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Geneva

Review of Maritime Transport, 1988

Report by the UNCTAD secretariat

UNITED NATIONS
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NOTE

This Review has been prepared by the UNCTAD secretariat in accordance with item VI of the programme of work of the Committee on Shipping, for consideration at the fourteenth session of the Committee. Any factual and editorial corrections that may prove necessary in the light of comments made by the Committee at that session or received directly from Governments would be reflected in a corrigendum to be issued subsequently.

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ABBREVIATIONS

CFS	Container freight station
cif	Cost, insurance, freight
dwt	Deadweight tons
EEC	European Economic Community
FEU	Forty-foot equivalent unit
fob	Free on board
GDP	Gross domestic product
GNP	Gross national product
grt	Gross registered tons
ICC	International Chamber of Commerce
ICD	Inland clearance depot
ISO	International Organisation for Standardization
LCL	Less than container load
LDT	Light displacement tons
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
LUF	Lifting unit frame
MTO	Multimodal transport operator
NVOCC	Non-vessel-operating common carrier
NVO-MTO	Non-vessel-operating multimodal transport operator
OBO	Oil/bulk/ore
OECD	Organisation for Economic Co-operation and Development
ro/ro	Roll-on/roll-off
TEU	Twenty-foot equivalent unit
ULCC	Ultra large crude carrier
VLCC	Very large crude carrier
VO-MTO	Vessel-operating multimodal transport operator

EXPLANATORY NOTES

References to dollars ($) are to United States dollars.

Tons refer to metric tons, unless otherwise stated.

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

Two dots (..) indicate that the 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, data shown for earlier years have been revised and updated, and may therefore differ from those shown in previous issues of this Review.

INTRODUCTION

The Review of Maritime Transport is an annual publication prepared by the secretariat of UNCTAD, in accordance with section VI of the programme of work of the Committee on Shipping. */ The purpose of the Review is to outline and analyse the main developments in world maritime transport in the past year and to assess expected future short-term developments. Emphasis is given to the development of the merchant marines in developing countries as compared with other groups of countries.

Summary of main developments in 1988

(i) Growth in the international economy and the fall in oil prices in 1988 contributed in large part to the improvement of international seaborne trade and maritime transport.

(ii) The total volume of international seaborne trade increased in 1988, with goods loaded estimated at 3.7 billion tons or 4.1 per cent more than in 1987. Thus, the gradual increase in international seaborne trade during the last five-year period has restored the total volume to approximately the 1980 level (3.7 billion tons).

(iii) The declining trend in the size of the world merchant fleet continued in 1988. At mid-year 1988 the total deadweight of the world merchant fleet was 627.9 million tons, representing a decline of 4.4 million dwt or 0.7 per cent from the previous year's figure.

(iv) Ownership remained concentrated in the developed market-economy and open-registry countries, with a combined tonnage amounting at mid-year 1988 to 67.8 per cent of the total deadweight of the world merchant fleet. The share of developing countries remained at the level of 1987, viz. 20.9 per cent. Socialist countries of Eastern Europe and Asia owned 10.2 per cent of the world merchant fleet.

(v) The combined tonnage of the five major open-registry countries (Liberia, Panama, Cyprus, Bahamas, Bermuda) at mid-1988 stood at 220.2 million dwt or 35.0 per cent of the world merchant fleet and now exceeds the total tonnage registered in developed market-economy countries (205.9 million dwt).

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*/ Official Records of the Trade and Development Board, Tenth Session, Supplement No. 5 (TD/B/301), annex III.

(vi) The participation of developing countries in the world merchant fleet continued to be considerably lower than their share of international seaborne trade. Thus, in 1988, developing countries generated 35.1 per cent of world cargo moving in international seaborne trade (exports and imports combined) but owned only 20.9 per cent of deadweight tonnage. On the other hand, developed market-economy countries, either directly or indirectly through open-registry fleets, owned 67.8 per cent of world tonnage while generating 57.2 per cent of world trade.

(vii) The supply/demand disequilibrium remained a serious problem in the world shipping industry, although in 1988 the amount of surplus continued to decrease as compared with the previous years. Nevertheless, average surplus tonnage was still estimated at 113.6 million dwt or 18.1 per cent of the total world merchant fleet as at 1 July 1988 (surplus tanker tonnage was estimated at 67.0 million dwt or 26.7 per cent of the world tanker fleet).

(viii) The proportion of freight costs to cif import values for developing countries continued to be more than twice as high as that for developed market-economy countries (8.90 per cent against 4.34 per cent).

(ix) Freight rate indices for dry cargo ships and for tankers showed a moderate upward movement in 1988 as compared with 1987. This was largely the result of an increase in international seaborne trade, as well as a somewhat more balanced supply/demand relationship for a number of ship types.

Chapter I

THE DEVELOPMENT OF INTERNATIONAL SEABORNE TRADE

1. As shown in table 1 (preliminary estimates), the total volume of international seaborne trade in 1988 amounted to 3.7 billion tons, an increase of 4.1 per cent as compared with 1987. Thus, the gradual increase in international seaborne trade during the last five-year period has restored the total volume to approximately the 1980 level (3.7 billion tons). Trade in both of the main types of cargoes (tanker and dry cargoes) showed an increase, although the development of trade varied considerably between commodities. Thus, seaborne trade in dry cargoes increased by 3.3 per cent as compared with 1987, whilst seaborne trade in liquid hydrocarbons in 1988 increased by 5.2 per cent as compared with the previous year. The development of international seaborne trade in a number of selected years can be seen from graph 1.

2. In 1988 tanker cargoes accounted for 44.1 per cent of the total amount of international seaborne trade. The main dry bulk cargoes as a group showed an increase of 5.1 per cent as compared with the previous year. This increase should be attributed mainly to the growth of iron ore and coal shipments, with seaborne trade in the other main dry bulk cargoes either remaining at the level of 1987 or slightly decreasing.

3. Table 2 shows world seaborne trade by types of cargo in terms of ton-miles. Total 1988 ton-miles increased by 6.3 per cent as compared to the level of 1987. This increase should be attributed mainly to a significant growth in the carriage of crude oil (27 per cent), iron ore (8.2 per cent) and coal (5.3 per cent). At the same time the seaborne trade of oil products and grain was also above the 1987 levels (2.3 per cent and 0.8 per cent respectively). The share of liquid hydrocarbons in the total ton-miles for 1988 stood at 42.4 per cent (42.0 per cent in 1987), while the combined share of the three main dry bulk commodities (iron ore, coal and grain) amounted to 30.8 per cent (30.1 per cent in 1987).

4. The distribution of world seaborne trade by goods loaded/unloaded, broad commodity classifications and country groupings is given in table 3 and in graph 2. Globally, dry cargoes represented 55.9 per cent of goods loaded in 1988, while crude oil, as the single largest cargo group, accounted for 31.6 per cent. In 1988 developing countries generated 46.5 per cent of all goods loaded and 24.9 per cent of all goods unloaded, while developed market-economy countries accounted for 45.0 per cent of all goods loaded and 68.0 per cent of all goods unloaded. The socialist countries' shares were 8.5 per cent of the goods loaded and 7.1 per cent of the goods unloaded.

5. Developing countries experienced a slight decline in their share of world seaborne exports (all goods), which stood at 47.0 per cent of all goods loaded in 1987 and at 46.5 per cent in 1988. However, developing countries accounted for 75.3 per cent of the amount of crude petroleum and 52.1 per cent of petroleum products loaded in 1988 (74.2 and 54.8 per cent in 1987). With respect to goods unloaded, the share of developing countries decreased slightly from 25.4 per cent in 1987 to 24.9 per cent in 1988.

Table 1

Development of international seaborne trade, a/ 1970 and 1980-1988
(Estimates of 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
1980	1 871	-6.6	1 833	3.3	796	4.5	3 704	-2.0
1981	1 693	-9.5	1 866	1.8	806	1.3	3 559	-3.9
1982	1 480	-12.6	1 793	-3.9	759	-5.8	3 273	-8.0
1983	1 461	-1.4	1 770	-1.3	732	-3.7	3 231	-1.3
1984	1 498	2.5	1 912	8.0	833	13.8	3 410	5.5
1985	1 459	-2.6	1 923	0.6	857	2.9	3 382	-0.8
1986	1 533	5.1	1 945	1.1	834	-2.7	3 478	2.8
1987	1 540	0.5	1 985	2.1	875	4.9	3 525	1.4
1988 c/	1 620	5.2	2 050	3.3	920	5.1	3 670	4.1

Sources: Based on data from the United Nations Statistical Office; Fearnleys, World Bulk Trades 1987 (Oslo) and Review 1988; UNCTAD Data Bank; and other specialized sources.

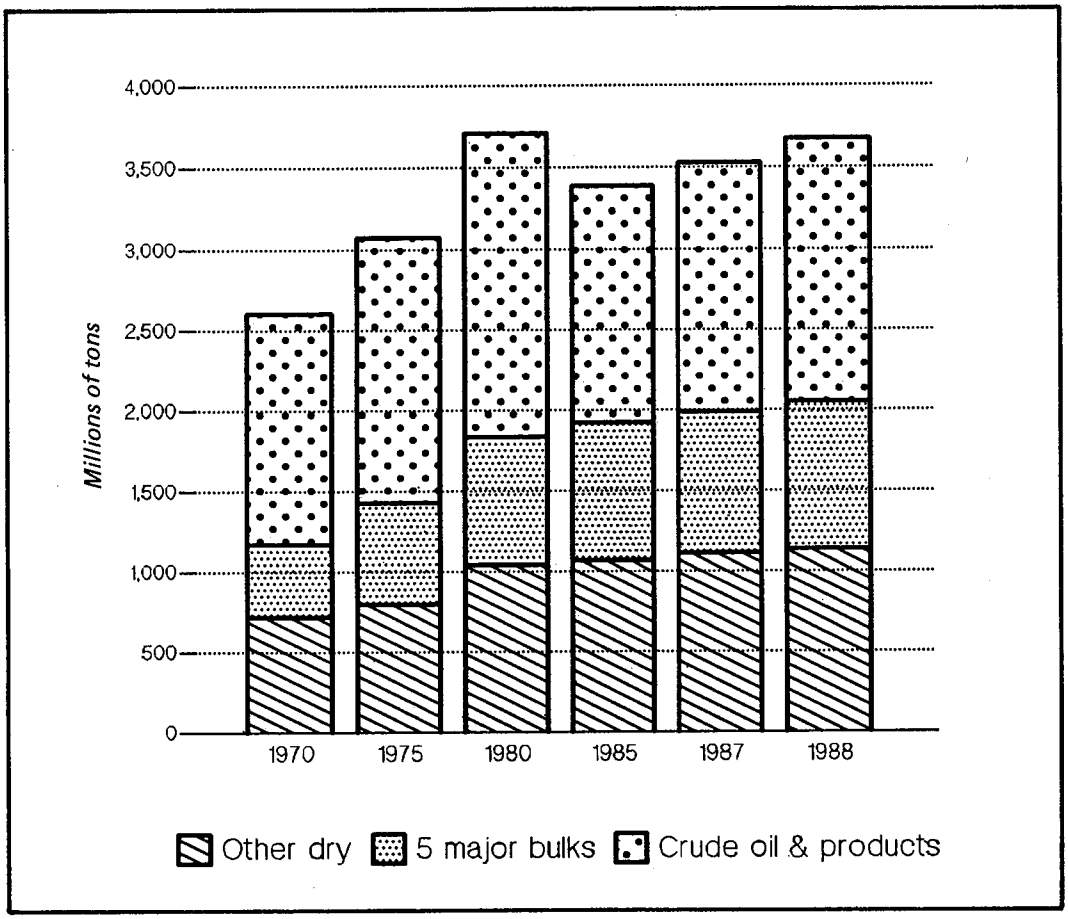
a/ Including international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system, but excluding such traffic in main bulk commodities.

