 220	270 616	276 745
	Ships (thousand dwt)	43 240	44 688	45 609

Source: UNCTAD secretariat on the basis of data supplied by DRI/McGraw-Hill, *World Seatrade Service Review*, Third Quarter, 1998.

C. ESTIMATES OF FREIGHT COSTS IN LATIN AMERICAN COUNTRIES

Cost factor for import trades

199. The total value of the imports (c.i.f.) of American developing countries increased by 17.09 per cent in 1997 from the previous year, while their total freight costs rose by 16.02 per cent (see table 68). In 1997, American developing countries accounted for 22.07 per cent of the total freight costs and 25.27 per cent of the total value of imports of developing countries. The 1997 total freight costs of American developing countries as a proportion of import value improved very marginally to 7.02 per cent from 7.08 per cent in the previous year. In 1997, the freight factor for the Caribbean and North American developing countries was 11.10 per cent, the highest in this region, followed by the northern seaboard with 10.26 per cent and the western seaboard with 7.20 per cent. Freight costs of Central America amounted to 5.54 per cent, which was the lowest in American developing countries and very close to the world average of 5.24 per cent. Among the major importing countries of this group, the freight factors of Mexico, Brazil and Argentina were relatively low, at 4.42 per cent, 6.36 per cent and 6.53 per cent, respectively. The freight factors of the landlocked countries, Bolivia and Paraguay, were very high at 11.10 per cent and 11.33 per cent. Among the Caribbean island countries, the Dominican Republic, Haiti and Jamaica faced the highest charges of between 12 and 13 per cent. These variations in freight costs can be explained by geographical factors as well as by differences in trade and shipping systems and patterns, and the development of port and other infrastructures, particularly in the liner sector.

Table 68

Estimates of total freight costs of total import value in world trade by American developing countries, 1997
(millions of US dollars)

Country	Estimate of total freight costs of imports	Total import value	Freight costs as percentage of import value
Caribbean and North America			
Antigua and Barbuda	26.86	300	8.95
Bahamas	151.44	2 556	5.92
Barbados	89.19	996	8.95
Bermuda	99.31	1 109	8.95
Dominican Republic	913.74	7 112	12.85
Dominica	22.03	246	8.95
Greenland	22.68	420	5.40
Grenada	18.88	183	10.32
Guadeloupe	435.67	3 391	12.85
Haiti	118.97	926	12.85
Jamaica	383.94	3 194	12.02
Martinique	251.69	1 959	12.85
St. Kitts and Nevis	15.22	170	8.95
St. Lucia	23.28	260	8.95
St. Pierre et Miquelon	6.34	65	9.76
St. Vincent and the Grenadines	20.86	233	8.95
Trinidad and Tobago	268.47	2 728	9.84
Subtotal	**2 868.57**	**25 848**	**11.10**
Central America			
Belize	25.61	286	8.95
Costa Rica	407.87	4 284	9.52
El Salvador	323.78	3 317	9.76
Guatemala	335.92	4 048	8.30
Honduras	337.04	3 601	9.36

Country	Estimate of total freight costs of imports	Total import value	Freight costs as percentage of import value
Mexico	5 340.90	120 789	4.42
Nicaragua	126.01	1 260	10.00
Panama	1 785.37	19 075	9.36
Subtotal	**8 682.51**	**156 660**	**5.54**
South America - Northern Seaboard			
French Guyana	367.32	2 859	12.85
Guyana	49.88	557	8.95
Netherlands Antilles	374.86	3 552	10.55
Suriname	61.28	568	10.79
Venezuela	1 576.83	16 154	9.76
Subtotal	**2 430.17**	**23 690**	**10.26**
South America - Western Seaboard			
Chile	1 378.20	18 889	7.30
Colombia	990.88	15 377	6.44
Ecuador	471.26	5 169	9.12
Subtotal	**2 840.34**	**39 435**	**7.20**
South America - Eastern Seaboard			
Bolivia	210.34	1 895	11.10
Brazil	4 298.13	67 604	6.36
Falkland Islands [a]	5.66	58	9.76
Paraguay	483.19	4 264	11.33
Uruguay	167.65	3 716	4.51
Argentina	1 976.72	30 272	6.53
Subtotal	**7 141.70**	**107 809**	**6.62**
Developing countries - America	**25 442.59**	**362 453**	**7.02**
World total	**270 867.42**	**5 166 460**	**5.24**
Developed market-economy countries	**155 603.24**	**3 732 257**	**4.17**
Developing countries - total	**115 264.19**	**1 434 203**	**8.04**
***of which* in:**			
Africa	**13 599.57**	**117 928**	**11.53**
America	**25 442.59**	**362 453**	**7.02**
Asia	**73 558.32**	**924 765**	**7.95**
Europe	**1 962.94**	**23 387**	**8.39**
Oceania	**700.77**	**5 670**	**12.36**

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

[a] 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).

Modes and cost of transport in import trades

200. Table 69 and graph 14 provide information on selected Latin American countries' import volume in weight and its distribution over different modes of transport in 1997. In all the South American countries on the table, except Bolivia and Paraguay, maritime and river transport facilities carried 70 to 100 per cent of all import cargoes in terms of weight in 1997. Bolivia and Paraguay, both landlocked countries, depend largely upon land transport, representing 62.1 per cent and 49.7 per cent, respectively, whilst they use transport by water at 32.3 per cent and 48.9 per cent, respectively (see table 70). These transport structures indicate variations in transport costs. Bolivia payed $145 per ton for its imports, which is the highest among the selected countries, followed by Paraguay that paid $90 per ton. Brazil incurred the lowest costs of $31 per ton (see table 70). Again, these variations in freight costs can be due mainly to geographical factors, i.e. landlocked countries, as well as to differences in trade and shipping systems and patterns of each country, and the development of port and other infrastructures.

