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REVIEW OF MARITIME TRANSPORT 1997

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NOTE

The *Review of Maritime Transport* is a recurrent publication prepared by the UNCTAD secretariat since 1968 with the aim of fostering transparency of maritime markets and 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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Regular readers will note that this *Review of Maritime Transport, 1997* follows directly on from the 1995 edition. This does not imply that 1996 data have been omitted; rather, this change has been made in order to ensure that, in addition to the 1996 data, the most up-to-date information is contained in the *Review*, thus making the publication more valuable to the reader.

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

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ABBREVIATIONS

c.i.f.	cost, insurance and freight
CIS	Commonwealth of Independent States
DMEC	developed market-economy country
dwt	deadweight tons
f.o.b.	free on board
GDP	gross domestic product
grt	gross registered tons
ldt	light displacement tons
LNG	liquefied natural gas
NIC	newly industrializing countries
OECD	Organisation for Economic Co-operation and Development
TEU	twenty-foot equivalent unit
ULCC	ultra-large crude carrier
VLCC	very large crude carrier
WS	Worldscale

EXPLANATORY NOTES

"Tons" refers to metric tons, unless otherwise stated.

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

Two dots (..) indicate that data are not available or are not separately reported.

A dash (-) 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, i.e. 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 OF MARITIME 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
Aframax	50,000- 99,999 dwt
Dry bulk carriers:	
Capesize	80,000 dwt plus
Panamax	50,000-79,999 dwt
Handymax	35,000-49,999 dwt
Handy	20,000-34,999 dwt

INTRODUCTION

The *Review of Maritime Transport* is an annual publication prepared by the UNCTAD secretariat. Its purpose is to identify the main developments in world maritime transport and to provide relevant statistical data. Emphasis is given to the development of the merchant marines in developing countries as compared with other groups of countries, and to correlation between development of global trade and activities of overall maritime transport.

Although historical continuity is maintained and the special characteristics of shipping practices are reflected, the overall structure and contents of the *Review* have been reorganized in order to establish a better balance between the information requirements of users and those of providers of maritime transport services. The current edition includes a chapter on trade facilitation and efficiency, and a review of regional developments in small island developing countries (chapters VI and VII).

SUMMARY OF MAIN DEVELOPMENTS

Development of the world economy and seaborne trade

- World output increased in 1996 by 2.8 per cent over 1995. The developed market-economy countries recorded growth of 2.3 per cent over the previous year, while developing countries (including China) recorded an average increase of 5.6 per cent.

- The growth of world merchandise trade slowed down sharply in 1996, reaching only 4.6 per cent, as against 10.0 per cent in the preceding two years. On the basis of the 1997 world output growth forecasts (3.0 per cent), the volume of world trade should expand somewhat faster in 1997 than in 1996 (4.6 per cent), led by a stronger trade performance in Western Europe and Latin America.

- The total OECD industrial production index in 1996 rose marginally by 2.0 per cent to 108.1, from 106.0 in 1995 (1990=100).

- World seaborne trade registered its eleventh consecutive annual increase in 1996, reaching a new record high of 4.76 billion tons. Annual growth, however, slowed down to a rate of 2.3 per cent, which was the lowest since 1987 and below the average annual rate of growth of 3.3 per cent over the period 1987-1995. However, the overall seaborne trade in 1997 is estimated to expand at 3.8 per cent over 1996, reaching 4.9 billion tons.

- Total maritime activities in ton-miles in global trade increased in 1996 by only 1.0 per cent to 20,545 billion ton-miles, as compared with 20,338 billion ton-miles in the previous year.

Development of the world fleet

- The world merchant fleet continuously expanded to 758.2 million dwt at the end of 1996, representing a 3.2 per cent increase over 1995. The higher rate of fleet expansion reflects the balance between newbuilding deliveries (39.0 million dwt) and tonnage broken up and lost (20.3 million dwt), leaving a net gain of 18.7 million dwt.

- The combined tonnage of developed market-economy countries and the major open-registry countries increased in 1996 by 3.3 per cent over 1995 to 542.5 million dwt. The developing countries' fleet continued to increase slightly, reaching 147.4 million dwt in 1996.

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

- In 1996, developed market-economy countries, either directly or through open or international registries, controlled 71.6 per cent of the world fleet in deadweight tons (the same level as in 1995), while they generated 55.5 per cent of world seaborne trade (55.8 per cent in 1995). The share of developing countries in world cargo turnover stood at 38.9 per cent (38.6 per cent in 1995), while their merchant fleet shared 19.5 per cent of the world fleet (18.7 per cent in 1995).

- The main operational productivity indicators for the world fleet developed somewhat unfavourably in 1996. Tons of cargo carried per dwt slightly decreased to 6.28 in 1996 from the record level of 6.33 reached in 1995. Ton-miles performed per dwt also declined in 1996, to 27,097 from the 1995 performance record of 27,675 ton-miles per dwt.

- World total surplus tonnage stood at 48.8 million dwt (the lowest since 1988) or 6.4 per cent of the 1996 world merchant fleet. The surplus capacity in the oil tanker sector aggregated 28.8 million dwt or 10.1 per cent of the total world tanker fleet in 1996, while overcapacity in the dry bulk sector decreased slightly to 17.2 million dwt, accounting for 6.7 per cent of the world dry bulk fleet.

Freight markets

- During 1996, liner operators experienced difficult times in most trades. Rates on the TransPacific Eastbound, the Asia/Europe route and the Europe/Asia route fell by 10 per cent or more. Rates on the Westbound TransPacific fell by 6 per cent, while among the major trades only the US/Europe route displayed notable strength, with carriers' average revenues up by 12 per cent.

- The unfavourable development in the 1996 dry bulk charter markets primarily reflected declining steel production, a temporary severe shortage of demand for grain and weak economic growth, especially in Western Europe and the major South-East Asian economies. Additional pressure was exerted by the delivery of 258 newbuildings of 17.5 million dwt.

- In the crude oil tanker markets in 1996, the relatively favourable supply/demand conditions, coupled with an increase of 2.5 per cent over 1995 in the world seaborne crude oil trade, improved overall freight rates for all principal types of crude oil tankers. On the other hand, handy-size clean tankers experienced relatively unfavourable markets, specifically throughout the second half of 1996.

- Dry bulk freight markets will be affected by opposite developments on the demand and supply sides of the market. The fundamentals of the demand side would indicate that the recovery is set to continue throughout the year, with growth particularly based on iron ore and coal shipments. Supply-side growth, however, will have a dampening effect on potential market recovery. Tanker market developments will be positively affected by trade growth of nearly 3 per cent (or 2 million barrels per day) to reach 74 million barrels per day in 1997. Most of this growth will come from non-OPEC sources leading to an increased importance in short-haul carriage. Furthermore, within OPEC growing exports from Latin American and African States will equally favour shorter hauls and thus adversely affect demand for crude tanker space.

- World total freight payments as a proportion of total import value had been on a downward path from as high as 6.64 per cent in 1980 to 5.27 per cent in 1995 (5.40 per cent in 1994). The proportion of developed market-economy countries decreased to 4.20 per cent in 1995, as compared with 4.29 per cent in 1994, while that of developing countries rose to 8.30 per cent from 8.25 per cent in 1994. Within the latter group, Africa showed a higher ratio of 11.44 per cent in 1995. Specifically, the majority of African land-locked countries paid a comparatively greater amount of freight charges, ranging from 13 per cent to 39 per cent.

Port development

- World total container port traffic continued to expand in 1995 at a rate of 5.2 per cent over 1994, reaching 135 million TEUs, of which 68.3 million TEUs (or 50.6 per cent, compared with 48.9 per cent in 1994) were handled at the ports of developing countries.

Multimodal transport and technological developments

- The use of third-party logistics as well as the scale of globalization of activities of service providers continued to increase in 1996. According to a survey comparing the scope of activities of European and United States logistics companies, globalization is more advanced among European-based operators than among United States ones. In Europe, 69 per cent of the companies surveyed were operating worldwide, compared with 59 per cent in North America. The increasing globalization of business provides a massive potential competitive advantage for organizations that could develop and manage global supply chains.

Trade facilitation and efficiency

- UNCTAD's Global Trade Point Network (GTPNet) has been designed to offer primarily small and micro-businesses around the world practical assistance in all trade-related matters: trade information, bank loans, transport, insurance and customs practices. Among other things, data and information on transport practices, specifically maritime transport and related services, are indispensable for achieving greater efficiency in trading activities. Relevant service providers, such as transport operators, could benefit from the facilities provided by the GTPNet so that they are able to offer a higher quality of services in both time and cost, thus maximizing the benefits of services provided.

- GTPNet has expanded rapidly since its official launch in October 1994 at the United Nations International Symposium on Trade Efficiency (UNISTE). As of April 1997, 108 countries are involved in GTPNet, 21 of which are least developed ones. There are 41 operational Trade Points in 23 countries and another 120 Trade Points have been requested (24), are being set up (89) or are moving towards being fully operational (7).

Review of regional developments: Small island developing countries

- Efficient maritime transport and port infrastructure are particularly important for small island developing States that are at a geographical and economic disadvantage. Handicaps take the form of high distribution costs, lack of reliable shipping services, expensive transhipment charges, inadequate port facilities, limited maritime administration and diseconomies of scale when negotiating freight rates with shipping conferences. Estimated total freight costs of total import value for small island developing countries are as high as 10.90 per cent, compared with 4.20 per cent for developed market-economy countries and 8.30 per cent for developing countries. In particular, most small remote islands incur even higher freight costs as a percentage of import value (ranging from 12 to 18 per cent) which are significantly higher than those of other developing countries.

- Restructuring trends in the international liner shipping industry are another factor affecting the transportation capabilities of many small island developing States. Over the last decade, consolidation, cooperation and commercial agreements between large container operators have resulted in a concentration of services. This has created economies of scale and encouraged the expansion of hub-and-spoke service patterns between major trading areas. For small island developing States, however, the impact has been to increase the need for transhipment port services, acquisition of vessels with container-lifting capabilities, investment in electronic data interchange (EDI) technology and training management personnel. Without these infrastructure investments (mainly ships and port facilities), the ability of many small island developing States to effectively trade and sustain development will be marginal.

- While the GDP growth of developing countries as a group has followed a stable trend line at an average annual rate of 6.2 per cent since 1991, the GDP growth of small island developing countries has shown wide fluctuations in recent years, with rates varying from two-digit growth to two-digit contraction.

- Total exports increased at about 11.5 per cent annually for the period 1988-1994, with the

fastest growth in manufactures (annual average growth rate of 17.2 per cent). The direction of exports changed over the period 1988-1994. For example, in 1988, developed market-economy countries imported about 56 per cent of small island developing States' exports. However, by 1994, the developed market-economy countries' share declined to 44.5 per cent. Conversely, the developing countries' share of small island developing States' exports increased from 39.9 per cent in 1988 to 51.8 per cent in 1994.

- Total imports increased at an annual average rate of 8.9 per cent over the period 1988-1994. Manufactured goods accounted for the largest share of imports - 81 per cent in 1994 - and increased from 69.0 per cent in 1988. The direction of imports over the period 1988-1994 shifted away from developed market-economy countries (down 8.3 per cent), with an increase for developing countries (up 15 per cent).

- Fleet statistics pertaining to the group of small island developing States are distorted by the widespread offer of open-registry facilities by some countries in this group. The benefits for the open-registry countries are additional tax revenues and employment opportunities when ship management companies are established within the country. True ownership of tonnage remains minimal in these countries. Even though their foreign trade is nearly exclusively dependent on the availability of maritime transport services, their participation therein is negligible. However, a large number of vessels of less than 100 grt are operating in many small island developing States.

- The age of the small island developing States' fleet of 100 grt and above is the second qualitative factor. Nearly 50 per cent of the merchant fleet is 15 years old and over. This ageing fleet leads to higher operating costs, as repair and maintenance rapidly increase with age; and schedule delays and unreliability, as well as greater environmental risks, are associated with obsolete vessels. In brief, the small island developing States' fleet is ageing and needs replacement. Most manufactured goods move by containerships or general cargo ships, yet the former represent only 5.0 per cent and the latter 17.0 per cent of the total small island developing States' fleet. If the vessels registered under open-registries and in Singapore are excluded, the conventional general cargo tonnage of those States is minimal and containerships are non-existent.

Box 1

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

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

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

With the formation of new States in Eastern Europe, the registry situation as at 31 December 1996 had changed. Lloyd's Register advises that vessels are only allocated to a new register after confirmation that a new registry has been created and ships entered into a registry. The following guidelines are offered by Lloyd's Maritime Information Services Ltd. for the tables in this year's *Review* relating to fleet development.

Former USSR

(i) Confirmation has been received from the Azerbaijani (AZE), Estonian (ETN), Georgian (GEO), Kazakstan (KAZ), Latvian (LAV), Lithuanian (LTH), Russian (RUS), Turkmenistan (TUR) and Ukrainian (UKE) registries, and these flag codes have been created and maintained.

(ii) The other republics - Armenia (ARM), Belarus (BEL), Kyrgyzstan (KYR), Moldova (MOL), Tajikistan (TAJ), and Uzbekistan (UZB) - have not confirmed the establishment of registries. Lloyd's Register has, however, received information from the Russian Registry, as flag arrangements are still coordinated through this body. In consequence, ships have been coded where appropriate.

Former Yugoslavia

Ships have been allocated to either Croatia (CRT) or Slovenia (SLO). Any as yet unallocated have been left under Yugoslavia (YUG).

Major open-registry countries

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

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

Chapter I

DEVELOPMENT OF INTERNATIONAL SEABORNE TRADE

The first chapter of the Review of Maritime Transport 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

World output

1. The global economic recovery that began in 1993 continued throughout 1996, when world output grew by 2.8 per cent (see table 1). However, growth has again failed to fulfil expectations that the world economy would enter a new era of sustained growth in excess of 3 per cent, which is expected to be achieved in 1997. Growth in the developed market-economy countries as a whole has continued to remain below the rates of the 1980s. The growth rate of 2.3 per cent in 1996 was slightly above the previous year but slower than had earlier been expected. Expansion in the United States was more sustained than most forecasts had predicted, and Japan finally reaped the benefits of its fiscal packages and achieved recovery faster than expected. But the widely expected recovery in Western Europe has not yet materialized.

2. Developing countries (including China) grew twice as fast as developed market-economy countries in 1996, as in the previous year. However, growth in the developing world was uneven and fragile. Latin America has recovered from the depressed conditions of the post-Mexican crisis, but its growth remained a modest 3.3 per cent. East Asia continued to be the brightest area in the world economy, but growth slowed down with the weakening of exports, and policies in some countries have been reoriented towards curbing growing external deficits and price levels, and in some cases towards coping with difficulties in the financial sector. Growth in both regions continued to heavily depend on capital inflows from developed market-economy countries.

3. Economic recovery in Africa, which began in 1994, gathered further momentum in 1996 as the growth of regional output accelerated to 3.9 per cent from 2.8 per cent the previous year, reversing the decline in real per capita income that had persisted for almost a decade. Furthermore, the expansion in output was widespread among all subregions and countries. Such factors as favourable commodity prices and greater domestic policy efforts played an important role in the recovery. However, many of these factors are of a one-off nautre and cannot be expected to increase output indefinitely. Sustained growth in Africa, as in poor countries elsewhere, ultimately depends on combining policy efforts with adequate external financing. In 1996, output in the transition economies of Central and Eastern Europe as a whole declined by 2.8 per cent. However, divergence in economic performance continued to widen. A number of countries in Central Europe sustained strong growth, whereas in many other countries there were further economic setbacks, leading to further falls in output.

Merchandise trade

4. The growth of world merchandise trade slowed down sharply in 1996, reaching only 4.6 per cent, as against approximately 10 per cent in the preceding two years (see table 2), and falling more than had been expected at the beginning of the year. The divergence between trade and output growth, which has been increasing since 1990, was greatly reduced in 1996. A modest acceleration of growth in world trade is expected in 1997.

5. An important factor in the slowdown in world trade was a sharp deceleration of import growth in developed economies, which together account for about two-thirds of world import demand, from 11.0 per cent in 1994 to only 5.2 per cent in 1996 (see table 2). Particularly drastic was the drop in both the United States and Japan. In Western Europe imports remained sluggish because

Table 1

World output, 1993-1997
(Percentage change)

Country/region	1993	1994	1995	1996 a/	1997 b/
World	1.4	2.8	2.4	2.8	3.0
Developed market-economy countries	1.0	2.9	2.0	2.3	2.3
of which:					
United States	3.4	4.1	2.0	2.5	2.9
Japan	-0.2	0.5	0.8	3.5	1.9
European Union	-0.6	2.8	2.4	1.5	2.0
of which:					
Germany	-1.2	2.9	1.9	1.4	2.2
France	-1.5	2.7	2.2	1.3	1.9
Italy	-1.2	2.2	3.0	0.7	1.2
United Kingdom	2.2	3.8	2.4	2.0	2.5
Central and Eastern Europe	-8.1	-10.3	-2.7	-2.8	0.7
Developing countries c/	5.0	4.8	4.8	5.6	5.6
of which:					
Latin America	3.9	4.5	0.5	3.3	4.0
Africa	-0.6	1.4	2.8	3.9	3.9
Asia c/	6.7	5.6	7.3	6.9	6.7
of which:					
China	14.0	11.8	10.2	9.7	9.0
Other countries	5.0	3.9	6.5	6.1	6.0
Memo item					
Developing countries excluding China	3.9	3.7	4.0	4.9	5.1

Source: UNCTAD, *Trade and Development Report, 1997* (UNCTAD/TDR/17), United Nations Sales Publication (Sales No. E.97.II.D.8).

a/ Estimate.

b/ Forecast.

c/ Including China.

of slower GDP growth, whereas other factors were in play in the United States and Japan. In Japan, slower import growth coincided with a depreciation of the yen, after a surge during 1991-1995 associated with a substantial appreciation of the currency. In the United States the increase in imports of capital goods, especially computers and related equipment, which had manifested itself in earlier years, slowed dramatically in 1996.

6. In East Asia export growth declined significantly, falling below output growth for the first time in many years. A major factor was a drastic fall in the prices of certain electronic and information equipment, particularly semi-conductors, largely on account of market saturation. In China a reduction in export tax rebates in late 1995 had prompted enterprises to rush their exports as much as possible, including those planned for

Table 2

Exports and imports by major regions and economic groupings, 1994-1996
(Percentage change in volume over previous year)

	1994	1995	1996 a/
Exports			
World	10.4	10.0	4.6
Developed market-economy countries	9.6	7.4	4.2
of which:			
Japan	1.7	3.3	0.8
North America	10.0	9.4	5.7
Western Europe	11.3	7.4	4.0
Developing countries	13.5	16.2	6.1
of which:			
Africa	4.3	8.3	8.1
Latin America	9.2	9.9	9.3
South and East Asia	14.8	18.0	5.8
West Asia	7.1	16.9	7.3
China	31.0	20.7	0.7
Imports			
Developed market-economy countries	11.0	7.6	5.2
of which:			
Japan	13.6	12.5	3.5
United States	12.0	8.0	6.4
Western Europe	9.1	6.7	5.3

Source: UNCTAD, *Trade and Development Report, 1997* (UNCTAD/TDR/17), United Nations Sales Publication (Sales No. E.97.II.D.8).

a/ Preliminary.

1996. By contrast, in Latin America, particularly among the members of MERCOSUR, the rate of acceleration of exports achieved in 1995 was maintained in 1996.

OECD countries' industrial production

7. The industrial production of the OECD countries is also a fundamental indicator for the global maritime transport sector. Graph 1 indicates the correlation between the annual change in OECD industrial production and world seaborne trade. With regard to the diverging growth rates in OECD industrial production and world seaborne trade in the period 1991-1993, the decline in industrial production, particularly since 1990, was mainly attributed to the decrease in production of crude steel, iron ore, coking coal, petroleum products, non-ferrous metals and fertilizer, and to the decline in the prices of these commodities. However, increasing trade in other manufactures, specifically by North America, Latin America and Asia, including China, maintained the growth of world seaborne trade. In 1996 the total OECD industrial production index (1990=100) rose marginally by 2.0 per cent to 108.1, from 106.0 in 1995, when it

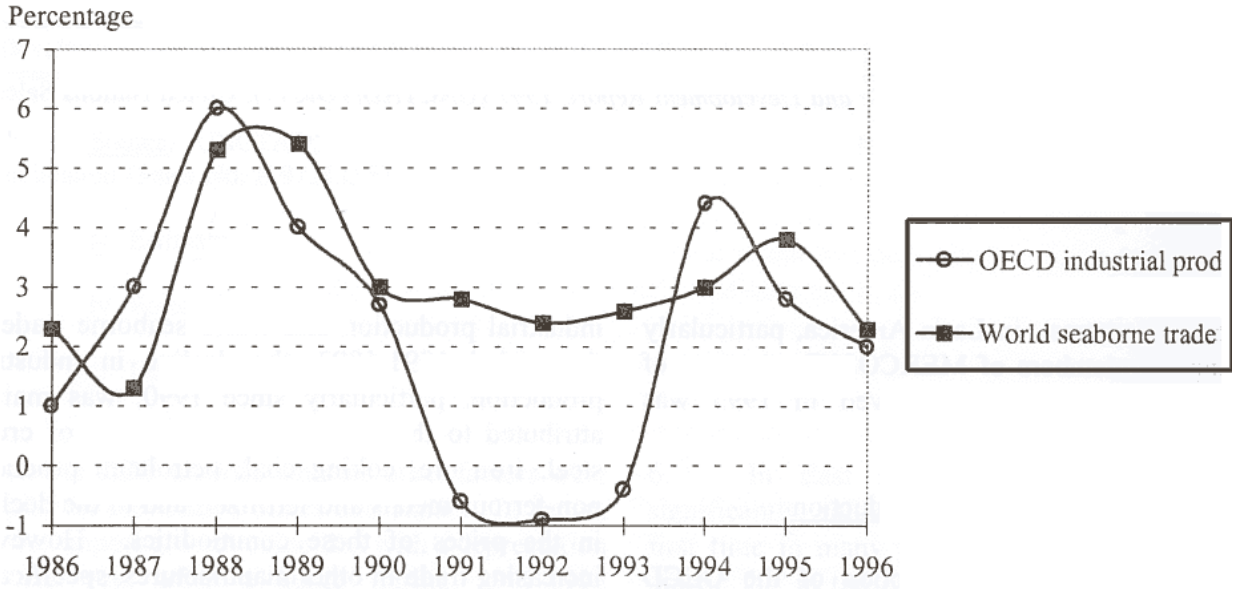
had experienced a moderate increase of 3.0 per cent. This 1996 minimal increase primarily reflects the fact that the OECD European countries had achieved only a 0.2 per cent production increase to 104.2 per cent (104 per cent in 1995), while the United States and Japan had achieved a relatively lower increase of 2.7 per cent and 2.1 per cent - to 116.5 per cent and 96.2 per cent respectively - as compared with the favourable 3.3 per cent each in 1995. World seaborne trade also recorded a marginal increase in 1996 at the rate of 2.3 per cent over the previous year (3.7 per cent in 1995).

B. World seaborne trade

8. World seaborne trade continued to expand in 1996, as indicated in table 3 and graph 2. Total annual increase, reaching a new high of 4.76 billion tons. The annual growth rate, however, turned rate of 3.3 per cent over the period 1987-1995. By broad segments of world maritime trade, tanker shipments represented 44.7 per cent of the total 1996 seaborne trade, increasing by 3.8 per cent to 2,127 million tons. However, growth in 1997 is estimated to be weaker, at 2.4 per cent. The volume of the total dry bulk seaborne commodities in 1996 registered an unfavourable increase of 1.1 per cent to 2,631 million tons, after a remarkable increase of 5.0 per cent in 1995. The volume of main dry bulk commodities, which represents slightly over 40 per cent of the total dry bulk seaborne cargo, increased only at less than 1 per cent. Nevertheless, the 1997 growth of overall dry bulk seaborne commodities is expected to be stronger, at 5.1 per cent, with the volume of main dry bulk commodities accelerating even more (by 5.2 per cent).

Graph 1

Annual change in OECD industrial production and world seaborne trade, 1986-1996



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

Table 3

Development of international seaborne trade, a/ selected years
(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 c/	2 177	2.4	2 764	5.1	1 149	5.2	4 941	3.8

Sources: Compiled by the UNCTAD secretariat on the basis of data from the UNCTAD data bank and specialized sources.

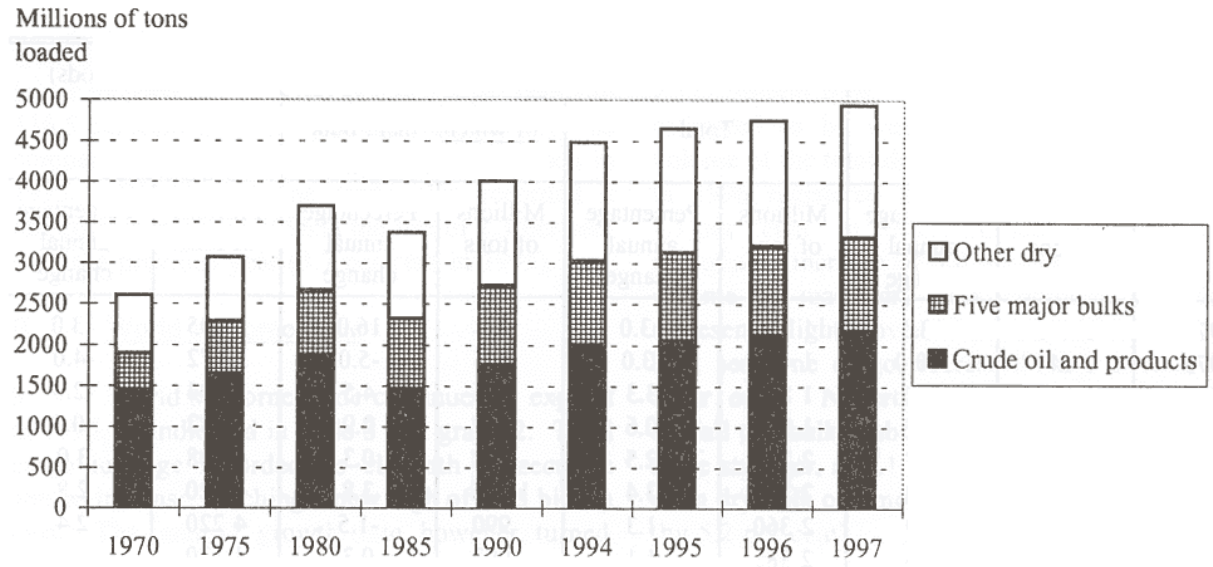
a/ Including international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system.

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.

9. World oil production continued to increase in 1996, growing by 2.91 per cent to 3,356 million tons. OPEC output increased by 1.42 per cent to 1,362 million tons from 1,343 million tons, while non-OPEC supply grew by 3.89 per cent from 1,918 million tons to 1,993 million tons, causing world supply to increase by around 95 million tons over 1995. As a result of the surge in non-OPEC production, OPEC's share of the world market further deteriorated, falling to 38.44 per cent from 41.18 in 1995. Crude oil shipments increased favourably by 4.0 per cent to 1,590 million tons in 1996, from 1,530 million tons in 1995. The growth in shipments of crude oil for 1996 was primarily from suppliers in Latin America, the Middle East Gulf and North Africa. At the receiving end, the United States increased its crude oil imports in 1996 by 3.7 per cent and thus remained the largest importer, with a one-third share of the OECD total. Japan, currently the second largest importer of crude oil with an expected one-fourth share of total OECD imports, registered a growth rate of 2.0 per cent in 1996./ While Northern Europe continued to import less crude oil, with shipments declining by 4.0 per cent in 1996, Southern Europe increased its crude oil imports by slightly more than 15 per cent. Overall European imports increased by 8.6 per cent over 1995. In 1997, the United States will register growth of more than double the 1996 rate, whilst Japan and Europe are expected to experience sluggish growth in imports. On the other hand, Northern Europe's exports of crude oil are expected to increase by 4.5 per cent in 1997. The growth rate of world crude oil trade in 1997 is expected to be 2.4 per cent.

10. The global trade in petroleum products in 1996 increased moderately by 3.3 per cent. United States imports registered growth of about 15 per cent over 1995. Exports from Europe and Latin America, mainly the Caribbean, accounted for most of the increase. Both Northern and Southern Europe's imports in 1996 declined remarkably by nearly 20 per cent from the 1995 level, whilst exports from both regions grew at about 7.0 per cent. Exports from Latin America, specifically the Caribbean, experienced surges in 1996 of nearly 20 per cent over 1995. The overall trades in petroleum products in 1997 are expected to expand marginally at the rate of 2.4 per cent. United States imports will grow by a moderate 2.7 per cent, while shipments bound for the United States from the Caribbean will level off slightly. In 1997, Northern and Southern Europe's imports will fall by about

5 per cent, while growth in exports for 1997 from these regions (mainly Northern Europe) will increase at 5-6 per cent.

11. Volumes of overall dry bulk shipments in 1996 showed the weakest growth since 1986, as world crude steel production decreased slightly by 0.4 per cent to 750 million tons. The European Union's share fell in 1996 by 5.4 per cent to 147 million tons. Most of this decline is shared by Italy and Germany, with decreases of 11.7 per cent and 5.3 per cent respectively. On the other hand, Asia registered its sixth consecutive year of increase, with a growth rate of 3.0 per cent for 1996, reaching 290 million tons. China and the Republic of Korea continued to be major contributors, with increases of 7.9 per cent and 5.7 per cent respectively over the previous year. In 1996, China's production exceeded 100 million tons for the first time, whereas Japan's decreased by 2.8 per cent, registering slightly less than 100 million tons. North America registered 124 million tons - an increase of 0.7 per cent in 1996 over the previous year - with its fifth consecutive year of increase./ As raw material to the steel-producing industry, iron ore shipments in 1996 decreased by 3.1 per cent to 390 million tons from 402 million tons in 1995,/ whereas this trade is expected to rebound in 1997, growing by 3.5 per cent. As far as different national markets are concerned, Japanese imports of iron ore decreased by 1.7 per cent to 106 million tons. It is expected, however, that the market will regain strength and grow by 2.5 per cent in 1997. Northern European imports of iron ore dropped significantly by 12.4 per cent to 83 million tons in 1996, with Latin America being the most affected trade partner. Imports will pick up modestly in 1997, growing by 2-3 per cent. Asia, including China, experienced in 1996 a favourable growth of 10.5 per cent over the previous year, registering 44 million tons, and is expected to increase demand by around 9 per cent for 1997. On the supply side, Australia experienced export growth of 2.1 per cent, reaching 117 million tons in 1996, and its exports are expected to grow by 5 per cent in 1997, the country thus maintaining its position as the largest exporter of iron ore. Latin America's exports of iron ore showed a significant decline of 5.5 per cent in 1996, recording 95 million tons; this trade, however, is expected to rebound in 1997, growing by 4 per cent./

12. Seaborne trade in coking coal, another input in steel production, increased by 1.2 per cent to 175 million tons from 173 million tons. Thermal coal shipments showed a robust growth from 250 million tons to 262 million tons, primarily attributable to a continued large increase in intra-Asian trades./ Coking and thermal coal imports by Japan declined by 2.3 per cent to 116 million tons in 1996. This trade is expected to slightly strengthen by 1.0-1.5 per cent in 1997. Northern Europe, the second largest importer of both types of coal, registered growth of 5.1 per cent in 1996, representing imports of 94 million tons. In 1997, further growth of 4 per cent is expected. The Far Eastern newly industrializing economies (NIEs) imported 7.2 per cent more in 1996 than in 1995, registering 47 million tons, and their imports will continue to increase - by 5 per cent in 1997. Southern Europe's imports, which grew by 2.4 per cent in 1996 to 46 million tons, will show in 1997 continued growth of 6 per cent. Australia, the largest exporter of coking and thermal coal, exported 138 million tons in 1996 - an increase of 1.7 per cent over the previous year - and its exports are projected to expand by 3.5 per cent in 1997. Southern Africa's exports increased by 4.5 per cent in 1996, registering 45.5 million tons, and will further grow at the level of 6 per cent in 1997./

13. The 1996 seaborne trade in grain decreased by 4.1 per cent to 188 million tons from 196 million tons in 1995./ Grain shipments in 1997 are expected to grow slightly by around 1 per cent. Climatic conditions in 1996 led particularly to reduced harvests in the United States, reduced world grain stocks and substantial price increases, which thus dampened the grain trade before a significant drop in prices and increased shipments late in the year. United States exports experienced in 1996 a decline of 11.2 per cent - from 101 million tons in 1995 to 90 million tons in 1996 - but will slightly increase by 1.5 per cent in 1997. Exports by other major exporting countries or country groups, such as Argentina, Canada and the European Union, expanded in 1996 by 4.3 per cent, 1.6 per cent and 6.3 per cent to 14 million tons, 21 million tons and 18 million tons respectively. In 1997, exports from Canada and the European Union are expected to grow by 1.5 per cent and 4 per cent respectively, while Argentine trades will stagnate or even slightly decline from the 1996 levels. Similarly, Australian

exports are expected to remain at around 19 million tons in 1997. As a main importing area, South-East Asia (including China), which makes up the largest grain-importing bloc, experienced a sharp decline in imports of about 16 per cent in 1996, registering 34 million tons, but these are expected to increase by 3.5 per cent in 1997. Imports by Middle Eastern countries declined by 7.9 per cent to 32 million tons, but the region will show a slight recovery in 1997. Imports by Japan, the largest individual importing country, increased in 1996 by 2.4 per cent to 29 million tons, whereas they are expected to decline in 1997 by nearly 2.5 per cent.[/]

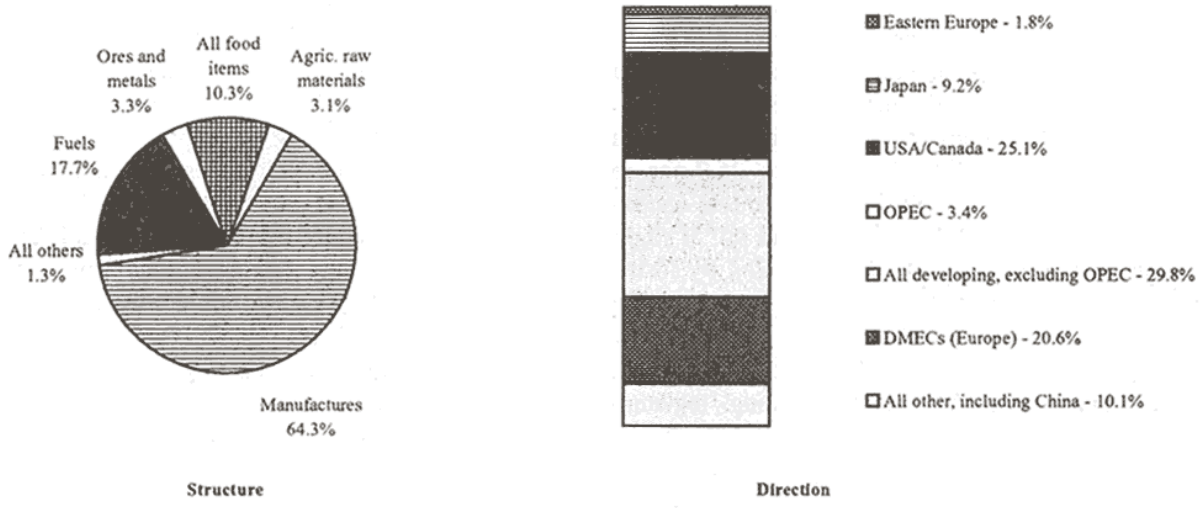
14. Other principal dry bulk cargoes, including bauxite/alumina and phosphate, increased in 1996 by 1.5 per cent to 580 million tons and are expected to expand by 3-4 per cent in 1997.[/] Shipments of "other dry cargo", mainly general cargo or manufactured goods including unitized cargo, increased in 1996 by 1.3 per cent over the previous year and are expected to increase by nearly 5 per cent in 1997. Total world liner shipments of containerized cargoes in 1996 were estimated to have reached 36.96 million TEUs - an increase of 4.0 per cent compared with the volume of the previous year - and in 1997 are expected to further expand by 6.0 per cent. The United States continued to be moderately active in this area in 1996, its combined imports and exports increasing by 2.0 per cent to 13.5 million TEUs (3.5 per cent for imports and 0.5 per cent for exports). The United States 1997 trades are estimated to increase by about 5 per cent for combined imports and exports (6 per cent for imports and 4 per cent for exports). Europe's imports and exports registered a substantial increase of 6.7 per cent, representing a total of 15.7 million TEUs (4.9 per cent for imports and 8.3 per cent for exports). These trades are expected to continue upwards in 1997, by 6 per cent for each trade. Japan experienced import and export growth of only 0.2 per cent to 6.6 million TEU (0.8 per cent for imports and -0.6 per cent for exports) in 1996, but it is expected that trade will regain momentum in 1997, and grow by 3 per cent (0.5 per cent for imports and 6 per cent for exports). Far Eastern newly industrializing economies marginally increased their imports and exports by 1.8 per cent to 10.5 million TEUs (1.7 per cent for imports and 2.0 per cent for exports) in 1996. In 1997, however, imports and exports are expected to expand by 8-9 per cent. The intra-Asian market experienced a significant slow-down in 1996, with the growth rate dropping from 14.3 per cent to 5.9 per cent. The 1997 Asian trades are expected to continue at least at nearly the same level as in 1996.[/]

15. Graph 3 illustrates the export structure and direction of trade of developing countries. In 1994, the last year for which data are available, 56.7 per cent of developing countries' exports by value was destined for developed market-economy countries and 33.2 per cent for developing countries, as compared with 63.7 per cent and 27.9 per cent in 1990. The structure of exports by value comprises five broad categories, of which manufactured goods are the dominant cargo, accounting for 64.3 per cent of the 1994 total (52.9 per cent in 1990). Fuels are the second largest exports, sharing 17.7 per cent in 1994, compared with 27.5 per cent in 1990.

16. Data on total demand for shipping services expressed in ton-miles are provided in table 4. World seaborne trade in volume increased by 2.3 per cent to 4,760 million tons in 1996, whereas the total shipping activities measured in ton-miles in 1996 increased by only 1 per cent to 20,545 billion ton-miles. World seaborne crude oil trade in 1996 increased by 2.5 per cent in volume to 1,450 million tons, whereas ton-miles increased marginally (1.0 per cent) to 7,400 billion ton-miles. This is mainly due to the shift to closer non-OPEC sources, resulting in geographical changes of trade routes and thus in decreased average transport distance. Oil product shipments were estimated to have increased by 3.7 per cent to 395 million tons, with continued large increases in shipments to the United States. The overall ton-miles for oil product shipments increased by 3.1 per cent to 2,005 billion ton-miles. Transport services for three major dry bulk shipments declined by 1.3 per cent, with coal up by 1.8 per cent to 2,215 billion ton-miles, and iron ore and grain down by 2.9 per cent and 3.9 per cent to 2,220 billion ton-miles and 1,115 billion ton-miles respectively. The decrease in shipping demand in the iron ore and grain trades reflects the fact that total shipments in each trade declined by 3.0 per cent and 4.1 per cent respectively over 1995.

Graph 3

Export structure and direction of trade of developing countries
(1994 percentage distribution by value)



Source: UNCTAD, *Handbook of International Trade and Development Statistics, 1995* (United Nations publication, Sales No. E/F/.97.II.D.7), table 3.2.

Table 4

World seaborne trade by types of cargo, 1970, 1980, 1985 and 1990-1996
(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
1991	6 757	1 530	2 008	1 999	1 069	4 510	17 873
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	7 375	1 945	2 287	2 176	1 160	5 395	20 338
1996	7 400	2 005	2 220	2 215	1 115	5 590	20 545

Source: Fearnleys (Oslo), *Review 1996*.

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

17. Summarized data on world seaborne trade by major cargo segments and country groups are provided in table 5 and graph 4. In terms of regional distribution, developing countries continued to register a marginal increase in their share of crude oil shipments in 1996, while their share in dry cargo shipments was maintained at the level of the previous year. Consequently, their share in total exports increased marginally to 51.3 per cent in 1996 from 50.6 per cent in 1995, whilst their share for unloading slightly decreased to 26.7 per cent (26.9 per cent in 1995). Their share for both loading and unloading is expected to fall to slightly below 51 per cent (goods loaded) and to 26.5 per cent (goods unloaded) in 1997.

18. Within the group, Asian countries failed to maintain their 1995 share for loading, registering 26.6 per cent in 1996 (27.0 per cent in 1995), but managed to retain 17.7 per cent of goods unloaded (17.8 per cent in 1995). In 1997 their trade shares are estimated to fall slightly to 26.0 per cent for loading and 17.5 per cent for unloading. American countries increased their share in goods loaded to 13.5 per cent (13.1 per cent in 1995) and are expected to expand further to nearly 14.0 per cent in 1997, while their share in goods unloaded will continue to remain at the level of the previous years (4.4 per cent). The trades of African countries in 1996 expanded to 10.8 per cent (10.1 per cent in 1995) for loading, with an increase in crude oil from 21.7 per cent in 1995 to 23.9 per cent in 1996, while trades for unloading were maintained at the level of the previous years (4.1 per cent). Their trades for 1997 are expected to remain at the 1996 level or decrease marginally for both loading and unloading.

