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REVIEW OF MARITIME TRANSPORT 1998

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
AFTA	ASEAN Free Trade Area
APEC	Asia-Pacific Economic Cooperation
ASEAN	Association of South-East Asian Nations
BFI	Baltic Freight Index
c.i.f.	cost, insurance and freight
CMI	Comité maritime international (International Maritime Committee)
CUSREP	Customs Conveyance Report Message
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
GATS	General Agreement on Trade in Services
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
MICC	Maritime International Cooperation Centre
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
UNCITRAL	United Nations Commission on International Trade Law
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

FOREWORD

This year, the *Review oj 'Maritime Transport* celebrates its thirtieth anniversary. This guide to the maritime and related industries identifies major developments in world maritime transport and provides a comprehensive database on all aspects of supply and demand for shipping services. It is a unique and up-to-date source of information on trends in seaborne trade as well as on fleet development, including such features as beneficial ownership, fleet productivity, freight market analysis, port development and multimodal transport. The aim of the *Review* is to present in-depth studies of the continuously changing situation of world trade and transport, and to provide information designed to assist countries, both developed and developing, in formulating appro priate transport policies that will facilitate their international trade.

Over the years, the *Review* has proved to be an invaluable reference for the shipping and trading industries and for Governments establishing transport policies. The analyses and forecasts focus in particular on assisting developing countries to improve the competitiveness of their trade by increasing the efficiency of their transport services.

The past 30 years have witnessed great changes in global trade and transport. During this period, the *Review* has focused on such issues as North-South questions, oil crises, the development of containerization and multimodal transport, the globalization of production and the liberalization of transport, and the special problems of small island developing countries.

Of late, the scope of the *Review* has been further expanded to include issues related to trade and transport efficiency raised by the development of electronic information and data interchange, including transit-transport problems encountered by landlocked countries. It also considers regional developments, tracing trends in seaborne trade and analysing the comparative performance in trade and transport of different parts of the world.

Rubens Ricupero
Secretary-General of
UNCTAD

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

(a) World output

1. World economic activity, notwithstanding the effects of the emerging Asian economic and financial crisis, continued to expand throughout 1997, when world output grew by 3.2 per cent (see table 1). These rates of growth raised expectations that the world economy might be entering a new era of sustained growth in excess of 3 per cent. For 1998, however, growth in world output is expected to slow down to 2.0 per cent, as the impact of the Asian crisis begins to be felt in most of the worlds' economies. In 1997, growth in developed market-economy countries as a whole increased marginally to 2.7 per cent, slightly higher than had been anticipated.Expectations for 1998, however, are being revised downwards, with output levels forecast to grow by 1.8 per cent. In the developing countries, economic growth is expected to be depressed under the same conditions as developed market-economy countries, slowing down from 5.4 per cent in 1997 to 2.3 per cent in 1998. The countries of Central and Eastern Europe recovered in 1997 from their chronic negative growth, growing at a rate of 1.4 per cent, and are expected to achieve a rate of 2.2 per cent in 1998. Their recovery reflects the fact that strong export growth and the implementation of macroeconomic policies have improved growth prospects, especially in larger countries such as Hungary and Poland.

Output in selected developed market-economy countries and regions

2. The strength of the United States economy increased government revenues and the general government deficit was almost eliminated in 1997. However, the growth rate of output in 1998 is expected to moderate to 2.3 per cent (as compared with 3.8 per cent in 1997), reflecting the weakening of external demand associated with the Asian crisis, the strength of the dollar and some moderate tightening of monetary policy in 1998, in line with market expectations. In Japan, despite a strengthening of the recovery in late 1996 and early 1997, economic activities declined sharply in the second quarter of 1997 as domestic demand contracted in the wake of the April increase in consumption tax. Business confidence weakened significantly as a result of uncertainty in the financial sector and the financial difficulties in neighbouring countries. Growth in Japan is expected to slow to -1.3 per cent in 1998 from the 0.9 per cent registered in 1997. The European Union achieved growth of 2.5 per cent in 1997, which was much improved in comparison with 1.7 per cent in 1996 and an annual average of 1.3 per cent for 1990-1995. Growth for 1998 is expected to be 2.6 per cent, after allowing for the expected adverse effects of the Asian crisis. The conditions are favourable, however, for a moderate strengthening of economic activity, including depreciated currencies, lower long-term interest rates and greater economic confidence in some countries. In Germany, growth in 1997 was driven mainly by continued buoyancy in exports and a solid recovery in domestic demand. The recovery in France, which also relied heavily on exports, became better balanced as domestic demand picked up in the second half of 1997 and more than compensated for a moderation in export growth. Output growth in 1998 is expected to increase to 2.3 per cent in Germany and 2.5 per cent in France. Growth in Italy also firmed at a relatively low level during 1997. The small improvement was sustained by a recovery in private consumption, increased export growth and a replenishment of inventories. In 1998, lower interest

rates will help to maintain output growth at over 2 per cent. In other countries in continental Europe, after periods of sluggishness, solid expansion is under way in Austria, Belgium and Sweden, all of which are expected to experience growth of 2.5-3.0 per cent in 1998. Expansion is also expected to continue in Denmark, Finland, Greece, Netherlands, Norway, Portugal and Spain, with a risk of overheating in some economies. Growth in the United Kingdom also continued at the firm level of 3.3 per cent throughout 1997. Although domestic demand has continued to provide the main impetus to growth, net exports have been surprisingly buoyant in view of sterlings' ubstantial appreciation since mid-1996. Growth in output is expected to moderate to 2.1 per cent in 1998 as exports slow, owing to the loss of competitiveness, the Asian crisis and moderate domestic demand.

Table 1

World output, 1990-1998
(percentage change)

Country/region	1990-1995	1996	1997 [a]	1998 [b]
World	1.9	3.0	3.2	2.0
Developed market-economy countries	1.7	2.5	2.7	1.8
***of which*:**				
United States	2.3	2.8	3.8	2.3
Japan	1.4	3.9	0.9	-1.3
European Union	1.3	1.7	2.5	2.6
***of which*:**				
Germany	1.7	1.4	2.2	2.3
France	1.1	1.5	2.4	2.5
Italy	1.1	0.7	1.5	2.2
United Kingdom	1.2	2.2	3.3	2.1
Central and Eastern Europe	-8.2	-1.6	1.4	2.2
Developing countries	4.9	5.9	5.4	2.3
***of which*:**				
Latin America	3.3	3.6	5.2	3.1
Africa	1.1	4.6	3.3	3.7
Asia	6.4	7.1	5.9	1.8
of which:				
China	12.4	9.6	8.8	6.0
Other countries	5.1	6.4	5.0	0.5
Developing countries excluding China	4.0	5.3	4.9	1.7

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

[a] Estimate.

[b] Forecast.

Output in selected developing countries and regions

3. As the financial crisis in Asia intensified in the closing months of 1997, financial markets in some of the Latin American emerging-market countries also came under pressure, particularly in Brazil, Argentina, Chile and Mexico. In general, the developing countries of Latin America have withstood the Asian crisis relatively well by making the best use of macroeconomic policies implemented over the past decade. Nevertheless, growth in the region is expected to slow to 3.1 per cent in 1998 from the high level of 5.2 per cent in 1997, partly as a result of spillovers from the Asian crisis and a possible slowdown of development in Mexico after almost three years of strong growth. In the developing countries of Africa, growth in output declined from 4.6 per cent in 1996 to 3.3 per cent in 1997. The fall in output growth resulted from a combination of commodity price developments, weather-related shocks, armed conflicts and political uncertainty. For 1998, growth in Africa is expected to rebound somewhat to 3.7 per cent, assuming the continued implementation of disciplined macroeconomic policies, the further strengthening of structural reforms and the successful resolution of armed conflicts. In some areas, however, significant risks remain, especially related to the possible adverse effects of the El Niño weather phenomenon on agricultural production in the region, and of declines in commodity prices. In the developing countries of Asia, the recent financial crisis is expected to result in substantial reductions in the near-term growth of output, particularly in Indonesia, Malaysia, the Philippines, the Republic of Korea and Thailand. In the crisis-hit economies, the loss of funding from private investors, sharp currency depreciations and the implementation of stronger adjustment measures will slow the growth of domestic demand. This slowdown, combined with improvements in competitiveness closely related to the declines in currency values, will reduce the demand for imports but contribute to the expansion of exports.[1] Given rather weak economic fundamentals, overall output in Asia, including China, will sharply shrink to 1.8 per cent in 1998 from the higher level of 6-7 per cent attained in previous years. Financial markets in China have remained relatively unaffected by the Asian crisis, reflecting the country's comparatively closed capital market as well as its large foreign exchange reserves. Trade competitiveness has deteriorated somewhat as a result of the currency devaluations of Asian partner countries, but exports have remained strong and the current account surplus has increased. Output growth is expected to slow substantially to around 6 per cent in 1998 from the dramatically high rate of over 9 per cent per annum in previous years.[2]

(b) Merchandise export

4. World merchandise trade in terms of value measured in constant prices grew by 9.5 per cent in 1997, the second-highest rate recorded in more than two decades (see table 2). The divergence between trade and output growth, which ceased to increase in 1996, greatly expanded again in 1997. An important factor in the upward trend in world trade was the significant growth in imports by developed market-economy countries of 7.9 per cent in 1997, doubling the 1996 rate of 3.8 per cent. These countries accounted for about two-thirds of world import demand. The expansion was particularly striking in the United States and the European Union, where trade grew by 12.0 per cent and 6.5 per cent respectively in 1997, as compared with 5.7 per cent and 2.5 per cent respectively in 1996.

5. In the United States, the strength of overall economic activity was reflected in trade growth. Merchandise exports grew at 11.9 per cent in 1997, mainly due to the expansion of intra-North American trade and exports to Latin American countries. The strength of United States import demand (12.0 per cent in 1997) led to a sharp rise in imports from China, the European Union, Japan and six East Asian economies. The United States trade performance in recent years has led to a recovery of its share in world trade; the share of United States exports reached approximately 13 per cent, the highest since 1970. Its share in imports was 16.5 per cent, the highest level since 1987. The European Union? s trade growth recovered strongly, showing export growth at 8.0 per cent in 1997 as compared with 4.0 per cent in 1996. The export recovery was most predominant in France, Germany, Ireland and Spain, which recorded double-digit growth in 1997. European Union imports also grew substantially to 6.5 per cent in 1997 from 2.5 per cent in the previous year. Japa's exports significantly expanded by 9.5 per cent in 1997, up from 0.5 per cent in 1996. This reflects a considerable decline in the value of the yen vis-à-vis the United States dollar. On the other hand, its imports increased moderately by 2.5 per cent in 1997, as compared with 2.0 per cent in 1996.

Table 2

Exports and imports by major regions and economic groupings, 1995-1997
(percentage change in value over previous year)

	Exports			Imports		
	1995	**1996**	**1997**	**1995**	**1996**	**1997**
World	9.0	5.0	9.5	9.0	5.0	9.0
Developed market-economy countries	7.6	4.2	8.8	8.2	3.8	7.9
of which:						
European Union	8.5	4.0	8.0	7.5	2.5	6.5
Japan	4.0	!0.5	9.5	12.5	2.0	2.5 2.5
United States	8.7	6.3	11.9	7.0	5.7	12.0
Transition economies	17.5	7.5	11.0	17.0	14.5	16.0
Developing countries	11.5	6.0	11.5	11.0	6.5	10.0
of which:						
Africa	5.0	7.0	5.5	6.5	0.5	11.5
China	17.5	!1.0	20.5	9.0	7.0	5.0
Latin America	12.0	11.0	12.5	3.0	11.5	21.5
South and East Asia	13.0	6.5	10.5	15.5	5.5	6.5
Six East Asian traders [a]	14.5	6.5	10.0	15.5	4.5	5.5

Source: WTO Press Release, table 2, (19 March 1998) and UNCTAD estimates.

a Hong Kong, China; Malaysia; Republic of Korea; Singapore; Taiwan Province of China and Thailand.

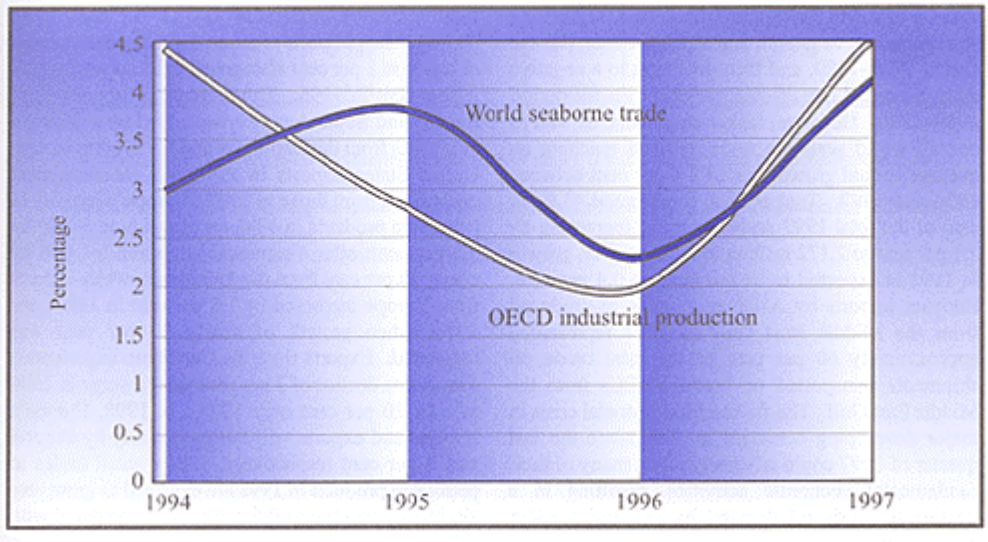
6. Drastic changes in exchange rates, especially the rise of the United States dollar, greatly affected the overall trade activity of developing countries in Asia. China and the Asian developing countries that suffered from the financial crisis all experienced higher export growth than import growth; their exports grew by 20.5 per cent and 10.5 per cent respectively in 1997, as compared with 5.0 per cent and 6.5 per cent respectively for their imports. Latin America in 1997 experienced its highest growth (5.2 per cent) of gross domestic product (GDP) and its merchandise exports expanded by 12.5 per cent, while merchandise imports surged by as much as 21.5 per cent, with Mexico and Brazil contributing disproportionately to the expansion of trade. In 1997, African developing countries' output growth, and specifically that of agricultural production, slackened. Their export growth declined in 1997 to 5.5 per cent from 7.0 per cent in 1996 while imports climbed dramatically by 11.5 per cent as compared with 0.5 per cent in the previous year.

(c) OECD countries' industrial production

The industrial production of the OECD countries is another fundamental indicator for the global maritime transport sector. In 1997, the total OECD industrial production index (1990 = 100) rose substantially by 4.5 per cent to 114.3 from 109.4 in 1996, when it had experienced a relatively poor increase of 2.0 per cent. The OECD-wide positive development observed in 1997 was primarily due to United States industrial production, which grew by 5.0 per cent (index 125.8) while Japan and the European OECD countries experienced below-average growth of 4.1 per cent (index 102.8) and 3.8 per cent (index 108.6) respectively. World seaborne trade also increased by a remarkable 4.1 per cent in 1997 as compared to 1996, when it increased by 2.3 per cent (see graph 1).

Graph 1

Annual change in OECD industrial production and world seaborne trade, 1994–1997



Source: OECD, *Main Economic Indicators*, March 1997.

B. WORLD SEABORNE TRADE

(a) Overall seaborne trade

8. World seaborne trade grew at an average annual growth rate of 4.2 per cent for the 10-year period from 1970 to 1980, but slowed down in the next decade to an average rate of 0.8 per cent per annum. Between 1990 and 1997, world seaborne trade regained momentum, attaining an average annual growth rate of 3.4 per cent. In 1997, total cargo tonnage recorded its twelfth consecutive annual increase, reaching a new record of 4.95 billion tons. The annual growth rate for 1997 also turned upward, registering 4.1 per cent, which was the highest since 1989. This contrasted with the 2.3 per cent growth rate of world seaborne trade in 1996, which was the lowest since 1987 (see table 3 and graph 2). It is not expected, however, that this high rate of growth can be sustained in 1998, mainly owing to sluggish trade in liquid bulk cargoes.

(b) Tanker shipments

9. By broad segments of world maritime trade, tanker shipments represented 55.3 per cent of the total 1970 seaborne trade, falling to 50.5 per cent in 1980 and 43.8 per cent in 1990. On the other hand, the volume of world tanker trade fluctuated, registering an average annual growth rate of 3.0 per cent over the period 1970-1980, and then declining to a negative average annual rate of 0.6 per cent over the period 1980? 1990. However, tanker shipments, as well as overall world seaborne trade, revived reaching an average annual growth rate of 3.4 per cent between 1990 and 1997. Tanker trade represented 43.9 per cent of the total 1997 seaborne trade, increasing by 2.1 per cent to 2,172 million tons. However, growth in 1998 is expected to be minimal, at 0.4 per cent. Buoyant imports by Asian economies of crude oil from the Middle East Gulf in 1997 represented approximately 60 per cent of the total crude oil shipments transported on board VLCCs from the Middle East Gulf. The far-reaching financial crisis in major developing countries in Asia since the last quarter of 1997 could adversely affect many of their fundamental economic activities, resulting in a decline in crude oil demand by the major Asian economies.

10 Crude oil shipments increased moderately by 2.3 per cent to 1,626 million tons in 1997, from 1,590 million tons in 1996. The growth in shipments of crude oil for 1997 was primarily from suppliers in the Middle East Gulf, the Caribbean and Latin America, and North and West Africa. At the receiving end, the United States increased its crude oil imports in 1997 by 5.7 per cent and thus remained the largest importer of the developed market-economy countries, accounting for one-third of the group's total imports. Imports from Latin America, the largest supplier of crude oil to the United States, will continue to grow. However, imports from Northern Europe and West Africa will decline. Japan was the second largest importer of crude oil, accounting for an estimated one-fifth of the total developed market-economy countries' imports. Nevertheless, the growth of Japanese imports will be slow at about 2.0 per cent. Europe's overall imports of crude oil declined substantially for the second consecutive year and it is expected that this downward movement will continue at least for 1998. On the export side, Europe increased exports by 2.0 per cent in 1997, while its exports in 1998 are likely to decline, mainly depending on United States imports from Northern Europe.

11. The global trade in petroleum products in 1997 increased moderately by 1.6 per cent. The United States imports registered a marginal increase of less than 1 per cent after growing by approximately 30 per cent in 1996. The increase in imports from Europe and South America was offset by a decrease in imports from the Caribbean and the Mediterranean. United States imports in 1998 will remain almost unchanged from those in 1997. Europe's imports of petroleum products in 1997 increased moderately by 2.8 per cent, after a remarkable decline in 1996 by nearly 20 per cent from the 1995 level, while exports from Europe increased by 1.6 per cent in 1997 over 1996, when growth of nearly 20 per cent was registered. Exports from the Caribbean experienced a moderate decline of 3 per cent, after a surge in 1996 of over 20 per cent over 1995. In 1998, Europe's imports and exports will fall moderately by about 4 and 3 per cent respectively. The overall trades in petroleum products in 1998 are expected to grow very slightly by as little as 0.5 per cent as compared with 1997.

Table 3

Development of international seaborne trade for 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	1 440	13.1	1 165	13.0	448	16.0	2 605	13.0
1975	1 644	-10.0	1 428	-3.0	635	-5.0	3 072	-4.0
1980	1 871	-6.6	1 833	3.3	796	4.5	3 704	-2.0
1985	1 459	-2.6	1 923	0.6	857	2.9	3 382	-0.8
1990	1 755	3.7	2 253	2.5	968	0.3	4 008	3.0
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 [c]	2 181	0.4	2 884	3.7	1 200	3.7	5 064	2.2

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

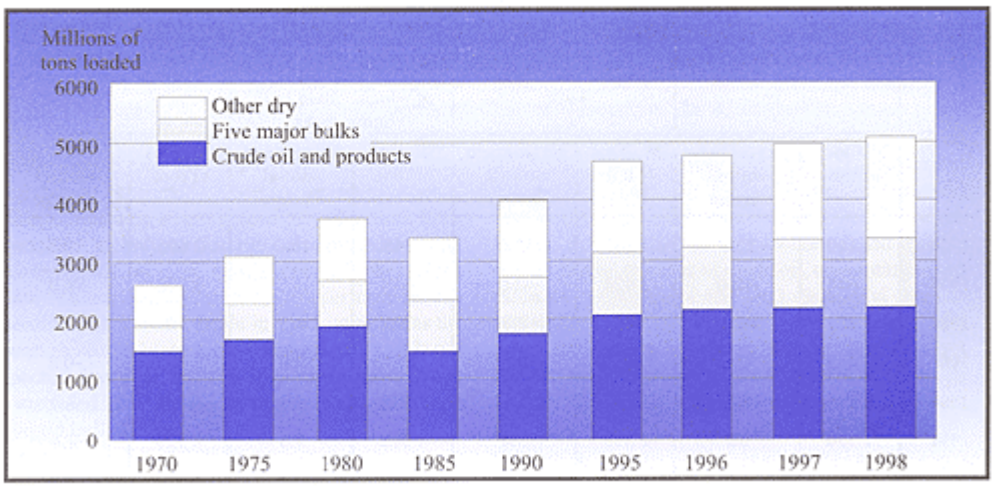
a Including international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system.

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

c Preliminary estimates.

Graph 2

International seaborne trade for selected years



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

(c) Dry bulk shipments

12. During the 10-year period from 1970 to 1980, total seaborne dry cargo grew at an annual rate of 5.7 per cent; during the next decade (1980–1990) it increased by 2.3 per cent a year, and since 1990 it has been expanding by 3.3 per cent a year. In 1997, around 41.5 per cent of total seaborne dry cargo consisted of main dry bulk commodities. The share of main dry bulk cargoes had increased significantly in the 1970s and 1980s, hitting a peak share of nearly 45 per cent in the mid-1980s. Since then, however, overall dry cargo trade has regained greater momentum than the main dry bulk commodity sector. This difference could be mainly attributable to the significant expansion of general/unitized cargo trade, which moved mainly on liner trade routes. The volume of overall dry cargo shipments grew by 5.7 per cent in 1997, which was the highest rate since 1988, reaching 2,781 million tons, while main dry bulk commodities increased significantly by 6.0 per cent. The 1998 growth of overall dry bulk seaborne cargo is expected to slow down to 3.7 per cent, equally divided between main bulk and other dry cargoes (3.7 per cent) (see table 3 and graph 2).

World crude steel production in 1997 increased substantially by 6.2 per cent to 794 million tons. The European Union's share climbed in 1997 by 8.8 per cent to 160 million tons. Most of this growth was shared by France, Germany and Italy with increases of 12.1, 13.1 and 6.0 per cent respectively. Asia registered its seventh consecutive year of increase, with a growth rate of 7.0 per cent for 1997, reaching 307 million tons. China, Japan and the Republic of Korea continued to be major producers, with increases of 7.5, 5.8 and 9.4 per cent respectively over the previous year. North America produced 130 million tons, an increase of 5.4 per cent in 1997 over the previous year, registering its sixth consecutive year of increase. The combined volume of these major crude steel-producing country groups increased to 597 million tons, accounting for 75.2 per cent of the world's total crude steel production.[3]

World steel consumption

14. World steel demand is expected to exceed the 700-million-ton level for the first time in 1998; of

this about 170 million tons will be traded on board ships. This will be only 0.8 per cent up on the 695-million-ton level of consumption in 1997, but still means that a steady year-on-year growth has been maintained for the last five years. Steel consumption among the developed market-economy countries of Canada, Japan, the United States and Western Europe combined is expected to show stable demand levels in coming years. The major growth markets will be in Eastern Asia, including China, Eastern Europe, and Central and South America, where Brazilian demand growth will be influential.[3]

Iron-ore trade

15. During the 1980s and 1990s, the world steel industry has consistently generated import demand for over 300 million tons of iron ore per annum. Iron ore has represented almost one-quarter of all dry bulk cargoes moved in any given year. The total volume of iron-ore trade in 1997 grew by 8.2 per cent to 423 million tons, as a result of increased world steel production. Iron-ore import patterns have changed significantly 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. Japan and the major European Union steel-making countries are expected to show reduced growth of iron-ore import demand in the near to medium term, while the new growth markets of China, the Republic of Korea and Taiwan Province of China in East Asia and potentially re-emerging markets in the countries of the former Eastern European bloc will replace the traditionally influential import centres. Imports into the European Union in 1997 climbed by 3.8 per cent to 136 million tons, as compared to 131 million tons in 1996. A similar trend was noted in Japan, where iron-ore imports were reportedly up 6.5 per cent over 1996, reaching 127 million tons. Among other major iron-ore importers, the Republic of Korea showed a 3.2 per cent rise in 1997, representing around 35.5 million tons from 34.4 million tons in the previous year. Elsewhere in East Asia, Taiwan Province of China imported 35.6 per cent more iron ore in 1997, an increase to 13.7 million tons from 10.1 million tons in 1996. Chinese iron-ore imports reached 48.5 million tons in 1997, 10 per cent higher than the 44.1 million tons imported in 1996. As exporters of iron ore, Australia and Brazil supplied 147 and 142 million tons respectively in 1997, representing increases of 8.3 and 9.5 per cent over the previous year. The two countries' combined exports account for two-thirds of the world total exports of iron ore. Elsewhere, exports from Canada, India and South Africa were down by 6.4, 0.6 and 4.1 per cent respectively in 1997, at 22.0, 31.5 and 18.5 million tons respectively. The prospects for the near to medium term are for steadily growing world steel consumption, even if only at modest rates such as the 0.8 per cent experienced in 1997, which is expected to continue to boost world demand for iron ore.[4]

Coal trade

16. Growth in the coal trade, especially for steam coal, has provided the greatest contribution to overall increases in total dry bulk trades during the 1980s and 1990s. From approximately 200 million tons shipped in 1980, seaborne trade in coal has climbed by just over 7 per cent per annum on average to reach a level of 453 million tons in 1997. Australia, the largest exporter, accounted for one-third of the world total in 1997, supplying 80 million tons of coking coal and 72 million tons of steam coal, which taken together represented a 7.5 per cent increase over the previous year. Exports from the United States, the second-largest coal supplier in the world in 1997, decreased by almost 8 per cent from the 1996 level, showing total loadings of 65 million tons, with steam coal shipments of 22 million tons and coking coal shipments of 43 million tons. South Africa showed a small advance in coal loadings during 1997, lifting 62 million tons, an increase of just over 3 per cent from the level of 1996. Canadian exporters also experienced a small increase of 2.4 per cent in 1997, exporting 34 million tons, while Colombia and Indonesia increased their exports to 28 and 42 million tons respectively, an increase of 15 per cent each. Chinese exports appeared to be stabilizing at around 30 million tons. Among importers, total Japanese coal imports in 1997 were almost 2 per cent higher than in 1996, amounting to 132 million tons comprising 75 million tons of coking coal and 57 million tons of steam coal. Of other major Asian coal importers, the Republic of Korea and Taiwan Province of China reported imports that were 6.6 per cent and just over 17 per cent respectively up on the 1996 levels, reaching a volume of 49 million tons and 37 million tons respectively. Western European coal imports in 1997 stood at 149 million tons, with steam coal demand falling by less than 1 per cent from the 1996 level to 101 million tons, while coking coal imports increased by 2.8 per cent to 48 million tons. The world coal trade is expected to continue to grow at an annual average rate of about 4 per cent up to the year 2000 and around 3 per cent up to 2005.[5]

Grain trade

17. The 1997 seaborne trade in grain increased by 5.2 per cent to 203 million tons from 193 million tons in 1996. While trade in agricultural produce can hardly be predicted with any accuracy, since trade trends and patterns of supply and demand are often affected by sudden changes in weather conditions which result in harvest failures or surpluses in the major consuming regions, major suppliers such as Argentina, Australia, Canada, the European Union and the United States will continue to dominate the supply side. Traditional large-scale importers such as China, Eastern Europe and Japan will remain major markets, followed by Africa, South-East Asia and the Far East, to which shipments of grain have been rising. United States exports in 1997 experienced a further decline of 17.0 per cent to 74.3 million tons from 89.6 million tons in 1996. Exports from the European Union also declined in 1997 by 2.8 per cent from the previous year? s level to 17.8 million tons. Exports by other major supplyig countries such as Argentina, Australia and Canada substantially expanded in 1997 by 48.6 per cent, 19.0 per cent and 24.3 per cent respectively, to 20.9 million tons, 22.9 million tons and 26.7 million tons respectively. World grain produce in 1997/1998 is expected to be 1,480 million tons, up to 13.5 per cent of which will be exported, representing approximately 200 million tons, a marginal decrease as compared with 203 million tons in 1997.[6]

Other principal dry bulk seaborne cargoes

18. Trades in other principal dry bulk commodities, i.e. phosphate and bauxite/alumina, increased in 1997 by 1.6 per cent to 590 million tons, including 170 million tons of steel (excluding European Union intraregional trade), and are expected to marginally expand by 1.0 per cent in 1998.[7]

(d) Liner shipments of containerized cargo

19. Total world liner shipments of containerized cargoes in 1997 were estimated to have reached 48.41 million TEUs' an increase of 7.7 per cent as compared with the volume of the previous year - and are expected to further expand by 3 to 4 per cent in 1998. The United States was very active in this area in 1997, its combined imports and exports substantially increasing by 9.4 per cent to 13.4 million TEUs (13.5 per cent for imports and 4.7 per cent for exports). The United States 1998 trades are expected to increase by about 5 per cent for combined imports and exports (10 per cent for imports and less than 1 per cent for exports). Europe's imports and exports registered a favourable increase of 8.3 per cent, representing a total of 16.2 million TEUs (6.4 per cent for imports and 10.0 per cent for exports). These trades are expected to continue to increase in 1998, by over 6 per cent for imports but less than 6 per cent for exports. Japan experienced combined import and export growth of only 2.4 per cent to 7.3 million TEUs (a decrease of 0.5 per cent for imports and an increase of 6.1 per cent for exports in 1997). It is expected that Japanese trade will further deteriorate in 1998, growing by as little as less than 1 per cent (-2 per cent for imports and 2 per cent for exports). Far Eastern newly-industrializing economies (Hong Kong (China), the Republic of Korea and Taiwan Province of China) increased their combined imports and exports by 6.7 per cent to 11.7 million TEUs (7.8 per cent for imports and 5.1 per cent for exports) in 1997. In 1998, combined import and export growth is expected to decline marginally from the level of 1997. South-East Asian countries registered 4.7 per cent growth for combined imports and exports (5.4 per cent for imports and 4.1 per cent for exports) in 1997. The export trade of these countries in 1998 is expected to expand steadily, but their import market is likely to experience a significant slowdown.[8]

(e) World shipments by country groups

20. According to an historical analysis of world shipments, world seaborne trades expanded at an annual average rate of 4.4 per cent during the period from 1970 to 1980, and stagnated at an annual average rate of 0.8 per cent between 1980 and 1990. They then recovered to record an annual average rate of 3.4 per cent between 1990 and 1997. In terms of regional trading activities, developing countries' trading volume loaded rose by an annual average rate of 2.7 per cent during the period from 1970 to 1980, showed a negative annual average growth of 0.5 per cent during the next decade, and recovered to an annual average of 4.1 per cent between 1990 and 1997. For cargo unloaded, in the 10-year period between 1970 and 1980, developing countries' total volume climbed dramatically by an annual average rate of 9.4 per cent. In the following decade, their volume continued to increase moderately at an annual rate of 3.0 per cent on average, and then increased further, recording an average growth of 4.0 per cent per annum between1990 and 1997.

21. Developed market-economy countries showed a remarkable increase in trade volume for loading; annual growth averaged 8.0 per cent in the 10-year period between 1970 and 1980, fell to 2.8 per cent between 1980 and 1990, and then moved upwards to 3.1 per cent between 1990 and 1997. Total cargo unloaded of this group over the 10 years from 1970 to 1980 increased relatively moderately by 3.2 per cent per annum; over the next 10 years, growth slowed to an annual average of 0.7 per cent. From 1990 to 1997, however, this group's import activities accelerated, growing by 3.0 per cent a year on average.

22. The foregoing analysis, covering the period since 1970, reveals that world economic performance expressed in terms of seaborne trade expanded most during the 10-year period between 1970 and 1980 and stagnated in the 1980s; since then, world economic activities have regained momentum. The trend has been similar in both developing countries and developed market-economy countries.

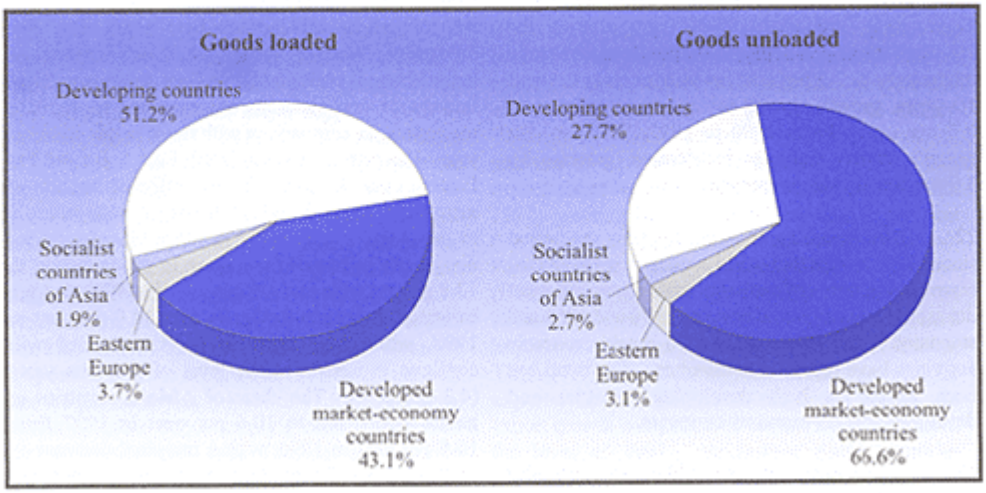
23. Summarized data on world seaborne trade by major cargo segments and country groups are provided in graph 3 and table 4. In terms of regional distribution, developing countries continued to register a marginal increase in their share of crude oil shipments in 1997, while their share in dry cargo shipments decreased very marginally from the level of the previous year. Consequently, their share in total exports remained fairly stagnant at 51.2 per cent in 1997 (it was 51.3 per cent in 1996), while their share for unloading slightly increased to 27.7 per cent in 1997 from 26.7 per cent in the previous year. Their share for loading in 1998 is expected to fall very slightly to 51.0 per cent, while unloading is expected to remain unchanged at 27.7 per cent.

24. Among the country groups, Asian countries failed to maintain their 1996 share for loading, registering 26.4 per cent in 1997 as compared with 26.6 per cent in 1996, but they managed to increase their share of goods unloaded to 18.8 per cent from 17.7 per cent in 1996. In 1998, their overall trade shares are expected to fall slightly to 26.2 per cent for loading but to be at almost the same level as in 1996 for unloading (18.7 per cent). For loading, the share of Western Asian countries, mainly in the sector of oil and oil products, will decline by less than 1 per cent from the 1997 level while exports from South-East Asian countries will increase by 5? 6 per cent. For unloading, Western Asian countries' imports of manufactured goods and South-East Asian countries' imports of raw materials are expected to increase moderately in comparison with those in the previous year. The current crisis in South-East Asian and Far Eastern countries has primarily affected imports of manufactured goods, which are expected to stagnate in the Asian region in 1998. American countries marginally increased their share in goods loaded to 13.9 per cent (from 13.5 per cent in 1996) and are expected to expand further to over 14.0 per cent in 1998, while their share in goods unloaded will continue to remain at the level of previous years (4.3 per cent). The share of African countries in goods loaded fell to 10.6 per cent in 1997 from 10.8 per cent in 1996, with a marginal decrease in crude oil from 23.9 per cent in 1996 to 23.8 per cent in 1997, while cargoes unloaded were very slightly below the level of 1996, at 4.1 per cent. African countries' trades for 1998 are expected to decline to 10.1 per cent for loading and to remain almost unchanged for unloading (4.0 per cent).

25. Developed market-economy countries experienced a marginal increase in their share in 1997 to 43.1 per cent for loading, while in 1998 their exports are expected to attain the level of 43.4 per cent for loading, with dry cargo increasing marginally to 63.3 per cent. In the meantime, their inbound trades in 1998 will slightly level off from the 1997 figure of 66.6 per cent. The 1998 share of the countries of Central and Eastern Europe is expected to be unchanged from the 3.7 per cent for loading and 3.1 per cent for unloading registered in 1997. The share of the socialist countries of Asia should remain at around 1.9 - 2.0 per cent for loading and 2.7 per cent for unloading in 1998, with the 1998 figures largely depending on the economic performance of China.

Graph 3

World seaborne trade by country groups
(percentage distribution of tonnage, 1997)



Source: Based on table 4.

Table 4

World seaborne trade [a] in 1970, 1980, 1990, 1996, 1997 and 1998 (estimates), by types of cargo and country groups [b]

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products [c]			Crude	Products [c]		
		(Trade in millions of tons)							
World total	1970	1 110	332	1 124	2 566	1 101	298	1 091	2 490
	1980	1 527	344	1 833	3 704	1 530	326	1 823	3 679
	1990	1 287	468	2 253	4 007	1 315	446	2 365	4 126
	1996	1 590	537	2 631	4 758	1 599	480	2 734	4 815
	1997	1 626	546	2 781	4 953	1 625	522	2 890	5 037
	1998	1 633	548	2 884	5 064	1 611	525	2 993	5 129
		(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
	1996	33.4	11.3	55.3	100.0	33.2	10.0	56.8	100.0
	1997	32.8	11.0	56.1	100.0	32.3	10.4	57.4	100.0
	1998	32.2	10.8	56.9	100.0	31.4	10.2	58.4	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	72.5	81.4	61.7	67.3
	1996	11.9	34.7	63.2	42.8	74.8	81.7	61.7	68.0
	1997	11.9	33.7	63.2	43.1	71.6	76.7	61.9	66.6
	1998	11.6	33.0	63.3	43.4	72.3	75.3	61.7	66.4
Countries of Central and Eastern Europe (including the former USSR) [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
	1996	2.8	9.3	3.2	3.8	1.3	0.3	4.6	3.1
	1997	2.8	9.4	3.2	3.7	1.3	0.2	4.6	3.1
	1998	2.8	9.5	3.2	3.7	1.4	0.2	4.6	3.1
Socialist countries of Asia [d]	1970	-	-	1.2	0.5	0.5	0.1	2.2	1.2
	1980	1.4	1.7	1.0	1.2	1.4	1.6	4.0	2.7
	1990	2.5	0.9	2.0	2.0	0.3	0.3	3.4	2.1
	1996	2.4	0.9	2.2	2.1	0.3	0.4	3.6	2.2
	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	1.2	2.5	3.6	2.7
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	24.6	18.0	29.1	26.5
	1996	83.0	55.1	31.4	51.3	23.8	17.6	30.0	26.7
	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	25.1	21.9	30.2	27.7

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: **Africa**	1970	25.4	2.3	9.4	15.4	1.7	4.2	3.8	2.9
	1980	19.0	1.5	5.6	10.8	4.0	2.9	4.7	4.2
	1990	24.1	7.6	4.3	11.0	5.6	2.3	4.3	4.5
	1996	23.9	5.7	3.8	10.8	4.9	2.1	3.9	4.1
	1997	23.8	5.7	3.8	10.6	4.9	2.0	3.9	4.0
	1998	22.8	5.3	3.8	10.1	5.0	2.0	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	5.7	3.8	4.0	4.5
	1996	14.7	12.7	12.9	13.5	5.0	3.4	4.0	4.3
	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	4.0	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	12.6	10.9	19.9	16.6
	1996	44.4	36.2	13.9	26.6	13.4	11.6	21.3	17.7
	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	14.5	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
	1996	-	0.2	0.3	0.2	0.5	0.2	0.6	0.5
	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
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
	1996	-	0.1	0.4	0.2	-	0.3	0.1	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

Sources: Compiled by the 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, but excluding such traffic in main bulk commodities.

b See annex I for the composition of these groups, and note 4 thereto regarding the recording of trade of land-locked 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

26. Data on total demand for shipping services in terms of ton-miles are provided in table 5. World seaborne trade in volume increased by 4.1 per cent to 4,953 million tons in 1997, while the total shipping performance measured in ton-miles in 1997 increased by 3.6 per cent to 21,413 billion ton-miles, as compared with a 2.4 per cent increase to 20,678 billion ton-miles in 1996. The lower ton-mile growth was mainly due to changing trade structures and resulting reductions in average transport distances of some trade dry bulk commodities and oil products. In terms of market segments, demand for crude oil transport increased by 2.5 per cent to 7,550 billion ton-miles in 1997. The overall ton-miles for oil product shipments increased by 0.5 per cent to 2,050 billion ton-miles. Transport services for the three major dry bulk commodities increased by 4.9 per cent, with iron ore up by 8.7 per cent to 2,420 billion ton-miles, and coal and grain each up by 2.4 per cent to 2,270 billion ton-miles and 1,153 billion ton-miles respectively.