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

c/ UNCTAD preliminary estimates.

Graph 1

INTERNATIONAL SEABORNE TRADE FOR SELECTED YEARS (millions of tons loaded)



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

Table 2

World seaborne trade by types of cargo, 1970 and 1980-1988
(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
1981	7 371	1 000	1 508	1 120	1 131	3 710	15 840
1982	5 212	1 070	1 443	1 094	1 120	3 560	13 499
1983	4 478	1 080	1 320	1 057	1 135	3 510	12 580
1984	4 508	1 140	1 631	1 270	1 157	3 720	13 426
1985	4 007	1 150	1 675	1 479	1 004	3 750	13 065
1986	4 640	1 265	1 671	1 586	914	3 780	13 856
1987	4 671	1 320	1 728	1 653	1 061	3 840	14 273
1988	5 080	1 350	1 870	1 740	1 070	4 060	15 170

Source: Fearnleys (Oslo), Review 1988.

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

Table 3

World seaborne trade a/ in 1970, 1986, 1987 and 1988 (est.)
by types of cargo and country groups b/ c/

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	1970	1 110	330	1 165	2 605	1 101	302	1 127	2 530
	1986	1 123	410	1 945	3 478	1 105	401	2 024	3 530
	1987	1 107	441	1 977	3 525	1 094	407	2 084	3 585
	1988	1 160	460	2 050	3 670	1 170	430	2 120	3 720
		(Percentage share of each category of goods in total)							
World total	1970	42.6	12.7	44.7	100.0	43.5	11.9	44.6	100.0
	1986	32.3	11.8	55.9	100.0	31.3	11.4	57.3	100.0
	1987	31.4	12.5	56.1	100.0	30.5	11.4	58.1	100.0
	1988	31.6	12.5	55.9	100.0	30.5	11.4	58.1	100.0
		(Percentage share of trade by groups of countries)							
Developed market-economy countries	1970	2.0	27.1	60.0	31.1	80.4	79.6	79.1	79.9
	1986	16.2	27.0	64.7	45.1	72.3	82.4	61.4	67.2
	1987	15.7	30.1	64.1	44.6	72.4	82.0	62.2	67.6
	1988	15.2	30.5	65.1	45.0	72.6	82.4	62.6	68.0
Socialist countries of Eastern Europe and Asia	1970	3.4	8.0	8.1	6.1	1.7	1.1	5.8	3.5
	1986	9.4	17.5	6.1	8.5	3.5	0.7	10.1	7.0
	1987	9.5	17.3	5.8	8.4	3.7	0.7	10.1	7.0
	1988	9.5	17.4	5.9	8.5	3.8	0.8	10.1	7.1
of which:									
in Eastern Europe	1970	3.4	8.0	6.9	5.6	1.2	1.0	3.8	2.3
	1986	6.0	15.8	4.8	6.5	3.2	0.4	6.5	4.8
	1987	6.0	15.5	4.4	6.3	3.4	0.4	6.6	4.9
	1988	5.9	15.5	4.4	6.3	3.4	0.4	6.6	4.9
in Asia	1970	-	-	1.2	0.5	0.5	0.1	2.0	1.2
	1986	3.4	1.7	1.3	2.0	0.3	0.3	3.6	2.2
	1987	3.5	1.8	1.4	2.1	0.3	0.3	3.5	2.2
	1988	3.6	1.8	1.5	2.2	0.3	0.3	3.5	2.2

Table 3 (continued)

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products			Crude	Products		
		(Percentage share of trade by groups of countries)							
Developing countries	1970	94.6	64.9	31.9	62.8	17.9	19.4	15.1	16.6
	1986	74.4	55.5	29.2	46.4	24.2	18.9	28.5	25.8
	1987	74.8	52.6	30.1	47.0	23.9	17.3	27.7	25.4
	1988	75.3	52.1	29.1	46.5	23.6	16.8	27.3	24.9
of which in:									
Africa	1970	25.5	2.4	9.1	15.2	1.7	4.7	3.6	2.9
	1986	21.8	8.1	5.0	10.6	5.9	2.3	4.6	4.7
	1987	21.5	7.2	5.0	10.5	6.0	2.5	4.4	4.6
America	1970	12.2	35.4	13.8	16.0	10.5	5.6	4.4	7.2
	1986	11.7	12.2	13.8	13.0	5.5	4.1	4.4	4.7
	1987	12.9	11.3	13.3	13.0	5.0	4.3	4.5	4.6
Asia	1970	56.9	27.0	8.1	31.3	5.5	8.5	6.7	6.4
	1986	40.9	34.8	9.6	22.4	12.1	9.4	18.5	15.5
	1987	40.4	33.8	11.0	23.0	12.1	9.3	17.9	15.2
Europe	1970	-	-	-	-	-	0.1	0.1	-
	1986	-	0.2	0.3	0.2	0.7	0.5	0.8	0.8
	1987	-	0.2	0.4	0.2	0.8	0.6	0.8	0.8
Oceania	1970	-	0.1	0.8	0.4	-	0.5	0.3	0.2
	1986	-	0.1	0.4	0.2	-	0.6	0.2	0.1
	1987	-	0.1	0.4	0.2	-	0.6	0.1	0.2

Source: Based on statistics provided by the United Nations Statistical Office, 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.

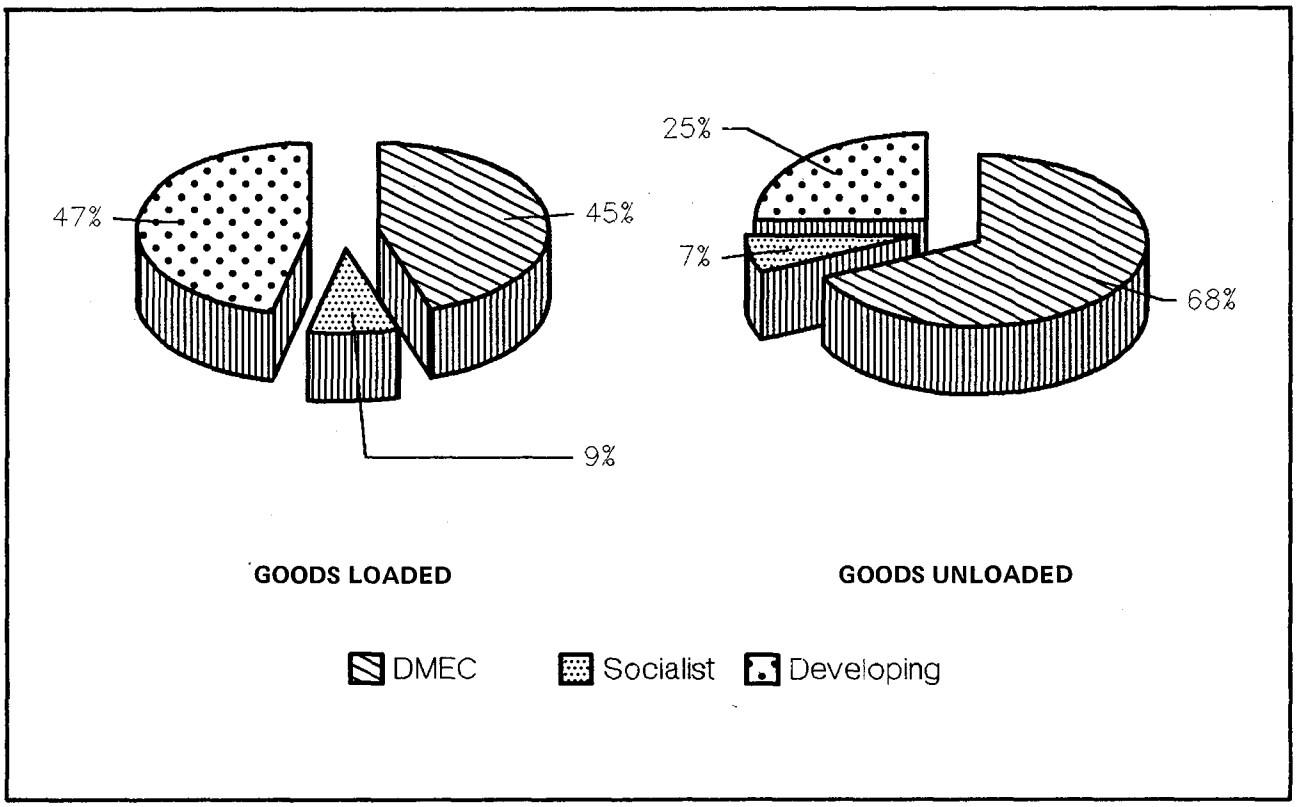
b/ See annex I for the composition of these groups. (See note 2 to that annex regarding the recording of trade of land-locked countries.)

c/ The estimates presented here reflect the inclusion of Yugoslavia in 1986 in the group "Developing countries in Europe"; in previous years Yugoslavia was classified as a developed market-economy country.

Graph 2

WORLD SEABORNE TRADE BY COUNTRY GROUPS, 1988

(percentage distribution, tons)



Source: UNCTAD data bank

Chapter II

DEVELOPMENT OF THE WORLD FLEET

A. Size and ownership of the world fleet

6. A summary of the world merchant fleet by country groupings for the years 1970, 1987 and 1988 is shown in table 4. The declining trend in the size of the world fleet, which started in 1983, has continued. At mid-year 1988, the total deadweight tonnage of the world merchant fleet was 627.9 million tons (as compared to a peak of 693.5 million dwt in 1982). This represents a 4.4 million dwt or 0.7 per cent decline from the previous year's figure. However, the overall decrease since the peak of 1982 has been 65.6 million dwt or 9.4 per cent.

7. The declining trend in the size of the world merchant fleet derived mostly from a certain decrease in deliveries of newbuildings and the scrapping of uneconomic tonnage. Tonnage broken up between mid-1987 and mid-1988 amounted to 14.8 million dwt 1/ (including ships sold for breaking and ship losses). However, it should be noted that the amount of demolished tonnage was 46.6 per cent less than for the period mid-1986 to mid-1987.

8. Table 4 and Graph 3 indicate that ownership of the world merchant fleet remains concentrated largely in the five major open-registry countries and developed market-economy countries, which account for 35.0 per cent and 32.8 per cent of the world merchant fleet respectively. The share of developing countries in 1988 stood at 20.9 per cent, i.e. at the same level as in 1987. It should be noted, however, that a certain amount of this tonnage relates to vessels bareboat chartered in - rather than effectively owned in - the developing countries concerned. Socialist countries of Eastern Europe and Asia owned 10.2 per cent of the world merchant fleet, with 6.9 per cent owned by socialist countries of Eastern Europe.

9. As shown in table 5, between mid-1987 and mid-1988 the five major open-registry countries' fleet showed a noticeable increase, growing by 5.7 million dwt or 2.6 per cent. Thus, total tonnage under open registries amounted to 220.2 million dwt and now exceeds the total tonnage registered in developed market-economy countries.