19. Developed market-economy countries experienced a marginal decrease in 1996 to 42.8 per cent for loading, mainly owing to a decline of 1.5 per cent in loading of crude oil, while in 1997 their trades are estimated to regain the level of 1995 (43.5 per cent) for loading, with the overall main cargo sector marginally improving. In the meantime their inbound trades will maintain the relatively high share of 68 per cent in 1997. The 1997 share of countries of Central and Eastern Europe will be unchanged from the 3.8 per cent for loading and 3.1 per cent for unloading registered in 1995. Similarly, the share of the socialist countries of Asia will remain stable at around 2.1 per cent for both loading and unloading, with the 1997 estimates largely depending on the economic performance of China.

20. A forecast of world seaborne trade by main cargo sectors from 1997 to 2006 is provided in graph 5. The World Sea Trade Service (WSTS) forecasts that the trade, estimated at 4,088 million tons for 1996, will expand by an average of 3.9 per cent per year over the decade, reaching 5,675 million tons by 2006. Dry bulk cargo and oil tanker cargo are projected to increase at a rate of 4.9 per cent and 1.6 per cent per year to 1,955 million tons and 2,080 million tons respectively by 2006. The combined containerized and other general cargoes, whose average annual growth rate is estimated at 6.6 per cent, are forecast to reach 1,640 million tons.

Table 5

World seaborne trade a/ in 1980, 1990, 1995, 1996 and 1997 (est.)
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			Crude	Products		
		(Trade in millions of tons)							
World total	1980	1 527	344	1 833	3 704	1 530	326	1 823	3 679
	1990	1 287	468	2 253	4 008	1 315	446	2 365	4 126
	1995	1 529	520	2 602	4 651	1 543	501	2 704	4 748
	1996	1 590	537	2 631	4 758	1 599	480	2 734	4 813
	1997	1 627	550	2 764	4 941	1 623	481	2 861	4 965
		(Percentage share of each category of goods in total)							
World total	1980	41.2	9.3	49.5	100.0	41.6	8.9	49.5	100.0
	1990	32.1	11.7	56.2	100.0	31.9	10.8	57.3	100.0
	1995	32.9	11.2	55.9	100.0	32.5	10.5	57.0	100.0
	1996	33.4	11.3	55.3	100.0	33.2	10.0	56.8	100.0
	1997	32.9	11.2	55.9	100.0	32.7	9.7	57.6	100.0
		(Percentage share of trade by groups of countries)							
Developed market-economy countries	1980	6.3	25.5	64.7	37.0	72.0	79.5	67.8	70.5
	1990	13.4	32.6	63.4	43.8	72.5	82.4	61.7	67.3
	1995	13.3	33.6	63.2	43.5	73.5	82.3	61.9	67.8
	1996	11.9	34.7	63.2	42.8	74.8	81.7	61.7	68.0
	1997	12.1	35.6	63.3	43.4	75.0	81.0	62.1	68.1
Countries of Central and Eastern Europe (including the former USSR)	1980	3.6	14.6	5.2	5.4	2.3	0.4	6.0	4.0
	1990	4.6	11.8	3.8	5.0	2.6	0.3	5.8	4.1
	1995	3.8	9.0	3.2	3.8	1.3	0.2	4.6	3.1
	1996	2.8	9.3	3.2	3.7	1.3	0.3	4.6	3.0
	1997	2.9	9.4	3.1	3.8	1.3	0.2	4.5	3.1
Socialist countries of Asia c/	1980	1.4	1.7	1.0	1.2	1.4	1.6	4.0	2.7
	1990	2.7	0.9	2.0	2.0	0.3	0.3	3.4	2.1
	1995	2.5	0.9	2.2	2.2	0.3	0.4	3.6	2.1
	1996	2.3	0.9	2.2	2.1	0.3	0.4	3.6	2.1
	1997	2.4	0.9	2.1	2.1	0.2	0.5	3.7	2.2
Developing countries	1980	88.7	58.2	29.0	56.3	24.3	18.5	22.3	22.8
	1990	79.6	54.7	30.8	49.2	24.6	18.0	29.1	26.5
	1995	81.2	56.5	31.4	50.6	24.8	17.1	29.9	26.9
	1996	83.0	55.1	31.4	51.3	23.8	17.6	30.0	26.7
	1997	82.5	54.0	31.3	50.7	23.4	18.3	29.7	26.5
of which in:									
Africa	1980	19.0	1.5	5.6	10.8	4.0	2.9	4.7	4.2
	1990	24.1	7.6	4.3	11.2	5.6	2.3	1.3	4.5
	1995	21.7	7.0	3.8	10.1	5.2	2.0	3.9	4.1
	1996	23.9	5.9	3.8	10.8	4.9	2.1	3.9	4.1
	1997	23.3	5.6	3.7	10.4	4.8	2.2	3.8	4.0
America	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

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products			Crude	Products		
	1995	13.8	12.0	13.0	13.1	5.3	3.3	4.0	4.4
	1996	14.7	12.7	12.9	13.5	5.0	3.4	4.1	4.4
	1997	15.5	12.4	13.0	13.8	4.9	3.6	4.0	4.3
Asia	1980	57.3	28.1	9.7	31.0	6.9	9.8	12.0	9.7
	1990	42.2	34.9	12.6	24.7	12.6	10.9	19.9	16.6
	1995	45.7	37.2	13.9	27.0	13.9	11.3	21.3	17.8
	1996	44.4	36.2	13.9	26.6	13.4	11.6	21.3	17.7
	1997	43.7	35.7	13.8	26.1	13.2	12.1	21.0	17.6
Europe c/	1980	-	-	-	-	-	0.2	-	-
	1990	-	0.2	0.3	0.2	0.7	0.5	0.8	0.7
	1995	-	0.2	0.3	0.2	0.5	0.2	0.6	0.5
	1996	-	0.2	0.3	0.2	0.5	0.2	0.6	0.5
	1997	-	0.2	0.3	0.2	0.5	0.2	0.6	0.5
Oceania c/	1980	-	0.2	0.5	0.2	0.1	0.7	0.2	0.2
	1990	-	0.1	0.4	0.2	-	0.5	0.1	0.2
	1995	-	0.1	0.4	0.2	-	0.3	0.1	0.1
	1996	-	0.1	0.4	0.2	-	0.3	0.1	0.1
	1997	-	0.1	0.4	0.2	-	0.3	0.1	0.1

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

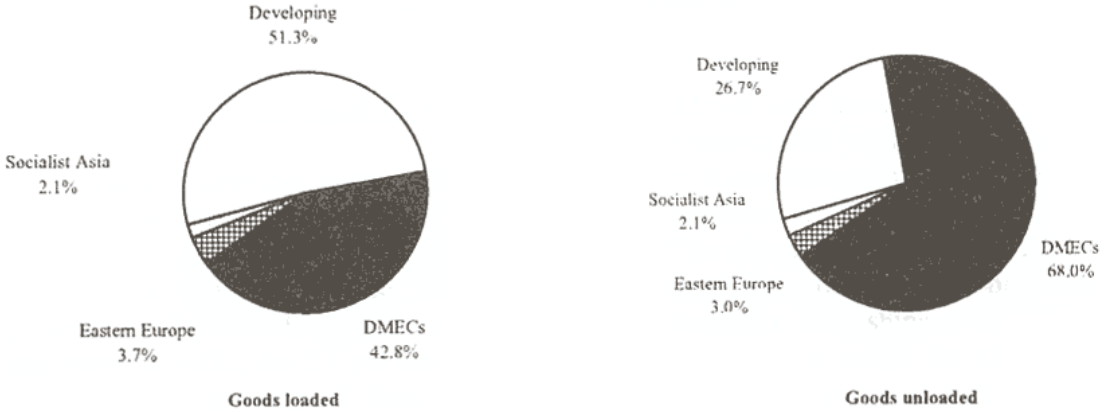
a/ Including international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system, but excluding such traffic in main bulk commodities.

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

c/ Estimates.

Graph 4

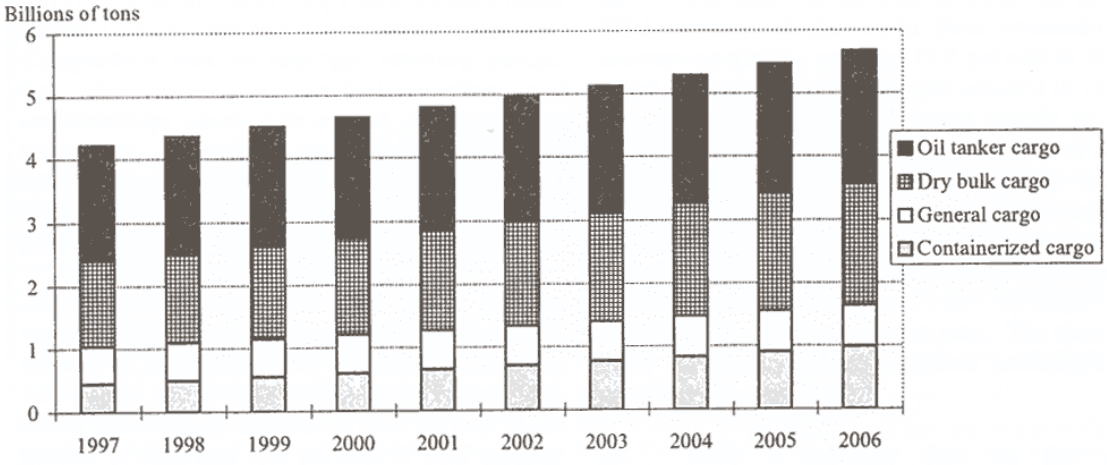
World seaborne trade by country groups
(Percentage distribution of tonnage, 1996)



Source: Based on table 5.

Graph 5

Forecast of world seaborne trade, 1997-2006



Source: DRI/McGraw-Hill, *World Sea Trade Service*.

Chapter II

DEVELOPMENT OF THE WORLD FLEET

This chapter reviews the supply 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 of major sectors.

A. Structure of the world fleet

21. Table 6 provides comparative time series data on the world fleet for 1994, 1995 and 1996. The world merchant fleet amounted to 758.2 million dwt at the end of 1996. This represents a 3.2 per cent increase over 1995, which moderately exceeded the 2.1 per cent growth rate in 1995. The higher rate of fleet expansion was primarily due to newbuilding deliveries of 39.0 million dwt in 1996 as compared with 33.7 million dwt in 1995, while tonnage broken up and lost increased at a slower pace to 20.3 million dwt in 1996 from 17.5 million dwt in 1995, thus leaving a net gain of 18.7 million dwt in 1996.

22. By vessel type, the combined tonnage of oil tankers and dry bulk carriers continued to dominate the world fleet, representing 71.8 per cent of total tonnage in 1996 (72.0 per cent in 1995). The former account for 35.8 per cent of 1996 world total tonnage, as compared with 36.4 per cent in 1995, and the latter 36.0 per cent (35.6 per cent in 1995). General cargo ships and containerships shared 13.8 per cent and 6.4 per cent respectively. Comparative data on ship-type structure indicate that the shares of ore/bulk carriers and containerships continue to expand, whilst those of oil tankers, ore/bulk/oil and general cargo ships have been on a downward trend since 1993. Graph 6 illustrates the world fleet size trends by principal types of vessel for the 1980-1996 period.

23. The world fleet of fully cellular containerships continued to expand in terms of both number of ships and their TEU capacity, reaching 1,954 ships of 3,090,000 TEUs by the end of 1996, which represents an increase of 10.3 per cent in the number of ships and 13.6 per cent in TEU capacity over the previous year. Capacity developments since 1994 show a 15.3 per cent annual average increase in the world total TEU capacity and a 3.6 per cent increase in carrying capacity per ship. Coupled with technological developments to expand containerization, particular developments were also observed in 1996 with regard to containership size. The return to pendulum services and the need to cut operating costs gave a boost to orders of post-Panamax size ships. At the end of 1996, the newbuilding orders for all sizes stood at a record level, with some 667 ships aggregating close to 1,160,000 TEUs scheduled to enter into service over the next three years (see table 7).[/]

24. The world containership fleet continued to expand in open-registry countries in 1996 - to 34.5 per cent of the world TEU capacity as compared with 33.0 per cent in 1995. The share of developed market-economy countries also expanded - to 37.9 per cent - after four consecutive years of decline in the group's share. Thus, the combined share of the two groups dramatically increased to 72.4 per cent from 63.5 per cent in 1995.

25. The share of developing countries in the TEU capacity of the world fleet continued to increase marginally, reaching 17.8 per cent in 1996, which exceeded the 17.1 per cent attained in 1991. This upward trend was attributed mainly to the increasing share of the developing countries of Asia (an increase of 42 ships of 74,000 TEUs), which represented the major proportion (78.5 per cent) of the containership fleet registered in developing countries; followed by the developing countries in America, which increased by 17 ships of 22,000 TEUs over the previous year. The share of other developing regions remained unchanged or practically non-existent.

26. 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 third consecutive year the average age

Table 6

World fleet size by principal types of vessel, 1994-1996 a/
(Thousands of dwt)
(End-year figures)

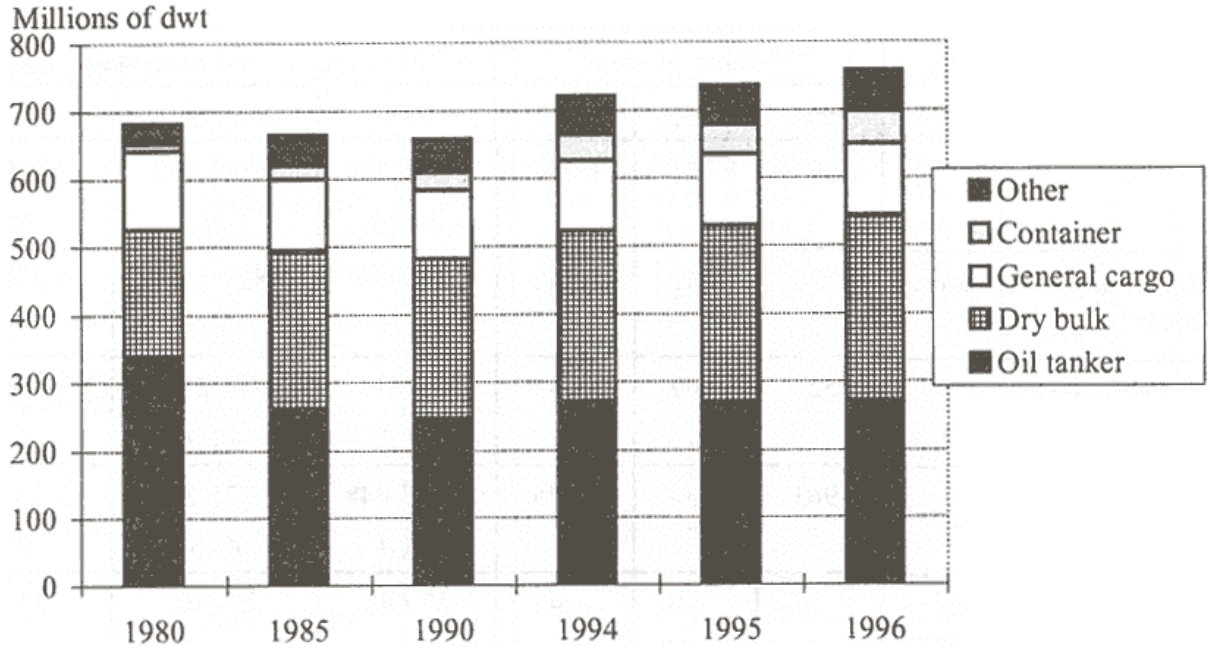
Principal types		1994	1995	1996	Percentage change 1995/1996
1.	Oil tankers	270 997 *37.7*	267 651 *36.4*	271 454 *35.8*	1.4
2.	Bulk carriers	250 294 *34.8*	261 628 *35.6*	272 564 *36.0*	4.2
	Ore/bulk/oil	27 445 *3.8*	25 240 *3.4*	21 922 *2.9*	-13.2
	Ore/bulk	222 849 *31.0*	236 388 *32.2*	250 642 *33.1*	6.0
3.	General cargo ships	103 731 *14.4*	104 145 *14.2*	104 642 *13.8*	0.5
4.	Containerships	39 005 *5.4*	43 849 *6.0*	48 766 *6.4*	11.2
5.	Other types of ships	55 778 *7.8*	57 644 *7.8*	60 745 *8.0*	5.4
	Liquefied gas carriers	14 044 *2.0*	14 691 *2.0*	15 507 *2.1*	5.6
	Chemical tankers	7 616 *1.1*	7 697 *1.1*	7 913 *1.0*	2.8
	Miscellaneous tankers	592 *0.1*	628 *0.1*	699 *0.1*	11.3
	Ferries and passenger ships	3 951 *0.6*	4 274 *0.6*	4 492 *0.6*	5.1
	Others	29 575 *4.1*	30 354 *4.1*	32 134 *4.2*	5.9
World total		719 805 *100.0*	734 917 *100.0*	758 172 *100.0*	3.2

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

a/ Percentage shares are shown in italics.

Graph 6

World fleet size by principal types of vessel: Selected years, 1980-1996



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

distribution of the world total fleet improved very slightly in 1996 to 14.94 years from 14.96 years in 1995. By type of vessel, the average age of tankers fell to 14.88 years in 1996 from the previous year's average age of 14.97. The share of tanker tonnage aged 15 years and more decreased further to 56.4 per cent in 1996 from 56.9 per cent in 1995, mainly because comparatively more older tankers were sold for demolition. Ageing of the dry bulk carrier fleet ceased in 1996, with the average age slightly down to 14.56 years from 14.63 years in 1995, reflecting increased scrapping activities in this sector. Nevertheless, the large share of old tonnage in the world bulk and tanker fleets remains most problematic. Containerships still represented the youngest fleet in 1996, with a decrease in average age to 12.00 years in 1996 from 12.20 years in 1995.

27. By country grouping, major open-registry countries had the lowest average age of all ships (14.72 years in 1996 versus 15.46 years in 1995), slightly younger than that of developing countries (14.81 years in 1996, compared with 14.22 years in 1995) and that of developed market-economy countries (14.93 years in 1996 and 14.69 in 1995). Socialist countries of Asia followed with an average age of 16.76 years in 1996 and 17.16 years in 1995. Countries of Central and Eastern Europe continued to have the oldest fleet, with vessels built 10-14 years ago and 15 and more years ago representing 18.9 and 65.7 per cent of their total fleet respectively (19.5 and 63.2 per cent in 1995).

Delivery of newbuildings

28. Deliveries of newbuildings in 1996 continued to increase, by 5.3 million dwt or 15.7 per cent over the previous year to 1,118 vessels aggregating 39.0 million dwt, which were new records in both number and deadweight tons since 1980. Tanker deliveries increased to 11.7 million dwt in 1996 from 10.9 million dwt in 1995, whereas combined carrier tonnage of 0.3 million dwt was delivered again in 1996 after a total absence in 1995. Dry bulk carriers significantly increased to 17.5 million dwt in 1996 from 15.4 million dwt in 1995, marking a record high in deadweight tons since 1980 (see table 9).[12]

Table 7

Distribution of the world fleet and TEU capacity of fully cellular containerships by groups of countries, 1994, 1995 and 1996 (End-year figures)

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares a/		
	1994	1995	1996	1994	1995	1996
1. World total	1 603	1 771	1 954	2 366 720 *100.0*	2 720 092 *100.0*	3 089 682 *100.0*
2. Developed market-economy countries	436	441	592	797 994 *33.7*	827 618 *30.4*	1 170 879 *37.9*
3. Major open-registry countries	527	609	683	739 454 *31.2*	898 270 *33.0*	1 066 261 *34.5*
Total, 2 and 3	963	1 050	1 275	1 537 448 *65.0*	1 725 888 *63.5*	2 237 140 *72.4*
4. Countries of Central and Eastern Europe (including the former USSR)	57	50	45	37 698 *1.6*	29 502 *1.1*	27 120 *0.9*
5. Socialist countries of Asia	83	67	98	94 487 *4.0*	95 173 *3.5*	95 882 *3.1*
6. Developing countries	322	384	441	351 664 *14.9*	453 478 *16.7*	549 555 *17.8*
of which in: Africa	3	5	5	585 -	4 779 *0.2*	4 779 *0.2*
America	90	109	126	59 736 *2.5*	86 566 *3.2*	108 552 *3.5*
Asia	224	263	305	287 370 *12.1*	357 282 *13.1*	431 669 *14.0*
Europe	2	4	5	2 833 *0.1*	3 711 *0.1*	4 555 *0.2*
Oceania	3	3	..	1 140 *0.1*	1 140 *0.0*	.. ..
7. Other, unallocated	178	200	95	345 423 *14.6*	416 051 *15.3*	179 985 *5.8*

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services Ltd. (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 1996
(Percentage of total in terms of 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) 1995 a/
World total	All ships	100	16.4	13.6	17.4	52.6	14.94	14.96
	Tankers	100	20.2	14.8	8.6	56.4	14.88	14.97
	Bulk carriers	100	15.1	13.0	24.7	47.2	14.56	14.63
	General cargo	100	7.1	9.1	19.3	64.5	17.29	17.01
	Containerships	100	27.5	17.8	18.3	36.4	12.00	12.20
	All others	100	12.2	15.4	19.3	53.1	15.32	14.80
Developed market-economy countries	All ships	100	15.4	14.1	18.8	51.7	14.93	14.69
	Tankers	100	16.5	11.5	10.8	61.2	15.90	15.92
	Bulk carriers	100	12.4	13.0	28.9	45.7	14.68	14.09
	General cargo	100	12.8	14.0	24.7	48.5	14.87	14.88
	Containerships	100	23.9	22.0	14.4	39.7	12.48	12.39
	All others	100	14.5	19.5	21.0	45.0	14.08	13.75
Major open-registry countries	All ships	100	19.0	13.4	14.7	52.9	14.72	15.46
	Tankers	100	25.0	16.1	5.6	53.3	14.03	14.37
	Bulk carriers	100	14.7	11.9	20.8	52.6	15.20	16.77
	General cargo	100	7.8	9.7	22.7	59.8	16.72	17.05
	Containerships	100	33.8	12.7	18.3	35.2	11.51	11.34
	All others	100	13.3	13.1	17.6	56.0	15.62	15.07
Subtotal	All ships	100	17.6	13.7	16.2	52.5	14.81	15.02
	Tankers	100	21.7	14.3	7.6	56.4	14.76	15.20
	Bulk carriers	100	14.0	12.2	23.3	50.5	15.04	15.34
	General cargo	100	9.6	11.2	23.4	55.8	16.06	15.82
	Containerships	100	28.7	17.4	16.3	37.6	12.02	12.12
	All others	100	13.9	16.8	19.5	49.8	14.75	14.12
Countries of Central and Eastern Europe	All ships	100	3.3	12.1	18.9	65.7	17.64	17.23
	Tankers	100	3.4	8.7	17.0	70.9	18.32	17.74
	Bulk carriers	100	1.2	11.8	24.6	62.4	17.53	16.95
	General cargo	100	3.9	12.3	14.9	68.9	17.89	17.49
	Containerships	100	7.4	12.0	40.9	39.7	14.63	14.81
	All others	100	5.6	16.1	16.8	61.5	16.79	16.73
Socialist countries of Asia	All ships	100	13.9	5.8	15.9	64.4	16.76	17.16
	Tankers	100	30.9	5.9	9.8	53.4	13.96	14.29
	Bulk carriers	100	14.5	5.8	18.9	60.8	16.34	17.22
	General cargo	100	4.6	4.2	11.6	79.6	19.29	19.32
	Containerships	100	26.5	14.9	34.9	23.7	10.98	10.69
	All others	100	7.8	5.0	9.7	77.5	18.72	19.32
Developing countries	All ships	100	14.4	14.6	21.2	49.8	14.81	14.22
	General cargo	100	4.3	5.3	15.5	74.9	18.80	18.84
	Containerships	100	27.7	17.8	16.9	37.6	12.10	13.03
	All others	100	8.6	11.6	20.7	59.1	16.47	15.21

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

Table 9

Deliveries of newbuildings, 1980, 1985 and 1990-1996

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 c/	100	11 746	3	330	258	17 490	757	9 425	1 118	38 991

Source: Fearnleys (Oslo), *Review 1996*.

a/ Vessels over 10,000 dwt.

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

c/ Provisional.

Demolition of ships

29. Trends in tonnage, types and average age of broken-up vessels are reflected in tables 10, 11 and 12. In 1996, total tonnage sold for demolition increased by 2.8 million dwt or 18.3 per cent over the previous year to 18.1 million dwt, which accounted for 2.4 per cent of the world total deadweight tonnage. The figure for oil tankers decreased in 1996 to 6.6 million dwt from 10.9 million dwt in 1995. Fourteen VLCCs were sold for demolition in 1996, less than half that of the previous year's 30 units. The number of Suezmax tankers - nine - was the same as reported in 1995, whilst tankers in the range of 50,000-100,000 dwt were halved from 12 units to 6 in 1996. In the 10,000-50,000 dwt range, a small reduction from 39 tankers to 33 was registered. The average age of all tankers sold for demolition was 26.0 years, almost the same as the previous year (26.1 years). Fifteen combined carriers were sold in 1996, amounting to 1.9 million dwt. The average age of these 15 vessels was 23 years, the same as in 1995. In the dry bulk carrier segment, a total of 137 vessels were sold, representing 7.6 million dwt, which was more than three times the volume scrapped in 1995. Twenty-five Capesize bulkers were sold in 1996 (18 units in 1995). Thirty-five Panamax and 77 handy-size were sent for demolition, compared with 5 Panamax and 21 handy-size in 1995. Despite this volume increase, the average age of bulkers sold for scrapping decreased by only 0.2 years from an average of 24.3 years in 1995. The average age of containerships and general cargo ships sold for scrapping significantly increased in 1996 to 26.2 years and 27.8 years respectively, as compared with 24.0 and 25.8 years in 1995.[/]

Forecast for world fleet development

30. The forecasts for world fleet development by vessel type (four main types) are shown in graph 7. The World Fleet Forecast Service (WFFS) projects that the total world fleet will increase at an average annual growth rate of 3.2 per cent to 880.0 million dwt by the year 2006. Dry bulk carriers and oil tankers are expected to increase at an average annual growth rate of 4.6 per cent and 1.0 per cent to 335.3 million dwt and 313.9 million dwt respectively by 2006. The combined tonnage of container and general cargo ships will expand by an average of 5.6 per cent per year over the decade to 230.9 million dwt by 2006.

Table 10

Broken-up tonnage trends, 1980 and 1989-1996

Broken-up tonnage	1980	1989	1990	1991	1992	1993	1994	1995	1996
Tonnage sold for breaking (million dwt)	10.0	3.3	3.3	4.7	19.0	16.9	20.8	15.3	18.1
Share of broken-up tonnage in the total world fleet (percentage)	1.5	0.5	0.5	0.7	2.7	2.4	2.9	2.1	2.4

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

Table 11

Tonnage reported sold for breaking by types of vessel, 1991-1996
(Thousand dwt and percentage shares)

Types of vessel	Thousand dwt						Percentages					
	1991	1992	1993	1994	1995	1996	1991	1992	1993	1994	1995	1996
Tankers	2 714	11 561	10 665	13 102	10 877	6 550	57.3	60.9	63.3	63.1	71.0	36.1
Combined carriers	426	1 580	2 040	2 559	1 228	1 861	9.0	8.3	12.1	12.3	8.0	10.3
Dry bulk carriers	728	4 141	2 645	3 829	2 135	7 632	15.4	21.8	15.7	18.4	13.9	42.1
Other dry cargo ships	870	1 693	1 502	1 282	1 081	2 092	18.4	8.9	8.9	6.2	7.1	11.5
Total	4 738	18 975	16 852	20 772	15 321	18 135	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 during 1988-1996 a/
(years)

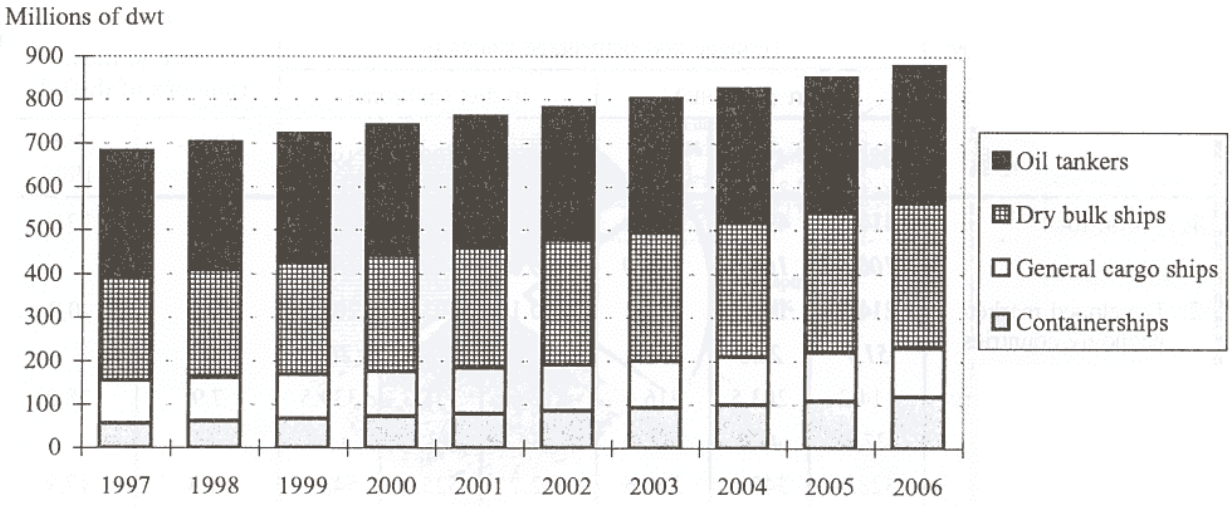
Year	Tankers	Dry bulk carriers	Containerships	General cargo ships
1988	24.6	22.4	25.1	24.2
1989	24.9	23.1	27.2	25.5
1990	26.4	21.7	19.5	25.1
1991	25.3	22.0	19.0	24.8
1992	25.8	22.9	19.1	25.7
1993	24.7	24.0	22.9	26.4
1994	24.6	24.1	24.0	27.1
1995	26.1	24.5	24.0	25.8
1996	26.0	24.3	26.2	27.8

Source: Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics*, 1997, No. 1/2.

a/ Ships of 300 grt and over.

Graph 7

Forecast of world fleet by principal types of vessel, 1997-2006



Source: DRI/McGraw-Hill, World Fleet Forecast Service.

B. Ownership of the world fleet

31. Table 13 and graph 8 provide data on the distribution of the world fleet by groups of countries for the years 1980, 1995 and 1996. During 1996, developed market-economy countries continued to marginally decrease tonnage ownership, by 0.9 million dwt or 0.4 per cent to 203.0 million dwt, while major open-registry countries expanded their fleet by 18.2 million dwt or 5.7 per cent to the record high of 339.5 million dwt. Developed market-economy countries and major open-registry countries increased their combined tonnage by 3.3 per cent to 542.5 million dwt in 1996, which accounted for 71.6 per cent of world total tonnage. This represents the same level as in 1995, but is a significant decline from the relative level in 1980, when as much as 82.4 per cent of the world fleet was owned and registered in countries belonging to either of these two groups. The developing countries' share of the world total deadweight continued to increase slightly, to 19.4 per cent, as compared with 18.7 per cent in 1995.This represents a tremendous increase over 1980, with an average annual increase of 4.9 million dwt or 7.2 per cent.

In 1996, the tonnage of developing countries in Asia increased by 8.0 million dwt or 8.0 per cent over the previous year to 108.5 million dwt, thus accounting for 73.6 per cent of the developing countries' total. The share of socialist countries in Asia remained stagnant at 3.6 per cent in 1996 (3.7 per cent in 1995). The share of the countries of Central and Eastern Europe continued to decline, to 3.8 per cent in 1996 (4.5 per cent in 1995).

32. Table 14 provides more detailed data on fleet distribution by vessel types and country groups for the years 1980, 1995 and 1996. In the oil tanker sector, the share of developed market-economy countries decreased marginally to 31.3 per cent in 1996, as did that of open-registry countries - to 49.8 per cent. The combined share of 81.1 per cent was slightly below the share of 81.7 per cent registered in 1995, but represented a substantial decrease from the 88.7 per cent owned in 1980. Developing countries increased their share from 13.7 per cent to 15.0 per cent in 1996, primarily reflecting an increasing share of Asian developing countries (which rose to 11.3 per cent in 1996).

Table 13

Distribution of world tonnage (grt and dwt) by groups of countries of registration, 1980, 1995 and 1996 a/
(End-year figures)

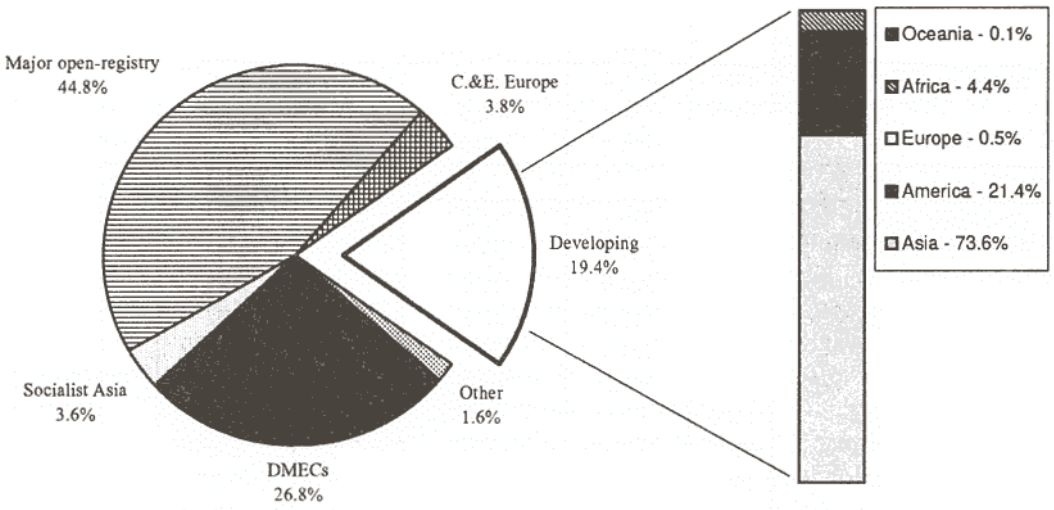
Flags of registration by groups of countries	Tonnage and percentage shares b/						Increase in tonnage (millions of dwt) d/	
	In grt (millions)			In dwt (millions)				
	1980 c/	1995	1996	1980 c/	1995	1996	1980-1996	1995-1996
1. World total	414.5	491.4	509.4	682.8	734.9	758.1	4.7	23.2
	100.0	*100.0*	*100.0*	*100.0*	*100.0*	*100.0*		
2. Developed market-economy countries	214.3	141.5	142.2	350.1	203.9	203.0	-9.2	-0.9
	51.7	*28.8*	*27.9*	*51.3*	*27.8*	*26.8*		
3. Major open-registry countries	114.2	203.5	216.4	212.6	321.3	339.5	7.9	18.2
	27.6	*41.4*	*42.5*	*31.1*	*43.7*	*44.8*		
Total 2 and 3	328.5	345.0	358.6	562.7	525.2	542.5	-1.3	17.3
	79.3	*70.2*	*70.4*	*82.4*	*71.5*	*71.6*		
4. Countries of Central and Eastern Europe (including the former USSR)	32.0	29.2	26.6	37.8	33.0	29.0	-0.6	-4.0
	7.7	*5.9*	*5.2*	*5.5*	*4.5*	*3.8*		
5. Socialist countries of Asia	7.3	18.4	18.5	10.9	27.0	27.1	1.0	0.1
	1.8	*3.7*	*3.6*	*1.6*	*3.7*	*3.6*		
6. Developing countries	44.7	90.5	97.4	68.4	137.5	147.4	4.9	9.9
	10.8	*18.4*	*19.1*	*10.0*	*18.7*	*19.4*		
of which in:								
Africa	4.9	5.1	5.1	7.2	6.6	6.5	-0.0	-0.1
America	14.5	20.2	21.7	21.8	29.8	31.5	0.6	1.7
Asia	25.0	64.7	69.8	39.1	100.5	108.5	4.3	8.0
Europe	0.1	0.3	0.6	0.2	0.4	0.7	0.0	0.3
Oceania	0.1	0.2	0.2	0.1	0.2	0.2	0.0	0.0
7. Other, unallocated	2.0	8.4	8.3	3.0	12.2	12.1	0.6	-0.1
	0.5	*1.7*	*1.6*	*0.4*	*1.7*	*1.6*		

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

a/ Excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets, which in 1996 amounted respectively to 2.9, 1.0 and 1.2 million grt (3.7, 2.0 and 1.9 million dwt).
b/ Percentage shares are shown in italics.
c/ Mid-year figure.
d/ Average.

Graph 8

World tonnage by country groups, 1996
(Percentage distribution of dwt)



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

33. In the dry bulk carrier sector, the tonnage share of developed market-economy countries in the world total continued to decrease, falling to 20.2 per cent in 1996. Conversely, major open-registry countries continuously expanded their share to 48.3 per cent. The combined tonnage accounts for 68.5 per cent, which remained relatively unchanged from 1995. The developing countries' share in 1996 was almost unchanged from 22.2 per cent in 1995. The share of developing countries in Asia decreased very marginally to 17.8 per cent in 1996. Nevertheless, in terms of tonnage share, bulk carriers continued to represent the most important vessel type in Asian fleets, which was however the highest in their principal types of vessel.

34. In the sector of general cargo ships, the combined share of developed market-economy countries and major open-registry countries was slightly up in 1996, recording 54.1 per cent as compared with 53.6 per cent in 1995. Developing countries continuously expanded their share - from 24.4 per cent in 1995 to 25.8 per cent in 1996. It is thus in this type of tonnage that the share of developing countries in the world fleet is the highest. The overall containership sector continued to expand, to 6.4 per cent of the world total deadweight tons in 1996, representing a constant expansion from 1.6 per cent in 1980. Developed market-economy countries decreased their share of the containership deadweight tonnage to 36.6 per cent in 1996. On the other hand, the open-registry countries' share constantly expanded, reaching 35.1 per cent in 1996. The 1996 combined share of the two country groups (71.7 per cent) rose very slightly above their 1995 share (71.4 per cent). The share of developing countries in the world containership fleet further increased to 18.1 per cent in 1996. Regional imbalances continued to characterize this sector, with Asian developing countries alone accounting for 14.4 per cent in 1996 (13.5 per cent in 1995) of the world containership tonnage or about 80 per cent of that of developing countries.