Table 5

World seaborne trade by types of cargo for 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
1992	6 970	1 620	1 896	2 001	1 091	4 650	18 228
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	7 550	2 050	2 420	2 270	1 153	5 970	21 413

Source: Fearnleys (Oslo), *Review 1997*.

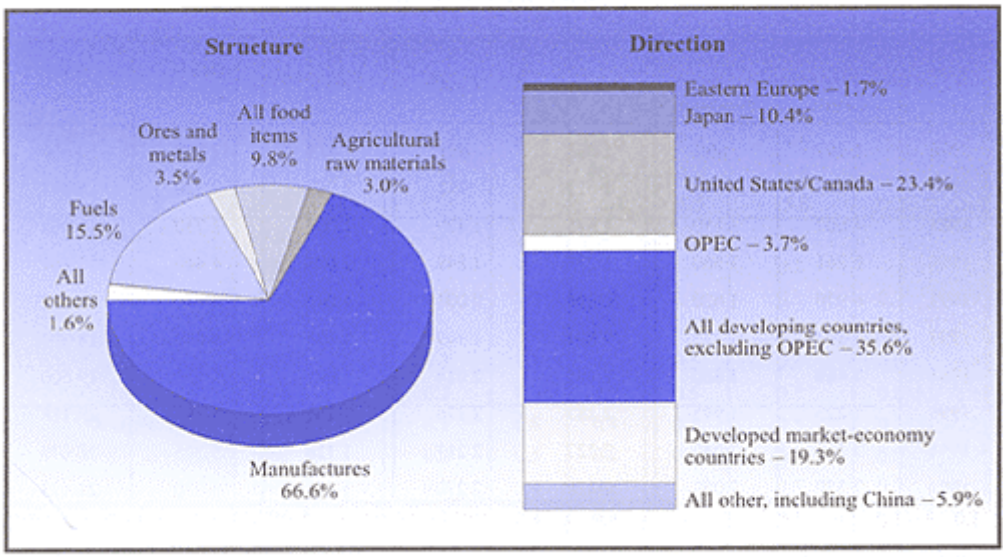
[a] Including wheat, maize, barley, oats, rye, sorghum and soya beans.

(g) Export direction and structure of trade in developing countries

27. Graph 4 illustrates the export direction and structure of trade of developing countries. In 1995, the year for which data are available, 55.0 per cent of developing countries' exports by value were destined for developed market-economy countries and 35.6 per cent for developing countries, as compared with 68.4 and 26.5 per cent respectively for 1980, and 59.4 and 34.2 per cent respectively for 1990, stressing the increasing importance of South-South trade. The structure of exports by value comprises five broad categories, of which manufactured goods are the dominant cargo, accounting for 66.6 per cent of the 1995 total, which compares with 19.5 per cent for 1980 and 53.6 per cent for 1990. Fuels are the second largest export accounting for 15.5 per cent in 1995, compared with 59.7 per cent in 1980 and 26.6 per cent in 1990. Percentage shares of the other sectors comprising all food items, agricultural raw materials, and ore and metals have also been declining since 1980.

Graph 4

Export structure and direction of trade of developing countries, 1995
(percentage distribution by value)



Source: UNCTAD, *Handbook of International Trade and Development Statistics, 1996* (United Nations publication, sales no. E/F/98/II.D.7), table 3.2.

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

28. Comparative time series data on the world fleet for 1995, 1996 and 1997 are provided in table 6. The world merchant fleet reached 775.9 million dwt at the end of 1997. This represents a 2.3 per cent increase over 1996, when the world fleet had expanded at a rate of 3.2 per cent as compared with 1995. The slower rate of fleet expansion was primarily due to newbuilding deliveries of 36.8 million dwt in 1997, while tonnage broken up and lost was registered at 19.1 million dwt, leaving a net gain of 17.7 million dwt in 1997 as compared with a net gain of 23.2 million dwt in 1996.

29. The combined tonnage of oil tankers and dry bulk carriers continued to dominate the world fleet, representing 71.3 per cent of total tonnage in 1997, a slight decline from 71.8 per cent in 1996. Oil tankers accounted for 35.1 per cent of 1997 world total tonnage, as compared with 35.8 per cent in 1996, and dry bulk carriers 36.2 per cent in 1997, as compared with 36.0 per cent in 1996. General cargo ships and containerships accounted for 13.4 per cent and 7.2 per cent of total tonnage respectively. Comparative data on vessel-type structure indicate that the shares of ore/bulk carriers and containerships continued to expand, while those of oil tankers, ore/bulk/oil carriers and general cargo ships have been on a downward trend since 1993. Graph 5 illustrates world fleet size trends by principal type of vessel for the period 1980-1997.

World fleet of containerships

30. The world fleet of fully cellular containerships expanded tremendously in 1997 in terms of both number of ships and their TEU capacity, reaching 2,204 ships of 3,632,000 TEUs by the end of 1997, which represents an increase of 12.8 per cent in the number of ships and 17.6 per cent in TEU capacity over the previous year. Capacity developments since 1995 show a 16.8 per cent annual average increase in the world total TEU capacity and a 3.6 per cent increase in carrying capacity per ship. The need to cut operating costs through economies of scale gave a boost to orders for ships of the Panamax (3,000-3,999 TEUs) and post-Panamax (4,000 TEUs and over) size. At the end of 1997, the newbuildings orders for all sizes stood at 360 ships, aggregating close to 700,000 TEUs, scheduled to enter into service over the next couple of years, of which 63 ships were of the Panamax and post-Panamax size, with a total capacity of around 302,000 TEUs or 18 per cent (ships) and 43 per cent (capacity) of the total order book (see table 7).

31. The world containership fleet continued to expand in major open-registry countries in 1997 to 36.2 per cent of the world TEU capacity as compared with 34.5 per cent in 1996. The share of developed market-economy countries also expanded to 38.5 per cent from 37.9 per cent in 1996. The TEU capacity of developing countries in 1997 increased by 14.5 per cent to 629,000 TEUs from 550,000 TEUs in 1996, while their share of the world total TEU capacity decreased slightly to 17.3 per cent from 17.8 per cent in 1996. This reflects the fact that the TEU capacity of the developed market-economy

Table 6

World fleet size by principal types of vessel, 1995-1997 [a]
(end of year figures, in thousands of dwt)

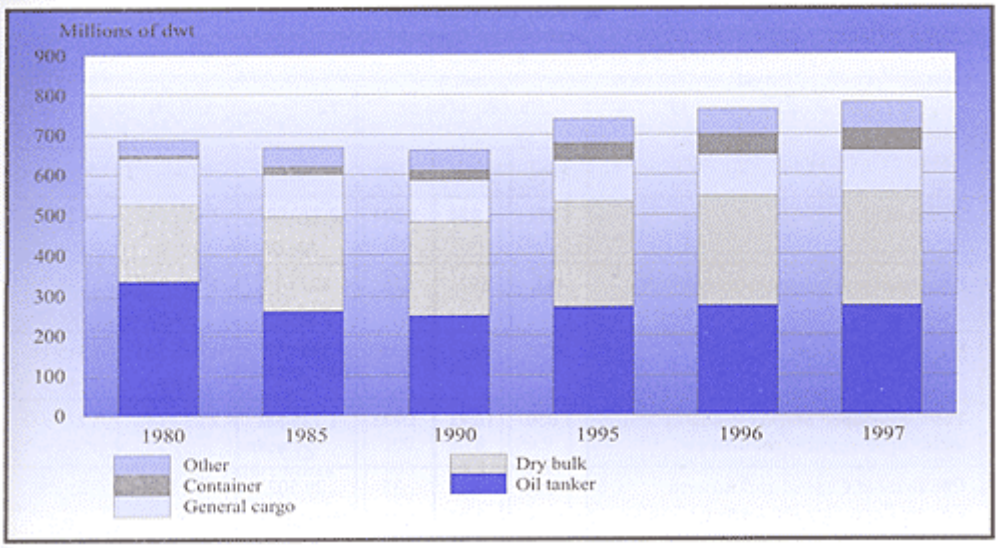
Principal types	1995	1996	1997	Percentage change 1996/1997
Oil tankers	267 651	271 454	272 023	0.2
	36.4	*35.8*	*35.1*	
Bulk carriers	261 628	272 564	281 012	3.1
	35.6	*36.0*	*36.2*	
Ore/bulk/oil	25 240	21 922	20 256	-7.6
	3.4	*2.9*	*2.6*	
Ore/bulk	236 388	250 642	260 756	4.0
	32.2	*33.1*	*33.6*	
General cargo ships	104 145	104 642	103 880	-0.7
	14.2	*13.8*	*13.4*	
Containerships	43 849	48 766	56 108	15.1
	6.0	*6.4*	*7.2*	
Other types of ships	57 644	60 745	62 904	3.6
	7.8	*8.0*	*8.1*	
Liquefied gas carriers	14 691	15 507	16 021	3.3
	2.0	*2.1*	*2.1*	
Chemical tankers	7 697	7 913	7 846	-0.8
	1.0	*1.0*	*1.0*	
Miscellaneous tankers	628	699	920	31.6
	0.1	*0.1*	*0.1*	
Ferries and passenger ships	4 274	4 492	4 614	2.7
	0.6	*0.6*	*0.6*	
Others	30 354	32 134	33 503	4.3
	4.1	*4.2*	*4.3*	
World total	734 917	758 172	775 927	2.3
	100.0	*100.0*	*100.0*	

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

[a] Percentage shares are shown in italics.

Graph 5

World fleet size by principal types of vessel: selected years, 1980–1997



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

countries and major open-registry countries shared close to 90 per cent of the total increase in the TEU capacity in 1997, boosting the world total capacity and consequently reducing the share of developing countries. The absolute increase in capacity in developing countries was attributed mainly to increases in the developing countries and regions in Asia (48 ships of 64,000 TEUs), which represented the major portion (78.9 per cent) of the containership fleet registered in developing countries, followed by the developing countries in America, which increased their capacity by 12 ships of 10,700 TEUs as compared with the previous year. The group of developing countries in Africa almost doubled their total TEU capacity in 1997 as compared with 1996, but their capacity remains at the very low level of just below 10,000 TEUs.

Age distribution of the world merchant fleet

32. Table 8 provides data on the age distribution of the world merchant fleet by types of vessel and by groups of countries and territories. For the second consecutive year, the average age distribution of the world total fleet improved slightly in 1997, to 14.77 years from 14.94 years in 1996. By types of vessel, the average age of tankers fell to 14.68 years in 1997 from the previous year's average age of 14.88 years. The share of tanker tonnage aged 15 years or over decreased substantially to 54.5 per cent in 1997 from 56.4 per cent in 1996, mainly because more older and uneconomic tankers were sold for demolition. Nevertheless, the large share of old tonnage in the world tanker fleets remains a problem. The dry bulk carrier fleet improved further to 14.34 years in 1997 from 14.56 years in 1996, reflecting increased scrapping activities in this sector. Containerships still represented the youngest fleet in 1997, with a decrease in average age to 11.85 years in 1997 from 12.00 years in 1996.

33. By country grouping, the major open-registry countries had the lowest average age of all ships (14.48 years in 1997 versus 14.72 in 1996), slightly younger than that of the developed market-economy countries (14.68 years compared with 14.93 years in 1996), and that of developing countries (14.75 years in 1997 compared with 14.81 years in 1996). The average age of tonnage registered in the socialist countries of Asia increased further, to an average age of 17.20 years in 1997 as compared with 16.76 years in 1996. The countries of Central and Eastern Europe continued to have the oldest fleet, with vessels built over 15 years ago representing 67.6 per cent of their total fleet in 1997 as compared with 65.7 per cent in 1996.

Table 7

Distribution of the world fleet and TEU capacity of fully cellular containerships by groups of countries, in 1995, 1996 and 1997
(end-of-year figures)

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares[a]		
	1995	1996	1997	1995	1996	1997
World total	1 771	1 954	2 204	2 720 092	3 089 682	3 632 070
				100.0	*100.0*	*100.0*
Developed market-economy countries	441	592	675	827 618	1 170 879	1 398 781
				30.4	*37.9*	*38.5*
Major open-registry countries	609	683	800	898 270	1 066 261	1 315 130
				33.0	*34.5*	*36.2*
Total, developed market-economy and major open-registry countries	1 050	1 275	1 475	1 725 888	2 237 140	2 713 911
				63.5	*72.4*	*74.7*
Countries of Central and Eastern Europe (including the former USSR)	50	45	35	29 502	27 120	23 276
				1.1	*0.9*	*0.6*
Socialist countries of Asia	67	98	99	95 173	95 882	96 739
				3.5	*3.1*	*2.7*
Developing countries	384	441	504	453 478	549 555	628 999
				16.7	*17.8*	*17.3*
***of which* in:**						
Africa	5	5	8	4 779	4 779	9 117
				0.2	*0.2*	*0.3*
America	109	126	138	86 566	108 552	119 299
				3.2	*3.5*	*3.3*
Asia	263	305	353	357 282	431 669	496 028
				13.1	*14.0*	*13.7*
Europe	4	5	5	3 711	4 555	4 555
				0.1	*0.1*	*0.1*
Oceania	3	..	-	1 140	..	..
				0.0	..	..
Other, unallocated	200	95	91	416 051	179 985	169 145
				15.3	*5.8*	*4.7*

Source: Compiled by the 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 1997
(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]	Average age (years) 1996 [a]
World total	All ships	100	17.3	14.7	15.7	52.3	14.77	14.94
	Tankers	100	18.4	18.7	8.4	54.5	14.68	14.88
	Bulk carriers	100	18.4	12.2	21.5	47.9	14.34	14.56
	General cargo	100	6.9	9.3	17.8	65.9	17.42	17.29
	Containerships	100	29.3	17.6	16.5	36.6	11.85	12.00
	All others	100	13.8	15.1	17.0	54.1	15.28	15.32
Developed market-economy countries	All ships	100	17.5	13.9	17.4	51.2	14.68	14.93
	Tankers	100	17.9	12.8	10.5	58.8	15.45	15.90
	Bulk carriers	100	15.4	11.2	26.4	47.0	14.60	14.68
	General cargo	100	13.2	14.2	23.3	49.3	14.90	14.87
	Containerships	100	28.6	20.0	12.8	38.7	12.02	12.48
	All others	100	15.0	18.2	19.3	47.6	14.36	14.08
Major open-registry countries	All ships	100	19.3	15.5	13.4	51.8	14.48	14.72
	Tankers	100	20.8	20.9	5.8	52.4	14.10	14.03
	Bulk carriers	100	19.5	12.1	18.3	50.1	14.46	15.20
	General cargo	100	7.4	10.8	19.7	62.0	16.91	16.72
	Containerships	100	30.5	13.9	16.7	39.0	12.17	11.51
	All others	100	17.5	14.7	14.2	53.6	14.88	15.62
Subtotal	All ships	100	18.6	14.9	14.8	51.6	14.54	14.81
	Tankers	100	19.7	17.8	7.6	54.8	14.61	14.76
	Bulk carriers	100	18.4	11.9	20.5	49.2	14.49	15.04
	General cargo	100	9.4	12.0	21.0	57.6	16.22	16.06
	Containerships	100	29.5	17.0	14.7	38.8	12.08	12.02
	All others	100	16.1	16.6	17.0	50.3	14.59	14.75
Countries of Central and Eastern Europe	All ships	100	2.4	11.3	18.7	67.6	17.96	17.64
	Tankers	100	1.5	6.7	20.4	71.4	18.66	18.32
	Bulk carriers	100	0.0	10.9	19.8	69.3	18.39	17.53
	General cargo	100	3.8	11.9	16.8	67.4	17.75	17.89
	Containerships	100	9.2	11.8	41.5	37.5	14.24	14.63
	All others	100	4.2	15.8	16.8	63.2	17.11	16.79
Socialist countries of Asia	All ships	100	11.8	6.6	14.5	67.1	17.20	16.76
	Tankers	100	20.8	7.2	12.5	59.5	15.51	13.96
	Bulk carriers	100	13.3	6.8	15.4	64.6	16.80	16.34
	General cargo	100	3.7	4.7	10.8	80.8	19.48	19.29
	Containerships	100	27.6	14.7	32.4	25.2	11.01	10.98
	All others	100	6.7	6.3	12.1	74.9	18.51	18.72
Developing countries (excluding open-registry countries)	All ships	100	15.9	15.1	18.3	50.8	14.75	14.81
	Tankers	100	13.2	24.3	11.0	51.5	14.62	15.53
	Bulk carriers	100	21.7	13.3	26.4	38.5	13.00	12.63
	General cargo	100	4.2	4.8	14.4	76.6	19.00	18.80
	Containerships	100	34.4	20.0	13.1	32.5	10.81	12.10
	All others	100	9.1	10.5	18.1	62.3	16.80	16.47

Source: Compiled by the 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.

Delivery of newbuildings

34. Following the exceptionally high level of newbuilding activities in 1996, when 1,082 vessels aggregating 38.2 million dwt were delivered, newbuildings in 1997 declined by 1.4 million dwt or 3.5 per cent from the previous year to 1,065 vessels aggregating 36.8 million dwt. Deliveries of oil tankers decreased significantly to 7.4 million dwt in 1997 from the 98 vessels of 11.6 million dwt in 1996, whereas dry bulk carriers increased substantially in 1997 to 298 vessels of 18.8 million dwt. In the "others" category, containerships accounted for nearly half of the units newly delivered (see table 9).

Demolition of ships

35. Trends in tonnage, types and average age of broken-up vessels are reflected in tables 10, 11 and 12. In 1997, total tonnage sold for demolition decreased by 3.3 million dwt or 18.2 per cent from the tonnage of the previous year to 14.8 million dwt, which accounted for 1.9 per cent of the world total deadweight tonnage. The tonnage for oil tankers continued to decrease in 1997 to 3.6 million dwt from 6.6 million dwt in 1996. Only eight VLCCs were sold for demolition in 1997, six fewer than in the previous year, and 22 less than in 1995. These figures clearly illustrate that the VLCC market during 1997 was so attractive that only the economically untradeable units were destined for breakers. The number of Suezmax tankers broken up was down from nine units in 1996 to four in 1997, while the number of Aframax tankers broken up was up from six units in 1996 to seven in 1997. The smaller sizes in the range of the 10,000-50,000 dwt class experienced a reduction of 50 per cent, from 33 units in 1996 to 16 units in 1997. In overall demolition sales of tankers, it was evident that in 1997 owners endeavoured to keep their vessels trading for as long as possible, as the average age of tankers sold for demolition increased from the last five years' average of 25.4 years to as high as 28.2 years in 1997. Only four combined carriers were sold in 1997, totalling 423,000 dwt; this was a drastic reduction from 15 units of 1.9 million dwt in 1996. Dry bulk carriers accounted for the majority of the demolition sales volume in 1997, increasing to 8.2 million dwt in 1997 from 7.6 million dwt in the previous year. This increase can be attributed to the smaller sizes of 10,000-50,000 dwt, which were up from 77 vessels in 1996 to 115 units in 1997. The larger dry bulk carriers, however, showed a decline, with 30 Panamaxes sold, down from 35 in 1996 and 20 Capesize units, down from 25 in 1996. The average age of the dry bulk carriers for demolition in 1997 was 25.3 years, as compared with 24.3 years in 1996. The average age of containerships sold for scrapping significantly decreased in 1997 to 22.8 years from 26.2 years in 1996, while general cargo ships decreased slightly by almost one year to 26.9 years in 1997 from 26.8 years in 1996.[10]

B. OWNERSHIP OF THE WORLD FLEET

Distribution of world tonnage by country groups

36. Table 13 and graph 6 provide data on the distribution of the world fleet by groups of countries for the years 1980, 1996 and 1997. In 1997, tonnage ownership of developed market-economy countries continued to marginally decrease, by 0.5 million dwt or 0.2 per cent to 202.5 million dwt, while major open-registry countries continuously expanded their fleet by 21.5 million dwt or 6.3 per cent to a record high of 361.0 million dwt. Analysis of the open-registry countries' fleet indicates that the developing countries' share of the tonnage registered in major open-registry countries has slowly increased since 1980, when such open-registered tonnage was negligible, reaching one-quarter in 1997. On the other hand, developed market-economy countries' overall share has been on a downward trend, representing two-thirds of the total tonnage registered in major open-registry countries in 1997. The combined share of tonnage of the countries of Central and Eastern Europe and the socialist countries of Asia was less than 10 per cent. The developing countries' tonnage in 1997 continued to increase slightly, by 2.4 million dwt or 1.6 per cent over 1996 to 149.9 million dwt. This represents a tremendous increase over 1980, since when the average annual increase has been 4.8 million dwt or 7.0 per cent. However, their share of the world total deadweight in 1997 slightly declined to 19.3 per cent, as compared with 19.5 per cent in 1996. In 1997, the tonnage of developing countries in Asia decreased by 0.9 million deadweight or 0.8 per cent from the previous year's level to 107.6 million dwt, thus accounting for 71.8 per cent of the developing countries' total, as compared with 73.6 per cent in 1996. Developing countries in America added some 3 million dwt to their aggregate fleet, which reached 34.4 million dwt, while the African developing countries' position stagnated at an insignificant level of 6.5 million dwt or a mere 0.8 per cent of the world fleet. The shares of the socialist countries of Asia and the countries of Central and Eastern Europe of world total deadweight declined in 1997 to 3.4 per cent and 3.1 per cent respectively.

Table 9

Deliveries of newbuildings, 1980, 1985, 1990 and 1991-1997

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
1991	101	12 031	8	1 120	86	5 578	570	5 025	765	23 754
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 [c]	68	7 392	3	330	298	18 794	696	10 330	1 065	36 846

Source: Fearnleys (Oslo), *Review 1997*.

a Vessels over 10,000 dwt.

b Sea-going, cargo-carrying vessels of over 1,000 grt.

c Provisional.

Table 10

Broken-up tonnage trends, 1980 and 1990-1997

Broken-up tonnage	1980	1990	1991	1992	1993	1994	1995	1996	1997
Tonnage sold for breaking (million dwt)	10.0	3.3	4.7	19.0	16.9	20.8	15.3	18.1	14.8
Share of broken-up tonnage in the total world fleet (percentage)	1.5	0.5	0.7	2.7	2.4	2.9	2.1	2.4	1.9

Source: Compiled by the 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, 1992-1997
(thousands of dwt and percentage shares)

Types of vessel	Thousand dwt						Percentages					
	1992	1993	1994	1995	1996	1997	1992	1993	1994	1995	1996	1997
Tankers	11 561	10 665	13 102	10 877	6 550	3578	60.9	63.3	63.1	71.0	36.1	24.2
Combined carriers	1 580	2 040	2 559	1 228	1 861	423	8.3	12.1	12.3	8.0	10.3	2.8
Dry bulk carriers	4 141	2 645	3 829	2 135	7 632	8161	21.8	15.7	18.4	13.9	42.1	55.1
Others	1 693	1 502	1 282	1 081	2 092	2646	8.9	8.9	6.2	7.1	11.5	17.9
Total	18 975	16 852	20 772	15 321	18 135	14 808	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 1988 to 1997 [a]
(years)

Year	Tankers	Dry bulk carriers	Containerships	General cargo ships
1988	24.6	22.4	25.1	24.2
1989	24.9	23.1	27.2	25.5
1990	26.4	21.7	19.5	25.1
1991	25.3	22.0	19.0	24.8
1992	25.8	22.9	19.1	25.7
1993	24.7	24.0	22.9	26.4
1994	24.6	24.1	24.0	27.1
1995	26.1	24.5	24.0	25.8
1996	26.0	24.3	26.2	27.8
1997	28.2	25.3	22.8	26.9

Source: Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics*, *1998*, Nos. 1-2.

[a] Ships of 300 grt and over.

Table 13

Distribution of world tonnage (grt and dwt) by groups of countries of registration, 1980, 1996 and 1997 [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]	1996	1997	1980 [c]	1996	1997
World total	414.5	509.4	523.7	682.8	758.2	775.9
	100.0	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*
Developed market-economy countries	214.3	142.2	143.7	350.1	203.0	202.5
	51.7	*27.9*	*27.4*	*51.3*	*26.8*	*26.1*
Major open-registry countries	114.2	216.4	230.7	212.6	339.5	361.0
	27.6	*42.5*	*44.1*	*31.1*	*44.8*	*46.5*
Countries of Central and Eastern Europe (including the former USSR)	32.0	26.6	22.8	37.8	29.0	24.3
	7.7	*5.2*	*4.4*	*5.5*	*3.8*	*3.1*
Socialist countries of Asia	7.3	18.5	17.9	10.9	27.1	26.0
	1.8	*3.6*	*3.4*	*1.6*	*3.6*	*3.4*
Developing countries	44.7	97.4	100.2	68.4	147.5	149.9
	10.8	*19.1*	*19.1*	*10.0*	*19.5*	*19.3*
***of which* in:**						
Africa	4.9	5.1	5.1	7.2	6.5	6.5
America	14.5	21.7	23.8	21.8	31.5	34.4
Asia	25.0	69.8	70.2	39.1	108.5	107.6
Europe	0.1	0.6	0.9	0.2	0.8	1.2
Oceania	0.1	0.2	0.2	0.1	0.2	0.2
Other, unallocated	2.0	8.3	8.4	3.0	12.1	12.1
	0.5	*1.6*	*1.6*	*0.4*	*1.6*	*1.6*

Source: Compiled by the 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 1996 amounted respectively to 3.0, 1.0 and 1.2 million grt (3.7, 1.9 and 1.9 million dwt).

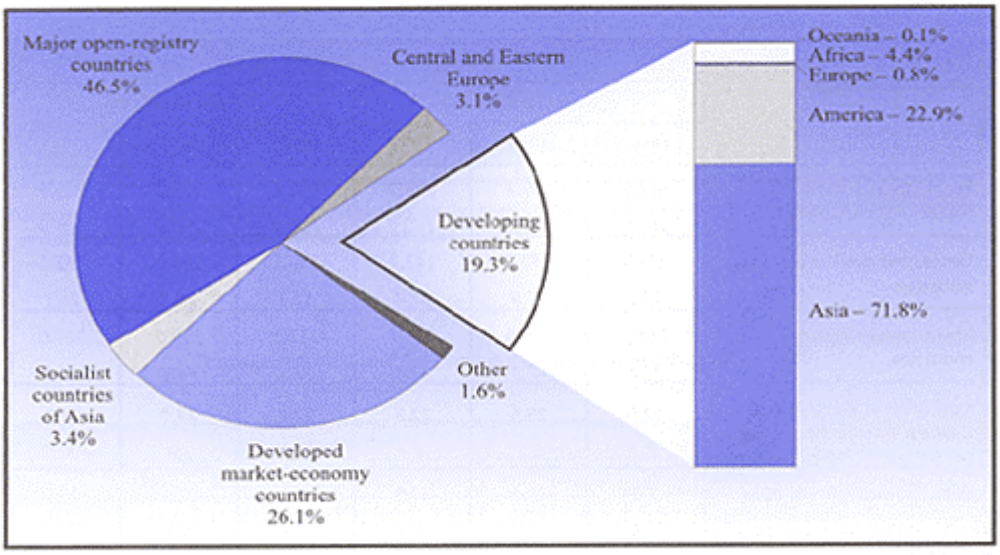
b Percentage shares are shown in italics.

c Mid-year figure.

d Average.

Graph 6

World tonnage by country groups, 1997
(percentage distribution of dwt)



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

Distribution of world tonnage by types of vessel

37. Table 14 provides more detailed data on fleet distribution by types of vessel and country groups for the years 1980, 1996 and 1997. In the oil tanker sector, the share of developed market-economy countries continued to decrease marginally to 30.8 per cent in 1997. Conversely, open-registry countries' share increased to 50.2 per cent, reflecting the unbroken trend, particularly for owners in developed market-economy countries, to register tanker tonnage under open registries. Developing countries increased their share from 15.0 per cent to 15.6 per cent in 1997, primarily reflecting the increasing share of Asian and American developing countries, which rose in 1997 to 11.6 per cent and 3.2 per cent of world tanker tonnage respectively.

38. In the dry bulk carrier sector, the tonnage share of developed market-economy countries in the world total continued to decrease to 18.8 per cent in 1997. As in the case of tanker tonnage, major open-registry countries continuously expanded their share, reaching 51.9 per cent in 1997. The developing countries' share declined to 20.6 per cent as compared with 22.1 per cent in 1996. The share of developing countries in Asia decreased similarly to 15.9 per cent in 1997. Nevertheless, in terms of tonnage share, dry bulk carriers continued to represent the most important type of vessel in Asian fleets.

39. In the sector of general cargo ships, the developed market-economy countries are consolidating their share of ownership of such ships at around 19 per cent, while major open-registry countries continued to increase their share in 1997, reaching 36.1 per cent as compared with 34.8 per cent in 1996. Developing countries expanded their share to 26.9 per cent in 1997 from 25.8 per cent in 1996. It is in this type of vessel that the share of developing countries in the world fleet is continuously the highest. The overall containership sector continued to expand to 8.1 per cent of the world total deadweight tons in 1997, representing a constant expansion from 3.9 per cent in 1990 and 1.6 per cent in 1980. Developed market-economy countries very marginally increased their share of the containership deadweight tonnage to 37.0 per cent in 1997. The major open registry countries' share

Table 14

Percentage shares of world tonnage by types of vessel and country groups, in 1980 (as at 1 July), 1996 and 1997 (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
	1996	758.2	100.0	35.8	35.9	13.8	6.4	8.0
	1997	775.9	100.0	35.1	36.2	13.4	8.1	7.2
				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
	1996	203.0	26.8	31.3	20.1	19.3	36.6	41.3
	1997	202.5	26.1	30.8	18.8	19.0	37.0	40.2
Major open-registry countries	1980	212.5	31.1	36.2	31.7	20.8	13.5	17.0
	1996	339.5	44.8	49.8	48.3	34.8	35.1	31.4
	1997	361.0	46.5	50.2	51.9	36.1	36.9	32.4
Countries of Central and Eastern Europe	1980	37.8	5.5	2.8	4.2	12.3	2.9	19.2
	1996	29.0	3.8	1.8	3.2	10.6	1.0	6.3
	1997	24.3	3.1	1.4	2.8	8.4	0.7	5.6
Socialist countries of Asia	1980	10.9	1.6	0.6	1.6	4.7	0.1	1.3
	1996	27.1	3.6	1.3	4.3	8.3	3.5	2.4
	1997	26.0	3.4	1.2	4.0	8.0	3.1	2.2
Developing countries	1980	68.4	10.0	7.7	9.2	17.6	7.6	12.0
	1996	147.5	19.5	15.0	22.1	25.8	18.1	18.0
	1997	149.9	19.3	15.6	20.6	26.9	17.7	18.8
***of which* in:**								
Africa	1980	7.1	1.0	1.1	0.1	2.3	..	2.1
	1996	6.5	0.9	0.8	0.5	1.8	0.2	2.0
	1997	6.5	0.8	0.8	0.5	1.6	0.3	1.9
America	1980	21.8	3.2	2.3	3.3	5.6	0.1	3.7
	1996	31.5	4.2	2.9	3.7	8.8	3.3	4.7
	1997	34.4	4.4	3.2	3.9	9.4	3.2	5.0
Asia	1980	39.1	5.7	4.3	5.7	9.8	2.7	5.7
	1996	108.5	14.3	11.3	17.8	14.9	14.4	11.1
	1997	107.6	13.9	11.6	15.9	15.4	14.1	11.8
Europe	1980	0.2	-	-	-	0.1	-	-
	1996	0.7	0.1	-	0.1	0.3	0.2	-
	1997	1.2	0.2	-	0.3	0.3	0.1	-
Oceania	1980	0.2	-	-	-	0.1	-	-
	1996	0.2	-	-	-	0.1	-	0.1
	1997	0.2	-	-	-	0.1	-	0.1
Other, unallocated	1980	3.0	0.4	0.2	0.6	0.9	1.6	0.1
	1996	12.1	1.6	0.8	2.0	1.3	5.7	0.7
	1997	12.1	1.6	0.8	1.9	1.5	4.7	0.8

Source: Compiled by the 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.

continued to expand, reaching 36.9 per cent in 1997, most of which represented ships owned by owners in developed market-economy countries. The share of developing countries in the world containership fleet decreased to 17.7 per cent in 1997 from 18.1 per cent in 1996, which was an increase over the previous years. It is notable that regional imbalances continued to characterize this sector, with Asian developing countries alone accounting for 14.1 per cent in 1997 (14.4 per cent in 1996) of the world containership deadweight tonnage or about 80 per cent of that of developing countries.

The structure of the fleet of main country groups

40. Table 15 provides data on the structure of the merchant fleet of the main country groups. Developed market-economy countries' tonnage in oil tankers and dry bulk carriers reached 67.6 per cent of the group's total fleet, which is, however, only a marginal decrease from 68.8 per cent in 1996. Their general cargo ships amounted to 9.7 per cent, which is also slightly less than the 10.0 per cent in the previous year, while containerships accounted for 10.2 per cent as compared with 8.8 per cent in 1996. Major open-registry countries have a greater proportion of their fleets in the oil tanker and dry bulk carrier sectors, accounting for a combined 78.2 per cent in 1997, which very marginally declined from the 1996 share of 78.6 per cent. Their share of general cargo ships (10.4 per cent) was less than the 10.7 per cent in 1996. However, their share of containerships in 1997 (5.7 per cent) was higher than in 1996 (5.0 per cent). In absolute terms, the containership deadweight tonnage (20.7 million dwt) of major open-registry countries in 1997 was the same as that of the developed market-economy countries (20.7 million dwt). The distribution of tonnage between developed market-economy countries and open-registry countries continues to be determined by the capital intensity of ships and operational considerations. Accordingly, there is a bias towards capital-intensive container tonnage under developed countries' flags, while dry and liquid bulk vessels with different operating patterns that are not integrated into transport chains are primarily flagged under open registries.

41. 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 (42.1 per cent in 1995, 40.8 per cent in 1996 and 38.6 per cent in 1997). Conversely, oil tankers increased their share to 28.3 per cent in 1997 as compared with 26.7 per cent in 1995, while their containership fleets also marked a slight increase to 6.6 per cent in 1997 from 6.0 per cent in 1996 (and from 5.5 per cent in 1995). In the countries of Central and Eastern Europe, general cargo ships are still dominant, though less so than in the past, accounting for 36.2 per cent in 1997 (as compared with 38.3 per cent in 1996 and 39.4 per cent in 1995), while containerships have remained at a low level of 1.6 per cent since 1995. The socialist countries of Asia continued to have a predominant share of both dry bulk carriers (43.5 per cent in 1997, 42.8 per cent in 1996 and 42.2 per cent in 1995) and general cargo ships, whose share has remained at around 32 per cent since 1995.

C. REGISTRY OF VESSELS

The 35 most important maritime countries and territories

42. The 35 most important maritime countries and territories in terms of deadweight are ranked in table 16. The table lists the number and deadweight tonnage of merchant vessels registered under the national flag or a foreign flag when the controlling interest of the vessel is located in the domicile country or territory. In 1997, these 35 countries and territories controlled 93.60 per cent of the world merchant fleet (93.48 per cent in 1996), the five largest controlling 49.9 per cent (50.0 per cent in 1996) and the top 10 controlling 67.4 per cent (66.6 per cent in 1996).

43. Among these countries and territories, the increasing trend to register under a foreign flag continued in 1997. Total tonnage registered under foreign flags in 1997 reached 386.5 million dwt, representing 58.8 per cent of the 35 countries' total fleet, as compared with 56.3 per cent in 1996 (and 54.3 per cent in 1995). These figures indicate that more than half of the tonnage beneficially owned by the 35 countries and territories was not registered in the countries of domicile of the parent enterprises. While registry under foreign flags is a long-standing practice, mainly by owners from developed market-economy countries, it is now becoming common practice in all country groups, including developing countries. In this context, it is notable that the 13 developing countries and territories (including Hong Kong (China), but excluding Taiwan Province of China) listed in the table had about half of their tonnage (50.7 per cent) registered under foreign flags.

Table 15

Structure of the merchant fleets of the main country groups, as at 31 December 1997 [a]
(millions of dwt and percentage shares)

	World		Developed market-economy countries		Major open-registry countries		Developing countries		Countries of Central and Eastern Europe		29 Socialist countries of Asia	
	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%
Total fleet	775.9	100.0	202.5	100.0	361.0	100.0	149.9	100.0	24.3	100.0	26.0	100.0
Oil tankers	272.0	35.1	83.9	41.4	136.5	37.8	42.4	28.3	3.9	16.0	3.3	12.7
Bulk carriers	281.0	36.2	52.9	26.1	145.9	40.4	57.8	38.6	7.8	31.8	11.3	43.5
General cargo	103.9	13.4	19.8	9.8	37.5	10.4	27.9	18.6	8.8	36.2	8.3	31.9
Containerships	56.1	7.2	20.7	10.2	20.7	5.7	9.9	6.6	0.4	1.6	1.7	6.5
Other ships	62.9	8.1	25.3	12.5	20.4	5.7	11.8	7.9	3.5	14.4	1.4	5.4

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

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

Table 16

The 35 most important maritime countries and territories, as at 31 December 1997 [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	848	2 240	3 088	42 683 115	81 158 625	123 841 740	65.53	17.63
Japan	882	1 925	2 807	20 295 139	68 959 222	89 254 361	77.26	12.71
Norway	863	657	1 520	29 542 962	24 215 926	53 758 888	45.05	7.65
United States	473	752	1 225	12 393 125	32 924 147	45 317 272	72.65	6.45
China	1 574	432	2 006	22 147 888	15 883 062	38 030 950	41.76	5.41
Hong Kong	101	506	607	5 751 272	29 812 206	35 563 478	83.83	5.06
Republic of Korea	485	370	855	9 341 432	15 537 176	24 878 608	62.45	3.54
United Kingdom	390	465	855	7 418 936	14 438 497	21 857 433	66.06	3.11
Germany	530	1 046	1 576	7 761 182	13 854 842	21 616 024	64.10	3.08
Sweden	174	201	375	1 785 434	17 404 165	19 189 599	90.70	2.73
Taiwan Province of China	179	278	457	7 862 811	8 239 598	16 102 409	51.17	2.29
Singapore	439	253	692	10 309 153	5 462 719	15 771 872	34.64	2.25
Russian Federation	2 356	246	2 602	10 680 528	4 121 042	14 801 570	27.84	2.11
India	369	75	444	10 775 080	1 610 858	12 385 938	13.01	1.76
Denmark	427	215	642	6 711 596	5 437 446	12 149 042	44.76	1.73
Italy	429	152	581	6 714 285	5 108 419	11 822 704	43.21	1.68
Saudi Arabia	66	62	128	993 525	10 244 881	11 238 406	91.16	1.60
Brazil	197	22	219	6 895 578	2 840 337	9 735 915	29.17	1.39
Turkey	440	34	474	9 045 847	365 870	9 411 717	3.89	1.34
France	175	110	285	4 425 670	3 172 515	7 598 185	41.75	1.08
Iran, Islamic Rep. of	146	5	151	6 099 433	185 112	6 284 545	2.95	0.89
Switzerland	15	218	233	698 183	5 420 017	6 118 200	88.59	0.87
Netherlands	476	204	680	2 699 082	2 742 815	5 441 897	50.40	0.77
Malaysia	227	20	247	4 418 729	131 930	4 550 659	2.90	0.65
Philippines	337	13	350	4 427 163	65 494	4 492 657	1.46	0.64
Indonesia	466	94	560	3 128 578	1 088 907	4 217 485	25.82	0.60
Belgium	26	133	159	106 543	4 086 114	4 192 657	97.46	0.60
Ukraine	476	98	574	2 276 651	1 904 818	4 181 469	45.55	0.60
Romania	208	21	229	2 915 691	835 016	3 750 707	22.26	0.53
Thailand	234	59	293	2 468 586	1 166 244	3 634 830	32.09	0.52
Spain	120	188	308	406 866	3 067 127	3 473 993	88.29	0.49
Australia	67	29	96	2 744 238	492 672	3 236 910	15.22	0.46
Croatia	74	90	164	1 123 098	2 076 919	3 200 017	64.90	0.46
Finland	111	47	158	1 100 112	2 099 649	3 199 761	65.62	0.46
Kuwait	30	6	36	2 769 183	351 028	3 120 211	11.25	0.44
Total (35 countries)	14 410	11 266	25 676	270 916 694	386 505 415	657 422 109	58.79	93.60
Percentage	56.1	43.9	100	41.2	58.8	100		
World total	16 772	12 347	29 119	295 035 670	407 349 399	702 385 069	58.00	100.00
Percentage	57.6	42.4	100	42.0	58.0	100		

Source: 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).

While this is a substantial share, there are considerable fluctuations among countries. In some developing countries and territories, for instance, foreign registry accounted for around 90 per cent of their total tonnage (91.2 per cent for Saudi Ar abia and 83.8 per cent for Hong Kong, China), while others hardly made any use of foreign flag facilities (1.5 per cent for the Philippines, 2.9 per cent for Malaysia and 3.0 per cent for the Islamic Republic of Iran). For developed market - economy countries that are among the 35 most important maritime countries, the share of foreign-registered tonnage was considerably higher than in developing countries, standing at 64.5 per cent (up from 58 per cent in 1996).