10. This increase of tonnage of the open-registry fleet can be attributed mainly to the growth of tonnage under the flags of Cyprus (+16.8 per cent) and Bermuda (+122.6 per cent). The share of these two countries in the total tonnage of the open-registry fleet increased to 14.9 per cent and 3.1 per cent respectively in 1988. The amount of tonnage registered in Liberia continued to decline, although Liberia remained the most important open-registry country. In 1988 Liberian-registered tonnage decreased by 4.0 million dwt and the share of Liberia in the open-registry fleet stood at 42.7 per cent, against 45.7 per cent in mid-1987. In spite of a 1.5 per cent growth in its tonnage between mid-1987 and mid-1988, the share of Panama in the open-registry fleet decreased slightly to 32.5 per cent. A marginal decrease after a number of years of steady growth was shown by the fleet under the flag of the Bahamas.

Table 4

Distribution of world tonnage (grt and dwt) by groups of countries of registration, 1970, 1987 and 1988 a/
(Mid-year figures)

Flags of registration by groups of countries	Tonnage and percentage shares b/						Increase in tonnage (mill.of dwt)	
	In grt (millions)			In dwt (millions)				
	1970	1987	1988	1970	1987	1988	1970-1988 (average)	1987-1988
1. World total	217.9 (100.0)	397.7 (100.0)	397.1 (100.0)	326.1 (100.0)	632.3 (100.0)	627.9 (100.0)	17.0	-4.4
2. Developed market-economy countries	141.8 (65.1)	140.5 (35.3)	134.9 (34.0)	209.7 (65.0)	216.2 (34.2)	205.9 (32.8)	-0.2	-10.3
3. Open-registry countries	40.9 (18.8)	121.3 (30.5)	125.5 (31.6)	70.3 (21.6)	214.5 (33.9)	220.2 (35.0)	8.3	5.7
Total 2 & 3	182.0 (83.9)	261.8 (65.8)	260.4 (65.6)	282.2 (86.6)	430.7 (68.1)	426.1 (67.8)	8.0	-4.8
4. Socialist countries of Eastern Europe and Asia	19.5 (8.9)	48.4 (12.2)	49.6 (12.5)	21.7 (6.6)	62.4 (9.9)	63.8 (10.2)	2.3	1.4
of which:								
in Eastern Europe	18.6 (8.5)	35.3 (8.9)	36.0 (9.1)	22.7 (6.2)	42.8 (6.8)	43.4 (6.9)	1.1	0.6
in Asia	0.9 (0.4)	13.1 (3.3)	13.6 (3.4)	1.2 (0.4)	19.6 (3.1)	20.4 (3.3)	1.1	0.8
5. Developing countries c/	14.5 (6.7)	83.0 (20.9)	82.5 (20.8)	20.5 (6.3)	132.3 (20.9)	131.2 (20.9)	6.1	-1.1
of which in:								
Africa	0.8	5.3	5.5	1.1	7.3	7.7	0.4	0.4
America	6.4	16.3	16.1	8.7	24.7	24.6	0.9	-0.1
Asia	7.3	55.8	53.7	10.7	91.3	87.2	4.3	-4.1
Europe c/	-	4.9	6.2	2.2	7.8	10.0	0.4	2.2
Oceania	-	0.7	1.0	-	1.2	1.7	-	0.5
6. Other, unallocated	1.2 (0.5)	4.5 (1.1)	4.6 (1.1)	1.7 (0.5)	6.9 (1.1)	6.8 (1.1)	0.3	-0.1

Source: Compiled on the basis of data supplied by the Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

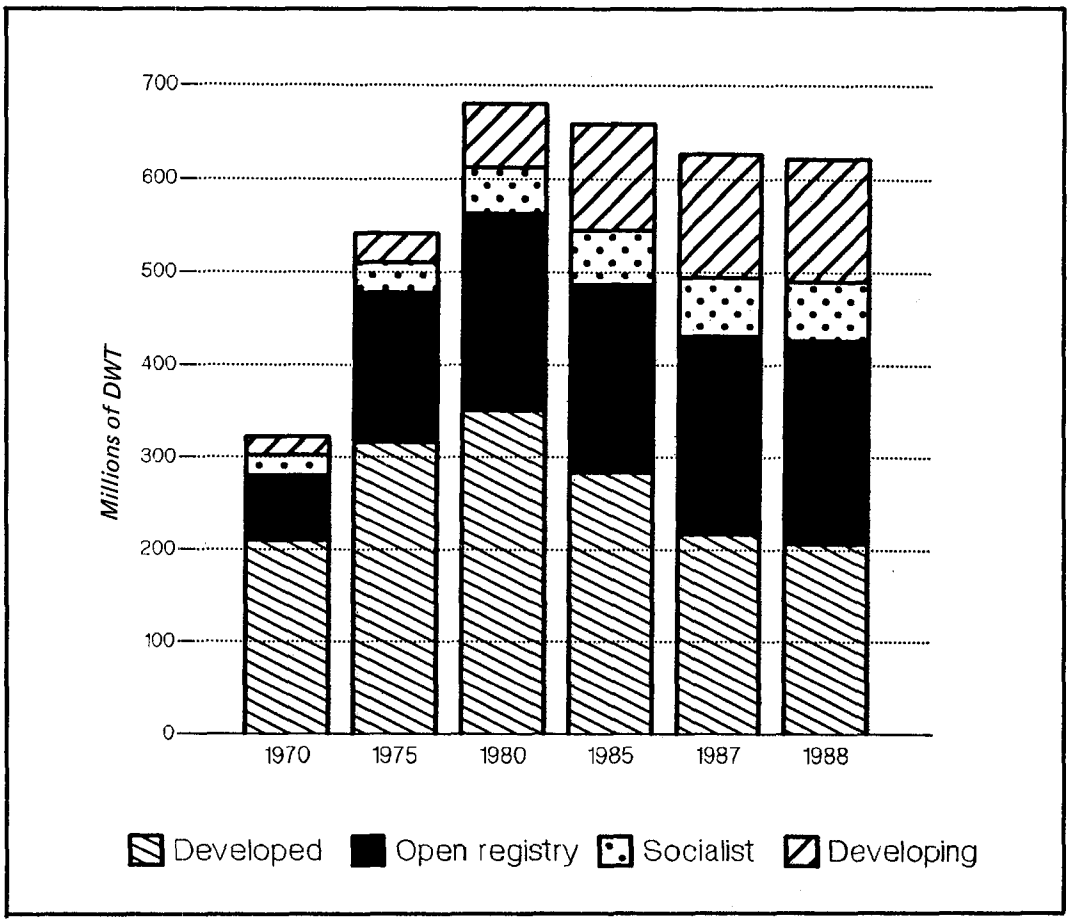
a/ Excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets, which in 1988 amounted respectively to 3.3, 1.3 and 1.7 million grt.

b/ Percentage shares are shown in brackets.

c/ Including Yugoslavia, classified as from 1986 as a developing country in Europe.

Graph 3

WORLD FLEET CAPACITY BY COUNTRY GROUPS
SELECTED YEARS 1970 TO 1988
(millions of DWT at mid-year)



Source: Lloyd's Register of Shipping, and Lloyd's of London Press.

Table 5

Distribution of tonnage of open-registry fleets by major open-registry countries (grt and dwt), 1983-1988
(Mid-year figures)

	Tonnage and percentage shares a/											
	In grt (millions)						In dwt (millions)					
	1983	1984	1985	1986	1987	1988	1983	1984	1985	1986	1987	1988
Total open-registry countries	107.3 (100)	110.0 (100)	112.0 (100)	111.7 (100)	121.2 (100)	125.5 (100)	199.8 (100)	202.2 (100)	203.4 (100)	201.1 (100)	214.5 (100)	220.2 (100)
Liberia	67.6 (63.0)	62.0 (56.4)	58.2 (52.0)	52.6 (47.1)	51.4 (42.4)	49.7 (39.6)	133.2 (66.7)	121.4 (60.0)	113.5 (55.8)	101.6 (50.5)	98.0 (45.7)	94.0 (42.7)
Panama	34.7 (32.4)	37.2 (33.8)	40.7 (36.3)	41.3 (37.0)	43.2 (35.6)	44.6 (35.5)	58.3 (29.2)	62.0 (30.7)	67.3 (33.1)	68.3 (34.0)	70.4 (32.8)	71.5 (32.5)
Cyprus	3.4 (3.2)	6.7 (6.2)	8.2 (7.3)	10.6 (9.5)	15.6 (12.9)	18.4 (14.7)	5.8 (2.9)	11.8 (5.9)	14.3 (7.0)	18.8 (9.3)	27.3 (12.7)	32.8 (14.9)
Bahamas	0.8 (0.7)	3.2 (2.9)	3.9 (3.5)	6.0 (5.4)	9.1 (7.5)	9.0 (7.2)	1.2 (0.6)	5.7 (2.8)	6.9 (3.4)	10.6 (5.3)	15.7 (7.3)	15.0 (6.8)
Bermuda	0.8 (0.7)	0.8 (0.7)	1.0 (0.9)	1.2 (1.0)	1.9 (1.6)	3.8 (3.0)	1.3 (0.6)	1.3 (0.6)	1.4 (0.7)	1.8 (0.9)	3.1 (1.5)	6.9 (3.1)

Source: Compiled on the basis of data supplied by the Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

a/ Percentage shares shown in brackets.

11. During recent years, in addition to the five major open-registry countries shown in table 5, a number of other countries have taken or intensified measures to attract ships to their national ship registers. In some cases, such efforts are largely directed at retaining ships owned by nationals on the register (or reattracting such ships to the national register). Thus, new classifications and terminology are emerging such as "traditional", "captive", or "off-shore" and "new" open registers. The general term "international registers" is becoming increasingly used to refer to registers with registration requirements (in particular in relation to taxation, registration and annual tonnage fees and the manning of vessels by non-nationals) which are largely designed to attract foreign-owned tonnage or re-attract flagged-out ships owned by nationals. A considerable number of countries have made or increased efforts to that effect during recent years. 2/

12. In this connection, it may be noted that a set of minimum conditions which should be applied and observed by States when accepting ships on their ship register(s) have been embodied in the United Nations Convention on Conditions for Registration of Ships, which was adopted by a plenipotentiary Conference on 7 February 1986. The Convention defines the elements of the "genuine link" that should exist between a ship and the State whose flag it flies and thus contains provisions for the participation by nationals of the flag State in the ownership, manning and management of ships. The Convention also stipulates that flag States are required to exercise effectively their jurisdiction and control over ships flying their flag and provides for the establishment by a flag State of a competent and adequate national maritime administration which is responsible for a number of specific tasks such as ensuring that a ship flying its flag complies with the State's laws and regulations concerning registration of ships and with applicable international rules and standards concerning in particular the safety of ships and persons on board and the prevention of pollution of the marine environment. Developments in world shipping during recent years would point to an urgent need for the Convention to enter into force and for its provisions to be applied - and possibly strengthened - by all States. (For the present status of the Convention, see chapter VII.D.)

B. Types of vessel

13. The composition of the world merchant fleet by principal types of vessel at mid-year 1986, 1987 and 1988, as well as the percentage changes between 1987 and 1988, are shown in table 6. As in previous years, four types of vessel - i.e. oil tankers, bulk and combined carriers, general cargo and unitized ships - constituted the main part of the world fleet in 1987. Their combined deadweight amounted to 600.2 million tons, which represents 94.2 per cent of the world fleet. Thus, the share of these four types of vessel in the world merchant fleet remained at the level of 1987.