Table 14
Percentage shares of world tonnage by types of vessel and country groups, 1980 (as at 1 July), 1995 and 1996 (as at 31 December) a/
(In terms of dwt)

Country group	Year	Total dwt		Oil tankers	Bulk carriers b/	General cargo ships	Container ships	Other ships
		Millions of 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
	1995	734.9	100.0	36.4	35.6	14.2	6.0	7.8
	1996	758.2	100.0	35.8	36.0	13.8	6.4	8.0
				Percentage share by group of countries				
Developed market-economy countries	1980	350.1	51.3	52.5	52.7	43.4	74.3	50.4
	1995	203.9	27.8	31.5	22.4	19.7	37.6	41.8
	1996	203.0	26.8	31.3	20.2	19.3	36.6	41.3
Major open-registry countries	1980	212.5	31.1	36.2	31.7	20.8	13.5	17.0
	1995	321.3	43.7	50.2	45.6	33.9	33.8	30.2
	1996	339.5	44.8	49.8	48.3	34.8	35.1	31.4
Countries of Central and Eastern Europe	1980	37.8	5.5	2.8	4.2	12.3	2.9	19.2
	1995	33.0	4.5	2.2	3.6	12.5	1.3	7.5
	1996	29.0	3.8	1.8	3.2	10.6	1.0	6.3
Socialist countries of	1980	10.9	1.6	0.6	1.6	4.7	0.1	1.3
	1995	27.0	3.7	1.5	4.4	8.3	3.8	2.4
	1996	27.1	3.6	1.3	4.3	8.3	3.5	2.4
Developing countries	1980	68.4	10.0	7.7	9.2	17.6	7.6	12.0
	1995	137.5	18.7	13.7	22.2	24.4	17.2	17.1
	1996	147.5	19.5	15.0	22.1	25.8	18.1	18.0
of which in: Africa	1980	7.1	1.0	1.1	0.1	2.3	..	2.1
	1995	6.6	0.9	0.8	0.5	1.9	0.2	2.1
	1996	6.5	0.9	0.8	0.5	1.8	0.2	2.0
America	1980	21.8	3.2	2.3	3.3	5.6	0.1	3.7
	1995	29.8	4.1	3.1	3.5	7.8	3.4	4.7
	1996	31.5	4.2	2.9	3.7	8.8	3.3	4.7
Asia	1980	39.1	5.7	4.3	5.7	9.8	2.7	5.7
	1995	100.5	13.7	9.8	18.1	14.4	13.5	10.2
	1996	108.5	14.3	11.3	17.8	14.9	14.4	11.1
Europe	1980	0.2	-	-	-	0.1	-	-
	1995	0.4	0.1	-	-	0.2	0.1	-
	1996	0.7	0.1	-	0.1	0.3	0.2	0.1
Oceania	1980	0.2	-	-	-	0.1	-	-
	1995	0.2	-	-	-	0.1	-	0.1
	1996	0.2	-	-	-	0.1	-	0.1
Other, unallocated	1980	3.0	0.4	0.2	0.6	0.9	1.6	0.1
	1995	12.2	1.7	1.0	1.9	1.3	6.3	1.0
	1996	12.1	1.6	0.8	2.0	1.3	5.7	0.7

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

35. Relevant data on the 1996 structure of the merchant fleet of the main country groups are provided in table 15. Developed market-economy countries' tonnage in oil tankers and dry bulk carriers reached 68.8 per cent of the group's total fleet, which is a marginal decrease from 70.0 per cent in 1995. Their general cargo ships amounted to 10.0 per cent, which is almost the same level as in 1995, whilst containerships accounted for 8.8 per cent as compared with 8.1 per cent in 1995. Major open-registry countries have a greater proportion of their fleets in the oil tanker and dry bulk carrier sectors, accounting for a combined 78.6 per cent in 1996, which slightly declined from the 1995 share (79.0 per cent). Their share of general cargo ships (10.7 per cent) was higher than in developed market-economy countries (10.0 per cent). However, containerships (5.0 per cent) account for less than developed market-economy countries (8.8 per cent). In absolute terms, containership deadweight tonnage (17.9 million dwt) of developed market-economy countries continued to exceed that of major open-registry countries (17.1 million dwt).

36. In developing countries, tonnage distribution is characterized by a comparatively high proportion of dry bulk carriers (40.8 per cent in 1996 and 42.1 per cent in 1995), and oil tankers (27.5 per cent in 1996 and 26.7 per cent in 1995), while containerships represent 6.0 per cent, which, however, marks a slight increase from 5.5 per cent in 1995. In the countries of Central and Eastern Europe, general cargo ships are dominant, accounting for 38.3 per cent in 1996 (39.4 per cent in 1995), while containerships remain at a low level of 1.7 per cent (1.5 per cent in 1995). The socialist countries of Asia continued to have a predominant share of both dry bulk carriers (42.8 per cent in 1996 and 42.2 per cent in 1995) and general cargo ships (32.1 per cent in 1996 and 31.9 per cent in 1995).

C. The 35 most important maritime countries and territories

37. The 35 most important maritime countries and territories in terms of deadweight are ranked in table 16. This table lists the number of merchant vessels registered under the national flag or a foreign flag when the controlling interest of the vessels is located in the domicile country or territory. These 35 countries and territories control 93.5 per cent of the world merchant fleet (93.4 per cent in 1995). In 1996 the five largest countries or territories controlled 50.0 per cent of the world fleet (50.9 per cent in 1995) and the top ten controlled 66.6 per cent (67.2 per cent in 1995).

38. The trend towards increasing foreign flag registry continued in 1996. Total tonnage registered under foreign flags in 1996 reached 357.9 million dwt, representing 56.3 per cent of the 35 countries' total fleet, as compared with 54.3 per cent in 1995. This indicates 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 companies. While registry under foreign flags has been a long-standing practice by owners from developed market-economy countries, it is now becoming a more common practice in other country groups, particularly in developing countries. In this connection, it is interesting to note that the 13 developing countries and territories included in the list had about half of their tonnage (50.4 per cent) registered under foreign flags. While this is a remarkably high share, there are considerable fluctuations among countries. In some developing countries and territories, foreign registry accounted for around 90 per cent of total tonnage (Saudi Arabia 90 per cent, Hong Kong 83.9 per cent), while others made hardly any use of foreign flag facilities (Philippines 2 per cent, Iran 3.2 per cent, Malaysia 3.5 per cent). For developed market-economy countries that are among the 35 most important maritime nations, the share of foreign registered tonnage was slightly higher than in developing countries and stood at 58 per cent.

D. Major open registries

39. 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 1996 increased by 3.9 per cent to 304.4 million dwt from 293.1 million dwt the previous year. Panama continuously expanded its fleet in 1996 by 10.5 million dwt, to108.9 million dwt from 98.4 million dwt, followed by Liberia, whose fleet only marginally increased by 0.4 million dwt to 92.7 million dwt. Malta also expanded its fleet, by 2.1 million dwt to 27.5 million dwt from 25.4 million dwt in 1995.

Table 15

Structure of the merchant fleets of the main country groups, as at 31 December 1996 a/
(Million dwt and percentage shares)

	World		Developed market-economy countries		Major open-registry countries		Developing countries		Countries of Central and Eastern Europe		Socialist countries of Asia	
	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%	Million dwt	%
Total fleet	758.2	100.0	203.0	100.0	339.5	100.0	147.5	100.0	29.0	100.0	27.1	100.0
of which:												
Oil tankers	271.4	35.8	84.9	41.8	135.2	39.8	40.6	27.5	4.9	16.9	3.6	13.3
Bulk carriers	272.6	36.0	54.9	27.0	131.7	38.8	60.2	40.8	8.7	30.0	11.6	42.8
General cargo	104.6	13.8	20.2	10.0	36.4	10.7	27.0	18.3	11.1	38.3	8.7	32.1
Containerships	48.8	6.4	17.9	8.8	17.1	5.0	8.8	6.0	0.5	1.7	1.7	6.3
Other ships	60.8	8.0	25.1	12.4	19.1	5.6	10.9	7.4	3.8	13.1	1.5	5.5

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services Ltd. (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 1996 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 % of total	Total as % of world total
Greece	912	2 003	2 915	46 444 947	71 954 723	118 399 670	60.77	17.41
Japan	922	1 829	2 751	22 116 501	65 171 700	87 288 201	74.66	12.84
United States	482	732	1 214	13 134 699	35 994 699	49 129 398	73.27	7.22
Norway	836	568	1 404	28 127 282	20 781 990	48 909 272	42.49	7.19
China	1 594	378	1 972	23 162 264	13 095 430	36 257 694	36.12	5.33
Hong Kong	104	503	607	5 401 167	28 079 400	33 480 567	83.87	4.92
Republic of Korea	501	303	804	10 253 709	12 869 037	23 122 746	55.66	3.40
United Kingdom	388	510	898	5 269 713	15 875 697	21 145 410	75.08	3.11
Germany	478	984	1 462	6 140 698	11 918 853	18 059 551	66.00	2.66
Russian Federation	2 595	239	2 834	12 231 787	5 113 585	17 345 372	29.48	2.55
Taiwan Province of	179	254	433	7 577 719	7 534 148	15 111 867	49.86	2.22
Sweden	203	163	366	2 099 323	12 490 165	14 589 488	85.61	2.15
Singapore	402	252	654	8 876 995	5 544 741	14 421 736	38.45	2.12
Denmark	439	219	658	7 215 240	5 337 867	12 553 107	42.52	1.85
India	381	57	438	11 172 932	1 252 316	12 425 248	10.08	1.83
Italy	452	151	603	7 654 238	4 359 353	12 013 591	36.29	1.77
Saudi Arabia	69	58	127	1 078 603	9 749 334	10 827 937	90.04	1.59
Brazil	205	20	225	7 178 283	2 538 505	9 716 788	26.12	1.43
Turkey	420	23	443	8 997 546	107 859	9 105 405	1.18	1.34
France	178	105	283	4 313 260	3 446 166	7 759 426	44.41	1.14
Iran, Islamic Rep. of	147	6	153	6 133 908	206 284	6 340 192	3.25	0.93
Netherlands	463	199	662	3 597 792	2 196 115	5 793 907	37.90	0.85
Switzerland	14	191	205	618 880	4 549 769	5 168 649	88.03	0.76
Ukraine	577	64	641	3 587 740	1 261 689	4 849 429	26.02	0.71
Philippines	321	16	337	4 507 147	95 424	4 602 571	2.07	0.68
Romania	250	29	279	3 506 400	978 725	4 485 125	21.82	0.66
Belgium	30	140	170	148 155	4 105 155	4 253 310	96.52	0.63
Indonesia	463	86	549	3 060 844	1 154 412	4 215 256	27.39	0.62
Thailand	233	57	290	2 505 101	1 537 913	4 043 014	38.04	0.59
Malaysia	182	15	197	3 561 745	131 747	3 693 492	3.57	0.54
Spain	127	173	300	657 073	2 764 284	3 421 357	80.79	0.50
Finland	115	51	166	1 136 444	2 249 188	3 385 632	66.43	0.50
Croatia	68	106	174	696 043	2 591 991	3 288 034	78.83	0.48
Australia	68	29	97	2 807 519	479 388	3 286 907	14.58	0.48
Kuwait	33	6	39	2 963 735	251 038	3 214 753	7.81	0.47
Total (35 countries)	14 831	10 519	25 350	277 835 422	357 868 680	635 704 102	56.29	93.48
Percentage	58.5	41.5	100	43.7	56.3	100		
World total	17 274	11 480	28 754	303 417 789	376 626 659	680 044 448	55.38	100.00
Percentage	60.1	39.9	100	44.6	55.4	100		

Source: Lloyd's Maritime Information Services Ltd. (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) and Hong Kong (shown separately in the present table).

Table 17

Tonnage distribution of major open-registry fleets, a/ as at 31 December 1996

Country	Oil tankers		Dry bulk carriers		General cargo		Containerships		Others		1996 Total		1995 Total	
	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt	Ships	Thousand dwt
Panama	371	35 243	913	49 097	1 288	10 985	300	8 268	606	5 311	3 478	108 904	3 358	98 409
Liberia	386	50 305	424	27 445	247	3 769	147	4 086	311	7 109	1 515	92 714	1 513	92 291
Cyprus	104	5 672	483	19 399	576	5 426	95	1 717	90	836	1 348	33 050	1 377	35 605
Bahamas	166	19 649	131	7 355	417	5 540	40	930	205	1 905	959	35 379	970	34 582
Malta	193	12 182	279	10 621	376	3 590	26	565	56	577	930	27 535	833	25 395
Bermuda	16	3 240	8	424	17	188	15	469	24	761	80	5 082	71	4 752
Vanuatu	4	54	29	1 081	49	440	2	20	42	162	126	1 757	125	2 077
Total	1 240	126 345	2 267	115 422	2 970	29 938	625	16 055	1 334	16 661	8 436	304 421	8 247	293 111

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

Cyprus' fleet significantly decreased by 2.6 million dwt to 33.0 million dwt from 35.6 million dwt in 1995. The analysis by vessel type shows that oil tankers represented 41.5 per cent of the total deadweight in 1996 (43.6 per cent in 1995), followed by dry bulk carriers with 37.9 per cent (35.9 per cent in 1995), and general cargo ships with 9.8 per cent (10.4 per cent in 1995). Containerships continued to increase, to 5.3 per cent in 1996 (4.8 per cent in 1995), thus reflecting the trend to flag out also in this sector of global maritime transport.

40. 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, ownership remained at a level of nearly 90 per cent or more.

41. The true nationality of the ships operated within the seven major open-registry fleets is analysed in table 19. In 1996, total tonnage of the 22 countries or territories accounted for 92.0 per cent of the total seven major open-registry fleets, remaining at almost the same level as in 1995. Ownership is concentrated in 10 countries or territories, which control 78.1 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 61.6 per cent. Greece was ranked first in 1996 for the third consecutive year, with the largest share (21.9 per cent) of the total seven major open-registry fleets, and also with the largest total foreign-flag ownership position (71.95 million dwt, ahead of Japan with 65.17 million dwt).

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 1996 a/
(Thousand dwt)

Country or territory of registry or register	Total tonnage registered in the country of register	Tonnage owned by nationals of, and registered in, the country of registry	Share of tonnage owned by nationals in the total registered fleet (%)
Panama	108 905	0	0.0
Liberia	92 714	0	0.0
Cyprus	33 966	916	2.7
Bahamas	35 618	240	0.7
Norwegian International Ship Registry	28 831	25 543	88.6
Malta	27 543	7	0.0
Danish International Ship Registry	7 182	6 930	96.5
Bermuda	5 083	0	0.0
Vanuatu	1 757	0	0.0

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services Ltd. (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 1996

Flag country	Liberia			Panama			Cyprus			Bahamas			Bermuda			Malta			Vanuatu			Subtotal			Total foreign-flag fleet	
Country or territory of domicile	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	11 938 599	172	12.9	9 533 251	358	8.8	23 483 940	722	71.1	6 213 534	150	17.6	-	-	0	15 286 721	427	55.5	205 446	5	11.7	66 661 491	1 834	21.9	71 954 723	2 003
Japan	7 213 409	167	7.8	45 064 662	1 320	41.4	200 093	22	0.6	757 630	28	2.1	-	-	0	-	-	0	631 342	30	35.9	53 867 136	1 567	17.7	65 171 700	1 829
United States	14 587 514	188	15.7	2 902 523	136	2.7	303 560	31	0.9	6 142 707	101	17.4	797 524	10	15.7	248 497	4	0.9	310 233	39	17.7	25 292 558	509	8.3	35 994 699	732
Hong Kong	7 337 729	98	7.9	14 636 989	247	13.4	363 666	3	1.1	394 013	9	1.1	-	-	0	121 206	7	0.4	129 401	3	7.4	22 983 004	367	7.6	28 079 400	503
Norway	7 809 494	142	8.4	1 309 803	62	1.2	146 093	9	0.4	5 756 292	140	16.3	435 819	11	8.6	3 203 908	57	11.6	30 329	2	1.7	18 691 738	423	6.1	20 781 990	568
United Kingdom	5 244 793	92	5.7	671 631	60	0.6	182 534	16	0.6	2 265 986	116	6.4	1 972 435	26	38.8	254 625	15	0.9	-	-	0	10 592 004	325	3.5	15 875 697	510
China	4 747 188	80	5.1	5 314 809	160	4.9	217 411	16	0.7	-	-	0	-	-	0	404 938	11	1.5	-	-	0	10 684 346	267	3.5	13 095 430	378
Republic of Korea	1 425 968	13	1.5	11 008 344	240	10.1	-	-	0	-	-	0	-	-	0	-	-	0	-	-	0	12 434 312	253	4.1	12 869 037	303
Sweden	5 001 754	28	5.4	96 515	4	0.1	19 252	5	0.1	1 768 721	35	5.0	945 686	3	18.6	-	-	0	-	-	0	7 831 928	75	2.6	12 490 165	163
Germany	4 348 495	185	4.7	1 089 707	27	1.0	2 571 556	223	7.8	20 819	6	0.1	54 200	1	1.1	307 080	26	1.1	-	-	0	8 391 857	468	2.8	11 918 853	984
Saudi Arabia	7 197 301	23	7.8	174 958	12	0.2	-	-	0	2 011 068	7	5.7	-	-	0	-	-	0	-	-	0	9 383 327	42	3.1	9 749 334	58
Taiwan Province of China	812 903	24	0.9	5 516 112	208	5.1	388 162	5	1.2	-	-	0	-	-	0	-	-	0	-	-	0	6 717 177	237	2.2	7 534 148	254
Singapore	783 651	13	0.8	937 271	84	0.9	602 415	5	1.8	1 077 104	14	3.0	-	-	0	269 881	7	1.0	-	-	0	3 670 322	123	1.2	5 544 741	252
Denmark	430 771	11	0.5	325 685	14	0.3	150 661	1	0.5	680 275	61	1.9	-	-	0	-	-	0	69 999	1	4.0	1 657 391	88	0.5	5 337 867	219
Russian Federation	2 787 979	51	3.0	140 342	22	0.1	1 098 624	49	3.3	208 810	10	0.6	-	-	0	549 542	50	2.0	-	-	0	4 785 297	182	1.6	5 113 585	239
Switzerland	778 150	14	0.8	1 620 155	79	1.5	112 232	7	0.3	355 345	10	1.0	-	-	0	1 007 700	47	3.7	-	-	0	3 873 582	157	1.3	4 549 769	191
Italy	616 228	17	0.7	144 424	14	0.1	203 867	8	0.6	1 129 194	26	3.2	-	-	0	1 319 730	40	4.8	-	-	0	3 413 443	105	1.1	4 359 353	151
Belgium	366 034	8	0.4	345 785	3	0.3	87 968	20	0.3	292 077	20	0.8	-	-	0	-	-	0	-	-	0	1 091 864	51	0.4	4 105 155	140
France	560 340	7	0.6	983 409	22	0.9	-	-	0.0	872 416	33	2.5	-	-	0	-	-	0	24 115	3	1.4	2 440 280	65	0.8	3 446 166	105
Spain	94 509	1	0.1	402 928	40	0.4	104 104	10	0.3	824 687	8	2.3	-	-	0	-	-	0	-	-	0	1 426 228	59	0.5	2 764 284	173
Croatia	789 533	18	0.9	-	-	0.0	-	-	0.0	106 331	5	0.3	-	-	0	1 197 384	44	4.3	-	-	0	2 093 248	67	0.7	2 591 991	106
Finland	-	-	0.0	-	-	0.0	-	-	0	1 994 998	34	5.6	-	-	0	87 290	1	0.3	-	-	0	2 082 288	35	0.7	2 249 188	51
Subtotal	84 872 342	1 352	91.5	102 219 303	3 112	93.9	30 236 138	1 152	91.5	32 872 007	813	92.9	4 205 664	51	82.7	24 258 502	736	88.1	1 400 865	83	79.7	280 064 821	7 299	92.0	345 577 275	9 912
Others	7 841 398	163	8.5	6 685 316	366	6.1	2 813 829	196	8.5	2 506 043	146	7.1	877 002	29	17.3	3 276 786	194	11.9	355 979	43	20.3	24 356 353	1 137	8.0	31 049 384	1 568
TOTAL	92 713 740	1 515	100.0	108 904 619	3478	100.0	33 049 967	1 348	100.0	35 378 050	959	100.0	5 082 666	80	100.0	27 535 288	930	100.0	1 756 844	126	100.0	304 421 174	8 436	100.0	376 626 659	11 480

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

E. Shipbuilding, second-hand market and demolition

Newbuilding orders

42. A considerably smaller number of newbuilding contracts was placed in 1996 than in 1995, with a tonnage decline of 15.7 per cent to 37.4 million dwt (43.2 million dwt in 1995). As the dry bulk freight rates decreased significantly during the first half of the year, the substantial order boom of dry bulk carriers since 1993 slowed down. New orders for large containerships also decreased. On the other hand, the interest in tankers picked up considerably during the second half, with all sizes of tankers being ordered. The tanker market is expected to be the major source of newbuilding activity throughout 1997, given the need to replace older tonnage (see table 20).[/]

43. The contracting volume for oil tankers increased significantly from 9.1 million dwt in 1995 to 13.9 million dwt in 1996, which was almost the same volume as in 1994 (13.8 million dwt). The largest increase was in the VLCC sector, with 13 vessels ordered, compared with 5 units in 1995. In the Suezmax segment, 19 vessels were ordered, compared with 11 units in 1995. The number of Aframax contracts increased from 16 in 1995 to 27 in 1996. A total of 45 oil product carriers were ordered. The decrease in new orders for dry bulk carriers in 1996 was seen in particular for the Capesize vessels, as the number of new orders fell from 45 in 1995 to 18 in 1996. For the Panamax size, the situation was somewhat different. The number of new orders increased from 68 vessels in 1995 to 72 vessels in 1996. The number of orders for dry bulkers of 10-50,000 dwt remained fairly stable at about 170 units. The substantial ordering of large containerships, which had accelerated in the latter half of 1995, continued into the first half of 1996, as in the feeder service sector, mainly as a result of the increasing need for feeders to the trunk services with Panamax and post-Panamax-size mother vessels. However, the slackening of demand for new container tonnage in the second half of 1996 caused aggregated newbuilding contracts over the whole year to decline by 18.2 per cent in number and 22.7 per cent in deadweight as compared with 1995. Orders for general cargo ships in 1996 remained at the 2.1 million dwt level (2.4 million dwt in 1995). Six LNG carriers were ordered by a company from the Republic of Korea.[/] Sixty-one other gas-carriers (LPG) above 10,000 dwt were ordered in 1996, as compared with 52 units in 1995. In the car-carrier sector, Japanese operators contracted 11 newbuildings in 1996, varying in carrying capacity from 3,600 cars to 6,000 cars.

Tonnage on order

44. Table 21 reflects world tonnage on order, by groups of countries of registry and by principal types of vessel. World tonnage on order at the end of 1996 reached 64.8 million dwt, decreasing by 7.5 per cent from the volume at the end of the previous year. Tonnage on order by developed market-economy countries amounted to 16.7 million dwt, representing 25.7 per cent of the world total tonnage on order as compared with 25.2 per cent at the end of 1995. Major open-registry countries represented 54.5 per cent, with 35.3 million dwt on order (37.0 million dwt, 52.8 per cent in 1995). The 1996 combined tonnage of the two country groups accounted for 80.2 per cent, which was slightly more than the 78.0 per cent of the previous year. Developing countries' tonnage stood at 13.2 per cent (8.6 million dwt) of the world total tonnage on order at the end of 1996, marginally decreasing from 14.4 per cent (10.1 million dwt) in 1995. This reflects the fact that the tonnage on order by developing countries in Asia, which accounts for 83 per cent of the developing countries' total tonnage ordered in 1996, decreased by 1.0 million dwt from 8.1 million dwt in 1995. The share of countries of Central and Eastern Europe decreased very slightly in 1996 to 1.5 million dwt or 2.3 per cent of the world total. On the other hand, activities in the socialist countries of Asia somewhat recovered in 1996, with 1.2 million dwt on order (1.9 per cent of the world total). In 1995 their share had decreased by more than 50 per cent to 1.5 per cent from 3.3 per cent in 1994.

45. By principal types of vessel, the 1996 combined share of developed market-economy countries and major open-registries in orders for dry bulk carriers decreased to 20.4 million dwt or 77.6 per cent from 25.6 million dwt or 81.6 per cent in 1995. On the other hand, their share in the 1996 order book for oil tankers, general cargo ships, containerships and other types of vessels

Table 20

Newbuilding contracts placed for the main types of ship a/ during 1992-1996 and 1997
(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
1992	206	10 050	126	7 261	0	0	225	1 402	127	3 227	114	91	798	22 031
1993	267	17 327	299	18 303	1	83	261	2 102	182	5 057	122	163	1 132	43 035
1994	256	13 833	339	19 896	2	220	227	1 493	242	6 497	118	159	1 184	42 098
1995	243	9 143	381	22 418	4	440	345	2 449	345	8 562	144	224	1 462	43 236
1996														
February	26	1 300	19	844	-	-	15	187	32	1 360	9	6	101	3 697
March	21	434	9	369	-	-	9	43	7	210	11	23	57	1 079
April	23	203	46	3 066	-	-	20	140	41	913	5	23	135	4 345
May	27	1 174	12	513	-	-	14	117	37	841	14	11	104	2 656
June	21	1 602	19	1 104	-	-	21	214	30	479	11	22	102	3 421
July	31	1 145	49	1 742	-	-	43	280	37	825	19	21	179	4 013
August	30	1 834	25	1 273	-	-	12	102	16	304	13	2	96	3 515
September	18	836	15	965	-	-	33	382	20	509	11	10	97	2 702
October	26	2 138	24	1 310	-	-	28	137	24	490	15	6	117	4 081
November	18	1 841	22	1 295	-	-	18	180	10	168	11	13	79	3 497
December	21	656	10	788	-	-	30	206	28	660	9	7	98	2 317
Total 1996	274	13 875	271	14 250	-	-	257	2 107	292	6 978	144	155	1 238	37 365
1997														
February	30	2 502	15	582	-	-	17	100	35	483	10	21	107	3 688

Source: Institute of Shipping Economics and Logistics (Bremen), 1995, No. 1/2.

a/ Ships of 300 grt and over.
b/ Total does not include the data on newbuilding contracts for other types of ship.

increased to 80.4 per cent (70.2 per cent in 1995), 78.5 per cent (69.9 per cent in 1995), 84.8 per cent (82.6 per cent in 1995) and 83.2 per cent (81.7 per cent in 1995) respectively.

46. The developing countries' share of tonnage on order rose in 1996 for dry bulk carriers and containerships to 12.4 per cent and 13.5 per cent respectively (8.3 per cent and 11.7 per cent in 1995). On the other hand, their share in the 1996 order book for oil tankers, general cargo ships and other types of vessels decreased to 15.8 per cent, 6.6 per cent and 14.2 per cent respectively from 26.6 per cent, 9.2 per cent and 16.3 per cent in 1995.

47. The share of Asian developing countries dry bulk carriers and containerships on order in 1996 rose to 10.6 per cent and 11.9 per cent as compared with 6.5 per cent and 9.9 per cent respectively in 1995, while their share in oil tankers, general cargo ships and other types of vessel on order declined to 11.9 per cent, 4.8 per cent and 13.0 per cent respectively (21.3 per cent, 5.9 per cent and 15.0 per cent respectively in 1995). The stagnation in African shipping can be expected to continue, given the low rate of newbuilding ordering of only 0.4 per cent of the 1996 world total. This share is still significantly small, in line with those observed in previous years, such as 0.5 per cent in 1995, 0.1 per cent in 1994 and 0.2 per cent in 1993.

Ship prices

48. Newbuilding prices for main types of vessels are set out in table 22. The 1996 overall newbuilding price level ended up slightly lower than at the beginning of the year, particularly for dry bulk carriers. This reflects the fact that dry bulk freight rates deteriorated significantly during

Table 21
World tonnage on order as at the end of 1996
(Thousands of dwt)

Countries of registry	All ships	Oil tankers	Dry bulk carriers	General cargo	Container ships	Other ships
World total	64 799	16 252	26 303	4 199	12 746	5 298
Developed market-economy countries	16 677	5 392	2 369	1 970	4 835	2 111
Major open-registry countries	35 319	7 678	18 047	1 327	5 972	2 295
Subtotal	51 996	13 070	20 416	3 297	10 807	4 406
Countries of Central and Eastern Europe	1 471	310	624	367	69	101
Socialist countries of Asia	1 214	6	1 030	166	11	1
Developing countries, total	8 585	2 565	3 271	279	1 716	754
of which in:						
Africa	236	3	193	-	13	27
America	1 165	623	239	73	192	38
Asia	7 136	1 939	2 795	201	1 512	689
Europe	44	-	44	-	-	-
Oceania	4	-	-	4	-	-
Unallocated	1 533	302	962	90	143	36

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

Table 22

Representative newbuilding prices, 1980, 1985, 1991-1996 and 1997
(Millions of dollars)

Type and size of vessel	1980	1985	1991	1992	1993	1994	1995	1996	Percentage change 1995/1996	January 1997
30 000 dwt bulk	17	11	24	24	21	20	21	19	-9.5	18
32 000 dwt tanker	19	18	30	30	29	28	30	32	6.7	31
70 000 dwt bulk	24	14	32	30	28	27	28	28	0.0	28
80 000 dwt tanker	28	22	43	42	41	42	43	43	0.0	45
120 000 dwt bulk	32	27	47	44	41	40	40	41	2.5	42
250 000 dwt tanker	75	47	95	86	84	82	84	85	1.2	83
125 000 m^3 LNG	200	200	260	237	243	255	255	255	0.0	255
75 000 m^3 LPG	77	44	83	80	75	70	68	67	-1.5	67
1 200 TEU ro-ro	44	28	38	40	41	42	42	42	0.0	42
15 000 dwt general cargo ship	14	12	24	24	22	21	21	21	0.0	21
2 500 TEU full containership	..	26	58	59	48	41	50	50	0.0	51

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

the late-second and third quarters. Prices for handy-size dry bulkers of 30,000 dwt class fell dramatically in 1996 by 9.5 per cent to US$ 19 million. On the other hand, prices for 32,000 dwt tankers rose by US$ 2 million to US$ 32 million. The price level for all other types of vessels remained almost unchanged from that of the previous year.

Sales and purchases of second-hand tonnage

49. Second-hand prices for most segments of tanker tonnage improved moderately during 1996, as gradually improved earnings made the extension of the life of older tankers more attractive to owners. Modern handy-size tankers and Suezmax tankers were very firm in demand. On the other hand, prices declined for all categories of dry bulkers throughout 1996. Even prices for modern smaller units such as handy-size bulkers significantly declined, whilst those for modern Capesize units declined moderately (see table 23). These second-hand prices for five-year-old tankers and dry bulkers reflected the 1996 world freight market for these types of vessels.

Table 23

Second-hand prices for five-year-old vessels, 1990-1996
(as at end of year)
(Millions of dollars)

Vessels	1990	1991	1992	1993	1994	1995	1996	Percentage change 1995/1996
30 000 dwt tanker	21.5	20.0	14.5	18.0	18.0	20.0	22.0	10.0
80 000 dwt tanker	34.0	32.0	22.0	31.0	30.0	31.0	33.0	6.5
130 000 dwt tanker	37.0	36.0	29.0	34.5	34.0	35.5	40.0	12.7
45 000 dwt dry bulk carrier	14.2	20.2	17.5	18.5	20.7	22.0	18.5	-15.9
70 000 dwt dry bulk carrier	19.6	24.4	19.0	19.5	21.5	23.0	20.5	-10.9
150 000 dwt dry bulk carrier	32.8	43.3	33.0	33.0	32.0	28.0	26.5	-5.4

Source: Fearnleys (Oslo), *Review 1995*.

Chapter III

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

This chapter provides information concerning 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 analysis of tonnage oversupply by main shipping market sectors.

A. Comparison of cargo turnover and fleet ownership

50. The correlation between cargo volume generated by different country groups and their fleet ownership in 1980, 1995 and 1996 is summarized in table 24. In 1996, developed market-economy countries, either directly or through open or international registers, controlled 71.6 per cent of the world fleet in deadweight tons (the same level as in 1995), while they generated 55.5 per cent of world seaborne trade (55.8 per cent in 1995). The share of developing countries in world cargo turnover stood at 38.9 per cent (38.6 per cent in 1995), while their merchant fleet accounted for 19.5 per cent of the world fleet (18.7 per cent in 1995).

51. Long-term comparisons indicate that the difference between cargo turnover and fleet ownership has narrowed substantially in both developed market-economy countries and developing countries. The ratio of goods loaded and unloaded in 1996 was almost unchanged from that in 1980 for both groups. On the other hand, developed market-economy countries' fleet ownership declined significantly from 82.4 per cent of the world fleet in 1980 to 71.6 per cent in 1996, while developing countries substantially improved their share to 19.5 per cent in 1996 from 10.0 per cent registered in 1980.

B. Estimate of tons and ton-miles per dwt

52. The main operational productivity indicators for the world fleet developed unfavourably in 1996 (see table 25 and graph 9). Tons of cargo carried per dwt stood at 6.28 in 1996, whereas in 1995 the figure had reached the record level of 6.33. Ton-miles performed per dwt also declined in 1996 - to 27,097 - slightly less than the record level of 27,675 in 1995. These decreases in operational productivity indicators reflect both the relatively slower growth of world seaborne trade than in the previous year (an increase of 2.3 per cent in 1996 versus 3.7 per cent in 1995) and a somewhat speculative expansion of the world fleet (an increase of 3.2 per cent in 1996, compared with 2.1 per cent in 1995). Additionally, the shift to short-haul carriage in some of the major dry and liquid bulk trades is affecting the port/sea ratio of ships and thus leading to a relative reduction of productive time at sea. In 1997, world seaborne trade is expected to grow at the rate of 3.8 per cent and the world fleet will expand at almost the same rate as in 1996 (3.2 per cent). On the basis of these preliminary estimated factors, 1997 overall world shipping activities are expected to slightly improve operational productivity this year.

53. Table 26 provides additional details about ton-miles performed by oil tankers, dry bulk carriers, combined carriers and the residual fleet. Ton-miles per dwt of tankers, combined carriers and residual fleet continued to marginally increase in 1996 - by 0.8 per cent, 0.1 per cent and 2.3 per cent respectively over 1995. On the other hand, ton-miles per dwt of dry bulk carriers continued to decline by 1.6 per cent in 1996. This can be explained by the supply/demand correlation that the continuously increased number of ore/bulk carriers (by 6.0 per cent over 1995) exceeded the supply of main dry bulk commodities, specifically for vessels of above 50,000 dwt (a decline of 0.6 per cent over 1995). As indicated in table 27, these trends are also evidenced by the data on tonnage productivity in terms of cargo carried per dwt. There was an expansion in tons carried per dwt of oil tankers and the residual fleet - an increase of 2.6 per cent and 1.7 per cent over 1995 respectively - whilst the performance of dry bulk carriers continued to decline in terms of tons carried per dwt by 1.3 per cent as compared with the 1995 results.

Table 24

Comparison between total cargo turnover and fleet ownership
by groups of countries, 1980, 1995 and 1996

Country grouping	Year	Goods loaded and unloaded (millions of tons)		Total of goods loaded and unloaded (millions of tons)	Merchant fleet (millions of dwt)	Percentage of world total of	
		Loaded	Unloaded			Goods loaded and unloaded	Merchant fleet owned (dwt)
Developed market-economy and major open-registry countries	1980	1 370	2 595	3 965	562.7	53.7	82.4
	1995	2 022	3 220	5 242	525.2	55.8	71.5
	1996	2 037	3 276	5 313	542.4	55.5	71.6
Developing countries	1980	2 087	839	2 926	68.4	39.6	10.0
	1995	2 353	1 278	3 631	137.5	38.6	18.7
	1996	2 441	1 286	3 727	147.5	38.9	19.5
Countries of Central and Eastern Europe (including the former USSR)	1980	201	145	346	37.8	4.7	5.5
	1995	176	146	322	33.0	3.4	4.5
	1996	179	148	327	29.0	3.4	3.8
Socialist countries of Asia	1980	46	100	146	10.9	2.0	1.6
	1995	100	104	204	27.0	2.2	3.7
	1996	101	105	206	27.1	2.2	3.6
World total a/	1980	3 704	3 679	7 383	682.8		
	1995	4 651	4 748	9 399	734.9		
	1996	4 758	4 815	9 573	758.2		

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

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

Table 25

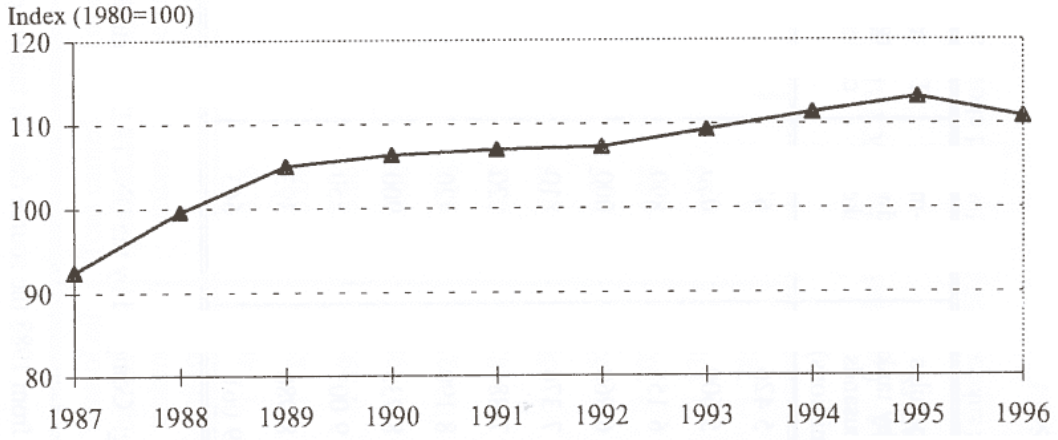
Cargo carried and ton-miles performed per dwt of the total world fleet, 1986-1996

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
1986	639.1	3 459	13 856	5.41	21 680
1987	632.3	3 505	14 298	5.54	22 610
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

Source: Compiled by the UNCTAD secretariat on the basis of the following data. World fleet: Lloyd's Maritime Information Services Ltd. (London) (mid-year data for 1986-1990, year-end data for 1991-1996); total cargo carried: UNCTAD secretariat; ton-miles: Fearnleys (Oslo), *Review*, various issues.

Graph 9

Index of ton-miles performed per dwt of total world fleet, 1987-1996



Source: UNCTAD calculations based on table 25 of this publication.

Table 26

Estimated productivity of tankers, bulk carriers, combined carriers a/ and the residual fleet, b/ 1986-1996
(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
1986	5 426	22 670	3 717	18 820	944	26 520	3 769	22 610
1987	5 600	24 030	3 922	20 010	1 022	30 690	3 729	21 940
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	38 583	5 993	28 350

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 above 50,000 dwt (previously 60,000 dwt). For bulk carriers the basis is now also ships above 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 27

Estimated productivity of tankers, bulk carriers, combined carriers and the residual fleet, 1986-1996
(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
1986	1 140	4.76	663	3.36	195	5.48	1 420	8.52
1987	1 185	5.08	693	3.54	195	5.84	1 384	8.15
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	7.38	2 057	9.71

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 26.

C. Supply and demand in world shipping

54. A comprehensive summary of the balance of tonnage supply and demand for the 1989-1996 period is provided in table 28. The total surplus tonnage stood at 48.8 million dwt (the lowest since 1988) or 6.4 per cent of the 1996 world merchant fleet. In terms of surplus tonnage, 1996 benefited from spillovers of the positive developments in 1995 when surplus tonnage declined from 63 million dwt to 51 million dwt. Time-charter arrangements concluded in 1995, which extended into 1996, led to an additional marginal reduction in surplus tonnage despite the fact that during the year seaborne trade grew at a slightly slower pace than tonnage supply.

55. The analysis by vessel types reveals that capacity in the oil tanker sector increased in 1996 by 2.9 per cent to 285.1 million dwt (see table 29 and graph 10). A total of 28.8 million dwt or 10.1 per cent of the total world tanker fleet was in excess of the demand for global oil seaborne transport. This was a minimal improvement over 1995, when 10.4 per cent of the total world tanker fleet was surplus. While tanker newbuildings (11.7 million dwt) dwt), improving oil trades (3.8 per cent over 1995) took much of the pressure off the market.

56. Overcapacity in the dry bulk sector slightly decreased in 1996 to 17.2 million dwt, representing a decline of 0.7 million tons and accounting for 6.7 per cent of the world dry bulk fleet. In 1996, shipowners of conventional general cargo ships continued to concentrate more on steady shipping practices with less speculative activities. The oversupply of the conventional general cargo sector further decreased by 0.6 million dwt to 1.4 million dwt, representing 2.2 per cent of the world total conventional general cargo fleet. In the unitized sector, a significant increase in supply in 1996 (59.3 million dwt) was completely absorbed by the market, although not all vessels were necessarily fully booked on each voyage. Additional demand was generated by expanding container and ro/ro trades of not only East-West trunk liner services but also North-South and intraregional services, specifically those covering Latin American and Asian regions.

Table 28

Tonnage oversupply in the world merchant fleet, 1989-1996 a/
(Million dwt and percentages)

	1989	1990	1991	1992	1993	1994	1995	1996
	Million dwt							
World merchant fleet	638.0	658.4	683.5	694.7	710.6	719.8	734.9	758.2
Surplus tonnage b/	62.3	63.7	64.2	71.7	72.0	63.4	50.8	48.8
Active fleet c/	575.7	594.7	619.3	623.0	638.6	656.4	684.1	709.4
	Percentages							
Surplus tonnage as a percentage of the world merchant fleet	9.8	9.7	9.4	10.3	10.1	8.8	6.9	6.4

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

a/ Mid-year data for 1989-1990, year-end data for 1991-1996.

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.