Major open registries

44. Foreign registers continue to expand their share in the world merchant fleet. Table 17 summarizes the tonnage distribution of the seven major open-registry countries by principal types of vessel. The total tonnage registered in 1997 increased significantly by 8.0 per cent to 328.8 million dwt from 304.4 million dwt in the previous year. Panama heads the list, expanding its fleet in 1997 by as much as 17.3 million dwt or 15.8 per cent to 126.2 million dwt, and is followed by Liberia, whose fleet marginally decreased by 1.9 per cent to 90.9 million dwt. Malta expanded its fleet by a remarkable 6.2 million dwt or 22.4 per cent to 33.7 million dwt from 27.5 million dwt in 1996. Cyprus' fleet continued to decrease, falling by 0.3 million dwt to 32.8 million dwt from 33.1 million dwt in the previous year. The analysis by type of vessel shows that oil tankers represented 39.8 per cent of the total deadweight in 1997 as compared with 41.5 per cent in 1996, followed by dry bulk carriers, which increased their share to 39.3 per cent in 1997 from 37.9 per cent in the previous year, and general cargo ships, with 9.7 per cent in 1997 (down from 9.8 per cent in 1996). The share of containerships continued to increase, reaching 5.9 per cent in 1997 from a level of 5.3 per cent in 1996, reflecting the increasing trend to flag out in this sector of the global maritime transport industry as well.

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, except Cyprus, the share of tonnage owned by nationals is minimal or zero. On the other hand, with regard to international registry, national ownership remained at a level of nearly 90 per cent or more. These proportions are very similar to those of the previous year.

47. The true nationality of the vessels operated within the seven major open-registry fleets is analysed in table 19. In 1997, total tonnage of the 22 countries or territories accounted for 91.9 per cent of the total seven major open-registry fleets, remaining at almost the same level as in 1996. Ownership is concentrated in 10 countries or territories, which control 79.2 per cent of the deadweight of vessels of the total seven major open-registry fleets. On a similar basis, the top five countries or territories control 61.2 per cent. Greece was ranked first in 1997 for the fourth consecutive year, with the largest share (22.8 per cent) of the total seven major open-registry fleets and also with the largest total foreign-flag ownership position, representing 81.16 million dwt, ahead of Japan with 68.96 million dwt.

Table 17

Tonnage distribution of major open-registry fleets, [a] as at 31 December 1997

Country	Oil tankers		Dry bulk carriers		General cargo		Containerships		Others		1997 total		32 1996 total	
	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt
Panama	381	37 152	1 104	60 372	1 321	11 320	398	11 272	663	6 045	3 867	126 161	3 478	108 904
Liberia	389	48 088	421	28 067	239	3 703	144	4 001	300	7 057	1 493	90 916	1 515	92 714
Cyprus	130	6 390	455	17 827	588	5 747	97	1 969	80	817	1 350	32 750	1 348	33 050
Bahamas	156	19 624	131	7 203	458	6 503	44	912	194	2 025	983	36 267	959	35 379
Malta	248	15 598	315	12 795	432	4 059	31	625	65	637	1 091	33 714	930	27 535
Bermuda	25	4 142	18	1 943	19	226	17	548	18	525	97	7 384	80	5 082
Vanuatu	2	9	25	912	45	386	0	0	47	296	119	1 603	126	1 757
Total	1 331	131 003	2 469	129 119	3 102	31 944	731	19 327	1 367	17 402	9 000	328 795	8 436	304 421

Source: Compiled by the 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 1997 [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	126 161	0	0.0
Liberia	90 916	0	0.0
Cyprus	33 416	665	2.0
Bahamas	36 565	299	0.8
Norwegian International Ship Registry	30 501	26 505	86.9
Malta	33 720	7	0.0
Danish International Ship Registry	6 699	6 447	96.2
Bermuda	7 384	0	0.0
Vanuatu	1 603	0	0.0

Source: Compiled by the 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 1997

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	11 317	176	12.4	14 009	465	11.1	23 765	731	72.6	6 879	172	19.0	-	-	-	18 990	471	56.3	107	2	6.7	75 067	2 017	22.8	81 159	2 240
Japan	6 474	150	7.1	50 457	1 446	40.0	194	19	0.6	629	27	1.7	-	-	-	-	-	-	496	27	30.9	58 250	1 669	17.7	68 959	1 925
United States	12 229	194	13.5	2 710	135	2.1	322	32	1.0	5 496	97	15.2	821	12	11.1	265	4	0.8	251	32	15.7	22 094	506	6.7	32 924	752
Hong Kong	7 130	91	7.8	16 523	256	13.1	26	2	0.1	492	10	1.4	-	-	-	121	7	0.4	179	5	11.2	24 471	371	7.4	29 812	506
Norway	7 435	152	8.2	1 657	76	1.3	138	12	0.4	7 810	172	21.5	672	8	9.1	3 930	77	11.7	-	-	-	21 642	497	6.6	24 216	657
United Kingdom	3 068	55	3.4	641	63	0.5	149	14	0.5	2 375	115	6.5	3 987	43	54.0	172	2	0.5	-	-	-	10 392	292	3.2	14 438	465
China	5 920	94	6.5	6 829	192	5.4	335	21	1.0	-	-	-	-	-	-	410	11	1.2	-	-	-	13 494	318	4.1	15 883	432
Republic of Korea	1 521	14	1.7	13 626	296	10.8	-	-	-	-	-	-	-	-	-	36	4	0.1	-	-	-	15 183	314	4.6	15 537	370
Sweden	7 175	37	7.9	234	5	0.2	750	10	2.3	1 599	26	4.4	916	2	12.4	-	-	-	-	-	-	10 674	80	3.2	17 404	201
Germany	5 422	211	6.0	1 199	29	1.0	2 546	219	7.8	47	14	0.1	54	1	0.7	411	28	1.2	-	-	-	9 679	502	2.9	13 855	1 046
Saudi Arabia	7 499	24	8.2	154	10	0.1	-	-	-	2 012	7	5.5	25	2	0.3	-	-	-	-	-	-	9 690	43	2.9	10 245	34 62
Taiwan Province of China	569	11	0.6	6 294	234	5.0	206	2	0.6	-	-	-	-	-	-	-	-	-	-	-	-	7 069	247	2.2	8 240	278
Singapore	1 047	21	1.2	1 202	79	1.0	-	-	-	586	8	1.6	-	-	-	111	6	0.3	-	-	-	2 946	114	0.9	5 463	253
Denmark	433	12	0.5	225	10	0.2	-	-	-	573	51	1.6	-	-	-	-	-	-	70	1	4.4	1 301	74	0.4	5 437	215
Russian Federation	1 813	25	2.0	114	16	0.1	1 297	65	4.0	229	15	0.6	-	-	-	495	75	1.5	-	-	-	3 948	196	1.2	4 121	246
Switzerland	784	14	0.9	2 132	89	1.7	74	5	0.2	176	3	0.5	-	-	-	1 551	66	4.6	-	-	-	4 717	177	1.4	5 420	218
Italy	528	7	0.6	311	17	0.2	201	7	0.6	1 055	30	2.9	-	-	-	1 768	40	5.2	-	-	-	3 863	101	1.2	5 108	152
Belgium	1 433	12	1.6	196	2	0.2	166	15	0.5	190	18	0.5	-	-	-	-	-	-	-	-	-	1 985	47	0.6	4 086	133
France	345	3	0.4	619	18	0.5	-	-	-	660	26	1.8	-	-	-	-	-	-	-	-	-	1 624	47	0.5	3 173	110
Spain	95	1	0.1	277	41	0.2	104	10	0.3	825	8	2.3	-	-	-	-	-	-	-	-	-	1 301	60	0.4	3 067	188
Croatia	679	15	0.7	-	-	-	-	-	-	44	1	0.1	-	-	-	842	36	2.5	-	-	-	1 565	52	0.5	2 077	90
Finland	-	-	-	-	-	-	-	-	-	1 811	29	5.0	-	-	-	87	1	0.3	-	-	-	1 898	30	0.6	2 100	47
Subtotal	82 916	1 319	91.3	119 409	3 479	94.7	30 273	1 164	92.5	33 488	829	92.2	6 475	68	87.6	29 189	828	86.6	1 103	67	68.9	302 853	7 754	91.9	372 724	10 586
Others	8 000	174	8.7	6 752	388	5.3	2 477	186	7.5	2 779	154	7.8	909	29	12.4	4 525	263	13.4	500	52	31.1	25 942	1 246	8.1	34 625	1 761
Total	90 916	1 493	100.0	126 161	3 867	100.0	32 750	1 350	100.0	36 267	983	100.0	7 384	97	100.0	33 714	1 091	100.0	1 603	119	100.0	328 795	9 000	100.0	407 349	12 347

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

D. SHIPBUILDING, THE SECOND-HAND MARKET AND DEMOLITION

Newbuilding orders

47. A significantly larger number of newbuilding contracts were placed in 1997 than in the previous year, with a tonnage increase of 53.0 per cent to 57.2 million dwt, which was also a record high in terms of deadweight tonnage for a single year (see table 20). In the tanker sector, owners who had experienced very favourable charter rates for some months in 1997 increased their interest in large tankers, which had started in the second half of 1996. Newbuilding activities increased in 1997, reaching a record high volume of orders for 428 vessels totalling 32.5 million dwt, a level unknown since 1975. As regards dry bulk carriers, the charter rates in the dry bulk market in general remained at a relatively unfavourable level throughout 1997. This was partly attributable to the many new dry bulk carriers which had been ordered in 1994 and 1995 and were delivered in 1997. This flow of new tonnage, coupled with rather uncertain market prospects, did not induce owners to place orders at the same level as in 1995 and before. Nevertheless, the volume of new dry bulk carriers ordered in 1997 increased by 26.2 per cent to 18.0 million dwt as compared to 14.3 million dwt in 1996. These orders were placed predominantly by owners in the Far East and South-East Asia.

48. Containerships have been an important segment of newbuilding orders during the 1990s, filling the order books of yards in the Far East and Europe, particularly with orders from German owners. However, the charter rates for containerships have been under pressure as a result of the substantial numbers of new ships delivered. The number of speculative orders for larger containerships decreased in 1997. All in all, the total tonnage for containerships decreased by 48.5 per cent to 3.6 million dwt (as compared with 7.0 million dwt in 1996). For other types of vessel, such as general cargo ships and passenger ferries, the level of newbuilding activities remained relatively stable. A total of about 3.0 million dwt was ordered in 1997, compared with 2.3 million dwt in 1996.[11]

Tonnage on order

49. 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 1997 reached 81.2 million dwt, an increase of as much as 16.4 million dwt or 25.3 per cent over the volume at the end of the previous year. Tonnage on order by developed market-economy countries amounted to 22.0 million dwt, representing 27.1 per cent of the world total tonnage on order as compared with 25.7 per cent at the end of 1996. Major open-registry countries accounted for 43.6 million dwt or 53.7 per cent of tonnage on order as compared with 35.3 million dwt in 1996, clearly underlining the trend towards open-registry facilities.

50. Developing countries' tonnage stood at 9.5 million dwt or 11.7 per cent of the world total tonnage on order at the end of 1997, as compared with 8.6 million dwt or 13.2 per cent in 1996. Tonnage on order by Asian developing countries, which accounted for 90.5 per cent of developing countries' total tonnage ordered in 1997, increased by 1.5 million dwt from 7.1 million dwt in 1996. The share of the countries of Central and Eastern Europe continued to decrease very slightly in 1997, falling to 1.3 million dwt or 1.6 per cent of the world total on order, while the share of the socialist countries of Asia continued to recover in 1997, ending the year with 1.5 million dwt or 1.8 per cent of the world total on order as compared with 1.2 million dwt or 1.9 per cent in the previous year. The stagnation in African shipping can be expected to continue, given the low rate of newbuilding orders of only 0.1 per cent of the 1997 world total on order. This share continues the downward trend observed in previous years, from 0.5 per cent in 1995 to 0.4 per cent in 1996.

51. The developing countries' share of tonnage on order decreased in 1997 for oil tankers, dry bulk carriers and other types of vessel to 12.0 per cent, 9.8 per cent and 10.1 per cent respectively (as compared with 15.8 per cent, 12.4 per cent and 14.2 per cent respectively in 1996). On the other hand, their share in the 1997 orderbook for general cargo ships and containerships increased to 12.2 per cent and 17.2 per cent respectively from 6.6 per cent and 13.5 per cent respectively in 1996. The share of Asian developing countries in orders for oil tankers, dry bulk carriers and other types of vessel in 1997 declined to 11.2 per cent, 8.4 per cent and 7.6 per cent respectively as compared with 11.9 per cent, 10.6 per cent and 13.0 per cent respectively in 1996, while their share in orders for general cargo ships and containerships rose to 10.2 per cent and 15.1 per cent respectively as compared with 4.8 per cent and 11.9 per cent respectively in 1996.

Table 20

Newbuilding contracts placed for the main types of ship [a] in 1993-1997 and 1998

(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
1993	267	17 327	299	18 303	1	83	261	2 102	182	5 057	122	163	1 132	43 035
1994	256	13 833	339	19 896	2	220	227	1 493	242	6 497	118	159	1 184	42 098
1995	243	9 143	381	22 418	4	440	345	2 449	345	8 562	144	224	1 462	43 236
1996	274	13 875	271	14 250	-	-	257	2 107	292	6 978	144	155	1 238	37 365
January 1997	22	680	17	1 047	-	-	12	86	11	384	6	12	68	2 209
February 1997	30	2 502	15	582	-	-	17	100	35	483	10	21	107	3 688
March 1997	26	2 689	31	1 770	-	-	25	233	29	1 077	3	8	114	36 5 777
April 1997	55	3 464	28	1 630	-	-	26	288	21	397	5	15	135	5 794
May 1997	47	2 514	16	1 141	-	-	16	86	14	225	9	10	102	3 976
June 1997	44	4 231	30	1 867	2	220	26	189	2	15	6	6	110	6 528
July 1997	45	3 371	31	2 096	-	-	23	280	9	86	9	5	117	5 838
August 1997	25	1 082	21	1 446	-	-	29	277	8	120	10	2	93	2 927
September 1997	19	2 568	33	2 073	-	-	37	260	10	318	10	19	109	5 238
October 1997	48	5 870	29	1 706	-	-	24	238	5	65	9	12	115	7 891
November 1997	33	1 787	16	1 382	-	-	34	249	14	310	9	10	106	3 738
December 1997	34	1 758	15	1 243	-	-	30	415	8	138	10	29	97	3 583
Total 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

Source: *Shipping Statistics and Market Review, 1997*, 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 1997
(thousands of dwt)

Countries of registry	All ships	Oil tankers	Dry bulk carriers	General cargo	Container ships	Other ships
World total	81 227	36 649	22 466	4 935	9 266	7 911
Developed market-economy countries	21 969	9 642	4 062	1 894	3 439	2 932
Major open-registry countries	43 581	20 334	14 153	1 808	3 918	3 368
Countries of Central and Eastern Europe	1 299	350	407	289	69	184
Socialist countries of Asia	1 461	12	1 064	262	117	6
Developing countries, total	9 499	4 364	2 176	570	1 607	782
***of which* in:**						
Africa	90	3	64	-	13	10
America	809	220	167	110	169	143
Asia	8 599	4 141	1 945	459	1 425	629
Europe [a]	-	-	-	-	-	-
Oceania	0	0	0	0	0	0
Unallocated	3 416	1 947	602	112	116	639

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

a Not reported.

Prices of newbuildings and second-hand tonnage

52. Newbuilding prices for the main types of vessel are indicated in table 22. Overall price levels for newbuildings in 1997 ended the year relatively unchanged from those of the previous year, except in the case of oil tankers. Oil tanker newbuilding prices especially for larger units, declined by 2-4 per cent in 1997 from the 1996 level. This reflects the fact that, despite the high volume represented by oil tanker newbuilding contracts ? which accounted for 57 per cent of the 1997 total newbuilding contracts in terms of deadweight tons ? fierce competition among Far Eastern shipyards exercised downward pressure on the prices for oil tankers. A look in the monthly orderbook for oil tankers indicates that oil tanker newbuilding prices were maintained at a relatively high level in the six months from February to July 1997, when nearly 60 per cent of the record-high contracts were placed.

53. For second-hand dry bulk carriers, generally, prices in 1997 climbed steadily towards a peak in the third quarter before falling. Prices for larger sizes, particularly for modern Capesize units (which were attracting prices that were 12-13 per cent higher than in 1996), went up, whilst those for smaller units declined marginally from the 1996 level. The volume of sales rose by 65 per cent as compared with 1996, reflecting the positive investment mood in a financial market offering low interest rates. Greek buying activity accounted for 55-60 per cent of the total transactions. Turkish and Norwegian buyers played a moderate role compared with that in the previous year. With the growing uncertainty in Asian economic activities in 1997, demand for second-hand oil tankers decreased. Buyers were sceptical about market prospects, and were especially concerned about the Asian turbulence and its subsequent impact on crude oil demand. Prices for modern second-hand handy, Aframax and Suezmax units reached the highest level at which it made sense for owners to buy second-hand units rather than order newbuildings (see table 23). The second-hand prices for five-year-old tankers and dry bulk carriers reflect the 1997 world freight market for these types of vessel.

Table 22

Representative newbuilding prices, in 1980, 1985, 1990, 1995-1997 and 1998
(millions of dollars)

Type and size of vessel	1980	1985	1990	1995	1996	1997	Percentage change 1996/1997	1998					
								January	February	March	April	May	June
30 000 dwt bulk carrier	17	11	24	21	19	20	5.3	21	22	23	23	22	39 21
32 000 dwt tanker	19	18	29	30	32	32	0.0	31	30	30	30	29	29
70 000 dwt bulk carrier	24	14	32	28	28	28	0.0	27	26	27	26	25	25
80 000 dwt tanker	28	22	42	43	43	42	-2.3	41	41	40	40	39	38
120 000 dwt bulk carrier	32	27	45	40	41	40	-2.4	40	39	40	40	39	37
250 000 dwt tanker	75	47	90	84	85	82	-3.5	82	81	80	80	76	73
125 000 m^3 LNG	200	200	225	255	255	255	0.0	255	255	255	255	255	255
75 000 m^3 LPG	77	44	78	68	67	67	0.0	71	70	70	70	70	70
1 200 TEUs ro-ro	44	28	36	42	42	42	0.0	42	42	42	42	42	42
15 000 dwt general cargo ship	14	12	24	21	21	21	0.0	21	22	22	21	20	20
2 500 TEUs full containership	..	26	52	50	50	51	2.0	51	51	51	51	51	51

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

Table 23

Second-hand prices for five-year-old vessels, 1991-1997
(as at end of year, in millions of dollars)

Vessel	1991	1992	1993	1994	1995	1996	1997	Percentage change 1996/1997
30 000 dwt tanker	20.0	14.5	18.0	18.0	20.0	22.0	23.0	4.5
80 000 dwt tanker	32.0	22.0	31.0	30.0	31.0	33.0	-	-
130 000 dwt tanker	36.0	29.0	34.5	34.0	35.5	40.0	41.5	3.8
45 000 dwt dry bulk carrier	20.2	17.5	18.5	20.7	22.0	18.5	18.0	-2.7
70 000 dwt dry bulk carrier	24.4	19.0	19.5	21.5	23.0	20.5	21.0	2.4
150 000 dwt dry bulk carrier	43.3	33.0	33.0	32.0	28.0	26.5	30.0	13.2

Source: Fearnleys (Oslo), *Review 1997*.

11. Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics, 1998*, various issues; Drewry Shipping Consultants, *Shipping Statistics and Economics*, various issues; Fearnleys (Oslo) *Review 1997*.

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

54. The main operational productivity indicators for the world fleet developed favourably in 1997 (see table 24 and graph 7). Tons of cargo carried per dwt in 1997 stood at 6.38, which was a record high. Ton-miles performed per dwt rose in 1997 to 27,598, which was also a new high. These increases in operational productivity are primarily due to such factors as the modernization of vessels, increases in consignment sizes and improved port conditions. These positive developments in operational productivitiy enabled the shipping industry to accommodate increased demand (up by 4.1 per cent) despite relatively moderate increases in carrying capacity (up by 2.3 per cent). In 1998, world seaborne trade is expected to grow at a rate of 2.2 per cent and the world fleet is expected to expand at almost the same rate as in 1997 (2.3 per cent). On the basis of these preliminary estimates, 1998 overall world shipping activities are expected to maintain a level of operational productivity comparable with that in 1997.

55. Table 25 provides supplementary details about ton-miles performed by oil tankers, dry bulk carriers, combined carriers and the residual fleet. Ton-miles per dwt of oil tankers and the residual fleet continued to increase marginally in 1997 by 0.8 per cent and 2.5 per cent respectively as compared with 1996, while ton-miles per dwt of combined carriers increased by 5.0 per cent over the previous year. The total deadweight tonnage of combined carriers declined to 21.8 million dwt in 1997, down 2 per cent from the 1996 level, while their ton-mile performance increased by 3.1 per cent, mainly owing to the transfer of tonnage to the tanker trades. On the other hand, ton-miles per dwt of dry bulk carriers continued to decline marginally, falling by 0.6 per cent in 1997. This can be explained by the correlation between supply and demand: the total carrying capacity of the continuously increasing number of dry bulk carriers (up by 5.6 per cent as compared with 1996, based on a vessel of over 10,000 dwt) slightly exceeded the supply of main dry bulk commodities, particularly for vessels of 10,000 dwt (the supply of such commodities increased by 5.9 per cent as compared to 1996). As indicated in table 26, these trends are also borne out by the data on operational productivity in terms of cargo carried per dwt. There was an increase in tons carried per dwt by all types of vessel. The performance of dry bulk carriers ceased to decline in terms of tons carried per dwt in 1997; rather, it improved by 0.3 per cent as compared with 1996.

B. SUPPLY AND DEMAND IN WORLD SHIPPING

Surplus tonnage

56. A comprehensive summary of the balance of tonnage supply and demand for the 1990-1997 period is provided in table 27. The total surplus tonnage was only 29.0 million dwt (a new record low in terms of deadweight tons) or 3.7 per cent of the 1997 world merchant fleet. This result was largely due to carry-overs of the positive developments in supply and demand in the years since 1994, when surplus tonnage constantly declined. In 1997, the correlation between supply and demand specifically reflected the fact that world seaborne trade grew faster than overall tonnage supply.

Table 24

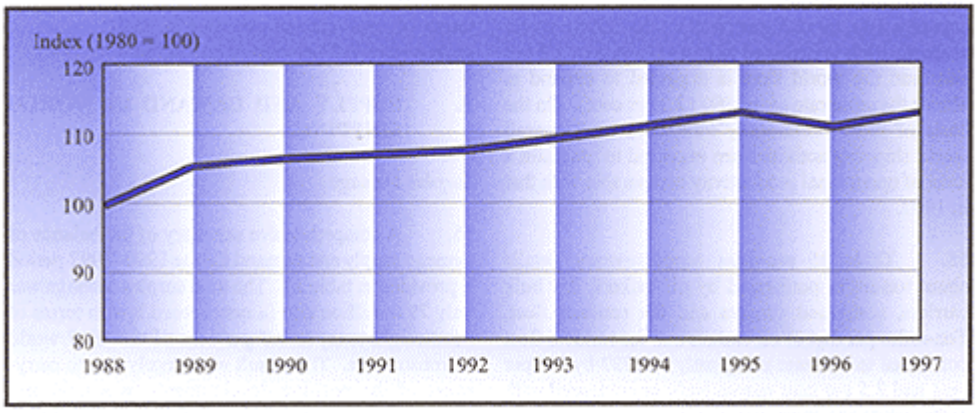
Cargo carried and ton-miles performed per dwt of the total world fleet, 1988-1997

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
1988	628.0	3 692	15 299	5.88	24 360
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	20 338	6.33	27 675
1996	758.2	4 758	20 545	6.28	27 097
1997	775.9	4 953	21 413	6.38	27 598

Source: World fleet: Lloyd's Maritime Information Services (London) (mid-year data for 1988-1990, year-end data for 1991-1997); total cargo carried: UNCTAD secretariat; ton-miles: Fearnleys (Oslo), *Review*, various issues. Data compiled by the UNCTAD secretariat.

Graph 7

Index of ton-miles performed per dwt of total world fleet, 1988–1997



Source: UNCTAD calculations based on table 24.

Table 25

Estimated productivity of tankers, bulk carriers, combined carriers [a] and the residual fleet,[b] 1988-1997

(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
1988	6 155	26 890	3 475	17 990	1 264	37 510	4 411	25 630
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

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

a As from 1988 the source data for tankers pertain to ships of over 50,000 dwt (previously 60,000 dwt). For bulk carriers the basis is now also ships of over 50,000 dwt (previously 40,000 dwt). Combined carriers have been similarly amended.

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, 1988-1997
(tons carried per dwt)

Year	Tons of oil carried by tankers [a] (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 [b] (millions)	Tons carried per dwt of the residual fleet
1988	1 295	5.66	610	3.16	214	6.35	1 556	9.04
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

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

a Tankers of 50,000 dwt and above as from 1988 (previously 60,000 dwt and above).

b See footnote ***b*** to table 25.

Table 27

Tonnage oversupply in the world merchant fleet, 1990-1997 [a]

	1990	1991	1992	1993	1994	1995	1996	1997
	Million dwt							
World merchant fleet	658.4	683.5	694.7	710.6	719.8	734.9	758.2	775.9
Surplus tonnage [b]	63.7	64.2	71.7	72.0	63.4	50.8	48.8	29.0
Active fleet [c]	594.7	619.3	623.0	638.6	656.4	684.1	709.4	746.9
	Percentages							
Surplus tonnage as a percentage of the world merchant fleet	9.7	9.4	10.3	10.1	8.8	6.9	6.4	3.7

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

a Mid-year data for 1990, year-end data for 1991-1997.

b 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.

c World fleet minus surplus tonnage.

The supply-and-demand mechanism by type of vessel

57. Analysis by type of vessel reveals that the carrying capacity in the oil tanker sector increased in 1997 by 1.9 per cent to 290.6 million dwt (see table 28 and graph 8). A total of 17.0 million dwt or 5.8 per cent of the total world tanker fleet was surplus to the demand for seaborne transport of oil. This represents a remarkable improvement over 1996, when 10.1 per cent of the total world tanker fleet was surplus. While tanker newbuildings (7.4 million dwt) substantially exceeded tanker scrappings (3.5 million dwt), increased oil trades (up by 2.1 per cent over 1996) improved the oil tanker market.

58. Overcapacity in the dry bulk sector also decreased significantly in 1997 to 10.3 million dwt, representing a decline of 6.9 million dwt and accounting for 3.9 per cent of the world dry bulk fleet. In 1997, shipowners of conventional general cargo ships continued to concentrate more on demand-driven shipping business with less speculative activities, reducing total supplied tonnage in this category to 62.0 million dwt as compared with 62.7 million dwt in 1996, while the oversupply in this sector increased by 0.3 million dwt to 1.7 million dwt, representing 2.7 per cent of the world's total conventional general cargo fleet (2.2 per cent in 1996). In the unitized sector, a substantial increase in supply in 1997 (to 65.7 million dwt) continued to be completely deployed in the global liner market, although not all vessels were necessarily fully booked on each voyage, especially in the trans-Pacific and Asia-Europe trades. Additional demand continued to be generated in 1997 by expanding container and ro-ro operation not only as feeder services for East-West trunk liner trade routes but also North-South and intraregional services covering the Asian and Latin American regions.

Table 28

Analysis of tonnage oversupply by main type of vessel, 1990-1997 [a]
(average yearly figures in millions of dwt)

	1990	1991	1992	1993	1994	1995	1996	1997
Supply of world tanker fleet [b]	266.2	273.5	283.4	284.6	282.9	277.0	285.1	290.6
Total tanker fleet surplus [c]	40.9	39.8	41.8	43.5	39.0	28.8	28.8	17.0
Share of surplus fleet in the world tanker fleet (per cent)	15.4	14.6	14.7	15.3	13.8	10.4	10.1	5.8
Supply of world dry bulk fleet [b]	228.7	235.0	237.3	238.6	242.6	252.9	257.2	260.9
Dry bulk fleet surplus [c]	19.4	20.7	25.1	23.6	20.3	17.9	17.2	10.3
Share of surplus in the world dry bulk fleet (per cent)	8.5	8.8	10.6	9.9	8.4	7.1	6.7	3.9
Supply of world conventional general cargo fleet	63.6	63.5	63.0	62.1	61.9	62.0	62.7	62.0
Conventional general cargo fleet surplus	2.1	2.2	2.7	2.8	2.2	2.0	1.4	1.7
Share of surplus in the world conventional general cargo fleet (per cent)	3.3	3.5	4.3	4.5	3.6	3.2	2.2	2.7
Supply of world unitized fleet [d]	37.5	40.3	43.0	45.7	49.8	53.4	59.3	65.7
Surplus of unitized fleet	0.5	0.4	0.7	0.7	0.5	0.7	0	0
Share of surplus in the world unitized fleet (per cent)	1.3	1.0	1.6	1.5	1.0	1.3	0.0	0.0

Source: Compiled by the 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, which indicate estimates at mid-year. 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.

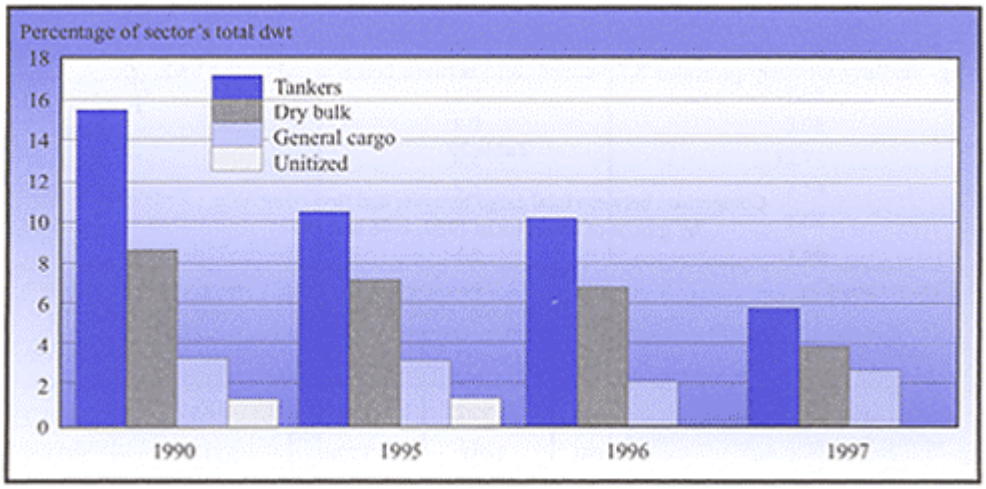
b Including combined ore/bulk/oil carriers on the basis of actual supply (for 1997 a total of 19.2 million dwt, of which 6.9 million dwt was for tankers and 12.3 million dwt was for dry bulkers).

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

d Unitized fleet includes here fully cellular containerships, partly cellular containerships, ro-ro ships and barge carriers.

Graph 8

Trends in surplus capacity by main vessel type in 1990 and 1995–1997



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

C. COMPARISON OF CARGO TURNOVER AND FLEET OWNERSHIP

59. The correlation between cargo volume generated by different country groups and their fleet ownership in 1980, 1996 and 1997 is summarized in table 29. In recent years, developed market-economy countries, either directly or through open or international registries, controlled nearly 60 per cent of the world fleet in deadweight tons, while they generated 55 per cent of world seaborne trade. The share of developing countries in the world cargo turnover has stagnated over the last two decades at slightly less than 40 per cent, while their merchant fleet, including tonnage beneficially owned in open or international registries, accounted for about one-third of the world fleet, although the difference has been narrowing substantially between the share of developed market-economy countries and that of developing countries. The share of goods loaded and unloaded in 1997 was almost unchanged from that in 1980 for both groups. On the other hand, developed market-economy countries' controlled fleet declined significantly from 80 per cent of the world total in 1980 to nearly 60 per cent in 1997, while developing countries substantially improved their share to one-third in 1997 from around 10 per cent registered in 1980.

60. Table 30 provides information on fleet ownership of the major trading nations. It may be noted that, with the exception of Greece, a country with a long and distinctive tradition as an exporter of shipping services, the major trading nations are also major beneficial owners of world tonnage. This is no coincidence, but rather reflects the generally prevailing policies for exploiting trade complementarities in maritime transport. In most countries, maritime capabilities and the ownership of substantial tonnage are considered to be essential components of trade support and promotion.

61. Table 30 shows not only many similarities but also differences in the shipping balances of the leading trading nations. Countries such as China (including Hong Kong), Denmark, Japan and Norway figure among the most important cross-trading nations, i.e. they are important net exporters of maritime transport services. Other 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 and Germany figure prominently among this group. While in 1997 the United States generated more than 14 per cent of world trade, they owned 7.7 per cent of world tonnage with only 1.7 per cent of world tonnage flying the United States flag. Similarly, Germany generated 8.7 per cent of world trade as compared to a tonnage ownership position of 3.1 per cent and a flag share of 1 per cent. While the large differences in ownership and flag shares reflect cost considerations and are an indication of the competitiveness of fleets registered under national flags, the important shares in tonnage beneficially owned clearly indicate a desired linkage between fleet size and foreign trade volume.

Table 29

Comparison between total cargo turnover and fleet ownership
by groups of countries in 1980, 1996 and 1997

Country grouping	Year	Goods loaded and unloaded (millions of tons)		Total of goods loaded and unloaded (millions of tons)	Merchant fleet (millions of dwt)
		Loaded	Unloaded		
Developed market-economy countries	1980	1 370	2 595	3 965	350.1
	1996	2 037	3 276	5 313	203.0
	1997	2 135	3 352	5 487	202.5
Major open-registry countries	1980	[b]	[b]	[b]	212.6
	1996	[b]	[b]	[b]	339.5
	1997	[b]	[b]	[b]	361.0
Developing countries	1980	2 087	839	2 926	68.4
	1996	2 441	1 286	3 727	147.5
	1997	2 538	1 396	3 934	149.9
Countries of Central and Eastern Europe (including the former USSR)	1980	201	145	346	37.8
	1996	179	148	327	29.0
	1997	186	155	341	24.3
Socialist countries of Asia	1980	46	100	146	10.9
	1996	101	105	206	27.1
	1997	94	134	228	26.0
World total [a]	1980	3 704	3 679	7 383	682.8
	1996	4 758	4 815	9 573	758.2
	1997	4 953	5 037	9 990	775.9

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.

Table 30

Maritime engagement of 30 major trading nations
(as at the end of 1997)

Country/territory	Share of world trade generated in terms of value	Share of world fleet beneficially owned in terms of dwt
United States	14.4	7.65
Germany	8.7	3.08
Japan	6.8	12.71
United Kingdom	5.3	3.54
France	5.1	1.08
Italy	4.0	1.68
Canada	3.8	0.14
Hong Kong, China	3.6	5.06
Netherlands	3.4	0.77
Belgium-Luxembourg	3.0	0.60
China	2.9	5.41
Republic of Korea	2.6	3.54
Singapore	2.4	2.25
Spain	2.1	0.49
Taiwan Province of China	2.1	2.29
Mexico	2.0	0.21
Malaysia	1.4	0.65
Sweden	1.4	2.73
Switzerland	1.4	0.87
Thailand	1.2	0.52
Australia	1.2	0.46
Austria	1.1	0.02
Brazil	1.1	1.39
Russian Federation	1.1	2.11
Ireland	0.9	0.03
Saudi Arabia	0.8	1.60
Indonesia	0.8	0.60
Denmark	0.8	1.73
Norway	0.8	7.65
Turkey	0.8	1.34
Total	87.0	72.20

Source: Data on world trade based on the World Trade Organization (WTO) Press Release, PRESS/98 of 19 March 1998; data on fleet ownership, table 16.

Chapter IV

TRADE AND FREIGHT MARKETS

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

A. LINER SHIPPING MARKET

(a) Developments in liner markets

62. Liner shipping markets are still undergoing important structural changes that will have a lasting impact on the way the industry operates. The process of globalization of trade and industrial production has affected demand for transport and related services and has forced all transportation companies to better adapt the services rendered to the requirements of the trading community. During 1997 and 1998 the various actors have continued to press for the necessary technological, organizational and political changes to enable the industry to continue to play its role as a catalyst for world trade and economic development.

63. Technological developments aimed at reducing operating costs are primarily reflected in dramatically increased vessel sizes. While in 1985 only around 15 per cent of the world container capacity was provided by vessels of 2,000 TEUs or more, this share went up to 60 per cent of the existing cellular fleet and 72 per cent of the slots on order in 1997. A number of recently delivered vessels have a capacity exceeding 6,000 TEUs, with the latest vessels delivered to the Maersk Line for use on the EuropeBFar East trade route having a theoretical capacity of 8,000 TEUs, depending on the average container weight. Shipyards have already drawn up plans for the construction of even larger ships, with the limiting factors to be overcome not being of a technical, but rather of a commercial or organizational nature. While potential size-related cost reductions can be clearly established on a pier-to-pier mainline haul basis, it is more difficult to establish optimal ship sizes in the context of total door-to-door transport solutions.

64. Equally, productivity gains based on the use of advanced technologies, such as electronic data interchange or shipboard automation, have been remarkable, but could have been even more striking if some of the major organizational problems had been resolved. Transport efficiency is still hampered by unsolved problems, particularly those relating to the balancing of cargo flows and the excessive moving of empty containers. Lack of equipment interchange facilities remains a major problem and is at the root of the prevailing suboptimal use of existing resources. Another issue of an organizational nature that may cause difficulties for globally oriented shippers is the maintenance of the trade route-oriented commercial structures of most shipping lines. Truly global carriers would require internal structures geared to overcome traditional trade route thinking.

Supply-side dynamics

65. World liner shipping is undergoing considerable changes in market structures, which affect the degree of competition among lines, the existence of barriers to entry, the relative strength of suppliers of services vis-à-vis users of services, etc. While global liner shipping used to be a relatively fragmented industry, it has become increasingly concentrated in fewer hands in recent years. Tables 31 and 32 give a picture of the supply-side dynamics of container shipping. In 1997 the top 20 companies controlled about 48 per cent of world container capacity. The present process of competitive positioning by companies will lead to

Table 31

Leading 20 container service operators (as at September 1997) on the basis of number of vessels and total shipboard capacity

Ranking (last year in brackets)	Operator	Vessels	Total TEUs
1 (3)	Maersk Line	106	232 257
2 (1)	Evergreen Line/Uniglory Marine Corp	108	228 248
3 (7)	P&O Nedlloyd	106	221 531
4 (2)	Sea-Land Service	95	215 114
5 (4)	COSCO	139	201 593
6 (8)	Hanjin Shipping Co/DSR Senator	62	174 526
7 (9)	Mediterranean Shipping	100	154 185
8 (6)	Mitsui OSK Lines	62	115 763
9 (5)	NYK Line/TSK	68	128 154
10 (11)	Hyundai Merchant Marine	36	112 958
11 (12)	Zim Israel Navigation	59	98 086
12 (16)	Yangming Marine	42	96 145
13 (20)	CMA-CGM	64	89 658
14 (18)	OOCL	30	85 940
15 (16)	Neptune Orient Lines	36	85 664
16 (35)	CP Ships	46	85 016
17 (14)	K Line	45	84 198
18 (15)	APL	38	79 918
19 (14)	Hapag-Lloyd Containerline	23	73 372
20 (24)	Cho Yang Shipping	30	55 882

Source: *Containerisation International*, November 1997.

Table 32

Estimated capacity of global alliances in container shipping, 1997

Grouping	Vessels	Total TEU capacity
Grand Alliance: Hapag-Lloyd, MISC, NYK, OOCL, P&O Nedlloyd	242	547 197
New World Alliance: Hyundai, MOL, NOL/APL	172	294 303
Maersk/Sea-Land Group	201	447 371
Evergreen	108	228 248
Hanjin Group (United Alliance): Hanjin/DSR-Senator/Cho Yang/UASC	122	270 408
K-Line/COSCO Group: COSCO/K-Line/Yangming	226	381 936

Source: *Containerisation International*, various issues; *Lloyd=s Maritime Asia*, various issues.

further concentration, as is shown by the merger of P&O and Nedlloyd to create a company with a carrying capacity of 221,000 TEUs, making it the third-largest container carrier in the world. Carriers from Asian developing countries have also been in acquisition mode. In March 1997 Hanjin acquired a majority share in DSR-Senator Lines, thus boosting their carrying capacity to 175,000 TEUs and making them a truly major player. Similarly, NOL's purchase of APL has raised the Singapore carrier's capacity to 165,000 TEUs. Apart from its effect on the carrier's quantitative capacity, the purchase has given NOL access to management systems and techniques developed by APL which will ensure the continued competitiveness of the company. A possible merger of Sea Land and Maersk Line was also mooted in early 1998.