Table 69

Selected Latin American countries' imports volume in weight and percentagewise proportion by means of transportation, 1997

(in thousands of tons)

1997	Maritime and river transport	Air	Land	Others	Total
Argentina	19 007.44	102.06	3 604.37	56.11	22 769.98
Bolivia	500.92	16.02	962.98	70.42	1 550.34
Brazil	86 100.04	273.85	5 684.08	50.63	92 108.60
Colombia	14 036.92	275.57	32.16	89.44	14 434.09
Mexico	32 656.27	345.17	38 950.05	27 861.95	99 813.44
Paraguay	1 265.90	34.62	1 287.24	0.00	2 587.76
Peru	12 702.46	34.55	393.06	175.55	13 305.62
Uruguay	2 601.99	11.52	1 111.59	0.23	3 725.33
Venezuela	11 924.86	62.52	531.05	0.03	12 518.46

Source: ECLAC.

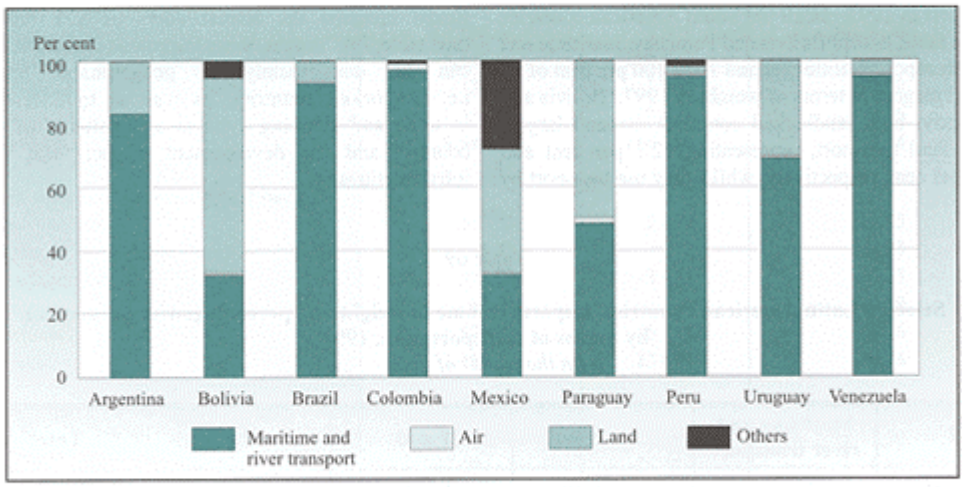
(percentage)

1997	Maritime and river transport	Air	Land	Others	Total
Argentina	83.48	0.45	15.83	0.25	100.00
Bolivia	32.31	1.03	62.11	4.54	100.00
Brazil	93.48	0.30	6.17	0.05	100.00
Colombia	97.25	1.91	0.22	0.62	100.00
Mexico	32.72	0.35	39.02	27.91	100.00
Paraguay	48.92	1.34	49.74	0.00	100.00
Peru	95.47	0.26	2.95	1.32	100.00
Uruguay	69.85	0.31	29.84	0.01	100.00
Venezuela	95.26	0.50	4.24	0.00	100.00

Source: ECLAC.

Graph 14

Modal split of selected Latin American countries' imports, 1997
(percentage of total weight)



Source: ECLAC.

Table 70

Selected Latin American countries' transport costs (freight and insurance) for maritime and river transport, 1997

1997	Weight (thousands of tons)	Transport costs (millions of dollars)	Costs per ton
Argentina	19 007.44	1 190.76	62.65
Bolivia	500.92	72.41	144.55
Brazil	86 100.04	2 659.66	30.89
Colombia	14 036.92	736.16	52.44
Mexico	32 656.27	-	-
Paraguay	1 265.90	114.01	90.06
Peru	12 702.46	541.39	42.62
Uruguay	2 601.99	139.91	53.77
Venezuela	11 924.86	-	-

Source: ECLAC, on the basis of the Data Bank of Foreign Trade of Latin America and the Caribbean.

Notes

1. This section is based on UNCTAD's analysis of the world economic performance and prospects contained in UNCTAD, *Trade and Development Report, 1999*, New York and Geneva, 1999.

2. *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1998*.

3. *International Bulk Journal*, various issues; DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter 1998; Fearnleys (Oslo), *Review 1998*.

4. *International Bulk Journal*, various issues; DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter 1998; Fearnleys (Oslo), *Review 1998*.

5. *International Bulk Journal*, various issues; International Wheat Council, *Grain Market Report*, April 1999; Nippon Yusen Kaisha, *Illustrated Review and Outlook of the Shipping Market*, October 1998; DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter 1998; Fearnleys (Oslo), *Review 1998*.

6. DRI/McGraw-Hill, World Sea *Trade Service Review*, Fourth Quarter 1998; various specialized sources.

7. Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics, 1999*, various issues; Drewry Shipping Consultants, *Shipping Statistics and Economics*, various issues; Fearnleys (Oslo), *Review 1998*.

8. For a more detailed discussion, see Dr. P. Faust, Maritime Transport Market and Policy Developments, published by the Maritime Institute of Malaysia (MIMA), 1998.

9. International Iron and Steel Institute figures.

10. *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1998*; Nippon Yusen Kaisha, *Illustrated Review and Outlook of the Shipping Market*, October 1998.

11. Ibid.

12. *International Bulk Journal*, various issues; International Grains Council (London), various reports.

13. *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1998*; Nippon Yusen Kaisha, *Illustrated Review and Outlook of the Shipping Market*, October 1998; Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1999*.

14. *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1998*; Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1999*.

15. Fearnleys (Oslo), *Review 1998*; Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1999*.

16. *Petroleum Economist*, March 1999.

17. Sid CASS; South American Ports: An overview of growth, privatisation and future developments; Seaport Professional; http://cargohandling.seaport-net.com/wbi/library/spn/authors/S.Cass/0001/0001.htm.

18. For example, in Buenos Aires it has been reported that 83 per cent of the two hour vehicle turnaround time is attributable to Customs authorities.