Table 29

Analysis of tonnage oversupply by main vessel type, 1989-1996 a/
(Average year figures in million dwt)

	1989	1990	1991	1992	1993	1994	1995	1996
Supply of world tanker fleet b/	253.9	266.2	273.5	283.4	284.6	282.9	277.0	285.1
Total tanker fleet surplus c/	41.0	40.9	39.8	41.8	43.5	39.0	28.8	28.8
Share of surplus fleet in the world tanker fleet (per cent)	16.2	15.4	14.6	14.8	15.3	13.8	10.4	10.1
Supply of world dry bulk fleet b/	225.4	228.7	235.0	237.3	238.6	242.6	252.9	257.2
Dry bulk fleet surplus c/	17.0	19.4	20.7	25.1	23.6	20.3	17.9	17.2
Share of surplus in the world dry bulk fleet (per cent)	7.5	8.5	8.8	10.6	9.9	8.4	7.1	6.7
Supply of world conventional general cargo fleet	63.4	63.6	63.5	63.0	62.1	61.9	62.0	62.7
Conventional general cargo fleet surplus	2.2	2.1	2.2	2.7	2.8	2.2	2.0	1.4
Share of surplus in the world conventional general cargo fleet (per cent)	3.5	3.3	3.5	4.3	4.5	3.6	3.2	2.2
Supply of world unitized fleet d/	35.8	37.5	40.3	43.0	45.7	49.8	53.4	59.3
Surplus of unitized fleet	0.8	0.5	0.4	0.7	0.7	0.5	0.7	0
Share of surplus in the world unitized fleet (per cent)	2.2	1.3	1.0	1.6	1.5	1.0	1.3	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 28, which indicate estimates at mid-year. The present 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.

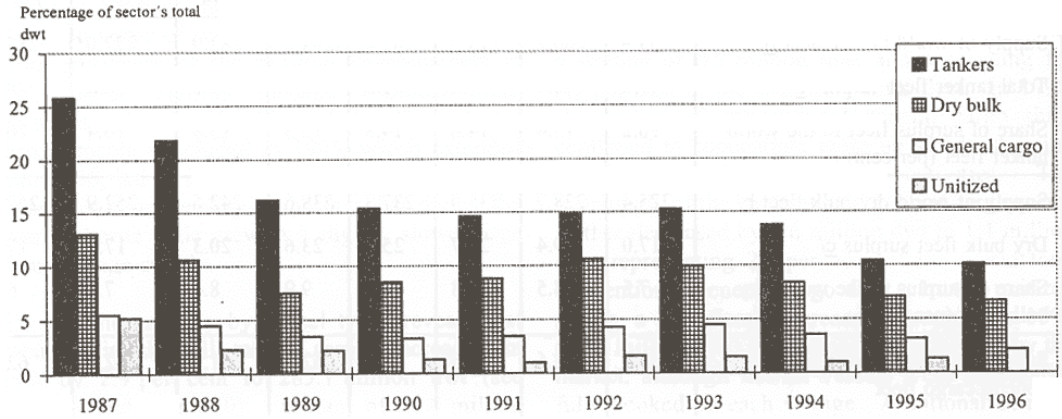
b/ Including combined ore/bulk/oil carriers on the basis of actual supply (for 1996, total of 20.9, of which 5.5 as tanker and 15.5 as dry bulker).

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 10

Trends in surplus capacity by main vessel type, 1987-1996



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

Chapter IV

FREIGHT MARKETS

This chapter indicates comprehensive conditions and trends in freight markets, covering major liner and bulk cargo sectors, liner freight rates as a percentage of commodity prices, and estimates of global freight costs.

A. Freight rates in major liner trades: TransPacific, TransAtlantic and Europe-Asia

57. During 1996 ocean carriers had to face difficult times in most trades. Rates in the TransPacific Eastbound, Asia/Europe and Europe/Asia fell by 10 per cent or more. The Westbound TransPacific leg fell by 6 per cent, while among the major trades only the US/Europe route displayed notable strength, with carriers' average revenues up by 12 per cent to US$ 1,621 per TEU. The quarterly analysis of liner freight rates shows that the lower freight rates in the main east-west trades during the final quarter of 1995 continued into the first quarter of 1996 as the consortia realignments and phasing into service of larger tonnage took place (see table 30). The second quarter showed a relatively higher level of pricing. Freight rates moved upwards in the United States/Asia and the United States/Europe trades, but fell in the Europe/United States trade. The upward movement in pricing in the second quarter continued into the July-September period, with rates rising on the Pacific Westbound (from the United States to Asia) and the Atlantic Eastbound (United States to Europe) routes. On the Europe/Asia/Europe trade route in 1996, freight rates in both directions continued to develop on a moderate but stable downward trend since the last quarter of 1995, despite the fact that containerized cargo increased by 12.1 per cent and 10.9 per cent respectively in the Europe/Asia and the Asia/Europe trades (see table 31). This fall in freight rates was mainly attributable to the continuing changes in service structures, based on the deepening of carrier alliances and on the introduction of larger ships, thus increasing tonnage oversupply.

TransPacific

58. Rates in both the eastbound and westbound directions fell during the first three months of 1996. Eastbound cargo volumes declined by 8 per cent from the previous three months to 890,000 TEUs, and rates fell by 6 per cent to an average of US$ 1,746 per TEU. Westbound rates decreased by 9.1 per cent to US$ 1,339 per TEU. During the second quarter, the TransPacific route was characterized by substantially lower rates on eastbound (down 6.8 per cent from the previous quarter) but firmer prices (up 6.6 per cent) on westbound. Although the previous downward pressure on eastbound rates eased during the third quarter, rates were still 13 per cent below their level of a year ago. Although there had been a rapid pick-up in cargo volumes since July 1996, the market had been plagued by high levels of overcapacity. On the westbound route, the trade was much stronger with rates up 6.2 per cent from the previous quarter. However, this largely reflected the movement of higher-value goods, specifically reefer products. Rates in the east and westbound sectors slumped in the final quarter of the year. The end of the seasonal cargo rush resulted in a reduction in cargo volumes on the eastbound leg. In the westbound trade, rates had previously held firm on the back of the export of higher-value cargoes (mainly reefer cargoes) from the United States, despite a fall-off in total traffic volumes. In the fourth quarter the cargo-balance between high and low value changed slightly and rates declined by 9 per cent.

TransAtlantic

59. In the first quarter of 1996, stability continued to characterize the Europe/USA/Europe

Table 30

Freight rates (average in markets) on three major liner trade routes for fourth quarter 1995 through first quarter 1997
(US$ per TEU)

	TransPacific		TransAtlantic		Europe-Asia	
	Asia to USA	USA to Asia	USA to Europe	Europe to USA	Europe to Asia	Asia to Europe
1995 Fourth quarter	1 865	1 473	1 442	1 349	1 257	1 455
Percentage change	-6.4	-9.1	2.6	2.6	-3.0	-5.9
1996 First quarter	1 746	1 339	1 480	1 384	1 219	1 369
Percentage change	-6.8	6.6	1.0	-3.0	-0.1	-1.7
Second quarter	1 628	1 428	1 495	1 342	1 218	1 346
Percentage change	-0.1	6.2	7.7	-2.4	-4.2	-0.7
Third quarter	1 627	1 517	1 610	1 310	1 167	1 337
Percentage change	-5.2	-8.8	0.7	0.0	-2.6	-4.2
Fourth quarter	1 543	1 384	1 621	1 311	1 137	1 281
Percentage change	-4.5	-7.5	-10.0	-0.7	-12.5	-13.2
1997 First quarter	1 473	1 280	1 459	1 302	995	1 112

Source: *Containerisation International*, various issues, 1996/7.

Table 31

Cargo movements on three major liner trade routes for 1995 and 1996, and forecasts for 1997
(Thousands of TEUs)

	TransPacific		TransAtlantic		Europe-Asia	
	Asia to USA	USA to Asia	USA to Europe	Europe to USA	Europe to Asia	Asia to Europe
1995	4 009	3 471	1 208	1 448	2 306	2 834
Growth (%)	2.4	1.4	0.9	-1.9	12.1	10.9
1996	4 104	3 520	1 219	1 421	2 584	3 142
Growth (%)	8.7	5.3	4.7	9.5	7.9	6.9
1997	4 459	3 705	1 276	1 556	2 788	3 358

Sources: DRI/McGraw-Hill, *World Sea Trade Service Review*, various issues, 1996; *Journal of Commerce*, various issues, 1996; *Containerisation International*, various issues, 1996.

trade, with both eastbound and westbound rates rising by 2.6 per cent from the last quarter of 1995. This reflected the fact that the TransAtlantic Conference Agreement's rate restoration programme had been effective since 1 January 1996. Freight rates were more volatile in the second quarter, with eastbound rates up a modest 1.0 per cent and westbound rates down 3.0 per cent. There were some early signs that cargo volumes would decrease, particularly westbound, and that accordingly freight rates would fall. During the third quarter, the eastbound trade (from the United States to Europe) continued to have the strongest performance. However, rates continued to show some softness on the westbound route. During the fourth quarter, the United States/ Europe trade provided carriers with their highest average revenue, $1,621 per TEU. There were signs, however, that existing carriers had a plan to lower their prices in anticipation of the entry of three Asian carriers in the first quarter of 1997. Westbound rates remained stable in the final quarter, but were expected to decline in the first quarter of 1997.

Europe-Asia

60. Significant rate erosion continued in this trade during the first quarter of 1996, with eastbound rates falling by 3.0 per cent to US$ 1,219 per TEU and westbound rates by 5.9 per cent to US$ 1,369 per TEU. These falls in freight rates were attributable to the substantial restructuring of carriers' groupings, and the scheduled phasing into service of new larger ships. In the second quarter, eastbound rates remained stable at low levels, while westbound rates continued to weaken by 1.7 per cent to US$ 1,346 per TEU. It was notable that in the third quarter, rates remained under intense pressure and fell by 4.2 per cent eastbound and 0.7 per cent westbound, despite ships sailing with a relatively full load in both directions. In the fourth quarter, average revenue per TEU further deteriorated by 3 per cent to $1,137 per TEU in the eastbound direction and by 4 per cent to $1,281 on the westbound leg. The difficult situation in the trade is reflected in the fact that lower-value commodities moved for as little as $400-500 per TEU in the eastbound market.

B. Liner freight index

61. Table 32 reflects the development of liner freight rates on cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range for the period of 1994-1996. The overall 1996 liner freight index continued to decline to an average level of 93 (1991=100), which was only a one-point decrease from the average of 1995 but the lowest since 1991. A closer look at the 1996 liner freight level reveals that the overall index of homebound rates (to Antwerp/Hamburg range) fell by 3 points from 1995, while that of outbound rates rose by 1 point. The average index of container rates decreased by 2 points from their 1995 level, but conventional general cargo remained at the same rates as in 1995, mainly reflecting the downward trend of the container freight level in the Europe-Asia trade.

C. Liner freight rates as a percentage of prices for selected commodities

62. Table 33 provides data on liner freight rates as a percentage of market prices for selected commodities and trade routes for selected years from 1970 to 1996. Prices for rubber and coffee (Colombia) declined, whilst freight rates for these commodities remained almost unchanged or were under more pressure than in the previous year, bringing about a moderate increase in the freight/price ratio. The significant decreases in the ratio were observed in the jute and cocoa beans (Brazil) trades, where the prices for jute increased by 24 per cent from the previous year and the freights for cocoa beans (Brazil) decreased by 30.0 per cent. While the ratio of coconut oil, tea and cocoa beans (Ghana) decreased moderately, mainly because of the increase in prices of coconut oil and tea respectively, and the decrease in freights for cocoa beans, the marginal decrease in coffee (Brazil) was due to the fall in freights by 25 per cent from the previous year as well as the decrease in its c.i.f. prices by 18 per cent.

Table 32

Liner freight indices, 1994-1997
(Monthly figures)
(1991=100)

Month	Overall index				Homebound index				Outbound index				Container index				Conventional general cargo index			
	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997
January	101	97	94	96	100	93	89	90	102	100	99	102	101	96	92	91	102	98	96	100
February	101	95	93	98	100	92	87	91	102	99	98	104	101	95	91	92	102	97	96	103
March	100	92	93	98	99	89	87	92	100	96	99	104	99	91	91	92	100	94	96	103
April	99	92	94	96	97	89	88	90	100	95	100	102	97	91	92	90	100	94	97	102
May	97	94	95	96	96	91	89	90	98	97	101	101	96	92	92	90	99	96	98	101
June	96	94	95	96	95	90	89	90	98	97	100	102	95	92	92	90	98	95	98	102
July	95	94	93		94	91	86		97	97	98		93	93	89		97	96	96	
August	95	96	92		94	93	86		97	99	97		93	95	88		98	97	95	
September	95	96	92		93	92	86		97	99	98		93	95	89		97	97	95	
October	95	92	93		93	87	87		96	97	99		93	91	90		97	94	96	
November	95	92	93		94	87	87		97	97	98		93	91	89		98	94	96	
December	97	93	94		95	88	88		98	98	100		95	92	91		99	95	97	
Annual average	97	94	93	97	96	90	87	91	99	98	99	103	96	93	91	91	99	96	96	102

Source: Compiled by the UNCTAD secretariat on the basis of the Liner Index worked out by 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.

Box 2

Shippers know best

Shippers know what they want, and retain control by ensuring that their forwarders buy ocean carrier and other capacity accordingly. This was the message from replies to an extensive survey of shippers' views around the world.

Completed questionnaires were received from shippers and importers in 33 countries: Argentina, Bangladesh, Belgium, Brazil, Canada, Chile, China, Denmark, Finland, France, Germany, Hong Kong, Indonesia, India, Islamic Republic of Iran, Japan, Malaysia, Netherlands, New Zealand, Paraguay, Peru, Puerto Rico, Saudi Arabia, Singapore, Spain, Sri Lanka, Sweden, Trinidad and Tobago, United Arab Emirates, United Kingdom, United States and Uruguay.

1. **When arranging the ocean shipment of FCL consignments, is your forwarder required to**
   - select the ocean carriers with which bookings are made — 35%
   - book only with ocean carriers selected by yourself — 59%
   - both of the above apply — 4%
   - no FCL traffic — 2%

2. **When arranging the ocean shipment of LCL consignments, is your forwarder required to**
   - select the groupage operators used — 40%
   - book only with groupage operators selected by you — 33%
   - use groupage services it operates — 19%
   - all three of the above apply — 2%
   - no LCL traffic — 6%

3. **When transport is arranged from the point at which a container is loaded to the port or container terminal, do you**
   - arrange this yourself, without forwarder involvement — 39%
   - allow your forwarder free choice in making whatever arrangements are considered to be the most effective — 43%
   - require your forwarder to make overland transport arrangements only with transport operators nominated by yourself — 16%
   - all three of the above apply — 2%

4. **In regard to ocean freight rates, do you**
   - negotiate these yourself, without any forwarder involvement — 48%
   - negotiate freight rates in conjunction with your forwarder — 27%
   - instruct your forwarder to negotiate freight rates on your behalf — 19%
   - all three of the above apply — 6%

5. **In regard to signing conference agreements, or otherwise, do you**
   - make these decisions entirely on your own, without guidance from your forwarder — 39%
   - allow yourself to be guided by recommendations from your forwarder — 51%
   - both of the above apply — 2%

6. **In regard to service contracts with ocean carriers, do you**
   - negotiate these, if appropriate, entirely on your own, and without forwarder involvement — 53%
   - negotiate them in conjunction with your forwarder — 47%

7.	**In regard to changes in freight rates, and ocean carrier service charges, do you**	
	- expect your forwarder to keep you informed at all times	42%
	- keep yourself informed (by information received directly from ocean carriers, from shippers' councils, or from the freighting media) without assistance from your forwarder	49%
	- both above apply	9%
8.	**When negotiating sales to overseas customers, do you**	
	- expect your forwarder to guide you as to the most appropriate incoterms	23%
	- select the most appropriate incoterms without reference to your forwarder	75%
	- both above apply	2%
9.	**In regard to export documentation do you**	
	- instruct your forwarder to prepare only shipping documentation, such as B/L, waybills, certificates of origin etc.	70%
	- expect your forwarder to assist in obtaining payment from overseas customs by becoming involved in negotiating documents through banks, especially when letters of credit and sight drafts are involved	30%
10.	**Do you expect your forwarder to**	
	- only act for you in your own country, i.e. the country of shipment	35%
	- have a global network of offices and freight handling facilities, and thus to be involved in the destination country, as well as in the country of shipment	65%
11.	**Do you expect your forwarder to provide logistics facilities, such as**	
	- order processing when orders are placed on suppliers, warehousing and distribution	35%
	- do not expect your forwarder to provide such logistics facilities	65%
12.	**Do you expect your forwarder to**	
	- be able to communicate with you electronically, and to provide shipment status reports, and other relevant data, electronically	79%
	- consider the provision of electronic information technology to be irrelevant	21%

The proportion of shippers who instruct their forwarders as to which ocean carriers traffic should be booked with (question 1) was an overwhelming 59 per cent compared to only 35 per cent allowing the forwarders to make the decision. With LCL traffic (question 2), a sizeable 33 per cent of shippers instruct their forwarders as to which groupage operators are to be used, although a high proportion of 40 per cent does allow choice to the forwarders.

Forwarders like to claim that they are better able to negotiate rates with carriers, but discomfortingly for them, 48 per cent of shippers stated that they negotiate rates themselves, without any forwarder involvement (question 4). However, by a narrow margin (question 5) most shippers allow themselves to be guided by recommendations from their forwarder when signing conference agreements. Even so, 53 per cent of shippers (question 6) negotiate service contracts with ocean carriers without forwarder involvement, 47 per cent of shippers negotiating them in conjunction with their forwarders.

In relation to the overland transport of containers from the point of loading to a port, or terminal (question 3) a slender majority of forwarders, at 43 per cent, is allowed free choice in making the most appropriate arrangements, but the 39 per cent of shippers who stated that they arrange this themselves is surprisingly high in view of forwarders' pretensions to unrivalled expertise in organizing intermodal movements.

Forwarders frequently claim to justify their involvement in short or deep-sea traffic by inputting expertise relating to various pre- or post-shipment ancillary services. Doubtless such claims are justified, particularly when traffic is being arranged on behalf of smaller volume shippers. But the replies indicate that shippers also have considerable in-depth knowledge, such as the ability to select Incoterms when negotiating sales to overseas customers. Answers to question 8 reveal that 75 per cent of shippers select their own Incoterms, with only 23 per cent expecting guidance from their forwarders. Moreover, an overwhelming 70 per cent of shippers restrict their forwarders to preparing strictly "shipping" documentation (B/L, other transport documents and paperwork, such as certificates of origin), and a mere 30 per cent require help from their forwarders when banking procedures are involved to obtain payments from overseas customs (question 9).

The survey offers strong support for the belief that the forwarding industry is becoming increasingly "internationalized", and that shippers require their forwarders to have a global presence. Indeed, as shown in the responses to question 10, a minority of 35 per cent of shippers expect their forwarders to act for them only in their own country, i.e. the country of shipment, with an overwhelming 65 per cent of respondents stating that they expect their forwarders to have global networks of offices and freight handling facilities, and thus to be involved in the destination country, as well. Of course, even the smallest forwarder can access global handling facilities through agency agreements with other forwarders. It is nonetheless significant that 79 per cent of shippers (question 12) expect their forwarder to be able to communicate with them electronically, with only 21 per cent dismissing the provision of electronic information technology as irrelevant. Clearly, during the past few years the number of shippers using EDI to communicate with freight service providers has increased substantially.

The survey may have exploded a myth. Forwarders, especially the larger global operators, now frequently assert that the future for them will depend on providing logistics services (especially warehousing, distribution, stock control and purchase order management) to complement basic ocean, overland and air-freight forwarding services. Yet only 35 per cent of shippers (question 11) stated that they expect their forwarders to provide such services. This response, when restricted to a pure statistical analysis, could be misleading, since there is little doubt that the large multinational shippers do frequently need logistical support. Out there in the market place, though, are large numbers of shippers whose principal needs are still for the basic services, and no more, that forwarders provide.

If there is one clear message which shines through the survey, it is that a majority of shippers have considerable knowledge of international distribution, are aware of current conditions dictating the supply of ocean freight and other transport capacity, are able to negotiate freight rates effectively, and are well placed to determine the most appropriate options in buying this capacity. And for the most part, without forwarder participation in the decision making process.

This is indicated by the replies to question 7, relating to changes in freight rates, and other charges. Some 49 per cent of shippers keep themselves informed without forwarder assistance.

The survey does indicate that shippers still depend to a large degree on forwarders for processes such as cargo booking, the preparation of documentation, and the provision of information, albeit now generally electronically. So the forwarders are still needed, but their pretensions should not ride too high.

Source: *Containerisation International*, November 1996.

Table 33

Ratio of liner freight rates to prices of selected commodities

Commodity	Route	Freight rate as percentage of price a/ b/ c/						
		1970	1975	1980	1985	1990	1995	1996
Rubber	Singapore/Malaysia-Europe	10.5	18.5	8.9	n.a.	15.5	7.8	8.9
Jute	Bangladesh-Europe	12.1	19.5	19.8	6.4	21.2	18.0	15.5
Cocoa beans	Ghana-Europe	2.4	3.4	2.7	1.9	6.7	7.1	6.3
Coconut oil	Sri Lanka-Europe	8.9	9.1	12.6	12.6	n.a.	6.7	6.0
Tea	Sri Lanka-Europe	9.5	10.4	9.9	6.9	10.0	6.1	5.6
Coffee	Brazil-Europe	5.2	9.7	6.0	5.0	10.0	2.8	2.6
Coffee	Colombia (Atlantic)-Europe	4.2	5.7	3.3	6.7	6.8	3.7	4.6
Cocoa beans	Brazil-Europe	7.4	8.2	8.6	6.9	11.0	9.5	6.6
Coffee	Colombia (Pacific-Europe)	4.5	6.3	4.4	6.1	7.4	4.0	4.9

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 1990-1996).

a/ C.i.f. 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.

b/ 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. Annual freight rates were calculated by taking a weighted average of various freight rates quoted during the year, weighted by their period of duration.

c/ For the period 1990-1996, the prices of the commodities were taken from UNCTAD, *Monthly Commodity Price Bulletin*, March 1997.

D. Containership charter market

63. Containership charter rates are one of the main indicators of liner service developments. The 1996 containership charter market started off very calmly, with few activities recorded. After a short recovery the market declined again towards the end of the year. Charterers therefore tried to fix for comparatively shorter periods and managed to take advantage of the instability to obtain more favourable terms. In general, the market was heavily influenced by the policy of major liner operators to favour larger and faster ships.

64. The market for ships of 500 TEUs to 1,000 TEUs benefited from the rise in demand for feeder services. A major part of the charter activities were, however, dominated by the extension of existing contracts. The market for geared tonnage remained fairly stable, with only minimum reductions on the previous charter rates. Geared newbuildings of 900 TEUs were fixed at US$ 9,500-10,000 per day on 12-month time-charter and 750 TEU newbuildings were available at US$ 9,000 per day for the same period.

65. In the category of 1,000 TEUs to 2,000 TEUs, a clearer difference in charter hire between geared and gearless tonnage was recognized. With constant demand for feeder services in South America or intra-Asia, the market remained stable specifically for geared cellular ships. In the smaller size of 1,100 TEUs to 1,400 TEUs, massive deliveries of newbuildings with gears and cells pushed charterers to replace older ones. Consequently, rates fell from the high

level of US$ 12,000 per day in 1995 down to around US$ 10,000 at one time, and thereafter, particularly towards the end of the year, geared newbuildings of 1,100-1,200 TEUs were paid at over US$ 12,000 per day. In the size of 1,400 TEUs to 1,900 TEUs, all new units were also employed. Geared ships of 1,600-1,700 TEUs received US$ 16,500-17,000 per day on 12-month time-charter. Gearless ships in this category experienced the comparatively weak conditions in the 1996 market, as the situation was confused by lack of details about how the global alliances were organizing their intraregional subordinate services. A 1,550 TEU ship was employed at the US$ 15,000 level per day and a ship capable of loading 1,860 TEUs also received US$ 15,000 per day.

66. Some older ships of 2,000 TEUs to 3,000 TEUs had their charter parties terminated in the course of the year with no extension, as a result of redeployment of ships for new alliances or arrival of newbuildings for replacement. It was another feature of 1996 in this category's market that an increasing number of operators were trying to make inroads into North-South trades, intraregional services, and other types of trades such as Far East to South America, with geared tonnages. In the market with gearless ships, ships of 2,100 TEU class were fixed at US$ 18,500 per day for 12 months and 2,300-2,500 TEU tonners were paid at US$ 20,000-23,000 per day. Larger ships of 2,600-2,700 TEUs were employed at US$ 22,000-25,000 per day on one-year charter. For long-period charter, a series of 2,800-2,900 TEU newbuildings were fixed at US$ 22,500-23,000 per day for four years.

67. About 50 ships with a carrying capacity of 3,000 TEUs and over were in service in 1996. A very large portion of them are owned by the top 20 liner operators, although several non-operator owners moved further into this sector in 1996, and made better deals in chartering than in previous years. In the long-term charter market, a ship of 3,500 TEUs was fixed at US$ 27,000-28,000 per day for three years, and another of 3,900 TEUs was ordered for charter at US$ 27,000 per day for the first four years and US$ 28,000 per day for another four-year period. For short-term employment, a 3,400 TEU ship was employed at US$ 27,500 per day for 18 months.

E. Dry bulk freight market

Dry bulk trade

68. Dry bulk carrier owners experienced a very gloomy charter market in 1996. Specifically, at the end of September, the Baltic Freight Index (BFI) slipped under the critical 1,000 level, which was a record low since August 1987. The 1996 overall development in dry bulk charter markets reflected, primarily, declining steel production, a temporary severe shortage of demand for grain, and weak economic growth especially in Western Europe and major South-East Asian economies. Additional pressure was exercised by the delivery of 258 newbuildings of 17.49 million dwt. On the other hand, an increase in sales of dry bulkers for demolition of 7.6 million dwt, coupled with the resumption of rather active steel production and expanded grain trades, reversed the decline in freight rates to a certain extent (see table 34).[/]

69. The volume of seaborne iron ore trades fell by about 3 per cent in 1996 from 402 million tons to 390 million tons.Their on ore imports of the Europe an Union in 1996 are estimated at138 milliontons, a 3.2 per cent decline from 1995 (142.6 million tons). A similar trend was shown in Japan, where iron ore imports were reportedly down by about 1.5 per cent from 1995, indicating a drop of 118 million tons in 1996. The Republic of Korea's imports of iron ore decreased slightly by about 1.7 per cent in 1996 to 34.5 million tons, from 35.1 million tons in 1995. Chinese iron ore imports reached about 45 million tons in 1996, an increase of 9.2 per cent on the total of 41.2 million tons in 1995. Taiwan Province of China recorded growth in iron ore imports from 9.2 million tons in 1995 to over 10 million tons in 1996 (an increase of 8.7 per cent). Supply-side patterns in the iron ore trades continue to be dominated by a few major producers and exporters: Australia and Brazil together accounted for two-thirds of all overseas shipments, exporting about 131 million tons and 125 million tons respectively in 1996. Both countries, however, experienced declining exports (3.8 per cent and 4.8 per cent respectivelyfrom1995). Other significant suppliers include India, Canada, South Africa, Sweden, Mauritania and Venezuela, providig 10-30 million tons each.

Table 34

Dry cargo freight indices, 1994-1997
(Monthly figures)

Period	Dry cargo tramp time charter a/ (1991 = 100)				Dry cargo tramp trip charter b/ (July 1965 to June 1966 = 100)			
	1994	1995	1996	1997	1994	1995	1996	1997
January	80	111	83	84	189	234	207	209
February	78	106	77	87	185	227	202	197
March	78	108	80	91	185	229	192	199
April	87	111	81	89	198	243	192	197
May	90	115	82	82	191	245	196	190
June	81	106	73	81	196	239	195	184
July	83	100	66		198	230	186	
August	82	112	58		202	218	189	
September	87	110	57		208	220	186	
October	98	92	65		212	221	176	
November	102	84	75		212	198	188	
December	110	88	80		234	198	211	
Annual average	88	104	73	86	201	225	193	196

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.

70. Decreasing iron ore imports resulted from slackening world crude steel production, which declined by 0.4 per cent from 753.43 million tons in 1995 to 750.36 million tons in 1996. A major exception was China, whose 1996 crude steel production increased by 7.9 per cent to 100.35 million tons, thus exceeding 100 million tons for the first time. This increase made China the world's largest steel producer, with Japan now occupying second place with a production of 98.8 million tons, down 2.8 per cent. Other regional developments showed that the steel industry of Western Europe registered -4.4 per cent and the United States -0.6 per cent, whereas the Republic of Korea recorded an increase of 5.7 per cent and Taiwan Province of China 3.1 per cent.[/]

71. The volume of seaborne coal increased from 423 million tons in 1995 to 437 million tons in 1996. Whilst coking coal volumes showed only marginal growth (from 173 million tons to 175 million tons), mainly because of low steel demand, the volume of thermal coal again registered a notable increase (from 250 million tons to 262 million tons), attributable to a colder winter in Europe and steadily rising oil prices throughout the year. Consequently, Australia reasserted its position as the world's leading exporter of both coking and thermal coal, whilst the United States and the Republic of South Africa occupied second place for coking and thermal coal respectively. As Asian demand increased for both its expanding steel industry and the growing power supply demand, trade patterns continued to change. United States exports to the Far East continued to fall, whilst South Africa and Australia increased their market shares in Asia and the growing fleet of modern Far-East-controlled bulkers concentrated on the intra-

Pacific routes. Australian exports to Europe declined, with the greater part of European demand being met by United States suppliers. Despite an increase in total coal volume, these new trading patterns reduced shipping distances and thus tonnage demand.

72. The volume of seaborne grain fell again in 1996, by about 4 per cent from 196 million tons to 188 million tons. This decrease was mainly the result of poor and delayed harvests, low stocks and high prices. The high level of United States grain exports in 1995 left stocks at their lowest level ever in early 1996. Combined with the consequent high prices, this reduced United States export volume, bringing about a decline in the world seaborne grain trade. Towards the end of the year, there was a good harvest in the United States, with prices falling and export volume improving.

73. Trades for handy-size and handymax dry bulkers were rather sluggish in 1996, with a low rate of handymax scrapping and over 150 newbuildings below 50,000 dwt delivered. In addition, Chinese domestic steel production increased considerably, reducing drastically imports of steel, which had been one of the most important commodities for handy-size tonnage. A reduction in fertilizer shipments from the Black Sea to the Far East was also recorded.[/]

Dry bulk freight rates

74. Whereas total dry bulk shipping in 1996 decreased by 1.3 per cent in ton-miles, the fleet of bulk and combined carriers increased by 2.9 per cent to 273.6 million dwt and the pure bulk carrier fleet increased by 5.0 per cent to 254.0 million dwt. Lay-up of bulk and combined carriers marginally increased from 1.3 million dwt to 1.4 million dwt. Dry bulk accounted for 51 per cent of the cargo lifted by combined carriers in 1996, down from 71 per cent in 1995.

75. In the Atlantic coal trades, Hampton Roads/Rotterdam started the year at US$ 5.90 per ton and then fell slowly to a low of US$ 4.40 in August. Thereafter, there was a rather brisk improvement and the year ended as it had started at about US$ 5.90 per ton. In the Pacific, rates were more volatile, as the Asian economies showed greater strength than the European ones. Queensland/Rotterdam coal rates were more sensitive to European demand, moving from US$ 9.25 per ton in January to US$ 10.00 per ton in April. The rates remained stable until mid-year, when the steady flow of newbuilding deliveries combined with summer holidays brought the rate below US$ 6.00 per ton. Intra-Pacific coal rates showed a closer reflection of Asian demand, with Queensland/Japan moving from US$ 5.00 per ton in January to a peak of over US$ 7.00 per ton in April, before dropping to below US$ 4.00 per ton in mid-summer and then climbing back to US$ 6.00 per ton by year-end. The Richards Bay/Rotterdam route gained in importance as volume rose. Rates started the year at US$ 5.25 per ton and then rose to US$ 7.00 per ton in April. They weakened steadily to below US$ 5.00 per ton in August, before rallying during the last quarter to about US$ 6.80 per ton.

76. The volatile grain market was clearly reflected by freight rates in major grain trades. The United States Gulf/Japan rates were down from nearly US$ 30.00 per ton at the end of 1995 to US$ 24.75 per ton by the end of February. Better weather and the start of the South American grain season pushed the rates for Japan up to US$ 26.00 per ton by late April. Thereafter, a steady decline was experienced right through to September, when the rate levelled out at US$ 19.00 per ton. The effect of the good 1996 crop in the United States and reduced grain prices were manifested in rates rising rapidly to end the year at US$ 26.50 per ton. The United States Gulf/ Continent showed a similar trend, falling from US$ 14.00 per ton in January to US$ 10.50 at the end of February, and rising to US$ 13.00 per ton in April, before declining to a low of US$ 8.25 per ton by September. The autumn rally in this trade brought the rate to nearly US$ 16.00 per ton towards December.

77. In 1996 dry bulker time-charter trip markets, trips to the Far East for the most modern Capesize tonner started the year at US$ 17,000 per day but declined slowly to US$ 15,000 per day by June before dropping to about US$ 12,500 per day in mid-summer. A slow improvement to US$ 14,500

per day in October was recorded, before rates strengthened to nearly US$ 16,500 perday by year-end. TransPacific routes showed greater volatility in the face of a continuous stream of new building deliveries. Rates fell to US$ 11,000 per day in February, then rose to US$ 16,000 per day in April, before declining steadily to US$ 7,500 per day in September, and then rising back to over US$ 15,000 per day by the end of December. Panamax time-charter trip activities were closely linked to grain demand. Grain trips to the Far East for modern vessels were worth US$ 18,000 per day when 1995 ended, but declining grain volumes quickly pushed the rates down to US$ 14,000 per day in May. There had been a drastic decline to US$ 10,000 per day by September, before activated grain business pushed the rate back to US$ 16,000 per day towards the end of the year. TransPacific round trips showed a similar trend, falling slowly from US$ 12,500 per day in January to a low of US$ 6,750 per day in September and climbing back to US$ 12,250 per day in December.[/]

78. Time-charter period activity was concentrated on the beginning and the end of the year, with very little interest specifically from the late first quarter to the early fourth quarter. In comparison with 1995, the number of reported period-fixtures of Capesize bulkers declined from 54 to 15 (by about 70 per cent), illustrating the lack of demand from the industrial carriers, which had in previous years supplemented their fleet by taking vessels on period-charter from the market. Several Republic of Korea and Japanese charterers took several Capesize vessels on time charter. The Capesize market remains the largest sector of the dry bulk shipping industry, mainly to satisfy demand for the carriage of iron ore and coal on comparatively long hauls. The one-year rate for modern 150,000 dwt bulkers was fixed at around US$ 20,000 per day, reaching its lowest point of US$ 11,500 per day in September-October before a small rebound to US$ 14,000 per day by the end of the year. Panamax rates also reflected less interest in period-charters, specifically for the first nine months. Rates varied from US$ 12,750 per day in January to US$ 9,000 per day by late summer for very modern tonnage. The improved autumn grain market helped in regaining interest in this market segment and rates rallied up to US$ 11,000 per day by late December.[/]

79. 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 1996/1997 is as follows:

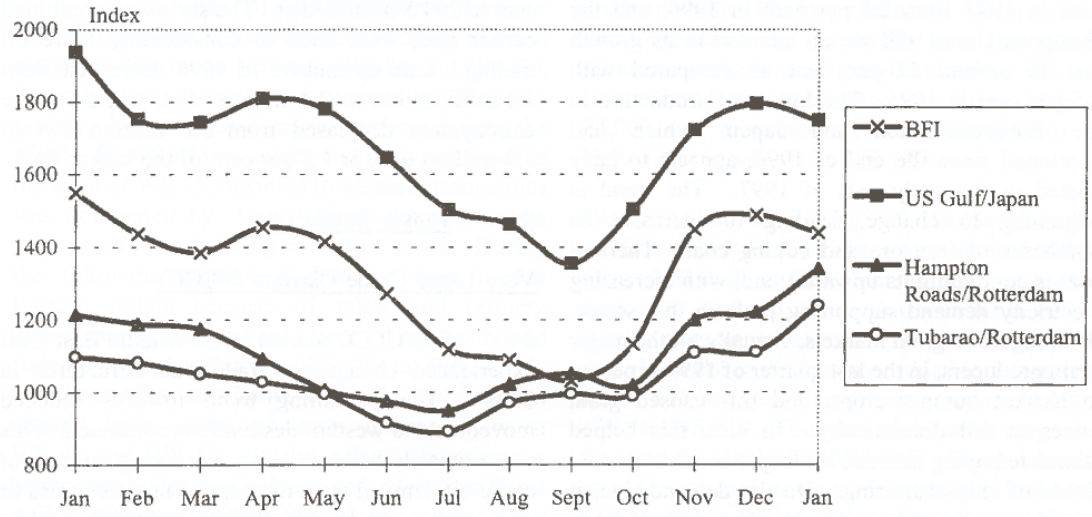
Route		Commodity	Weighting
1	US Gulf-North Continent	Grain	10 per cent
1a	TransAtlantic round	T/c	10 per cent
2	US Gulf-Japan	Grain	10 per cent
2a	US Gulf-Far East time charter	Grain	10 per cent
3	US North Pacific-Japan	Grain	10 per cent
3a	TransPacific round	T/c	10 per cent
6	H Roads-R Bay-Japan	Coal	7.5 per cent
7	H Roads-Rotterdam	Coal	7.5 per cent
8	Queensland-Rotterdam	Coal	7.5 per cent
9	Far East to Nopac-Cont	T/c	10 per cent
10	Tubarao-Rotterdam	Iron ore	7.5 per cent

Graph 11 shows the trend of the BFI and of selected trade routes for 1996/1997. The significant decline in dry bulk freight markets in the second and third quarters of 1996 sent freight indicators down to the bottom, particularly during a number of days in September when the BFI plummeted to under the critical 1,000 level. The unfavourable dry bulk market in 1996 could be attributed to an overall decrease in the growth rate of dry bulk cargo, specifically main bulk commodities, to 0.9 per cent as compared with 5.3 per cent the previous year, and in particular to unfavourable sectoral developments of trades, such as declining steel production, the consequent fall of iron ore and a temporary shortage of demand for grain.

80. Table 35 indicates the highest and lowest freight rates reported during 1995 and 1996 in selected major dry bulk trades. In 1996 high rates and low rates for the main commodities were down compared with the previous year. The range between the year's high and low rates increased only for grain in the United States (Gulf of Mexico)/Japan trade. This grain trade continued to show great variations throughout 1996, registering US$ 28.00 at the beginning of the year and US$ 13.35 in the third quarter. The lowest freight levels and narrowest margins were recorded in the Brazil/Continental Europe iron ore trade, with a high of US$ 6.80 at the end of the first quarter and a low of US$ 4.30 in the third quarter.

Graph 11

Baltic Freight Index and selected routes, 1996 and January 1997



Source: London International Financial Futures and Options Exchange.

Table 35

Comparative freight rates for selected commodities, 1996 versus 1995

Commodity	Route	Freight rate range			
		1996 (US$/ton)		1995 (US$/ton)	
		High	Low	High	Low
Grain	Mississippi/Venezuela	21.00	12.50	25.00	15.50
Grain	United States (Gulf of Mexico)/Japan	28.00	13.35	37.50	25.40
Coal	Hampton Roads and Richards	12.75	11.25	18.50	12.60
Coal	Bay/Japan	8.25	4.95	11.25	8.00
Ore	Richards Bay/Continental Europe	11.00	8.00	13.85	9.25
Ore	Brazil/Japan	6.80	4.30	11.25	6.20
	Brazil/Continental Europe				

Source: Drewry Shipping Consultants Ltd. (London), *Shipping Statistics and Economics*, 1996-1997, various issues.

Market prospects

81. In 1997, output growth in developed market-economy countries is expected to continue at the 1996 level, stabilizing at 2.3 per cent. In the United States it is expected to increase to 2.9 per cent in 1997 from 2.5 per cent in 1996, and the European Union will see an increase in its growth rate to around 2.0 per cent as compared with 1.5 per cent in 1996. The low steel production in the European Union and Japan, which had continued since the end of 1996, appears to have abated in the early part of 1997. The trend is beginning to change, leading to increases in purchases of iron ore and coking coal. Thermal coal is continuing its upward trend, with increasing electricity demand supporting trade in this sector. With regard to grain markets, virtually all the major grain producers, in the last quarter of 1996 expected to harvest bumper crops, and this caused grain prices to fall dramatically. In turn, this helped stimulate buying interest, leading to much improved levels of ship-chartering. On the demand-side, it would seem that the recovery in the market is set to continue, with economic growth trends which will impact particularly on iron ore and coal trades throughout 1997. On the supply-side, however, the unfavourable supply/demand balance in the dry bulk trade will continue to hamper upward movements.

F. Oil and oil products seaborne freight market

(a) Oil and oil products seaborne trade

82. World crude oil production increased by 2.8 per cent to 65.9 million barrels per day in 1996, while OPEC output grew by 1.7 per cent to 27.2 million barrels per day. Consequently, in 1996 the volume of seaborne crude oil trade increased by 2.5 per cent to 1,450 million tons from 1,415 million tons in 1995, with most of the export growth coming from non-OPEC sources. At the same time, the average transport distance for crude oil decreased. As a result, demand for tanker shipping in terms of ton-miles, increased only marginally to 7,400 billion ton-miles in 1996 from 7,375 billion ton-miles in 1995. Oil product shipments in 1996 increased by 3.7 per cent from 381 million tons to 395 million tons, mainly because of increasing imports by countries in South-East Asia, the Far East (including Japan) and the United States.