66. The need to respond to the global transport requirements of large shippers and at the same time rationalize the use of existing assets and new investments has been at the root of the major carriers' moves to enter into global alliances. By the end of 1997, the major global and trade-related alliances represented nearly 50 per cent of the world fleet (see table 32), thus giving a completely new dimension to the discussion of Aconcentration processes". In this context, we should not forget those major carriers that are banking on a strategy of internal growth while maintaining their well-founded ambitions as global carriers C the major representative of this group would be Evergreen. The global alliances together with these major carriers account for more than half of fully cellular capacity. The degree of concentration is even larger on the major trade routes, where more than 75 per cent of capacity is provided by major lines either individually or in the context of global or trade-related alliances.

67. Shipping lines entering global alliances generally expect to realize advantages with regard to both the cost of shipping and transport services and their marketing. Synergies can be expected not only in the actual ocean carriage, but even more so in equipment management and pre- and post-transportation operations, including terminal operations. It is particularly in the inland portions of the transport chain and in container management that the potential for rationalization gains appears to be highest. According to industry sources, up to 20 per cent of containers moved overseas are empty, at an estimated cost of $2-3 billion. The problem of empty containers is a major one in container shipping, as reflected in the statistics of major ports of the world. In 1996, for instance, 22 per cent of import containers and 12 per cent of export containers handled in the port of Hong Kong, China, were empty. In other words, the port handled some 2.4 million empty TEUs; this situation is clearly not only caused by trade imbalances, but also by a lack of coordination among carriers. While different cargo requirements may make certain empty movements inevitable even in balanced trades, there still seems to be considerable scope for achieving cost reductions by improving equipment interchange facilities in the context of the new cooperative arrangements.

68. Alliances and mergers are complementary parts of an industrywide strategy to return to profitability through cost-cutting and as such are by no means new. Since the earliest days of large-scale containerization, companies have been trying to rationalize, at first through joint ventures which focused on port-to-port operations. Later, a number of global players undertook significant restructuring exercises, which were followed by targeted measures to streamline terminal operations, inland transport, fleet deployment, etc. It is only very recently that rationalization processes have been primarily based on mergers and takeovers. In this approach, cooperation is no longer the main parameter of action but rather a means of giving additional support to streamlining that is primarily based on concentration or internal growth. Companies realized that the cost-saving potential of alliances was in fact limited, for two main reasons: first, membership of the alliances was relatively unstable, as witnessed by the changing arrangements entered into by some of the major operators, with the merger of P&O and Nedlloyd and the acquisition of APL by NOL cutting across the boundaries of individual alliances. Second, cost-cutting efforts came to a complete standstill when P&O and Nedlloyd merged in 1996, leaving the issue of alliances up in the air for a while. It was only very recently that a decision was taken in favour of the Grand Alliance, while some of the remaining members of the old Global Alliance created the New World Alliance (MOL, Hyundai, NOL/APL). It is also interesting to note that P&O/Nedlloyd expected yearly cost savings of over $200 million, mainly from staff and overheads, and these expectations actually appear to have been realized in 1997.

69. Additionally, growth through mergers and takeovers enables companies to address some of the issues that alliances could not resolve, such as how to improve their revenue-earning potential. Liner shipping companies are confronted with another, at least equally important, problem, in the form of the perpetual erosion of revenues per TEU. It appears that companies get caught in a vicious circle whereby rationalization gains are immediately passed on in terms of lower freight rates, and thus have only a marginal impact on company profitability. It is thus important for shipping companies to make greater efforts to increase and stabilize revenues. Any measures would need to be based on clearer competitive positioning and a concentration on differentiation strategies that could sustain higher revenues. Such strategies would have to be based on more sophisticated market segmentation, better adapted tariff structures and the development of logistics services tailored to individual shippers' requirements.

70. The successful employment of ever-larger single vessels and fleets, be they single company fleets or joint ones in the context of consortia or other cooperative arrangements, is dependent on the existence of, and unimpeded access to, sufficiently large cargo flows. Such flows rarely exist in bilateral trades and can only be assured by a mix of home and cross trades. These requirements are primarily reflected in the round-the-world trading patterns pursued by a number of liner operators and also, albeit to a lesser extent, in pendular end-to-end services. The rationalization of services thus requires a secure planning environment based, *inter alia*, on a predictable regulatory policy framework. A high degree of liberalization of trade in maritime services and the existence of multilateral rules establishing the framework within which lines operate are clearly in the interest of these service providers. At the same time, however, the formulation and implementation of appropriate consumer policies remain of particular importance to developing countries as a whole if they are to ensure the expansion of their trade through the provision of high-quality low-price shipping services.

Relations between shippers and carriers

71. Shippers can expect to benefit from the alliances through improved service quality and equipment availability, as well as reduced transport costs, provided that these potential advantages are not cancelled out by the adverse effect the alliances may have on the competitive situation in any given liner shipping market.

72. A large part of the trade growth registered over recent years has been based on the intra-industry trade of transnational corporations who have globalized their transport requirements. This is reflected in global carriage contracts with ocean carriers for specified cargo volumes, which are not necessarily confined to any particular trade, but rather to the transport of a stipulated number of containers on the carriers' global networks. These practices have considerable implications on traditional relations between shippers and carriers:

(a) Prices and conditions negotiated in the context of such global contracts bear little resemblance to published tariffs which are commodity- and route-oriented and which continue to constitute the basis for pricing services rendered to small and medium-sized shippers;

(b) Prices thus negotiated are akin to FAK (freight all kinds) rates;

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

It is important to note that these advantages are based on cargo volumes available to individual shippers and the strong negotiating position resulting therefrom. While it is probably true to state that, in absolute terms, all shippers benefit from low-cost, high-quality transport services, it is also clear that the competitive position of exporters C particularly those from developing countries C may have suffered from the relatively limited extent to which they have been able to take advantage of transport services which, by their very nature, are designed to meet the transport requirements of shippers on the main trade routes. Shippers of low-value, rate-sensitive commodities, in particular, may suffer from the trend towards FAK rating.

73. These developments not only reflect the changing relations between shippers and carriers but also the threat of marginalization of small and medium-sized traders from developing countries, who may see possible production-cost advantages

eroded by significantly higher transport costs to faced with a wide choice of shipping opportunities which they are unable to take advantage of due to a lack of expertise and information. Training and the provision of user-support structures should definitely become an integral part of implementation strategies for national maritime policies, so as to provide developing countries' shippers with the necessary tools to effectively exercise their freedom of choice of carrier to the benefit of the trade they represent.

Policy framework

74. Changes in the provision of shipping services and in market structures were made possible by the policy reform programmes adopted by a large number of countries. In general, these programmes consisted of the privatization of State-owned shipping companies and other maritime infrastructure and the reduction of market-access restrictions to service suppliers in both shipping and auxiliary service sectors. In addition, support measures have either already been taken or are being designed to increase the efficiency of the sector in general and to create a level playing field for national operators. These measures are an integral part of policy, marking a shift away from market access restrictions to a fleet development policy based on strengthening the commercial capabilities of national service suppliers and to policies intended to increase the competitiveness of the maritime services sector. This is an important shift, as it underlines the fact that shipping policy is not only a matter of market access policy; market access is only one facet of policy C other policies, such as those on fleet development and sector efficiency, are equally important.

75. At the global level, the General Agreement on Trade in Services (GATS) is the most recent example of an instrument aimed at opening markets and creating a fair and regulatory environment for all maritime service providers. The objective of GATS is to liberalize services by progressively dismantling barriers to trade and opening maritime service markets to foreign competition. To this end, a number of countries have entered into commitments to reduce market access restrictions for shipping, port and auxiliary services on a most-favoured nation basis and to grant non-discriminatory access to and use of port and auxiliary services. Unfortunately, the major trading nations were not able to agree on meaningful market access commitments, thus making it impossible to reach a comprehensive and global agreement on the liberalization of maritime particular markets. These small shippers are often transport services. Nevertheless, by 1 August 1996 (the deadline established by the Decision on Maritime Transport Services, taken by the Council on Trade in Services), 35 States members of the World Trade Organization (WTO) had included maritime transport commitments in their final country schedules.

76. At the regional and national levels, a number of instruments of a regulatory or promotional nature exist which shape the functioning of liner shipping markets. Even though promotional policies are of considerable importance and tend to distort competition, we will concentrate here on some of the major aspects of regulatory policies that directly affect market mechanisms and structures. The basic reason for regulating liner shipping is to curb the concentration of power in conferences, consortia or individual operators, either from within the market or through external control. As the regulations are formulated and applied in an uncoordinated manner, they are not always consistent and their impact is generally limited to specific trades. On the other hand, there are two major global players whose policy decisions have a major influence on the global shipping industry, namely, the European Union and the United States. The existing and future regulatory environments of these two trading blocs will determine shipping structures. The fact that the application of European Union competition rules is unclear and that the revision of the United States Shipping Act of 1984 remains undecided has, of course, had an adverse effect on the planning security needed by the industry.

(b) Freight level of main liner services

77. Freight rates in the three major liner trades (trans-Pacific, AsiaBEurope and transatlantic) generally continued to deteriorate in 1997. In the first quarter of 1998, the principal factor affecting the liner market continued to be fallout from the Asian currency crisis, with imports into that region showing a further decline. In contrast, exports, particularly from the Association of South-East Asian Nations (ASEAN) trading bloc, soared (see table 33). In 1997, in the trans-Pacific trades, the average eastbound revenue per TEU plummeted by 14.2 per cent to $1,403, as did the westbound by 8.8 per cent to $1,292. The persisting decline of rates was mainly attributed to chronic oversupply of carrying capacity and the considerable imbalance between the eastbound and westbound trades. Directional imbalances were further accentuated in 1997, when

Table 33

Freight rates (average in markets) on the three major liner trade routes from the first quarter of 1996 to the first quarter of 1998 *(dollars per TEU)*

	Trans-Pacific		Europe-Asia		Transatlantic	
	Asia to USA	**USA to Asia**	**Europe to Asia**	**Asia to Europe**	**USA to Europe**	**Europe to USA**
1996 First quarter	1 746	1 339	1 219	1 369	1 480	1 384
Percentage change	-6.4	-9.1	-3.0	-5.9	2.6	2.6
Second quarter	1 628	1 428	1 218	1 346	1 495	1 342
Percentage change	-6.8	6.6	-0.1	-1.7	1.0	-3.0
Third quarter	1 627	1 517	1 167	1 337	1 610	1 310
Percentage change	-0.1	6.2	-4.2	-0.7	7.7	-2.4
Fourth quarter	1 543	1 384	1 137	1 281	1 621	1 311
Percentage change	-5.2	-8.8	-2.6	-4.2	0.7	0.0
1997 First quarter	1 473	1 280	995	1 112	1 459	1 302
Percentage 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
Percentage 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
Percentage 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
Percentage 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
Percentage 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
Percentage change	8.5	-9.3	-16.4	3.7	0.3	-5.8

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

westbound shipments dropped to only 78 per cent of eastbound moves (see table 34), thus hampering the potential for freight improvements on both the incoming and outgoing legs. In 1998, the eastbound market became firmer: in the first quarter, rates fell by 1.2 per cent to $1,345 per TEU, compared with a 4.5 per cent fall in the corresponding period of 1997. A shortage of vessel space, however, put an end to the continuous erosion of freight levels. Thus, in the second quarter, rates increased by 8.5 per cent to $1,459 per TEU. In westbound trades, rates fell by 5.3 per cent to $1,119 per TEU in the first quarter and were 12.5 per cent lower than in the corresponding period in 1997. In the second quarter, rates further decreased by 9.3 per cent to $1,015 per TEU. With no increase in cargo volume, westbound rates will remain under pressure in the remaining quarters of 1998.

78. In the Asia-Europe trades, although the freight conferences were in a much stronger position following an increase in their membership early in 1997 and there was no increase in the imbalance of cargo movement in either direction from the previous year's level, the average rates in both directions were down drastically by 12.3 per cent to $1,039 per TEU on the eastbound leg and by 13.5 per cent to $1,153 per TEU on the westbound leg. With Asian exports further expanding, and thus the imbalance of cargo flow between the two directions increasing by 39.7 per cent or 221,000 TEUs in 1997, it was clear that pressure on rates would continue in 1998. In the Europe-Asia trade, freights fell by 1.5 per cent and 16.4 per cent respectively, but rose by 2.2 per cent and 3.7 per cent respectively in the Asia-Europe trade.

79. In the transatlantic trades, there had been clear signs that existing carriers planned to lower their prices in anticipation of the entry of three Asian carriers in the first quarter of 1997 and the possible cargo imbalance between the two directions in 1997 with 38.6 per cent up from the level of 1996. However, transatlantic trade showed the smallest rate decrease of the three major trade routes in 1997; the decrease in average freights per TEU was 3.9 per cent in eastbound trade and 4.9 per cent in westbound trade. In the first quarter of 1998, rates showed remarkable resilience, largely because of relatively bullish two-way traffic flows. Nevertheless, in the second quarter, rates in the Europe to the United States fell by 6.0 per cent.

Table 34

Cargo movements on the three major liner trade routes for 1995-1997 and forecasts for 1998

(thousands of TEUs)

	Trans-Pacific			**Asia-Europe**			**Transatlantic**		
	Asia to USA	**USA to Asia**	**Total**	**Asia to Europe**	**Europe to Asia**	**Total**	**USA to Europe**	**Europe to USA**	**Total**
1995	4 009	3 471	7 480	2 834	2 306	5 140	1 208	1 448	2 656
1996	4 104	3 520	7 624	3 142	2 584	5 726	1 219	1 421	2 640
Growth (%)	2.4	1.4	1.9	10.9	12.1	11.4	0.9	-1.9	-0.6
1997	4 662	3 615	8 277	3 290	2 734	6 024	1 276	1 556	2 832
Growth (%)	13.6	2.7	8.6	4.7	5.8	5.2	4.7	9.5	7.3
1998	5 221	3 326	8 547	3 487	2 710	6 197	1 327	1 696	3 023
Growth (%)	12.0	-8.0	3.3	6.0	-0.9	2.9	4.0	9.0	6.7

Source: Compiled by the 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.

(c) Containership charter market

80. Containership charter rates are one of the main indicators of liner service developments. The 1997 overall containership charter market was quieter than in previous years. In the category of 3,000 TEUs and above, the majority of which are owned and operated by large East-West liner service companies, many operators were involved in the launching of the new global alliances with their existing fleets and newbuildings delivered in 1997. Rationalization gains expected through fleet redeployment in the context of alliances led operators to enter the market for very limited tonnage requirements only.

81. The market for ships of 500-1,000 TEUs benefitted from the rise in demand for feeder services. The majority of charter activities were, however, dominated by the extension of existing contracts. 1997 saw an increased number of orders, mainly for geared ships for delivery in Northern Europe or the Caribbean. The market for self-sustained tonnage weakened slightly in 1997. Geared tonnage with a capacity of 800 TEUs earned $7,000-8,000 per day on 12-month time-charters.

82. In the category of 1,000-2,000 TEUs, a clear difference emerged between geared and gearless charter hire in 1997. With constant demands for feeder or intraregional services in South America, the market remained stable, especially for geared cellular ships. However, massive deliveries of geared newbuilding tonnage flooded the charter market in 1997. Consequently, overall rates for this category continued to fall in 1997. Charter rates for geared ships of 1,600-1,700 TEUs fell to the level of $12,000 per day for a 12-month time-charter, as compared with $16,500-17,000 per day for similar vessels in 1996.

83. In the category of 2,000-3,000 TEUs, geared ships consistently obtained employment at substantially healthier levels than gearless units. In 1997 there was a series of regroupings and mergers on the North-South trades in the Atlantic basin, phasing in the chartering of no less than eleven 2,000-2,500 TEU geared ships at around $18,000 per day on 12-24-month time-charters, in place of the previous 1,400-1,700 TEU vessels. On the other hand, gearless tonnage of 2,100 TEUs was quoted at $16,500-17,000 per day for a maximum of 12 months. Rates for similar vessels had been fixed at $18,500 per day for 12 months in 1996.

84. The charter market for modern gearless tonnage of 3,000 TEUs and above was relatively inactive throughout 1997. A newbuilding of 3,400 TEUs was fixed at $24,000 daily on a 24-month time-charter. Two newbuildings of 3,600 TEUs were rumoured to be costing around $21,000 per day as a six-month package deal with an option for a further six months. However, as most of the vessels in this category are owned and operated by the top liner operators, this market segment tends to be fairly limited in size, and developments are dominated by a few major players.

(d) Liner freight index

85. Table 35 reflects the development of liner freight rates on cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range for the periods of 1995-1997 and 1998 to date. The overall 1997 liner freight index increased by four points to an average level of 97 (1991=100), with the increase evenly distributed over homebound (to the Antwerp/Hamburg range) and outbound rates. While the average container index remained the same in 1997 as in 1996, the conventional general cargo index rose by 6 points. Thus the development of the overall index reflects both the continuing pressures on container rates (see paras. 73-78 above) and the potential market niches available for the smaller operators of general cargo vessels. In 1998, the average overall index for the first six months fell by 2 points from the annual average index in 1997. The decline is mainly attributed to the freight level for outbound shipments which has been under pressure from relatively weaker growth in import activities in Asian countries, as compared to previous years.

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

86. Table 36 provides data on liner freight rates as a percentage of market prices for selected commodities and trade routes for selected years between 1970 and 1997. Prices for rubber and jute fell, while those for the other commodities increased. Freight rates remained unchanged or were under more pressure than in the previous year, bringing about a considerable decrease in the freight/price ratio. The most significant decreases in the ratio were observed in the Brazilian and Colombian coffee trades, where prices increased by 39 per cent (Brazil) and 52 per cent (Colombia), while freight rates

Table 35

Liner freight indices, 1995-1998
(monthly figures: 1991=100)

Month	Overall index				Homebound index				Outbound index				Container index				Conventional general cargo index			
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
January	97	94	96	97	93	89	90	90	100	99	102	103	96	92	91	91	98	96	100	103
February	95	93	98	96	92	87	91	90	99	98	104	101	95	91	92	90	97	96	103	102
March	92	93	98	96	89	87	92	91	96	99	104	102	91	91	92	91	94	96	103	102
April	92	94	96	95	89	88	90	89	95	100	102	100	91	92	90	89	94	97	102	101
May	94	95	96	93	91	89	90	88	97	101	101	98	92	92	90	87	96	98	101	59 100
June	94	95	96	94	90	89	90	89	97	100	102	89	92	92	90	87	95	98	102	100
July	94	93	97		91	86	91		97	98	103		93	89	91		96	96	103	
August	96	92	99		93	86	93		99	97	105		95	88	92		97	95	105	
September	96	92	98		92	86	91		99	98	104		95	89	91		97	95	103	
October	92	93	95		87	87	89		97	99	101		91	90	89		94	96	101	
November	92	93	95		87	87	89		97	98	100		91	89	88		94	96	100	
December	93	94	96		88	88	90		98	100	102		92	91	90		95	97	102	
Annual average	94	93	97	95	90	87	90	90	98	99	102	99	93	90	90	89	96	96	102	101

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

decreased by 21 per cent (Brazil) and around 25 per cent (Colombia). The ratio for tea decreased moderately, mainly because of an unchanged freight rate and an increase in prices, while the decreases in the ratios for rubber and cocoa beans (from Brazil) were due to larger declines in freight rates (32 per cent for rubber and 13 per cent for cocoa beans) than in prices (29 per cent for rubber and 12 per cent for cocoa beans). The substantial increase in the ratio for jute was primarily attributable to a significant decrease in its f.o.b. (free on board) price, which rose by as much as 33 per cent, while the freight rate remained unchanged.

Table 36

Ratio of liner freight rates to prices of selected commodities

Commodity	Route	Freight rate as percentage of price [a]						
		1970	1975	1980	1985	1990	1996	1997
Rubber	Singapore/Malaysia-Europe	10.5	18.5	8.9	..	15.5	8.9	8.5
Jute	Bangladesh-Europe	12.1	19.5	19.8	6.4	21.2	15.5	23.4
Cocoa beans	Ghana-Europe	2.4	3.4	2.7	1.9	6.7	6.3	-
Coconut oil	Sri Lanka-Europe	8.9	9.1	12.6	12.6	..	6.0	-
Tea	Sri Lanka-Europe	9.5	10.4	9.9	6.9	10.0	5.6	4.5
Coffee	Brazil-Europe	5.2	9.7	6.0	5.0	10.0	2.6	1.5
Coffee	Colombia (Atlantic)-Europe	4.2	5.7	3.3	6.7	6.8	4.6	2.3
Cocoa beans	Brazil-Europe	7.4	8.2	8.6	6.9	11.0	6.6	5.1
Coffee	Colombia (Pacific)--Europe	4.5	6.3	4.4	6.1	7.4	4.9	2.4

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by the Royal Netherlands Shipowners' Association (data for 1970-1989) and conferences engaged in the respective trades (data for 1990-1997).

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 1998.

B. DRY BULK SHIPPING MARKET

(a) Dry bulk trade

87. Overall dry bulk shipments showed a substantial growth of 5.7 per cent, of which main bulk commodities increased by 6.0 per cent and other dry bulk commodities by 5.5 per cent. World crude steel production increased by 6.2 per cent to 794.4 million tons. Raw material shipments to the steel industry also increased strongly. Iron-ore shipments increased by 8.2 per cent to 423 million tons. Coal was again the most important commodity by volume, increasing by 4.1 per cent to 453 million tons, of which the coking coal trade was up by 5.8 per cent to 181 million tons. The grain trade increased by 5.2 per cent to 203 million tons. Grain exports from Argentina and Australia increased significantly, whereas those from the United States decreased.

Iron ore trade

88. Seaborne iron-ore trade is estimated to have increased by 8.2 per cent to 423 million tons in 1997 from 391 million tons in 1996. Exports from Australia increased by as much as 13.8 per cent to 146.7 million tons, and Brazil's exports were up 7.0 per cent to 136 million tons. Australia and Brazil together accounted for two-thirds of the world iron-ore shipments. Canada's exports rose by 15.8 per cent to 32.3 million tons and those of Sweden increased by 14.3 per cent to 18.4 million tons. Other iron-ore-exporting countries did not experience similar high-growth rates. On the import side, trade with the European Union countries climbed by 3.8 per cent to 136 million tons in 1997, compared with 131 million tons in 1996. Iron-ore shipments to Japan rose by 6.2 per cent to 126.6 million tons, while imports to China rose by as much as 25.6 per cent to 55.1 million tons. The Republic of Korea showed a 3.6 per cent rise in imports, reaching 35.5 million tons. Taiwan Province of China indicated an increase to 13.7 million tons in 1997 from 10.1 million tons in 1996.[12]

Steel production

89. The world steel industry produced 794.4 million tons of crude steel in 1997, representing an increase of 6.2 per cent from 748.1 million tons in 1996. China's crude steel production rose from 100.0 million tons in 1996 to 107.6 million tons in 1997. Japan's production rose by 5.8 per cent to 104.5 million tons. The Republic of Korea and Taiwan Province of China, the other main producers in the Far East, increased production by 9.4 per cent to 42.6 million tons and 28.5 per cent to 15.9 million tons respectively. Thus, the combined production of the Asian big four, China, Japan, the Republic of Korea and Taiwan Province of China, rose by as much as 8.2 per cent to 270.6 million tons, representing 34.1 per cent of the total world production of crude steel. The European Union increased its output by 8.8 per cent to 159.9 million tons, and United States production increased by 4.8 per cent to 99.2 million tons. The former Soviet Union experienced a marginal growth of 0.6 per cent to 77.7 million tons.[13]

Coal trade

90. The world seaborne coal trade increased to 453 million tons in 1997 from 435 million tons in 1996. Coking coal showed a favourable growth from 171 million tons to 181 million tons while thermal coal moderately increased from 264 million tons to 272 million tons. While exports from Australia showed the strongest growth of 12.5 per cent, reaching 156 million tons, United States exports fell by almost 13.0 per cent to 61.7 million tons, slipping to third place in the world rankings behind South Africa, which showed a growth of about 2.0 per cent to 63.0 million tons. In South-East Asia, Indonesia's coal exports increased by as much as 19.0 per cent to 38.1 million tons. China's exports rose by 5.1 per cent to 30.8 million tons. On the import side, Japan's coal imports increased by 3.2 per cent to 133.6 million tons, with imports from Australia up 9.4 per cent to 71.5 million tons, imports from the United States down almost 21 per cent to 7.6 million tons and those from Canada stable at 18.7 million tons. Imports to the Republic of Korea increased by about 9 per cent to approximately 50 million tons. The imports of Taiwan Province of China were up significantly by about 19 per cent to 37 million tons. The combined imports to Japan, the Republic of Korea and Taiwan Province of China accounted for 48.7 per cent of the world coal trade. The prospects for the coking coal trade are poor, as the traditional major steelwork importers in the European Union and Japan will be needing less coal as a result of the widespread adoption of pulverized coal injection in steel-making furnaces. On the other hand, in response to further rises in import demand for thermal coal, especially in the East Asian countries, the total seaborne coal trade is expected to continue rising by an average of around 3 per cent annually and to reach 510 million tons in the year 2000.[14]

Grain trade

91. In the grain trade, trends and patterns in supply and demand are often affected by sudden changes in weather conditions which can give good or bad harvests, or by surpluses in the major consuming regions. Major suppliers such as the Argentina, Australia, Canada, the European Union and the United States continued to dominate the supply side in 1997. Traditional large-scale importers such as China, Eastern Europe and Japan remain the major markets. Grain shipments in 1997 increased to 203 million tons from 193 million tons in 1996. United States exports decreased by about 17 per cent to 74.3 million tons. Canada's exports rose by 25 per cent to 26.7 million tons and

Australia's were up by as much as 20 per cent to 22.9 million tons. Exports from the European Union to third countries were about 17 per cent higher than the year before, reaching 18.3 million tons. For crops from mid-1997 to mid-1998, the International Grains Council expects a slight decrease on a global basis.[15]

(b) Dry bulk freight rates

92. The increase in economic growth in Western Europe and the United States in 1997 stimulated the dry bulk charter market. This trend continued until the third quarter of 1997. It was only at the end of 1997 and well into 1998 that the Asian financial crisis adversely affected dry bulk demand and consequently freight rate development.

Dry bulk time-charter (trips)

93. For modern Capesize tonnage in the Pacific, 1997 began with strongly increased activity as demand for ore and coal rose. At the peak, modern ships of 160,000 dwt were being chartered for up to $20,000 per day or up to $17,000 per day for Pacific rounds. Atlantic demand for Capesize modern vessels remained healthy throughout the year. Some slackness was observed in March and April as rates for trips to the Far East weakened to $17,000 per day, but they improved steadily to a peak of $23,000 per day in October, before softening slightly as the year ended.

94. For modern Panamax vessels, prices for trips to the Far East rose steadily to peak at around $15,000 per day during a short period between the end of March and early April. Thereafter price levels weakened as demand fell off and the fleet grew towards the middle of the year. For the remainder of the year, trips to the Far East fluctuated between $12,000 and $13,000 per day. Transatlantic rounds remained stable at between $9,200 and $9,700 per day for most of the year, except for a temporary slackness at $8,000 per day in late November. As for the handy-size market, the rates for medium-age ships of 38,000 dwt rose from $8,700 per day in January to a peak of $9,300 per day in May, before decreasing continuously to $7,600 per day in December. On a yearly basis, Pacific round trips increased from $7,700 per day in 1996 to $8,000 per day in 1997, whereas transatlantic round trips decreased from $7,600 per day to $6,900 per day.

Dry bulk time-charter (periods)

95. The rate changes in 1997 showed quite different trends for individual size groups. Generally healthy conditions buoyed up time-charter rates for modern Capesize vessels. Rates for 12-month periods showed a continuous increase to $17,300 per day in October, before a slowdown to an average of $15,600 per day at year's end. As for the Panamax size group, the monthly average for 12-month time-charter rates fluctuated during the year. There was an increase from $10,900 per day in January to $11,600 per day in March. Thereafter the average rate fell to $10,500 per day in July, and then climbed again to $11,300 per day in September and October, before falling back to $10,000 per day in December.

96. For handy-size and smaller bulk carriers, the reference rate for medium-age 38,000 dwt vessels varied in the range $7,400-8,400 per day for a 12-month time-charter. Handymax newbuildings were fixed at $9,500 per day for a 12-month period early in the year. In August, newbuilding 45,000 dwt vessels could be chartered for $10,500-11,000 per day for two-year periods, with delivery early in 1998. The rates for this size of newbuilding fell back to $8,500 per day for 12-month time-charters towards the end of the year.

Dry bulk trip-charter

97. As indicated in table 37, the annual average freight rates for dry bulk trip-charters in 1997 did not benefit as extensively as the charter rates from increased economic growth in Western Europe and the United States. One of the main reasons for this was the increased preference of those chartering vessels for period time-charter contracts. Record-high deliveries of dry bulk newbuildings substantially exceeded scrapping of vessels in that category and resulted in a net increase in the fleet of 12 million dwt. The consequent availability of modern tonnage coupled with improved port conditions induced charterers to employ vessels on a time-charter basis. Furthermore, since the last quarter of 1997 the slowdown of Aisan economic activities has exercised downward pressure on dry bulk shipping activities and consequently, on dry bulk freight rates. Thus, the average freight index for both time and trip charters for the first six months in 1998 plummeted by 19 per cent and 8 per cent respectively from that registered in 1997.

Table 37

Dry cargo freight indices, 1995-1998
(monthly figures)

Period	Dry cargo tramp time-charter [a] (1991 = 100)				Dry cargo tramp trip-charter [b] (July 1965 to June 1966 = 100)			
	1995	1996	1997	1998	1995	1996	1997	1998
January	111	83	84	74	234	207	209	189
February	106	77	87	64	227	202	197	186
March	108	80	91	71	229	192	199	171
April	111	81	89	70	243	192	197	173
May	115	82	82	66	245	196	190	173
June	106	73	81	62	239	195	184	177
July	100	66	87		230	186	183	
August	112	58	90		218	189	196	
September	110	57	85		220	186	190	
October	92	65	82		221	176	191	
November	84	75	79		198	188	189	
December	88	80	75		198	211	186	
Annual average	104	73	84	68	225	193	193	178

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

98. Table 38 indicates the highest and lowest freight rates reported during 1996 and 1997 in selected major bulk trades. The highest rates in 1997 were down compared with the previous year, except for iron-ore on the Brazil/Japan route, but the lowest rates were significantly up, except for the Mississippi/Venezuela grain trade. The range between the year's high and low rates decreased drastically for grain in the United States (Gulf of Mexico)/Japan trade from $14.65 in 1996 to $4.85 in 1997. This grain trade continued to show small variations at a higher rate throughout 1997. The lowest freight levels and narrowest margins were recorded in the Brazil/Continental Europe iron-ore trade.

99. The average freight rates for iron ore on the Brazil/Continental Europe route rose to $5.90 per ton in 1997 from $5.20 per ton in 1996. Fluctuations were rather modest, in the range of $5.60-6.10, with the highest rates registered at the beginning and end of the year. Those on the Brazil/Japan route climbed to $10.60 per ton in 1997 from $8.95 per ton with fluctuations between $9.50 and $12.75 per ton.

100. The freight rates for coal from Hampton Roads to Japan rose from an average of $11.95 per ton in 1996 to $13.45 per ton in 1997. The rate itself fluctuated between $12.65 per ton and $14.55 per ton. Richards Bay/Continental Europe freight rates averaged $7.00 per ton in 1997 as compared to $6.10 per ton in 1996. The rates varied in the range of $6.40-7.80 per ton in 1997.

101. For grain shipments, after bumper crops in the southern hemisphere, export volumes from Argentina and Australia were particularly high in spring 1997. Export volume from the United States decreased while Canada's increased. Accordingly the trading pattern fluctuated in 1997 much more than usual, although the changes did not have a substantial impact on regional demand for tonnage. The United States Gulf/Japan freight rate slightly decreased from an annual average spot rate of $23.75 per ton in 1996 to $23.25 per ton in 1997; a monthly average peak of $23.70 per ton was recorded in September 1997. The annual average spot rate for the United States Gulf/European Continent freight rate on an FIO (free in and out) basis decreased slightly from $12.90 per ton in 1996 to $12.65 per ton in 1997. From the second quarter of 1997 onwards, the highest rate was $13.15 per ton (towards the end of the year) and the lowest $11.45 per ton (in the autumn).

Table 38
Freight rates for selected commodities, 1996 and 1997

Commodity	Route	Freight rate range			
		1996 ($/ton)		1997 ($/ton)	
		High	Low	High	Low
Grain	Mississippi/Venezuela	21.00	12.50	16.50	12.00
Grain	United States (Gulf of Mexico)/Japan	28.00	13.35	25.55	20.70
Coal	Richards Bay/Continental Europe	8.25	4.95	7.80	6.40
Ore	Brazil/Japan	11.00	8.00	12.75	9.50
Ore	Brazil/Continental Europe	6.80	4.30	6.60	5.85

Source: Drewry Shipping Consultants Ltd. (London), *Shipping Statistics and Economics*, 1997-1998, various issues.

(d) Baltic Freight Index

102. Developments in dry bulk markets are also reflected in the movements of the Baltic Freight Index (BFI). This index is weighted on the basis of the importance of the global major dry bulk trade routes. The composition of the index during 1997/1998 is as follows:

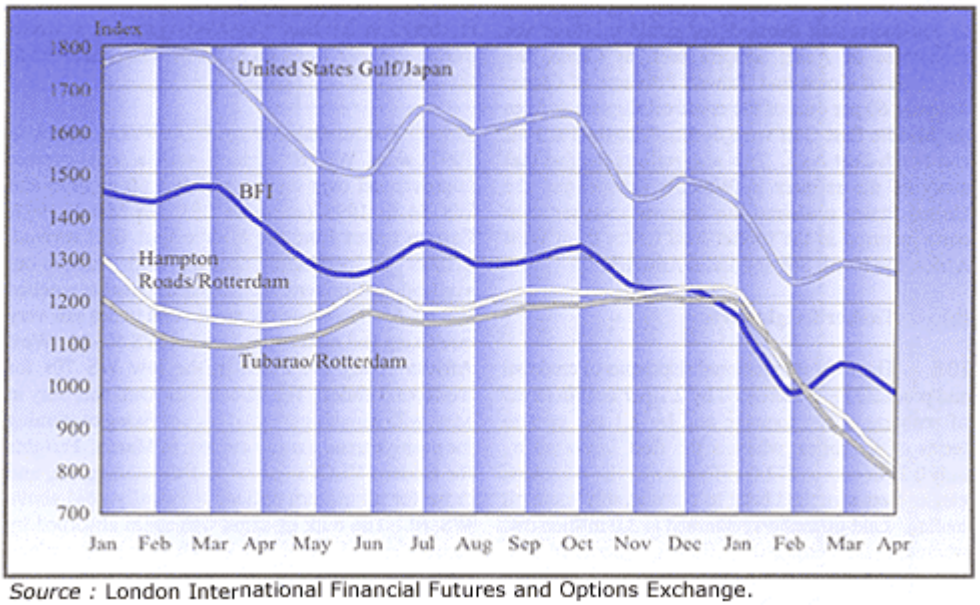
Graph 9 shows the trend in the BFI and selected trade routes for 1997/1998. The year 1997 saw a relatively strong volume increase in main dry bulk commodities.

One of the main reasons why the favourable dry bulk trade did not boost the freight market was the record high of newbuildings for main dry bulk commodities, amounting to 18.3 million dwt in 1997. Scrapping and losses aggregated about 6.0 million dwt in 1997. Hence the dry bulk fleet in the main dry bulk sector increased by 4.5 per cent. The combined carrier fleet decreased from 18.1 to 17.9 million dwt during 1997, and the dry bulk cargo share also decreased from 73.8 per cent in 1996 to 64.1 per cent in 1997, as the significantly better tanker market attracted more combined carriers from dry bulk trading

Route		Commodity	Weighting
1	United States Gulf-North Continent	Grain	10 %
1a	Transatlantic round	T/c	10 %
2	United States Gulf-Japan	Grain	10 %
2a	United States Gulf-Far East time charter	Grain	10 %
3	United States North Pacific-Japan	Grain	10 %
3a	TransPacific round	T/c	10 %
6	Hampton Roads-Richards Bay-Japan	Coal	7. 5 %
7	Hampton Roads-Rotterdam	Coal	7. 5 %
8	Queensland-Rotterdam	Coal	7. 5 %
9	Far East to Nopac-Cont	T/c	10 %
10	Tubarao-Rotterdam	Iron Ore	7. 5 %

Graph 9

Baltic Freight Index (BFI) and selected routes, 1997 and January–April 1998



Source : London International Financial Futures and Options Exchange.

C. OIL AND OIL PRODUCTS SEABORNE FREIGHT MARKET

(a) Seaborne trade in oil and oil products

103. World crude oil production increased in 1997 by 2.3 million barrels per day, or 3.3 per cent, to average 72.1 million barrels per day. The major reported increases came from the Middle East, the Caribbean and Latin America and Africa. The Middle East showed the largest overall gain, with supply increasing by 925,000 barrels per day. The largest single increase came from Iraq where, in accordance with the oil-for-food formula, production almost doubled in 1997 from 1996 levels, averaging 1.15 million barrels per day. Caribbean and Latin American production rose by 547,000 barrels per day. Mexican and Venezuelan production rose significantly in 1997, the two countries together accounting for an additional 370,000 barrels per day. An increase in African output was another factor in 1997, with supply rising by 325,000 barrels per day; most of this gain can be attributed to Nigeria and the Libyan Arab Jamahiriya.[16]

104. In 1997 the overall volume of the seaborne crude oil trade increased by 2.3 per cent to 1,626 million tons from 1,590 million tons in 1996. The growth in shipments of crude oil in 1997 was primarily supplied from the Middle East Gulf, the Caribbean and Latin America, and North and West Africa. Among the major importing countries, the United States increased its crude oil imports in 1997 by 5.7 per cent, accounting for one-third of the total imports of the developed market-economy countries. Japan was the second-largest importer of crude oil, accounting for an estimated one-fifth of the total imports of the developed market-economy countries. Europe's overall imports of crude oil declined substantially for the second consecutive year, while its exports increased by 0.2 per cent in 1997.

105. Overall shipments of oil products in 1997 increased by only 1.6 per cent to 546 million tons. This was a considerable slowdown from 1996, when growth of 3.3 per cent was registered. The decline in growth rate reflects large increases in domestic production in South-East Asia and the Far East. United States imports registered a marginal increase of less than 1 per cent in 1997. Europe's imports in 1997 increased moderately by 2.8 per cent, while exports from Europe increased by 1.6 per cent.

106. Tanker shipping in the Middle East Gulf has experienced changes in trade-route structures since 1996. The trend towards reduced movements to Western destinations continued, primarily as a result of the increasing demand for crude oil from the economies of Asian nations such as China, the Republic of Korea and Taiwan Province of China. Roughly 60 per cent of the crude oil shipments from the Middle East Gulf were destined for the Far East and South-East Asia. This also reflects the fact that many of the refiners in Western Europe and the United States preferred the cheaper transportation costs incurred in the shorter-haul trades from West Africa, the North Sea and Latin America.[17]

(b) Tanker freight rates

107. The 1997 international shipments of crude oil and products have increased by 2.1 per cent in terms of seaborne cargo tonnage and by 2.1 per cent in terms of ton-miles, whereas the fleet increased by only 0.2 per cent to 272.0 million dwt. The combined carrier fleet switched back to considerably more oil trading. Laid-up tankers remained at 3.0 million dwt whereas tankers engaged in oil storage increased from 10.5 million dwt as at the end of 1996 to 12.7 million dwt or 4.7 per cent of the tanker fleet at the end of 1997. The utilization rate was best in the autumn in the northern hemisphere, when short-haul trade also increased further.[18] Favourable conditions continued into 1998 in the ULCC/VLCC markets, while markets for medium-size crude carriers and small crude and product carriers slowed down at least until the middle of 1998.

Very large crude carriers

108. In 1997, only eight VLCCs were sold for demolition, which was six less than in 1996 and 22 less than in 1995. These figures clearly illustrate that the VLCC market during 1997 was so attractive that only those units which had no hope of employment were destined for breaking. In addition there was a greater overall utilization of VLCCs in 1997 than previously. In 1997, approximately 1,520 VLCC fixtures were reported in all loading areas, as compared to about 1,200 in 1996. Throughout 1997 there was a trend to employ larger tonnage and to benefit from economies of scale on a number of trade routes in addition to those originating in the Middle East Gulf. This was evidenced by the increased utilization of VLCC tonnage in West Africa and the North Sea, where Suezmax vessels had bee economically suitable and were actually most used. It was another feature of the 1997 VLCC market that the majority of VLCC cargoes from the Middle East Gulf (approximately 60 per cent) were destined for discharge in the East, and there were a few weeks during the year when no business was concluded to the West.