19. See page 21 of the study "*Guidelines for Port Authorities and Governments on the Privatization of Port Facilities*" (UNCTAD/SDTE/TIB/1), 1998.

20. Bolivia, Colombia, Ecuador, Peru, and Venezuela.

21. Burundi, Chile, Georgia, Malawi, Mexico, Morocco, Rwanda, Senegal, and Zambia.

22. IMF, *World Economic Outlook*, May 1998, October 1998 and May 1999.

23. World Trade Organization, Press Release PRESS/128, 16 April 1999.

24. Recent press releases indicate, however, that carriers appear to resort to surcharges to improve the revenue situation. The imposition of an "equipment imbalance surchage" of $250 per TEU and a "port origin surchage" of between $150 and $200 per box in the Brazil-United States trade would be an example thereof. See *Deutsche Verkehrs-Zeitung* (DVZ), 30 March 1999.

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
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 C Northern Seaboard*

Guyana
French Guyana
Netherlands Antilles
Suriname
Venezuela

Code 9.4 *South America C Western Seaboard*

Chile
Colombia
Ecuador
Peru

Code 9.5 *South America C Eastern Seaboard*

Argentina
Bolivia
Brazil
Falkland Islands (Malvinas) [a]
Paraguay
Uruguay

Code 10 - 10.1 *Western Asia*

Bahrain
Cyprus
Iran (Islamic Republic of)
Iraq
Jordan
Kuwait
Lebanon
Oman
Qatar
Saudi Arabia
Syrian Arab Republic
United Arab Emirates
Yemen

Code 10.2 *Southern and Eastern Asia*

Bangladesh
Bhutan
Brunei Darussalam
Cambodia
Hong Kong, China
India
Indonesia
Macau
Malaysia
Maldives
Myanmar
Pakistan
Philippines
Republic of Korea
Singapore
Sri Lanka
Thailand

Code 11

Bosnia and Herzegovina
Croatia
Malta
Slovenia
Yugoslavia

Code 12

American Samoa
Christmas Island (Australia)
Fiji
French Polynesia
Guam
Kiribati
Nauru
New Caledonia
Papua New Guinea
Samoa
Solomon Islands
Tonga
Tuvalu
Vanuatu
Wake Island

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 and 1999B2000 (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	505.3	274.3	71.4	170.1	515.7
	1990	1.4	25.8	515.1	542.3	274.9	100.8	227.6	603.3
	1998	2.0	31.0	658.9	691.9	384.0	136.0	306.7	826.7
	1999	2.0	31.6	674.8	708.4	397.8	141.6	313.2	852.6
	2000	2.0	32.4	707.0	741.4	402.1	145.2	328.2	875.5
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	-	7.7	98.7	106.4	259.8	102.7	539.9	902.4
	2000	-	7.9	103.4	111.3	262.6	105.4	569.5	937.5
Australia and New Zealand	1970	-	1.3	92.3	93.6	18.8	2.9	15.4	37.1
	1980	-	1.5	148.4	150.0	9.8	6.6	13.5	29.9
	1990	9.2	1.5	266.3	277.0	8.6	7.2	18.1	33.9
	1998	12.0	1.8	350.2	364.0	17.0	8.0	22.8	47.8
	1999	12.1	1.8	350.0	363.9	17.9	8.2	23.3	49.4
	2000	12.2	1.9	374.9	389.0	18.1	8.4	24.4	50.9
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	562.3	585.5	145.1	680.5	1 411.1
	1990	162.1	124.2	482.2	768.5	446.8	172.7	763.2	1 382.7
	1998	175.8	140.6	615.5	931.9	482.2	150.0	978.6	1 610.8
	1999	178.9	147.6	628.1	954.6	486.5	151.7	1 004.6	1 642.8
	2000	180.9	151.3	658.2	990.4	491.9	155.7	1 052.1	1 699.7
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	-	-	107.9	107.9	26.2	1.0	11.5	38.7
	2000	-	-	112.9	112.9	26.5	1.0	12.1	39.6
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	2 595.2
	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	193.0	188.7	1 859.5	2 241.2	1 188.2	405.2	1 892.5	3 485.9
	2000	195.1	193.5	1 956.4	2 345.0	1 201.2	415.7	1 986.3	3 603.2
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	48.9	53.0	93.9	195.8	23.2	1.3	140.1	164.6
	2000	49.4	54.4	98.4	202.2	23.5	1.3	146.8	171.6

Area [b]	Year	Goods loaded				Goods unloaded			
		Oil				Oil			
		Crude	Products [c]	Dry cargo	Total all goods	Crude	Products [c]	Dry cargo	Total all goods
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	1.3	80.4	105.6
	1998	24.0	5.0	66.1	95.1	39.0	13.1	107.3	159.4
	1999	24.2	5.1	67.5	96.8	38.4	12.7	110.2	161.3
	2000	24.5	5.2	70.6	100.3	38.6	13.0	115.5	167.1
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	233.6	24.2	36.8	294.6	69.6	4.6	67.9	142.2
	2000	236.2	24.9	38.6	299.7	70.4	4.7	71.2	146.3
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	142.1	3.6	64.0	209.7	4.5	3.3	32.8	40.6
	2000	143.7	3.7	67.1	214.5	4.5	3.4	34.4	42.3
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	7.1	3.1	18.0	28.2
	2000	-	0.5	11.3	11.8	7.2	3.2	18.9	29.3
Subtotal: Developing countries in Africa	1970	281.9	7.8	105.9	395.6	19.0	12.5	41.0	72.5
	1980	290.3	5.3	103.1	398.7	60.5	9.5	85.6	155.6
	1990	309.8	35.5	96.5	441.8	73.8	10.1	101.5	185.4
	1998	372.8	29.0	109.3	511.1	80.5	10.7	116.2	207.4
	1999	375.7	28.3	111.6	515.6	81.2	11.0	118.7	210.9
	2000	379.9	29.1	117.0	526.0	82.1	11.3	124.5	217.9
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	102.0
	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	143.3	30.1	61.0	234.4	37.3	11.7	44.6	93.6
	2000	144.9	30.9	63.9	239.7	37.7	12.0	46.7	96.4
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	20.1
	1990	17.4	8.2	36.0	61.6	3.5	1.3	14.4	19.4
	1998	25.0	10.0	45.5	80.5	4.0	1.5	18.4	23.9
	1999	25.2	10.2	46.5	81.9	4.0	1.5	18.8	24.3
	2000	25.5	10.5	48.7	84.7	4.0	1.5	19.7	25.2
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	117.2	35.3	276.0	428.5	41.9	4.6	60.8	107.3
	2000	118.4	36.2	289.0	443.6	42.4	4.7	63.6	110.7