83. International shipments of crude oil and oil products in 1996 increased by 0.9 per cent in terms of ton-miles, whereas the fleet increased by 1.2 per cent to 264.5 million dwt. The shrinking combined carrier fleet went back to considerably more oil trading. Laid-up tankers in 1996 decreased from 3.1 million dwt to 2.1 million dwt, while storage employment decreased from 5.6 million dwt to 3.9 million dwt, or 1.5 per cent of the tanker fleet.

(b) Tanker freight rates

Very Large Crude Carriers (VLCC)

84. The ULCC market in the Middle East Gulf experienced changes in trade-route structures in 1996. The prevailing trend towards reduced movements to western destinations continued. This was primarily a result of an increasing amount of crude oil demand from the expanding economies of Asian nations such as the Republic of Korea, China, Taiwan Province of China, Thailand and the Philippines. It also reflected 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 Venezuela. While the United States imported a total of 7 million barrels of crude oil daily in 1996, which was a five-year record, only 1.5 million barrels daily were imported from the Middle East Gulf, representing the lowest level in 16 years. European imports from this region also decreased for the third consecutive year.

85. The number of VLCCs fixed for western destinations was down to 256 in 1996, after 360 ships in 1994 and 310 in 1995. Conversely, fixtures increased steadily from the Middle East Gulf to South-East Asia and the Far East, showing about 510 VLCCs in 1994, 575 in 1995 and 662 in 1996.

86. The yearly average rates in 1996 to the West were in the low WS 50s. Those for the Far East varied from WS 60 to WS 65. The decline in westbound traffic with VLCCs was, however, partially offset by more regular use of VLCCs on

the Atlantic routes. There continued to be frequent charter of VLCC tonnage in the Atlantic trades, primarily from West Africa and the North Sea. In 1996 there were 196 VLCCs fixed from West Africa and 62 from the North Sea.

87. Between end-1995 and mid-March 1996, about two-thirds of all VLCC fixtures from the Middle East Gulf were eastbound, helping to boost rates into the range between WS 58 and WS 70, depending on demand and availability of good-quality units. While demand westbound from the Middle East Gulf was scarce and rates continued at the level of WS 55, business to western destinations was dominated by West African demand, which stayed active with fixing at WS 62 to 68. During the following months, a dramatic drop in Far Eastern orders because of relets and refinery maintenance had a severe effect. Thus eastbound fixing dropped off from WS 70 to WS 47-50. Westbound business from the Middle East Gulf had already been under pressure, drifting between WS 43 and WS 53. In the Atlantic there was a better supply/demand balance and rates from West Africa remained within WS 62-68. After slow business, eastbound demand from the Gulf revived markedly in early summer and pushed rates well into the WS 70s for modern vessels. These improved conditions spread to the westbound trades, where the numbers of fixtures inched up to WS 55-60. In West Africa a shortage of ships and increased demand pushed rates up to WS 70. In late summer, slow demand and a large amount of VLCC tonnage enabled charterers to push the Middle East Gulf eastbound market down to WS 47-53. Westbound business was also sluggish, but numbers improved from WS 40s to WS 50-53. On the other hand, West African fixing continued in WS 65-68 for usual western destinations. When the fourth quarter began, a revival of Japanese and Republic of Korea business provided fresh momentum and freights climbed back to even WS 65 for preferred units (see table 36).

Medium-size crude carriers

88. Suezmax vessels had another year of good business in 1996. The 1996 principal market for this size vessel was in the trade from West Africa, where Nigerian oil production accelerated, greatly exceeding the country's OPEC quotas. The average rate for fixtures from West Africa to the United States in 1996 was in the low WS 90s, which compared very favourably with an average in the WS 80s for the previous year. Aframax vessels also had a better market in 1996. Aframax trading in the Atlantic received the added benefit of the declining number of VLCC liftings to the West from the Middle East Gulf as refiners secured more crude oil in the Mediterranean, the North Sea and the Caribbean. In the North Sea, the average Aframax market was slightly better than WS 110. In the Caribbean, the average rate during 1996 for 75,000 ton movements from Venezuela to the United States was about WS 140.

89. At the beginning of the year, bullish conditions prevailed in the major areas for these sizes of oil trade as the volume of business enabled owners to push up rates. An occasional lack of good-quality tonnage combined with a hardening attitude on the part of owners added to this upward trend. Suezmax for West African cargoes had rates of up to WS 110. The rates of Aframax cargoes in the Atlantic climbed to WS 150. These increases spread to other oil-trade areas. Since the end of the first quarter, softer conditions for Suezmax vessels were evidenced by slower turnover in West Africa, where freights slid to WS 95-100. Steadily softening rates for Aframax in the North Sea pushed the market down to WS 120s. The Mediterranean market for Aframax failed to preserve the previously established WS 150 level, thus eroding to WS 105-120. The Caribbean market also slid with slack demand to WS 120s. As the summer season in the Northern Hemisphere began, the market for Suezmax tonnage in West Africa started slowly, with rates sliding to WS 80-90, depending on the quality of vessels. The main Aframax market experienced a slump to WS 95-105. While firm conditions for Aframax prevailed in the Mediterranean with rates up to WS 120, Caribbean business dropped to WS 115-120. In the middle of the third quarter, there was a two-tier market for Suezmax, which kept freights for modern units at WS 90 or better to the United States, while the 1990s-built units accepted rates around WS 70. As the months passed, this discrepancy narrowed as modern vessels were forced to accept below WS 90 and older ones managed to obtain the low WS 80s. Despite a fair amount of overall Aframax business, the Mediterranean market experienced a further but slight setback to WS 95-100. The Caribbean market showed only a slight fluctuation within the

Table 36

Tanker freight indices, 1994-1997
(Monthly figures)

Period	Tanker freight indices a/																			
	VLCC/ULCC				Medium-size crude carriers				Small crude and product carriers				Handy-size clean				Handy-size dirty			
	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997	1994	1995	1996	1997
January	34	53	61	59	89	105	120	114	144	155	158	164	221	226	228	256	171	170	178	198
February	37	48	67	58	88	99	120	109	131	146	154	156	219	216	230	238	175	163	202	201
March	38	50	61	62	88	101	114	120	126	142	178	201	204	215	233	223	172	159	228	194
April	37	45	49	52	94	95	117	110	125	140	161	182	199	187	221	214	169	176	210	181
May	34	45	57	63	89	101	114	111	126	145	153	183	183	211	212	203	176	217	215	203
June	38	56	67	64	92	95	106	107	130	147	160	173	189	218	204	181	185	217	241	186
July	46	63	70		89	108	101		124	145	136		182	213	181		199	214	217	
August	48	64	63		93	107	101		134	148	139		186	204	180		202	192	185	
September	45	54	54		97	100	98		142	135	133		196	189	174		200	166	212	
October	48	49	55		102	101	110		153	143	138		199	207	197		189	175	198	
November	48	61	60		118	97	108		173	132	148		215	215	187		209	163	190	
December	52	61	57		116	103	107		176	137	166		251	234	234		184	162	188	
Annual average	42	54	60	60	96	101	110	112	140	143	152	177	204	211	207	219	186	181	205	194

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 upwards; medium-sized crude carriers: 60,000-150,000 dwt; small crude and product carriers: 30,000-60,000 dwt; and handy-sized clean and dirty tankers: below 30,000 dwt.

WS 115-120 range. As the fourth quarter began, market conditions for Suezmax were encouraging and a steady flow of orders gave the market a sizeable boost, with rates up to WS 110. The North Sea Aframax market also saw a favourable level up to WS 110s, at which a fair number of fixtures were arranged for short hauls (see table 36).

Small crude and product carriers

90. Since March 1996, the overall market rates for this size (see table 36) improved as the Caribbean business paid above WS 200. The Mediterranean/United States trade also paid an improved WS 150, and the North Sea/United States WS 135-145. After July, Caribbean business for 60,000 ton vessels widely fluctuated between WS 130s and WS 160s. The North Sea and Mediterranean markets settled around WS 130. As in the fourth quarter, owners managed to secure gains of up to WS 175 for 50,000 ton cargoes in the Caribbean market, and North Sea trade to the United States paid up to WS 140-150 (see table 36).

Handy-size dirty carriers

91. In March the overall markets for this size improved, led by North Sea activities, increasing freights for the 25,000 ton size to WS 260s for short trips. In the Mediterranean, WS 160-175 were paid for 30,000 ton size and WS 190s for 25,000 tonners. After dropping in August, the North Sea market picked up again and reached WS 230s for the most popular 25,000 ton size on short hauls. In the Mediterranean, 30,000 ton class vessels managed to fix at around WS 200 to the United States. A moderate downward movement persisted throughout the fourth quarter, but rates picked up again in early 1997 and a favourable trend continued well into spring (see table 36).

Handy-size clean carriers

92. After a positive start to the year, the market for handy-size clean carriers deteriorated and reached its low in the third quarter of 1996, when the general rate levels remained depressed at around WS 170 despite regional market improvements. The generally negative market perception was based on continuing low demand in the Caribbean trades. An active month of October, with fair trading in several market segments, saw the Middle East Gulf market improve slightly for 50,000-60,000 ton cargo to the Far East, paying up to WS 180 depending on options. Similarly, Indonesian trades developed favourably. In the smaller 30,000 ton class, rates from the Middle East Gulf to the Far East were as high as WS 270. In the same size group, Caribbean trades speedily recovered to WS 220 after plunging to the WS 180s in previous months. The Mediterranean picked up to WS 180s for 30,000 tons on short hauls. Despite the high level of activity in the North Sea/United States trade, freights continued to fluctuate within the WS 130-170 range for 30,000-35,000 ton vessels (see table 36).

(c) Period-charter market

93. Only a limited number of period-charter contracts were concluded in 1996, resulting in slight market improvements. The majority of contracts were limited to one year - a clear sign of shipowners' optimism for upcoming years. Average time-charter rates for modern double-hull VLCCs increased in 1996 from US$ 25,000 to around US$ 30,000 per day for 12-24 months. VLCCs built in the 1970s were chartered at between US$ 15,500 and US$ 18,000 per day for 12 months. Improved spot rates in the Suezmax market were reflected in better time-charter rates. In general, the Suezmax period market was more active than in previous years, with an average of US$ 20,000-22,000 per day over 12 months for a modern tonnage. The Aframax market also enjoyed improved time-charter rates throughout the year. Modern double-hull units secured around US$ 19,000 per day for 12 months. While single-bottom, modern vessels received rates of between US$ 17,500 and US$ 18,500 per day for one year, early 1980s-built vessels were employed at rates of between US$ 14,000 and US$ 15,000 per day for the same period.

(d) Market prospects

94. Oil companies' downsizing of their fleets has reportedly been accelerating. This will eventually increase charterers' dependence on independent shipowners. Orders for new tankers have decelerated. At the beginning of December 1996, only 22 VLCCs, 31 Suezmax and

42 Aframax tankers were scheduled for delivery by the year 2000. On the other hand, comparatively fewer tankers were scrapped in 1996, representing 6.55 million dwt. In the first 11 months of that year, only 14 VLCCs (30 units throughout 1995), 7 Suezmax and 6 Aframax went for demolition. The North Sea and other oil-producing countries close to the large consuming areas increased their output late in 1996. This trend will continue. World oil demand will grow by almost 3 per cent or 2.1 million barrels per day to 73.8 million barrels per day in 1997, and non-OPEC production will increase by as much as 2.0 million barrels per day. Furthermore, within OPEC, growing exports from Venezuela and African States will have an adverse effect on the ton-mile development and the demand for crude tankers./

G. Estimates of total freight costs in the world

95. The world total value of imports (c.i.f.) increased further by 15.39 per cent in 1995 from the previous year, while world total freights paid for transport services rose by 12.77 per cent. Table 37 indicates estimated total freight payments for imports and the percentage of total import value by country groups. World total freight payments as a proportion of import value had been on a downward trend from as high as 6.64 per cent in 1980 to 5.27 per cent in 1995 (see also graph 12).

96. The relative level of freight costs incurred in the import trades of developing countries continued to be nearly twice as high as that of developed market-economy countries. The difference between the two groups is mainly attributable to differences in trade structures, regional infrastructure facilities and distribution systems, and the more influential shipping strategy of shippers of developed market-economy countries when negotiating with shipowners or liner conferences/operators for larger cargo volumes. Notwithstanding this general tendency, 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 US$ 100,000 million in 1995, Canada, the United Kingdom and Germany incurred relatively low freight costs of 2.40, 2.40 and 2.68 per cent respectively. The United States and France recorded moderate rates of 3.51 and 3.24 per cent respectively, while Japan paid as high as 8.13 per cent. This high rate can be primarily explained by geographical and structural factors of import trade, but to some extent also reflects relatively higher charges for distribution, including cargo-handling activities in ports.

97. The overall ratio of freight charges of developing countries declined almost yearly from 1980 to 1994, as did that of developed market-economy countries. However, in 1995 it rose to 8.30 per cent from 8.25 per cent in 1994. Within the group, Africa showed a higher ratio of 11.44 per cent in 1995, as compared with 11.05 per cent in 1994. West Africa and East Africa incurred higher freight costs at 13.81 and 13.70 per cent respectively, while North Africa was charged at 8.95 per cent, which is slightly higher than the developing countries' total (8.30 per cent). The majority of African land-locked countries paid a comparatively greater amount of freight charges: Malawi paid 39.41 per cent, Mali 29.57, Chad 25.54, Burkina Faso 21.67, Zambia 16.42, Niger 14.53 and Zimbabwe 12.85 per cent.

98. In 1995, Asia accounted for 66 per cent of the total freight costs and 69 per cent of the total value of imports of developing countries. The freight factor rose slightly to 8.03 per cent as compared with 7.97 per cent in 1994. West Asia paid 8.97 per cent, with Iran paying the highest (13.59 per cent). South and East Asia incurred 7.89 per cent. Among major importing countries in this group, the Republic of Korea and Singapore paid relatively low levels of freight costs (5.22 and 5.58 per cent respectively), while Malaysia and Thailand incurred freight costs as high as 9.36 and 9.60 per cent respectively. India and Indonesia incurred the highest freight costs - 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.

99. With 7.89 per cent in 1995, developing countries in America registered the most favourable relative freight factor of all developing countries. Within this region, Central America had the lowest freight factor (5.82 per cent). This favourable rate reflects the fact that Mexico, the major trading nation in the subregion, had a freight factor of only 4.42 per cent.

Table 37

Estimates of total freight costs in world trade a/ by groups
(Millions of US dollars)

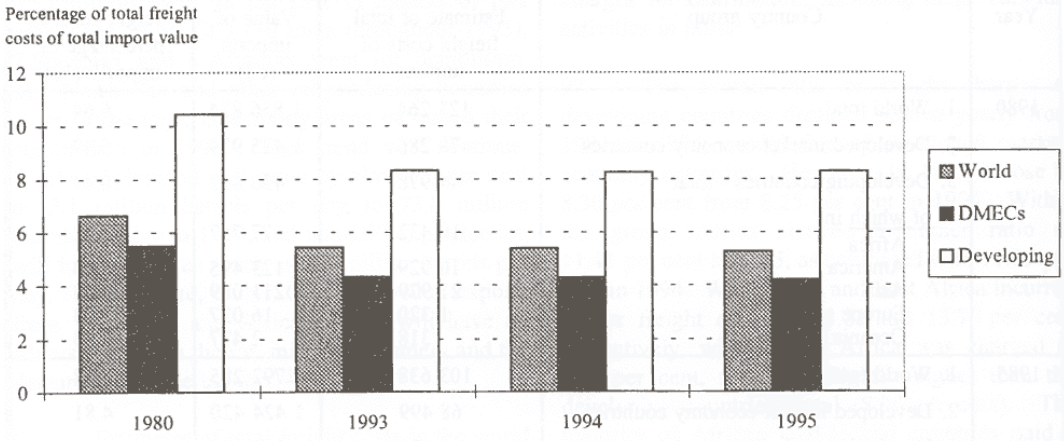
Year	Country group	Estimate of total freight costs of imports	Value of imports (cif)	Freight costs as percentage of import value
1980	1. World total	123 264	1 856 834	6.64
	2. Developed market-economy countries	78 286	1 425 979	5.49
	3. Developing countries - total	44 978	430 855	10.44
	of which in:			
	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
1985	1. World total	103 638	1 792 285	5.78
	2. Developed market-economy countries	68 499	1 424 420	4.81
	3. Developing countries - total	35 139	367 865	9.55
	of which in:			
	Africa	5 813	51 576	11.27
	America	6 825	81 259	8.40
	Asia	21 162	219 956	9.62
	Europe	1 074	12 919	8.31
	Oceania	265	2 155	12.30
1994	1. World total	219 317	4 063 338	5.40
	2. Developed market-economy countries	125 252	2 922 810	4.29
	3.Developing countries - total	94 065	1 140 528	8.25
	of which in:			
	Africa	10 660	96 453	11.05
	America	17 438	219 350	7.95
	Asia	64 156	805 203	7.97
	Europe	1 331	15 600	8.53
	Oceania	480	3 922	12.24
1995	1. World total	247 325	4 688 637	5.27
	2. Developed market-economy countries	145 040	3 457 009	4.20
	3. 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

Source: Derived from IMF c.i.f./f.o.b. factors and IMF import data.

a/ The estimate for the world total is not complete, since data for (1) countries that are not members of the IMF, (2) countries of Central and Eastern Europe and republics of the former Soviet Union, and (3) socialist countries of Asia are not included for lack of data and other reasons.

Graph 12

Estimates of total freight costs in world trade by groups



Source: Table 37.

Chapter V

PORT DEVELOPMENT

This chapter covers recent developments in container port traffic for developing countries, institutional change in ports, measuring port performance, port terminal security and ship-to-shore crane orders.

A. Container port traffic

100. Table 38 gives the latest available figures on world container port traffic in developing countries and territories for 1995. The world rate of growth of container port throughput in 1995 dropped to 5.2 per cent from 13.3 per cent in 1994. This annual rate is considerably down from the average annual containerized trade growth of 10 per cent registered over the last decade. The throughput for 1995 was almost 135 million TEUs, which was an increase of some 6.7 million TEUs.

101. The rate of growth for developing countries and territories was 1.73 times that of the world average and reached 9.0 per cent in the period 1994-1995. This was a decrease in comparison with the 15.8 per cent reached in 1993-1994. The growth is unevenly spread and frequently erratic from year to year, owing in some cases to improved data or lack of it, and in other cases to strong fluctuations in the trade.

102. Initial figures for 1996 are available for the main ports, including those in developing countries and socialist countries of Asia. In the top 30 container ports in 1996, there were 12 ports from developing countries and socialist countries of Asia. Traffic for these ports is given in table 39, with the annual percentage increase shown as well as the increase from the previous year. The world leader was Hong Kong with some 13,280,000 TEUs, closely followed by Singapore with some 12,950,000 TEUs. Both ports are now handling over 1 million TEUs per month. The average annual growth for these 12 ports was 8.3 per cent. Although the rate of growth was still strong, growth rates have declined significantly from 1995 (12.7 per cent).

B. Institutional restructuring in ports

103. Institutional restructuring and reform have continued in many ports, in both developed and developing countries, with the private sector continuing to play an expanding role. The main reasons for the reform are to improve port efficiency and to diversify sources of capital inflows. Indeed, the forecast of substantial seaborne cargo growth has resulted in most maritime countries preparing plans to improve and enlarge their ports and terminals, with much of the investment needed coming from the private sector. Long-term leases, joint ventures and BOT (Build-Operate-Transfer) options have been agreed in the past year or will shortly be decided in Aden (Yemen); Cristobal and Balboa (Panama); Tanjung Priok (Indonesia); Yangon (Myanmar); Port Raysud (Oman); Kadok Island (Republic of Korea); Shantou, Tjanjin and Xiamen (China); Mumbai (India); Colombo (Sri Lanka); and Karachi and Port Qasim (Pakistan). Management skills and technical/operating know-how are also important inputs from private terminal operators involved in such developments.

104. The case of Buenos Aires can be cited as an example of port reform that has benefited traders and shipping lines. A number of private terminal operators were granted long-term leases and have made investments in container-handling equipment and management systems. This modernization has resulted in ship-to-gate terminal tariffs dropping in the space of three years from over US$ 600 to under US$ 200 for a 20-foot container. Argentina's neighbour Brazil, however, although in the process of reforming the sector, has made little progress and its terminal tariffs increased over the same period.

Table 38
Container port traffic of developing countries and territories, 1995 and 1994

Country or territory	Container traffic 1995 a/ (TEUs)	Container traffic 1994 (TEUs)	Percentage change 1995/1994	Percentage change 1994/1993
Hong Kong	12 549 746	11 050 030	13.6	20.1
Singapore	10 800 300	10 399 400	3.9	15.0
Taiwan Province of China	7 848 695	7 310 404	7.4	7.6
China	4 678 875	4 063 805	15.1	45.9
Republic of Korea	4 502 596	3 825 565	17.7	24.6
United Arab Emirates	3 510 764	3 202 558	9.6	9.1
Indonesia	2 196 714	1 912 242	14.9	18.7
Malaysia	2 086 236	1 745 966	19.5	24.9
Thailand	1 961 917	1 771 500	10.8	18.7
Philippines	1 707 743	2 007 281	-14.9	20.7
Brazil	1 429 035	1 151 358	24.1	23.2
India	1 383 176	1 256 999	10.0	23.6
South Africa	1 365 981	1 094 051	24.9	12.0
Saudi Arabia	1 206 352	1 183 075	2.0	-2.9
Egypt	1 062 945	1 116 684	-4.8	12.8
Sri Lanka	1 049 044	972 642	7.9	13.3
Malta	553 896	428 305	29.3	34.3
Pakistan	550 650	513 001	7.3	0.6
Argentina	*540 000*	532 000	1.5	18.1
Mexico	508 378	483 287	5.2	4.9
Chile	432 929	500 430	-13.5	0.1
Jamaica	384 339	339 095	13.3	28.0
Costa Rica	382 179	361 770	5.6	-7.1
Cyprus	373 996	372 237	0.5	-11.5
Panama	323 332	353 195	-8.5	14.5
Kuwait	223 896	220 724	1.4	9.4
Venezuela	215 185	161 140	33.5	155.8
Côte d'Ivoire	213 105	247 544	-13.9	3.7
Kenya	201 350	160 293	25.6	11.2
Honduras	*200 000*	*200 000*	0.0	1.8
Bangladesh	*200 000*	*200 000*	0.0	4.7
Nigeria	180 190	148 130	21.6	-1.5
Ecuador	*180 000*	177 001	1.7	29.3
Peru	*160 000*	*160 000*	0.0	4.3
Guam	157 037	158 651	-1.0	6.9
Morocco	155 661	141 285	10.2	-8.5
Trinidad and Tobago	145 241	154 918	-6.3	6.0
Uruguay	137 644	105 784	30.1	18.9
Syrian Arab Republic	*135 000*	132 961	1.5	10.4
Lebanon	128 882	229 922	-44.0	12.9
Martinique	121 064	110 144	9.9	15.6
Papua New Guinea	114 920	119 500	-3.8	8.5
Dominican Republic	*110 000*	*110 000*	0.0	2.8
Colombia	*110 000*	105 143	4.6	-12.9
Jordan	108 819	111 299	-2.2	2.2
Iran, Islamic Republic of	103 080	110 895	-7.1	21.6
Ghana	100 102	88 534	13.1	-4.7
Bahrain	99 445	103 162	-3.6	1.1
Guadeloupe	95 820	100 499	-4.7	5.2
Oman	95 603	87 878	8.8	-1.9
Tanzania, United Republic of	94 100	90 763	3.7	-7.4
Mauritius	92 882	93 746	-0.9	6.1
Total	67 268 844	61 776 796	8.9	16.2
Other reported b/	1 037 927	902 337	15.0	-8.9
Total reported c/	68 306 771	62 679 133	9.0	15.8
World total reported	134 999 519	128 220 226	5.3	12.3

Source: Derived from information contained in *Containerisation International Yearbook, 1997*.

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

b/ Comprising developing countries and territories where under 90,000 TEUs per year were reported or where substantial lack of data was found.

c/ Certain ports did not respond to the background survey. While they were not amongst the largest ports, total omissions may be estimated at 5 to 10 %.

Table 39

Traffic for selected ports in 1996 and 1995

Port	1996 TEUs	1995 TEUs	Percentage change 1996	Percentage change 1995
Hong Kong	13 280 000	12 529 000	6.0	13.4
Singapore	12 950 000	11 830 000	9.5	13.8
Kaohsiung	5 209 000	5 053 183	3.1	3.1
Busan	4 684 000	4 503 000	4.0	17.7
Dubai	2 247 024	2 070 000	8.6	10.0
Keelung	2 108 579	2 165 193	-2.6	5.8
Shanghai	1 930 000	1 526 500	26.4	27.3
Manila	1 913 210	1 690 601	13.2	12.6
Tanjung Priok	1 595 505	1 519 529	5.0	19.6
Bangkok	1 565 891	1 463 450	7.0	9.5
Klang	1 409 000	1 133 811	24.3	14.1
Colombo	1 352 966	1 048 018	29.1	7.8

Source: *Port Development International*, March 1997.

105. In early 1996, the regulatory functions of the Port of Singapore Authority (PSA) were transferred to the newly established Maritime and Port Authority of Singapore. The PSA's role is now to concentrate on the introduction, development and expansion of the services and facilities needed. The purpose of this measure is for PSA to be transformed within the next two years from a public institution into a private corporate body. Also, this has allowed PSA to become involved in the development and management of terminals in other countries. For example, it is playing a key role in the development of the Dalian container terminal in China. The Dalian Container Terminal Co. Ltd. (DCT) is PSA's first overseas joint venture company. A seven-man management team assisted in centralizing all container handling to a single terminal with 3 berths, 5 quay cranes and 12 rubber-tyred gantries (RTGs). The projected throughput for 1996 was 450,000 TEUs. PSA is currently considering projects in India, Indonesia, the Republic of Korea and Sri Lanka.

106. The Indian Government has established new guidelines for investment in the port sector. Private and foreign companies are allowed to participate in the BOT option, but the sale of assets has been ruled out. The duration of the concession is normally 30 years but can exceptionally be extended to 50 years. An independent Tariff Regulatory Authority is being created which will fix and revise tariffs every three years. Massive investments are required as ports are currently congested and costing traders millions of dollars in demurrage payments each year. A recent report concluded that India's industrial and economic progress could be stifled by the failure of its port system. The Government is actively seeking funding from multiple sources to finance this development.

107. The Kenya Ports Authority (KPA) has taken various steps to improve its performance. In 1994, following extensive rehabilitation of cargo-handling equipment, it signed a maintenance contract that established performance guarantees and penalties (originally for ten years then reduced to five years). In 1996, the KPA signed a performance contract with the Government which included performance targets, and awarded a two-year management contract for the development and operation of its container terminal to a private foreign terminal operator. These steps were taken

to enhance the efficiency of the port and improve the flow of both domestic and transit cargo.

C. Port performance

108. The two main users of ports are the shipping lines and traders. The first are primarily concerned with the reliable turn-around of their vessels, while the second's concern is for the safe and timely delivery of their goods. Both are also concerned with port costs, which are a large portion of transport costs. Physical and institutional factors influence productivity to such an extent that it is extremely difficult if not impossible to strictly compare any two or more terminals. Further, it appears inadvisable to establish standards for terminal productivity on an international basis. Any comparisons of terminals must be made carefully and on a case-by-case basis. In many cases, it is more appropriate to monitor productivity on a time-series basis, comparing it at a single terminal over two or more time periods.

109. One of the measures is the productivity of ship-to-shore gantry cranes in terms of moves per gross working hour or net working hour. To make this indicator more meaningful, information on the scheduled working hours per crane should be given. For a time-series analysis and on the assumption that the mix of 20-foot and 40-foot containers does not change, crane productivities are sometimes given in terms of TEUs per crane hour. The difficulty with this indicator can be illustrated by considering the productivity figure of 20 TEUs per hour, a relatively good figure if handling only 20-foot containers, but a poor one if handling 40-foot containers (thus only 10 moves per hour). Another indicator of the terminal productivity is in terms of container moves per hour at berth or per hour worked at berth: major factors affecting this productivity are the number of cranes assigned per ship and the scheduled working hours per day.

110. The Bureau of Transport and Communications Economics in Australia maintains the following performance figures on a quarterly basis for the major Australian ports (Brisbane, Sydney, Melbourne, Adelaide and Fremantle): the **crane rate**, which is the number of containers moved per crane per net hour (net time is the elapsed time minus the time during which work is not possible because of shift breaks, a problem with the ship, bad weather, cargo awaited, industrial disputes, holidays or shifts not worked at the ship operator's request); the **net rate**, which is the number of containers moved per net hour per ship; and the **elapsed rate**, which is the number of containers moved per elapsed hour (elapsed time is the total time the ship is alongside the berth available for work whether work is done or not, measured from labour first ordered to last labour ashore).

111. In Australia, the five-port average elapsed rate (the rate of most interest to shipowners) for the first three quarters of 1996 was around 19 moves per hour (19.3, 18.6 and 19.0) and the crane rate increased to 18.0 moves per net hour (16.9, 17.7 and 18.0). This corresponded to quarterly volumes of 373,870 TEUs, 395,586 TEUs and 423,768 TEUs for the five ports.

D. Port terminal security

112. Security of cargo is a major concern of port authorities. Thefts and smuggling of cargo, and stowaways, are occurrences that port authorities need to combat in order to ensure the quality of their services. The costs incurred by port users because of these activities are very high, as shown by various recent analyses. For instance, in the United States, it is estimated that the annual cost of cargo theft and pilferage varies from US$ 3 to 10 billion a year.

113. Ports are tackling this issue and have taken steps to improve their security. Secure perimeter fencing has been installed to make it extremely difficult, if not physically impossible, to remove containers through the fence. Improved gate access control involves the sealing or removal of all disused gates, and a system to secure main gates to prevent forcible entry. Access to the terminal should be strictly controlled, with formal procedures for the entry and exit of trucks and containers. Empty containers should be checked to ensure that they are empty. All areas of the terminal must be lit to at least the level of twilight so that security guards can see down the lines between containers. Poor lighting can be a major factor contributing to container theft and pilferage. A well-paid, trained and motivated team of security guards is essential

for enforcing security procedures and ensuring that all criminal acts are discovered and reported. Detailed inspections and recording of seals are essential for establishing the point of any loss. The operator needs to check each seal, and record its number, date, time and place of examination at entry and exit points of the terminal and at each movement within the terminal. Finally, care should be taken to avoid minor pilferage at the container freight station. Drivers should not be allowed into the storage area, vehicles collecting import cargo should have their loaded cargo checked against delivery notes and cabins should be checked.

114. Although, generally speaking, the number of thefts from port terminals has been drastically reduced, there is a high risk of theft once the container has left the relative security of the port. Container theft is defined as the stealing of a whole container, while pilferage is theft from the container itself. Improvements in high-security seals are making it difficult or impossible to break the seal with a pipe or bolt cutters. Investigation of crimes has found that there is generally some inside involvement, for example someone from the inland transport company, the terminal or the container line. The most common methods used are armed hijacking, fraudulent documents to obtain a container from a yard, and theft when the driver parks the vehicle for a rest. Insurance clubs can provide members with an audit to appraise the security of their terminal.

E. Ship-to-shore crane orders

115. A survey of container crane orders carried out in 1996 provided information on the characteristics of the cranes and who was ordering them. A total of 213 container cranes were on order as of mid-July 1995, whereas 193 were on order as of mid-July 1996. Of the cranes on order in 1996, 145 were for delivery in 1997. Some 45 per cent of them were for Asian ports, 25 per cent were for Europe and less than 16 per cent were for North America. Of those cranes on order, 62 per cent can be classified as post-Panamax, reflecting the introduction of new post-Panamax class vessels into service. The number of very large cranes with outreaches of 50 metres and above was 65. Thus, over one-third of the cranes on order are capable of handling the largest ships in service or to be delivered. There is also a trend for smaller and slower cranes to be used for dedicated feeder and short-sea traffic (see table 40).

Table 40

Ship-to-shore container cranes on order
(As at 15 July 1996)

	Outreach (metres)					Total
Geographical region	<36.0	36.0-39.9	40.0-44.9	45.0-49.9	50.0	
Developed						0
Europe	8	11	0	12	28	59
North America	1	0	0	16	17	34
Japan/Australia	2	11	3	4	0	20
Developing						
Asia	10	13	6	18	20	67
Africa	0	3	0	2	0	5
Middle East	0	2	0	2	0	4
Latin America	0	4	0	0	0	4
Total	**21**	**44**	**9**	**54**	**65**	**193**

Source: *Cargo Systems*, August 1996.

Chapter VI

TRADE AND TRANSPORT EFFICIENCY

This chapter provides an update on the expansion of the UNCTAD Global Trade Point Network (GTPNet), on developments in the field of multimodal transport, and on the impact of the latest developments in information technology on the efficiency of transport operations.

A. Trade efficiency

Development of the GTPNet

116. UNCTAD's Global Trade Point Network (GTPNet) has been designed to offer primarily small and micro-businesses around the world practical assistance in all trade-related matters: trade information, bank loans, transport, insurance and customs practices. Among other things, data and information on transport practices, specifically maritime transport and related services, are indispensable for achieving greater efficiency in trading activities. Relevant service providers, such as transport operators, could benefit from the facilities provided by the GTPNet so that they are able to offer a higher quality of services in both time and cost, maximizing the benefits of services provided.

117. The GTPNet relies on the most advanced available technologies for networking and multimedia communication. As the number of connected Trade Points increases, the GTPNet is rapidly emerging as one of the main worldwide networks for trade-related information flows. As at April 1997, 108 countries were involved in the GTPNet, 21 of which are least developed ones. There are 41 operational Trade Points in 23 countries and another 120 Trade Points have been requested (24), are being set up (89) or are moving towards being fully operational (7). The GTPNet is a global trade-related network based on the Internet. The main servers are located at the United Nations International Computing Centre (UNICC) in Geneva and at the UNCTAD Trade Point Development Centre in Melbourne, Australia (which moved from Bangkok, Thailand, in 1995).

Electronic trading opportunities (ETOs)

118. A particularly important feature of the ETO system is that ETOs are distributed on a point-to-point and company-to-company basis. This is in contrast to older systems, which posted information on a bulletin board system or relied on country-to-country exchanges at a more official level. Companies receive ETOs in their e-mail boxes or from their local Trade Point, or they download them from the ETO Newsgroups straight into their computers. Therefore, the ETO system is directly in touch with the people who make trade happen. Its size, growth, reliance on the most advanced technologies available, and focus on the specific needs of developing countries and smaller firms make it a truly unique instrument of worldwide integration in global trade.

119. Offers to buy and/or sell can be accessed on the GTPNet from all connected Trade Points and ETO subscribers around the world. ETOs are electronic messages sent out in free format or using UN-EDIFACT compatible standards (PRICAT message), which allow their easy retrieval and selection. An average of 200 ETOs are disseminated among Trade Points and ETO subscribers daily. Since the creation of the GTPNet, over 1 billion ETOs have been processed. It is estimated that every day ETOs reach over 7 million companies around the world in the following way: 40 per cent via e-mail, 30 per cent via Newsgroups and the Web Trading Place (direct download), 20 per cent via bulletin board services (ASCII-based services) and the remaining 10 per cent via newspapers, ETO brochures, etc. A new breed of ETOs appeared on the GTPNet in November 1996, which will contribute to making the GTPNet one of the first global networks adapted to full electronic trade transactions on the Internet. This system introduces secure requirements for validation, authentication and secure payment processing in the GTPNet.

Internet and development: The use of World Wide Web servers

120. The World Wide Web is the fastest-growing part of the Internet. It is made up of multimedia (i.e. text, images, sound and video) information distributed on thousands of Internet servers around the world. This information is interconnected by "hypertext links", where choosing a highlighted word or image on one web page takes the user directly to a related web page, wheresoever its physical location might be. Although Internet connectivity is still far from being truly global, most countries have some access to it. Because of its remarkably low cost, the Internet remains a solution to involve the less advanced players in the emerging Global Information Infrastructure (GII).

121. The GTPNet World Wide Web server was launched in January 1995. It contains structured information on trade efficiency, Trade Points, the GTPNet, ETOs, etc., as well as hypertext links with other United Nations organizations, government agencies, and trade-related organizations and information sources.

122. The GTPNet now offers thousands of links with other networks and organizations. This is done primarily by hypertext links on the GTPNet servers. Also, with the ETO-e-mail system, many links exist, particularly with trade promotion organizations. Finally, many World Trade Centres have expressed interest in establishing Trade Points. Cooperation on these fronts continues, and is being further accelerated by the increased interest of other major trade-related networks in being "linked" in some fashion to the GTPNet. An important element of such cooperation would be the creation or further improvement of linkages with trade-supporting services, such as banking, insurance and transport.

Transport companies on the Internet

123. Business information through the Internet is rapidly assuming importance also in the transport sector. For the maritime industry, the Internet has become an important tool for technical and commercial management, general administration and marketing. Equally, for the trading community, it has provided easier and more readily available access to information, thus contributing significantly to market transparency. In order to assist both providers and users of maritime transport services, UNCTAD is developing a transport web page called TransLink as a quick and inexpensive means of helping developing countries to improve the efficiency of trade operations. TransLink is planned to be a search engine consisting of subdirectories that will provide information and instruction on using data links. It will thus be complementary to the GTPNet programme in terms of both contents and linkage.

124. Annex IV provides a list of web sites of transport and related companies and institutions. Given the rapid development of the Internet, this listing cannot be considered as exhaustive; rather, it gives only a modest insight into the opportunities offered by this medium.

B. Multimodal transport and technological developments

125. The advantages and disadvantages of in-house and bought-in logistics services in different branches of the transport industry are among the main issues in discussion of trade facilitation. In recent years, different industries have recognized the value of using outside contractors to perform selected logistics functions or manage complete logistics processes. According to a survey/ on the use of third-party logistics services as well as the scale of globalization of activities of service suppliers, European operators were outpacing those in the United States. In Europe, 69 per cent of the logistics service companies surveyed were operating worldwide, compared with 59 per cent in North America. The increasing globalization of business provides a massive potential competitive advantage for organizations that could develop and manage global supply chains.

126. Leading freight forwarders and major multimodal transport operators continue to establish subsidiaries, agencies or representations in developing countries and countries in transition, providing complete transport services in those countries. Sometimes such steps meet with reservations on the part of governments, which see the penetration into their markets of more sophisticated and effective foreign operators as a threat to their domestic operators.

127. Shipping and trade have always relied on the transfer of documents and information. The Internet - and particularly the World Wide Web

facility - has begun to be considered as a new effective means for accelerating the movement of trade documentation and for other commercial applications. Though the number of transport companies using this facility is still relatively small, it is likely to increase dramatically. For this to happen, some outstanding problems need to be overcome, such as the security of the Internet and the reluctance of shippers and operators to reveal space demands and open positions. Among developments in the field of commercial Internet applications, mention may be made of systems for the trading of new and second-hand containers which provide vendors with a worldwide market and customers with rapid access to information about available equipment.

Transport and environment

128. A new environment transport initiative called "transport chain assessment" was launched by an industry company for which transport represents an essential part of the product value. The concept was designed to calculate and manage vehicle emissions and energy consumption across the whole transport chain, from production to delivery to consumer, and to create conditions for, and initiate the use of, transport solutions with improved environmental performance. Under this concept it is possible to calculate vehicle emissions and energy consumption in a specific transport chain. From a specific point showing the various types of emissions and energy consumption from specific transport modes, customer-specific transport environment profiles are produced. A unique customer and transport chain profile can then rapidly identify and measure deficiencies and unnecessary emissions. The concept can become an effective instrument for reducing the adverse environmental effects associated with transport, and a competitive tool for a new industry standard in this field.

Land-bridges and other block train services

129. The opening of the direct rail link between the Iranian port of Bandar Abbas and Turkmenistan has brought new possibilities for the development of trade in the region. India in particular has expressed interest in using this rail link for its containerized cargo trade with CIS countries. A new regular Bombay-Delhi container shuttle service has begun operations with the twice weekly departure of 40-wagon trains in addition to several container block train services already in operation in India.

130. In China, a dedicated container rail service between Zhengzhou in Henan Province and Hong Kong started on 15 December 1994, jointly provided by the China Railway Container Transport Centre and the Kowloon Canton Railway Corporation. The distance of 1,122 kilometres is covered in less than 72 hours. The train capacity is 84 TEUs. Since then several other dedicated container services have been put into operation.

131. The potential for intermodal transport in China was given a major boost with the official inauguration on 1 September 1996 of the Jingjiu railway connecting Beijing and Shenzhen. Several railway links connecting to the Jingjiu railway have already been built, with supporting intermodal systems and handling equipment. Until recently, the Chinese railway network moved almost exclusively containers of shipping lines. Starting at the end of 1996, however, the Ministry of Railways has placed major orders for own ISO 20-foot containers, and it is expected that container traffic will grow substantially over the coming years. For that purpose, the Chinese Ministry of Railways has established several subsidiaries to specialize in containerized rail transportation and to cooperate with other modes of transport.