109. The annual average ULCC/VLCC rates in 1997 were WS 67, which was a considerable improvement over the rates of WS 60 in 1996 and WS 54 in 1995 (see table 39). In March 1997, Eastern routes from the Middle East Gulf revived. Thanks to persistent demand and thinned-out availability of preferred tonnages, the market reached WS 60-65. However, the westbound trades saw very rare fixing and rates mainly around WS 50-55. West African fixing continued in the low WS 70s for westbound trades. The Middle East Gulf was busy in May, with a much-improved pace of fixing continuing the positive trend already evident in March. Freights for modern VLCCs gained further momentum, and those for all eastern options eventually paid above WS 70. The bulk of ships was again absorbed by Asian demand while the Western trades remained quiet. Nevertheless, freights inched up from the low WS 50s to the high WS 50s. Since the beginning of the third quarter, persistent demand and scarce tonnage availability in the Middle East Gulf enabled owners to push for further rate gains, and exceed the WS 90 mark for the Far East. West African fixing was far from plentiful, but the buoyant conditions prevailing in the Middle East Gulf left few ships for West African cargoes, which paid up to WS 85 for westbound trade. After a lull in the market in the second half of the third quarter, the Far Eastern charterers were very dominant in the Middle East Gulf in October and eventually caused the eastwards market to go beyond the WS 100 level. On the other hand, demand in West Africa dropped back to WS 77 for the United States discharge. This downward trend in the VLCC market prevailed from November to the early months of 1998. A surplus of VLCC units in the Middle East Gulf put pressure on freights, which softened to the WS 60s 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 favourable factors may not prevail throughout 1998,

Table 39
Tanker freight indices, 1995-1998
(monthly figures)

Period	Tanker freight indices [a]																			
	VLCC/ULCC				Medium-size crude carriers				Small crude and product carriers				Handy-size clean				Handy-size dirty			
	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998	1995	1996	1997	1998
January	53	61	59	55	105	120	114	105	155	158	164	142	226	228	256	171	170	178	198	155
February	48	67	58	69	99	120	109	97	146	154	156	133	216	230	238	176	163	202	201	147
March	50	61	62	72	101	114	120	106	142	178	201	146	215	233	223	162	159	228	194	161
April	45	49	52	70	95	117	110	92	140	161	182	122	187	221	214	155	176	210	181	157
May	45	57	63	75	101	114	111	98	145	153	183	120	211	212	203	152	217	215	203	67 171
June	56	67	64	74	95	106	107	105	147	160	173	136	218	204	181	161	217	241	186	167
July	63	70	70		108	101	100		145	136	160		213	181	176		214	217	176	
August	64	63	83		107	101	111		148	139	148		204	180	170		192	185	180	
September	54	54	76		100	98	114		135	133	153		189	174	164		166	212	182	
October	49	55	90		101	110	115		143	138	167		207	197	150		175	198	165	
November	61	60	74		97	108	111		132	148	139		215	187	184		163	190	180	
December	61	57	55		103	107	110		137	166	150		234	234	175		162	188	141	
Annual average	54	60	67	69	101	110	111	101	143	152	165	133	211	207	195	163	181	205	182	160

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

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

given the economic slowdown in Asian countries. Freights continued to be paid at around the WS70 level depending mainly on discharge options. Rate levels in westbound trades from the Middle East Gulf and West African trades were maintained at around WS 60.

Medium-sized crude carriers

110. The annual average rates for medium-sized crude carriers (60,000-150,000 dwt) in 1997 remained at the relatively high level of WS 111, which was almost the same as in 1996 much higher than the WS 101 registered in 1995 (see table 39). Suezmax tankers (the larger units in this category) continued to benefit from high rates in 1997. West Africa still provided the benchmark for Suezmaxes, and the average rates obtained for West African trades improved to WS 96.3 as compared to WS 92.5 in 1996. The West African market was brisk throughout 1997. Suezmax markets were also active in the North Sea, the Mediterranean and, sometimes, in the Caribbean. These markets provided a viable alternative to those owners who chose not to be engaged in the trades in West Africa. There are only 11 Suezmaxes scheduled to be delivered in 1998, and this modest increase in the size of the fleet should have a substantial effect on future rates. Aframax (the smaller units in this category) also had a good year in 1997, benefiting from the short-haul business of many oil companies and traders, especially in their principal markets in the Mediterranean, the Caribbean and the North Sea. In the cross-Mediterranean trade, rates for 80,000-ton movements showed a modest improvement in 1997, with an annual average of WS 113, three points up on the previous year. In the North Sea, the yearly average was also higher in 1997. Cargoes of 80,000 tons paid an average of WS 115, as compared to WS 110 in 1996. The Caribbean was a very good market for Aframaxes in 1997, with an average rate of WS 161 as compared with WS 142.5 in 1996.

111. At the beginning of 1997 a favourable level of demand in West Africa, combined with reasonable requirements in the Mediterranean and North Sea, led to some busy months for Suezmax units. After this period, Suezmax freights for United States-bound cargoes from West Africa slowly came back to WS 92-95. On the other hand, the Aframax market grew stronger in the North Sea. Freights rose to WS 120-125. Mediterranean trading experienced a long-awaited boom as freights jumped from WS 105-110 to a peak of WS 175. The Caribbean trade continued its climb to just below WS 150 coastwise. In March, brisk turnover for Suezmax units on the West African market gave freights a further push to WS 107 for modern units. Afterwards, reduced demand pushed back freight levels to WS 95 for the United States and WS 88 for Europe. On the other hand, the Caribbean business for Aframax climbed swiftly as a consequence of delays in the availability of tonnage. The 80,000-ton size tentatively secured rates as high as WS 225 from Mexico to the United States Gulf. At the end of the second quarter, a decline of shipments in West Africa weakened the Suezmax market, and even modern units were forced to accept WS 85-87 to the United States. Mediterranean freights fell from WS 90 to the WS 80s. However, in August there was a remarkable upturn in general market conditions for Suezmax units. Much-improved demand for West African transport again became the "engine? of the Suezmax market and, helped by similar signals in the Mediterranean and the North Sea, the markets were soon on the move. The boost in numbers in West Africa brought freights from the high WS 80s to the WS 110-120 range for cargoes to the United States. The Aframax market in the North Sea also rapidly rose from WS 105 to WS 150 for short hauls. In September, increased West African crude exports on VLCCs had a negative effect on Suezmax demand, and consequently freights levelled off in the WS 90s with some point premiums paid for the United States trades. Entering the last quarter, a considerable amount of business was concluded in West Africa for Suezmax ships, with rates in the WS 90s for destinations in the United States. In November, Suezmax fixing gained momentum, with West African loadings fetching up to WS 110-113. Mediterranean deals also produced a rise to WS 105 for short trips. Brisk North Sea business revitalized the market for Aframax, with freights fetching over WS 120 towards the end of the year, while conditions remained firm for Suezmax units in West Africa, the Mediterranean and the North Sea. Decreasing demand and the combination of Suezmax consignments for VLCC shipments out of West Africa put considerable pressure on Suezmax and, consequently, Aframax rates in early 1998. The rate level decreased to WS 101 from an average of WS 111 in 1997.

Small crude and product carriers

112. The annual average rates for small crude and product carriers (30,000-60,000 dwt) in 1997 rose to WS 165 from WS 152 in 1996 and WS 143 in 1995. Until the end of February 1997, freight levels of the main trades in this category in the Caribbean, the North Sea and the Mediterranean fluctuated moderately between WS 155 and WS 165. In March, the Aframax rate ? as in the Caribbean business ? pushed the market for this size up to the WS 220s. The Mediterranean/United States cargo paid WS 165-170, as did stems from the North Sea bound for the United States. This favourable trend continued towards the end of the second quarter with average freights for the main trades fluctuating at as high as WS 175-185. From July onwards, the trades for this size of vessel continued at the same level as in previous years. Caribbean business for 50,000-ton vessels fluctuated between WS 160 and WS 170. The North Sea and the Mediterranean markets varied in the range of WS 150-160. 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.

Handy-size dirty carriers

113. From the end of 1996 to March 1997 the overall market for handy-size dirty carriers (below 30,000 dwt) improved, led by the North Sea activities, maintaining freights for the 25,000-ton size at WS 205-220. In the Mediterranean, WS 200 were paid for similar cargoes. After a tentative drop in April, inter-North Sea trading gained momentum, with the 25,000-ton size on short hauls paid at WS 235-240. For cross-Mediterranean movements, this category of vessel was paid at WS 185-190. This profitable business for owners continued during June and July. Afterwards, a moderate downward movement caused by relatively weak market demand persisted throughout the third and fourth quarters, and towards the end of the year freights plummeted further. Consequently, the annual average for handy-size dirty carriers in 1997 fell significantly to WS 182, almost the same level as in 1995 (WS 181), from the WS 205 registered in 1996. These unfavourable market conditions continued in the early months of 1998.

Clean-cargo carriers

114. The market for clean carriers of up to 60,000 dwt made a very positive start in the first quarter of 1997, when the general rate level fluctuated widely, reaching as high as the WS 220s-250s. After that, the market for this category deteriorated, reaching a low at the beginning of the fourth quarter of 1997, when the general rate levels remained depressed at around WS 150. The generally negative market conditions were based on continuing low demand in the main clean market, except for the Caribbean trades. In November, a positive trend emerged in the Middle East Gulf, where the 50,000-55,000-ton class received a boost to as high as WS 185 for Far East trade. The 45,000-ton class moving from the Middle East Gulf to various parts of the Indian subcontinent continued booking cargoes at around the WS 160s. Trade received a welcome boost in Indonesia, where the 50,000-ton size was booked at WS 170 for the Far East. From December 1997 the Caribbean market remained firm at up to WS 220-230, while the Mediterranean trades to Europe 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.

Tanker period-charter market

115. The period-charter market for crude tankers improved for virtually all categories except for handy-size dirty carriers during 1997. These improvements clearly reflected the general feelings of optimism prevailing in the spot market. There was a more active VLCC period market in 1997, compared to that in the previous year. The bareboat-charter rate for VLCCs was around $25,000-26,000 per day. Time-charter rates for modern double-hull VLCCs for 12 to 24 months averaged a little over $30,000 per day. The Suezmax period market improved the most in 1997. The period market for modern tankers with double hulls rose to about $25,000 per day over 12 months, from a level of $20,000-22,000 per day in 1996. In 1997, there was also an active Aframax period market, where modern double-hull units secured around $20,000 per day for 12 months, as compared to an average of about $19,000 per day in 1996. For the clean time-charter market in 1997, newbuildings of 45,000-47,000-dwt secured approximately $15,000 per day on a 12-month time-charter.These rates reflecte the downward trend experienced in the spot market (see table 39).

D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE

Trends in global import value and freight costs

116. The world total value of imports (c.i.f.) increased further by 5.66 per cent in 1996 from the previous year (when it grew by 15.39 per cent), while world total freights paid for transport services rose by 5.10 per cent (having risen by 12.77 per cent in 1995). Table 40 indicates estimated total freight payments for imports and the percentage of total import value by country groups. World total freight payments as a portion of import value had been on a downward trend from as high as 6.64 per cent in 1980 to 5.25 per cent in 1996 (see also graph 10). The relative level of freight costs incurred in the import trades of developed market-economy countries continued to be only half as high as that of developing countries. For 1996, developed market-economy countries' freight costs were 4.19 per cent, as compared to 8.06 per cent for developing countries. The difference between the two groups is mainly attributable to differences in trade structures, regional infrastructure facilities and 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.

Developed market-economy countries

117. Notwithstanding this general trend, there is also a large variation in freight cost ratios among the developed market-economy countries. Among those countries whose total c.i.f. import value exceeded $100,000 million in 1996, 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 per cent each, 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 4.19 per cent for the overall developed market-economy countries as a group. These high rates can be primarily explaine by structural features of the import trade, but to extent, they also reflect relatively high charges for distribution, including cargo-handling activities in ports.

Developing countries

118. The overall ratio of freight charges for the developing countries declined almost every year from 1980 (when it was 10.44 per cent) to 1996 (when it was 8.06 per cent), as did that of developed market-economy countries. African developing countries showed a marginally lower ratio of 11.41 per cent in 1996, as compared with 11.44 per cent in 1995. The ratios for West African and and East African developing countries were higher, at 13.58 and 13.70 per cent respectively, while the ratio for North African countries was 9.01 per cent, much lower than the ratios for the other subregions in Africa but still higher than the average for developing countries (8.06 per cent). The majority of African landlocked countries paid a comparatively high amount for freight charges: 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.

119. In 1996, developing countries in Asia accounted for 66.4 per cent of the total freight costs and 67.2 per cent of the total import value of imports of developing countries. The freight factor declined slightly to 7.97 per cent as compared with 8.03 per cent in 1995. It was 8.79 per cent in West Asia, 13.59 per cent in the Islamic Republic of Iran and 13.07 per cent in Kuwait. The freight factor in South and East Asia was 7.84 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 incurred freight costs as high as 9.36 and 9.60 per cent respectively. India and Indonesia paid high freight costs of 10.32 and 10.55 per cent respectively. These variations can be explained by differences in trade and shipping patterns, particularly in the liner sector, which includes special infrastructure facilities covering feeder services between hubs and feeder ports.

Table 40

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

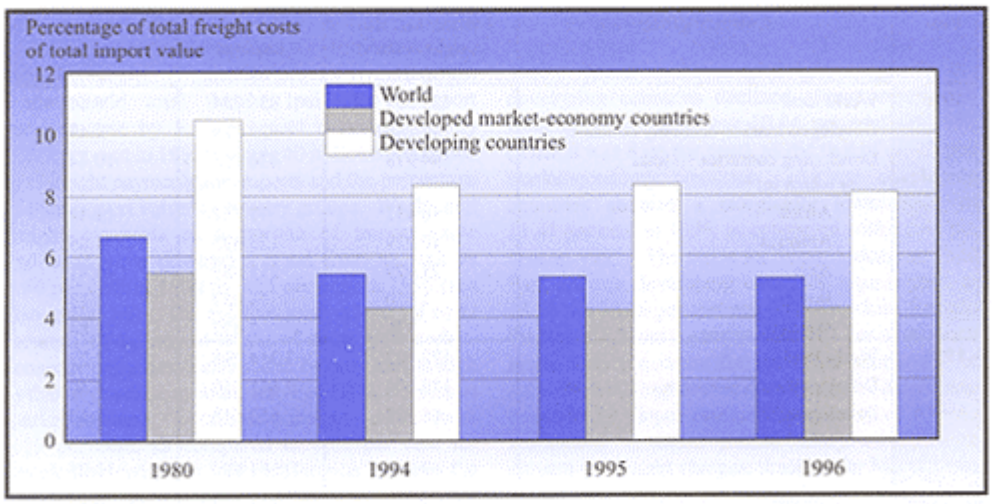
Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
1980	World total	123 264	1 856 834	6.64
	Developed market-economy countries	78 286	1 425 979	5.49
	Developing countries ? total	44 978	430 855	10.44
	of which in:			
	Africa	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
1995	World total	247 325	4 688 637	5.27
	Developed market-economy countries	145 040	3 457 009	4.20
	Developing countries ? total	102 285	1 231 628	8.30
	of which in:			
	Africa	11 598	101 369	11.44
	America	20 305	257 505	7.89
	Asia	68 003	847 054	8.03
	Europe	1 728	20 445	8.45
	Oceania	651	5 255	12.39
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

Source: Compiled by the 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 10

Estimates of total freights costs in world trade by groups



Source: Table 40.

106. Developing countries in America continued to register the most favourable freight factor of all the developing countries, with 7.08 per cent in 1996, as compared with 7.89 per cent in the previous year. Within this region, Central America had the lowest freight factor of 5.65 per cent in 1996. This favourable rate reflects the fact that Mexico, the biggest trading nation in the subregion, had a freight factor of only 4.42 per cent, actually accounting for 75 per cent of the total import c.i.f. value of the subregion and paying nearly 60 per cent of the total freight costs of the subregion. In 1996 the countries of the South American eastern seaboard also paid relatively low freight costs at 6.63 per cent. Among them, however, Bolivia and Paraguay, both landlocked countries, had higher freight factors of 11.10 and 11.33 per cent respectively, whereas that of Uruguay was as low as 4.51 per cent.

107. Small island developing countries in the Caribbean and Oceania paid higher freights at 10.94 and 12.31 per cent respectively in 1996. The 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 a level of freight charges which are generally higher than those incurred by most other developing countries.

Box 2

Before and after

Shippers and importers can gain cost advantages for themselves, and benefit the environment, by careful planning of the pre- and post-ocean legs of freight movements. A strong argument was put forward at the recent Swiss Shippers' Council conference for more attention to be paid to an often neglected element of deep-sea shipping strategy.

The planning by shippers and importers of the pre-ocean and post-ocean legs of freight movements can pay considerable dividends in terms of improving both the economic and ecological elements of shipping from one continent to another. The influence shippers now have in influencing deep-sea transport legs is minimal, but they can influence overland transport planning before containers arrive at terminal or port, and should consider the positioning of consignments before they even reach the loading dock at the point of manufacture.

This was the message given at the Swiss Shippers′ Council seminar at Interlaken by Peter Graser, vice-president of the Swiss Forwarders′ Association, and a partner in the Basel-based forwarder Hofstetter & Co. As was only to be expected on such an occasion, the comments were aimed at encouraging shippers not only to improve the competitivity of Switzerland as a manufacturing nation, but also to take account of the needs of the environment. The two requirements were not seen as conflicting, since careful pre- and post-ocean freight planning was reckoned to be a means of at least partially compensating for Switzerland′s geographic bane of lacking its own deep-sea ports. However, the message was relevant for shippers in all countries planning freight movements from one continent to another.

Nevertheless, in Graser′s opinion the importance of planning pre- and post-deep-sea shipping is mostly underestimated. This is curious, since the overland legs of a complete movement in most instances represent the largest part of the total cost. Indeed, according to Graser, the disproportion between ocean freight and the cost of overland transport sometimes becomes absurd, particularly if terminal handling costs are calculated as being part of the pre-ocean freight costs.

Usually, though, the negotiating of ocean freight rates is considered to be of paramount importance, seemingly due to the transparency of ocean freight tariffs. In contrast, a mass of disparate elements are often involved in inland transportation, necessitating the careful organizing of overland transport to achieve satisfactory operational and cost-effective results.

Graser emphasized that such are the current difficult marketing conditions for manufacturers that buyers now insist on agreed delivery times being rigidly adhered to within the context of just-in-time distribution chains. Detailed planning of the shipping process should therefore begin at the time a sale is agreed, and this planning should take into account factors such as lead times for manufacture, the Incoterms to be employed and arrangements for opening letters of credit. Inadequate planning can potentially disrupt the effectiveness of the shipping process. Also to be considered is the positioning of goods within manufacturing or warehousing facilities before the shipping process begins.

Graser reminded his audience that if an examination is made of the relationship between freighting costs and transit time, it is likely to be found that a high proportion is made up of costs incurred for a relatively short overland transit.

Documentation, he reckoned, is one of the keys to organizing export shipments and the effective processing of inbound consignments. "Additionally," he commented, "the exchange of information in electronic format is constantly becoming more important, but only the adoption of a structured format, such as UN-EDIFACT,[a] can really resolve the issue."

However, given that most responsible shippers wish, or should wish, to plan logistics chains which are both cost-effective and favourable to the environment, what measures should they consider? At the outset, as outlined in Graser′s comments, they should bear in mind that improvised overland movements, when time margins are insufficient, are always costly, and allow no margin for environmental considerations. On the other hand, Graser asserted that neither shippers nor transport operators in Europe really have a preference for one overland mode compared to another, and if intermodal operators are capable of meeting shippers′ needs intermodal routings should attract support.

Road trucking, which creates air pollution, noise and road congestion, will no longer be an alternative for longer hauls within Europe, was the message, and it was noted that in 1996 approximately 1.2 million TEU, or 35 per cent, of container traffic moving between the ports of Antwerp and Rotterdam and the European hinterland was carried by barge.

However, the principal disadvantage for containers moving by inland waterways consists of fluctuating water levels, and its lower flexibility than road and rail. The solution for shippers? To combine the flexibility of road haulage with the reliability of rail and the stability of the inland waterways.

And the role of containers in all of this? "Ocean transport," remarked Graser, "offers the great advantage of having available a standardized loading unit, the ISO container, but the question arises as to whether this is utilized to the maximum."

Suggestions to shippers for maximizing the benefits of shipping in containers were:

- "Turn the box", i.e. use it for both import and export traffic
- Talk with other users, possibly a neighbouring company needing empty container capacity
- Request alternative quotations, since the base of financial viability for loading a container may be lower than a shipper supposes;
- Take account of the total costs involved in selecting a port.

There was one more argument in Graser′s exposé. The motivations of forwarders have changed, and they must now prove their ability to create added value for shippers. Forwarders, however, are now subject to a trend towards concentration within their industry, leading to suggestions that the smaller companies could disappear, although Graser disputes this.

But that is another issue.

Source: *Containerisation International*, April 1998.

a For information on EDIFACT, see chapter VI, section B.

Chapter V

PORT DEVELOPMENT

This chapter covers recent developments in institutional changes in ports, container port traffic for developing countries, electronic data interchange messages for ports, and port tariffs and guidelines on privatization.

A. INSTITUTIONAL CHANGE

International terminal operators

122. The most significant feature of the past year has been the continuing move by Governments and port authorities to foster port improvements and development through partnerships with terminal operators. Port authorities are evolving from having an operating role to acting as a landlord with responsibility for coordinating port development and granting leases to companies to manage and operate facilities. In particular, these operators provide the management expertise and finance required to develop container-handling facilities in their port.

123. In the 1990s more and more companies have become involved in the international management of container-handling facilities. Privatization is slowly becoming the norm in the container industry, and has resulted in a rapidly growing competitive market. A recent study by Drewry Shipping Consultants estimated that the global TEU throughput for 1997 exceeded 170 million TEUs and forecast growth of 6 per cent per annum up to 2005. Investment on a huge scale is needed and much of this investment will be provided or managed by private terminal-operating companies. This growth, linked to good returns on investment, makes participation in the container terminal sector an attractive opportunity. As a result terminal operators and shipping lines have increasingly become involved.

124. The major terminal-operating companies handling more than 4 million TEUs in 1997 were PSA Corporation (see box 3), Hutchison Port Holdings (HPH), Europe Combined Terminals (ECT), P&O Ports and Stevedoring Services of America (SSA). PSA Corporation handled 15.5 million TEUs in 1997 through its facilities in Singapore, Dalian, Nantong, Fuzhou, Taicang, Cigading, Aden, Genoa, Venice and Tuticorin. HPH handled 13.8 million TEUs through its facilities in Hong Kong, Shanghai, Yantian, Gaolan, Jiuzhou, Nanhai, Jiangmen, Shantou, Xiamen, Felixstowe, Thamesport, Harwich, Freeport, Cristóbal, Balboa and Yangon. ECT handled 4.6 million TEUs through its facilities in Rotterdam, Duisburg and Trieste. P&O Ports handled 4.5 million TEUs through its facilities in Sydney, Melbourne, Brisbane, Fremantle, Southampton, Tilbury, Larne, Genoa, Naples, Cagliari, Manila, Shekou, Bangkok, Laem Chabang, Vostochnyy, Qasim, Colombo, Nhava Sheva, Buenos Aires and Maputo. SSA handled 4.0 million TEUs through its facilities in Seattle, Portland, Tacoma, Oakland, San Francisco, Long Beach, Los Angeles, Mobile, Charleston, Savannah, Jacksonville, Manzanillo (Panama) and Manzanillo (Mexico). Another global player, which handled 1.75 million TEUs in 1997 was International Container Terminal Services Inc. (ICTSI), with facilities in Manila, Buenos Aires, Rosario, Veracruz, Karachi, Dammam and Ensenada. The international terminal operators are commercially oriented and normally will look for partners, often local companies, to spread the risk and provide local expertise.

125. The major terminal-operating shipping lines are Sea-Land, Maersk Line, Evergreen, Cosco, OOCL and NOL/APL. Carrier participation is generally made to maximize their control over handling operations and terminal costs. Shipping lines are often involved in transhipment hubs. Sea-Land operates terminals in Hong Kong, Kaohsiung, Yokohama, Rotterdam, Algeciras, Long Beach, New York/New Jersey, Baltimore, Oakland, Tacoma, Rio Haina, Adelaide and Salalah. Maersk Line has terminals in Oakland, Long Beach,

BOX 3

PSA Corporation Ltd.

One of the most notable developments in the port industry in 1997 was the corporatization of the Port of Singapore, which became the PSA Corporation Ltd. This completed the transition of the organization from a statutory board to a corporation and is particularly interesting as normally port reform is carried out to improve performance or to attract new capital, neither of which were needed in Singapore as the port handled 314,164,000 freight tons with 7,11.0 employees in 1996 while earning an operating surplus of S$ 896 minion. In this case, the corporatization was carried out to allow PSA to pursue a new business direction and to open new areas of growth. The change will take PSA from operating a world-class port to becoming a world-class company, managing a worldwide network of ports. Already PSA is involved m projects for investment, management and consultancy services in approximately 30 different ports. While the majority of these projects are in the Far East, they also include Aden, Yemen and Genoa. The Corporation is 100 per cent State-owned by the Singapore Government.

In 1997, third-generation containerships were serviced at an average rate of 88 containers per hour. About 80 per cent of the port's traffic is transhipment. Productivity is a key concern for management. Two berths commenced operations at the new Pasir Panjang Terminal in October 1997 and another two berths will be operational by the end of 1998. PSA has taken delivery of the first eight in a new series of super post-Panamax gantry cranes. They have a lifting capacity of more than 40 tons and an outreach of 55 metres which allows them to work containerships that are capable of loading 18 containers across. When completed, the new terminal will have 26 berths and an annual capacity of over 18 million TEUs. PSA reported an operating income of US$ 1.3 billion and a surplus before taxes of US$ 644 minion in 1997. Staffing was reduced by 3 per cent to 6,973 while container volume increased by 9.2 per cent.

PSA's International Business Division embarked on its first Middle East project in June 1997 when it signed an engineering, procurement and construction contract with Yeminvest to construct a new container terminal at Aden, followed by the signing in October of a 20-year terminal management contract to allow PSA to manage and operate the terminal after its completion in March 1999. In China, PSA signed a contract with the Fuzhou Port Authority in April to form joint venture companies to manage and operate the existing terminals at Qingzhou and Taffiang, and to develop and manage a new deep-water terminal outside Minfflang. A contract was also signed with the Nantong Port Authority to develop, manage and operate two container berths and a bonded warehouse.

Table 41

Container port traffic of developing countries and territories in 1996 and 1995

Country or territory	Container traffic 1996[a] (TEU'S)	Container traffic 1995 (TEU'S)	Percentage change 1996/1995	Percentage change 1995/1994
Hong Kong, China	13 460 373	12 549 746	7.3	13.6
Singapore	12 943 900	11 845 600	9.3	13.9
Taiwan Province of China	8 078 251	7 848 695	2.9	7.4
Republic of Korea	4 725 206	4 502 596	4.9	17.7
China	4 466 455	4 678 875	-4.5	15.1
United Arab Emirates	3 807 769	3 511 909	8.4	9.7
Malaysia	2 505 801	2 075 470	20.7	18.9
Philippines	2 260 197	1 691 639	33.6	-15.7
Thailand	2 052 296	1 961 917	4.6	10.8
Indonesia	1 764 392	2 048 130	-13.9	7.1
South Africa	1 486 150	1 359 941	9.3	24.3
India	1 460 871	1 360 908	7.3	8.3
Brazil	1 365 930	1 414 307	-3.4	22.8
SriLanka	1 356 301	1 028 746	31.8	5.8
Saudi Arabia	1 148 093	1 090 142	5.3	-7.9
Egypt	808 608	1 062 945	-23.9	-4.8
Mexico	679 569	556 743	22.1	15.2
Chile	651671	539 550	20.8	7.8
Malta	632 048	553 896	14.1	29.3
Panama	617 182	483 685	27.6	37.0
Cyprus	564 000	373 996	50.8	0.5
Pakistan	555 347	550 650	0.9	7.3
Jamaica	483 526	395 207	22.3	16.6
Argentina	345 540	253 885	36.1	-52.3
Peru	335 795	296 147	13.4	31.6
Ecuador	323 377	180 000	79.7	1.7
Cote d'Ivoire	309 713	261 324	18.5	5.6
Costa Rica	275 668	253 136	8.9	-30.0
Honduras	260 000	240 000	8.3	10.0
Bangladesh	250 000	230 000	8.7	10.0
Venezuela	244 729	214 752	14.0	33.3
Kuwait	225 000	223 896	0.5	1.4
Kenya	220 000	201 350	9.3	25.6
Morocco	194 806	194 256	0.3	37.5
Nigeria	180 190	201 305	-10.5	35.9
Trinidad and Tobago	175 699	171 554	2.4	10.7
Uruguay	160 000	137 644	16.2	30.1
Guam	155 311	157 037	-1.1	-1.0
Jordan	139 317	108 819	28.0	-2.2
Syrian Arab Republic	135 000	135 000	0.0	1.5
Dominican Republic	135 000	125 000	8.0	8.0
Martinique	134 110	121 064	10.8	9.9
Lebanon	130 000	128 882	0.9	-44.0
Colombia	124 000	114 000	8.8	9.0
Papua New Guinea	118 291	114 920	2.9	-3.8
Ghana	112 000	100 102	11.9	13.1
Tunisia	108 710	94 644	14.9	3.7
Cameroun	108 160	95 680	13.0	-43
Mauritius	105 651	92 882	13.7	-0.9
Bahrain	103339	99445	3.9	-3.6
Iran, Islamic Republic of	103080	173769	-40.7	56.7

Table 41 *(continued)*

Country or territory	Container traffic 1996[a] (TEU'S)	Container traffic 1995 (TEU'S)	Percentage change 1996/1995	Percentage change 1995/1994
Oman	100 853	95 603	5.5	8.8
Total	73 187 275	68 301 389	7.2	8.9
Other reported D	889 682	821 635	8.3	-
Total reported	74 076 957	69 123 024	7.2	10.3
World total	147 348 255	137 238 569	7.4	5.2

Source: Derived from information contained in *Containerisation International Yearbook, 1998.*

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

b Comprising developing countries and territories where less than 100,000 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

Table 42

Traffic for selected ports in 1997 and 1996

Hong Kong	14 567 000	13460340	8.2	7.4
Singapore	14 120000	12940000	9.1	9.4
Kaohsiung	5693340	5063050	12.5	0.2
Busan	5285700	4725210	11.9	4.9
Dubai	2600000	2247020	15.7	8.6
Shanghai	2530000	1 930000	31.1	26,4
Bangkok	2224500	2052300	8.4	40.2
Manila	2008870	1 913210	5.0	13.2
Keelungng	1 981 175	2 108580	-6.0	-2.6
Tanjung Priok	1 900000	1595500	19.1	5.0
Klang	1 821000	1409500	29.3	24.3
Colombo	1628000	1356300	20.0	29.1

Source: Compiled by the UNCTAD secretariat on the basis of data supplied *by Port Development International* **January/February** 1998, and *Containerisation International Yearbook 1998.*

Chapter VI

TRADE AND TRANSPORT EFFICIENCY

This chapter provides an update on the impact of the latest developments in electronic information technology on the efficiency of transport operations and on developments in the field of multimodal transport.

A. ELECTRONIC COMMERCE DEVELOPMENTS AFFECTING MARITIME TRANSPORT

(a) Documents of title/negotiability

139. The most challenging aspect of the implementation of electronic transport documents is the replacement of negotiable documents of title, such as bills of lading, by an electronic equivalent. The bill of lading is considered a symbol or substitute for the cargo in the sense that one can buy and sell the document with the same effect as if it had been the cargo, and the possession of an original bill of lading has an effect similar to that of the physical possession of the cargo itself. As to the right of control over the goods in transit, the person in possession of a full set of originals (bills of lading are usually issued in a set of three originals) has an exclusive right over the goods in transit and can interfere with the actual performance of the carriage and thus control the destiny of the cargo in transit.[19] It is this document-of-title function of the bill of lading which makes it a key element in international trade. It enables the parties to trade with the goods while in transit by using the document as a substitute, the buyer having the assurance that he can secure actual possession of the goods at the destination by presenting an original bill of lading, or that he can resell the goods by transferring the same bill of lading to a sub-buyer. The term "negotiable" used in relation to a bill of lading merely relates to its transferability and the fact that transfer of rights in goods can be achieved by transfer of the bill of lading.

140. The relationship between the carrier, shipper and consignee of bills of lading is governed by mandatory application of international conventions, such as the Hague Rules, the Hague Visby Rules or the Hamburg Rules or their national enactments. These international conventions do not contain specific provisions requiring a written paper document for a bill of lading, but references to "writing", "document" and the obligation imposed on the carrier to issue a bill of lading at the request of the shipper are clearly made with a traditional paper document in mind. The Hamburg Rules, however, permit the signature on the bill of lading to be in any mechanical or electronic form, provided that it is not inconsistent with the law of the country where the bill of lading is issued.

141. Negotiable bills of lading have been indispensable to the financing and conduct of international trade, making possible the sale and transportation of goods between parties located in distant parts of the world. Modern technological developments, however, have resulted in the arrival of the ship at the port of destination before the arrival of the bills of lading to enable delivery of the goods. The problems caused by the late arrival of the bill of lading, including the cost and risk involved in releasing the goods against presentation of the letter of indemnity instead of an original bill of lading, have made the international community call for the use of non-negotiable transport documents such as sea waybills where goods are not traded in during transit. It has been argued that "instruments such as negotiable bills of lading are out-moded and should be discarded as business moves to EDI (electronic data interchange). Indeed, there may come a time, when commerce is so secure, trustworthy and universal. But that day is not yet here, and there are significant numbers of transactions requiring negotiable transfers. Some accommodation must be made for them, if EDI is to truly satisfy the needs of commerce".[21]

142. The challenge, therefore, is to replace negotiable documents with electronic versions which have all the legal effects attached to the piece of paper. Under the existing national and international laws governing negotiable bills of lading, legal rights are attached to the physical possession of the paper document. There is therefore a need for a legal regime to allow the parties to transfer legal rights in goods, such as ownership rights, through the exchange of electronic data messages.

143. To achieve negotiability in an electronic environment, in addition to overcoming the general problems of writing, signature, etc., questions such as the allocation of liabilities, incorporation of general terms and conditions of contract, and confidentiality need to be resolved. Efforts are currently focused on developing legal and technological means for replicating the negotiability and transferability function of a paper bill of lading in an electronic environment. The UNCITRAL Model Law on Electronic Commerce, the CMI Rules for Electronic Bills of Lading and the Bolero Project (see below) aim to achieve electronic negotiability within the framework of the existing substantive law governing the paper bill of lading. It has, however, been suggested that if a system based on the transfer of rights is developed with the purpose of replacing the paper bill of lading, it will need legal rules of its own. If such a system becomes successful, the bill of lading will gradually disappear and the bill of lading law will fade away.[20]

(b) UNCITRAL Model Law on Electronic Commerce

144. Part two of the UNCITRAL Model Law on Electronic Commerce deals with the carriage of goods and transport documents.[21] In preparing the Model Law, it was recognized that "the carriage of goods was the context in which electronic communications were most likely to be used and in which a legal framework facilitating the use of such communications was most urgently needed" (para. 110 of the Guide to Enactment). Chapter I of the Model Law assumes that the general provisions of the Model Law, particularly those relating to "writing, original and signature", also apply to the electronic equivalent of transport documents.

145. Article 16 of the Model Law sets out the range of activities to which provisions of the chapter are to apply. It includes a non-exhaustive list of actions expected to be carried out in the context of carriage of goods, such as furnishing marks, number, quantity or conditions of goods, confirmation of loading, notification of terms and conditions of contract, claiming delivery, notice of loss of or damage to goods, undertaking to deliver goods to the person entitled to take delivery, granting, acquiring or transferring and negotiating rights in goods, and transferring rights and obligations under the contract.

146. The activities referred to in article 16 are not only relevant to maritime transport but also to other modes of transport, as the Model Law is intended to cover all transport modes, including road, rail, air, sea and multimodal transport, as well as all transport documents, whether negotiable or non-negotiable.

147. Paragraphs (1) and (2) of article 17 specifically establish functional equivalents of information, as well as the performance of the actions listed in article 16 through the use of paper documents. Paragraph (1) provides that:

> *"Subject to paragraph (3), where the law requires that any action referred to in article 16 be carried out in writing or by using a paper document, that requirement is met if the action is carried out by using one or more data messages."*

148. According to paragraph (2), this provision applies whether the requirement for a written document is in the form of an obligation or whether the law provides certain consequences for failing to conduct the action in writing or to use a paper document.

149. Paragraphs (1) and (2) "are intended to replace both the requirement for a written contract of carriage and the requirements for endorsement and transfer of possession of a bill of lading" (para. 113 of the Guide to Enactment). Such provisions were considered necessary in view of the difficulties that might exist, in certain countries, with regard to recognizing the transmission of data messages as functionally equivalent to the physical transfer of a document of title representing the goods.

150. To enable the transfer of rights and obligations through the use of data messages, the

crucial issue is to establish the identity of the exclusive holder to whom the rights or obligations are to be transferred - in other words, to ensure that a right is transferred to one person only. Paragraph (3) of article 17 therefore provides that:

"*If a right is to be granted, or an obligation is to be acquired by, one person and no other person, and if the law requires that, in order to effect this, the right or obligation must be conveyed to that person by the transfer, or use of, a paper document, that requirement is met if the right or obligation is conveyed by using one or more data messages, provided that a reliable method is used to render such data message or messages unique."*

151. According to paragraph (4), the standard of reliability required is to be assessed in the light of the purpose for which the right or obligation is conveyed and in the light of all relevant circumstances.

152. Paragraphs (3) and (4) aim at ensuring that a right or obligation is transferred to one person only. They introduce a requirement referred to as the "guarantee of singularity", or uniqueness of the message. Since the requirement in the proviso to paragraph (3) regarding the use of a reliable method to render a data message "unique" is ambiguous, it may be subject to varying interpretations. The Guide to Enactment attempts to clarify this by stating that the words "should be interpreted as referring to the use of a reliable method to secure that data messages purporting to convey any right or obligation of a person might not be used by, or on behalf of, that person inconsistently with any other data messages by which the right or obligation was conveyed by or on behalf of that person".

153. There are also provisions to avoid duplication by ensuring that the transfer of rights and obligations or title to goods is not conducted through the use of both data messages and paper documents simultaneously. In other words, where data messages are used to effect any such action, no paper document used for the same purpose is valid unless the use of data messages has been terminated and replaced by the use of paper documents.

154. Furthermore, article 17 contains provisions to ensure that compulsory application of certain laws to contracts of carriage of goods which is in, or is evidenced by, a paper document, such as the Hague, Hague-Visby or Hamburg Rules, is not excluded by the fact that data messages are used instead of a paper document.

155. Systems and rules have been developed, or are in the process of being developed, to assist in the practical implementation of negotiable electronic transport documents such as bills of lading. The CMI Rules for Electronic Bills of Lading (1990) already provide a contractual basis for the implementation of electronic bills of lading, while the Bolero Project (see below) will provide an electronic central registry system enabling transfer of title and ownership between users. In the absence of a paper document, a registry system would play an essential role in the negotiation process. "Any form of transferability or negotiability under electronic commerce will require some form of a registry C that is an "honest" middleman or a party that is otherwise responsible to deliver property. Someone has to hold the "stake", record the transaction, and maintain the integrity of the transaction, or there would be chaos, because no one is responsible to see that the transaction is completed."22 It remains to be seen whether the Bolero system will provide a sufficiently secure mechanism for electronic negotiability.

(c) CMI Rules for Electronic Bills of Lading

156. The Comité Maritime International (CMI), a non-governmental organization working towards the unification of maritime law, adopted the Rules for Electronic Bills of Lading in 1990. The objective of the CMI Rules is to establish a mechanism for replacing the traditional negotiable paper bill of lading with an electronic equivalent. The CMI Rules do not have the force of law: they are entirely voluntary and require a "communication agreement" between trading partners for their application. They do not interfere with the law applicable to the contract of carriage, such as the Hague, Hague-Visby or Hamburg Rules. They clearly state that "the contract of carriage shall be subject to any international convention or national law which would have been compulsorily applicable if a paper bill of lading had been issued". The CMI Rules attempt to imitate the function of negotiable bills of lading in an electronic environment. Under the system, the parties agree that the carrier does not have to issue a bill of lading to the shipper. Upon receiving the goods from the shipper, the carrier sends a notice of receipt (a "receipt message") of the goods to the shipper at his electronic address, containing information which would have

been included if a paper bill of lading had been issued, such as the name of the shipper, the description of the goods with any reservations, the date and place of receipt of the goods, a reference to the carrier"s terms and conditions of carriage, and a secret code or what is called a Aprivate key" to be used in subsequent transmissions.

157. The Aprivate key" may be any technically appropriate form, such as a combination of numbers or letters, which the parties agree to for the purposes of securing the authenticity and integrity of a transmission. The shipper, upon confirming the receipt message to the carrier, is considered to be the Aholder" of the private key. The holder of the private key is the only party that can claim the delivery of the goods, nominate the consignee or substitute a nominated consignee for any other party, transfer the right of control and transfer to another party, and instruct the carrier on any other subject concerning the goods as if he were the holder of a paper bill of lading.