14. The distribution of world tonnage by country groups and by types of vessels, as given in table 7, shows that the developed market-economy countries continued to own the largest share of such types of vessels as containerships, including lighter carriers, and general cargo ships (51.6 per cent and 24.2 per cent of the world fleet respectively). They also own 37.0 per cent of the world tanker fleet and 28.3 per cent of ore and bulk carriers, including combined carriers. During the last year the share of the open-registry fleet in all types of vessels grew considerably; 42.0 per cent of the world tanker fleet, 36.0 per cent of the world ore and bulk carrier

Table 6

World fleet by principal types of vessel, 1986-1988 a/
(Thousands of dwt) b/

Principal types	1986	1987	1988	Percentage change 1987/1988
Oil tankers	247 523 (38.2)	245 492 (38.3)	245 036 (38.5)	- 0.2
Liquified gas carriers	10 117 (1.6)	10 039 (1.6)	10 000 (1.6)	- 0.4
Chemical carriers	6 065 (0.9)	5 927 (0.9)	5 946 (0.9)	+ 0.3
Miscellaneous tankers	405 (0.1)	398 (0.1)	376 (0.1)	- 5.5
Bulk/oil carriers (inc. ore/oil carriers)	40 303 (6.2)	38 611 (6.0)	38 009 (6.0)	- 1.6
Ore and bulk carriers	194 892 (30.1)	193 191 (30.1)	192 090 (30.1)	- 0.6
General cargo (inc. passenger cargo)	103 578 (16.0)	100 565 (15.7)	98 075 (15.4)	- 2.5
Containerships (fully cellular) and lighter carriers	21 524 (3.3)	23 078 (3.6)	24 207 (3.8)	+ 4.9
Vehicle carriers	3 387 (0.5)	3 200 (0.5)	2 764 (0.4)	- 13.6
Fish factories and carriers, and fishing (inc. factory trawlers)	8 118 (1.3)	8 183 (1.3)	8 339 (1.3)	+ 1.9
Ferries and passenger vessels	2 687 (0.4)	2 758 (0.4)	2 871 (0.4)	+ 4.1
All other vessels	9 040 (1.4)	9 322 (1.5)	9 366 (1.5)	+ 0.5
Total above	647 639 (100.0)	640 764 (100.0)	637 079 (100.0)	- 0.6

Source: Shipping Information Services of Lloyd's Register of Shipping, and Lloyd's of London Press Limited, 1986-1988 (mid-year figures).

a/ The totals in this table are not comparable with those in table 4, because they include the United States Reserve Fleet and the United States and Canadian Great Lakes fleets.

b/ Percentage shares are shown in brackets.

Table 7

Percentage shares of world tonnage by type of vessel and country groups (as at 1 July), 1980, 1985, 1987 and 1988 a/
(In terms of dwt)

Country group	Year	Total dwt		Tankers	Ore and bulk carriers b/ including combined carriers	General cargo ships c/	Container ships and lighter carriers	Other ships
		Millions of dwt	Percentage of world total	Percentage share by vessel type				
World total	1980	682.8	100	49.7	27.2	17.0	1.6	4.5
	1985	664.8	100	39.3	34.9	15.9	3.0	6.9
	1987	632.3	100	37.4	36.0	15.4	3.6	7.6
	1988	628.0	100	37.4	36.0	15.0	3.9	7.7
				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
	1985	282.9	42.5	46.8	38.9	34.4	63.4	46.7
	1987	216.2	34.2	37.9	30.1	26.9	55.4	40.4
	1988	205.9	32.8	37.0	28.3	24.2	51.6	40.8
Open-registry countries	1980	212.5	31.1	36.2	31.7	20.8	13.5	17.0
	1985	203.4	30.6	35.5	32.8	20.3	13.0	23.1
	1987	214.5	33.9	40.5	34.8	22.9	19.2	27.2
	1988	220.2	35.0	42.0	36.0	23.6	20.4	23.7
Socialist countries of Eastern Europe and Asia	1980	48.7	5.5	2.8	4.2	12.3	2.9	19.2
	1985	58.5	8.8	4.4	7.3	20.8	5.5	15.2
	1987	62.4	9.9	4.8	8.6	23.2	6.5	14.9
	1988	63.9	10.2	4.8	9.2	24.0	7.1	15.2
of which:								
in Eastern Europe	1980	37.8	5.5	2.8	4.2	12.3	2.9	19.2
	1985	41.3	6.2	3.4	4.7	13.9	3.3	14.0
	1987	42.8	6.8	3.6	5.5	14.8	3.6	13.5
	1988	43.4	6.9	3.6	5.8	15.1	3.7	13.7
in Asia	1980	10.9	1.6	0.6	1.6	4.7	0.1	1.3
	1985	17.2	2.6	1.0	2.6	6.9	2.2	1.2
	1987	19.6	3.1	1.2	3.1	8.4	2.9	1.4
	1988	20.5	3.3	1.2	3.4	8.9	3.4	1.5

Table 7 (continued)

Country group	Year	Total dwt		Tankers	Ore and bulk carriers b/ including combined carriers	General cargo ships c/	Container ships and lighter carriers	Other ships
Developing countries d/	1980	68.4	10.0	7.7	9.2	17.6	7.6	12.0
	1985	113.4	17.1	12.9	19.4	24.0	12.1	15.0
	1987	132.3	20.9	16.4	24.8	26.5	12.0	17.8
	1988	131.2	20.9	15.8	25.0	27.6	13.0	17.2
of which in:								
Africa	1980	7.1	1.1	1.1	0.1	2.3	..	2.1
	1985	8.0	1.2	1.4	0.4	2.5	0.1	2.3
	1987	7.3	1.2	1.0	0.5	2.7	0.1	2.3
	1988	7.7	1.2	1.2	0.5	2.8	0.1	2.3
America	1980	21.8	3.2	2.3	3.3	5.6	0.1	3.7
	1985	23.3	3.5	2.8	3.3	6.0	0.5	3.7
	1987	24.7	3.9	3.2	3.8	6.7	0.9	4.0
	1988	24.6	3.9	3.1	3.7	7.2	1.4	4.0
Asia	1980	39.1	5.7	4.3	5.7	9.8	2.7	5.7
	1985	78.6	11.8	8.5	15.0	14.4	11.5	8.9
	1987	91.3	14.4	11.5	18.7	14.1	10.6	11.2
	1988	87.2	13.9	10.3	18.5	14.2	11.0	10.5
Europe d/	1980	1.2	..	..	..	0.1	-	-
	1985	3.0	0.5	0.2	0.6	0.9	-	..
	1987	7.8	1.2	0.5	1.7	2.7	0.4	0.2
	1988	10.0	1.6	1.0	2.0	3.0	0.4	0.2
Oceania	1980	0.2	..	..	..	0.1	-	-
	1985	0.4	0.1	..	0.1	0.2	-	0.1
	1987	1.2	0.2	0.2	0.2	0.3	-	0.1
	1988	1.7	0.3	0.2	0.3	0.4	0.1	0.2
Other, unallocated	1980	3.0	0.5	0.2	0.6	0.9	1.6	0.1
	1985	6.7	1.0	0.4	1.6	0.6	5.9	0.1
	1987	6.9	1.1	0.4	1.7	0.5	6.9	0.1
	1988	6.8	1.1	0.4	1.5	0.6	7.9	0.1

Source: Compiled on the basis of data supplied by the Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

a/ Excluding the United States Reserve Fleet and the United States and Canadian Great Lakes Fleet.

b/ Ore and bulk carriers of 6,000 grt and above, including combined ore/oil and ore/bulk/oil carriers.

c/ Including passenger cargo vessels.

d/ Including Yugoslavia as of 1986.

fleet (including combined carriers), 23.6 per cent of general cargo ships and 20.4 per cent of container ships and lighter carriers are now under open-registry flags. Thus, developed market-economy countries and open-registry countries combined accounted for 79.0 per cent of the world tanker fleet, 64.3 per cent of the ore and bulk carriers fleet (including combined carriers), 47.8 per cent of the world general cargo fleet, and 72.0 per cent of the world container fleet (including lighter carriers).

15. Since mid-1987 the share of developing countries in the world bulk and combined carriers fleet has increased to 25.0 per cent, in the world general cargo fleet to 27.6 per cent and in the world container fleet to 13.0 per cent. However, their share in the world tanker fleet remains relatively small and even decreased slightly to 15.8 per cent. At mid-1988, socialist countries of Eastern Europe and Asia owned 24.0 per cent of the world general cargo fleet, 4.8 per cent of the tanker fleet, 9.2 per cent of bulk carriers, including combined carriers, and 7.1 per cent of the world container fleet.

16. In 1988 the share of developing countries (including Yugoslavia as of 1986) in the total world fleet remained at the level of the previous year, i.e. 20.9 per cent, and amounted to 131.2 million dwt. However, the distribution of this fleet among the developing countries continued to be unbalanced. Ten countries or territories 3/ represented 92.9 million dwt or 70.8 per cent of the aggregated deadweight owned by developing countries, while the next 10 most important developing countries 4/ owned a further 14.0 per cent.

17. Table 7 (world total) indicates that there were no significant changes in the composition of the world merchant fleet in the period 1987-1988. The share of general cargo ships decreased slightly (to 15.0 per cent of the world fleet), while the share of containerships and lighter carriers increased to 3.9 per cent. The shares of tankers and of ore and bulk carriers, including combined carriers, remained unchanged at the level of 37.4 per cent and 36.0 per cent of the world fleet respectively.

18. The distribution of the world container fleet and its TEU capacity at mid-1988 is shown in table 8. The total number of containerships increased from 1,052 in 1987 to 1,075 in 1988 (+2.2 per cent) and their TEU capcity rose from 1,215,215 to 1,292,333 slots (+6.3 per cent). The world container fleet remained concentrated in the developed market-economy countries, which owned 42.3 per cent of the number of ships and 50.4 per cent of their TEU capacity. Open-registry countries represented 22.0 per cent and 21.2 per cent of the number of ships and world TEU capacity respectively. Thus, developed market-economy countries and open-registry countries combined owned 64.3 per cent of the number of ships and 71.6 per cent of their TEU slot capacity.

19. During the period from mid-1987 to mid-1988 the number of containerships in developing countries increased by 25 (+14.4 per cent), while their TEU capacity increased by 21,873 (+14.5 per cent). Although, during the period in question, the share of developing countries in the world TEU capacity increased to 13.4 per cent, it was slightly lower than in 1986. It may be noted that 85 per cent of the total TEU capacity of containerships owned by developing countries was concentrated in developing countries of Asia. The TEU capacity of the container fleet of socialist countries of Eastern Europe and Asia amounted to 5.7 per cent, as compared to 5.3 per cent as at mid-1987. This increase should be attributed mostly to the development of the container fleet in the socialist countries of Asia.

Table 8

Distribution of the world fleet and TEU a/ capacity of fully cellular containerships by groups of countries, at mid-year 1986, 1987 and 1988

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares b/		
	1986	1987	1988	1986	1987	1988
1 World total	1 023	1 052	1 075	1 087 775 (100.0)	1 215 215 (100.0)	1 292 333 (100.0)
2 Developed market-economy countries	503	481	455	638 068 (58.7)	664 760 (54.7)	651 094 (50.4)
3 Open-registry countries	193	227	237	161 399 (14.8)	239 031 (19.7)	274 240 (21.2)
Total, 2 and 3	696	708	692	799 467 (73.5)	903 791 (74.4)	925 334 (71.6)
4 Socialist countries of Eastern Europe and Asia	96	106	110	63 144 (5.8)	65 791 (5.3)	74 261 (5.7)
of which						
in Eastern Europe	59	65	63	33 078 (3.0)	32 124 (2.6)	34 488 (2.7)
in Asia	37	41	47	30 066 (2.8)	32 967 (2.7)	39 773 (3.0)
5 Developing countries	177	174	199	146 813 (13.5)	151 069 (12.5)	172 942 (13.4)
of which in:						
Africa	3	3	4	585 (-)	585 (-)	1 810 (0.1)
America	23	24	36	7 279 (0.7)	10 701 (0.9)	18 990 (1.5)
Asia	146	140	146	135 792 (12.5)	134 820 (11.2)	146 932 (11.4)
Europe	5	7	9	3 157 (0.3)	3 953 (0.3)	4 197 (0.3)
Oceania	-	-	4	-	-	1 013 (0.1)
6 Other, unallocated	54	64	74	78 351 (7.2)	95 274 (7.8)	119 796 (9.3)

Source: Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

a/ Twenty-foot equivalent unit.

b/ Percentage shares are shown in brackets.