132. At the end 1996, a major United States intermodal carrier launched its first rail-based intermodal container service in China. The service operates with daily container trains between Harbin and the port of Dalian, which is connected with Japan by weekly feeder service and from there to the line's worldwide scheduled container services. The new service offers transport time of 26 days between Harbin and New York, and vice versa. All the transport, including delivery or collection in Harbin, is organized on one single transport document. The company intends to establish additional intermodal container services in China.

133. Another major intermodal operator has concluded a preliminary agreement with the Chinese Government permitting the company to open freight centres in seven major Chinese cities with the aim of providing complete transport services with the use of its own vehicles and container freight stations. The agreement will allow the company to operate

the network for three years on a trial basis.

134. Following the construction in 1992 of the railway line between Urumchi and Druzhba linking the Chinese and Central Asian CIS railways, a new service between Japan and Central Asia via China called the Trans-Asia Land-bridge Service (Central Asia Express) was launched by a Japanese freight-forwarding company. Shipments from Japan are carried to China on a weekly container ship service and transhipped to the Chinese Railways at the port of Lianyungang for carriage to Druzhba at the Chinese-Kazakstan border, where they are transferred to the Kazak Railways. Transit time from the Japanese ports to Almaty is 25-27 days. The operator of the service accepts container and conventional shipments on door-to-door transport documents. Several agreements needed to be concluded between the freight forwarder and different rail and forwarding companies and governmental organizations in China and Kazakstan. Lianyungang handled 12,118 TEUs through the new land-bridge in 1996.

135. Container services have also been introduced by Viet Nam Railways, a joint venture with a New Zealand company provides rail transport of containers between Hanoi and Haiphong, operates inland container terminal facilities and offers auxiliary value-added services.

136. About 20 container block trains are operated daily by the Malaysian Railways, each capable of transporting 60 TEUs. The railways handled 40,000 TEUs in 1996. To meet increasing demand in container traffic, new specialized rolling stock was acquired, including low-bed wagons for transporting 40- and 45-foot-long containers.

137. The provisions of the EU Council directive concerning the development of railway enterprises in the Union (EU Directive 91/440) have begun to be incorporated into the national legislations of member countries, and the railways of some Central and Eastern European countries have taken measures on the application of this directive. Its main provisions concern:

- greater autonomy for railway enterprises;
- separation of infrastructure and operations; and
- creation of international groupings and infra-structure access rights.

138. A major United States rail company and two European operators have created a joint venture to provide door-to-door intermodal freight services in Europe using shuttle block trains. The venture provides services for the movement of maritime containers, trailers and swap-bodies. This development contributes to a change in the competition situation on the European railway network, access to which should be granted to all combined transport operators in accordance with EU Directive 91/440. However, not all European railways have expressed their readiness to open their networks to external operators, reserving for themselves the right to operate trains on their networks. Some of them have preferred to operate their own container block train services in addition to those operated by Intercontainer-Interfrigo (ICF). Table 41 gives details concerning new block/shuttle container train services introduced by ICF in 1995-1996.

139. Two major European airports have decided to cooperate in promoting the use of rail transport as an alternative to road transport, where punctuality is becoming an ever-increasing problem. Different solutions for the use of rail transport for this purpose were being studied, including the creation of special infrastructure, rolling stock and operational measures.

140. In the United States further integration and mergers in the field of transport services have continued. As a result, the number of Class I railroads will have dwindled from more than 30 in the 1960s to only 5 by the end of 1997. New transport corridors served by double-stacked container trains have continued to emerge with major infrastructure works along these new corridors.

Inland navigation

141. Though inland navigation is generally both economically viable and ecologically safe, it is not always used to its full potential, often because of lack of financial resources for development and maintenance. In the case of India, for example, although experts have estimated that at least

Table 41

New block/shuttle container train services introduced by ICF in 1995-1996

Centres connected	Type of service	Frequency per week
Basel-Rotterdam	Shuttle	5
Antwerp-Malaszewicze	Block train	1
Neuss-Pruszkow	Block train	3
Bochum-Taatstrup	Block train	5
Berlin-Moscow	Block train	2
Milan-Barcelona	Block train	4
Sopron-Halkall	Shuttle	2
Lisbon/Leixoes-Santurce	Block train	1
Rotterdam-Sopron	Shuttle	2
Sopron-Thessaloniki	Shuttle	2
Vercelli-Bochum	Block train	2
Fos-Metz	Block train	5

Source: *Containerisation International*, August 1996, p. 63.

US$ 430 million would be necessary, over a period of 5-8 years, for the development and maintenance of the inland waterways network, only US$ 8.57 million has actually been spent.

142. China has carried out a project to expand inland navigation in southern provinces worth US$ 349 million. It involved dredging a 273-kilometres-long section of the Xiang river between Nanning and Guangzhou to cater for ships of up to 1,000 tonnes by the end of 1998.

143. In Europe it is forecast that over the next 15-20 years the volume of containers transported between Rotterdam and the hinterland will be tripled. This offers plenty of scope for inland navigation. Many innovative technologies have been introduced in this area, including new designs and bigger barge dimensions. One of these innovations is a 398 TEU self-propelled barge under construction in the Netherlands, to be put into operation in August 1997.

144. In spite of some growth in the volume of transported goods owing to better awareness by shippers of the possibilities of sea-river transportation, and governmental policies aimed at stimulation of this environmentally friendly mode of transportation, this technology is still handicapped in Europe. There are many reasons preventing wider use of sea-river technology, among them the necessity for high specialization of vessels for particular river characteristics, the need for collapsible superstructure to pass under bridges, and the seasonal influence of water depth on the carrying capacity and therefore on the efficiency of the use of the vessels.

Container leasing industry

145. The container leasing industry experienced strong growth in 1996 (see tables 42 and 43). Customers' push for hiring new equipment resulted in major disposal programmes initiated by leasing companies in their efforts to reduce the average age of stock. The negative side of the developments was substantial over-ordering of containers in the second part of 1995 and a recession in several Asian economies which led to a weakening of utilization rates in 1996. However, the repair standard (IICL-5) and container interchange (Container Interchange Management) initiatives developed jointly by leasing sector and shipping lines were expected to lead to substantial cost savings in the near future. It was expected that realization of these initiatives would streamline container interchange and reduce repair costs.

Table 42

Distribution of the world container fleet by owner in 1995-1996

Owner	April 1996		July 1995	
	TEUs	per cent	TEUs	per cent
Major lessors	4 290 000	43.8	4 070 000	44.0
Other lessors	330 000	3.3	300 000	3.2
Lessors total	4 620 000	47.1	4 370 000	47.2
Ocean carriers	4 760 000	48.6	4 480 000	48.5
Other	420 000	4.3	400 000	4.3
World total	9 800 000	100	9 250 000	100

Source: *Containerisation International*, August 1996, p. 6.

Table 43

Container lessors' fleets
(TEUs)

Lessor	End-1995	End-1996
Transamerica	1 036 000	1 350 000
Genstar	1 100 000	1 100 000
Textainer	400 000	430 000
Triton	380 000	420 000
Florens	300 000	350 000
Cronos	265 300	318 300
Sea Containers	263 000	274 000
Interpool	225 000	250 000
XTRA	195 000	220 000
CAI	125 000	185 150
Total	4 290 000	4 897 500

Source: *Cargo Systems*, October 1996, p. 43.

146. Over 86 per cent (in TEUs) of the leased container population was made up of the standard dry freight containers, including high-cube 9 feet 6 inches high containers, the share of which grew to about 10 per cent of the total standard dry freight container population in 1996. The share of United States domestic containers and swap bodies did not exceed 2.5 per cent, that of integral reefers 4.6 per cent and that of tank containers 1.1 per cent.

Container production

147. Continuing growth of worldwide container trades and demand for replacement of older containers were generating constant demand for containers in the world markets, though the total amount of production in 1996, including dry freight container production, was slightly lower than in 1995 (see table 44). The need to introduce highly cost competitive capacities and a shift to new demand centres have resulted in a new geographical pattern of distribution of production capacities. Concentration of container production in China and South-East Asian countries has been accompanied by declining production and emphasis on value-added products in traditional producing countries.

148. As the result of unprecedented growth in production capacities in new production centres in South-East Asia, 1996 saw a remarkable overcapacity in the world dry freight container production industry. Several manufacturers were forced to close their production lines or to work with limited capacities, and container prices plummeted to a level where many producers could not show any profit. It was estimated that during 1996 a total of 230,000 TEUs were removed from global manufacturing capacity; and at least 10 factories were closed permanently. A restricted purchase policy by shipping lines and the leasing industry led to an accumulation of stocks of unsold containers at the factories and a consequent reduction in container prices by about 10 per cent compared with 1995.

149. China continued to be by far the largest manufacturer of dry freight containers in the world, as can be seen from table 45. No factory was closed in that country in 1996. The industry took advantage of container purchases at bargain prices, and large orders were placed by national operators and railways.

150. Unlike in China, the container production industry suffered major losses in Thailand, Indonesia, India, South Africa and Malaysia. Many production lines, which had been put into operation in recent years, were closed in 1996 because of the deteriorating order situation and the low prices of containers.

Table 44

World container production in 1995-1996 by types of containers
(TEUs)

Type of containers	1996	1995
Dry freight standard, including high cube	1 080 000	1 200 000
Dry freight special	55 000	65 000
Refrigerated	85 000	76 000
Tank containers	15 000	12 000
Specific regional a/	28 000	33 000
World total	1 263 000	1 386 000

Source: *Containerisation International*, January 1997, p. 61.

a/ Includes United States domestic containers and European swap bodies.

Table 45

World container production (all types) by countries/regions in 1995-1996
(TEUs)

Country or region	1996	1995
China	680 000	695 000
Republic of Korea	80 000	123 000
Indonesia	66 500	88 500
Malaysia	58 000	67 500
Taiwan Province of China	57 000	73 500
India	41 000	31 000
Thailand	22 000	46 000
Others in Asia	8 000	12 500
Western Europe	85 000	86 500
Turkey	42 000	42 500
Eastern Europe/CIS	40 000	35 000
Republic of South Africa	31 000	32 500
Central/South America	25 000	25 000
North America	23 000	22 000
Australasia	4 500	5 000
Total	1 263 000	1 385 500

Source: *Containerisation International*, January 1997, p. 60.

151. Owing to the expansion of demand, the production of tank containers increased significantly in 1996 (see table 46). While the European region continued to be the most important producer of tank containers (including swap bodies), the largest growth in production in 1996 was in South Africa. In the Asian region, Malaysia is the largest producer of tank containers.

152. The total world fleet of tank containers amounted to 100,000 TEUs by the end of 1996, with an annual rate of increase over recent years of about 10 per cent.

153. The world total production of refrigerated containers increased from 51,050 units in 1995 to 56,310 units in 1996, and it is estimated that more than 70,000 units will be produced in 1997. Refrigerated containers continued to be produced mainly by the traditional manufacturers in Japan and the Republic of Korea. However, no fewer than five factories were producing refrigerated containers in China in 1996.

Container dimensions

154. Under a directive of the European Commission, from 1 January 1997 45-foot-long containers will no longer be allowed on the roads of the European Union countries. This does not apply to containers made before the end of 1996, which will be tolerated for another 10 years. This situation has created difficulties for several maritime operators using 45-foot containers in Europe. However, some of these operators appear to have found a solution to the problem by introducing a special type of corner fittings that enables 45-foot-long containers to be transported within the legal limits imposed by the new EU regulations (see box 3).

Table 46

World tank container production
(TEUs)

Country or region	1995 output	1996 output
Benelux	1 200	1 500
Ireland	900	1 000
France	1 700	1 400
Germany	600	750
Italy	250	300
Spain	350	350
United Kingdom	1 800	2 400
Others in Europe	100	100
Europe total	6 900	7 800
South Africa	3 500	5 200
United States	600	600
Asia	250	300
Total	11 250	13 900

Source: *World Cargo News*, December 1996, p. 22.

Box 3

Lines find a solution to new EU container dimension rule

Directive 96/53 of the European Union, ratified in September 1996 and aimed at harmonizing regulations on vehicle weights and dimensions throughout the EU, sets 16.5 m as the maximum permissible length for articulated vehicles on Europe? s roads, with a maximum load length of 13.6 m.

Currently used by some operators, 45 ft long containers exceed this dimensional parameter by 81 mm; thus the Directive will ultimately stop 45 ft units from being used on European roads.

The Directive must be brought into national legislations of the countries members of the EU within 12 months. Although a so-called "grandfather clause" potentially enables existing fleets built before the implementation date to remain in operation for up to 10 years, it will be illegal to put any conventionally-designed equipment manufactured after September 1997 on the roads. Moreover, member States may decide individually whether or not to confer "grandfather" rights for existing equipment.

Intensive lobbying by the maritime community for a change in the draft directive or for 45 ft boxes to be exempted has failed to have any effect.

Door-to-door transport operators Bell Lines and Geest North Sea Line have come up with a novel engineering solution to the forthcoming ban on 45 ft long containers from Europe? s roads. They have jointly developed and patented a corner casting design which will allow the 45 ft box to comply with impending European regulations on vehicle dimensions.

The key dimensions which are set to make 45 ft containers illegal on the road system after next September centre on the kingpin rather than the overall length. Legislation states that the maximum distance from the kingpin to the rear of the vehicle should be 12 m, and that the front of the container/trailer when the vehicle is turning should describe an arc with a maximum radius of 2.04 m from the kingpin.

It is possible for a trailer-mounted 45 ft box to meet one but not both requirements. The new corner casting, however, enables both criteria to be met. New front corner castings and posts will enable the container to meet the crucial 2.04 m swing clearance requirement of EU Directive 96/53. By this means, the overall length of 45 ft across the full load area of a cellular pallet-wide container (CPC) or standard 8 ft-wide unit can be retained.

Boxes with the new castings will continue to fit cell guides in containerships. The concept is fully-functional for top lifting and twist locking purposes and compatible with all existing shipboard lashing systems.

Source: *Lloyd's List* (London), 5 December 1996, p. 2.

C. Information technology in transport

1. Transport information systems

Development of the Advance Cargo Information System (ACIS)

155. In order to improve the efficiency of transport systems, operators have installed computer-based systems to track transport equipment and consignments via all transport modes and at transfer points. One such system is the Advance Cargo Information System (ACIS) developed by UNCTAD, which, using existing communication systems, provides an information network linking the physical points along various surface transport routes. An important feature of the system is the availability of a database facility for transport information, providing registered users with confidential access to the status of any given consignment.

156. ACIS is a logistics information system designed to improve transport efficiency by tracking equipment and cargo on the modes (rail, road, lake/river) and at the interfaces (ports, inland clearance depots) and providing information in advance of cargo arrival. It provides both public and private transport operators and ancillaries with reliable and 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. It also produces regular performance indicators which enable management to remedy deficiencies and to make full use of the existing infrastructure and equipment capacity.

157. Once installed at the national and subregional levels, ACIS could provide data for macroeconomic planning to foster the optimal modal distribution patterns. It will play an important role in the development of trade relations and in reinforcing subregional integration, because it will enable transport operators to communicate, through modes and interfaces and over borders, the vital information which they require in order to improve their efficiency, thus reducing the costs and time of carriage along transport corridors.

158. ACIS relies heavily on information technology, and has been designed for use in difficult environments. 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.

159. ACIS started in 1988 and is operational or being installed in 14 countries: Bangladesh, Burkina Faso, Cameroon, Côte d'Ivoire, Ghana, Kenya, Malawi, Mali, Senegal, Sudan, Uganda, United Republic of Tanzania, Zaire and Zambia. The railway tracking module - RailTracker - is already producing concrete results: shippers and private or public freight forwarders now have direct access into several railway databases - and in some cases this access is "live" on public telephone lines or on Internet so as to obtain current information on the movements/status of consignments/containers. For the 15 railways currently using RailTracker, benefits comprise better use of transport equipment (locating equipment, quicker turn-around times enabling wagon fleets to generate more revenue, simplified maintenance monitoring), reduction in transit times of goods (facilitation of traffic flows at border crossings and interchange of rolling stock between networks, simplified wagon hire compensation formalities) and improved quality of transport services offered to the customer with data on cargo whereabouts, thereby facilitating off-take and delivery as well as reduction of insurance costs.

160. Programme promotion, development, upgrading, quality control and system maintenance will continue, and funding will be sought in accordance with new requests. Typically for a medium-sized railway, implementation takes 18 months and costs US$ 1 million. Contributions so far have been received from multilateral sources (the European Union and the World Bank) and from bilateral sources (France and Germany).

2. Transit transport

161. A group of experts met in Geneva from 5 to 7 May 1997 to discuss the use of information technologies to make transit arrangements more effective.

162. Lack of effective control of transport equipment and cargo in transit is undermining the credibility of existing transit transport arrangements and threatening to reverse major

achievements in transit facilitation. In order to overcome these problems and to make the most effective use of information technologies, the experts examined a two-tier proposal by the UNCTAD secretariat./ It proposes that new information technologies be used, first, to computerize data-handling tasks undertaken by individual suppliers of transit services, including transport operators, freight forwarders, banks, insurance companies, warehouse operators, customs and providers of market information; and, secondly, to computerize information exchange between suppliers of transit services, for example between port and railway authorities, or with national customs authorities.

163. After extensive deliberations, the experts recommended that UNCTAD should, in the context of the ASYCUDA and ACIS projects, work towards developing a transit module which would incorporate the structure of messaging systems outlined in the paper "Use of information technologies to make transit arrangements more effective" (TD/B/COM.3/EM.1/2 and Add.1). Furthermore, they recognized the need for a comprehensive customs transit system and an integrated cargo-tracking system open to all operators.

164. The transit module should cover all functions of customs control and transport monitoring of transit goods from the beginning to the completion of the transit operation, including the release of securities where appropriate. It should be open to similar computerized systems and, to the extent permitted by national laws, it should permit relevant access by trade and transport operators. Messages used should be based on existing international standards, in particular UN/EDIFACT. A group of countries both transit and land-locked, with priority given to least developed countries, could be targeted to act as pilot sites for this electronic transit mode. Furthermore, the possibilities offered by localization techniques such as Global Positioning Systems (GPS) could be investigated for eventual use.

D. Other developments

Conventions on Maritime Transport

Review of the 1952 Convention on Arrest of Ships

165. The ninth session of the Joint UNCTAD/IMO Intergovernmental Group of Experts met in Geneva from 2 to 6 December 1996 and successfully completed preparation of a set of draft articles for a new Convention on Arrest of Ships.

166. The review of the 1952 Convention became necessary after the adoption of the International Convention on Maritime Liens and Mortgages, 1993 (the 1993 MLM Convention) by a Joint United Nations/IMO Conference, held under the auspices of UNCTAD. Arrest is a means of enforcing maritime liens and mortgages. The Arrest Convention therefore needs to be aligned on the 1993 MLM Convention to ensure on the one hand that all claims secured by maritime liens are given the right of arrest under the Arrest Convention, and on the other hand that circumstances in which ships can be arrested for maritime claims are specified clearly so as to avoid conflicting interpretation in different jurisdictions.

167. The Joint Group did not reach a decision about whether the draft Convention should adopt an approach similar to that of the 1952 Convention and include a closed list of maritime claims in respect of which arrest is permitted, or whether it should include an open-ended list of maritime claims so as to retain flexibility and avoid excluding genuine maritime claims from having the right of arrest. Opinions were divided on the subject, and in view of the decisive nature of the issue the matter was left to be determined at a future diplomatic conference. The Joint Group recommended to the IMO Council and to the UNCTAD Trade and Development Board that "they consider favourably, on the basis of the useful work done so far, proposing to the General Assembly of the United Nations the convening of a diplomatic conference to consider and adopt a Convention on certain rules relating to the arrest of ships on the basis of the draft articles prepared by the Group of Experts"./

Box 4

Signatory position 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 1997
United Nations Convention on a Code of Conduct for Liner Conferences, 1974	78	78
United Nations Convention on the 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 - SMALL ISLAND DEVELOPING COUNTRIES

This chapter reviews the global and intraregional trades in small island developing countries, together with developments in shipping and related services and recommendations.

168. The sustainability of development processes is particularly crucial for small island developing States (SIDS). Sustainable development may be regarded as the progressive and balanced achievement of economic growth, social development and environmental sustainability. It is evident that all countries must have the opportunity to realize economic growth in order to meet their essential needs. The concept of sustainability brings in elements of quality of growth ensuring that economic and social development and environmental protection are mutually reinforcing. Its successful implementation, in SIDS more than in other developing countries, is conditional upon the existence of a functioning maritime transport system.

169. Efficient maritime transport and port infrastructure are essential for participation and expansion of trade. This is particularly important for those SIDS that are at a geographical and economic disadvantage. These handicaps take the form of high distribution costs, lack of reliable shipping services, expensive transhipment charges, inadequate port facilities, limited maritime administration and diseconomies of scale when negotiating freight rates with shipping conferences. For example, estimates of total freight costs for SIDS are almost 50 per cent higher than for developed market-economy countries. For some SIDS the incidence of freight costs is even double that for developing countries as a group. The present chapter provides an analysis of the situation of maritime transport in small island countries, looking at their position as both suppliers and users of shipping services.

A. Economic background

Macroeconomic performance

(a) Real GDP

170. The GDP growth of developing countries as a group has followed a fairly stable trend line at an average annual rate of 6.2 per cent since 1991. The GDP growth of small island developing countries, however, has shown wide fluctuations in recent years, with rates varying from two-digit growth to two-digit contraction (see table 47).

171. In the Caribbean and North America, the economies of the Dominican Republic, Saint Kitts and Nevis, Saint Lucia, and Saint Vincent and the Grenadines have developed favourably since 1991. All other countries in this region registered 1991-1996 average annual growth rates ranging between figures below zero and 2.5 per cent. The economy of Haiti has been particularly vulnerable, with negative growth rates recorded during most of the last seven years. Tourism and related industries are the mainstay of the economic activities of the countries in this region. They account for about 70 per cent of GDP in the Bahamas and represent a major factor in Jamaica.

172. In Africa, Mauritius has been constantly expanding its economy at an average rate of over 5.0 per cent per year since 1978. Slow but steady growth has been recorded in Sao Tome and Principe. The GDP of the Comoros and the Seychelles, which had been negative in 1994 and 1995, moved upwards in 1996. Although the per

capita GDP of the latter (at US$ 6,500 in 1994) is higher than anywhere on the African mainland, the country is very vulnerable to changes in the external environment. Its economy is characterized by the dominance of tourism and related services.

173. In Asia and Europe, the economic activities of Asian and European SIDS have generally expanded, registering GDP average annual growth rates of over 5.0 per cent. Among the countries of Oceania, the Solomon Islands' economy has been on an upswing at the high level of 5.9 per cent per year since 1991, followed by Fiji, whose tourism and related services are dominant in its GDP, whilst the economies of other countries have fluctuated, resulting in alternate negative and positive growth.

Table 47

Real GDP of small island developing countries
(Annual percentage change, 1978-1996)

	Average 1978-1987	1988	1989	1990	1991	1992	1993	1994	1995	1996
World	3.3	4.7	3.7	2.7	1.8	2.8	2.7	4.1	3.7	4.0
Industrial countries	2.7	4.3	3.7	2.7	1.2	1.9	1.2	3.1	2.5	2.5
Developing countries	4.5	5.4	4.2	4.0	4.9	6.5	6.5	6.8	6.0	6.5
Caribbean and North America										
Antigua and Barbuda	7.3	7.7	6.3	3.5	4.4	1.1	3.5	4.8	-4.2	5.0
Bahamas	5.1	2.3	2.3	1.2	-2.7	-2.0	1.7	0.9	0.3	3.0
Barbados	2.3	3.5	3.6	-3.3	-3.9	-5.7	0.8	4.0	2.9	4.5
Dominica	4.0	7.4	-1.1	6.3	2.2	2.7	1.9	2.1	1.8	3.2
Dominican Republic	3.6	2.2	4.8	-5.8	1.0	8.0	3.0	4.3	4.8	7.3
Grenada	4.7	6.8	5.8	5.2	3.6	1.2	-1.2	2.3	2.7	3.0
Haiti	1.3	0.8	1.1	-0.1	-3.0	-14.8	-2.6	-10.6	4.5	2.0
Jamaica	2.4	-4.0	4.7	4.1	0.8	1.8	1.0	0.5	0.5	-
Saint Kitts and Nevis	4.9	9.8	6.7	3.0	3.9	3.5	5.0	4.1	4.8	6.7
Saint Lucia	5.9	12.2	9.1	4.1	2.3	7.1	2.1	2.2	4.1	3.7
Saint Vincent and the Grenadines	6.2	8.9	6.5	5.4	3.1	4.9	2.1	-0.4	6.7	3.3
Trinidad and Tobago	-2.1	-4.0	-0.7	1.5	2.7	-1.7	-1.6	3.8	2.4	3.2
Africa										
Comoros	4.3	2.7	-3.2	2.5	-3.0	7.7	3.8	-2.3	-2.3	1.9
Mauritius	4.1	8.7	5.7	4.7	6.4	4.8	6.7	4.2	3.3	4.4
Sao Tome and Principe	-0.1	2.0	3.1	-2.2	1.2	0.7	1.1	2.2	2.0	2.2
Seychelles	3.2	5.3	10.3	7.5	2.7	6.9	5.1	-1.6	-1.8	3.2

Asia										
Maldives	9.5	8.7	9.3	16.2	7.6	6.3	6.2	6.6	7.2	6.5
Singapore	6.9	11.1	9.6	8.8	6.7	6.0	10.1	10.1	8.9	-
Bahrain	3.3	-4.0	2.4	4.6	4.6	7.8	8.2	2.3	1.2	1.6
Cyprus	6.2	8.7	8.0	7.3	0.4	9.7	1.5	6.1	5.3	2.4
Europe										
Malta	3.6	8.4	8.2	6.2	6.3	4.7	4.5	5.0	6.2	3.5
Oceania										
Fiji	1.7	3.5	13.9	3.2	1.5	4.8	3.5	4.2	2.4	3.3
Kiribati	-5.8	10.6	-2.2	-3.2	2.8	-1.6	0.9	1.8	2.5	2.6
Papua New Guinea	2.2	2.9	-1.4	-3.0	9.5	11.8	16.6	5.2	-2.9	2.3
Solomon Islands	2.6	1.3	4.3	1.0	2.0	12.3	4.0	5.8	6.9	4.4
Vanuatu	2.9	0.6	4.5	5.2	4.5	-0.7	4.4	2.6	3.2	3.0
Western Samoa	2.4	-1.5	1.9	-9.4	-2.3	-0.2	4.1	-6.5	9.6	5.8

Sources: IMF, *World Economic Outlook, The World Economy in 1997-1998, Economic Prospects and Policies (Overview of the World Economic Outlook Projections - May 1997).*

(b) Exports of goods

Caribbean

174. Exports by some countries in this region have remained favourable or turned upwards. However, all the countries, except Trinidad and Tobago, have very large deficits in foreign trades, which are mainly covered by the constantly expanding tourism industry. In the Bahamas, the Government is endeavouring to broaden the economic base by developing agriculture and fishing, and this resulted in an increase of 3.5 per cent in overall exports in 1995. In Barbados, agricultural products are the main export items, accounting for about 50 per cent of total exports, while electrical components and chemicals represent some 45 per cent. A chronic deficit in foreign trades in goods has been made up by the tourism industry, which contributes about 50 per cent of total foreign exchange earnings. Alumina, bauxite and agricultural products continue to provide the bulk of earnings in Jamaica's foreign trade, even though the country has been developing non-traditional exports. Trinidad and Tobago's exports have surpassed its imports in f.o.b. terms. Exports turned upwards in 1994. Export growth was largely led by petrochemical trades, while manufactures and foods provided the basis for successful developments in the non-petroleum sector (see table 48).

Africa

175. Mauritius[1] exports were traditionally dominated by sugar, but earnings from manufactures have grown rapidly in recent years and surpassed sugar exports. Both small and large firms have been forced to modernize, innovate and become more efficient. This has improved the Export Processing Zone (EPZ) productivity, which rose by 31.7 per cent between 1990 and 1994 and promoted the sector's international competitiveness. EPZ's exports of mainly clothing items increased

from 27 per cent of total exports in 1980 to 67 per cent in 1994. The Seychelles' economy is characterized by the dominance of tourism and related activities, and by a very high degree of import dependence.

Asia and Europe

176. Bahrain imports crude oil from Saudi Arabia and alumina from Australia. Its major exports are petroleum products, which account for 60 per cent of total exports in terms of value and are sold mainly in Asian markets. Non-oil exports, particularly aluminium, have become more important. Cyprus is an island of limited natural resources, with a persistent and growing trade deficit. Nearly half the country's exports are re-exports. Foreign investment is sought in projects which produce high-technology export goods. In Malta, a country with no domestic raw materials and a very small internal market, economic development has been based on the promotion of export-oriented industries and tourism.

Oceania

177. With the exception of Papua New Guinea, SIDS in Oceania have limited natural resources. Their main exports are agricultural and marine products and their trade balance is persistently and heavily in deficit. Fiji's exports consist mainly of sugar, garments and re-exports. Foreign trade deficits are compensated for by the tourism industry, which attracts more than 300,000 foreign holidaymakers every year. The Solomon Islands' timber exports in 1995 increased by 16 per cent from the previous year to 735,000 cubic metres. Fish and palm oil are other main exports. For Tonga, squash accounts for nearly half of the country's merchandise exports. Other agricultural and marine commodities have good results for exports. Papua New Guinea has substantial productive potential, such as a large expanse of rich agricultural land, extensive forest and fishery resources, large deposits of copper and gold and enormous reserves of natural gas. Economic growth has, however, been constrained by the undeveloped economic infrastructures.

Table 48

Exports in goods of selected small island developing countries, 1991-1995
(f.o.b. millions of US dollars and percentage change)

Country	1991	1992	1993	1994	1995
Caribbean					
Bahamas	360	343	287	259	268
	-	-4.7	-16.3	-9.8	3.5
Barbados	151	144	158	152	-
	-	-4.6	9.7	3.8	-
Jamaica	1 197	1 117	1 105	1 551	1 793
	-	-6.7	-1.1	40.4	15.6
Trinidad and Tobago	1 775	1 691	1 500	1 778	2 456
	-	-4.7	-11.3	18.5	38.1

Table 48 *(continued)*

Africa					
Mauritius	1 253	1 335	1 334	1 377	1 572
	-	6.5	0	3.2	14.2
Seychelles	49	48	51	52	55
	-	-2.0	6.3	2.0	5.8
Asia					
Bahrain	3 510	3 470	3 710	3 450	4 090
	-	-1.1	6.9	-7.0	18.6
Cyprus	965	986	868	968	1 229
	-	2.2	-12.0	11.5	27.0
Singapore	58 900	63 400	73 700	96 500	118 000
	-	7.6	16.2	30.9	22.3
Europe					
Malta	1 331	1 610	1 408	1 619	1 939
	-	21.0	-12.5	15.0	19.8
Oceania					
Fiji	446	438	444	485	516
	-	-1.8	1.4	9.2	6.4
Papua New Guinea	1 482	1 951	2 604	2 651	2 670
	-	31.6	33.5	1.8	0.7
Solomon Islands	84	103	134	149	182
	-	22.6	30.1	11.2	22.1
Tonga	13.4	12.3	16.1	13.9	18.3
	-	-8.2	30.9	-13.7	31.7
Vanuatu	14.9	17.8	17.4	25.1	28.3
	-	19.5	-2.2	44.3	12.7
Western Samoa	6.5	5.8	6.4	3.5	8.8
	-	-10.8	10.3	-45.3	151.4

Source: Worked out by the UNCTAD secretariat on the basis of data provided in IMF, *International Financial Statistics*, various issues.

B. Costs of transport

178. Estimated total freight costs of total import value for small island developing countries are as high as 10.90 per cent, compared with 4.20 per cent for developed market-economy countries and 8.30 per cent for developing countries. Table 49 compares small island developing countries with other country groups and indicates the large disparity among the former. In particular, most small remote islands incur even higher freight costs as a percentage of import value, ranging from 12 to 18 per cent, which is significantly higher than those of other developing countries as a group.

Table 49

Estimate of total freight costs of total import value, 1995
(Millions of US dollars)

Country	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as a percentage of import value
Caribbean and North America			
Antigua and Barbuda	25	276	8.95
Bahamas	146	2 471	5.92
Barbados	56	623	8.95
Bermuda	81	903	8.95
Dominica	21	240	8.95
Dominican Republic	495	3 850	12.85
Grenada	10	93	10.32
Guadeloupe	427	3 326	12.85
Haiti	120	933	12.85
Jamaica	324	2 694	12.02
Martinique	254	1 975	12.85
Saint Kitts and Nevis	11	126	8.95
Saint Lucia	28	309	8.95
Saint Pierre & Miquelon	4	47	8.95
Saint Vincent and the Grenadines	17	187	8.95
Trinidad and Tobago	169	1 713	9.84
Africa			
Sao Tome and Principe	8	47	17.76
Comoros	20	153	12.85
Mauritius	247	1 949	12.70
Reunion	281	2 661	10.55
Seychelles	39	302	12.85

Asia			
Maldives	32	357	8.95
Singapore	6 936	124 394	5.58
Bahrain	400	4 093	9.76
Cyprus	337	3 694	9.12
Europe			
Malta	293	2 977	9.84
Oceania			
American Samoa	6	62	8.95
Fiji	106	807	13.14
French Polynesia	109	900	12.10
Guam	50	412	12.10
Kiribati	7	75	9.76
Nauru	3	33	8.95
New Caledonia	112	922	12.10
Papua New Guinea	194	1 512	12.85
Solomon Islands	28	168	16.42
Tonga	6	78	8.13
Vanuatu	17	142	12.10
Western Samoa	13	144	8.87
World total a/	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

Source: Compiled by the UNCTAD secretariat on the basis of IMF c.i.f./f.o.b. factors and IMF International Financial Statistics.

a/ The estimate for the world total is not complete, since data for (1) countries that are not members of the IMF, (2) countries of Central and Eastern Europe and Republics of the former Soviet Union, and (3) socialist countries of Asia are not included for lack of data and other reasons.

Box 5

Caribbean carriers' cost barriers

Carriers in the US/Caribbean trades range from the mega to the minuscule. Two mid-sized operators, Seafreight Lines and Antillean Marine, tell about their routes, their services and their defences against the mega-carriers' incursions.

In 1960, the Babun brothers - Teofilo, Jose and Abraham - settled with their families in Miami, leaving their successful lumber and cement businesses behind them. Three years later, equipped with a single breakbulk ship, the Babuns launched a liner service from Miami to the Dominican Republic - and Antillean Marine Shipping Corporation was born. "Why? Out of necessity, the family had to be fed," states Sara C. Babun, daughter of co-founder Jose, and Antillean's current president. At first it was just the Dominican Republic; then Jamaica and Haiti were added, and later Jamaica was dropped. Today, Antillean plies three routes with seven time-chartered ships (four of 160 TEU/13.5 knots, two of 118 TEU/12.5 knots and one of 98 TEU/ 11.5 knots). The first service goes every Tuesday and Friday from Miami to both Rio Haina and Boca Chica, on the Dominican Republic's South coast. There is also a bi-weekly call at La Romana. This service uses three of the 160 TEU ships, working on a rolling schedule so that if ship A sails from Miami on a Tuesday, its next voyage (as ship D) begins on the following Friday.

The second service goes every Wednesday and Saturday from Miami to the northern Dominican Republic port of Puerto Plata, and every Tuesday and Saturday from Miami to the Haitian capital, Port-au-Prince. The Wednesday sailing (98 TEU) shuttles between Miami and Puerto Plata. The Tuesday sailing (118 TEU) shuttles between Miami and Port-au-Prince. While the Saturday sailing (160 TEU) goes to Port-au-Prince, Puerto Plata and back to Miami.

Thus Antillean's Miami departure schedule reads: Tuesday, Rio Haina, Boca Chica and Port-au-Prince; Wednesday, Puerto Plata; Friday, Boca Chica and Rio Haina; Saturday, Port-au-Prince and Puerto Plata. The third service is a twice-weekly link between Boca Chica and San Juan (Puerto Rico); this employs the second 118 TEU ship.

Antillean follows a number of clear-cut precepts:

- it does everything possible itself
- it charges all inland transport at cost
- it focuses on a few markets which it knows intimately
- it operates alone and is totally independent
- it will not allow big lines to tie up customers/cargo with service contracts
- it uses every available "trick" to beat its competitors on costs
- schedule reliability is paramount
- security is taken very seriously
- the key to success is hard work.

Thus, Antillean manages all aspects of its three-berth Miami River wharf terminal, using its own non-union workforce. Its head office (at the terminal) performs the full range of operational, sales, customer service and equipment control functions. It repairs its own containers and maintains its own handling equipment. It has its own cranes at every destination (all the ships are gearless). It even has its own transmitting station to communicate with the ships at sea. Subsidiaries aside, Antillean employs over 200 staff in Miami. Apart from the president herself, the two operations vice-presidents are also Babun family members. It accepts cargo from anywhere in North America. If Antillean arranges the inland move, it does so as part of the service.

To Boca Chica and La Romana, competition is negligible; to Puerto Plata, it is Crowley, Seaboard Marine and Tropical Shipping; to Rio Haina, the list includes those three plus Bernuth Lines, Evergreen, Maersk, Sea-Land, Tecmarine, Transportación Marítima Grancolombiana (TMG) and Zim; and to Port-au-Prince, Bernuth, Seaboard and Tecmarine. As formidable as this line-up may be, all

these people have other fish to fry. Whereas Antillean believes that, having served (only) the Dominican Republic and Haiti for so long, it knows better than anyone how customers there think and what matters to them (like Antillean itself, many are family-run businesses).And its managers keep in touch with them through frequent personal visits.

Indeed, Antillean takes pride in the fact that, during the 1992-94 trade embargo of Haiti, it was the only line granted a US Government licence to maintain a service. "Other lines turned their backs on Haiti, because it was so expensive to serve, but we stayed and the customers appreciated it," Babun recalls.

Scheduling has to be precise. Even with hurricanes, the maximum delay is one day.

When the big lines came, they introduced service contracts. Customers went for them - thinking they were getting something special. Antillean's response was to give all customers the same price for one container as the big lines were giving for guaranteed volumes. If necessary, it gave an even lower price. "After that, the contracts stopped," says Babun, who calls Antillean's normal pricing policy "conservative".

Rates have nevertheless slumped. FAK (freight all kinds) to Haiti now earns a basic freight of around US$ 1,000 per 20-foot, compared with US$ 1,400 two years ago. As for the Dominican Republic, where the competition is most intense, Antillean now charges a basic rate of US$ 310 per 20 ft; six years ago, it was three times as much. That US$ 310 becomes US$ 860 after the addition of surcharges. Southbound cargo is mixed; northbound, the main commodity is apparel (basic rate from Haiti: US$ 415/770 per 20 ft/40 ft, or US$ 1,175/1,760 after surcharges).

Antillean protects itself against the worst effects of these rates by keeping costs down. Babun: "There are certain tricks to the market that make it more inexpensive for us ...". Not surprisingly, she prefers not to say what these are. Given the big lines' higher costs, Babun does not see how they can all remain in such peripheral, low-return trades. She expects at least one player to drop out during 1997.

According to *JoC/PIERS US Global Container Report*, Antillean carried 19,357 TEU/9,024 TEU from/to the United States in 1996, putting it in 52nd place overall. It is pondering involvement in new trades, and is longingly preparing for Cuba, although Babun fears that conditions there will get worse before they ever get better.

Antillean enforces strict shipboard security procedures and cooperates closely with the authorities at both ends, and so has never had any problems.

Seafreight Line goes further afield. From Port Everglades, just north of Miami, its three cellular ships (230 TEU, 260 TEU and 340 TEU) sail each Friday to Puerto Cabello, La Guaira and Isla Margarita (Venezuela), Point Lisas (Trinidad), Georgetown (Guyana) and Paramaribo (Suriname), thence back to Port Everglades. Meanwhile, its two multipurpose ships sail bi-weekly from Houston and New Orleans to Kingston, Puerto Cabello, La Guaira, Point Lisas, Paramaribo, Georgetown and back to Houston.

Registered in the Cayman Islands, Seafreight Line is an investment company for non-nationals - i.e. a group of foreign individuals. Since its inception in 1992, the hands-on management of the business has been undertaken by its general agent, Miami-based Seafreight Agencies, whose president is Roland Malins-Smith.

For Seafreight, explains Malins-Smith, this is a one-way trade. There is some cargo from Venezuela to the United States (tiles, roofing materials, petrochemicals) but it is much sought-after and very low-rated, nor could Seafreight compete on transit time, given its subsequent itinerary. So it is essentially fulls (20 ft, 40 ft and 45 ft) southbound and empties home. Seafreight takes FCL cargo from the whole of North America and has its own LCL packing station in Miami.