158. The transfer of the right of control and transfer is effected in the following way: the current holder of the private key notifies the carrier of his intention to transfer to another person the right of control and transfer; the carrier, having confirmed that notification, transmits to the proposed new holder the description and particulars of the goods; and, upon acceptance by the proposed new holder of the right of control and transfer, the carrier cancels the current private key and issues a new private key to the new holder. The same procedure is followed in respect of subsequent transfers. The CMI Rules aim at producing the same effects as those produced by the transfer of such rights under a paper bill of lading, without relying on the physical transfer of a piece of paper. It has, however, been questioned whether the parties" agreement would be sufficient to ensure the validity and enforceability of such transfer of rights in all jurisdictions: AIt will depend upon the applicable law to what extent their agreement is given effect not only between themselves but also in relation to third parties".[23]

159. The carrier must accept instructions from, and deliver the goods only to, the party disclosing the valid private key. The private key is unique to each successive holder and is such that his position is the same as it would be if he had possession of the original paper bill of lading. The private key is not transferable by the holder and must be kept secret in order to prevent its use by unauthorized persons. The carrier is under an obligation to notify the holder of the private key of the time and place of delivery, and the latter is then required to nominate a consignee, if other than himself, and to give delivery instructions. The delivery of the goods automatically cancels the private key. The carrier is further under an obligation to exercise reasonable care to ascertain the identity of the party that claims to be the consignee, otherwise he will be liable for misdelivery of the goods. AThe carrier assumes liability for any financial loss incurred by shipper, transferor or transferee resulting from a breach of any of his afore-mentioned obligations and according to the same rules which would have applied if a bill of lading had been issued and unauthorized instructions had been followed or cargo delivered to the wrong party".[24]

160. The CMI Rules also allow the parties to opt out of the electronic system, in which case the procedure under the Rules is stopped and the private key is cancelled by the issuance of a paper bill of lading. This is in conformity with international rules (such as the Hague, Hague-Visby and Hamburg Rules) or their corresponding national enactment mandatorily applicable to bills of lading, which allow the shipper to demand an original paper bill of lading.

161. Problems which may arise from a requirement under national law that the contract of carriage should be evidenced in writing are addressed by provisions which stipulate that electronic recording or a computer printout would satisfy that requirement. The parties are assumed C by their very adoption of the CMI Rules C to have agreed not to raise the defence, in case of a dispute, that the contract is not in writing. Again, the legal effect and validity of such contractual provisions will depend on the applicable law.

162. The CMI Rules have been criticised for placing excessive liability on the carrier, for their failure to address the allocation of liability for system breakdown,[25] and (by the banking community) for the lack of specified security system.[26] It should be recalled that the CMI Rules do not address technical issues relating to the implementation of electronic bills of lading, and the carrier"s liability for misdelivery is intended to be the same as that under a paper bill of lading.

163. Although their legal effect and validity in producing electronic negotiable bills of lading will depend on the applicable law, the CMI Rules constitute an important development in that direction. In jurisdictions in which physical endorsement of a document of title is required, by mandatory legislation, for the transfer of the ownership of goods, paperless transactions under the CMI Rules will have no legal effect. The CMI Rules do, however, provide useful mechanisms for achieving negotiability with regard to electronic transport documents; and in conjunction with an appropriate legislative framework will ensure the validity of such transactions.

(d) Bolero Project

164. The Bolero Project is working to provide a platform for the secure exchange of electronic trade documentation through a central data application. A unique feature of the Bolero system will be its ability to transfer rights from the holder of a bill of lading to a new holder and thus replicate the functions of the traditional paper-based negotiable bill of lading. The Bolero Project is being developed by S.W.I.F.T., the bank-owned cooperative responsible for interbank payment messaging, and the Through Transport Club (TT Club), a mutual insurance company representing carriers, freight forwarders, terminal operators and port authorities. Bolero started life as a cross-industry initiative in 1992 and received some European Union funding in its early stages.

165. In brief, the Bolero system will provide an infrastructure platform which will enable users to send information to other users in a confidential and uncorrupted manner. It will work by affixing a user's digital signature to each message which is sent to Bolero; Bolero will forward this message to the intended recipient. In addition, different types of message, combined with a guarantee that the messages are original (usually termed Asingular" or Aunique" in electronic terms), will allow users to transfer rights. It is intended that Bolero will link all participants in the international trade chain. It will interface and work in partnership with established networks and software suppliers so that users" existing proprietary solutions will be enhanced, not replaced.

166. A user's digital signature will work on a public/private key basis. Each user, when registering to use the system, will be provided with a computer-generated algorithmic private key that only the user knows. Recipients of messages from a particular user will be able to verify that the user is who he says he is by using his public key. Thus the authenticity and integrity of all messages sent via Bolero will be assured, and it will not be possible to repudiate them.

167. The Bolero Association Ltd. represents interested potential users of a Bolero service and consists of importers, exporters, carriers, freight forwarders, banks, port authorities, terminal operators and insurance companies. It is likely that the Association will form a user group to channel information between users and the Bolero service when the latter is established. The Bolero service will be based on a binding legal framework, consisting of a rule book and a service contract. A comprehensive responsibility and liability policy will be incorporated in these two central contracts.

168. The rule book will be a multilateral contract between all users of the Bolero system, and will be binding on them. Its purpose is to allow users to replicate the legal results currently achieved in the paper environment when using electronic messages instead of documents. The rule book will not interfere with the underlying contracts (such as sale, carriage, insurance, settlement and financing contracts) between users except where provisions to replicate the legal effects of these contracts in an electronic environment so dictate. The rule book includes, in addition to general terms and conditions, provisions normally found in interchange agreements, covering validity and enforceability, admissibility of electronic messages as evidence before courts or other tribunals, security, data protection and applicable law. In keeping with its aim of non-interference with underlying contracts between users, the rule book will contain a non-exclusive jurisdiction clause to allow the parties to continue to select the forum for resolution of trade disputes. The key elements of the rule book are the clauses which ensure that the handling and transfer of negotiable bills of lading through the Bolero system are legally binding and reproduce the same legal results as in the case of paper documents.

169. Service contracts will cover issues relating to

the use of the Bolero service, governing levels of service, security, confidentiality, responsibility and liability. The relationship between the Bolero service and third-party suppliers will also be set out.

170. The Bolero service is intended to provide a responsibility and liability policy to protect users' underlying business transactions and ensure confidence in the operations of the system. Although the details have not yet been finalized, it is proposed that the Bolero service will be responsible for any delays in the transmission of a message, misdelivery of a message or breaches of confidential information.

171. The "central title application" will govern the ability to transfer rights under a bill of lading. The title application will maintain a record of who has rights to a particular document, but for reasons of confidentiality this information will be available only to those authorized by the holder of the rights.

172. The Bolero bill of lading will replicate the functions of a traditional bill of lading through a series of electronic messages. The Bolero service will also permit the use of electronic non-negotiable bills of lading and electronic waybills. The Bolero bill of lading will (a) act as a receipt for the goods from the carrier, (b) contain the terms and conditions of the carriage contract, and (c) give the holder the exclusive right to control, allowing him the right of transfer to a new holder and ultimately, as the party entitled to possession, the right to give the carrier instructions regarding delivery. The Bolero bill of lading will be capable of granting a pledge regarding the goods to a bank; hence, banks will be able to use it as security for loans made in connection with international trade.

173. Most international transport conventions require a written document, but these conventions will not apply to Bolero bills of lading by force of law. For example, the Hague and Hague-Visby Rules will apply only if a bill of lading has been or is intended to be issued. Since the Bolero bill of lading will not satisfy the formalities required, the rule book provides that any international law or international convention which would have applied had the document been produced in paper form will be incorporated into the carriage contract if Bolero electronic messages are used instead.

174. For a system such as Bolero to succeed, a number of central issues relating to confidentiality and the rights and liabilities of both the users and providers of the service will need to be satisfactorily addressed. It is hoped that current consultations with the trade industry will assist the Bolero project team to find appropriate solutions to the issues involved.

B. EDI MESSAGES FOR PORTS

175. The volume and complexity of documents required in international trade are costly barriers to trade. To facilitate international trade, the United Nations Economic Commission for Europe has developed a standard for electronic data interchange for administration, commerce and transport (EDIFACT). Electronic data interchange (EDI) is designed to facilitate trade by increasing the speed and accuracy of communication with the added benefits of lower communication costs and increased scope for automatic data processing. By 1991, a number of EDIFACT messages were approved as Standard Messages, including messages covering the documentary requirements for the arrival, stay and departure of ships and cargo in international traffic as defined in the International Maritime Organization (IMO) Convention on Facilitation of International Maritime Traffic (FAL Convention), which constitutes the basis for an implementation guide to sea cargo manifests.[27] In order to implement EDI, trading partners need to reach detailed agreement on information exchange scenarios, the data to be exchanged, the codes to be used, the EDI message standards to be used and how to map the data into the chosen EDI messages. An implementation guide for a particular business function establishes a standard information interchange scenario, a basic set of data requirements and a uniform mapping of the data into standard EDI messages.

176. Using generally accepted implementation guides will shorten the implementation cycle as EDI partners need only focus on exceptions. A common guide will also reduce the variation between different EDI implementations of similar business functions, which will create confidence among potential EDI users and make it easier to market EDI to new partners. Such a guide will allow faster standardization of common business scenarios and accelerated growth of EDI.

177. For the above-mentioned guide, a sea cargo manifest is defined as the total of all relevant information pertaining to a vessel and the cargo carried on that vessel on a particular voyage. The relevant information is vessel and voyage information (IMO General Declaration - 23 data fields) and cargo information from bills of ladings, sea waybills and other types of transport documents. The EDIFACT messages chosen for mapping the data requirements of a sea cargo manifest are CUSREP (Customs Conveyance Report Message) and IFTMCS (International Forwarding and Transport Message, Contract Status). The information contained in the IMO General Declaration is mapped into the CUSREP message and each bill of lading or waybill is mapped onto a separate IFTMCS message. The total sea cargo manifest is thus made up of a series of EDI messages that comprises at least one CUSREP message and one IFTMCS message.

178. The EDIFACT sea cargo manifest can be exchanged between any number of partners who require the information and who have signed an EDI agreement. Depending on the requirements of the partners, the sea cargo manifest may contain information on all cargo on a vessel or on part of the cargo. Typical partnerships would be between the carrier and the shipping agent and the shipping agent and the customs authority, port authority and terminal operator.

179. The first message in a sea cargo manifest must be a CUSREP message, which provides the data elements that are required to uniquely identify the manifest and establishes the link to the IFTMCS messages (the cargo report) that may follow. One IFTMCS message is transmitted for each transport document/bill of lading. A manifest can be closed by either a cut-off date or a final CUSREP message. The transmission can be done in a single EDI interchange or in a number of EDI interchanges over a period of time.

180. CUSREP and IFTMCS messages related to the same sea cargo manifest are linked by a vessel identification code, voyage identification code and carrier identification code when several carriers share a vessel. In an EDI transmission, the segments are explicitly identified by their tags and the order in which the segments occur is specified by the message standard. Thus data elements and composite data elements are identified by their sequential position in a tagged segment as defined in the EDIFACT segment directory. The guide describes the mapping of information into the two EDIFACT messages.

181. The use of the sea cargo manifest can provide those in the transport chain with advance information in electronic form which will speed up the processing of information and thus in the long run further reduce the cost of transport. This guide is being used in the development of the manifest module for UNCTAD's PortTracker software.

182. SMDG is a user group for shipping lines and container terminals that develops and promotes EDIFACT messages for the maritime industry.[28] The group was created in 1987 and its original objective was to agree a standard format for the exchange of ship stowage planning information. This information, known as the BAPLIE message, defines the position of containers in a vessel. The use of BAPLIE has grown rapidly and most carriers and deep-sea container terminals are dependent on its use for accurate and timely information. The group is in the process of implementing messages for containership stowage instructions (MOVINS) and terminal performance reporting (TPFREP). SMDG works closely with the International Transport Message Implementation Group as well as the TWG Asia EDIFACT Board Transportation Group in Tokyo, Japan, and the TMSG Tradegate Maritime Strategy Group in Melbourne, Australia.

183. Another use of EDI is the PROTECT project that has been carried out by six major ports in north-west Europe to transmit messages notifying the presence of dangerous goods on board vessels. The project has resulted in the development of the EDIFACT standard messages to support the electronic notification of the movement of dangerous goods to port authorities.

C. ADVANCE CARGO INFORMATION SYSTEM

184. ACIS (Advance Cargo Information System) is a logistics information system designed and developed by UNCTAD to improve transport efficiency by tracking equipment and cargo on the various modes (rail, road, lake/river) and at the interfaces (ports, inland clearance depots) and providing information in advance of cargo arrival. ACIS provides both public and private transport

operators and ancillaries with reliable real-time data on transport operations such as the whereabouts of goods and transport equipment, and thus improves day-to-day management and decision-making. ACIS also produces regular performance indicators which enable management to remedy deficiencies and to make full use of the existing infrastructure and equipment capacity.

185. Once installed at the national and subregional levels, ACIS can provide data for macroeconomic planning to identify optimal modal distribution patterns. It can play an important role in the development of trade relations and in reinforcing subregional integration because it enables transport operators to receive, through modes and interfaces and over borders, the vital information they need to improve their efficiency, thus reducing the costs and time of carriage along transport corridors.

186. ACIS relies heavily on information technology, and has been adapted for use in the difficult environment for which it was designed. It provides those users who have information networks with easily accessed microcomputer technology using existing communication software. Each ACIS module is designed to be a stand-alone subsystem, comprising microcomputer hardware and software packages, and can be run on either a single microcomputer or a local network of microcomputers, depending on the size and needs of the operator.

187. ACIS is currently operational in 20 transport operators" networks in 15 developing countries. Tangible results are starting to be measurable in terms of local capacity-building and increased subregional cooperation. This cargo-tracking system introduces total transparency by monitoring all events, and thereby increases operational efficiency; it also allows better use to be made of existing infrastructure facilities and leads to higher productivity. Ultimately these elements ensure better use of transport capacity and reduce the costs of imports and exports.

188. A recently commissioned independent assessment of ACIS evaluated the impact of ACIS and concluded that the use of the system in East Africa:

(a) Introduced a high degree of technology transfer to the trained users of the system;

(b) Increased the reliability of transport service providers;

(c) Introduced developing countries to the electronic trading world through EDI and adequate telecommunications;

(d) Enabled significant cost reductions in transport by reducing wagon turnaround time C increasing wagon capacity by half, on average, by reducing the average transit time of goods by up to 75 per cent, by reducing wagon hire charges between interconnected railways (for one network alone in Africa this amounted to $1.8 million in 1997) and by increasing customer confidence.

The use of ACIS also increases fraud detection, which would be of interest to insurers.

189. ACIS RailTracker is currently starting a major project with the Southern African Transport and Communications Commission linking South African Railways and its northern neighbours in Malawi, Mozambique and Zimbabwe with an almost completed rail-tracking project financed by the European Union in Burundi, Kenya, Rwanda, Uganda, United Republic of Tanzania and Zambia. This means that by the end of the year 2000 it will be possible to monitor and locate any railway-transported cargo between Cape Town and Kampala within seconds.

190. ACIS is poised to pursue its expansion into Asia, the Middle East, and Central and Latin America; major projects are already starting up in India and Iran. ACIS RailTracker is also extending its coverage to Eastern Europe, starting with Bulgarian Railways. Finally, collaboration with the industry has been strengthened, notably through the involvement of the International Railway Union (UIC) and the International Association of Ports and Harbors (IAPH). Implementation of the system in the field is being actively pursued through the United Nations regional economic commissions, especially in Asia and the Pacific and Western Asia. ACIS continues to be funded from multilateral and bilateral sources, the European Union, the United States Agency for International Development, French and German cooperation agencies and the beneficiary countries themselves, either with direct contributions or through World Bank loans.

D. DEVELOPMENTS IN MULTIMODAL TRANSPORT

General developments in the field of multimodal transport

191. With the globalization of production, supply and distribution in many branches of industry, the logistics market has continued to grow, together with the trend to outsource logistics and to concentrate on the core business. The types of services most often entrusted to external contractors are warehousing, information logistics services, transportation with a selection of carriers and the negotiation of tariffs. Some of the value-added services in this branch include management of warranty support programmes and repair services as well as global logistics services.

192. It is expected that the use of third-party logistics services will grow in the next few years by about 10 to 15 per cent a year in Europe and by about 20 to 30 per cent in the United States. There has been welcome growth of the logistics market in some developing countries. In India, third-party logistics business has been growing at the rate of 30 per cent a year. The fast-developing economy of China has created the necessary conditions for the setting-up of a new comprehensive logistics, transportation and distribution venture jointly established by different entities to provide a logistics network, with extensive use of information technology and logistics management for fully computerized warehouse management and cargo-tracking systems, and to offer integrated and cost-effective logistics services in various parts of the country.

193. In the field of the legal regulation of multimodal transport services, new regulations for the multimodal transport of international containers were introduced in China on 1 October 1997. They include a new licensing system, a new liability regime and the prohibition of foreign operators who are not part of joint ventures with Chinese partners. The tighter licensing system means, in particular, that foreign operators will need to set up a company in China and meet a range of fiscal and business criteria. Licences will only be valid for a three-year period, after which operators will have to apply for their renewal. The new regulations cover all container moves between any inland point in China and any port or point overseas, where part of the move involves the use of road, rail or a barge or coastal ship.

Land-bridges and other block train services

194. The European Commission's Directive 91/40 identified intermodal traffic as the most suitable means for the liberalization of rail transport, introducing the concept of open access for companies outside the railway administrations operating their own trains on public tracks. While until 1993 Intercontainer-Interfrigo (ICF) was the only cross-border rail-service provider for container traffic, in 1997 there were no less than a dozen operators running their own shuttle trains on the European railways. The private sector is deeply involved in operating shuttle trains through joint ventures and partnership between the ports, the shipping lines and State railways. The operator usually leases the wagons and negotiates a price for having the train moved by the State railways' locomotives and crews to an agreed place according to an agreed timetable.

195. One of the main results of deregulation in the field of European rail transport has been the creation of the concept of Afreightways" C established through routes. The main players in this field are the major intermodal companies engaged in deep-sea container traffic through the European ports. However, maritime containers form only a small portion of the total tonnage which needs to be switched from road to rail transport for a sustainable transport policy to be realized. Freightways are also intended for, and do carry, a significant number of domestic containers and swap-bodies.

196. China has been introducing updated technology to improve the efficiency of its railway network. The measures cover communication facilities, safety equipment and rolling stock and the establishment of transportation management information systems that permit the railways to meet the highest standards in these fields. In line with the development of intermodal transport facilities and block train operations in the southern provinces, the concept of inland clearance depots has been spreading to other regions of the country. An inland clearance depot with a capacity of 10,000 TEUs at Harbin in north-eastern China was inaugurated in the second half of 1997 with regularly scheduled train services between this city and the port of Dalian. A plan exists to extend this rail service to the Russian border at Suifen He and Manzhouli.

197. The Russian Ministry of Railways has taken measures to boost transit container service through the trans-Siberian route, which carried only 22,000 TEUs in 1997 as compared with the record 150,000 TEUs achieved in 1989. Technical innovations, along with streamlining of customs and other administrative procedures, made it possible to reduce transit time for container trains running from Nakhodka in the Far East to Brest at the BielorussianBPolish border to 12B14 days. An experimental container express train set a new record of 213 hours (less than nine days) on this route. In order to attract additional container flow to the route, tariffs for transit container traffic and port-handling charges have been reduced.

Inland navigation

198. European inland waterways saw a significant growth in container traffic in 1997. From the port of Rotterdam, 1,400,000 TEUs were dispatched by inland waterways in 1997. From the port of Antwerp, 1,011,000 TEUs were moved by this mode. An important part of this traffic (about 600,000 TEUs) was accounted for by the shuttle traffic between these two major European ports.

199. The use of inland waterway transport in developing countries remained very limited. For example, in India, the Government"s target of reserving 5 per cent of the cargo managed by the ministries responsible for petroleum, agriculture, fertilizers, energy and industry for inland waterway transport could not be met owing to a lack of capacity.

200. The Brazilian Government has attached great importance to the development of the inland waterways in the country. Prominent in this development has been the TieteBParana waterway link, which saw an increase of 30 per cent in the volume of cargo transported alng it beween 1995 and 1997. It is expected that by 2005 this waterway will be one of the major transport corridors in the country, transporting about 35 million tons of cargo.

World container population

201. The global fleet of maritime containers reached 10.8 million TEUs in mid-1997, an increase of 8 per cent over the corresponding time in 1996 (see table 43).

Table 43

Global container fleet by main category of owner for the period 1994B1997
(thousands of TEUs)

Box fleet	**Mid-1997 (estimated)**	**Mid-1996**	**Mid-1995**	**Mid-1994**
Leasing company	5 100 [a]	4 730	4 370	3 900
Ocean carrier	5 600 [a]	5 140	4 500	4 100
Other [b]	500	430	430	420
Grand total	11 200	10 300	9 300	8 420
Regional total	400	300	250	220
World total	10 800	10 000	9 050	8 200

Source: *Containerisation International Hardware Market Analaysis.*

a All boxes currently leased to Cosco by Florens Container Corporation have been included in the carrier-owned section of the table in accordance with previous years.

b Other container-owning transport companies.

Container-leasing industry

202. The Institute of International Container Lessors (IICL) reports that the container-leasing industry had an operating leasing fleet of dry freight containers of 5,211,189 TEUs at the beginning of 1998. This represents an increase of 495,914 TEUs (10.5 per cent) over the previous year"s inventory of 4,715,275 TEUs. These figures do not include high-cube dry freight containers (9 foot 6 inches high), which are considered as a special type of container in the leasing companies" inventories. The major IICL leasing companies had a total fleet of 4,811,189 TEUs, while the other leasing companies had a fleet of about 400,000 TEUs.

203. The fleet of special containers in the leasing sector numbered 1,123,847 TEUs at the beginning of 1998, an increase of 233,717 TEUs or 26.26 per cent over the previous year. The composition of IICL members' fleet of special containers is shown in table 44.

204. Concerning the composition of the leased dry freight container population (see table 45), the shift towards 40-foot long containers, which occurred for several consecutive years, has resumed, but in tempered fashion. The percentage of 40-foot long containers stood at 63.42 per cent in 1998 compared with 62.30 per cent a year earlier. The table also shows a very limited percentage of containers of non-standard length. In contrast, the number of high-cube dry freight containers had grown in 1998 by 44.18 per cent and the number of reefer high-cube containers grew by 12.7 per cent (see table 44).

205. Container-leasing companies suffered in 1996B1997 from low daily rental rates and poor utilization of equipment. It was reported that more than 20 per cent of the total fleet of the leasing companies was off-hire, though some signs of improvement in the utilization of equipment were evident by the end of 1997. The reasons for the recession in the leasing sector were seen in the downturn in the rate of trade growth and in the shift in policy of the major ocean carriers, which cut their holding of leased equipment and stepped up the purchase of containers because of the very attractive prices of new containers. Daily rates, which had already been in decline for several years, followed new box prices downwards, and dropped by over 20 per cent between 1995 and 1997. However, despite difficult business conditions, utilization of the major lessors" container fleet was gradually reviving: 84.93 per cent of the fleet was in use on 1 January 1998 in contrast to 81.55 per cent on 1 January 1997.

Table 44

Composition of lessors' special container fleet in 1997 and 1998 (inTEUs)

Type of container	1998	1997	Percentage change
High-cube dry freight	661 156	458 552	44.18
High-cube reefer	94 612	83 952	12.70
Open top/open side	127 092	120 138	5.79
Platform flats	9 200	8 002	14.97
Collapsible flats	67 860	62 457	8.65
Other flat racks	1 770	1 007	75.77
Tank containers	19 259	17 576	9.58
Reefers	119 835	122 796	-2.41
Dry bulk	1 340	1 000	34.00
Ventilated	9 867	10 400	-5.13
Cellular pallet wide	10 356	2 850	263.37
Others	1 500	1 400	7.14
Total	1 123 847	890 130	26.26

Source: 1997 IICL Special Container Survey, 18 June 1998.

Table 45

Composition of the dry freight container fleet of the major leasing companies by size in 1998

Length of container	Number of units	Percentage of capacity
20 foot	1 728 485	35.93
40 foot	1 525 643	63.42
45 foot	13 251	0.62
48 foot	668	0.03

Source: IICL Tenth Annual Leased Container Fleet Survey, 21 April 1998.

206. Most top lessors were coping with the depressed situation in the market by adopting economies of scale. Fleet mergers and takeovers were the logical outcome of this policy. 1996B1997 witnessed the creation of two huge container lessors each controlling around 1.2 million TEUs (see table 46). At the same time, the recessionary market provided the conditions for the establishment of some newcomers, who took advantage of the low prices for new containers and were in a better position to cope with low lease rates since they were not burdened with a large amount of equipment purchased at the high original prices.

Container production

207. World container production continued to decline in 1997 (down 3 per cent on 1996), with a total output of 1,250,000 TEUs as compared with 1,290,000 TEUs in 1996 (see table 47). The total container output in 1997 was 10 per cent lower than the record figure of 1,390,000 TEUs achieved in 1995. Production of dry freight standard containers fell the most, with other types (dry freight specials, reefers, tank- and regional-type containers) sometimes even increasing their level of output.

208. Manufacturers in China consolidated their leadership in this field, managing to increase their production in comparison with 1996 by up to 793,000 TEUs, accounting for about 70 per cent of all dry freight maritime container production, while other formerly important producing countries (India, Indonesia and Thailand) lost their plaec in the world ranking of major container-producing countries (see table 48). Total output from plants in South-East Asia dropped by a third from the 1996 level, from 140,000 TEUs to less than 95,000 TEUs. Output also declined in the Republic of Korea and Taiwan Province of China, from a combined total of 125,000 TEUs to 95,500 TEUs. Production was static in Europe, with a high proportion of special types of containers and regional types of swap-bodies. Production in North and South America was also increasingly reliant on building domestic containers and reefers. The production of tank containers remained important in South Africa. Some dry freight container production subsisted in South Africa, in Western Europe (Denmark) and Eastern Europe.

209. In total, in 1997 there was sufficient installed multi-shift capacity to produce up to 2.3 million TEUs annually worldwide. At the end of 1997 the total Chinese installed output container capacity was over 1,200,000 TEUs. This meant that the container-manufacturing industry in China was working at under two-thirds of its theoretical capacity. Lack of sufficient profit owing to low prices for containers forced some enterprises to undergo restructuring and mergers. The Chinese Government introduced tough controls on container prices, and established a special body to enforce this measure; the Chinese Customs Bureau will enact the regulations through its regional offices. All contracts placed with container manufacturers will be reviewed to ensure that price levels are at or above the established minimum, and that appropriate payment is received or credited prior to the issuance of an export licence.

Table 46

Container fleet of major container-leasing companies in 1998

Company	Fleet (TEUs)
Transamerica Leasing	1 240 000
GE-Seaco (Genstar containers)	875 000
GE-Seaco (Sea containers)	295 000
Textainer Equipment	480 000
Triton Containers	470 000
Florens Container Corporation	450 000
Interpool Group	390 000
Cronos Group	370 000
Xtra International Group	245 000
Container Applications	220 000
Gateway Container Corporation	85 000
Capital Lease	80 000
PrimeSource Holdings	55 000
Gold Container	50 000
CE/TIP Intermodal	43 000
Catu/Maritainer	35 000
Amfico Container Leasing	28 000
United Container Systems	28 000
Bridgehead Container Services	25 000
Carlisle Leasing	17 000
Consent Equipment	14 000
Others	155 000
Total Operational Lease	5 650 000
Estimated Finance Lease	850 000
Total Leased Fleet	6 500 000

Source: *World Cargo News*, February 1998, p. 34.

Table 47

World container production by types of container in 1996B1997

(TEUs)

Type of container	1996	1997
Dry freight standard, including high-cube	1 085 000	1 030 000
Dry freight special	55 000	60 000
Refrigerated	77 000	78 000
Tank containers	15 000	15 000
Specific regional C North America	15 000	14 000
Specific regional C Europe	13 000	23 000
World total	1 290 000	1 250 000

Source: *Containerisation International*, January 1998, p. 61.

Table 48

World container production (all types) by countries/regions in 1996B1997 (in TEUs)

Country or region	1996	1997
China	752 000	793 000
Western Europe	84 000	82 000
Republic of Korea	75 000	56 000
India	40 000	46 000
Indonesia	61 000	45 000
Malaysia	57 000	42 500
Taiwan Province of China	50 000	39 500
Eastern Europe/Commonwealth of Independent	35 000	34 000
States	30 000	34 000
Turkey	26 000	24 000
Central/South America	27 000	21 000
South Africa	22 000	14 000
North America	8 000	10 000
Japan and Singapore	19 000	6 000
Thailand	4 000	4 000
Others		
Total	1 290 000	1 250 000

Source: *Containerisation International*, January 1998, p. 60.

Box 4

Signature of 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 1998
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	8
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	25
International Convention on Maritime Liens and Mortgages, 1993	2	3

Chapter VII

REVIEW OF REGIONAL DEVELOPMENTS: ASIAN ECONOMIC AND MARITIME TRANSPORT DEVELOPMENTS

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

A. THE ASIAN FINANCIAL CRISIS

Regional implications

210. There can be little doubt that the financial crisis which broke out in Asia in mid-1997 has had serious consequences for regional growth and integration in East and South-East Asia.[31] Growth and integration in the region depends on the so-called Aflying geese@ process, whereby countries at different levels of industrialization and development move together on the basis of a progressive upgrading of their industries. Intraregional trade and investment both play a major role in this process by helping to locate production according to comparative advantages determined by relative levels of productivity and wages. A stable pattern of exchange rates throughout the region is absolutely essential for this process to be driven by the real economic forces of productivity. The foundations of the flying geese process have been shaken by recent shifts in the exchange rates among the currencies of the region through what look like competitive devaluations. Currency instability causes unexpected shifts in the relative positions of individual countries, and creates considerable uncertainty regarding the competitiveness of various industries across the region, thereby undermining investment including intraregional investment in tradeables.

211. Although exchange rates are now more favourable for exports, firms in East and South-East Asia also face a greater need to earn foreign exchange in view of cutbacks in lending and the prohibitive cost of foreign borrowing. Furthermore, the rise in domestic interest rates has increased their domestic debt-servicing while, together with fiscal retrenchment, depressing domestic demand. Consequently, local firms can be expected to pursue an aggressive export strategy in markets where they have already gained competitiveness, namely, in Europe, Japan and the United States.

B. MANUFACTURING AND TRADING

GDP growth of selected countries

212. The GDP growth rates of selected countries in East and South-East Asia for the period 1993B1997 are shown in table 49. In 1996 the growth rates of these countries were lower than in previous years, and in 1997 they stayed at almost the same level as in 1996. In 1998, Indonesia, the Republic of Korea and Thailand are expected to experience negative growth.

Growth in manufacturing output

213. Since 1996, growth in manufacturing output has slowed down, with many countries losing much of the momentum they had maintained until the year before. In the Philippines, Singapore and Thailand, growth in manufacturing fell to less than half of the growth rate of over 10 per cent attained in preceding years (see table 50).

Trends in exports and imports

214. As indicated in table 51, the trend in export trade reflected the high growth of these economies until 1995. Every country or region achieved a high year-to-year growth of more than 20 per cent, with the exception of Hong Kong (China) and Indonesia, who still registered nearly 14 per cent growth. After 1996, their growth rate plummeted to single-digit level, except for China and the Republic of Korea, who regained the momentum, attaining growth rates of over 20 per cent in 1997. In their import

Table 49

Real GDP growth rates of selected countries and territories of East and South-East Asia
(growth in percentage)

	1993	1994	1995	1996	1997	1998
China	13.5	12.6	10.5	9.7	8.8	7.5
Hong Kong, China	6.1	5.4	3.9	4.9	5.3	3.0
Indonesia	7.3	7.5	8.2	8.0	5.0	-6.0
Malaysia	8.3	9.2	9.5	8.6	7.8	2.0
Philippines	2.1	4.4	4.8	5.7	5.1	2.0
Republic of Korea	5.8	8.6	8.9	7.1	5.5	-0.8
Singapore	10.4	10.5	8.7	6.9	7.8	3.5
Taiwan Province of China	6.3	6.5	6.0	5.7	6.9	5.0
Thailand	8.5	8.6	8.8	5.5	-0.4	-3.0

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

Table 50

Manufacturing output growth rates of selected countries and regions of East and South-East Asia
(growth in percentage)

	1994	1995	1996	1997
China	21.6	16.1	15.0	13.1
Hong Kong, China	-0.2	1.0	-4.0	..
Indonesia	12.4	10.8	11.6	8.2
Malaysia	14.9	14.2	12.3	10.9
Philippines	11.9	18.5	8.7	..
Republic of Korea	10.9	12.0	8.4	8.0
Singapore	13.0	10.3	3.3	4.6
Taiwan Province of China	5.8	4.5	2.4	7.0
Thailand	9.2	12.0	7.5	0.0

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Nippon Yusen Kaisha.

Table 51

Export trends for selected countries and regions of East and South-East Asia
(millions of dollars and percentage change)

	1994		1995		1996		1997	
	Value	1994/ 1993	Value	1995/ 1994	Value	1996/ 1995	Value	1997/ 1996
China	1 210	31.9	1 488	22.9	1 512	1.5	1 827	20.9
Hong Kong, China	1 514	11.9	1 738	14.8	1 808	4.0	1 891	4.6
Indonesia	401	8.8	454	13.4	498	9.7	541	8.6
Malaysia	586	24.5	739	26.0	778	5.8	790	0.9
Philippines	135	19.3	175	29.7	204	17.7	220	8.0
Republic of Korea	960	16.8	1 251	30.3	1 297	3.7	1 652	25.0
Singapore	965	30.5	1 182	22.6	1 250	5.8	1 251	5.0
Taiwan Province of China	931	9.4	1 117	20.0	1 157	3.9	1 263	9.1
Thailand	452	22.3	563	24.6	555	-1.3	573	3.2

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Nippon Yusen Kaisha.

trades, after attaining double-digit growth rates in 1994 and 1995, most countries dropped to single-digit level, with the Republic of Korea and Thailand posting negative results (see table 52).

C. INTRA-ASIAN TRADE AND DEVELOPMENT

(a) Developments in industry

215. Asia has become increasingly interdependent, since the more industrialized countries of the region succeeded in moving into the production of higher value-added export items and diversified their markets. In recent years, intraregional trades have been expanding significantly, especially in South-East Asia, and the beginning of the formation of an independent mechanism for self-sustained development in this region can be seen. Since developed economies have been finding it difficult to achieve high growth, South-East Asia is pursuing self-supporting regional development instead of relying wholly on exports to the developed economies. As well as making the shift from labour-intensive to technology-intensive production by further refining of the industrial structure, including infrastructure, the countries are in a position to foster high-growth industries in their own region by drawing on their technological resources. This approach could help bring about self-sustained economic growth, which would lessen their dependence on the developed economies and thereby help build up an intraregional demand-driven economic structure.

(b) Intraregional unitized trade and maritime transport

Intra-Asian unitized trade

216. Table 53 provides details of the estimated intra-Asian general cargo (unitized) movements in the period 1995B1998. The 1997 total seaborne general cargo movement in the intra-Asian liner market, excluding that of China, is estimated to have reached 5.7 million TEUs. This regional trade, the major area of which stretches from Malaysia and Singapore in the west and to Japan and the Republic of Korea in the east, accounts for approximately 17 per cent of the global liner market. The most significant growth corridors are those linking Japan and the Republic of Korea with Hong Kong (China), Taiwan Province of China and Thailand. These countries or territories dominated the 1997 intra-Asian liner trade, representing approximately two-thirds of the trade. In particular, Japan accounted for

30 per cent of the total exports and 24 per cent of the total imports. Nearly two-thirds of Japan's exports and imports were transacted with Hong Kong (China), the Republic of Korea, Taiwan Province of China and Thailand. Taiwan Province of China exported 60 per cent of its total exports to Japan and Hong Kong, China and imported more than 40 per cent from Japan. One-third of Hong Kong's exports were destined for Japan, while nearly 80 per cent of its imports were from Japan, the Republic of Korea and Taiwan Province of China. The majority of Thailand's foreign trade was with Japan. While 35 per cent of the Republic of Korea's exports went to Japan and nearly 30 per cent to Hong Kong, 50 per cent of its imports came from Japan. Indonesia, Malaysia and Singapore further increased their intraregional trade. Another major trade route is the one between China and Taiwan Province of China via transhipment at Hong Kong, which, coupled with Hong Kong's direct trade with Taiwan Province of China, has been estimated at more than 600,000 TEUs. However, volumes on this route are set to change substantially over the coming couple of years, following the landmark deal to reopen direct shipping links between China and Taiwan Province of China.

Table 52

Import trends for selected countries and regions of East and South-East Asia
(millions of dollars and percentage change)

	1994		1995		1996		1997	
	Value	**1994/ 1993**	**Value**	**1995/ 1994**	**Value**	**1996/ 1995**	**Value**	**1997/ 1996**
China	1 156	11.2	1 321	14.2	1 389	5.1	1 424	2.5
Hong Kong, China	1 618	16.7	1 929	19.2	1 986	3.0	2 089	5.2
Indonesia	319	12.5	407	27.6	429	5.4	455	6.0
Malaysia	594	30.2	776	30.7	784	1.0	791	0.9
Philippines	212	21.2	265	25.0	323	21.8	367	6.3
Singapore	1 024	20.2	1 245	21.6	1 314	5.5	1 324	0.8
Republic of Korea	1 024	22.1	1 351	32.0	1 503	11.3	1 446	-3.8
Taiwan Province of China	854	10.8	1 036	21.3	1 014	-2.2	1 145	11.8
Thailand	544	18.1	707	30.1	722	2.2	655	-9.3

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Nippon Yusen Kaisha.

Intra-Asian liner operators and their fleets

217. Intra-Asian liner operators are mainly engaged in two types of services: direct services between Asian countries and feeder services between local ports and hub ports in Asia. These operators and their carrying capacity in TEUs are shown in table 54. As at the end of 1996, a total of 140 operators deployed 783 vessels with an aggregated carrying capacity of 386,000 TEUs. The vessels' average carrying capacity was nearly 500 TEUs. In the capacity range of vessels of over 5,000 TEUs there are 21 operators, who deploy 345 vessels with an aggregated carrying capacity of 263,000 TEUs, or an average of 760 TEUs per vessel. These operators account for 68.2 per cent of the total carrying capacity. In the capacity range of 1,000B4,999 TEUs, 48 operators have 278 vessels in service with an aggregated carrying capacity of 89,000 TEUs (23.0 per cent of the total), or an average of 320 TEUs per vessel. For the capacity range of less than 999 TEUs, 71 operators have 160 vessels, with an aggregated carrying capacity of 34,000 TEUs (8.8 per cent of the total) or an average of 210 TEUs per vessel. Some of the larger operators have been improving the quality of their service by replacing their vessels with larger and more efficient vessels, while reducing the number of vessels.