20. Table 9 gives the latest available figures on world container port traffic in developing countries and territories for 1987. The higher reported world totals (as compared to previous years) are due to some extent to the increased coverage of the survey. The world rate of growth for 1987/86 was 7.6 per cent , which is more than that achieved for 1985/1986 (6.5 per cent). The rate of growth for container port traffic in developing countries and territories was almost twice that of the world, reaching 14.8 per cent in the period 1986/1987; it also showed a modest growth in comparison with the 12.2 per cent reached in the period 1985/1986. The growth is unevenly spread and frequently erratic from year to year due in some cases to improved data, as is the case of Mexico for the period 1985/1986, and in other cases to violent fluctuations in the trade (cases of Cameroon and Jordan).

C. Age distribution of the world merchant fleet

21. The age distribution of the world merchant fleet by type of vessel and country grouping (in terms of dwt) in mid-1988 is presented in table 10. The average age of all ships increased slightly in 1988 to 12.25 years as compared to 11.70 in 1987 (+4.7 per cent). The most significant increase in average age (+6.1 per cent) was shown by dry bulk carriers (11.31 as compared to 10.66). However, dry bulk carriers continued to be the youngest type of vessel and general cargo ships the oldest (14.05 years). By country groupings, developed market-economy countries showed the lowest average age of ships (11.71 years), followed by developing countries (11.99 years), open-registry countries (12.53 years) and socialist countries (13.75 years).

D. Comparison of cargo turnover and fleet ownership

22. The relationship between cargo volumes generated by different groups of countries and fleet ownership is represented in table 11. The data demonstrate the fact that developed market-economy countries, either directly or indirectly through open-registry countries, continue to own a considerably larger share of the world merchant fleet as compared to their share in total world cargo turnover. Thus, in 1988 these two country groups combined generated 57.2 per cent of the world's international seaborne trade but owned 67.8 per cent of the world's merchant fleet (in terms of deadweight tonnage). At the same time, the share of developing countries in goods loaded and unloaded in world seaborne trade in 1988 was 35.0 per cent, while their merchant fleet represented 20.9 per cent of the total world deadweight fleet. The share of the socialist countries of Eastern Europe and Asia in world international trade was slightly less than their share of the world's deadweight tonnage.

Table 9

Container port traffic of developing countries and territories, 1987 and 1986

Country or territory	Container traffic a/		Percentage change	
	1987 (TEUs)	1986 (TEUs)	1986/1987	1985/1986
Hong Kong	3 457 182	2 774 025	24.6	21.2
Singapore	2 634 600	2 203 100	19.6	29.7
Republic of Korea	1 949 143	1 532 911	27.1	13.3
United Arab Emirates	954 374	925 703	3.0	29.3
Philippines	908 428	764 168	18.9	16.1
Saudi Arabia	830 122	823 906	0.7	-13.3
Brazil	657 433	602 539	9.1	-1.5
Thailand	649 530	422 264	27.0	27.7
India	517 869	486 379	6.4	1.7
Malaysia	461 956	401 908	14.9	3.2
Sri Lanka	429 298	641 498	25.7	58.1
Indonesia	379 263	364 008	4.1	-8.0
Pakistan	281 000	292 168	-3.8	19.7
Jamaica	254 757	274 206	-7.0	18.0
Cyprus	245 623	206 902	18.7	4.9
Kuwait	200 034	200 599	0	-15.0
Argentina	188 625	139 319	35.3	-1.0
Egypt	176 294	170 282	3.5	1.8
Panama	174 555	167 217	4.4	18.8
Côte d'Ivoire	162 829	159 316	2.2	-1.9
Nigeria	159 583	159 519	0	-38.5
Dominican Republic	153 310	137 909	11.1	42.7
Venezuela	151 723	103 874	43.3	-4.9
Honduras	151 489	144 621	4.7	n.a.
Mexico	149 249	136 501	9.3	-8.0
Chile	143 778	116 150	23.8	14.3
Oman	140 496	112 791	24.6	0
Costa Rica	128 778	112 264	14.7	14.3
Kenya	120 229	119 873	0.3	15.6
Colombia	110 725	92 986	19.1	46.8
Jordan	98 655	121 614	-18.9	11.7
Papua New Guinea	91 760	81 351	12.8	6.3
Cameroon	91 337	102 373	-10.8	5.5
Morocco	82 131	71 924	14.2	9.1
Ecuador	81 101	72 417	12.0	10.2
Bahrain	79 499	80 393	-1.1	-14.0
Guadeloupe	79 016	72 738	8.6	9.0
Guatemala	76 000	75 200	1.0	18.1
Trinidad and Tobago	67 858	78 378	-13.4	-5.0
Peru	65 684	66 385	-1.0	12.1
Netherlands Antilles	58 689	42 572	37.8	12.3
Bangladesh	55 392	50 019	10.7	n.a.
Syrian Arab Republic	54 197	64 568	-16.0	-23.8
Mauritius	52 000	42 171	23.3	18.8
Haiti	46 232	42 766	8.1	6.1
United Republic of Tanzania	45 703	40 393	13.1	10.8

Table 9 (continued)

Country or territory	Container traffic a/		Percentage change	
	1987 (TEUs)	1986 (TEUs)	1986/1987	1985/1986
Uruguay	40 002	34 742	14.5	49.0
Algeria	37 271	47 086	-20.8	-6.6
Zaire	34 822	40 735	-14.5	10.1
American Samoa	31 987	28 347	12.8	n.a.
Barbados	30 794	30 713	0	0
Other reported b/	492 170	435 560	12.9	-1.8
Total reported c/	18 714 575	16 302 531	14.8	12.2
World total reported	65 543 815	60 877 126	7.6	6.5

Source: Derived from information presented in Containerisation International Yearbooks of 1988 and 1989; for last column, see Review of Maritime Transport, 1987 (table 11).

a/ Rank order according to 1987 TEUs.

b/ Comprising developing countries and territories where less than 30 000 TEU per year were reported or where a substantial lack of data was found.

c/ Certain ports did not respond to the background survey, although they were not among the largest ports; the total omission may be estimated at 5-10 per cent.

Table 10

Age distribution of the world merchant fleet by type of vessel as at 1 July 1988
(Percentage of total in terms of dwt)

Country grouping	Type of vessel	Total	0-4 years	5-9 years	10-14 years	15 years and over	Average age (years) a/	
							July 1988	July 1987
World total	All ships	100	16.1	19.2	36.5	28.2	12.25	11.70
	Tankers	100	10.0	14.5	52.7	22.8	12.55	12.05
	Bulk carriers b/	100	23.4	21.8	27.4	27.4	11.31	10.66
	General cargo	100	11.5	20.3	26.0	42.2	14.05	13.68
Developed market-economy countries	All ships	100	17.6	22.5	33.9	26.0	11.71	11.16
	Tankers	100	11.6	17.4	48.9	22.1	12.18	11.77
	Bulk carriers b/	100	23.9	25.4	25.9	24.8	10.82	10.12
	General cargo	100	17.6	25.1	20.8	36.5	12.63	12.15
Open-registry countries	All ships	100	14.3	15.5	42.8	27.4	12.53	11.76
	Tankers	100	8.4	11.9	57.3	22.4	12.80	12.13
	Bulk carriers b/	100	20.5	18.0	28.7	32.8	12.33	11.25
	General cargo	100	12.0	21.0	34.7	32.3	12.98	12.80
Subtotal	All ships	100	15.9	18.9	38.5	26.7	12.13	11.45
	Tankers	100	9.9	14.4	53.5	22.2	12.51	11.95
	Bulk carriers b/	100	22.1	21.4	27.4	29.1	11.63	10.69
	General cargo	100	15.0	23.3	27.1	34.6	12.79	12.43
Socialist countries of Eastern Europe and Asia	All ships	100	14.7	18.3	25.6	41.4	13.75	13.55
	Tankers	100	14.9	20.1	32.0	33.0	12.80	13.28
	Bulk carriers b/	100	19.7	21.0	31.2	28.1	11.79	11.29
	General cargo	100	9.3	14.3	20.0	56.4	15.99	15.73
Developing countries (excluding open-registry countries)	All ships	100	17.0	20.5	35.3	27.2	11.99	11.72
	Tankers	100	9.3	12.3	54.4	24.0	12.85	12.24
	Bulk carriers b/	100	28.0	24.1	26.4	21.5	10.14	10.25
	General cargo	100	6.2	19.6	29.5	44.7	14.87	14.40

Source: Compiled on the basis of data supplied by the Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

a/ 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.

b/ Including combined carriers.

Table 11

Comparison between total cargo turnover and fleet ownership by groups of countries, 1970 and 1985-1988
(In terms of dwt)

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 open-registry countries	1970	802.7	2 010.4	2 812.1	282.2	54.8	86.5
	1985	1 571.2	2 331.9	3 903.1	486.3	57.3	73.1
	1986	1 585.2	2 382.1	3 967.3	444.9	56.6	69.6
	1987	1 603.7	2 437.6	4 041.3	430.7	56.8	68.1
	1988	1 681.5	2 544.6	4 226.1	426.1	57.2	67.8
Socialist countries of Eastern Europe and Asia	1970	158.8	87.6	264.4	21.7	4.8	6.7
	1985	273.2	237.4	510.6	58.5	7.5	8.8
	1986	293.2	245.8	539.0	60.6	7.7	9.5
	1987	296.1	253.1	549.2	62.4	7.7	9.9
	1988	312.0	264.1	576.1	63.8	7.8	10.2
Developing countries	1970	1 643.3	431.6	2 074.9	20.5	40.4	6.3
	1985	1 538.0	855.7	2 393.7	113.4	35.2	17.1
	1986	1 599.6	902.6	2 502.2	127.0	35.7	19.9
	1987	1 625.5	894.6	2 520.1	132.4	35.5	20.9
	1988	1 676.5	911.3	2 587.8	131.2	35.0	20.9
World total a/	1970	2 604.8	2 529.6	5 134.4	326.1	100.0	100.0
	1985	3 382.3	3 425.0	6 807.3	664.8	100.0	100.0
	1986	3 478.0	3 530.5	7 008.5	639.1	100.0	100.0
	1987	3 525.3	3 585.3	7 110.6	632.3	100.0	100.0
	1988	3 670.0	3 720.0	7 390.0	627.9	100.0	100.0

Source: As per tables 3 and 4.

a/ Including unallocated tonnage indicated in annex III.

Chapter III

PRODUCTIVITY OF THE WORLD FLEET AND THE PROBLEM OF TONNAGE OVERSUPPLY

A. Estimates of tons and ton-miles per dwt

23. Both main indicators (ton-miles performed per dwt and tons carried per dwt) for the total world fleet as presented in table 12 show some increase in the productivity of the fleet in 1988 as compared to 1987. Tons of cargo carried per dwt amounted to 5.84 in 1988 (as compared to 5.57 in 1987) and ton-miles performed per dwt amounted to 24.16 (as compared to 22.57 in 1987).