In 1996, Seafreight moved a total of 11,543 TEU from the United States and brought 471 TEU back, reports *PIERS*. To Venezuela, Seafreight is up against Arawak Line, Crowley, Evergreen, Ivaran Lines, King Ocean Services, Maersk, Nordana Line, Seaboard and Sea-Land, among others. Trinidad

attracts Bernuth, Carifreight, Crowley Frota Amazonica, King Ocean, Navieras/NPR, Seaboard, Sea-Land, Tecmarine and Tropical. Georgetown, with Bernuth, Frota Amazonica, King Ocean and Tecmarine, is not quite so heavily populated. Finally, Bernuth and Tecmarine are the only real opposition to Paramaribo.

According to Malins-Smith, shippers pick Seafreight for a number of reasons, namely:

- it never transhipsits Florida sailings are weekly and on the most popular day of the week, i.e. Friday
- it has excellent local knowledge and enjoys a lot of goodwill
- its agents are dedicated to the line.

Seafreight's other important advantages are low overheads - most notably a modest office with a small staff - and its optimally-sized ships. Elaborating on the latter point, Malins-Smith notes that Georgetown, being a river port, has a severe draft limitation of 6.1 metres. So Seafreight has deliberately expanded its business to fit the largest size of ship permissible in Georgetown, thereby reducing its slot-cost to the maximum possible extent. Moreover, when chartering, Seafreight goes to great lengths to fix the most economical ships. Large carriers, observes Malin-Smith, spend money entering new markets and are prepared to lose money for some time afterwards. Indeed, Venezuela now has Evergreen, Sea-Land and Maersk - and when one of the mega-carriers first arrived there, he recalls bitterly, it immediately slashed rates by US$ 500.

But Georgetown's shallow draft should deter such carriers from going into Guyana and Suriname. This is because their main line ships would be too deep, thereby forcing them to feed - at prohibitive cost. Or so Malins-Smith hopes and believes. "We anticipate new competition in Guyana and Suriname; not from the mega-carriers but from smaller ones," he states, adding the warning: "And when they appear, they will have us to deal with."

Since Seafreight began, trade volumes have stagnated. Venezuela is still racked by inflation and financial instability. Trinidad's economy is flat. Guyana is one of the poorest nations in the western hemisphere. And Suriname has had it share of financial stress. So Seafreight's current trade share (10-12 per cent to Venezuela and 50 per cent to Guyana and Suriname) has necessarily been clawed from other carriers, not from trade growth.

A meltdown in rates over the past five years has been fanned by cost-conscious customers. Seafreight's average revenue per TEU has fallen from US$ 2,000 to US$ 1,500. Only by containing its own costs has it managed to stay ahead. While belonging to all the relevant discussion agreements, Seafreight is not in any conference. Indeed, it finds conference membership often sends out a negative message to customers. It has its own tariff, which Malins-Smith suggests is probably little different from anyone else's. Seafreight is never the first to cut rates, but it nevertheless cherishes its ability to match any price being offered out there, without reference to anyone else.

While Crowley and Tropical are Seafreight's rivals to Venezuela and Trinidad, Seafreight feeds any of their boxes, originating from non-competing ports (e.g. Brazil), to Guyana and Suriname. It also acts as feeder for various deep-sea lines selling (say) Europe/Paramaribo via Port Everglades. There is even cooperation between competitors. Seafreight and Tecmarine have an agreement whereby one can load on the other's ships in case of urgent need; equipment being simply subleased and returned at the other end, rather than being formally "direct interchanged". Likewise, Seafreight's LCL service harmoniously competes with the consolidators whose containers it eventually carries.

Seafreight's most recent projects have involved upping the capacity of its Gulf service, establishing a new LCL packing facility in Miami, moving to a new head office and creating a new NVOCC of its own, SeaPack, enabling its customs to use Seafreight's brand of service to a wider range of Caribbean markets. Elsewhere, it may well be that the mega-carriers are successfully shedding costs by building ever-larger ships. Malins-Smith gives a broad grin: "In these trades, the big lines' cost-cutting strategy simply won't work."

Source: *Containerisation International*, May 1997.

179. The high incidence of freight costs referred to above is not only a reflection of low import unit values, but also of comparatively high freight rates for ocean transport to island developing countries. Long distances, low cargo volumes, transhipment and high feedering costs contribute to a level of freight charges that is generally above that incurred by most other developing countries. In the trades from Europe to Pacific island countries, freight rates have fluctuated somewhat but have remained at fairly high levels and developed as follows:

	Europe-Tahiti/ New Caledonia/Vanuatu US$	Europe to other South Pacific Islands US$
1992	2 300	2 400
1993	2 375	2 400
1994	2 650	2 400
1995	2 525	2 500
1996	2 050	2 500

The average rate for refrigerated/temperature-controlled cargoes since 1996 has been US$ 4,850 per TEU.

C. Overview of the current situation in shipping

(a) International trade of small island developing countries

180. The demand for shipping services is derived from international trade. The dominance of manufactures (80 per cent) in the trade of the group as a whole is highly biased by the performance and trade structure of a small number of more developed States that belong to the SIDS group. For the majority of the less developed ones, raw materials continue to be major export items.

181. A review of SIDS' international trade by value indicates a shift in both structure and direction of imports and exports. Total exports increased at about 11.5 per cent annually for the period 1988-1994, with the fastest growth in manufactures (annual average growth rate of 17.2 per cent) and decreasing fruit exports.[/] The direction of exports changed over the period 1988-1994. For example, in 1988, developed market-economy countries imported about 56 per cent of SIDS' exports. However, by 1994, the developed market-economy countries' share declined to 44.5 per cent. Conversely, the developing countries' share of SIDS' exports increased from 39.9 per cent in 1988 to 51.8 per cent in 1994.[/]

182. Total imports increased at an annual average rate of 8.9 per cent over the period 1988-1994.[/] Manufactured goods remained the largest share of imports - 81 per cent in 1994 - and increased from 69.0 per cent in 1988. In other commodity groups, imports of food and fuels remained static; however, agricultural raw materials decreased by 34.3 per cent, while ores and metals increased by 30.0 per cent. The direction of imports over the period 1988-1994 shifted away from developed market-economy countries (down 8.3 per cent), with an increase for developing countries (up 15 per cent). Developed market-economy countries, however, were the major countries of origin, with more than 55 per cent of the 1994 total. The developing countries and socialist Asia expanded their share to 41.0 per cent and 3.2 per cent respectively.

(b) Small island developing countries' merchant fleet

183. Fleet statistics pertaining to the group of small island developing countries are distorted by the widespread offer of open-registry facilities by some countries in this group. The benefits for the open-registry countries are additional tax revenues and employment opportunities when ship management companies are established in the country. True ownership of tonnage remains minimal in these countries, as can be seen from the data in table 18 above.

184. Available fleet statistics show 38 SIDS with ships on their registers. However, five SIDS offering open-registry facilities represent 115.6 million dwt or 73.0 per cent of the total tonnage within the group. In addition, the data contained in table 50 reveal that the tonnage distribution in the remaining 33 countries is highly uneven. The total fleet of 42.7 million dwt which is not attributable to the major open

Table 50

Merchant fleets of small island developing States and territories by flag of registration[a] and types of ship[b] as at 31 December 1996 *(In dwt)*

	Total fleet	Oil tankers	Bulk carriers	General cargo[c]	Container ships	Other types
Antigua and Barbuda	2 842 205	6 011	287 781	1 519 279	992 620	36 514
Bahamas	38 242 885	20 715 234	7 824 583	6 762 548	965 693	1 974 827
Bahrain	241 911	97 002	13 143	98 759	..	33 007
Barbados	723 063	37 740	333 750	278 047	..	73 526
Bermuda	5 208 272	3 239 779	547 808	188 552	469 337	762 796
Cape Verde	18 571	562	..	14 252	..	3 757
Cayman Islands	1 221 147	155 100	529 639	390 044	57 080	89 284
Comoros	3 498	..	..	2 834	..	664
Cuba	332 800	37 708	632	171 814	..	122 646
Cyprus	37 966 130	6 752 008	21 726 491	6 371 794	2 002 156	1 113 681
Dominica	1 901	..	..	1 901	..	..
Dominican Republic	11 242	1 635	..	8 641	..	966
Fiji	29 219	3 605	..	10 497	..	15 117
Grenada	950	..	..	950	..	..
Haiti	170	..	..	..	..	170
Jamaica	6 339	3 292	..	2 813	..	234
Kiribati	7 094	3 048	..	3 352	..	694
Maldives	143 868	12 679	19 536	103 997	..	7 656
Malta	32 168 358	13 655 261	12 798 875	4 408 655	600 622	704 945
Mauritius	327 358	84 464	2 500	162 735	68 760	8 899
Montserrat	..	..	..	..	..	..
Nauru	..	..	..	..	..	..
Papua New Guinea	62 118	10 044	..	48 888	..	3 186
Sao Tome and Principe	2 492	..	..	1 285	..	1 207
Seychelles	3 278	..	..	3 278	..	..
Singapore	25 721 659	11 839 420	7 862 814	2 195 942	2 642 894	1 180 589
Solomon Islands	6 775	..	..	3 155	..	3 620
Saint Helena	478	..	..	..	..	478
Saint Lucia	889	..	..	889	..	..
Saint Vincent and the Grenadines	10 901 760	2 274 881	4 525 163	3 580 270	96 531	424 915
Saint Kitts and Nevis	550	..	..	550	..	..
Tonga	14 555	..	..	10 403	..	4 152
Trinidad and Tobago	10 893	..	..	4 644	..	6 249
Turks and Caicos Islands	405	..	..	161	..	244
Tuvalu	84 936	..	..	27 067	..	57 869
Vanuatu	2 093 163	65 866	1 164 991	487 471	19 929	354 906
Virgin Islands, British	3 806	..	..	3 203	..	603
Western Samoa	6 501	..	..	6 066	..	435
Total SIDS	158 411 239	58 995 339	57 637 706	26 874 736	7 915 622	6 987 836
Percentage of total	100.0	37.2	36.4	17.0	5.0	4.4

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

[c] Including passenger/cargo.

registries is primarily registered in Singapore, Antigua and Barbuda, and Saint Vincent and the Grenadines. The latter Caribbean States also offer open-registry facilities, even though they are not counted among the major flags of convenience. In total, these three States represent 39.4 million dwt or 24.9 per cent of the group's total tonnage. Together with the open-registry countries, their share amounts to 98 per cent of the total SIDS fleet. This uneven distribution reflects the dilemma of most countries within the SIDS group. Even though their foreign trade is nearly exclusively dependent on the availability of maritime transport services, their participation therein is negligible. Additionally, the statistics can only inadequately reflect the maritime engagement of island countries, as local inter-island trade will generally be carried by ships below the cut-off size of 100 grt included in the global Lloyd's databank. Thus, a large number of vessels of less than 100 grt are operating in many small island developing States. For example, in the Maldives, inter-atoll cargoes are carried by 250-350 dhonis (small vessels of about 50-75 dwt)[/] while in the Caribbean some 400-500 small ships (200-300 dwt) were trading in early 1990.[/] Similarly, 200-300 inter-island vessels were operating among South Pacific islands (Oceania).[/]

185. The age of the SIDS fleet of 100 grt and above is the second qualitative factor. Nearly 50 per cent of the merchant fleet is 15 years old and over. This ageing fleet leads to higher operating costs, as repair and maintenance rapidly increase with age; and schedule delays and unreliability, as well as greater environmental risks are associated with obsolete vessels. In brief, the SIDS fleet is ageing and therefore needs replacing. Table 51 summarizes data on fleet age by vessel type.

186. Another conclusion to be drawn from the fleet ownership/vessel type data is the need for small island developing States to increase their capabilities for serving their own trade. The existing fleet is mostly owned abroad, based on open-registry facilities. Although these facilities provide foreign exchange earnings, some employment for seafarers and service sector diversification, they are not fully complementary to the trading requirements of small island developing States, and at the same time conceal structural deficiencies. Most manufactured goods move by containerships or general cargo ships, yet the former represent only 5.0 per cent and the latter 17.0 per cent of the total SIDS fleet. If the vessels registered under open registries and in Singapore are excluded, the SIDS conventional general cargo tonnage is minimal and containerships are non-existent.

(c) Shipping industry changes

187. Restructuring trends in the international liner shipping industry are another factor affecting the transportation capabilities of many small island developing States. Over the last decade, consolidation, cooperation and commercial agreements between large container operators have resulted in a concentration of services. This has created economies of scale and encouraged the expansion of hub-and-spoke service patterns between major trading areas. For small island developing States, however, the impact has been to increase the need for transhipment port services, acquisition of vessels with container-lifting capabilities, investment in electronic data interchange (EDI) technology and training management personnel. Moreover, without these infrastructure investments (mainly ships and port facilities), the ability of many small island developing States to effectively trade and sustain development will be marginal.

188. In order to maintain or, if possible improve, maritime capabilities, action is required by small island developing States that would primarily aim at creating a framework within which the industry can develop. To this end, it is imperative that private sector investment be channelled to the maritime sector by promoting both local investment and foreign direct investment (FDI). As national governments may not always be in a position to bring about the necessary change, it is indispensable that the international community provide assistance, both with regard to the funding of infrastructure and the fostering of a commercially minded management culture.

Table 51

Age distribution of the SIDS fleet by types of vessel,
as at 31 December 1996 a/
(Percentage of total in terms of dwt)

Country grouping	Types of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) b/
GROUP AVERAGE	All ships	100	16.4	19.0	16.1	48.5	14.26
	Tankers	100	15.9	30.1	5.8	48.2	13.73
	Bulk carriers	100	17.2	14.4	25.0	43.4	13.90
	General cargo	100	5.2	7.9	20.3	66.6	17.75
	Containerships	100	44.4	10.3	16.3	29.0	9.95
	All others	100	5.7	18.0	27.4	48.9	15.42

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

a/ Excluding open-registry countries. The group of open registries as defined in the UNCTAD *Review of Maritime Transport* comprises the Bahamas, Bermuda, Cyprus, Liberia, Panama, Malta and Vanuatu.

b/ To calculate 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.

Box 6

Latin-Caribbean trade

The total volume of intra-Caribbean trade, which might be enough to keep one or two small-sized Caribbean-owned lines in successful operation, does not take into account the intense competition on the Caribbean route provided by lines external to the region. In the absence of a CARICOM (Caribbean Community and Common Market, consisting of 14 countries) policy on shipping, these lines from outside simply take most of the intra-regional cargo at rates that are in effect "uneconomic" for Caribbean-owned ships.

For non-liner business, there were at one time nearly 3,000 vessels of about 200 tons each, carrying break bulk cargo between the territories.

The number, however, has been considerably reduced through age, low freight rates, rising costs, and poor management.

More are likely to disappear as port state control gains momentum in the region and formal Caribbean Cargo Ship Safety regulations start being applied.

What is urgently necessitated in the Caribbean maritime transportation sector is government's supportive policies, to which financial communities and institutes can respond positively.

Otherwise, what is left of the intra-Caribbean shipping business for Caribbean ship operators will no longer exist and traders in the region will be at the mercy of shipping lines from outside.

The Caribbean Shipping Association

The Caribbean Shipping Association (CSA), which turned 25 years old in 1995, represents shipowners, shipping agents, port authorities, stevedoring companies, in fact all the interest groups which make up the maritime industry in the Caribbean. The association has been able to influence the decisions of government relating to the operation of the shipping industry in the Caribbean. Among the CSA's recommendations for CARICOM government actions are:

- Government fiscal incentives to promote the development of regionally-owned shipping;
- harmonization of laws and regulations governing the Caribbean maritime industry;
- encouraging the regional banking sector to set up soft loan windows and venture capital funds for investment in shipping;
- paying greater attention to the environment in Caribbean ports and enforcing anti-pollution maritime laws.

In recent years, training has been one of the CSA's major preoccupations and it has established a Training Trust Fund, with a target of US$ 100,000. The income from this is used to support various maritime-related training programmes.

Source: *Lloyd's List* (London), 31 July 1996.

189. At the national level it is recommended that governments and the private sector work together to:

- promote investments in modern ships through appropriate fiscal policies;
- ensure the establishment of competent and adequate national maritime administrations;
- create or strengthen existing shippers' councils to act as focal points for the protection of shippers' interests;
- support maritime infrastructure investments through direct loans or by creating favourable conditions for FDI;
- improve managerial skills through human resource development programmes and management training for private and public sector personnel.

190. At the regional or subregional level it is necessary to strengthen cooperation in order to ensure that the albeit limited potential for economies of scale is adequately exploited. Action is therefore recommended in order to:

- update and harmonize maritime legislation at the subregional and national levels with a view to providing a legal framework for more effective maritime transport, and to improving planning security for foreign investors;
- improve intraregional sea transportation through the creation of joint services;
- create regional shipowners' associations;
- improve maritime infrastructures and services through regional port development projects, streamlining customs and documentation procedures, improved communications, use of information technologies, etc.
- take joint action to increase shippers' bargaining power to obtain cost-efficient shipping services. In this context, shippers' councils and small shipowners' associations should be encouraged to use the services of the UNCTAD Global Trade Point Network. Joint activities should aim at promoting slot charter agreements and transhipment arrangements at required frequencies, and at providing cargo consolidation services and facilities;
- promote the exchange of information and market intelligence between traders in order to identify opportunities for cooperation in obtaining shipping and other transport services, and developing databases for maintaining information on available shipping services, particularly relating to South-South opportunities;
- improve maritime managerial skills and knowledge in the region by providing training courses in shipping and port management; encouraging regional shipping lines to enter into joint ventures with foreign shipowners with a strong training component in the contract of agreement; and participating actively in regional maritime management associations.

191. In view of the large investments involved in the development of infrastructures and acquisition of the means of maritime transport, the efforts of small island developing States at the national and regional levels need to be supplemented by international assistance, particularly financial assistance either through public sources or private sector FDI. Investment is required in port infrastructure, modern tonnage adapted to the requirements of the trade, and the development of administrative infrastructure and managerial skills for maritime transport. Support should be given to regional efforts aimed at improving regional maritime transportation, including maritime safety and the combating of marine pollution.

Notes

1) Petroleum Economist, March 1997, (world oil production).

2) International Iron and Steel Institute, *Estimates 1996*.

3) Fearnleys (Oslo), *Review 1996*.

4) DRI/McGraw Hill, *World Sea Trade Service Review*, First Quarter 1997; NYK, *Illustrated Review and Outlook of the Shipping Market*, December 1996.

5) Fearnleys (Oslo), *Review 1996*.

6) NYK, *Illustrated Review and Outlook of the Shipping Market*, December 1996; DRI/McGraw Hill, *World Sea Trade Service Review*, First Quarter 1997.

7) Fearnleys (Oslo), *Review 1996*.

8) International Wheat Council, *Grain Market Report*, April 1997; NYK, *Illustrated Review and Outlook of the Shipping Market*, December 1996.

9) DRI/McGraw Hill, *World Sea Trade Service Review*, First Quarter 1997; International Primary Aluminium Institute, IPAI Form 150, January 1997.

10) DRI/McGraw Hill, *World Sea Trade Service Review*, First Quarter 1997.

11) Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1997*.

12) Fearnleys (Oslo), *Review 1996*.

13) Fearnleys (Oslo), *Review 1996*; Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics*, 1997, No. 1/2.

14) Drewry Shipping Consultants, *Shipping Statistics and Economics*, January 1997; Fearnleys (Oslo), *Review 1996*; Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics*, 1996/1997, various issues.

15) Ibid.

16) Fearnleys (Oslo), *Review 1996*; Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1997*.

17) International Iron and Steel Institute, *Estimates 1996*; Fearnleys (Oslo), *Review 1996*; *International Bulk Journal*, December 1996.

18) *International Bulk Journal*, 1996, various issues; Fearnleys (Oslo), *Review 1996*; Drewry Shipping Consultants, *Drewry Monthly*, 1996, various issues).

19) *International Bulk Journal*, 1996, various issues; Drewry Shipping Consultants, *Drewry Monthly*, 1996, various issues; Fearnleys (Oslo), *Review 1996*.

20) Fearnleys (Oslo), *Review 1996*; Barry Rogliano Salles, *Shipping and Shipbuilding Markets, 1997*.

21) Fearnleys (Oslo) *Review 1996*; Barry Rogliano Salles, *Shipping and Shipbuilding Markets 1997*; *Lloyd's Ship Manager*, various issues; *Lloyd's List* (London), various issues; Drewry Shipping Consultants, *Drewry Monthly*, various issues.

22) Carried out by Mercer Management Consulting, London.

23) See "Use of information technologies to make transit arrangements more effective", report by the UNCTAD secretariat (TD/B/COM.3/EM.1/2), 5 March 1997.

24) Report of the Joint Group at its ninth session (TD/B/IGE.1/4 JIGE(IX)/4, Annex I), 6 February 1997.

25) Worked out by the UNCTAD secretariat on the basis of data from the Statistics Division of the United Nations Secretariat.

26) Worked out by the UNCTAD secretariat on the basis of data from the Statistics Division of the United Nations Secretariat.

27) Worked out by the UNCTAD secretariat on the basis of data from the Statistics Division of the United Nations Secretariat.

28) UNCTAD, Inter Island Maritime Information System project report (MDV/89/005), 1990.

29) UNCTAD consultant's report, "Problems of inter island transport" (UNCTAD/RDP/LDC/32), 1990.

30) Ibid.

Annex I

CLASSIFICATION OF COUNTRIES AND TERRITORIES

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

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 - Northern Seaboard**

Guyana
French Guyana
Netherlands Antilles
Suriname
Venezuela

Code 9.4	**South America - Western Seaboard**	Ecuador
	Chile	Peru
	Colombia	
Code 9.5	South America - Eastern Seaboard	
	Argentina	Falkland Islands (Malvinas) a/
	Bolivia	Paraguay
	Brazil	Uruguay
Code 10 - 10.1	Western Asia	
	Bahrain	Oman
	Cyprus	Qatar
	Iran (Islamic Republic of)	Saudi Arabia
	Iraq	Syrian Arab Republic
	Jordan	United Arab Emirates
	Kuwait	Yemen
	Lebanon	
Code 10.2	Southern and Eastern Asia	
	Bangladesh	Maldives
	Bhutan	Myanmar
	Brunei Darussalam	Pakistan
	Cambodia	Philippines
	Hong Kong	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	

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, land-locked countries do not figure in these tabulations. On the other hand, statistical tabulations on merchant fleets include data for land-locked countries that possess fleets.

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).

Annex II

World seaborne trade a/ according to geographical area, 1980, 1990, 1995-1996 and 1997 (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			Crude	Products		
Developed market-economy countries									
North America									
	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
	1995	1.3	25.5	603.4	630.2	344.7	116.0	276.2	736.9
	1996	1.3	27.2	603.6	632.1	357.5	134.6	281.8	773.9
	1997	1.4	28.2	637.3	666.9	386.1	138.2	291.3	815.6
Japan									
	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
	1995	-	4.3	87.7	92.0	230.5	96.2	479.9	806.6
	1996	-	4.6	88.9	93.5	235.1	97.0	482.7	814.8
	1997	-	4.8	92.4	97.2	239.6	98.7	509.1	847.4
Australia and New Zealand									
	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
	1995	9.6	1.7	302.7	314.0	13.9	8.1	20.7	42.7
	1996	9.4	1.8	312.1	323.3	13.9	7.9	21.0	42.8
	1997	9.9	1.9	330.8	342.6	14.9	7.6	21.8	44.3
Europe									
	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
	1995	192.5	143.0	558.7	894.2	521.2	191.2	886.6	1 599.0
	1996	177.7	152.6	564.8	895.1	566.0	152.2	891.6	1 609.8
	1997	185.9	161.1	589.1	936.1	553.0	144.9	942.3	1 640.2
South Africa									
	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
	1995	-	-	91.9	91.9	24.3	0.3	10.3	34.9
	1996	-	-	93.0	93.0	24.0	0.3	10.4	34.7
	1997	-	-	99.8	99.8	24.0	0.3	10.9	35.2
Subtotal: Developed market-economy countries	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
	1995	203.4	174.5	1 644.4	2 022.3	1 134.6	411.8	1 673.7	3 220.1
	1996	188.4	186.2	1 662.4	2 037.0	1 196.5	392.0	1 687.5	3 276.0
	1997	197.2	196.0	1 749.4	2 142.6	1 217.6	389.7	1 775.4	3 382.7
Countries of Central and Eastern Europe									
Countries of Central and Eastern Europe (including the former USSR)	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
	1995	45.8	46.8	83.3	175.9	20.8	1.2	124.4	146.4
	1996	44.8	49.9	84.5	179.2	20.8	1.2	126.1	148.1
	1997	47.4	51.7	87.8	186.9	21.0	1.2	131.0	153.2

Area b/	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products			Crude	Products		
Socialist countries of Asia									
Socialist countries of Asia	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
	1995	38.3	4.7	57.3	100.3	4.6	2.0	97.3	103.9
	1996	37.5	5.0	58.1	100.6	4.5	2.0	98.7	105.2
	1997	39.7	5.2	60.4	105.3	4.5	2.1	105.5	112.1
Developing countries and territories									
Northern Africa									
	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
	1995	193.6	32.7	32.6	258.9	68.9	4.4	60.4	133.7
	1996	237.0	27.9	33.1	298.0	68.0	4.4	61.2	133.6
	1997	235.8	27.0	34.4	297.2	68.0	4.6	63.6	136.2
Western Africa									
	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
	1995	138.3	3.2	56.8	198.3	4.4	3.0	29.1	36.5
	1996	142.4	3.4	57.6	203.4	4.3	3.0	29.5	36.8
	1997	143.1	3.5	59.8	206.4	4.3	3.1	30.7	38.1
Eastern Africa									
	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
	1995	-	0.5	9.6	10.1	6.7	2.7	16.0	25.4
	1996	-	0.5	9.7	10.2	6.6	2.6	16.2	25.4
	1997	-	0.5	10.1	10.6	6.6	2.7	16.8	26.1
Subtotal: Developing countries	1980	290.3	5.3	103.1	398.7	60.5	9.5	85.6	155.6
in Africa	1990	309.8	35.5	96.5	441.8	73.8	10.1	101.5	185.4
	1995	331.9	36.4	99.0	467.3	80.0	10.1	105.5	195.6
	1996	379.4	31.8	100.4	511.6	78.9	10.0	106.9	195.8
	1997	378.9	31.0	104.3	514.2	78.9	10.4	111.1	200.4
Developing countries in America									
Caribbean, Central and North	1980	53.5	29.6	53.5	136.6	62.8	8.9	30.2	102.0
America	1990	95.3	18.8	47.5	161.6	33.7	11.2	35.4	80.3
	1995	112.2	21.1	54.1	187.4	36.4	11.0	39.6	87.0
	1996	124.4	25.4	54.9	204.7	36.0	11.0	40.2	87.2
	1997	134.3	25.4	57.0	216.7	36.0	11.5	41.8	89.3
South America: Western	1980	7.6	3.4	26.7	37.7	4.9	1.4	13.7	20.1
Seaboard	1990	17.4	8.2	36.0	61.6	3.5	1.3	14.4	19.4
	1995	21.2	8.9	41.2	71.3	3.9	1.3	16.7	21.9
	1996	23.5	9.5	41.8	74.8	3.8	1.3	16.9	22.0
	1997	25.4	9.8	43.4	78.6	3.8	1.4	17.6	22.8
South America: Northern and	1980	127.8	64.5	162.3	354.6	136.2	5.8	54.5	196.5
Eastern Seaboard	1990	58.4	28.5	214.8	301.7	37.8	4.3	45.7	87.8
	1995	77.6	32.4	243.0	353.0	41.2	4.2	51.9	97.3
	1996	86.1	33.1	243.3	362.5	40.5	4.1	53.3	99.9
	1997	93.0	33.0	259.8	385.8	40.5	4.3	56.2	101.0
Subtotal: Developing countries	1980	188.9	97.5	242.5	528.9	203.9	16.1	98.4	318.6
in America	1990	171.1	55.5	298.3	524.9	75.0	16.8	95.5	187.5
	1995	211.0	62.4	338.3	611.7	81.5	16.5	108.2	206.2
	1996	234.0	68.0	340.0	642.0	80.3	16.4	110.4	209.1
	1997	252.7	68.2	360.2	681.1	80.3	17.2	115.6	213.1

Area b/	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products			Crude	Products		
Developing countries in Asia									
Western Asia	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
	1995	614.4	82.8	32.7	729.9	17.6	6.8	109.2	133.6
	1996	629.1	79.0	33.2	741.3	17.5	6.7	108.0	132.2
	1997	637.9	79.0	34.5	751.4	17.5	7.0	115.1	139.4
Southern and Eastern Asia (n.e.s)	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
	1995	84.5	110.6	329.1	524.2	196.4	49.7	466.7	712.8
	1996	76.6	115.6	333.7	525.9	196.0	49.0	474.8	719.8
	1997	73.5	117.2	347.8	538.5	196.0	51.0	487.4	734.4
Subtotal: Developing countries in Asia	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
	1995	698.9	193.4	361.8	1 254.1	214.0	56.5	575.9	846.4
	1996	705.7	194.6	366.9	1 267.2	213.5	55.7	582.8	852.0
	1997	711.4	196.2	382.3	1 289.9	213.5	58.0	602.5	874.0
Developing countries in Europe	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
	1995	-	1.0	7.8	8.8	7.7	1.0	16.3	25.0
	1996	-	1.0	7.9	8.9	7.5	1.0	16.5	25.0
	1997	-	1.0	8.2	9.2	7.5	1.0	17.1	25.6
Developing countries in Oceania (n.e.s.)	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
	1995	-	0.5	10.4	10.9	-	1.5	2.7	4.2
	1996	-	0.5	10.5	11.0	-	1.5	2.7	4.2
	1997	-	0.5	10.9	11.4	-	1.5	2.8	4.3
Subtotal: Developing countries	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
	1995	1 241.8	293.7	817.3	2 352.8	383.2	85.6	808.6	1 277.4
	1996	1 319.1	295.9	825.7	2 440.7	380.2	84.6	821.3	1 286.1
	1997	1 343.0	296.9	865.9	2 505.8	380.2	88.1	849.1	1 317.4
World total	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
	1995	1 529.3	519.7	2 602.3	4 651.3	1 543.2	500.6	2 704.0	4 747.8
	1996	1 589.8	537.0	2 630.7	4 757.5	1 599.2	479.8	2 733.6	4 815.4
	1997	1 627.3	549.8	2 763.5	4 940.6	1 623.3	481.1	2 861.0	4 965.4

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.

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 1996
(in grt)

	Total fleet	Oil tankers	Bulk carriers	General cargo[c]	Container hips	Other types
World total d/	**509 465 246**	**147 138 791**	**155 754 511**	**90 377 595**	**43 290 409**	**72 903 940**
Developed market-economy countries						
Australia	2 748 289	488 097	1 039 327	115 247	77 162	1 028 456
Austria	94 671	..	..	94 671	..	..
Belgium	283 914	2 357	..	1 322	..	280 235
Canada	1 172 080	111 564	108 371	123 626	1 714	826 805
Denmark	5 998 075	1 026 666	521 416	725 800	2 017 057	1 707 136
Finland	1 521 973	302 929	80 106	437 096	..	701 842
France	4 385 450	1 872 076	447 553	325 588	575 488	1 164 745
Germany	5 907 504	10 898	47 511	1 032 658	3 922 337	894 100
Gibraltar	305 593	272 257	..	18 190	..	15 146
Greece	27 527 903	13 066 118	10 697 663	1 220 672	823 108	1 720 342
Iceland	217 874	1 763	415	5 090	9 650	200 956
Ireland	220 151	2 920	..	79 083	17 572	120 576
Israel	678 923	1 270	12 178	13 283	644 120	8 072
Italy	6 597 708	1 780 826	1 552 527	808 658	395 191	2 060 506
Japan	19 235 690	5 819 301	4 954 144	2 380 491	1 097 376	4 984 378
Luxembourg	878 477	164 625	86 374	61 548	65 399	500 531
Netherlands	5 196 831	626 611	174 335	1 698 526	1 139 284	1 558 075
New Zealand	398 620	67 572	25 046	77 527	..	228 475
Norway	21 819 761	8 895 053	3 858 041	3 767 339	69 015	5 230 313
Portugal	686 319	224 663	127 941	173 781	11 088	148 846
South Africa	407 283	5 171	..	579	268 518	133 015
Spain	1 686 619	514 818	23 233	202 462	71 902	874 204
Sweden	3 007 849	392 427	43 644	1 547 068	..	1 024 710
Switzerland	427 743	..	397 635	12 604	..	17 504
Turkey	6 433 465	709 484	4 167 685	1 200 215	30 802	325 279
United Kingdom	7 314 142	2 093 318	833 912	613 236	1 082 021	2 691 655
United States	17 095 496	6 530 601	1 637 866	2 050 307	3 629 914	3 246 808
Subtotal	142 248 403	44 983 385	30 836 923	18 786 667	15 948 718	31 692 710
Open-registry countries						
Bahamas	24 697 368	11 026 813	4 490 363	5 576 787	952 195	2 651 210
Bermuda	3 462 210	1 586 468	301 181	219 106	502 912	852 543
Cyprus	23 804 046	3 733 129	12 554 667	4 736 919	1 714 087	1 065 244
Liberia	60 382 578	28 043 728	16 942 168	4 437 852	3 694 443	7 264 387
Malta	19 490 707	7 370 317	7 478 135	3 405 332	554 284	682 639
Panama	82 871 307	21 077 622	33 085 123	14 056 055	8 091 923	6 560 584
Vanuatu	1 711 294	39 892	694 688	647 747	16 468	312 499
Subtotal	216 419 510	72 877 969	75 546 325	33 079 798	15 526 312	19 389 106
Central and Eastern Europe and former USSR						
Albania	43 356	..	..	41 117	..	2 239
Armenia	..	..	..	..	..	..
Azerbaijan	642 429	180 730	..	94 190	..	367 509
Belarus	..	..	..	..	..	..
Bulgaria	1 149 905	194 352	532 239	312 185	56 380	54 749

	Total fleet	Oil tankers	Bulk carriers	General cargo c/	Container ships	Other types
Czech Republic	78 148	..	78 148	..	..	..
Estonia	547 723	5 594	159 600	199 894	..	182 635
Georgia	165 181	114 972	..	50 209	..	..
Hungary	92 734	..	48 418	4 933	..	39 383
Kazakstan	9 165	..	..	1 948	..	7 217
Kyrgyzstan	..	..	..	..	..	..
Latvia	728 327	278 502	..	305 016	..	144 809
Lithuania	573 092	4 666	109 615	203 667	..	255 144
Moldova	..	..	..	..	..	..
Poland	2 299 628	6 298	1 455 032	542 655	..	295 643
Romania	2 565 255	429 210	864 697	1 039 886	15 160	216 302
Russian Federation	13 825 898	1 917 216	1 767 348	4 891 474	275 903	4 973 957
Slovakia	19 463	..	..	19 463	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	42 403	2 846	..	16 764	..	22 793
Ukraine	3 845 767	78 734	451 688	2 275 646	121 913	917 786
Former USSR e/	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	26 628 474	3 213 120	5 466 785	9 999 047	469 356	7 480 166
Socialist countries of Asia						
China	17 004 116	2 190 138	6 780 545	5 431 260	1 388 957	1 213 216
Democratic People's Republic of Korea	693 262	4 155	107 243	464 313	..	117 551
Viet Nam	808 447	20 324	62 978	469 864	..	255 281
Subtotal	18 505 825	2 214 617	6 950 766	6 365 437	1 388 957	1 586 048
Developing countries of Africa						
Algeria	982 528	34 323	172 360	219 708	..	556 137
Angola	81 856	2 269	..	55 238	..	24 349
Benin	1 151	..	..	..	..	1 151
Cameroon	36 726	..	..	25 234	..	11 492
Cape Verde	14 882	445	..	9 066	..	5 371
Comoros	2 138	..	..	1 545	..	593
Congo	6 250	..	..	2 875	..	3 375
Côte d'Ivoire	12 730	789	..	916	..	11 025
Democratic Republic of the Congo	14 917	..	..	499	..	14 418
Djibouti	3 967	..	..	1 967	..	2 000
Egypt	1 347 624	222 460	523 964	389 156	..	212 044
Equatorial Guinea	20 618	..	..	7 056	..	13 562
Ethiopia	86 009	3 809	..	82 200	..	..
Gabon	33 183	652	23 782	3 110	..	5 639
Gambia	1 642	..	..	..	..	1 642
Ghana	134 686	965	199	34 648	..	98 874
Guinea	7 196	..	..	808	..	6 388
Guinea-Bissau	5 891	..	..	1 640	..	4 251
Kenya	19 817	4 708	..	2 312	..	12 797
Libyan Arab Jamahiriya	685 777	504 730	..	82 328	..	98 719
Madagascar	39 266	10 734	..	14 253	..	14 279
Malawi	..	..	..	..	..	..
Mauritania	42 679	..	..	1 399	..	41 280
Mauritius	243 910	52 757	1 871	122 860	47 522	18 900
Morocco	403 357	12 476	..	93 352	8 373	289 156
Mozambique	44 750	366	..	9 130	..	35 254

	Total fleet	Oil tankers	Bulk carriers	General cargo c/	Container ships	Other types
Nigeria	448 788	251 767	..	114 717	..	82 304
St. Helena	494	..	..	..	..	494
Sao Tome and Principe	2 848	..	..	1 591	..	1 257
Senegal	49 601	..	..	4 699	..	44 902
Seychelles	3 720	..	..	3 474	..	246
Sierra Leone	19 361	1 405	..	490	..	17 466
Somalia	13 941	..	..	6 663	..	7 278
Sudan	42 114	832	..	38 963	..	2 319
Togo	1 128	..	..	..	..	1 128
Tunisia	157 898	6 518	37 618	58 568	..	55 194
Uganda	3 394	..	..	3 394	..	..
United Republic of Tanzania	46 373	5 129	..	30 529	..	10 715
Subtotal	5 063 210	1 117 134	759 794	1 424 388	55 895	1 705 999
Developing countries of America						
Anguilla	2 034	..	..	1 925	..	109
Antigua and Barbuda	2 176 204	3 715	173 824	1 194 559	775 910	28 196
Argentina	609 764	113 686	33 678	144 454	37 886	280 060
Barbados	496 959	22 233	213 830	208 488	..	52 408
Belize	1 015 838	66 609	159 839	635 842	8 433	145 115
Bolivia	..	..	..	..	..	..
Brazil	4 547 264	1 809 246	1 889 695	356 640	194 565	297 118
Cayman Islands	826 680	86 854	281 963	325 655	49 203	83 005
Chile	695 897	92 508	190 509	114 333	25 246	273 301
Colombia	121 890	5 887	..	86 404	..	29 599
Costa Rica	5 942	..	..	448	..	5 494
Cuba	291 547	26 594	662	134 676	..	129 615
Dominica	1 617	..	..	1 383	..	234
Dominican Republic	11 984	674	..	7 845	..	3 465
Ecuador	178 361	81 415	..	41 114	..	55 832
El Salvador	1 479	..	..	..	..	1 479
Falkland Islands f/	29 918	..	..	735	..	29 183
Grenada	887	..	..	621	..	266
Guatemala	776	..	..	..	..	776
Guyana	16 209	125	..	8 188	..	7 896
Haiti	950	..	..	670	..	280
Honduras	1 200 981	102 822	115 499	716 782	6 067	259 811
Jamaica	9 261	1 887	..	5 589	..	1 785
Mexico	1 130 597	425 344	..	53 598	123 884	527 771
Montserrat	..	..	..	..	..	..
Nicaragua	4 169	..	..	498	..	3 671
Paraguay	43 615	4 480	..	30 002	823	8 310
Peru	344 273	75 972	15 297	59 678	..	193 326
St. Kitts and Nevis	300	..	..	300	..	..
St. Lucia	911	..	..	659	..	252
St. Vincent and the Grenadines	7 134 362	1 228 005	2 626 531	2 714 261	75 473	490 092
Suriname	7 824	1 842	..	2 852	1 343	1 787
Trinidad and Tobago	18 527	..	..	2 479	..	16 048
Turks and Caicos Islands	2 100	..	..	792	..	1 308
Uruguay	100 072	48 034	..	627	..	51 411
Venezuela	697 271	274 761	111 255	55 250	499	255 506
Virgin Islands, British	5 260	..	..	2 633	..	2 627
Subtotal	21 731 723	4 472 693	5 812 582	6 909 980	1 299 332	3 237 136