Table 53

Estimated intra-Asian general cargo trade (unitized) for the period 1995B1998
(thousands of TEUs)

Import / Export	Year	Japan	Taiwan Province of China	Hong Kong, China	Philippines	Thailand	Singapore	Malaysia	Indonesia	Republic of Korea	Viet Nam	Total
Japan	1995	-	296 309	311 124	66 669	262 233	177 785	118 524	96 300	186 675	16 297	1 531 916
	1996	-	314 088	329 791	70 669	277 967	188 452	125 635	102 078	197 876	17 275	1 623 831
	1997	-	332 933	349 578	74 909	294 645	199 759	133 173	108 203	209 749	18 312	1 721 261
	1998	-	316 286	332 099	71 164	279 913	189 771	126 514	102 793	199 262	17 396	1 635 198
Taiwan Province of China	1995	222 232	-	251 862	24 445	34 076	75 855	60 743	53 336	38 520	15 408	776 477
	1996	235 566	-	266 974	25 912	36 121	80 406	64 388	56 536	40 831	16 332	823 066
	1997	249 700	-	282 992	27 467	38 288	85 230	68 251	59 928	43 281	17 312	872 449
	1998	237 215	-	268 842	26 094	36 374	80 969	64 838	56 932	41 117	16 446	828 827
Hong Kong, China	1995	152 599	88 893	-	37 039	45 187	59 262	28 149	45 928	53 336	9 778	520 171
	1996	161 755	94 227	-	39 261	47 898	62 818	29 838	48 684	56 536	10 365	551 382
	1997	171 460	99 881	-	41 617	50 772	66 587	31 628	51 605	59 928	10 987	584 465
	1998	162 887	94 887	-	39 536	48 233	63 258	30 047	49 025	56 932	10 438	555 243
Philippines	1995	44 446	13 334	20 742	-	2 222	10 371	2 222	1 482	7 111	444	102 374
	1996	47 113	14 134	21 987	-	2 355	10 993	2 355	1 571	7 538	471	108 517
	1997	49 940	14 982	23 306	-	2 496	11 653	2 496	1 665	7 990	499	115 027
	1998	47 443	14 233	22 141	-	2 371	11 070	2 371	1 582	7 591	474	109 276

Import / Export	Year	Japan	Taiwan Province of China	Hong Kong, China	Philippines	Thailand	Singapore	Malaysia	Indonesia	Republic of Korea	Viet Nam	Total
Thailand	1995	202 972	44 446	47 409	6 222	-	35 557	7 408	7 111	14 815	4 000	369 940
	1996	215 150	47 113	50 254	6 595	-	37 690	7 852	7 538	15 704	4 240	392 136
	1997	228 059	49 940	53 269	6 991	-	39 951	8 323	7 990	16 646	4 494	415 663
	1998	216 656	47 443	50 606	6 641	-	37 953	7 907	7 591	15 814	4 269	394 880
Singapore	1995	112 301	66 669	68 151	19 260	26 668	-	53 336	35 557	18 519	12 889	413 350
	1996	119 039	70 669	72 240	20 416	28 268	-	56 536	37 690	19 630	13 662	438 150
	1997	126 181	74 909	76 574	21 641	29 964	-	59 928	39 951	20 808	14 482	464 438
	1998	119 872	71 164	72 745	20 559	28 466	-	56 932	37 953	19 768	13 758	441 217
Malaysia	1995	85 930	44 446	45 928	5 185	9 037	42 965	-	12 889	12 297	444	259 121
	1996	91 086	47 113	48 684	5 496	9 579	45 543	-	13 662	13 035	471	274 669
	1997	96 551	49 940	51 605	5 826	10 154	48 276	-	14 482	13 817	499	291 150
	1998	91 723	47 443	49 025	5 535	9 646	45 862	-	13 758	13 126	474	276 592
Indonesia	1995	96 300	47 409	28 149	2 963	5 334	53 336	9 482	-	23 705	296	266 974
	1996	102 078	50 254	29 838	3 141	5 654	56 536	10 051	-	25 127	314	282 993
	1997	108 203	53 269	31 628	3 329	5 993	59 928	10 654	-	26 635	333	299 972
	1998	102 793	50 606	30 047	3 163	5 693	56 932	10 121	-	25 303	316	284 974
Republic of Korea	1995	266 678	69 633	214 824	38 520	35 557	38 520	16 593	78 522	-	9 926	768 773
	1996	282 679	73 811	227 713	40 831	37 690	40 831	17 589	83 233	-	10 522	814 899
	1997	299 640	78 240	241 376	43 281	39 951	43 281	18 644	88 227	-	11 153	863 793
	1998	284 658	74 328	229 307	41 117	37 953	41 117	17 712	83 816	-	10 595	820 603

Import / Export	Year	Japan	Taiwan Province of China	Hong Kong, China	Philippines	Thailand	Singapore	Malaysia	Indonesia	Republic of Korea	Viet Nam	Total
Viet Nam	1995	14 815	13 482	10 667	444	1 185	21 334	889	593	2 519	-	65 928
	1996	15 704	14 291	11 307	471	1 256	22 614	942	629	2 670	-	69 884
	1997	16 646	15 148	11 985	499	1 331	23 971	999	667	2 830	-	74 076
	1998	15 814	14 391	11 386	474	1 264	22 772	949	634	2 689	-	70 373
Total	1995	1 198 273	684 621	998 856	200 747	421 499	514 985	297 346	331 718	357 497	69 482	5 075 024
	1996	1 270 170	725 700	1 058 788	212 792	446 788	545 883	315 186	351 621	378 947	73 652	5 379 527
	1997	1 346 380	769 242	1 122 313	225 560	473 594	578 636	334 096	372 718	401 684	78 071	5 702 294
	1998	1 279 061	730 781	1 066 198	214 283	449 913	549 704	317 391	354 084	381 602	74 166	5 417 183

***Source*: Compiled by the UNCTAD secretariat on the basis of data supplied by Japanese shipping companies and other specialized sources.**

Table 54

Intra-Asian liner operators and their fleets, 1996

Ship capacity	Number of operators in each category	Number of vessels	Total carrying capacity (TEUs)	Average carrying capacity per vessel (TEUs)
Over 20,000 TEUs	2	99	72 329	731
10,000-19,999 TEUs	7	125	103 875	831
5,000-9,999 TEUs	12	121	86 889	718
2,000-4,999 TEUs	12	89	37 783	425
1,500-1,999 TEUs	13	74	22 867	309
1,000-1,499 TEUs	23	115	28 311	246
500-999 TEUs	31	102	23 122	227
100-499 TEUs	40	58	10 891	188
Total	140	783	386 067	493

(c) Intraregional breakbulk trade and maritime transport

Trends in trade and transport

218. Intra-Asian breakbulk trades are mainly generated by Japan's exports and imports, with steel, cement and general goods (manufactures) as the main goods in southbound trade and timber and sawn timber in northbound trade. The recent economic slowdown and financial crisis in Asia also had serious effects on these trades and transport markets. A decrease in cargo movements adversely affected the shipping markets, especially the markets for both single and tween deckers of less than 10,000 dwt engaged as niche vessels in intra-Asian breakbulk trades.

Steel

219. In 1996, the total imports of the ASEAN 6 countries (Indonesia, Malaysia, the Philippines, Singapore, Thailand and Viet Nam) declined by 2.1 per cent to 27.9 million tons from 28.5 million tons in the previous year, mainly because of drastically reduced imports by Thailand. The downward trend in overall steel trades to Asia continued throughout 1997 (see table 55). In 1998 the steel consumption of the major Asian countries, including China and Japan is expected to grow by 0.5 per cent from the 1997 level (see table 56). The steel consumption of Malaysia and Thailand, on the other hand, is expected to decline by 10.7 per cent from the 1997 level.

Cement

220. Exports of cement from Japan to countries in Asia amounted to 9.9 million tons for the period between January and October 1997, which represented a decline of 1.8 per cent from the level of the corresponding period in 1996. Of this total, 4.5 million tons were traded to East Asia, representing a 21.6 per cent decline from 1996, and 5.4 million tons were exported to ASEAN countries(excluding Thailand), representing a 24.6 per cent increase (see table 57).

Timber

221. Trade in timber from South-East Asian countries registered 5.8 million cubic metres in 1996, carried on 964 voyages (80 voyages per month); 3.6 million cubic metres were traded in the first eight months of 1997, carried on 604 voyages (75 voyages per month). After September 1997, monthly deployment of vessels declined to nearly 40 voyages, mainly due to the drastic decrease in timber demand in Japan, whose housing industry was adversely affected by the recent economic slowdown.

Fleet and freight markets

222. As indicated in table 58, the average age of vessels engaged in intra-Asian breakbulk trades (9.56 years) was considerably lower than the average ages of general cargo vessels of the world (17.42 years) and developing countries (19.00 years). Until 1996, single deckers of 6,500 dwt and tween deckers of 7,500 dwt were dominant in intra-Asian shipping markets, mainly for tropical timber; in 1997, some handy-size vessels of 25,000 dwt switched totimber transport in Asia from the trans-Pacific timber trade, which suffered a severe decline in trade volume, thus causing deterioration in the intra-Asian breakbulk shipping market. In 1997, time-charter freight rates for 6,500 dwt single deckers and 7,500 dwt tween deckers declined by some 20B30 per cent from the corresponding period in the previous year and were the lowest they had ever been in the 1990s. In the middle of 1997, freight rates temporarily recovered to $4,000 per day for 7,000 dwt tween deckers, but decreased again later in the year and continued the downward movement into 1998. In the sector of 25,000 dwt vessels, charter rates were $4,750 per day for steel trades to South-East Asian countries in the third quarter of 1996, rose to $7,000 per day in July 1997, and then plummeted to $5,000 per day from August 1997 onwards. In 1998, these shipping markets have been confronted with drastic declines in the volume of trade in steel and cement transacted in the intra-Asian trades.

Table 55

Steel imports by major countries and regions in Asia, 1995B1997
(millions of tons)

Importing country or region	1995	1996	Rate of growth 1996/1995 (per cent)	1997	Rate of growth 1997/1996 (per cent)
ASEAN 6	28.5	27.9	-2.1	28.7	2.9
China	14.5	15.2	4.8	13.5	-11.2
Hong Kong, China	5.4	6.0	11.1	6.1	1.7
Republic of Korea	10.5	11.4	8.6	10.6	-7.0
Taiwan Province of China	13.5	11.1	-17.8	11.5	3.6
Total	72.4	71.6	-1.1	70.4	-1.7

Source: Nippon Yusen Kaisha, *Illustrated Review and Outlook of the Shipping Market, 1997*.

Table 56

Steel consumption of selected countries and regions in Asia, 1996B1998
(millions of tons)

Country or region	1996	1997 (estimated)	1998 (forecast)	Percentage change between 1997 and 1998
China	97.3	102.2	107.0	4.7
India	22.8	23.8	23.5	-1.3
Indonesia	6.1	6.3	6.3	0.0
Japan	80.6	83.0	79.6	-4.1
Philippines	3.3	3.5	3.5	0.0
Republic of Korea	37.6	38.2	40.1	5.0
Taiwan Province of China	18.0	19.9	21.4	7.5
Others	36.7	37.7	34.7	-8.0
Asia total	302.4	314.6	316.1	0.5

Source: Compiled by the UNCTAD secretariat on the basis of data supplied from the Maritime International Cooperation Centre (MICC) Report (December 1997).

Table 57

Japan's cement exports to selected countries in Asia
(January to October 1997)

Destination	Quantity (thousands of tons)
China	112.7
Hong Kong, China	1 376.9
Macao	59.0
Republic of Korea	1 370.8
Taiwan Province of China	1 585.8
Subtotal	4 505.2
Indonesia	451.9
Malaysia	1 536.3
Philippines	678.0
Singapore	2 684.8
Viet Nam	41.5
Subtotal	5 392.5
Total	9 897.7

Source: Compiled by the UNCTAD secretariat on the basis of data from the MICC Report (December 1997).

Table 58

Small single/tween decker fleet (less than 10,000 dwt) engaged in intra-Asian trades
(as at January 1997)

Age (years)	Number of vessels	Deadweight tons	Percentage share of total (deadweight tons)
0	11	78 500	4.57
1	27	208 400	12.13
2	15	113 100	6.59
3	0	0	0.00
4	0	0	0.00
5	13	102 500	5.97
6	13	91 600	5.33
7	5	35 700	2.08
8	1	7 700	0.45
9	1	6 800	0.40
10	30	181 700	10.58
11	20	127 600	7.43
12	53	310 200	18.06
13	21	107 700	6.27
14	24	132 800	7.73
15	21	120 000	6.99
Over 16	13	93 200	5.43
Total	268	1 717 500	100.00
Average age	9.56 years		
Over 10 years	182	1 073 200	62.49
Over 12 years	132	763 900	44.48

Source: Compiled by the UNCTAD secretariat on the basis of data supplied from the MICC Report (December 1997).

(d) More regionalization

223. The ASEAN Free Trade Area (AFTA) is planned to be in effect shortly after the turn of the century, and the Asia-Pacific Economic Cooperation (APEC) forum, of which ASEAN is the core, will have a similar free trade arrangement a few years later. At the present time, the ASEAN countries are seeking to harmonize their customs and trading documentation to develop a joint approach to other regional or international organizations on both the economic and security fronts. They are also looking to develop a new agreement to open up the area of services, which includes maritime transport, among themselves, in order to be able to respond collectively to GATS.

D. ASIA'S GLOBAL TRADE AND TRANSPORT SERVICE

(a) Unitized trade to and from Asia

Trends in trade and transport

224. The substantial economic slowdown since the final quarter of 1995 and the financial crisis that hit Asia in 1997 has greatly affected eastBwest trade and transport services. Overall Asian imports in both the trans-Pacific trade and the European trade in 1998 are expected to decline from the level of 1997. On the other hand, their exports to Europe and North America will continue to expand, reflecting sustainable competitiveness, largely due to the devaluation of the currencies of the major exporting countries. Tables 59 and 60 and graph 11 show the trends in cargo movements on these trade routes.

225. In terms of cargo structure, imports of high-value consumer durables, non-staple food items, luxury fashion garments and capital goods will suffer the greatest decline, while imports of raw or recyclable materials such as waste paper and scrap metals, will remain relatively unchanged as they provide basic inputs into the industrial activities of Asian economies. The United States exports of these goods to the region could thus remain relatively active.

Supply and demand

226. In the liner trades to and from the region, there is a growing imbalance between supply and demand (see graph 12 and table 61). A number of Asian-based carriers are said to be planning to restructure their operational programmes, including through various tonnage placements or redeployments, in an effort to address the changing cargo flows and to ensure their survival in the face of falling revenues. Furthermore, 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.

227. On the European trade route, the situation is becoming worse 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, fashion items 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, a course of action which has been a major cause of the dramatic decline in revenues per container.

Table 59

Cargo movements on major liner trade routes for 1995B1997 and forecasts for 1998
(thousands of TEUs)

	Trans-Pacific			AsiaBEurope		
	Asia to USA	**USA to Asia**	**Total**	**Asia to Europe**	**Europe to Asia**	**Total**
1995	4,009	3,471	7,480	2,834	2,306	5,140
1996	4,104	3,520	7,624	3,142	2,584	5,726
Growth (%)	2.4	1.4	1.9	10.9	12.1	11.4
1997	4,662	3,615	8,277	3,290	2,734	6,024
Growth (%)	13.6	2.7	8.6	4.7	5.8	5.2
1998	5 221	3 326	8 547	3 487	2 710	6 197
Growth (%)	12.0	-8.0	3.3	6.0	-0.9	2.9

Source: Compiled by the 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.

Table 60

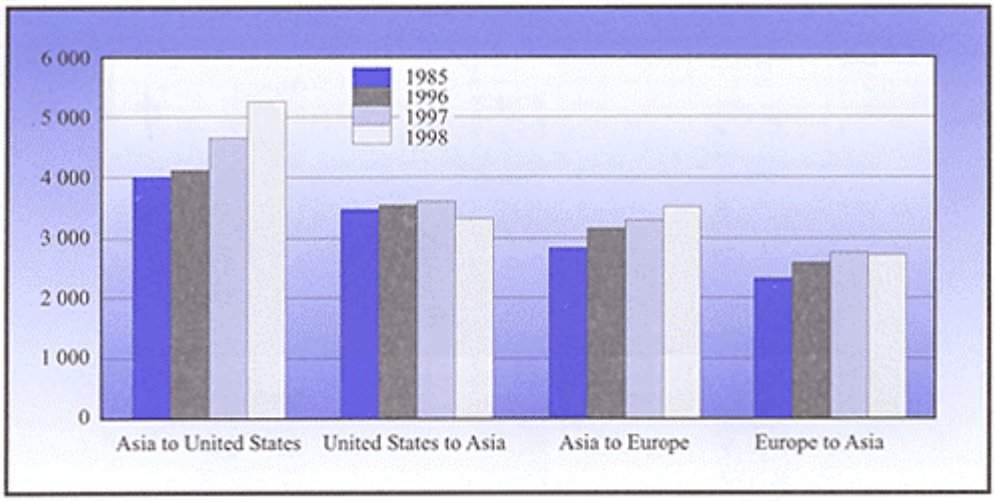
Containerized cargo movement from selected countries and regions of East and South-East Asia to North America in 1996 and 1997
(thousands of TEUs)

		Eastbound		Percentage change 1996/1997	Westbound		Percentage change 1996/1997
		1996	1997		1996	1997	
China	JanuaryBJune	510	669	31.2	151	185	22.5
	JulyBDecember	679	860	26.7	158	166	5.1
Hong Kong, China	JanuaryBJune	251	271	8.0	231	245	6.1
	JulyBDecember	365	380	4.1	218	234	7.3
Indonesia	JanuaryBJune	72	85	18.1	68	70	2.9
	JulyBDecember	91	104	14.3	56	73	30.4
Japan	JanuaryBJune	334	354	6.0	530	533	0.6
	JulyBDecember	354	382	7.9	498	494	-0.8
Malaysia	JanuaryBJune	72	73	1.4	35	42	20.0
	JulyBDecember	90	93	3.3	37	38	2.7
Philippines	JanuaryBJune	51	57	11.8	52	56	7.7
	JulyBDecember	61	66	8.2	55	54	-1.8
Republic of Korea	JanuaryBJune	122	131	7.4	213	213	0.0
	JulyBDecember	138	160	15.9	194	194	0.0
Singapore	JanuaryBJune	36	32	-11.1	52	61	17.3
	JulyBDecember	40	42	5.0	56	61	8.9
Taiwan Province of China	JanuaryBJune	259	274	5.8	198	191	-3.5
	JulyBDecember	284	307	8.1	183	176	-3.8
Thailand	JanuaryBJune	98	103	5.1	61	56	-8.2
	JulyBDecember	110	123	11.8	57	45	-21.1
Subtotal	JanuaryBJune	1 805	2 049	13.5	1 591	1 652	3.8
	JulyBDecember	2 212	2 517	13.8	1 512	1 535	1.5
Total		4 017	4 566	13.7	3 103	3 187	2.7

Source: Compiled by the UNCTAD secretariat on the basis of data supplied in AKaiun@ (Shipping), May 1998, by the Japan Shipping Exchange Inc.

Graph 11

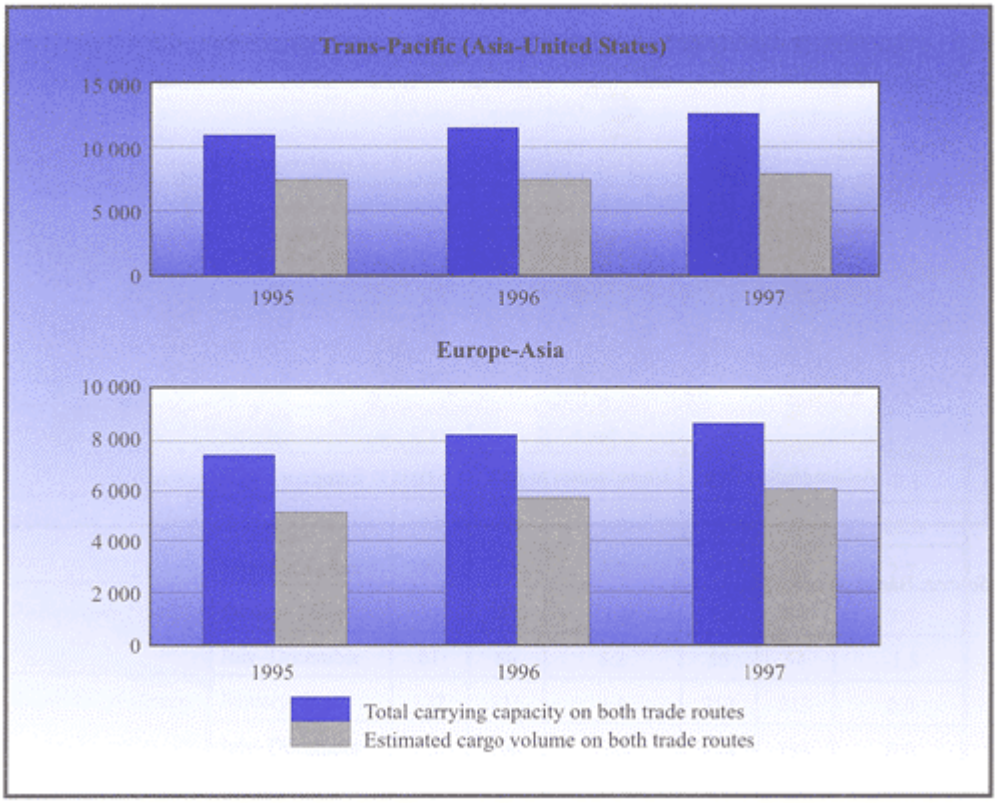
Cargo movements on major liner trade routes for 1995–1997 and forecasts for 1998
(thousands of TEU)



Source: Based on table 59.

Graph 12

Supply and demand in trans-Pacific and Europe–Asia trades, 1995–1997
(thousands of TEU)



Source: Based on table 61.

Table 61

Supply (ships' carrying capacity) and demand (cargo volume) in trans-Pacific and Europe-Asia Trades, 1995-1997

Year	No of ships	Average capacity (TEUs)	Total ships' capacity (TEUs)	Average no. of round voyages per ship per year	Total no. of voyages on both trade routes per year	Total ships' carrying capacity on both trade routes per year (TEUs)	Estimated cargo volume on both trade routes per year (TEUs)	Space utilization (percentage)
Trans-Pacific (AsiaB-USA)								
1995	269.0	2 834	762 264	7.2	3 891.3	11 026 867	7 480 000	67.8
1996	274.5	2 912	799 357	7.2	3 958.2	11 526 540	7 624 000	66.1
Growth (%)	(2.0)	(2.8)	(4.9)		(1.7)	(4.5)	(1.9)	
1997	292.0	3 089	902 118	7.0	4 106.7	12 687 461	8 277 000	65.2
Growth (%)	(6.4)	(6.1)	(12.9)		(3.8)	(10.1)	(8.6)	
EuropeBAsia								
1995	217.0	3 106	673 904	5.5	2 384.3	7 404 469	5 140 000	69.4
1996	223.5	3 250	726 264	5.6	2 495.6	8 109 302	5 726 000	70.6
Growth (%)	(3.0)	(4.6)	(7.8)		(4.7)	(9.5)	(11.4)	
1997	235.0	3 272	768 826	5.6	2 636.6	8 625 004	6 024 000	69.8
Growth (%)	(5.1)	(0.7)	(5.9)		(5.6)	(6.4)	(5.2)	

Source: Compiled by the 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.

Freight levels of main liner services

228. Average quarterly freight rates in 1997 declined from those in the previous year on the main eastBwest trades of Asia. In the trans-Pacific trades, the eastbound (Asia to the United States) trade and the westbound (the United States to Asia) trade suffered setbacks in 1997 of 14 per cent and 9 per cent respectively from 1996 levels. Trade between Asia and Europe was also depressed, with eastbound trade and westbound trade plummeting by 12 per cent and 14 per cent respectively as compared to the previous year. Table 62 and graph 13 show the quarterly analysis of liner freight rates registered in these east-west liner trades for the period 1995-1997.

Trans-Pacific

229. From the beginning of 1997, trans-Pacific eastbound freight rates continued to decline; they fell by 7.5 per cent towards the end of the year, and over the past two years have fallen by 27 per cent. There is no immediate prospect of any recovery in these rates. However, the fall of 0.5 per cent in Asia-United States trade in the fourth quarter was the lowest quarterly decline in more than two years and reflected strong traffic volumes, partly fuelled by the sharp devaluation in the currencies in the major exporting countries in Asia, which made their goods more competitive in the United States market. The Asia-North America Eastbound Rate Agreement was reportedly confident at the beginning of 1998 that the reasonably favourable situation would prevail for much of the year.

230. Westbound trade (United States to Asia) enjoyed a stronger third quarter in 1997, as prices per TEU firmed at 12 per cent higher than in the second quarter. However, a spate of "independent actions" on cotton, one of the westbound trade's largest volume shipments, caused the downward slide in the rates for cotton and consequently other major commodities towards the end of the year. In the fourth quarter, rates slumped by 17 per cent to a record low of $1,182 per TEU. There was no immediate prospect of a recovery, and trade was expected to be slow in 1998, albeit depending on the speed of an Asian financial recovery.

Asia-Europe-Asia

232. Contrary to predictions made during the last quarter of 1996, the rates of both the eastbound and westbound trades in the first quarter of 1997 plummeted to an average of $995 per TEU, and $1,112 per TEU respectively, which were record lows and almost 20 per cent lower than in the corresponding period in 1996. During the second and third quarters, cargo volumes were firmer, and the freight conferences were in a much stronger position following an expansion of their membership. Most lines actually reported load factors in the high 80-90 per cent range. After two quarters of rate increases in both the eastbound and westbound directions, freight rates fell moderately in the fourth quarter. However, with Asian exports expanding and vessel space becoming tighter, rates in the westbound trade had been expected to rise in the first and second quarters of 1998. In the eastbound trade, with Asian imports slowing and the threat of possible predatory pricing by carriers desperate to find return cargo from Europe, rates in the first quarter of 1998 looked set to fall further.

233. During 1998, trade imbalances and their adverse effects on revenues continued to preoccupy carriers. With ships running at full capacity in the westbound trades, Far East Freight Conference member carriers put in place a schedule of freight rate increases to take effect in 1998. While this course of action appears to have produced results in the westbound trades, increasing imbalances resulting in capacity utilization levels of below 80 per cent on the eastbound legs, with the consequent continuing pressure on freight rates, threaten to overcompensate for the cautious recovery in westbound rates. It is unlikely that the rate pressure will be eased in 1998, as the most obvious remedial measure (a reduction in capacity) is not feasible, the slots being needed to carry westbound cargo.

Table 62

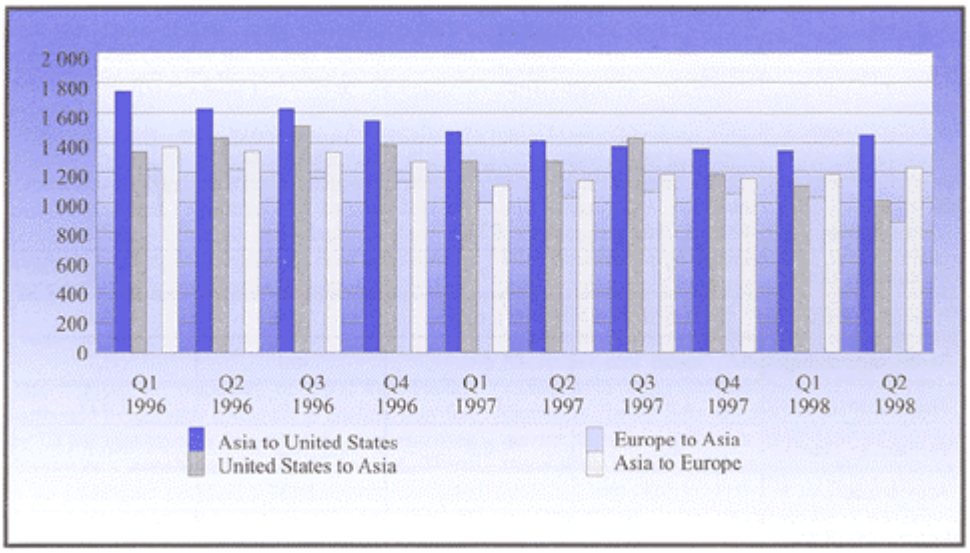
Freight rates (average in markets) on major liner trade routes between the first quarter of 1996 and the first quarter of 1998
(dollars per TEU)

	Trans-Pacific		Europe-Asia	
	Asia to the United States	**United States to Asia**	**Europe to Asia**	**Asia to Europe**
1996				
First quarter	1 746	1 339	1 219	1 369
Percentage change	-6.4	-9.1	-3.0	-5.9
Second quarter	1 628	1 428	1 218	1 346
Percentage change	-6.8	6.6	-0.1	-1.7
Third quarter	1 627	1 517	1 167	1 337
Percentage change	-0.1	6.2	-4.2	-0.7
Fourth quarter	1 543	1 384	1 137	1 281
Percentage change	-5.2	-8.8	-2.6	-4.2
1997				
First quarter	1 473	1 280	995	1 112
Percentage change	-4.5	-7.5	-12.5	-13.2
Second quarter	1 407	1 277	1 036	1 156
Percentage change	-4.5	-0.2	4.1	4.0
Third quarter	1 369	1 428	1 067	1 187
Percentage change	-2.7	11.8	3.0	2.7
Fourth quarter	1 362	1 182	1 056	1 157
Percentage change	-0.5	-17.2	-1.0	-2.5
1998				
First quarter	1 345	1 119	1 040	1 183
Percentage change	-1.2	-5.3	-1.5	2.2
Second quarter	1 459	1 015	869	1 227
Percentage change	8.5	-9.3	-16.4	3.7

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

Graph 13

Freight rates (average in markets on major iner trade routes (1996–1998)



Source: Based on table 62.

Box 5

China Containerized Freight Index

Service Routes	January 1998	May 1998	June 1998	Comparison May/June
Combined Index	1 007.50	1 015.16	1 039.63	2.41
Japan Service	978.98	867.80	931.90	7.39
Europe Service	1 029.94	1 216.15	1 283.06	5.50
West Coast America Service	1 001.14	974.55	993.06	1.90
East Coast America Service	1 008.94	1 053.53	1 040.08	-1.28
Hong Kong Service	979.11	965.89	909.84	-5.80
Korea Service	993.96	981.71	956.86	-2.53
South-East Asia Service	997.28	781.72	787.82	0.78
Mediterranean Service	980.13	1 162.27	1 130.11	-2.77
Australia/New Zealand Service	1 039.53	949.74	926.18	-2.48
South Africa/South America Service	1 030.93	1 067.72	1 065.64	-0.19
West/East Africa Service	1 199.49	1 207.29	1 155.58	-4.28

Source: Data communicated by the Shanghai Shipping Exchange.

(b) Dry bulk cargo trade to Asia

234. Iron ore, coal and grain have been dominant in East and South-East Asian countries' dry bulk trade, representing 50 per cent of their total imports of dry bulk commodities (see tables 63 and 64). The 1995 overall improvement in dry bulk charter markets was attributed to a substantial increase of 9.3 per cent in the seaborne trade of the three major dry bulk commodities. In 1996, average freight rates for the three major commodities declined drastically by 25-35 per cent from the level of the previous year. The depressed charter markets for these major commodities reflected, primarily, declining growth of steel production, a severe shortage of supply in grain trade and weak economic growth, especially in the major South-East Asian economies. Iron-ore and coal shipments to Asia in 1997 showed a growth of 7.9 per cent and 2.9 per cent respectively, while grain shipments continued to decrease, by 5.3 per cent from the 1996 level, mainly due to the continuing decline in China's imports. Average charter rates reflected these commodity trades, showing 12-18 per cent increases for shipments of iron ore and coal as compared with those of the previous year. On the other hand, charter rates for grain declined by up to 5 per cent from those of 1996. In 1998, the Asian currency crisis is expected to adversely affect dry bulk demand, particularly for the three major commodities, and consequently overall freight rate development. Up to June 1998, average rates for three major cargo sectors declined by an unexpectedly high percentage of 22-32 per cent from the 1997 annual average rates.

Table 63

Three major dry bulk cargo movements and all dry bulk cargo movements to East and South-East Asia [a] and the Indian subcontinent, 1995-1998
(millions of tons)

	Major dry bulk cargo [b]								All dry bulk cargo [b]	
	Iron Ore	Growth (%)	Coal	Growth (%)	Grain	Growth (%)	Total	Growth (%)	Total	Growth (%)
1995	216.6	6.9	219.7	10.0	88.8	14.0	525.1	9.3	1 043.9	5.0
1996	225.7	4.2	225.2	2.5	85.3	-3.9	536.2	2.1	1 056.2	1.2
1997	243.6	7.9	231.7	2.9	80.8	-5.3	556.1	3.7	1 125.3	6.5
1998 [c]	250.4	2.8	239.5	3.4	80.5	-0.4	570.4	2.6	1 160.5	3.1

Source: UNCTAD *Review of Maritime Transport*, various issues; DRI/Mercer *World Sea Trade Service Forecast*, various issues, 1997.

a Including China and Japan.

b Imports only.

c Forecast.

Table 64

Average single voyage rates for three major dry bulk cargo to East Asia, 1995-1998
(dollars per ton)

Commodity	Trade route	Average single voyage rates ($/ton)			
		1995	1996	1997	January to June 1998
Iron ore	Brazil-Japan (120-160 thousand dwt)	12.10	8.95	10.60	8.13
	Brazil-China (100-150 thousand dwt)	14.90	9.25	10.55	7.77
	W. Australia-Japan (100-150 thousand dwt)	6.60	4.30	5.25	..
	Saldanha Bay-China (100-130 thousand dwt)	11.60	7.70	8.55	6.67
Coal	Hampton Roads/Richards Bay-Japan (100-150 thousand dwt)	15.70	11.95	13.45	9.75
	United States Gulf-Taiwan (50-60 thousand dwt)	26.30	17.40	18.20	12.40
	Roberts Bank-Taiwan (90-120 thousand dwt)	10.00	6.25	7.40	..
	E. Australia-Republic of Korea (110-140 thousand dwt)	7.50	6.00	6.70	4.51
Grain	United States Northern Pacific-Japan (50-55 thousand dwt)	18.30	13.60	12.95	10.47
	United States Gulf-Japan (50-60 thousand dwt)	31.90	23.00	22.90	17.22

Source: Drewry Shipping Consultants, *Shipping Statistics and Economics*, various issues.

Box 6
Six alliances' that could rule the world

As the dust settles over the latest bout of tension and drama surrounding the eight rearranged lines of the New World Alliance and the Grand Alliance, it is now clearly emerging that six alliances, not two, are lining up to do battle over all the main east-west liner trades. The Grand is still the largest, closely followed by the New World and the Hanjin Group (United Alliance). Next come the Maersk/Sea-Land Group and K-Line/Cosco Group and, finally, as an alliance all on its own, Evergreen. Any line which has not made it into one of these six groups will now have to stand clear, and make do with secondary container trades; that is until the alliances extend to take in these as well.

We have become used to the idea of single-trade container consortia, with different mixtures of partners in different trades. It was only very recently that the alliances began to arrive, with partnerships focused on the cargo dynamo of Asia, extending east and west to cover both the northern Europe and trans-Pacific trades. Maersk and Sea-Land went further, covering the Atlantic and much of the rest of the world as well. Now the others are catching up. The six alliances which emerged in March 1998 will assume a new dominance over all the developed world's connecting deep-sea trades. All six now firmly include the Atlantic trade in their scope, and the Mediterranean's Asian and United States trades are also being included in their plans.

The table below shows how the new alliances are measuring up in the east-west Asian-based trades, to North America, the Mediterranean and northern Europe. It sets out the number of strings and ships which each of the six will be deploying in each of these trades from about March 1998 onwards. Where a string serves more than one of the trades, i.e. as a pendulum or round-world operation, the ships are apportioned between the trades involved, with each trade being treated as having a separate string.

Although the non-Asian Atlantic trades are not included in this analysis, their details are included in the totals column. A few other arbitrary adjustments have been made, such as excluding half of a Global Alliance string shared by Matson and TMM, and halving another which is only intended to cover the Pacific's summer peak.

Overall, the Grand, New World and Hanjin alliances emerge surprisingly close together in terms of ships and strings. Maersk/Sea-Land and K-Line/Cosco, in fourth and fifth places respectively, are around two thirds of the size of each of the leading alliances. The differences between the alliances stand out in the individual trades. The New World has almost twice the Grand's ships and strings in the Pacific, while in the Northern Europe and Mediterranean trade it is almost the other way around.

The table may make it look deceptively easy to even things up. If the New World moved a few of its Pacific ships into the Northern Europe trade and the Grand moved some the other way, they would both be better balanced to compete. Unfortunately, it does not work that way, because what we are looking at is the aggregated trade shares, fiercely contested, of 15 or more of the world's top carriers. It needed OOCL to change sides for the Grand to gain its fourth and fifth strings in the Pacific, and its fifth in the North Europe trade.

After identifying the numbers of ships and strings, the next consideration is to determine the average size of each string, so that the alliances' cargo-lifting capacities can be compared. In a world of uniform weekly string frequencies (apart from a transient nine-day one from Evergreen), it is simple to add up each alliance's string averages in each trade to work out the "TEU revenue opportunity" (or TROP) per week, one way. Use of the term "revenue opportunity" is simply meant to draw attention to the fact that lines can no longer rely on longer trades to support higher freight rates than shorter ones. Indeed, rates in the Northern Europe trade, which needs at least eight ships per weekly string, are currently lower than in the Atlantic, where the average is only 4.6. What matters is how rapidly lines can repeatedly fill the individual slots in their ships. High slot occupancy ratios can substantially compensate for low freight rates.

The TROP calculation obviously favours those strings with the largest average size of ships, but it does not alter the overall alliance ranking. The comparison becomes a little more interesting if each TROP value is divided by the number of ships it represents. The all-alliance all-trade TROP/per ship gives a value of 551, but there are some interesting individual variations. For example, Maersk/Sea-Land hit a high of 814 TROP per ship in the Asian/Mediterranean trade, the mid-section of their Suez Express extended pendulum, and this partnership does best overall. The Maersk/Sea-Land figures would have been even higher if ultra-cautious ship-size values had not been used.

It is interesting to speculate on what would happen if a fourth leg was added to this pendulum with a stop at Salalah, Oman, when it opens in August 1998, and if 15 of Maersk's biggest (8,000 TEUs) ships were used. The weekly one-way TROP for this one operation would reach around 32,000, or 2,130 per vessel deployed, an efficiency that would apply to each trade leg, including the Pacific leg.

Top six alliances' performance in their services to and from Asia, 1997-1998

	Trans-Pacific		Asia-Mediterranean		Asia-Northern Europe		Total [a]	
	Loops	**TROP [b]**	**Loops**	**TROP [b]**	**Loops**	**TROP [b]**	**Loops**	**TROP [b]**
	No. of ships per week	TROP per ship	No. of ships per week	TROP per ship	No. of ships per week	TROP per ship	No. of ships per week	TROP per ship
Grand Alliance:	5	17 180	2	5 900	5	20 800	15	54 000
Hapag-Lloyd MISC NYK OOCL P&O-Nedlloyd	29	592	13	454	40	520	95.5	565
New World Alliance:	9	33 730	1	2 370	3	13 750	14	52 000
Hyundai MOL NOL/APL	53.5	630	8	297	24	573	89.5	581
Hanjin Group (United Alliance):	8	26 400	1	2 700	3	11 550	14	46 050
Hanjin DSR-Senator ChoYang UASC	49	539	7	386	23	502	89	517
Maersk/Sea-Land Group:	5	16 100	1	4 068	2	9 120	12	43 080
Maersk Sea-Land	29	555	5	814	18	506	67.5	638
K-Line/ COSCO Group:	6	19 900	-	-	3	9 440	10	31 640
COSCO K-Line Yangming	34	585	-	-	25	378	63	502
Evergreen	4	13 830	1	2 730	2	6 045	8	26 520
	26	532	8	341	15	403	55	482
Total	37	127 140	6	17 768	18	70 705	73	253 290
	220.5	577	41	433	145	488	459.5	551

a Total includes alliance participation in Atlantic trades which are not shown here.

b TROP ' TEU revenue opportunity per week,one way.

Source: *Lloyd's List Maritime Asia*, February 1998.

(c) Crude oil and oil products trade to Asia

236. Tables 65 and 66 show trade in crude oil and oil products to East and South-East Asian countries, and freight rates. In 1995, the freight level for VLCC (crude oil) and small tankers (oil products) increased by WS 12 from the WS freight level of the previous year. This upward trend in freight rates for both categories of tankers continued throughout 1996 and, for VLCCs only, into 1997. The increase in freight rates was mainly attributed to increasing demand for crude oil and oil products from the expanding economies in Asia, such as those of China, the Republic of Korea and Taiwan Province of China. In addition, a tendency to employ larger tonnages and to benefit from economies of scale resulted in a greater overall utilization of VLCCs in these years than in previous years. In 1997, roughly 60 per cent of the crude oil shipments from the Middle East Gulf by VLCCs was destined for the east, thus boosting further VLCC freight levels for South-East Asia and the Far East. However, this also underlines the potential threat to the VLCC market of any prolonged slowdown in the Asian economies which have been driving this market. The average freight level for VLCCs during the first six months of 1998 was WS 68-69 as compared with the annual average of WS 70-73 in 1997. On the other hand, the freight level for shipments of oil products plummeted to WS 155 in 1997 from WS 178 in 1996. The decline reflects a large increase in domestic production in South-East Asia and the Far East, which led to increased intra-Asian trade and reduced freight rates for oil product tankers suitable for trades originating in the Middle East Gulf.

E. ESTIMATES OF FREIGHT COSTS IN ASIA

238. The total value of the imports (c.i.f.) of developing countries increased by 9.57 per cent in 1996 from the previous year, while their total freight costs rose by 6.36 per cent (see table 67). The 1996 total freight costs of developing countries as a proportion of import value improved to 8.06 per cent from 8.30 per cent in the previous year. In 1996, Asia accounted for 66.42 per cent of the total freight costs and 67.19 per cent of the total value of imports of developing countries. The freight factor slightly decreased to 7.97 per cent from 8.03 per cent. In 1996, the freight factor for East and South-East Asia in total was 7.84 per cent as compared to 7.89 per cent in 1995. Among the major importing countries of this group, the freight factors of the Republic of Korea and Singapore were relatively low, at 5.22 per cent and 5.58 per cent respectively, while those of Malaysia and Thailand were as high as 9.36 per cent and 9.60 per cent respectively. India and Indonesia faced the highest charges; their freight factors were 10.32 per cent and 10.55 per cent respectively. The freight factors of the Pacific islands as a whole slightly improved in 1996 to 12.31 per cent from 12.39 per cent, although it stagnated at the higher level. These variations in freight costs can be explained by geographical factors as well as by differences in trade and shipping patterns, particularly in the liner sector.