Table 12

Cargo tonnage carried and ton-miles performed per dwt of the total world fleet, 1970 and 1980-1988

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 (thousands)
1970	326.1	2 605	10 654	7.99	32.67
1980	682.8	3 704	16 777	5.42	24.47
1981	688.8	3 555	15 840	5.16	22.99
1982	693.5	3 273	13 699	4.72	20.46
1983	686.0	3 230	12 850	4.70	18.34
1984	674.5	3 364	13 368	4.99	19.82
1985	664.8	3 330	13 160	5.01	19.80
1986	639.1	3 478	13 856	5.44	21.68
1987	632.3	3 525	14 273	5.57	22.57
1988	627.9	3 670 a/	15.170	5.84	24.16

Sources: World fleet: Lloyd's Register of Shipping: Statistical Tables (London), various issues (mid-year figures); total cargo carried: UNCTAD data bank; ton-miles: Fearnleys, Review (Oslo), various issues.

a/ Preliminary estimates.

24. The above-mentioned productivity indicators (ton-miles performed per dwt and tons carried per dwt) estimated for individual types of carriers for 1970, 1980-1988, as shown in tables 13 and 14, demonstrate a considerable improvement of productivity for all carriers in 1988 as compared with the previous year. This development may be largely attributed to a substantial increase in world seaborne trade in 1988, combined with an improvement in ocean freight and charter rates, as well as further improvement in the overall supply/demand relation in world shipping.

Table 13

Estimated productivity of tankers, bulk carriers, combined carriers a/ and the residual fleet, b/ 1970 and 1980-1988
(Ton-miles performed per dwt)

Year	Ton-miles of oil and grain by tankers (thousands of millions) c/	Ton-miles per dwt of tankers (thousands)	Ton-miles of dry bulk cargo by bulk carriers (thousands of millions)	Ton-miles per dwt of bulk carriers (thousands)	Ton-miles of oil and dry bulk cargo by combined carriers (thousands of millions)	Ton-miles per dwt of combined carriers (thousands)	Ton-miles of the residual fleet b/ (thousands of millions)	Ton-miles per dwt of the residual fleet (thousands)
1970	6 039	43.82	1 891	39.40	745	52.46	1 979	15.69
1980	9 007	27.56	2 009	14.47	1 569	32.43	4 192	24.83
1981	8 009	24.80	2 169	14.73	1 518	32.14	4 144	24.26
1982	5 893	18.40	2 422	15.66	1 310	28.92	3 874	22.35
1983	5 230	17.38	2 640	15.60	1 016	23.57	3 694	21.38
1984	5 305	18.93	3 041	17.07	1 187	28.13	3 835	22.05
1985	4 853	18.35	3 208	17.08	1 192	29.00	3 812	22.24
1986	5 426	22.67	3 717	18.82	944	26.52	3 769	22.61
1987	5 600	24.03	3 922	20.01	1 022	30.69	3 729	21.94
1988	6 020	25.90	4 080	20.88	1 070	32.13	4 000	23.98

Source: Compiled on the basis of Fearnleys, Review, World Bulk Trades and World Bulk Fleet (Oslo) various issues.

a/ As from 1980 the data cover bulk carriers and combined bulk carriers of over 40,000 dwt as against 18,000 dwt in the previous years. The change affects figures for the bulk carrier fleet and consequently the residual fleet, but the combined bulk fleet is not affected as the combined bulk fleet of size range 18,000 dwt-40,000 dwt forms only 0.5 per cent of the total combined bulk fleet.

b/ The "residual fleet" refers to all vessels included in table 4, excluding tankers, bulk carriers and combined bulk carriers of the size range indicated in footnote a/.

c/ Excluding grain since 1982, because data are not available.

Table 14

Estimated productivity of tankers, bulk carriers, combined carriers and the residual fleet, a/ 1970 and 1980-1988
(Tons carried per dwt)

Year	Tons of oil and grain by tankers (millions)	Tons carried per dwt of tanker	Tons of dry bulk cargo by bulk carriers of over 18,000 dwt (millions)	Tons carried per dwt of bulk carriers	Tons of oil and dry bulk cargo by combined carriers of over 18,000 dwt (millions)	Tons carried per dwt of combined carriers	Tons carried by the residual fleet (millions)	Tons carried per dwt of the residual fleet
1970	1 182	8.58	403	8.40	97	6.83	800	6.34
1980	1 564	4.79	396	2.85	282	5.83	1 406	8.33
1981	1 419	4.39	421	2.86	262	5.53	1 404	8.22
1982	1 191	3.72	455	2.94	232	5.12	1 321	7.62
1983	1 132	3.76	493	2.90	196	4.55	1 272	7.36
1984	1 174	4.19	566	3.18	214	5.07	1 358	7.81
1985	1 084	4.10	620	3.30	200	4.80	1 389	8.10
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	1 255	5.40	755	3.83	225	6.76	1 431	8.58

Source: As for table 13.

a/ See footnote a/ in table 13.

B. Estimates of tonnage oversupply

25. Although the tonnage balance in shipping continued to improve in 1988 due to strong demand growth and a further decrease in the world merchant fleet, the supply/demand disequilibrium remained a serious problem facing the world shipping industry. Table 15 shows the development of surplus tonnage in world shipping as from 1975. The steady increase of surplus tonnage 5/ during the early 1980s reached its peak in 1983 when the average year figure of surplus tonnage amounted to 195.8 million dwt or 28.5 per cent of the total world merchant fleet and 39.9 per cent of the world active fleet. Despite a steady decrease in the surplus tonnage during the last six years, the estimated average figure for the surplus fleet in 1988 (estimate based on eight-month average) amounted to 113.6 million dwt or 18.1 per cent of the total world merchant fleet as at 1 July 1988 (123.9 million dwt or 19.6 per cent in 1987) and 22.1 per cent of the active world merchant fleet (24.4 per cent in 1987). However, the improvement in the balance between supply and demand in 1988 was rather significant as compared to 1987 (the amount of world surplus tonnage decreased by 8.3 per cent) and indications are for a further improvement in 1989, although not necessarily as strong as in 1988.

26. The imbalance between supply and demand of tonnage still affects practically all sectors of world shipping. Tanker surplus tonnage in 1988 was estimated at 67.0 million dwt (against 73.3 million dwt in 1987), while the surplus of dry bulk carriers (41.1 million dwt) and tankers combined represented 95.2 per cent of the surplus tonnage of the world merchant fleet (108.1 million dwt). For tanker tonnage, a considerable amount of estimated surplus tonnage is on account of slow steaming.

27. As shown in table 16 the share of tanker surplus tonnage in the total world tanker fleet amounted to 26.7 per cent in 1988 (based on average eight month figures). This, however, shows a significant improvement of the situation as compared with 1983 and subsequent years. The balance in the tanker fleet showed a strong improvement. This was basically due to the high demand for oil tonnage, with an increase in crude and oil product shipments measured in ton-miles. The improvement generally started in June when stock replenishing began to take place and when oil prices started fluctuating at a relatively low level. The improvement in demand for tanker tonnage, especially in the second half of 1988, also led to a significant reactivation of laid-up tonnage.

28. The situation in the dry bulk sector also showed some improvement in 1988 as compared with the previous year. A significant increase in shipments of raw materials for the steel industry (viz. iron ore, coking coal) and a certain increase in thermal coal and grain shipment were major positive factors which led to some decrease in laid-up and idle tonnage in the bulk sector.

Table 15

Tonnage oversupply in the world merchant fleet, 1975, 1980-1988
(Million dwt and percentages)

	1975	1980	1981	1982	1983	1984	1985	1986	1987	1988 (est)
					(Million dwt)					
World merchant fleet (as at mid-year)	546.3	682.2	688.8	693.5	686.0	674.5	664.8	639.1	632.3	627.9
Surplus tonnage a/	46.3	97.1	149.1	184.1	195.8	171.2	161.5	127.8	123.9	113.6
Active fleet b/	500	585.1	539.7	509.4	490.2	503.3	503.3	511.3	508.4	514.3
					(Percentages)					
Surplus tonnage as a percentage of the world merchant fleet	8.4	14.2	21.6	26.5	28.5	25.4	24.3	20.0	19.6	18.1
Surplus tonnage as a percentage of the active world merchant fleet	9.3	16.6	27.6	36.1	39.9	34.0	32.2	25.0	24.4	22.1

Sources: Shipping Information Services of Lloyds's Register of Shipping and Lloyd's of London Press Ltd.; Lloyd's Shipping Economist (London), various issues; Institute of Shipping Economics (Bremen), Shipping Statistics Yearbook 1981.

a/ Data for 1975 refers to tonnage laid up for lack of employment (year-end figures). Data for 1980-1988 includes laid-up tonnage, ships idle for other reasons and estimates of surplus on account of slow steaming (figures shown are averages for the respective year).

b/ World fleet minus surplus tonnage.

Table 16

Analysis of tonnage oversupply by vessel type, 1980-1988
(Average year figures in million dwt) a/

	1980	1981	1982	1983	1984	1985	1986	1987	1988 (est)
Supply of world tanker fleet	341.8	341.3	335.0	319.4	296.7	273.0	261.7	255.1	251.2
Total tanker surplus fleet, of which:	74.0	107.7	130.7	134.0	111.7	100.9	75.7	73.3	67.0
Laid-up and idle	25.3	41.1	76.7	89.2	71.3	68.5	45.1	38.8	32.6
Slow steaming	48.7	66.6	54.0	71.3	40.4	32.4	30.6	34.5	34.4
Share of surplus fleet in the world tanker fleet (per cent)	21.6	31.5	39.0	41.9	37.6	36.9	28.9	28.7	26.7
Supply of world dry bulk fleet	172.8	184.0	197.0	202.9	215.0	222.7	215.4	213.8	221.2
Dry bulk fleet surplus, of which:	19.7	36.4	46.4	52.0	50.3	50.1	44.1	43.3	41.1
Laid-up and idle	3.9	4.8	11.8	19.2	13.1	10.8	9.8	7.7	6.0
Slow steaming	15.8	31.6	34.6	32.8	37.2	39.3	34.3	35.6	35.1
Share of surplus in the world dry bulk fleet (per cent)	11.4	19.8	23.5	25.6	23.4	22.5	20.5	20.2	18.6
Supply of world general cargo fleet	b/ 103.4	b/ 108.4	85.4	82.1	79.8	74.9	69.7	65.6	64.9
General cargo fleet surplus	3.0	4.4	6.1	8.3	7.6	5.8	4.3	3.6	2.9
Share of surplus in the world general cargo fleet (per cent)	2.9	4.0	7.1	10.1	9.5	7.7	6.2	5.5	4.5
Supply of world unitized fleet	19.0	21.1	22.9	25.2	27.3	29.9	31.2	32.9	33.5
Surplus of unitized fleet	0.4	0.6	0.9	1.5	1.6	1.7	1.5	1.7	1.0
Share of surplus in the world unitized fleet (per cent)	2.1	2.8	3.9	5.9	5.9	5.7	4.8	5.2	3.0

Source: Based on Lloyd's Shipping Economist (London), various issues.

a/ Aggregates for all sectors as shown in the present table are averages for the years shown and therefore differ from the world total figures in table 15, which indicate estimates at mid-year.

b/ Average figures for the second half of the year.