Area [b]	Year	Goods loaded				Goods unloaded			
		Oil				Oil			
		Crude	Products [c]	Dry cargo	Total all goods	Crude	Products [c]	Dry cargo	Total all goods
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	318.6
	1990	171.1	55.5	298.3	524.9	75.0	16.8	95.5	187.5
	1998	276.1	75.0	371.9	723.0	82.5	17.5	121.5	221.5
	1999	285.7	75.6	383.5	744.8	83.2	17.8	124.2	225.2
	2000	288.8	77.6	401.6	768.0	84.1	18.2	130.0	232.3
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	68.4
	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	668.3	96.0	36.9	801.2	18.2	7.1	121.5	146.8
	2000	675.6	98.2	38.7	812.8	18.4	7.3	127.3	153.0
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	67.1	111.8	377.0	555.9	217.9	76.5	533.5	827.9
	2000	67.8	114.7	394.8	577.3	220.3	78.5	563.2	862.0
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	218.5	356.2
	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	735.4	207.8	413.9	1 357.1	236.1	83.6	655.0	974.7
	2000	743.4	213.2	433.5	1 390.1	238.7	85.8	690.5	1 015.0
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	8.1	2.5	18.4	29.0
	2000	-	1.0	9.2	10.2	8.2	2.6	19.3	30.1
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	5.5
	1999	-	0.5	11.6	12.1	-	2.5	3.0	5.5
	2000	-	0.5	12.2	12.7	-	2.6	3.1	5.7
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	406.6	838.9
	1990	1 023.9	255.6	693.7	1 973.0	323.5	80.3	688.2	1 092.0
	1998	1 374.0	309.8	900.3	2 584.1	405.0	115.2	902.9	1 423.1
	1999	1 396.8	313.2	929.4	2 639.4	408.6	116.4	919.3	1 444.3
	2000	1 412.1	321.4	973.5	2 707.0	413.1	119.5	967.4	1 500.0
World total	1970	1 109.8	332.4	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	1 287.2	467.6	2 253.0	4 007.4	1 335.0	445.9	2 365.0	4 145.9
	1998	1 632.8	547.7	2 883.9	5 064.4	1 631.2	524.9	2 993.3	5 149.4
	1999	1 662.9	560.0	2 950.3	5 173.2	1 658.4	535.6	3 062.1	5 256.1
	2000	1 681.1	574.5	3 098.9	5 354.5	1 676.4	549.5	3 216.0	5 441.9