Table 65

Crude oil and oil product movements to East and South-East Asia and the Indian subcontinent, 1995-1998
(millions of tons)

Year	Crude oil	Oil products [a]
1995	431.5	147.9
1996	435.6	148.0
1997	502.6	182.2
1998 [b]	490.0	188.4

Source: UNCTAD *Review of Maritime Transport*, various issues, and other specialized sources.

a Including LNG and LPG.

b Forecast.

Table 66

Average single voyage rates for crude oil and oil products [a] to East Asia, 1995-1998
(Worldscale)

Trade route Size of vessel Crude oil or product	1995	1996	1997	1998 [b]
Middle East Gulf-Japan **200-300 thousand dwt** **Crude oil**	58	66	73	69
Middle East Gulf-Republic of Korea **200-300 thousand dwt** **Crude oil**	52	61	70	68
Middle-East Gulf-Japan **50-80 thousand dwt** **Oil products**	179	178	155	151

Source: Drewry Consultants, *Shipping Statistics and Economics*, various issues.

a Excluding LNG and LPG.

b For the first six months of 1998.

Table 67

Estimates of total freight costs in world trade by Asian developing countries
(including selected Pacific islands)
(millions of US dollars)

Country and country group	1995			1996		
	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
East and South-East Asia	58 386	739 874	7.89	61 299	781 989	7.84
Bangladesh	639	6 496	9.84	696	7 074	9.84
Brunei Darussalam	332	3 548	9.36	439	4 689	9.36
Cambodia	163	1 542	10.55	176	1 666	10.55
Hong Kong, China	17 261	192 764	8.95	17 779	198 551	8.95
India	3 555	34 456	10.32	4 136	40 090	10.32
Indonesia	4 164	39 456	10.55	4 532	42 945	10.55
Republic of Korea	7 060	135 153	5.22	7 855	150 370	5.22
Macao	183	2 041	8.95	177	1 979	8.95
Malaysia	7 269	77 662	9.36	7 282	77 797	9.36
Maldives	32	357	8.95	38	422	8.95
Myanmar	205	2 293	8.95	222	2 482	8.95
Pakistan	979	11 460	8.55	1 038	12 150	8.55
Philippines	1 929	28 419	6.79	2 046	31 756	6.44
Singapore	6 936	124 394	5.58	7 332	131 506	5.58
Sri Lanka	578	5 874	9.84	495	5 028	9.84
Thailand	7 101	73 959	9.60	7 055	73 484	9.60
Pacific islands	**651**	**5 255**	**12.39**	**688**	**5 585**	**12.31**
American Samoa	6	62	8.95	5	58	8.95
Fiji	106	807	13.14	113	885	12.77
French Polynesia	109	900	12.10	98	811	12.10
Guam	50	412	12.10	56	463	12.10
Kiribati	7	75	9.76	10	99	9.76
Nauru	3	33	8.95	2	26	8.95

Country and country group	1995			1996		
	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
New Caledonia	112	922	12.10	121	998	12.10
Papua New Guinea	194	1 512	12.85	215	1 676	12.85
Samoa	13	144	8.87	15	174	8.87
Solomon Islands	28	168	16.42	26	161	16.42
Tonga	6	78	8.13	6	73	8.13
Vanuatu	17	142	12.10	19	161	12.10
World total	**247 325**	**4 688 637**	**5.27**	**259 940**	**4 954 040**	**5.25**
Developed market-economy countries, total	145 040	3 457 009	4.20	151 145	3 604 494	4.19
Developing countries, total	102 285	1 231 628	8.30	108 795	1 349 546	8.06
***of which* in:**						
Africa	11 598	101 369	11.44	12 073	105 821	11.41
America	20 305	257 505	7.89	21 929	309 560	7.08
Asia	68 003	847 054	8.03	72 263	906 714	7.97
Europe	1 728	20 445	8.45	1 842	21 866	8.42

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

Notes

1 In this context, trade developments in unitized cargo movements are reviewed in detail in chapter VII.

2 *Source*: IMF, *World Economic Outlook*, October 1997 and May 1998; UNCTAD, *Trade and Development Report, 1998.*

3 1997 estimates of the International Iron and Steel Institute.

4 *International Bulk Journal*, various issues; Fearnleys (Oslo), *Review 1997*.

5 *International Bulk Journal*, various issues; DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter, 1997; Fearnleys (Oslo), *Review 1997*.

6 *International Bulk Journal*, various issues; DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter 1997; Fearnleys (Oslo), *Review 1997*.

7 *International Bulk Journal*, various issues; International Wheat Council, *Grain Market Report*, April 1998; Nippon Yusen Kaisha, *Illustrated Review and Outlook of the Shipping Market*, September 1997; DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter 1997; Fearnleys (Oslo), *Review 1997*.

8 Nippon Yusen Kaisha, *Illustrated Review and Outlook of the Shipping Market*, September 1997; DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter 1997; International Primary Aluminium Institute, *IPAI Form 150*, March 1998; International Fertilizer Industry Association, *Quarterly Phosphate Rock Statistics*, February 1998.

9 DRI/McGraw-Hill, *World Sea Trade Service Review*, Fourth Quarter 1997 and First Quarter 1998.

10 Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics, 1998*, Nos. 1B2; Fearnleys (Oslo), *Review 1997*.

11 Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics, 1998*, various issues; Drewry Shipping Consultants, *Shipping Statistics and Economics*, various issues; Fearnleys (Oslo), *Review 1997*.

12 Fearnleys (Oslo), *Review 1997*; *International Bulk Journal*, December 1997.

13 International Iron and Steel Institute figures.

14 Fearnleys (Oslo), *Review 1997*; *International Bulk Journal*, December 1997.

15 *International Bulk Journal*, December 1997; International Grains Council, various reports; Fearnleys (Oslo), *Review 1997*.

16 *Petroleum Economist*, March 1998.

17 Fearnleys (Oslo), *Review 1997*; Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1998*.

18 Jacobs and Partners, *World Oil Tanker Trends*, December 1997; Fearnleys (Oslo), *Review 1997*; Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1998*; *Lloyd's Ship Manager*, various issues; and other specialized sources.

19 This section is extracted from the document entitled AElectronic commerce: legal considerations@ (UNCTAD/SDTE/BFB/1), prepared by the UNCTAD secretariat with a view to creating awareness and assisting developing countries in their efforts to accommodate electronic commerce.

20 See K. Gr_nfors, ADocument replacement@, paper delivered at the UNCTAD,/SIDA Seminar on Ocean Transportation Documentation and Its Simplification, Alexandria, 1979, p. 123.

21 G.F. Chandler, III, _Maritime electronic commerce for the twenty-first century_, paper presented at the CMI Centenary Conference, Antwerp, 10 June 1997, p. 12.

22 See G.J. Van der Ziel, _Main legal issues related to the implementation of the electronic transport documentation_, paper delivered at the CMI Centenary Conference Antwerp, 10 June 1997, p. 4.

23 UNCITRAL Model Law on Electronic Commerce with Guide to Enactment 1996, United Nations, New York, 1997.

24 See Chandler, *op. cit.*, p. 16.

25 See the proceedings of the CMI Paris Conference and the explanatory notes to the CMI Rules, Paris II, 1990, p. 226.

26 Explanatory notes to the Rules, Paris II, p. 218.

27 See AGeneral Report@, in A.N. Yannopoulos (ed.), *Ocean Bills of Lading: Traditional Forms, Substitutes and EDI Systems*, The Hague, International Academy of Comparative Law, Kluwer, 1995, p. 13.

28 See Chandler, *op. cit.*, p. 23.

29 This guide was prepared by Ports Canada on behalf of the Transport Community Information Exchange Group, an informal coalition of ports and port EDI service centres from around the world.

30 For more information on SMDG, see its website at www.smdg.org .

31 For a more detailed discussion of the East Asian crisis, see UNCTAD, *Trade and Development Report, 1998*, United Nations publication, Sales No. E.98.II.D.6, part one, chapter III, New York and Geneva, 1998.

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

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

Notes to Annex I

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

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

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

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

Socialist countries of Asia: Code 7.

Developing countries and territories: Codes 8, 9, 10, 11 and 12.

of which:
in Africa: Codes 8.1, 8.2 and 8.3
in America: Codes 9.1, 9.2, 9.3, 9.4 and 9.5
in Asia: Codes 10.1 and 10.2
in Europe: Code 11
in Oceania: Code 12.

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

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

Annex II

World seaborne trade [a] according to geographical area, 1970, 1980, 1990, 1996–1997 and 1998 (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
	1996	1.3	27.2	603.6	632.1	357.5	134.6	281.8	773.9
	1997	2.0	30.5	626.5	659.0	377.9	135.6	295.7	809.2
	1998	2.0	31.0	658.9	691.9	384.0	136.0	306.7	826.7
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
	1996	-	4.6	88.9	93.5	235.1	97.0	482.7	814.8
	1997	-	7.3	93.2	100.5	249.5	99.7	517.2	866.4
	1998	-	7.5	96.7	104.2	255.0	100.3	526.4	881.7
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
	1996	9.4	1.8	312.1	323.3	13.9	7.9	21.0	42.8
	1997	11.4	1.9	344.9	358.2	16.9	8.1	22.0	47.0
	1998	12.0	1.8	350.2	364.0	17.0	8.0	22.8	47.8
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
	1996	177.7	152.6	564.8	895.1	566.0	152.2	891.6	1 609.8
	1997	180.6	143.9	594.5	919.0	494.2	156.5	943.5	1 594.2
	1998	175.8	140.6	615.5	931.9	482.2	150.0	978.6	1 610.8
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
	1996	-	-	93.0	93.0	24.0	0.3	10.4	34.7
	1997	-	-	98.4	98.4	24.4	0.3	10.7	35.4
	1998	-	-	104.2	104.2	26.0	1.0	11.4	38.4
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
	1996	188.4	186.2	1 662.4	2 037.0	1 196.5	392.0	1 687.5	3 276.0
	1997	194.0	183.6	1 757.5	2 135.1	1 162.9	400.2	1 789.1	3 352.2
	1998	189.8	180.9	1 825.5	2 196.2	1 164.2	395.3	1 845.9	3 405.4
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
	1996	44.8	49.9	84.5	179.2	20.8	1.2	126.1	148.1
	1997	45.6	51.3	88.6	185.5	21.1	1.2	132.2	154.5
	1998	45.0	52.0	92.0	189.0	23.0	1.3	137.2	161.5

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]		
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	3.9	1.3	80.4	85.6
	1996	37.5	5.0	58.1	100.6	4.5	2.0	98.7	105.2
	1997	25.5	5.1	63.7	94.3	18.6	12.1	103.4	134.1
	1998	24.0	5.0	66.1	95.1	19.0	13.1	107.3	139.4
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
	1996	237.0	27.9	33.1	298.0	68.0	4.4	61.2	133.6
	1997	239.4	27.0	34.7	301.1	69.2	4.5	64.1	137.8
	1998	231.8	25.0	36.0	292.8	69.0	4.5	66.5	140.0
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
	1996	142.4	3.4	57.6	203.4	4.3	3.0	29.5	36.8
	1997	146.9	3.5	60.4	210.8	4.4	3.1	30.9	38.4
	1998	141.0	3.5	62.7	207.2	4.5	3.2	32.1	39.8
Eastern Africa	1970	-	1.2	16.1	17.3	5.5	2.6	8.3	16.4
	1980	-	0.9	6.3	7.2	6.2	2.0	9.9	18.1
	1990	-	0.6	9.3	9.9	6.4	2.6	16.0	25.0
	1996	-	0.5	9.7	10.2	6.6	2.6	16.2	25.4
	1997	-	0.5	10.2	10.7	6.7	2.7	17.0	26.4
	1998	-	0.5	10.6	11.1	7.0	3.0	17.6	27.6
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
	1996	379.4	31.8	100.4	511.6	78.9	10.0	106.9	195.8
	1997	386.3	31.0	105.3	522.6	80.3	10.3	112.0	202.6
	1998	372.8	29.0	109.3	511.1	80.5	10.7	116.2	207.4
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
	1996	124.4	25.4	54.9	204.7	36.0	11.0	40.2	87.2
	1997	135.0	26.1	57.5	218.6	36.6	11.3	42.1	90.0
	1998	142.0	38.0	59.7	231.7	37.0	11.5	43.7	92.2
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
	1996	23.5	9.5	41.8	74.8	3.8	1.3	16.9	22.0
	1997	25.0	9.8	43.8	78.6	3.9	1.3	17.7	22.9
	1998	25.0	10.0	45.5	80.5	4.0	1.5	18.4	23.9
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
	1996	86.1	33.1	243.3	362.5	40.5	4.1	53.3	99.9
	1997	97.1	33.0	260.7	390.8	41.2	4.2	55.8	101.2
	1998	109.1	35.0	266.7	410.8	41.5	4.5	59.4	105.4

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
	1996	234.0	68.0	340.0	642.0	80.3	16.4	110.4	209.1
	1997	257.1	68.9	362.0	688.0	81.7	16.8	115.6	214.1
	1998	276.1	75.0	371.9	723.0	82.5	17.5	121.5	221.5
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
	1996	629.1	79.0	33.2	741.3	17.5	6.7	108.0	132.2
	1997	664.1	97.0	34.8	795.9	17.8	6.8	113.2	137.8
	1998	660.0	95.0	36.1	791.1	18.0	7.0	117.5	142.5
Southern and Eastern Asia (n.e.s.)	1970	35.0	23.7	89.3	148.0	54.7	23.3	61.9	139.9
	1980	74.3	42.2	165.9	282.4	97.4	26.9	163.5	287.8
	1990	78.6	88.4	253.0	420.0	150.4	41.6	362.9	554.9
	1996	76.6	115.6	333.7	525.9	196.0	49.0	474.8	719.8
	1997	53.5	107.1	349.7	510.3	234.5	70.4	504.7	809.6
	1998	65.1	109.3	363.0	537.4	216.0	75.0	526.8	817.8
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
	1996	705.7	194.6	366.9	1 267.2	213.5	55.7	582.8	852.0
	1997	717.6	204.1	384.5	1 306.2	252.3	77.2	617.9	947.4
	1998	725.1	204.3	399.1	1 328.5	234.0	82.0	644.3	960.3
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
	1996	-	1.0	7.8	8.8	7.7	1.0	16.3	25.0
	1997	-	1.0	8.3	9.3	7.6	2.0	17.3	26.9
	1998	-	1.0	8.6	9.6	8.0	2.5	18.0	28.5
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
	1996	-	0.5	10.5	11.0	-	1.5	2.7	4.2
	1997	-	0.5	11.0	11.5	-	2.0	2.8	4.8
	1998	-	0.5	11.4	11.9	-	2.5	2.9	5.4
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
	1996	1 319.1	295.9	825.7	2 440.7	380.2	84.6	821.3	1 286.1
	1997	1 361.0	305.5	871.1	2 537.6	421.9	108.3	865.6	1 395.8
	1998	1 374.0	309.8	900.3	2 584.1	405.0	115.2	902.9	1 423.1
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	1 315.0	445.9	2 365.0	4 125.9
	1996	1 589.8	537.0	2 630.7	4 757.5	1 599.2	479.8	2 733.6	4 815.4
	1997	1 626.1	545.5	2 780.9	4 952.5	1 624.5	521.8	2 890.3	5 036.6
	1998	1 632.8	547.7	2 883.9	5 064.4	1 611.2	524.9	2 993.3	5 129.4

Source: 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 1997

(in grt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total [d]	**523 645 119**	**147 781 225**	**160 238 660**	**90 577 838**	**49 367 696**	**75 679 700**
Developed market-economy countries						
Australia	2 631 779	400 975	1 036 227	89 611	105 683	999 283
Austria	83 428	..	..	83 428	..	..
Belgium	176 337	2 357	..	467	..	173 513
Canada	1 287 027	255 515	108 371	115 950	1 714	805 477
Denmark	5 891 186	742 249	522 252	683 106	2 344 682	1 598 897
Finland	1 558 805	303 077	80 106	432 472	..	743 150
France	4 718 440	2 124 614	354 609	308 171	615 411	1 315 635
Germany	7 015 663	16 664	2 460	907 822	5 277 962	810 755
Gibraltar	297 844	263 072	..	25 935	..	8 837
Greece	25 468 004	11 974 930	9 541 557	983 798	1 081 266	1 886 453
Iceland	214 890	1 763	415	5 090	15 153	192 469
Ireland	226 169	3 111	..	76 361	5 006	141 691
Israel	793 890	1 270	12 178	8 374	762 878	9 190
Italy	6 195 836	1 608 464	1 302 593	798 146	377 186	2 109 447
Japan	18 527 800	5 510 076	4 555 821	2 356 667	958 431	5 146 805
Luxembourg	820 441	164 625	86 374	101 802	56 521	411 119
Netherlands	4 991 589	176 406	174 471	1 795 130	1 173 920	1 671 662
New Zealand	380 552	67 572	12 456	91 211	..	209 313
Norway	22 888 896	9 244 384	3 908 098	3 995 371	66 880	5 674 163
Portugal	962 078	356 037	128 441	215 318	11 088	251 194
South Africa	420 985	3 658	..	579	268 518	148 230
Spain	1 687 908	509 837	38 814	227 528	80 559	831 170
Sweden	2 755 174	307 286	38 314	1 465 030	..	944 544
Switzerland	433 851	..	389 282	12 604	..	31 965
Turkey	6 579 144	514 397	4 443 591	1 205 524	65 047	350 585
United Kingdom	8 521 298	3 071 066	894 451	606 720	1 112 519	2 836 542
United States	18 127 863	6 939 766	1 964 588	2 024 008	3 949 653	3 249 848
Subtotal	143 656 877	44 563 171	29 595 469	18 616 223	18 330 077	32 551 937
Open-registry countries						
Bahamas	25 603 706	10 838 740	4 727 614	6 018 821	960 628	3 057 903
Bermuda	4 610 468	2 069 070	1 017 929	245 120	587 639	690 710
Cyprus	23 679 178	3 779 465	11 743 660	5 078 502	2 078 044	999 507
Liberia	60 318 975	26 784 241	17 738 910	4 316 251	3 784 525	7 695 048
Malta	22 984 206	9 043 458	8 622 904	3 881 574	665 780	770 490
Panama	91 924 910	21 292 096	38 775 455	14 265 078	10 516 926	7 075 355
Vanuatu	1 578 575	13 973	620 341	574 735	..	369 526
Subtotal	230 700 018	73 821 043	83 246 813	34 380 081	18 593 542	20 658 539
Central and Eastern Europe and former USSR						
Albania	30 393	..	..	28 154	..	2 239
Armenia	..	..	..	0	..	..
Azerbaijan	638 992	179 974	..	93 975	..	365 043

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Belarus	..	..	..	..	..	..
Bulgaria	1 128 421	163 000	542 467	312 403	56 380	54 171
Czech Republic	16 400	..	16 400	..	..	..
Estonia	604 899	5 594	159 600	208 453	..	231 252
Georgia	132 909	72 900	230	8 151	..	51 628
Hungary	26 691	..	..	26 691	..	..
Kazakhstan	9 524	..	..	1 948	..	7 576
Kyrgyzstan	..	..	..	..	..	..
Latvia	325 106	137 460	..	86 724	..	100 922
Lithuania	511 826	4 971	109 615	208 258	..	188 982
Moldova	..	..	..	..	..	..
Poland	1 884 636	5 314	1 360 262	235 878	..	283 182
Romania	2 342 447	249 421	864 597	1 009 561	15 160	203 708
Russian Federation	12 395 712	1 645 854	1 567 879	4 294 076	249 761	4 638 142
Slovakia	15 191	..	..	15 191	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	41 026	2 846	..	16 577	..	21 603
Ukraine	2 735 736	89 359	253 702	1 420 151	54 582	917 942
Former USSR [e]	398	..	..	..	..	398
Uzbekistan	..	..	..	..	..	..
Subtotal	22 840 307	2 556 693	4 874 752	7 966 191	375 883	7 066 788
Socialist countries of Asia						
China	16 420 344	2 015 041	6 541 454	5 200 203	1 395 156	1 268 490
Democratic People's Republic of Korea	667 405	5 182	96 230	447 421	..	118 572
Viet Nam	765 523	22 476	94 390	469 562	..	179 095
Subtotal	17 853 272	2 042 699	6 732 074	6 117 186	1 395 156	1 566 157
Developing countries of Africa						
Algeria	982 528	34 323	172 360	219 708	..	556 137
Angola	68 031	3 007	..	38 473	..	26 551
Benin	1 151	..	..	..	..	1 151
Cameroon	11 424	..	..	..	..	11 424
Cape Verde	20 607	1 151	..	7 867	5 589	6 000
Comoros	1 530	..	..	937	..	593
Congo	6 663	..	..	2 875	..	3 788
Côte d'Ivoire	11 433	789	..	916	..	9 728
Democratic Republic of the Congo	..	..	..	..	..	..
Djibouti	3 967	..	..	1 967	..	2 000
Egypt	1 362 165	223 763	575 273	357 244	..	205 885
Equatorial Guinea	35 017	..	..	9 674	..	25 343
Ethiopia	86 009	3 809	..	82 200	..	..
Gabon	34 960	652	23 782	3 487	..	7 039
Gambia	1 752	..	..	..	..	1 752
Ghana	129 820	2 106	199	24 786	..	102 729
Guinea	9 204	..	..	808	..	8 396
Guinea-Bissau	5 617	..	..	1 640	..	3 977
Kenya	20 565	4 708	..	2 312	..	13 545
Libyan Arab Jamahiriya	691 134	510 633	..	82 328	..	98 173
Madagascar	40 093	10 734	..	15 006	..	14 353
Malawi	..	..	..	..	..	..
Mauritania	42 998	..	..	299	..	42 699

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Mauritius	274 820	52 757	3 922	108 004	90 788	19 349
Morocco	416 740	12 476	..	120 075	8 373	275 816
Mozambique	38 654	..	..	6 594	..	32 060
Nigeria	456 376	250 041	..	119 329	..	87 006
St. Helena	789	..	..	..	..	789
Sao Tome and Principe	2 848	..	..	1 591	..	1 257
Senegal	50 679	..	..	4 699	..	45 980
Seychelles	4 740	..	..	3 474	..	1 266
Sierra Leone	19 181	1 405	..	490	..	17 286
Somalia	11 441	851	..	3 312	..	7 278
Sudan	42 114	832	..	38 963	..	2 319
Togo	1 764	..	..	..	..	1 764
Tunisia	180 368	6 518	37 618	48 168	..	88 064
Uganda	3 394	..	..	3 394	..	..
United Republic of Tanzania	47 422	5 129	..	30 510	..	11 783
Subtotal	5 117 998	1 125 684	813 154	1 341 130	104 750	1 733 280
Developing countries of America						
Anguilla	1 788	..	..	1 427	..	361
Antigua and Barbuda	2 243 334	3 715	179 205	1 180 999	851 783	27 632
Argentina	606 855	104 579	33 678	146 662	37 886	284 050
Barbados	887 587	349 673	255 504	233 538	..	48 872
Belize	1 760 619	338 423	194 537	968 241	27 932	231 486
Bolivia	2 426	..	..	2 426	..	..
Brazil	4 388 339	1 860 750	1 706 001	346 909	193 847	280 832
Cayman Islands	843 584	113 917	281 963	300 896	49 203	97 605
Chile	726 344	92 508	212 521	116 094	25 246	279 975
Colombia	117 655	5 962	..	83 515	..	28 178
Costa Rica	5 942	..	..	448	..	5 494
Cuba	202 674	7 766	2 316	114 140	..	78 452
Dominica	2 522	..	..	1 811	..	711
Dominican Republic	11 310	674	..	7 010	..	3 626
Ecuador	145 080	80 001	..	2 319	..	62 760
El Salvador	1 479	..	..	..	..	1 479
Falkland Islands [f]	38 229	..	..	735	..	37 494
Grenada	887	..	..	779	..	108
Guatemala	776	..	..	..	..	776
Guyana	17 137	125	..	9 116	..	7 896
Haiti	1 563	..	..	1 283	..	280
Honduras	1 056 116	106 631	114 479	573 939	6 122	254 945
Jamaica	9 609	1 930	..	5 589	..	2 090
Mexico	1 146 310	434 701	..	56 359	123 884	531 366
Montserrat	..	..	..	..	..	..
Nicaragua	4 169	..	..	498	..	3 671
Paraguay	43 814	4 480	..	30 002	823	8 509
Peru	351 493	91 951	..	53 510	..	206 032
Saint Kitts and Nevis	300	..	..	300	..	..
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	8 374 654	1 060 541	3 202 044	3 245 905	129 078	737 086
Suriname	8 324	1 842	..	2 852	1 343	2 287
Trinidad and Tobago	18 697	..	..	3 100	..	15 597
Turks and Caicos	1 540	..	..	792	..	748

Islands	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Uruguay	121 344	48 034	..	627	..	72 683
Venezuela	704 879	275 430	111 255	59 281	953	257 960
Virgin Islands, British	5 389	..	..	2 633	..	2 756
Subtotal	23 852 768	4 983 633	6 293 503	7 553 735	1 448 100	3 573 797
Developing countries and territories of Asia						
Bahrain	193 637	54 536	33 149	64 251	..	41 701
Bangladesh	421 207	59 400	6 726	320 199	..	34 882
Brunei Darussalam	368 783	239	..	2 309	..	366 235
Cambodia	..	..	..	..	..	..
Hong Kong, China	5 771 952	21 592	4 211 354	554 065	893 252	91 689
India	6 949 836	2 527 037	3 013 174	548 244	84 345	777 036
Indonesia	3 205 684	851 377	334 871	1 304 731	65 506	649 199
Iran, Islamic Rep. of	3 551 800	1 843 773	1 014 628	533 181	1 593	158 625
Iraq	571 986	421 522	..	76 933	..	73 531
Jordan	42 799	..	39 803	2 108	..	888
Kuwait	1 983 980	1 313 275	17 012	229 849	85 594	338 250
Lebanon	297 358	1 698	123 650	167 687	..	4 323
Malaysia	4 843 909	690 317	1 304 540	830 622	570 350	1 448 080
Maldives	97 544	6 143	..	83 772	..	7 629
Myanmar	568 266	2 935	297 985	222 830	24 415	20 101
Oman	19 849	313	..	2 544	..	16 992
Pakistan	435 002	49 595	157 828	179 712	31 707	16 160
Philippines	8 848 744	162 341	5 950 711	1 920 313	203 665	611 714
Qatar	647 926	262 604	141 617	133 227	85 594	24 884
Republic of Korea	7 480 955	385 391	3 541 731	1 091 462	1 477 674	984 697
Saudi Arabia	1 170 742	204 076	..	588 355	126 117	252 194
Singapore	18 954 125	7 787 479	4 376 729	2 697 109	2 879 801	1 213 007
Sri Lanka	216 853	5 486	95 239	104 674	..	11 454
Syrian Arab Republic	420 166	..	13 689	398 002	..	8 475
Thailand	2 157 803	410 838	566 531	957 377	83 570	139 487
United Arab Emirates	926 240	425 949	19 740	203 283	132 667	144 601
Yemen	26 239	1 886	..	3 418	..	20 935
Subtotal	70 173 385	17 489 802	25 260 707	13 220 257	6 745 850	7 456 769
Developing countries of Europe						
Croatia	871 836	12 971	468 516	231 347	67 229	91 773
Slovenia	2 300	..	..	276	..	2 024
Yugoslavia	2 312	..	..	..	..	2 312
Subtotal	876 448	12 971	468 516	231 623	67 229	96 109
Developing countries of Oceania						
Fiji	36 097	3 164	..	12 617	..	20 316
Kiribati	6 155	1 957	..	3 728	..	470
Nauru	..	..	..	..	..	..
Papua New Guinea	60 432	3 925	..	41 921	..	14 586
Samoa	5 539	..	..	4 339	..	1 200
Solomon Islands	10 098	..	..	3 286	..	6 812
Tonga	12 366	..	..	7 737	..	4 629
Tuvalu	54 553	..	..	19 586	..	34 967
Subtotal	185 240	9 046	..	93 214	..	82 980
Developing total	100 205 839	23 621 136	32 835 880	22 439 959	8 365 929	12 942 935
Other unallocated	8 378 806	1 176 483	2 953 672	1 048 198	2 307 109	893 344

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 1997

(in dwt)

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
World total [d]	**775 927 170**	**272 022 970**	**281 011 378**	**103 879 847**	**56 107 527**	**62 905 448**
Developed market-economy countries						
Australia	3 649 494	684 981	1 754 566	99 058	117 136	993 753
Austria	113 706	..	..	113 706	..	..
Belgium	147 014	3 628	..	594	..	142 792
Canada	1 005 285	418 314	162 507	112 571	1 910	309 983
Denmark	7 300 786	1 385 170	968 881	773 231	2 663 088	1 510 416
Finland	1 189 616	508 205	120 842	363 505	..	197 064
France	6 828 189	4 191 336	645 837	350 880	703 471	936 665
Germany	8 309 011	23 727	5 458	1 078 598	6 699 326	501 902
Gibraltar	566 948	520 190	..	33 930	..	12 828
Greece	43 719 351	22 982 811	17 030 612	1 344 267	1 132 912	1 228 749
Iceland	96 743	2 239	650	5 451	20 187	68 216
Ireland	183 940	4 333	..	123 893	6 807	48 907
Israel	922 524	2 512	18 043	7 276	890 474	4 219
Italy	7 514 397	2 725 974	2 432 032	699 321	393 192	1 263 878
Japan	26 048 744	9 954 238	8 412 506	3 114 448	954 227	3 613 325
Luxembourg	1 082 659	301 880	164 100	64 512	69 596	482 571
Netherlands	5 649 859	293 100	282 201	2 309 242	1 221 364	1 543 952
New Zealand	396 442	101 677	17 039	73 812	..	203 914
Norway	34 493 682	17 753 143	6 950 180	3 702 095	89 248	5 999 016
Portugal	1 365 065	607 966	237 941	279 413	14 262	225 483
South Africa	368 886	4 778	..	142	262 351	101 615
Spain	1 906 114	915 080	64 462	238 653	123 653	564 266
Sweden	2 080 545	537 561	54 155	933 152	..	555 677
Switzerland	738 309	..	685 755	12 428	..	40 126
Turkey	10 669 764	904 074	7 721 334	1 689 377	90 198	264 781
United Kingdom	11 116 789	5 612 026	1 628 754	569 382	1 223 503	2 083 124
United States	25 051 914	13 418 750	3 495 886	1 659 551	4 073 941	2 403 786
Subtotal	202 515 776	83 857 693	52 853 741	19 752 488	20 750 846	25 301 008
Open-registry countries						
Bahamas	39 287 545	20 449 958	8 266 669	7 356 651	959 292	2 254 975
Bermuda	7 392 210	4 142 034	1 943 287	226 279	547 695	532 915
Cyprus	36 994 017	6 685 656	20 232 826	6 638 150	2 462 572	974 813
Liberia	98 265 077	49 908 861	31 504 233	4 225 104	4 343 053	8 283 826
Malta	38 006 551	16 665 836	14 818 464	4 873 379	735 435	913 437
Panama	139 202 376	38 668 851	68 095 540	13 794 486	11 632 654	7 010 845
Vanuatu	1 846 875	21 502	1 034 371	386 846	..	404 156
Subtotal	360 994 651	136 542 698	145 895 390	37 500 895	20 680 701	20 374 967
Central and Eastern Europe and former USSR						
Albania	32 199	..	..	30 958	..	1 241
Armenia	..	..	..	..	..	..
Azerbaijan	498 929	233 594	..	102 655	..	162 680
Belarus	..	..	..	..	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Bulgaria	1 600 478	274 627	847 239	371 374	67 117	40 121
Czech Republic	25 600	..	25 600	..	..	..
Estonia	566 838	8 752	258 785	215 867	..	83 434
Georgia	152 560	115 011	214	9 888	..	27 447
Hungary	37 770	..	..	37 770	..	..
Kazakhstan	5 278	..	..	1 323	..	3 955
Kyrgyzstan	..	..	..	..	..	..
Latvia	351 173	214 865	..	79 617	..	56 691
Lithuania	476 280	8 907	160 212	216 575	..	90 586
Moldova	..	..	..	..	..	..
Poland	2 611 841	7 458	2 245 312	221 894	..	137 177
Romania	3 346 058	433 161	1 408 015	1 324 913	16 635	163 334
Russian Federation	12 014 376	2 449 792	2 388 367	4 621 202	272 135	2 282 880
Slovakia	19 489	..	..	19 489	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	31 712	5 010	..	15 198	..	11 504
Ukraine	2 572 960	130 920	416 597	1 507 893	51 505	466 045
Former USSR [e]	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	24 343 541	3 882 097	7 750 341	8 776 616	407 392	3 527 095
Socialist countries of Asia						
China	24 084 762	3 256 177	10 979 804	7 079 778	1 711 242	1 057 761
Democratic People's Republic of Korea	838 384	10 337	156 667	596 366	..	75 014
Viet Nam	1 098 092	35 386	150 910	677 774	..	234 022
Subtotal	26 021 238	3 301 900	11 287 381	8 353 918	1 711 242	1 366 797
Developing countries of Africa						
Algeria	1 110 920	52 547	288 145	296 057	..	474 171
Angola	79 753	2 665	..	62 307	..	14 781
Benin	210	..	..	..	..	210
Cameroon	6 432	..	..	..	..	6 432
Cape Verde	26 689	1 525	..	13 019	7 954	4 191
Comoros	2 138	..	..	1 474	..	664
Congo	4 760	..	..	4 100	..	660
Côte d'Ivoire	7 433	1 170	..	1 220	..	5 043
Djibouti	4 800	..	..	4 450	..	350
Democratic Republic of the Congo	..	..	..	..	..	..
Egypt	1 981 698	385 043	982 819	480 604	..	133 232
Equatorial Guinea	21 365	..	..	13 414	..	7 951
Ethiopia	105 685	5 818	..	99 867	..	..
Gabon	45 360	742	38 516	3 471	..	2 631
Gambia	1 865	..	..	..	..	1 865
Ghana	105 761	3 360	260	31 437	..	70 704
Guinea	4 669	..	..	285	..	4 384
Guinea-Bissau	2 171	..	..	540	..	1 631
Kenya	18 912	7 631	..	1 524	..	9 757
Libyan Arab Jamahiriya	1 147 534	1 011 716	..	91 357	..	44 461
Madagascar	41 574	16 927	..	17 333	..	7 314
Malawi	..	..	..	..	..	..
Mauritania	19 140	..	..	721	..	18 419
Mauritius	363 251	84 464	5 137	133 388	130 915	9 347

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Morocco	371 665	20 427	..	125 092	10 071	216 075
Mozambique	24 366	..	..	12 597	..	11 769
Nigeria	706 634	493 559	..	153 063	..	60 012
Saint Helena	478	..	..	..	..	478
Sao Tome and Principe	2 492	..	..	1 285	..	1 207
Senegal	27 169	..	..	6 667	..	20 502
Seychelles	4 079	..	..	3 278	..	801
Sierra Leone	11 496	1 835	..	944	..	8 717
Somalia	10 817	1 528	..	4 019	..	5 270
Sudan	53 241	1 222	..	51 195	..	824
Togo	299	..	..	..	..	299
Tunisia	169 880	10 368	58 573	50 022	..	50 917
Uganda	2 743	..	..	2 743	..	..
United Republic of Tanzania	51 829	8 991	..	39 753	..	3 085
Subtotal	6 539 308	2 111 538	1 373 450	1 707 226	148 940	1 198 154
Developing countries of America						
Anguilla	2 693	..	..	2 444	..	249
Antigua and Barbuda	2 916 330	6 253	294 531	1 490 545	1 088 884	36 117
Argentina	729 556	178 855	51 950	189 727	48 942	260 082
Barbados	1 427 315	639 650	402 493	321 660	..	63 512
Belize	2 551 952	651 314	299 429	1 376 395	28 929	195 885
Bolivia	3 750	..	..	3 750	..	..
Brazil	7 121 790	3 203 358	3 006 786	375 006	235 996	300 644
Cayman Islands	1 248 433	196 616	529 639	349 444	57 080	115 654
Chile	918 714	165 672	365 931	102 683	29 990	254 438
Colombia	147 472	9 898	..	108 226	..	29 348
Costa Rica	1 208	..	..	..	..	1 208
Cuba	233 756	9 682	3 190	140 875	..	80 009
Dominica	3 076	..	..	2 531	..	545
Dominican Republic	10 243	1 635	..	7 549	..	1 059
Ecuador	177 727	135 733	..	3 625	..	38 369
El Salvador	..	..	..	..	..	..
Falkland Islands [f]	24 151	..	..	630	..	23 521
Grenada	950	..	..	950	..	..
Guatemala	..	..	..	..	..	..
Guyana	16 121	..	..	10 340	..	5 781
Haiti	963	..	..	793	..	170
Honduras	1 386 142	191 071	193 841	881 826	7 038	112 366
Jamaica	6 112	3 065	..	2 813	..	234
Mexico	1 502 144	713 613	..	77 373	146 861	564 297
Montserrat	..	..	..	..	..	..
Nicaragua	1 773	..	..	1 175	..	598
Paraguay	49 724	8 892	..	35 077	2 181	3 574
Peru	336 583	172 541	..	82 519	..	81 523
Saint Kitts and Nevis	550	..	..	550	..	..
Saint Lucia	..	..	..	..	..	..
Saint Vincent and the Grenadines	12 385 105	1 959 336	5 542 384	4 109 794	149 292	624 299
Suriname	9 298	3 035	..	3 466	1 771	1 026
Trinidad and Tobago	8 780	..	..	3 731	..	5 049
Turks and Caicos Islands	161	..	..	161	..	..

	Total fleet	Oil tankers	Bulk carriers	General cargo [c]	Container ships	Other types
Uruguay	127 517	95 702	..	1 241	..	30 574
Venezuela	1 026 319	470 527	187 631	80 030	1 180	286 951
Virgin Islands, British	3 856	..	..	3 203	..	653
Subtotal	34 380 264	8 816 448	10 877 805	9 770 132	1 798 144	3 117 735
Developing countries and territories of Asia						
Bahrain	276 725	98 512	44 110	98 348	..	35 755
Bangladesh	581 526	99 494	8 903	451 624	..	21 505
Brunei Darussalam	350 919	270	..	3 485	..	347 164
Cambodia	..	..	..	..	..	..
Hong Kong, China	9 526 233	30 104	7 796 238	627 092	1 010 975	61 824
India	11 261 409	4 471 263	5 073 014	712 678	110 767	893 687
Indonesia	4 150 192	1 364 172	537 540	1 812 477	85 787	350 216
Iran, Islamic Rep. of	6 181 732	3 600 810	1 703 213	727 899	1 905	147 905
Iraq	953 182	777 854	..	105 185	..	70 143
Jordan	69 754	..	67 228	2 279	..	247
Kuwait	3 138 678	2 369 977	26 984	287 322	91 461	362 934
Lebanon	453 160	2 811	210 785	234 960	..	4 604
Malaysia	6 963 862	1 221 105	2 281 406	1 124 603	680 148	1 656 600
Maldives	145 236	12 679	..	124 882	..	7 675
Myanmar	728 197	4 713	481 268	208 494	25 297	8 425
Oman	10 604	460	..	2 996	..	7 148
Pakistan	696 872	91 021	292 293	260 445	41 682	11 431
Philippines	13 352 687	261 695	10 333 938	2 192 325	263 968	300 761
Qatar	1 050 173	466 067	270 329	205 165	91 536	17 076
Republic of Korea	10 945 523	721 975	6 455 751	1 029 819	1 739 425	998 553
Saudi Arabia	1 387 721	374 639	..	646 384	116 911	249 787
Singapore	29 537 419	13 894 128	8 012 579	2 699 573	3 379 025	1 552 114
Sri Lanka	312 262	10 198	174 581	123 261	..	4 222
Syrian Arab Republic	637 535	..	19 879	609 578	..	8 078
Thailand	3 437 763	784 249	950 245	1 460 853	114 608	127 808
United Arab Emirates	1 380 748	771 596	36 720	280 810	142 960	148 662
Yemen	26 043	3 185	..	3 061	..	19 797
Subtotal	107 556 155	31 432 977	44 777 004	16 035 598	7 896 455	7 414 121
Developing countries of Europe						
Croatia	1 227 793	16 877	806 239	299 135	80 197	25 345
Slovenia	1 093	..	..	234	..	859
Yugoslavia	506	..	..	..	..	506
Subtotal	1 229 392	16 877	806 239	299 369	80 197	26 710
Developing countries of Oceania						
Fiji	29 542	3 605	..	10 940	..	14 997
Kiribati	7 054	3 048	..	3 352	..	654
Nauru	..	..	..	..	..	..
Papua New Guinea	66 221	4 380	..	50 878	..	10 963
Samoa	6 441	..	..	6 066	..	375
Solomon Islands	6 775	..	..	3 155	..	3 620
Tonga	15 471	..	..	11 319	..	4 152
Tuvalu	82 315	..	..	24 446	..	57 869
Subtotal	213 819	11 033	..	110 156	..	92 630
Developing total	149 918 938	42 388 873	57 834 498	27 922 481	9 923 736	11 849 350
Other unallocated	12 133 026	2 049 709	5 390 027	1 573 449	2 633 610	486 231

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 which 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).