29. As shown in table 16, the decrease in laid-up and idle tonnage of tankers and dry bulk carriers in 1988 as compared with 1987 was accompanied by a relative increase in estimated surplus on account of slow steaming. Thus, the share of slow steaming tonnage in the tanker surplus fleet increased from 47.1 per cent in 1987 to 51.3 per cent in 1988 and the share of slow steaming dry bulk tonnage in the dry bulk surplus fleet increased during this period from 82.2 per cent to 85.4 per cent. It may be presumed that, expecting further improvement in the situation in the freight market and improvement in the balance between supply and demand, shipowners preferred to have tonnage reactivated and ready for the carriage of cargoes, rather than laid-up. Thus, between December 1987 and December 1988 the amount of laid-up tanker tonnage decreased from 11.88 million dwt (135 vessels) to 4.82 million dwt (91 vessels). 6/

30. The supply of world dry bulk fleet in 1988 increased by 3.5 per cent as compared with 1987, while the volume of laid-up dry bulk carrier tonnage significantly decreased during 1988 and stood at 2.28 million dwt (341 vessels) as at 1 January 1989. 7/ Developments in the unitized fleet followed the same pattern; in terms of deadweight tonnage, the 2 per cent increase in the supply of world unitized fleet as compared with 1987 was accompanied by a further decline of surplus fleet, which stood at 1 million dwt or 3.0 per cent of the world unitized fleet. However, in terms of TEU capacity, the surplus of the container fleet in 1988 was much higher. According to estimates of some consultative companies and container operators, in 1988 worldwide some 20 to 25 per cent of container movements concerned empty containers. 8/ The amount of surplus tonnage in the general cargo fleet also decreased as compared with the previous year and stood at 2.9 million dwt or 4.5 per cent of the relevant world fleet in 1988.

31. As shown in table 17, tanker tonnage engaged in oil storage continued to play an important role in the utilization of surplus tonnage. In January 1988 it accounted for 16.2 million dwt and amounted to 46.2 per cent of the total laid-up and idle tonnage for that month. Due to reactivation of a number of tankers and sales for breaking, the amount of tonnage engaged in oil storage decreased significantly during 1988. Thus, in July 1988 it stood at 14.2 million dwt or 45.8 per cent of the total July amount of laid-up and idle tanker tonnage. 9/ During the second half of 1988 the amount of tonnage employed as floating oil storage continued to diminish and stood at 11.08 million dwt, which is the lowest level for the last eight years.

32. Table 18 shows the 13 largest laid-up fleets by flag of registry as at mid-October 1988. It is evident that in a number of countries laid-up tonnage still amounts to a significant part of the national fleet. The highest laid-up tonnage is shown for the United States and Greece (3.0 and 1.2 million dwt, respectively), while as a proportion of the national flag fleet the highest figures are shown for the United States and Algeria (13 per cent).

Table 17

Tanker tonnage engaged in oil storage, 1981-1988
(Capacity in thousand deadweight tons)

Date	Semi-permanent		Short-term		Total	
	No.	Dwt	No.	Dwt	No.	Dwt
July 1981	52	10 649	62	16 205	114	26 854
January 1982	58	12 682	45	11 772	103	24 454
July 1982	58	12 703	16	2 753	74	15 456
January 1983	51	11 135	16	2 615	67	13 750
July 1983	53	11 837	14	1 764	67	13 601
January 1984	49	9 737	25	4 658	74	14 395
July 1984	43	9 601	48	11 134	91	20 735
January 1985	30	6 384	49	12 093	79	18 477
July 1985	38	8 342	38	9 714	76	18 056
January 1986	43	7 514	35	8 353	78	15 876
July 1986	40	6 696	33	9 196	73	15 892
January 1987	41	7 148	45	12 879	86	20 027
July 1987	39	7 012	28	7 917	67	14 929
January 1988	40	6 837	30	9 394	70	16 231
July 1988	37	6 553	29	7 636	66	14 189
December 1988	34	6 053	21	5 026	55	11 080

Source: John I. Jacobs PLC, World tanker fleet review (London), various issues.

Table 18

Major laid-up fleets by flag country as at mid-October 1988

	Laid-up tonnage Ships of 300 grt and over (thousand dwt)	Total fleet of the country (thousand dwt)	Share of the laid-up tonnage in the total fleet of the country (per cent)
United States	2 990.7	23 336.8	12.8
Greece	1 172.4	39 718.6	2.9
Liberia	697.1	93 987.1	0.7
India	621.0	9 992.8	6.2
France	394.8	6 854.1	5.8
Panama	244.2	71 476.0	2.9
Brazil	223.4	10 103.8	2.2
Algeria	136.8	1 052.5	13.0
Argentina	104.8	2 834.0	3.7
Italy	101.8	11 867.3	0.8
Federal Republic of Germany	95.9	4 994.4	1.9
Saudi Arabia	88.5	3 802.5	2.3
Spain	85.0	7 263.2	1.2

Source: Based on Institute of Shipping Economics and Logistics, Bremen, Shipping Statistics, No. 11, November 1988 (p. 17) and on data supplied by the Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

Chapter IV

SHIPBUILDING

A. Ship prices

33. Representative newbuilding prices for the years 1980 and 1985-1988 are shown in table 19. In 1988 the prices for new large-size, small and medium-size bulk carriers and tankers, general cargo ships and LPG carriers indicate a certain recovery as compared with the previous year, prices for LNG carriers and 1200 TEU ro/ro carriers remained at the 1987 level, while prices for 2,500 TEU full container ships declined marginally as compared with the previous year. The biggest increase in prices for newbuildings concerns 30,000 dwt, 70,000 dwt and 120,000 dwt bulk carriers and 250,000 dwt and 80,000 dwt tankers (46 per cent, 39 per cent, 36 per cent, 39 per cent and 38 per cent increase over the previous year's figure, respectively). The increase in prices for tankers and dry bulk carriers in 1988 can be attributed to the general improvement in seaborne trade in 1988, especially in oil and oil products, grain and coal, which led to an increase in demand for these types of ship. The demand for tankers in the world market was partly satisfied by means of wide reactivation of laid-up tankers and purchase of second-hand ships. On the whole, the prices for tankers and dry bulk carriers were at the highest level since 1985.

34. Newbuilding prices for 15,000 dwt general cargo ships and 75,000 m^3 LPG carriers increased by 7 per cent and 4 per cent respectively as compared with the previous year, while prices for 2,500 TEU full containerships were 3 per cent below those of 1987.

35. Table 20 shows the changes in second-hand prices for selected types of vessel during the period 1986-1988. The increase in demand for dry bulk and tanker tonnage led to a sharp increase in prices for second-hand dry bulk carriers and tankers in 1988 as compared with 1987. The most noticeable increase was in second-hand prices for dry bulk carriers. Thus, during the period from August 1987 to August 1988, prices for 5 and 10-year-old 27,000 dwt dry bulk carriers rose by 91.7 per cent and 64.7 per cent respectively. At the same time prices for 35,000 dwt dry bulk carriers increased by 58.8 per cent and 78.9 per cent respectively and those for 60,000 dwt dry bulk carriers increased by 39.1 per cent and by 89.3 per cent respectively. Prices for second-hand tankers also showed a significant although smaller increase, which fluctuated from 29.2 per cent for a 10-year-old 125,000 dwt tanker to 44.8 per cent for a 10-year-old 250,000 dwt VLCC. Second-hand prices for 5 and 10-year-old 17,000 dwt multipurpose cargo ships also showed a significant increase (+95.0 per cent and +47.3 per cent respectively). On the whole, second-hand prices for dry bulk carriers and tankers followed the pattern of newbuilding prices for these types of ship, as shown in table 19.

Table 19

Representative newbuilding prices, 1980 and 1985-1988
(Millions of dollars)

Type and size of vessel	1980	1985	1986	1987	1988	Percentage change 1987/1988
30 000 dwt bulk	17	11	12	13	19	46
32 000 dwt tanker	19	18	18	18	23	28
70 000 dwt bulk	24	14	15	18	25	39
80 000 dwt tanker	28	22	25	24	33	38
120 000 dwt bulk	32	27	24	25	34	36
250 000 dwt tanker	75	47	51	46	64	39
125 000 m^3 LNG	200	200	158	150	150	-
75 000 m^3 LPG	77	44	43	55	57	4
1 200 TEU ro/ro	44	28	28	27	27	-
15 000 dwt general cargo ship	14	12	14	15	16	7
2 500 TEU full containership	..	26	28	32	31	-3

Source: Lloyd's Shipping Economist (London), various issues.

Table 20

Second-hand ship prices, 1986-1988
(as at end August)
(Millions of United States dollars and percentages)

	1986	1987	1988	Percentage change 1986/1987	Percentage change 1987/1988
5 years old					
75 000 dwt tankers	11.5	15.0	20.5	+30.4	+36.7
60 000 dwt bulk carrier	6.7	11.5	16.0	+70.3	+39.1
35 000 dwt bulk carrier	3.7	8.5	13.5	+126.7	+58.8
27 000 dwt bulk carrier	2.7	6.0	11.5	+118.2	+91.7
17 000 dwt multipurpose	3.2	5.0	9.7	+53.8	+95.0
10 years old					
250 000 dwt VLCC	10.0	14.5	21.0 */	+45.0	+44.8
125 000 dwt VLCC	8.0	12.0	15.5 */	+50.0	+29.2
75 000 dwt tanker	6.7	8.7	11.7	+29.6	+34.3
60 000 dwt bulk carrier	2.8	7.0	13.2	+150.0	+89.3
35 000 dwt bulk carrier	1.8	4.7	8.5	+163.9	+78.9
27 000 dwt bulk carrier	1.5	4.2	7.0	+183.3	+64.7
17 000 dwt multipurpose	1.6	2.7	6.8	+71.9	+47.3

Source: Hill Samuel Shipping Holding (London), World Trade Review and Outlook. Developments in Trade and Effects on the Shipping Market, September 1987, p. 17. Wescol International Marine Services (London) World Trade Review and Outlook. Developments in trade and the shipping market, September 1988, p. 20.

*/ Nominal price - few or no reported transactions.

B. Tonnage on order

36. Table 21 summarizes the trends of world tonnage on order during the period 1986-1988 and the status at the end of the third quarter of 1988. Total tonnage on order showed a significant increase between September 1987 and September 1988 (+20.1 per cent). As at 30 September 1988, the total tonnage of ships on order stood at 35.2 million dwt.

37. The overall trend towards a steady decrease of tonnage on order, which had remained a characteristic feature of the maritime industry for at least the previous four years, levelled off during 1987 at about 30 million dwt and even reversed to a steady increase of world tonnage on order in 1988.

38. The increase in orders for newbuildings in the first three quarters of 1988 can be largely attributed to the significant and probably to some extent speculative growth of dry bulk carrier tonnage on order (including combined carriers), which increased from September 1987 to September 1988 by 47.4 per cent or 3.6 million dwt and amounted to 11.2 million dwt.