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 31 December 1998

(in grt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total [d]	**534 624 823**	**152 869 044**	**156 977 987**	**91 223 128**	**53 396 718**	**80 157 946**
Developed market-economy countries						
Australia	2 214 405	246 822	892 742	57 409	81 018	936 414
Austria	68 034	..	..	68 034	..	..
Belgium	134 786	3 596	..	1 474	..	129 716
Canada	1 261 803	255 818	108 371	112 819	1 714	783 081
Denmark	5 775 554	379 376	522 252	695 117	2 569 998	1 608 811
Finland	1 668 417	302 731	90 204	497 504	..	777 978
France	4 853 990	2 322 747	354 309	356 112	507 119	1 313 703
Germany	8 116 775	8 747	2 460	1 119 666	6 249 982	735 920
Gibraltar	314 178	233 546	..	7 746	47 229	25 657
Greece	25 303 239	12 643 499	8 763 756	813 311	1 159 592	1 923 081
Iceland	198 359	2 133	415	2 690	9 650	183 471
Ireland	184 670	191	..	78 925	5 006	100 548
Israel	751 614	1 270	..	8 374	732 488	9 482
Italy	6 831 975	1 554 123	1 524 905	1 027 898	376 996	2 348 053
Japan	17 824 067	5 435 333	3 892 641	2 313 106	856 381	5 326 606
Luxembourg	1 089 657	402 091	86 374	79 290	..	521 902
Netherlands	5 352 054	151 744	75 863	1 951 891	1 395 692	1 776 864
New Zealand	350 494	80 152	12 456	72 565	..	185 321
Norway	23 309 102	8 993 460	4 167 798	4 075 976	79 797	5 992 071
Portugal	1 139 338	423 306	187 923	282 696	21 431	223 982
South Africa	422 115	3 658	..	437	268 518	149 502
Spain	1 838 927	584 999	42 150	298 913	102 545	810 320
Sweden	2 559 058	104 662	31 831	1 482 594	..	939 971
Switzerland	421 563	..	387 526	4 294	..	29 743
Turkey	6 255 232	503 459	4 023 432	1 208 096	107 696	412 549
United Kingdom	8 554 643	2 661 538	830 705	694 295	1 368 651	2 999 454
United States	18 219 086	7 287 821	1 905 308	1 851 582	3 878 304	3 296 071
Subtotal	145 013 135	44 586 822	27 903 421	19 162 814	19 819 807	33 540 271
Open-registry countries						
Bahamas	27 753 348	11 982 121	4 990 293	6 151 877	1 044 914	3 584 143
Bermuda	4 814 008	2 144 240	1 089 072	230 796	553 721	796 179
Cyprus	23 459 280	4 004 318	11 022 626	4 986 315	2 316 428	1 129 593
Liberia	60 864 696	26 632 869	16 734 345	4 643 229	4 484 184	8 370 069
Malta	24 200 577	9 950 532	8 615 901	4 121 439	618 586	894 119
Panama	99 785 210	23 129 764	40 790 129	15 422 013	11 907 409	8 535 895
Vanuatu	1 603 263	11 352	708 027	509 873	..	374 011
Subtotal	242 480 382	77 855 196	83 950 393	36 065 542	20 925 242	23 684 009
Central and Eastern Europe and former USSR						
Albania	28 671	..	..	26 432	..	2 239
Armenia	..	..	..	0	..	..
Azerbaijan	657 250	176 101	..	93 716	..	387 433
Belarus	..	..	..	..	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Bulgaria	1 091 458	145 191	532 016	303 138	56 380	54 733
Czech Republic	..	..	..	..	..	..
Estonia	524 838	7 287	96 302	203 152	..	218 097
Georgia	122 658	72 900	230	8 850	..	40 678
Hungary	15 285	..	..	15 285	..	..
Kazakhstan	9 253	..	..	1 677	..	7 576
Kyrgyzstan	..	..	..	..	..	..
Latvia	125 059	8 877	..	29 148	..	87 034
Lithuania	482 674	4 097	109 615	204 015	..	164 947
Moldova	..	..	..	..	..	..
Poland	1 431 136	5 314	1 082 451	90 180	..	253 191
Romania	2 089 362	203 669	788 134	889 575	15 160	192 824
Russian Federation	11 211 477	1 608 209	1 030 931	3 954 094	278 572	4 339 671
Slovakia	15 191	..	..	15 191	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	39 228	1 896	..	16 577	..	20 755
Ukraine	2 080 592	62 249	207 356	964 053	37 018	809 916
Former USSR [e]	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	19 924 132	2 295 790	3 847 035	6 815 083	387 130	6 579 094
Socialist countries of Asia						
China	16 507 701	2 029 251	6 832 458	4 947 570	1 349 451	1 348 971
Democratic People's Republic of Korea	631 397	6 251	49 971	470 094	..	105 081
Viet Nam	788 772	63 197	94 175	454 419	..	176 981
Subtotal	17 927 870	2 098 699	6 976 604	5 872 083	1 349 451	1 631 033
Developing countries of Africa						
Algeria	1 004 690	33 423	172 360	227 003	..	571 904
Angola	73 907	3 007	..	39 205	..	31 695
Benin	906	..	..	..	..	906
Cameroon	12 918	..	..	..	..	12 918
Cape Verde	19 909	1 151	..	7 387	5 589	5 782
Comoros	1 202	..	..	609	..	593
Congo	3 788	..	..	..	..	3 788
Côte d'Ivoire	9 508	789	..	..	..	8 719
Democratic Republic of the Congo	..	..	..	..	..	..
Djibouti	3 967	..	..	1 967	..	2 000
Egypt	1 441 771	210 528	613 067	394 833	14 063	209 280
Equatorial Guinea	58 506	5 105	..	12 998	..	40 403
Ethiopia	82 503	2 492	..	80 011	..	..
Gabon	26 532	652	11 829	5 887	..	8 164
Gambia	2 436	..	..	..	..	2 436
Ghana	115 622	5 971	199	11 382	..	98 070
Guinea	11 455	..	..	808	..	10 647
Guinea-Bissau	6 079	..	..	1 640	..	4 439
Kenya	20 864	4 708	..	2 611	..	13 545
Libyan Arab Jamahiriya	571 959	395 443	..	82 025	..	94 491
Madagascar	41 705	10 734	..	16 443	..	14 528
Malawi	..	..	..	..	..	..
Mauritania	47 959	..	..	299	..	47 660

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Morocco	443 970	12 476	..	118 197	16 858	296 439
Mozambique	35 311	..	..	6 594	..	28 717
Nigeria	453 171	251 677	..	121 721	..	79 773
St. Helena	789	..	..	..	..	789
Sao Tome and Principe	10 242	998	..	4 387	..	4 857
Senegal	50 610	..	..	3 773	..	46 837
Seychelles	17 699	..	..	3 520	..	14 179
Sierra Leone	18 792	1 105	..	490	..	17 197
Somalia	11 438	851	..	3 312	..	7 275
Sudan	43 078	832	..	39 927	..	2 319
Togo	1 608	..	..	..	..	1 608
Tunisia	193 480	21 733	27 342	38 746	..	105 659
Uganda	3 394	..	..	3 394	..	..
United Republic of Tanzania	36 653	4 367	..	20 632	..	11 654
Subtotal	5 084 735	968 042	828 719	1 340 220	127 298	1 820 456
Developing countries of America						
Anguilla	1 387	..	..	1 278	..	109
Antigua and Barbuda	2 787 829	6 790	293 933	1 279 740	1 177 928	29 438
Argentina	526 185	101 931	33 678	112 428	..	278 148
Barbados	687 586	349 673	161 636	111 247	..	65 030
Belize	2 382 692	359 667	178 302	1 288 255	111 723	444 745
Bolivia	15 583	..	6 997	8 586	..	..
Brazil	4 186 957	1 831 683	1 500 925	343 575	133 922	376 852
Cayman Islands	1 284 774	317 685	454 671	328 360	59 362	124 696
Chile	757 913	100 118	188 203	146 067	41 311	282 214
Colombia	111 936	5 962	..	77 970	..	28 004
Costa Rica	5 613	..	..	..	..	5 613
Cuba	157 847	7 766	2 316	82 875	..	64 890
Dominica	2 522	..	..	1 811	..	711
Dominican Republic	8 989	..	..	5 363	..	3 626
Ecuador	207 020	128 360	..	2 319	..	76 341
El Salvador	1 479	..	..	..	..	1 479
Falkland Islands [f]	38 729	..	..	735	..	37 994
Grenada	887	..	..	779	..	108
Guatemala	776	..	..	..	..	776
Guyana	16 260	125	..	8 024	..	8 111
Haiti	1 323	..	..	1 043	..	280
Honduras	1 085 174	108 245	77 373	573 627	8 220	317 709
Jamaica	3 647	1 930	..	..	..	1 717
Mexico	1 086 908	409 185	..	18 967	123 884	534 872
Montserrat	..					
Nicaragua	4 293	..	..	498	..	3 795
Paraguay	44 906	4 480	..	31 001	823	8 602
Peru	285 659	47 462	..	52 100	..	186 097
Saint Kitts and Nevis	300	..	..	300	..	..
Saint Lucia	..					
Saint Vincent and the Grenadines	7 875 789	912 963	2 834 509	3 080 023	229 832	818 462
Suriname	6 154	1 842	..	2 525	..	1 787
Trinidad and Tobago	18 550	..	..	2 604	..	15 946
Turks and Caicos Islands	975	..	..	227	..	748