	Total fleet	Oil tankers	Bulk carriers	General cargo c/	Container ships	Other types
Developing countries and territories of Asia						
Bahrain	164 258	53 551	7 984	64 576	..	38 147
Bangladesh	438 101	59 193	6 726	337 797	..	34 385
Brunei Darussalam	369 239	239	..	2 723	..	366 277
Cambodia	..	..	..	..	..	..
Hong Kong	8 031 438	396 083	5 909 856	759 447	865 588	100 464
India	7 148 336	2 634 000	3 081 050	576 561	84 345	772 380
Indonesia	2 982 043	856 234	221 758	1 231 195	60 623	612 233
Iran, Islamic Rep. of	3 565 682	1 860 142	1 014 628	532 141	1 593	157 178
Iraq	865 318	697 827	..	78 532	..	88 959
Jordan	41 005	..	40 117	..	..	888
Kuwait	2 028 448	1 342 512	..	260 261	85 594	340 081
Lebanon	275 167	1 698	73 076	196 070	..	4 323
Malaysia	4 187 153	590 192	1 272 436	693 613	415 532	1 215 380
Maldives	96 016	6 143	11 301	71 064	..	7 508
Myanmar	687 220	45 219	309 663	232 719	24 415	75 204
Oman	20 891	313	..	2 544	..	18 034
Pakistan	444 768	49 595	159 040	198 313	21 461	16 359
Philippines	9 033 523	157 526	6 333 650	1 830 389	166 128	545 830
Qatar	562 002	182 825	141 617	133 227	85 594	18 739
Republic of Korea	7 561 701	380 255	3 650 176	935 561	1 637 761	957 948
Saudi Arabia	1 219 948	258 852	..	574 560	126 117	260 419
Singapore	16 466 479	6 613 508	4 343 732	2 245 811	2 294 879	968 549
Sri Lanka	241 637	5 486	92 979	132 922	..	10 250
Syrian Arab Republic	425 414	..	50 382	371 778	..	3 254
Thailand	2 042 168	384 638	480 196	967 301	78 178	131 855
United Arab Emirates	894 998	410 495	36 654	184 424	132 667	130 758
Yemen	25 864	1 886	..	3 418	..	20 560
Subtotal	69 818 817	16 988 412	27 237 021	12 616 947	6 080 475	6 895 962
Developing countries of Europe						
Croatia	581 084	7 909	185 599	236 120	66 494	84 962
Slovenia	2 621	..	..	276	..	2 345
Yugoslavia	2 312	..	..	..	..	2 312
Subtotal	586 017	7 909	185 599	236 396	66 494	89 619
Developing countries of Oceania						
Fiji	36 307	3 164	..	12 236	..	20 907
Kiribati	6 352	1 957	..	3 728	..	667
Nauru	..	..	..	..	..	..
Papua New Guinea	56 845	7 250	..	40 786	..	8 809
Samoa	6 186	..	..	4 339	..	1 847
Solomon Islands	10 098	..	..	3 286	..	6 812
Tonga	11 411	..	..	6 899	..	4 512
Tuvalu	56 952	..	..	21 985	..	34 967
Subtotal	184 151	12 371	..	93 259	..	78 521
Developing TOTAL	97 383 918	22 598 519	33 994 996	21 280 970	7 502 196	12 007 237
Other unallocated	8 279 116	1 251 181	2 958 716	865 676	2 454 870	748 673

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 1996
(in dwt)

	Total fleet	Oil tankers	Bulk carriers	General cargo c/	Container ships	Other types
World total d/	**758 179 172**	**271 454 368**	**272 564 486**	**104 636 655**	**48 766 684**	**60 756 979**
Developed market-economy countries						
Australia	3 832 527	835 076	1 753 833	116 759	91 392	1 035 467
Austria	130 037	..	..	130 037	..	..
Belgium	293 077	3 628	..	1 715	..	287 734
Canada	805 705	178 198	162 507	117 714	1 910	345 376
Denmark	7 720 301	1 936 426	968 806	803 043	2 319 704	1 692 322
Finland	1 179 860	508 210	120 842	364 109	..	186 699
France	6 258 838	3 688 301	812 470	385 290	639 670	733 107
Germany	6 874 256	16 260	80 924	1 235 841	4 937 512	603 719
Gibraltar	579 854	536 119	..	29 919	..	13 816
Greece	48 042 326	25 236 215	18 912 482	1 700 044	900 771	1 292 814
Iceland	93 328	2 239	650	5 451	12 400	72 588
Ireland	191 490	4 059	..	112 673	16 974	57 784
Israel	803 350	2 512	18 043	15 178	763 738	3 879
Italy	8 442 167	3 040 721	2 881 742	713 123	408 305	1 398 276
Japan	27 451 536	10 498 667	9 136 978	3 173 363	1 094 810	3 547 718
Luxembourg	1 232 565	301 880	164 100	41 462	77 447	647 676
Netherlands	5 904 426	974 326	280 073	2 161 227	1 175 781	1 313 019
New Zealand	421 599	101 677	37 157	60 979	..	221 786
Norway	33 265 282	17 151 524	6 881 180	3 468 847	91 778	5 671 953
Portugal	997 991	402 142	236 307	228 498	14 262	116 782
South Africa	365 487	8 456	..	142	262 351	94 538
Spain	1 935 194	913 530	37 490	250 527	113 323	620 324
Sweden	2 404 621	686 067	62 846	1 077 985	..	577 723
Switzerland	738 174	..	697 757	12 428	..	27 989
Turkey	10 512 601	1 273 955	7 231 794	1 707 371	40 851	258 630
United Kingdom	9 039 307	3 878 117	1 523 378	578 947	1 183 094	1 875 771
United States	23 477 672	12 756 802	2 914 966	1 722 036	3 705 235	2 378 633
Subtotal	**202 993 571**	**84 935 107**	**54 916 325**	**20 214 708**	**17 851 308**	**25 076 123**
Open-registry countries						
Bahamas	38 242 885	20 715 234	7 824 583	6 762 548	965 693	1 974 827
Bermuda	5 208 272	3 239 779	547 808	188 552	469 337	762 796
Cyprus	37 966 130	6 752 008	21 726 491	6 371 794	2 002 156	1 113 681
Liberia	98 611 538	52 454 747	29 815 187	4 368 521	4 230 377	7 742 706
Malta	32 168 358	13 655 261	12 798 875	4 408 655	600 622	704 945
Panama	125 165 275	38 308 542	57 841 789	13 785 151	8 825 303	6 404 490
Vanuatu	2 093 163	65 866	1 164 991	487 471	19 929	354 906
Subtotal	**339 455 621**	**135 191 437**	**131 719 724**	**36 372 692**	**17 113 417**	**19 058 351**
Central and Eastern Europe and former USSR						
Albania	52 455	..	..	51 214	..	1 241
Armenia	..	..	..	..	..	..
Azerbaijan	492 631	233 594	..	102 891	..	156 146
Belarus	..	..	..	..	..	..
Bulgaria	1 639 142	314 974	833 739	379 830	67 117	43 482

	Total fleet	Oil tankers	Bulk carriers	General cargo c/	Container ships	Other types
Czech Republic	132 368	..	132 368	..	..	..
Estonia	550 097	8 752	258 785	205 876	..	76 684
Georgia	290 457	189 221	73 062	5 969	..	22 205
Hungary	70 864	..	..	70 864	..	..
Kazakstan	4 769	..	..	1 323	..	3 446
Kyrgyzstan	..	..	..	..	..	..
Latvia	783 921	430 680	..	264 504	..	88 737
Lithuania	518 443	8 399	160 212	219 563	..	130 269
Moldova	..	..	..	..	..	..
Poland	3 114 560	8 743	2 396 426	559 064	..	150 327
Romania	3 732 042	768 770	1 408 015	1 364 897	16 635	173 725
Russian Federation	13 584 396	2 839 609	2 712 801	5 237 847	300 226	2 493 913
Slovakia	24 533	..	..	24 533	..	..
Tajikistan	..	..	..	..	..	..
Turkmenistan	30 837	5 010	..	15 275	..	10 552
Ukraine	4 023 139	115 319	740 760	2 567 798	115 180	484 082
Former USSR e/	..	..	..	..	..	..
Uzbekistan	..	..	..	..	..	..
Subtotal	**29 044 654**	**4 923 071**	**8 716 168**	**11 071 448**	**499 158**	**3 834 809**
Socialist countries of Asia						
China	24 994 495	3 546 869	11 333 397	7 388 460	1 704 756	1 021 013
Democratic People's Republic of Korea	884 753	8 672	172 353	622 501	..	81 227
Viet Nam	1 200 679	34 277	105 992	682 535	..	377 875
Subtotal	**27 079 927**	**3 589 818**	**11 611 742**	**8 693 496**	**1 704 756**	**1 480 115**
Developing countries of Africa						
Algeria	1 110 949	52 547	288 145	296 086	..	474 171
Angola	104 343	2 665	..	87 321	..	14 357
Benin	210	..	..	..	..	210
Cameroon	39 802	..	..	33 514	..	6 288
Cape Verde	18 571	562	..	14 252	..	3 757
Comoros	3 498	..	..	2 834	..	664
Congo	4 431	..	..	4 100	..	331
Côte d'Ivoire	8 683	1 170	..	1 220	..	6 293
Djibouti	4 800	..	..	4 450	..	350
Democratic Republic of the Congo	15 842	..	..	599	..	15 243
Egypt	1 935 960	383 698	885 805	528 412	..	138 045
Equatorial Guinea	12 819	..	..	9 004	..	3 815
Ethiopia	105 685	5 818	..	99 867	..	..
Gabon	44 259	742	38 516	2 907	..	2 094
Gambia	2 556	..	..	..	..	2 556
Ghana	113 322	1 167	260	43 787	..	68 108
Guinea	2 573	..	..	285	..	2 288
Guinea-Bissau	2 699	..	..	540	..	2 159
Kenya	18 897	7 631	..	1 524	..	9 742
Libyan Arab Jamahiriya	1 138 641	1 002 761	..	91 357	..	44 523
Madagascar	40 390	16 927	..	16 349	..	7 114
Malawi	..	..	..	..	..	..
Mauritania	20 034	..	..	1 871	..	18 163
Mauritius	327 358	84 464	2 500	162 735	68 760	8 899
Morocco	385 637	22 687	..	107 336	10 071	245 543
Mozambique	29 507	419	..	16 591	..	12 497

	Total fleet	Oil tankers	Bulk carriers	General cargo c/	Container ships	Other types
Nigeria	682 197	493 198	..	138 519	..	50 480
Saint Helena	478	..	..	..	..	478
Sao Tome and Principe	2 492	..	..	1 285	..	1 207
Senegal	27 258	..	..	6 667	..	20 591
Seychelles	3 278	..	..	3 278	..	..
Sierra Leone	11 197	1 835	..	944	..	8 418
Somalia	12 289	..	..	7 019	..	5 270
Sudan	53 241	1 222	..	51 195	..	824
Togo	283	..	..	..	..	283
Tunisia	174 510	10 368	58 573	60 248	..	45 321
Uganda	2 743	..	..	2 743	..	..
United Republic of Tanzania	51 510	8 991	..	39 685	..	2 834
Subtotal	**6 512 942**	**2 098 872**	**1 273 799**	**1 838 524**	**78 831**	**1 222 916**
Developing countries of America						
Anguilla	3 224	..	..	3 224	..	..
Antigua and Barbuda	2 842 205	6 011	287 781	1 519 279	992 620	36 514
Argentina	724 007	195 837	51 950	189 007	48 942	238 271
Barbados	723 063	37 740	333 750	278 047	..	73 526
Belize	1 426 157	102 547	241 086	961 389	9 899	111 236
Bolivia	..	..	..	..	..	..
Brazil	7 375 501	3 107 749	3 317 363	389 949	235 996	324 444
Cayman Islands	1 221 147	155 100	529 639	390 044	57 080	89 284
Chile	857 644	165 672	324 216	99 123	29 990	238 643
Colombia	141 949	9 681	..	112 170	..	20 098
Costa Rica	1 208	..	..	..	..	1 208
Cuba	332 800	37 708	632	171 814	..	122 646
Dominica	1 901	..	..	1 901	..	..
Dominican Republic	11 242	1 635	..	8 641	..	966
Ecuador	216 959	133 711	..	50 692	..	32 556
El Salvador	..	..	..	..	..	..
Falkland Islands f/	19 977	..	..	630	..	19 347
Grenada	950	..	..	950	..	..
Guatemala	..	..	..	..	..	..
Guyana	14 421	..	..	8 640	..	5 781
Haiti	170	..	..	..	..	170
Honduras	1 629 371	186 840	190 065	1 121 235	6 918	124 313
Jamaica	6 339	3 292	..	2 813	..	234
Mexico	1 491 732	706 088	..	71 902	146 861	566 881
Montserrat	..	..	..	..	..	..
Nicaragua	1 773	..	..	1 175	..	598
Paraguay	49 724	8 892	..	35 077	2 181	3 574
Peru	338 636	144 893	25 195	90 019	..	78 529
Saint Kitts and Nevis	550	..	..	550	..	..
Saint Lucia	889	..	..	889	..	..
Saint Vincent and the Grenadines	10 901 760	2 274 881	4 525 163	3 580 270	96 531	424 915
Suriname	9 063	3 035	..	3 466	1 771	791
Trinidad and Tobago	10 893	..	..	4 644	..	6 249
Turks and Caicos Islands	405	..	..	161	..	244
Uruguay	122 031	95 702	..	1 241	..	25 088
Venezuela	1 020 503	469 121	187 631	75 586	1 180	286 985
Virgin Islands, British	3 806	..	..	3 203	..	603
Subtotal	**31 502 000**	**7 846 135**	**10 014 471**	**9 177 731**	**1 629 969**	**2 833 694**

	Total fleet	Oil tankers	Bulk carriers	General cargo c/	Container ships	Other types
Developing countries and territories of Asia						
Bahrain	241 911	97 002	13 143	98 759	..	33 007
Bangladesh	607 572	99 613	8 903	478 806	..	20 250
Brunei Darussalam	351 579	270	..	4 145	..	347 164
Cambodia	..	..	..	..	..	..
Hong Kong	13 693 422	692 325	11 039 500	926 661	961 078	73 858
India	11 639 054	4 701 590	5 183 986	771 402	110 767	871 309
Indonesia	3 851 425	1 373 611	344 174	1 717 519	79 508	336 613
Iran, Islamic Rep. of	6 211 404	3 631 439	1 703 213	727 307	1 905	147 540
Iraq	1 503 267	1 314 850	..	108 734	..	79 683
Jordan	67 760	..	67 513	..	..	247
Kuwait	3 207 685	2 421 047	..	330 975	91 461	364 202
Lebanon	413 817	2 811	125 658	280 744	..	4 604
Malaysia	6 132 722	1 024 824	2 267 788	980 900	491 473	1 367 737
Maldives	143 868	12 679	19 536	103 997	..	7 656
Myanmar	923 318	62 393	509 208	222 235	25 297	104 185
Oman	11 122	460	..	2 996	..	7 666
Pakistan	710 127	91 021	292 293	287 046	28 336	11 431
Philippines	13 902 366	258 382	11 076 831	2 075 311	220 874	270 968
Qatar	907 065	327 252	270 329	205 165	91 536	12 783
Republic of Korea	11 184 300	713 273	6 657 020	946 764	1 913 201	954 042
Saudi Arabia	1 480 091	480 244	..	627 441	116 911	255 495
Singapore	25 721 659	11 839 420	7 862 814	2 195 942	2 642 894	1 180 589
Sri Lanka	345 355	10 198	180 225	150 886	..	4 046
Syrian Arab Republic	650 362	..	79 816	570 546	..	..
Thailand	3 239 055	738 800	814 775	1 464 399	106 301	114 780
United Arab Emirates	1 350 183	737 810	62 352	257 532	142 960	149 529
Yemen	25 638	3 185	..	3 061	..	19 392
Subtotal	**108 516 127**	**30 634 499**	**48 579 077**	**15 539 273**	**7 024 502**	**6 738 776**
Developing countries of Europe						
Croatia	747 981	11 444	318 654	311 467	80 197	26 219
Slovenia	1 123	..	..	234	..	889
Yugoslavia	506	..	..	..	..	506
Subtotal	749 610	11 444	318 654	311 701	80 197	27 614
Developing countries of Oceania						
Fiji	29 219	3 605	..	10 497	..	15 117
Kiribati	7 094	3 048	..	3 352	..	694
Nauru	..	..	..	..	..	..
Papua New Guinea	62 118	10 044	..	48 888	..	3 186
Samoa	6 501	..	..	6 066	..	435
Solomon Islands	6 775	..	..	3 155	..	3 620
Tonga	14 555	..	..	10 403	..	4 152
Tuvalu	84 936	..	..	27 067	..	57 869
Subtotal	**211 198**	**16 697**	**..**	**109 428**	**..**	**85 073**
Developing TOTAL	**147 491 877**	**40 607 647**	**60 186 001**	**26 976 657**	**8 813 499**	**10 908 073**
Other unallocated	**12 113 522**	**2 207 288**	**5 414 526**	**1 307 654**	**2 784 546**	**399 508**

Annex III

Notes

Source: Lloyd's Maritime Information Services Ltd. (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 2.9 million grt (3.7 million dwt), 1.0 million grt (2.0 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).

Annex IV

Selection of shipping Internet sites in alphabetical order

Company	Type	Address
Aalborg	Port	www.softdev.com/netcity/aalborg.havn
AAPA	Ports	www.seaportsinfo.com/portmenu.html
AAPA	Shipping lines	www.seaportsinfo.com/shipling.html
Aarhus	Port	www.euroports.com/aarhus/index.uk.html
ACL	Shipping	www.aclcargo.com
Ahlers	Ship operator	www.ahlers.be/
Aker Group	Oil	www.aker.no
American President Line	Ship operator	www.apl.com/
Amoco	Oil	www.amoco.com
Antwerp	Port	www.PortofAntwerp.be
APEX Maritime Co Inc	Shipbrokers	cyber.cclims.com/comp/apex/apex.html
Arco	Oil	www.arco.com
Asian Terminals Inc., Manila	Port	www.epic.net/asianterminals/
ATEL Capital Group	Ship finance	www.atel.com/
Australia-New Zealand Direct Line	Ship operator	www.ANZDL.com/
Baltic Exchange	Maritime association	www.balticexchange.com
BDP International Inc.	Shipbrokers	www.bdpint.com/
Bellingham	Port	www.portofbellingham.com/
Bender Shipbuilding	Shipbuilder	www.bendership.com
BHP	Oil	www.bhp.com.au
Bimco	Maritime association	www.bimco.dk
BP	Oil	www.bp.com
Brennan International Transport Inc.	Shipbrokers	www.nvocc.com/
Brest	Port	www.port.cci-brest.fr
Cargoweb	Freight	www.cargoweb.nl/
Cartagena, Spain	Port	www.apc.es
Chamber of Shipping	Maritime association	www.seanet.co.uk/classifi/marassoc/chamber
Charleston	Port	Web.InfoAve.Net/scspa/
Chevron	Oil	www.chevron.com
Cho Yang	Ship operator	www.dt.com.hk/choyang/kck.html
Colombia	Port	www.netrunner.net/~polomar/naves/ports.html
Columbus Line	Ship operator	www.columbusline.com
Connecticut Maritime Association	Maritime association	www.nsnet.com:80/~cma/
Conoco	Oil	www.conoco.com
Coral Maritime Services Ltd.	Ship operator	www.shipping.co.il/coral
COSCO	Shipping	www.cosco.co.cn
Crowley Maritime Corporation	Ship operator	www.crowley.com
CSX Corporation	Ship operator	www.csx.com
Daewoo Heavy Industries	Shipbuilder	www.dhi.co.kr/
Dart Maritime Service Inc.	Ship agents	www.dartmaritime.com
Det norske Veritas	Classification society	www.dnv.no/
DFDS A/S-Scandinavian Seaways	Ship operator	www.scansea.com/
Dorchester Maritime Ltd.	Ship operator	www.dorch.co.uk
Eimskip-Icelandic Steamship Co. Ltd.	Ship operator	www.eimskip.is/eindex.htm
European Union	Maritime association	www.europea.eu.int/en/gonline.html
Evergreen Shipping	Ship operator	www.evergreen.com
Expeditors International of Washington, Inc.	Shipbrokers	www.expd.com/
Fairplay	Maritime publication	www.fairplay-publications.co.uk
Federal Maritime Commission	Government	www.fmc.gov

Company	Type	Address
Finland, Gulf of Bothnia	Port	www.otm.fi/nowerail/
Fritz Companies	Ship agents	www.fritz.com
Gdansk	Port	www.pg.gda.pl./~korab/
Genoa, Italy	Port	www.portnet.it/
Germanischer Lloyd	Classification society	www.germanlloyd.de/
Greenpeace	Environmental group	www.greenpeace.org
Grupo Libra	Ship operator	www.grupolibra.com
Gulf & Atlantic Maritime Services Inc	Shipbrokers	www.gnamaritime.com/index.html
Halifax	Port	Fox.nstn.ca:80/~mrkting
Hamburger Lloyd AG	Ship operator	www.hlloyd.com/index.html
Hamburg Süd	Shipping	www.hamburg-sued.com
Hamilton, Ontario, Canada	Port	www.freenet.hamilton.on.ca
Hanjin Container Lines	Ship operator	www.hanjin.com
Harbour International Inc.	Ship agents	www.harbouronline.com
Hampton Roads	Port	www.hampton.roads.net/
Hellenic Shipbrokers Association	Maritime association	www.vic.com/poseidon/rigos
Hitachi Zosen	Shipbuilder	www.hitachizosen.co.jp
Hobart, Tasmania	Port	hobart.southcom.com.au/~mbht
Hong Kong, China	Port	www.info.gov.hk/mardep
Houston	Port	www.vannevar.com/port_of_houston
Hyundai Group	Shipbuilder	www.hyundai.net/
ICHCA	Maritime association	nw.demon.co.uk/ichca
Inchcape	Shipping	www.inchcape-shipping.com
Inmarsat	Maritime association	www.inmarsat.org
Interpool (IPX)	Ship agents	www.interpool.com/
International Association of Ports & Harbours	Maritime association	www.iaph.or.jp
Jacksonville	Port	www.jaxport.com
Janson Shipbrokers	Shipbrokers	www.janson.no
K-Line	Ship operator	www.k-line.com/
Kobe	Port	www.kobe-cufs.ac.jp/
Korab	General maritime site	www.pg.gda.pl/~korab/kor_Ink.html
Kotka	Port	www.kotka.fi/satama
Latvia ports	Port	www.itl.rtu.lv/transp/ports.html
Livorno	Port	www.portnet.it/
Lloyd's	Insurance	www.lloydsoflondon.co.uk
Lloyd's List Australian Weekly	Liner services	www.llaw-net.aust.com/
Lloyd's Register	Classification society	www.lr.org
Lloyd's of London Press	Lloyd's List etc.	www.llplimited.com/
London	Port	www.portoflondon.co.uk
Los Angeles	Port	www.portla.com/
Maersk Line	Ship operator	www.maerskline.com
Matson Navigation Company	Ship operator	www.matson.com
Melfi Marine Corp. SA	Ship operator	www.caspar.on.ca/melfi/
Mitsui Engineering & Shipbuilding	Shipbuilder	www.mes.co.jp/
Mitsui OSK Lines	Ship operator	www.mitsui.com/
Mobil	Oil	www.mobil.com
Mobile	Port	alaweb.asc.edu/
Montreal	Port	www.port-montreal.com
Maritime Administration, Washington	Government	www.marad.dot.gov
MTL	Container terminal	www.mtl.com.hk/
Multiport	Ship agents	www.multiport.org
NAFTA	Maritime association	gopher://wiretap.spies.com:70/11/Gov/NAFTA
Navarro's Brokerage Ltd., Trinidad	Ship agents	www.trinidad.net/navarros/
Nedlloyd Lines	Ship operator	www.nedlloyd.com/

Company	Type	Address
Neptune Orient Line	Shipping	www.nolweb.com
Norsk Hydro	Oil	www.hydro.com
North Carolina	Port	www.ncports.com/
Norwegian Shipowners' Association	Maritime association	www.rederi.no/en/
NYK	Shipping	www.nyk.com
Oakland	Port	www.portofoakland.com/
Occidental Group	Ship operator	www.gate.net/~oxy/
Orient Overseas Container Lines	Ship operator	www.oocl.com/
Pal Indonesia Shipyard	Shipbuilder	www.inn.bppt.go.id/government/bpis/pal.html
Pensacola	Port	www.gulf.net/civic/cityhall/services/port.html
Philadelphia & Camden	Port	libertynet.org/~ppc/
Pittsburgh	Port	www.lm.com/~portpitt
P&O-Nedlloyd	Shipping	www.ponl.com
Polomar Inc.	Shipbrokers	netrunner.net/~polomar/
Portel - Information	Port	www.portel.es/
Portland, Oregon	Port	www.portofportlandor.com
Ravenna	Port	www.romagna.com/sapir/
RCL	Ship operator	www.oceanfreight.com
Repsol	Oil	www.repsol.es
Rimship AS	Shipbrokers	graficonn.no/rimship
Rotterdam	Port	www.cargoweb.nl
Safmarine	Shipping	www.safmarine.co.za
Saint John Port Corporation	Port	www.mi.net//port//port.html
Saint Paul	Port	pages.prodigy.com/MN/portweb/portweb.html
Santander	Port	cchp3.unican.es/Puerto/Home.html
Savona	Port	www.portnet.it/
Sea-Land Service Inc.	Shipping	www.sealand.com/
Shell	Oil	www.shell.com
Singapore	Port	www.singaport.gov.sg/
St. John, N.B.	Port	www.mi.net/port/port.html
Stockton	Port	www.portofstockton.com
Sud Americana de Vapores	Ship operator	www.csav.cl
Sunmar Container Lines	Ship operator	www.sunmar.com/
Tacoma	Port	www.portoftacoma.com/
Texaco	Oil	www.texaco.com/
TLS International, Inc.	Shipbrokers	www.pond.com/~tlsint/Welcome.html
Tor Line AB	Ship operatro	www.torline.se/
TT Club	Insurance	www.ttclub.com/
UK Club	Insurance	www.ukpandi.com/
US Coast Guard	Maritime association	www.navcen.uscg.mil/
Wilhelmsen Lines (USA)	Ship operator	www.wlusa.com
Yang Ming Lines	Ship operator	www.yml.com.tw
Zim Israel Navigation	Ship operator	www.zim.co.il

United Nations Organizations

IMO	www.imo.org/
UNCTAD	www.unicc.org/unctad/
WMU	www.wmu.se/
WTO OMC	www.wto.org/

Source: *Lloyd's Shipping Economist - IT in Shipping*, September 1996, and UNCTAD secretariat sources.

Annex V

Extract from "Study on Policy Options for Replacing Ageing Ships in the Pacific island Fleet"
Report by the United Nations Economic and Social Commission for Asia
and the Pacific, Bangkok, Thailand

Preface

1. Inter-island shipping services play a crucial role in providing the fundamental means of transportation in the South Pacific. To collect data and information, special missions were undertaken to the Cook Islands, Fiji, Papua New Guinea, Solomon Islands, Tonga, Vanuatu and Western Samoa. However, the services are handicapped by long distances between sparsely populated islands and the seasonal demand for movement of small quantities of cargo and continuous demand for passenger transport reaching peak levels at certain times. The limited revenues available to shipowners place them in a financially difficult situation in which they are often unable to replace obsolete and sometimes unsafe vessels. As a result, the average age of the fleet in the Pacific is excessive and even ships brought into service are often of an age and condition which are far from ideal.

Current domestic shipping operations

The existing fleet

2. Table A gives an outline of the present number, types and ages of ships in domestic fleets of the South Pacific. The ships have been classified broadly under four headings: conventional (deck) passenger/cargo vessels, landing craft, roll-on/roll-off passenger ferries and coastal tankers. Overall length has been used as the criterion of size as varied methods of measurement render gross tonnage virtually meaningless as a means of comparison, particularly in the case of small vessels. As may be seen from table A, the 20 year mark applies to over 50 per cent of the ships in the region and if replacement is to be considered, this still means a very significant number of vessels.

Control of domestic shipping operations

3. Almost all South Pacific governments have some form of legislation which provides for the issue of trading licences (as distinct from safety certificates) to vessels engaged in the domestic trade. The basic purpose behind such legislation is threefold:

(i) to reserve the trade to national flag carriers except where some particular circumstances, such as a requirement for a specialized type of vessel, may create a need for entry of a foreign flag carrier;
(ii) to prevent over-tonnaging in the domestic trade with the consequences flowing from too many ships chasing too little cargo; and
(iii) to ensure provision of adequate services, not only in the more lucrative "inner-island" trades where large volumes of cargo and passengers are offered but also in the "outer-island" trades, where little in the way of traffic or commercial incentives exists.

4. It does not appear that these objectives are being fulfilled at the present time. Over-tonnaging appears to be prevalent, especially in the larger shipping countries, and the supply of poorly paying services to the outer islands has become a critical social and economic problem particularly in those countries which have disposed of their government-owned ships which were less reliant on freight and passenger revenues. Introduction of route licensing systems has not been successful and the control of freight rates and/or passenger fares in some countries is another aspect which may need examination.

Table A
South Pacific domestic fleet statistics 1996

Type	I Conventional Pass/Cargo					II Landing Craft					III Roll on-Roll off Ferries					IV Coastal Tanker			Total Vessel
Length Over-All	Over 55m	45 - 55m	35- 45m	25 - 35m	under 25m	Over 55m	45 - 55m	35 - 45m	25 - 35m	under 25m	Over 55m	45 - 55m	35 - 45m	25 - 35 m	Under 25m	Over 55m	45 - 55m	35 - 45m	
Cook Islands				2(2)															2(2)
Federated States of Micronesia	4(nil)					1(1)													5(1)
Fiji		1(1)	3(2)	3(1)	9(7)			1(nil)	3(2)		3(3)	1(1)	1(1)						25(18)
Kiribati	2(1)		3(1)		1(nil)					2(1)									8(3)
Marshall Islands	3(nil)							2(nil)											5(nil)
Solomon Islands		2(1)	6(3)	11(4)	19(8)				1(nil)	2(2)			1(1)						42(19)
Tonga					6(2)				2(2)	1(1)		1(nil)		2(2)					12(7)
Tuvalu	1(nil)																		1(nil)
Vanuatu				6(3)	23(15)				1(1)	2(1)									32(20)
Western Samoa								1(nil)	1(1)				2(nil)	1(1)					5(2)
Subtotal	10(1)	3(2)	12(6)	22(10)	58(32)	1(1)		4(nil)	8(6)	7(5)	3(3)	2(1)	4(2)	3(3)					137(72)
Papua New Guinea		15(1)	10(2)	10(3)	76(54)		1(nil)	3(2)		2(2)			2(2)	4(2)	2(1)		3(3)	2(1)	130(73)
TOTAL	10(1)	18(3)	22(8)	32(13)	134(86)	1(1)	1(nil)	7(2)	8(6)	9(7)	3(3)	2(1)	6(4)	7(5)	2(1)		3(3)	2(1)	267(145)

Key: Numbers denote total numbers of vessels of each type and size.
Numbers in brackets denote numbers of vessels over 20 years of age of each type and size.

NOTE :
1. Figures are approximate, based on "Shipbuilding and Repair Facilities: Regional Planning Study", prepared by Leefax Services Ltd. for Forum Secretariat, 1992, updated where further information has become available.
2. The fleet of Papua New Guinea is shown separately from that of other South Pacific countries in view of its predominant scale which is almost equivalent to the aggregated fleet of other South Pacific countries.

5. All these are matters which require attention if domestic shipping services are to be upgraded. Restriction of trading licences is considered to be one option to avoid an excessive number of vessels in the trade. However, this measure should be carefully studied vis-a-vis the enterprising initiative of the private sector.

Management

6. Smaller companies in the South Pacific, particularly in the shipping sector, face difficulties in management with the impossibilities of achieving economies of scale and the problems created by their remoteness from large business and manufacturing centres. For these companies, accessibility or availability of financial resources and their management is a vital need along with more professional methods of operation, especially when new ships are planned to be brought into the trade.

PROPOSALS FOR CONSIDERATION: FLEET REPLACEMENT

Strategy for fleet replacement

7. A broad outline for a fleet rebuilding and purchase programme is shown in Table B. This is based on the principle that the vessels over 20 years of age (as shown in Table A) should be progressively withdrawn from service and replaced over the five year period (1998-2002).

8. It is appreciated that some governments and shipowners will have views on replacement that differ in certain respects from those shown in the table; also that in some cases, notably that of Papua New Guinea, the basic statistics concerning the number of vessels in older age brackets require updating. It is therefore suggested that the first aim should be to seek agreement from member countries on the strategy to be pursued in working out the rebuilding programme. If they are agreed in principle on the strategy, then detailed proposals from individual countries concerning the number of vessels based on the following criteria can be considered.

9. As part of the general strategy in formulating the fleet replacement programme it is suggested that serious consideration is given to the proposal for making a feasibility study on the establishment of a regional ship financing institution as stated in the following paragraph. A feature of this proposal is the system of "co-ownership" by the financing institution and the borrowers (ship operators) which seems to offer particular advantages with the present financial constraints affecting the domestic shipping industry in the South Pacific.

Establishment of a regional ship financing institution

10. It may be advisable to consider the feasibility of establishing a ship financing institution on a regular basis in order to facilitate the implementation of the proposed ship acquisition programme. Such a project which could be called "Pacific Maritime Credit Corporation" will involve many complex issues such as raising necessary equity and operating fund, structure and management of the organization, recruiting staff members and the viability of its operation. Moreover, starting such a project may need concerted action of the governments in the region as well as adequate support by developed countries.

11. The "Pacific Maritime Credit Corporation" may be expected to provide, in addition to ship financing services, advisory services in both managerial and technical aspects. Moreover, the organization is considered instrumental in eliminating over-tonnaging and upgrading safety standards.

Table B

Proposed fleet construction/purchase programme

TYPE	I CONVENTIONAL PASS/CARGO				II LANDING CRAFT				III ROLL ON-ROLL OFF FERRIES				IV COASTAL TANKERS			TOTAL VESSELS
Length Over-All	45m	35m	25m	15m	45m	35m	25m	15m	45m	35m	25m	15m	45m	35m	25m	
Cook Islands		2														2
Federated States of Micronesia					1											1
Fiji		2		4			2		3							11
Kiribati	1						1									2
Marshall Islands					1											1
Solomon Islands		2	2	4			2			1						11
Tonga				2			1			1						4
Tuvalu		1														1
Vanuatu			2	8			2									12
Western Samoa							1				1					2
Subtotal	1	7	4	18	2		9		3	2	7					47
Papua New Guinea		2	2	24		2	2			2	2		3			39
Total	1	9	6	42	2	2	11		3	4	3		3			86

Financial strategies and measures for acquiring replacement vessels

Policy measures for governments

12. Promotional measures by government for the shipping industry include direct and indirect programmes for shipbuilders and shipowning/operating companies. Most of these programmes are intended to reduce capital and operating expenditures by providing grants and subsidies, and consequently to enhance the credit worthiness or the ability of the borrowers to repay, thereby reducing the risk to lenders. For example, the probability of repayment will increase when commercial loans are guaranteed by governments or when protectionist measures limit competition. Promotional measures for shipping and shipbuilding industries are summarized below.

A. Direct measures

(1) Financing programmes
(2) Construction subsidies
(3) Operating subsidies
(4) Scrap and build aids
(5) Interest rate subsidies

B. Indirect measures

(1) Cabotage and other measures to constrain competition
(2) Loan guarantee
(3) Tax and depreciation benefits
(4) Exemption from customs duty
(5) Freight subsidies for shippers

13. With regard to the application of direct promotional measures, it is recognized that these may be difficult for the governments in the South Pacific as they entail direct outflow from their treasures. Because few countries can afford a ship financing programme at the national level, governments could consider the benefits of closer regional cooperation in ship financing and building. This would provide the opportunity to realize economies of scale and to strengthen their negotiating power with the parties concerned including possible donor institutions.

14. Provision of subsidies for shipowners who intend to "scrap and build" will involve financial problems. However, if government guarantees give higher priority for loan applicants who undertake scrap and build, such an administrative measure will certainly accelerate the modernization of the fleet and enhance safety standards.

15. Some indirect promotional measures are applied by several countries in the South Pacific, for example, cabotage has been introduced by almost all countries. However, although licensing schemes are in place in some countries, there are doubts over their effectiveness. In this connection, it may be advisable to consider introducing a franchising scheme on trade routes where adequate volumes of cargo are not available. Under such a scheme, ship operators would be paid at a fixed level, providing a certain standard of service and capacity was to be maintained. In effect this would mean that the government or a part of the community would pay a ship operator to provide a regular service of say once a month with capacity for 20 tons and 20 passengers. Any revenue earned would be in addition to the fixed sum and other operators could compete on the same service.

16. There are arguments on the advisability of governmental measures to restrict competition in trade routes such as cabotage, licensing system and freight rate control. The opponents argue that such measures should be abolished on the following grounds:

(a) Because freight rates are controlled at low levels by governments or agencies concerned, shipowners/operators cannot replace old ships;

(b) Because of cabotage, regional cooperation among ship operators to rationalize their operations on a regional basis is difficult;

(c) Licensing systems are preventing participation of cost-effective or innovative carriers on

trade routes to the detriment of service users;

(d) In general, governmental regulations restrict free competition, impede optimum distribution of national resources and consequently retard economic development.

17. On the other hand, the supporters of governmental measures to restrict competition argue that such measures are necessary on the following grounds:

(a) Because freight rates are controlled at low levels by governments or agencies concerned, shipowners/operators cannot replace old ships;

(b) Because of cabotage, regional cooperation among ship operators to rationalize their operations on a regional basis is difficult;

(c) Licensing systems are preventing participation of cost-effective or innovative carriers on trade routes to the detriment of service users;

(d) In general, governmental regulations restrict free competition, impede optimum distribution of national resources and consequently retard economic development.

18. It appears difficult to reach any clear-cut conclusion since each side has its plausible grounds, in particular in view of the existing situation in South Pacific countries. In summary, the advisability of deregulation in the domestic shipping market should be carefully considered by each country, taking into account its stage of economic and social development as well as the possibility of reactivating the national economy by the enterprising initiative of the private sector.

Policy options for the private sector

Types and sources of finance for ship replacement

19. There are various types and sources of finance for acquisition of ships which could be sorted into five categories, namely equity investments, bank or export credits, loan or lease from international institutions, bilateral aid loans from governments, and specialized ship mortgage banks.

(a) Equity investment

20. Usually four types of equity are adopted depending on the number of investors in the enterprise, viz. owner equity, limited partnership, ship fund shares and public offering share.

21. Equity investment is possible from both internal and external resources. Internal resources would be sought from retained profits from prior earnings, accumulated depreciation or other reserves. In the South Pacific countries, raising capital from internal resources is limited due to the generally tight market and limited profits. Hence, there is a need for raising equity capital from external resources, namely in the national and/or international capital market. However, in most countries in the region, such a national market has not been adequately developed, while raising equity capital in international capital markets is constrained by the issue of the solvency of the state in which the enterprise is registered. It is reported that ships could not fly the flag of the state and had to be registered under an open-registry flag when the funds for acquisition were raised abroad through ship fund shares. Furthermore, unless a satisfactory level of profit is expected for the company or for the ship acquisition project, attracting international capital may be very difficult.

22. For these reasons, equity investments are considered unsuitable for the South Pacific countries as an option of ship financing. Nevertheless, a self-supporting sustainable effort among indigenous entrepreneurs is important for raising necessary equity by their joint ventures or any other cooperative actions.

(b) Commercial banks

23. In the early 1980s, commercial banks were willing to offer loan coverage up to 80 to 90 per cent of ship acquisition projects, with a repayment period of ten years. Because of tough lessons learnt from the bankruptcies of established shipping companies in the 1980s, financial institutions reviewed their

lending policy and considered that the terms and conditions offered in the past had been too generous, and also that banks had been too loose in evaluating the risks in shipping. The loan standard of commercial banks for shipping projects has been revised over the years, and currently they offer 60 to 70 per cent of loan coverage over a shorter duration of seven to eight years. The use of a long-term chartering contract as a collateral has not been accepted in view of increasing instances of premature termination of charter agreements. It is noted that the financing terms mentioned above and conditions are those applied mainly in developed countries.

24. With regard to finance for purchase of used ships, it is reported that a bank which had primarily concentrated on financing secondhand ships to the private sector provides finance for 50-60 per cent of the asset value in general, and the period of financing was short, typically two-three years and, in specific cases, for a maximum five years. However, the ship must be registered under a flag which is acceptable to the bank. It was also reported that another bank provided a maximum of 70 per cent of the purchase price, provided the overall debt equity ratio of the enterprise as a whole is restricted to 2:1. The interest charge, if fixed, varied between 11 and 12 per cent, and if floating rates were used the spread was 2.5-3.5 per cent above LIBOR (London Interbank Offered Rate). The repayment period was limited to a maximum of 75 per cent of the economic life of the ship. Typically, this related to a period of 5 to 10 years, depending on the ship.