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Uruguay	106 880	48 034	..	627	..	58 219
Venezuela	665 348	222 059	125 522	55 159	953	261 655
Virgin Islands, British	3 973	..	..	1 217	..	2 756
Subtotal	24 372 843	4 965 960	5 858 065	7 619 330	1 887 958	4 041 530
Developing countries and territories of Asia						
Bahrain	284 059	53 551	33 149	63 992	96 308	37 059
Bangladesh	413 782	59 400	5 672	316 390	..	32 320
Brunei Darussalam	362 064	239	..	2 018	..	359 807
Cambodia	..					
Hong Kong, China	6 257 405	340 185	4 294 234	628 243	898 962	95 781
India	6 810 959	2 560 231	2 832 464	514 628	83 429	820 207
Indonesia	3 261 950	848 680	358 314	1 299 684	89 723	665 549
Iran, Islamic Rep. of	3 365 017	1 592 055	990 080	594 537	10 145	178 200
Iraq	511 080	361 306	..	76 933	..	72 841
Jordan	42 100	..	20 576	15 539	5 097	888
Kuwait	2 459 004	1 662 323	17 012	226 857	214 436	338 376
Lebanon	263 479	842	107 766	145 170	5 378	4 323
Malaysia	5 276 534	912 053	1 447 514	729 767	654 028	1 533 172
Maldives	101 103	6 143	..	88 286	..	6 674
Myanmar	500 306	2 935	283 117	163 200	24 415	26 639
Oman	20 153	313	..	2 544	..	17 296
Pakistan	401 434	49 595	125 257	179 712	31 707	15 163
Philippines	8 509 069	162 124	5 597 365	1 960 101	137 941	651 538
Qatar	744 519	262 604	141 617	131 394	181 948	26 956
Republic of Korea	5 694 869	327 758	2 809 238	823 169	807 845	926 859
Saudi Arabia	1 284 592	220 504	..	592 294	222 425	249 369
Singapore	20 417 931	8 781 299	4 599 496	2 642 319	3 066 682	1 328 135
Sri Lanka	189 213	4 629	77 191	96 308	..	11 085
Syrian Arab Republic	432 756	..	22 101	401 682	..	8 973
Thailand	1 998 786	363 749	490 635	874 910	118 514	150 978
United Arab Emirates	937 934	368 820	19 740	183 465	228 975	136 934
Yemen	25 267	1 886	..	2 557	..	20 824
Subtotal	70 565 365	18 943 224	24 272 538	12 755 699	6 877 958	7 715 946
Developing countries of Europe						
Croatia	897 195	10 611	517 239	183 691	81 565	104 089
Slovenia	1 767	..	..	276	..	1 491
Yugoslavia	4 749	..	..	..	..	4 749
Subtotal	903 711	10 611	517 239	183 967	81 565	110 329
Developing countries of Oceania						
Fiji	29 284	3 164	..	5 502	..	20 618
Kiribati	4 198	..	..	3 728	..	470
Nauru	..	..	..	..	..	..
Papua New Guinea	60 967	2 862	..	43 399	..	14 706
Samoa	..	..	..	..	..	..
Solomon Islands	10 557	..	..	2 706	..	7 851
Tonga	22 205	..	..	16 044	..	6 161
Tuvalu	48 669	..	..	19 262	..	29 407
Subtotal	175 880	6 026	..	90 641	..	79 213
Developing total	101 102 534	24 893 863	31 476 561	21 989 857	8 974 779	13 767 474
Other unallocated	8 176 770	1 138 674	2 823 973	1 317 749	1 940 309	956 065

Annex III (b)

Merchant fleets of the world by flag of registration, [a] groups of countries and types of ship [b] as at 31 December 1998

(in dwt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total [d]	**788 724 925**	**280 667 861**	**275 513 521**	**103 388 388**	**61 183 198**	**67 971 957**
Developed market-economy countries						
Australia	2 893 691	408 265	1 477 287	59 277	92 254	856 608
Austria	97 559	..	..	97 559	..	..
Belgium	140 545	6 004	..	1 987	..	132 554
Canada	1 010 172	417 071	162 507	112 142	1 910	316 542
Denmark	6 902 412	690 495	969 255	792 699	2 938 291	1 511 672
Finland	1 255 167	508 814	134 182	400 749	..	211 422
France	7 221 445	4 610 955	645 263	425 292	576 401	963 534
Germany	9 791 650	12 062	5 458	1 402 954	7 903 854	467 322
Gibraltar	561 000	451 628	..	4 011	62 579	42 782
Greece	43 413 753	24 155 724	15 709 735	1 091 318	1 257 219	1 199 757
Iceland	83 655	2 704	650	2 902	12 400	64 999
Ireland	149 863	274	..	113 695	6 807	29 087
Israel	861 799	2 512	..	7 276	847 636	4 375
Italy	8 301 445	2 617 052	2 859 224	813 784	393 192	1 618 193
Japan	24 444 880	9 807 937	7 144 919	2 947 302	846 291	3 698 431
Luxembourg	1 574 794	753 427	164 100	47 175	..	610 092
Netherlands	5 958 740	253 306	104 131	2 520 322	1 520 939	1 560 042
New Zealand	379 164	116 080	17 039	61 118	..	184 927
Norway	35 026 152	17 189 813	7 417 252	3 871 238	98 577	6 449 272
Portugal	1 596 720	725 275	335 116	339 012	26 486	170 831
South Africa	368 943	4 778	..	142	262 351	101 672
Spain	2 045 455	1 053 308	70 002	274 548	149 472	498 125
Sweden	1 657 183	166 072	43 543	893 953	..	553 615
Switzerland	731 987	..	689 174	6 328	..	36 485
Turkey	10 108 544	920 013	7 007 945	1 743 949	141 873	294 764
United Kingdom	10 778 196	4 727 868	1 522 801	699 004	1 529 288	2 299 235
United States	25 286 460	13 948 456	3 386 579	1 528 800	4 024 862	2 397 763
Subtotal	202 641 374	83 549 893	49 866 162	20 258 536	22 692 682	26 274 101
Open-registry countries						
Bahamas	42 476 830	22 745 629	8 698 875	7 368 152	1 105 941	2 558 233
Bermuda	7 753 484	4 269 573	2 084 709	242 245	559 769	597 188
Cyprus	36 298 751	6 909 009	19 089 535	6 332 083	2 745 215	1 222 909
Liberia	97 821 338	49 506 940	29 694 852	4 490 624	5 186 359	8 942 563
Malta	39 891 334	18 246 108	14 736 239	5 087 947	704 171	1 116 869
Panama	150 521 300	41 987 733	71 842 375	14 368 881	13 295 237	9 027 074
Vanuatu	2 038 178	17 477	1 210 121	398 813	..	411 767
Subtotal	376 801 215	143 682 469	147 356 706	38 288 745	23 596 692	23 876 603
Central and Easter Europe and former USSR						
Albania	30 900	..	..	29 659	..	1 241
Armenia	..	..	..	..	..	..
Azerbaijan	506 553	232 550	..	102 685	..	171 318
Belarus	..	..	..	..	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Bulgaria	1 556 635	258 087	833 739	357 422	67 117	40 270
Czech Republic	..	..	..	..	..	..
Estonia	453 757	11 994	153 465	205 186	..	83 112
Georgia	147 922	115 011	214	10 487	..	22 210
Hungary	20 140	..	..	20 140	..	..
Kazakhstan	4 742	..	..	787	..	3 955
Kyrgyzstan	..	..	..	..	..	..
Latvia	96 133	15 355	..	31 084	..	49 694
Lithuania	457 758	7 286	160 212	217 749	..	72 511
Moldova	..	..	..	..	..	..
Poland	2 012 195	7 458	1 794 060	79 487	..	131 190
Romania	2 969 993	347 911	1 287 651	1 160 879	16 635	156 917
Russian Federation	10 482 337	2 357 429	1 491 502	4 211 542	316 725	2 105 139
Slovakia	19 489	..	..	19 489	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	29 834	3 389	..	15 198	..	11 247
Ukraine	1 920 013	97 558	341 981	1 034 816	34 499	411 159
Former USSR [e]	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	20 708 401	3 454 028	6 062 824	7 496 610	434 976	3 259 963
Socialist countries of Asia						
China	24 014 577	3 278 681	11 418 183	6 572 897	1 639 387	1 105 429
Democratic People's Republic of Korea	782 013	11 687	83 490	626 964	..	59 872
Viet Nam	1 149 284	101 799	150 910	661 103	..	235 472
Subtotal	25 945 874	3 392 167	11 652 583	7 860 964	1 639 387	1 400 773
Developing countries of Africa						
Algeria	1 110 761	52 547	288 145	295 498	..	474 571
Angola	82 496	2 665	..	63 456	..	16 375
Benin	210	..	..	..	..	210
Cameroon	5 084	..	..	..	..	5 084
Cape Verde	25 620	1 525	..	12 479	7 954	3 662
Comoros	1 703	..	..	1 039	..	664
Congo	660	..	..	..	..	660
Côte d'Ivoire	5 866	1 170	..	..	..	4 696
Djibouti	4 800	..	..	4 450	..	350
Democratic Republic of the Congo	..	..	..	..	..	..
Egypt	2 090 181	364 891	1 054 417	519 565	17 728	133 580
Equatorial Guinea	38 375	5 873	..	18 065	..	14 437
Ethiopia	101 543	3 618	..	97 925	..	..
Gabon	30 265	742	19 089	6 546	..	3 888
Gambia	2 075	..	..	..	..	2 075
Ghana	89 820	8 600	260	14 770	..	66 190
Guinea	5 491	..	..	285	..	5 206
Guinea-Bissau	1 996	..	..	540	..	1 456
Kenya	19 369	7 631	..	1 981	..	9 757
Libyan Arab Jamahiriya	909 906	779 648	..	91 357	..	38 901
Madagascar	43 033	16 927	..	18 792	..	7 314
Malawi	..	..	..	..	..	..
Mauritania	21 258	..	..	721	..	20 537
Mauritius	257 323	..	5 274	107 086	130 915	14 048

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Morocco	382 389	20 427	..	119 855	21 914	220 193
Mozambique	23 393	..	..	12 597	..	10 796
Nigeria	695 898	496 722	..	153 416	..	45 760
Saint Helena	478	..	..	..	..	478
Sao Tome and Principe	8 640	1 753	..	4 939	..	1 948
Senegal	27 200	..	..	5 750	..	21 450
Seychelles	14 385	..	..	3 278	..	11 107
Sierra Leone	10 194	1 307	..	944	..	7 943
Somalia	10 817	1 528	..	4 019	..	5 270
Sudan	53 241	1 222	..	51 195	..	824
Togo	299	..	..	..	..	299
Tunisia	199 192	35 465	42 459	44 726	..	76 542
Uganda	2 743	..	..	2 743	..	..
United Republic of Tanzania	35 662	7 874	..	24 566	..	3 222
Subtotal	6 312 366	1 812 135	1 409 644	1 682 583	178 511	1 229 493
Developing countries of America						
Anguilla	1 998	..	..	1 998	..	..
Antigua and Barbuda	3 625 227	11 491	473 466	1 611 028	1 493 913	35 329
Argentina	630 197	183 766	51 950	146 022	..	248 459
Barbados	1 126 137	639 650	264 173	144 289	..	78 025
Belize	3 153 286	636 255	288 289	1 805 155	107 346	316 241
Bolivia	25 279	..	12 048	13 231	..	..
Brazil	6 848 792	3 159 046	2 644 668	376 417	166 181	502 480
Cayman Islands	1 948 701	540 717	812 897	375 008	68 120	151 959
Chile	916 158	165 672	323 973	125 229	50 622	250 662
Colombia	137 828	9 898	..	99 479	..	28 451
Costa Rica	1 208	..	..	..	..	1 208
Cuba	184 316	9 682	3 190	99 981	..	71 463
Dominica	3 076	..	..	2 531	..	545
Dominican Republic	7 764	..	..	6 705	..	1 059
Ecuador	279 758	223 512	..	3 625	..	52 621
El Salvador	..	..	..	..	..	..
Falkland Islands [f]	25 144	..	..	630	..	24 514
Grenada	950	..	..	950	..	..
Guatemala	..	..	..	..	..	..
Guyana	15 076	..	..	9 295	..	5 781
Haiti	963	..	..	793	..	170
Honduras	1 353 036	202 176	131 278	863 968	8 977	146 637
Jamaica	3 299	3 065	..	..	..	234
Mexico	1 409 581	670 354	..	22 800	146 861	569 566
Montserrat	..	..	..	..	..	..
Nicaragua	1 978	..	..	1 175	..	803
Paraguay	50 455	8 892	..	36 608	2 181	2 774
Peru	239 518	80 396	..	81 169	..	77 953
Saint Kitts and Nevis	550	..	..	550	..	..
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	11 436 183	1 698 868	4 884 296	3 895 175	252 623	705 221
Suriname	7 177	3 035	..	3 156	..	986
Trinidad and Tobago	6 997	..	..	2 567	..	4 430
Turks and Caicos Islands	161	..	..	161	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Uruguay	126 025	95 702	..	1 241	..	29 082
Venezuela	952 629	375 377	211 388	75 228	1 180	289 456
Virgin Islands, British	2 092	..	..	1 439	..	653
Subtotal	34 521 539	8 717 554	10 101 616	9 807 603	2 298 004	3 596 762
Developing countries and territories of Asia						
Bahrain	365 363	97 002	44 110	98 302	99 848	26 101
Bangladesh	576 211	99 494	8 903	446 853	..	20 961
Brunei Darussalam	349 599	270	..	2 585	..	346 744
Cambodia	..	..	..	..	..	..
Hong Kong, China	10 430 817	630 596	7 976 624	750 429	1 005 319	67 849
India	11 034 808	4 559 812	4 768 534	660 786	110 535	935 141
Indonesia	4 201 969	1 355 958	576 373	1 806 170	115 047	348 421
Iran, Islamic Rep. of	5 758 054	3 090 398	1 669 693	826 210	11 660	160 093
Iraq	835 043	659 715	..	105 185	..	70 143
Jordan	59 344	..	33 399	19 063	6 635	247
Kuwait	3 892 030	2 991 446	26 984	283 897	226 769	362 934
Lebanon	394 130	1 490	181 617	199 134	7 285	4 604
Malaysia	7 609 274	1 614 351	2 544 072	989 646	804 858	1 656 347
Maldives	151 272	12 679	..	132 056	..	6 537
Myanmar	718 952	4 713	455 509	219 821	25 297	13 612
Oman	10 604	460	..	2 996	..	7 148
Pakistan	631 960	91 021	227 381	260 445	41 682	11 431
Philippines	12 706 922	266 590	9 650 602	2 285 010	178 086	326 634
Qatar	1 139 447	466 067	270 329	202 259	183 680	17 112
Republic of Korea	8 517 453	615 092	5 088 034	935 741	944 478	934 108
Saudi Arabia	1 531 191	411 330	..	654 038	216 760	249 063
Singapore	32 163 364	15 760 106	8 466 506	2 572 959	3 598 281	1 765 512
Sri Lanka	279 522	8 817	149 581	115 539	..	5 585
Syrian Arab Republic	656 842	..	32 359	615 105	..	9 378
Thailand	3 155 696	692 345	818 920	1 343 884	160 594	139 953
United Arab Emirates	1 330 854	662 466	36 720	254 782	242 797	134 089
Yemen	25 821	3 185	..	3 061	..	19 575
Subtotal	108 526 542	34 095 403	43 026 250	15 785 956	7 979 611	7 639 322
Developing countries of Europe						
Croatia	1 272 183	13 473	890 296	235 570	98 334	34 510
Slovenia	782	..	..	234	..	548
Yugoslavia	906	..	..	..	..	906
Subtotal	1 273 871	13 473	890 296	235 804	98 334	35 964
Developing countries of Oceania						
Fiji	24 511	3 605	..	5 764	..	15 142
Kiribati	4 100	..	..	3 446	..	654
Nauru	..	..	..	..	..	..
Papua New Guinea	66 906	2 736	..	53 097	..	11 073
Samoa	..	..	..	..	..	..
Solomon Islands	6 905	..	..	2 481	..	4 424
Tonga	25 777	..	..	18 500	..	7 277
Tuvalu	75 990	..	..	25 733	..	50 257
Subtotal	204 189	6 341	..	109 021	..	88 827
Developing total	150 838 507	44 644 906	55 427 806	27 620 967	10 554 460	12 590 368
Other unallocated	11 789 554	1 944 398	5 147 440	1 862 566	2 265 001	570 149

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 3.0 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).