Table 21

World tonnage on order at the end of each quarter, 1986, 1987 and 1988
(Millions of dwt and percentage change)

Tonnage on order as at	All ships in millions of dwt	Percentage change	Tankers in millions of dwt	Percentage change	Dry bulk carriers (inc. combined carriers) in millions of dwt	Percentage change	Other ships in millions of dwt	Percentage change
31 March 1986	34.5		9.0		18.9		6.5	
		-5.3		-		-8.1		-3.3
30 June 1986	32.7		9.0		17.4		6.3	
		-2.1		+21.4		-11.5		-9.5
30 September 1986	32.0		10.9		15.4		5.7	
		-9.1		+4.8		-20.8		-5.7
31 December 1986	29.0		11.4		12.2		5.4	
		-4.6		+8.4		-19.7		+2.3
31 March 1987	27.6		12.3		9.8		5.5	
		+5.0		+19.1		-11.7		+3.1
30 June 1987	29.0		14.7		8.7		5.7	
		+0.3		+4.6		-11.7		+7.6
30 September 1987	29.1		15.4		7.6		6.1	
		+5.3		+10.6		-1.7		+0.7
31 December 1987	30.7		17.0		7.5		6.1	
		+4.8		+1.7		+11.1		+5.5
31 March 1988	32.1		17.3		8.3		6.5	
		+4.6		-2.2		+21.3		+1.4
30 June 1988	33.6		16.9		10.1		6.6	
		+4.7		+2.5		+10.5		+1.5
30 September 1988	35.2		17.3		11.2		6.7	

Source: Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

Note: Percentages have been calculated on the basis of the exact net deadweight tonnages (before rounding).

39. At the same time tankers on order, after showing a 10 per cent increase in the last quarter of 1987 as compared with September 1987, fluctuated at a level of 17 million dwt, representing 49.1 per cent of the total world tonnage on order as at 30 September 1988, as compared with 52.9 per cent a year before, while the share of dry bulk carriers increased to 31.8 per cent (26.1 per cent in September 1987). The tonnage of other ships on order increased slightly during this period from 6.1 million dwt to 6.7 million dwt. Tankers are expected by many experts to lead the orderbook in 1989 also, as many larger tankers, in particular, are considered to be reaching the age of replacement.

40. The distribution of newbuilding orders among country groupings (by countries of registry) as at 30 September 1988 shown in table 22 indicates that the combined total deadweight tonnage on order of developed market-economy countries and open-registry countries combined represented 67.3 per cent of the total tonnage on order. By comparison, developing and socialist countries accounted for 21.3 per cent and 9.2 per cent respectively. (Newbuilding orders amounting to 2.2 per cent of the total figure as at 30 September were unallocated.)

41. Developed market-economy countries and open-registry countries had the largest portion of orders for all types of newbuildings as at 30 September 1988. These groups of countries also accounted for 76.3 per cent of the deadweight tonnage of all tanker newbuilding orders, 98.3 per cent of orders for ore/oil and OBO carriers, 54.4 per cent of other bulk carriers, 58.5 per cent of full containerships, and 57.5 per cent of ro-ro cargo ships.

42. Developing countries had a 15.6 per cent share in newbuilding orders for tankers (in dwt), a 1.6 per cent share for ore/oil and OBO carriers, a 32.5 per cent share for other bulk carriers, a 27.0 per cent share for full containerships, and a 14.0 per cent share for ro-ro ships. Socialist countries of Eastern Europe and Asia accounted for 6.6 per cent of newbuilding orders for tankers, 9.3 per cent of orders for other bulk carriers, 11.7 per cent of orders for full containerships, and 28.0 per cent of orders for ro-ro cargo ships (percentage figures based on table 22).

C. Deliveries of newbuildings

43. Data on tonnage of newbuildings delivered in the first three quarters of each year during the period 1986-1988 are presented in table 23. The total deadweight of vessels delivered by shipyards in the first three quarters of 1988 decreased by 20.6 per cent as compared with the corresponding period of the previous year, though the number of vessels was 5.4 per cent more. By vessel type there was an increase in deliveries of tankers only (22.9 per cent above the figures for the first three quarters of 1987), while deliveries of bulk/oil carriers and ore and bulk carriers decreased by 64.2 per cent as compared with the corresponding period of 1987. Deliveries of general cargo ships remained practically at the level of 1987. Miscellaneous types of vessels, as shown under "Other ships", declined by 3.6 per cent in deadweight deliveries as compared with the corresponding period of 1987. The distribution of newbuildings delivered in the first three quarters of 1988 by vessel types was as follows: tankers - 42.7 per cent (as compared with 27.6 per cent during the corresponding period of 1987); bulk/oil carriers - 3.1 per cent (7.0 per cent in 1987); ore and bulk carriers - 24.9 per cent (41.5 per cent in 1987); general cargo ships - 5.9 per cent (4.7 per cent in 1987), other ships - 23.4 per cent (19.2 per cent in 1987).

Table 22

World tonnage on order as at 30 September 1988
(Thousands of dwt)

Countries of registry	All ships	Tankers 150 000 dwt and over	Tankers under 150 000 dwt	Ore/oil and OBO carriers	Other bulk carriers	Full container ships	Part container ships	Ro/ro cargo ships	Other ships
World total	35 195	7 629	9 711	123	11 061	2 248	12	549	3 862
Developed market-economy countries	7 398	788	1 738	-	2 066	1 161	12	278	1 355
Open-registry countries	16 287	5 283	5 431	121	3 947	153	-	38	1 313
Subtotal	23 685	6 071	7 169	121	6 013	1 315	12	316	2 668
Socialist countries, total	3 238	307	832	-	1 025	264	-	154	656
of which:									
in Eastern Europe	2 400	307	636	-	683	90	-	154	530
in Asia	838	-	196	-	342	174	-	-	126
Developing countries, total	7 495	1 098	1 607	2	3 591	608	-	77	512
of which in:									
Africa	40	-	-	-	-	-	-	32	7
America	1 661	-	850	-	668	23	-	42	79
Asia	5 665	1 098	757	-	2 843	585	-	3	379
Europe	44	-	-	-	-	-	-	-	44
Oceania	85	-	-	2	80	-	-	-	3
Unallocated	777	153	103	-	432	60	-	1	28

Source: Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

Note: Owing to rounding, the totals do not always add up.

Table 23

Deliveries of newbuildings, 1986-1988 a/
(Number of ships and thousands of grt/dwt)

Type of ship		1986	1987	1988
Tankers	Number	92	82	117
	Grt	2 028	1 976	2 404
	Dwt	3 458	3 376	4 148
Bulk/oil carriers	Number	5	5	1
	Grt	183	439	172
	Dwt	292	854	306
Ore and bulk carriers	Number	147	81	31
	Grt	4 853	2 872	1 346
	Dwt	8 547	5 077	2 418
General cargo ships b/	Number	136	69	69
	Grt	853	458	462
	Dwt	1 143	578	572
Other ships	Number	797	854	932
	Grt	3 533	3 320	2 987
	Dwt	3 156	2 358	2 272
Total	Number	1 177	1 091	1 150
	Grt	11 450	9 065	7 371
	Dwt	16 596	12 243	9 716

Source: Information provided by the Shipping Information Services of Lloyd's Register of Shipping and Lloyd's of London Press Ltd.

a/ The figures in this table refer to the period January-September for each year.

b/ Vessels of 2,000 grt and over.

44. New deliveries by country groupings - according to countries of build - are presented in table 24. Figures based on January to September deliveries in terms of grt show that the share of developed market-economy countries in 1988 newbuildings decreased to 56.9 per cent (67.2 per cent in 1987), while the share of developing countries increased to 29.6 per cent (as compared with 21.6 per cent for the first three quarters of 1987). At the same time the share of socialist countries of Eastern Europe and Asia amounted to 8.9 per cent in 1988 (7.8 per cent in 1987).

Table 24

Distribution of deliveries of newbuildings by groups of countries of build, 1986-1988 a/
(Thousands of grt) b/

Country grouping	1986	1987	1988
Developed market-economy countries	7 178 (62.4)	5 994 (67.2)	4 183 (56.9)
Developing countries	3 052 (26.6)	1 927 (21.6)	2 176 (29.6)
Socialist countries	943 (8.2)	691 (7.8)	655 (8.9)
Other, unallocated	321 (2.8)	301 (3.4)	340 (4.6)
World total	11 494 (100.0)	8 914 (100.0)	7 354 (100.0)

Source: Compiled by the UNCTAD secretariat on the basis of data contained in Lloyd's Register of Shipping: Merchant shipbuilding returns, quarterly issues of the respective years.

a/ As for table 23, this table is based on the period January to September (there remains a slight statistical discrepancy in the total tonnages as compared to those shown in table 23).

b/ Percentage shares of the world total are indicated in brackets.

D. Demolition of ships

45. As shown in table 25, the total volume of tonnage sold for demolition in 1988 amounted to 5.7 million dwt, as compared with 16.4 million dwt in the previous year. This is also the lowest volume sold for demolition in any single year since 1974. The sharp reduction in demolition in 1988 should be mostly attributed to the improvement of the tonnage balance situation, an increase in freight rates and a substantial rise in prices for second-hand ships. All these factors increased the shipowners' optimism that the situation in shipping would improve further and that this upward trend would continue in 1989.

Table 25

Broken-up tonnage trends, 1980-1988

	1980	1981	1982	1983	1984	1985	1986	1987	1988
Tonnage sold for breaking (million dwt) a/	10.0	14.6	28.3	32.7	29.2	41.7	31.2	16.3	5.7
Share of broken-up tonnage in the total world fleet (percentage)	1.5	2.1	4.1	4.8	4.3	6.3	4.9	2.6	0.9

a/ Source: Fearnleys, Review, various issues.

46. Data on tonnage sold for breaking by type of vessel during the period 1981-1988 are presented in table 26. Demolition of all types of vessels showed a significant reduction in 1988 as compared with the previous year. Thus, the volume of tanker tonnage sold for breaking decreased by 60.7 per cent A breakdown of the 1988 tanker sales shows that 1.9 million dwt represented vessels in damaged condition which under other circumstances might not have been sold for demolition. The remainder of 0.7 million dwt consisted of vessels more than 20 years old. Only three combined carriers were sold for demolition, and they were also more than 20 years old. Dry bulk carrier demolition sales declined in 1988 by 84.7 per cent to 846 million dwt, nearly 80 per cent of this tonnage was more than 20 years old. The demolition sales of other dry cargo vessels also declined during the year in question but not heavily, i.e. by 38.1 per cent, with nearly three quarters of the tonnage sold for demolition being over 20 years old.

47. As in previous years, tankers represented the major quantity of tonnage sold for breaking in 1988 (44.6 per cent as compared with 40.1 per cent in 1987). The share of dry bulk carriers sold for breaking in 1988 was 14.7 per cent, as compared with 33.9 per cent in 1987. The share of combined carriers in the total tonnage sold for breaking was 5.1 per cent, while that of other dry cargo ships sold for breaking increased significantly and in 1988 reached its highest level in the 1980s, i.e. 35.6 per cent.

48. Due to a certain improvement in the market situation in 1988 and the general decrease of laid-up tonnage, the amount of laid-up tanker tonnage and combined carrier tonnage which would not appear to have any significant prospect of being reactivated (i.e. which was expected to be sold in the future for scrapping directly from lay-up) showed a significant reduction as compared with the previous year. As shown in table 27, the estimated volume of tanker and combined carrier tonnage laid-up and idle which was unlikely to trade again at mid-September 1988 amounted to 2.5 million dwt, as compared with 4.6 million dwt a year before. As in the previous years, this tonnage consisted mostly of ULCC and VLCC (90.6 per cent).

Table 26

Tonnage reported sold for breaking by type of vessel, 1981-1988
(Thousand dwt and percentage shares)

Type of vessel	Thousands of dwt								Percentage shares							
	1981	1982	1983	1984	1985	1986	1987	1988	1981	1982	1983	1984	1985	1986	1987	1988
Tankers	12 904	23 253	24 348	19 822	26 794	12 306	6 549	2 570	88.4	82.2	74.5	67.9	64.3	39.4	40.1	44.6
Combined carriers	251	1 683	2 022	1 516	3 794	2 889	950	293	1.7	5.9	6.2	5.2	9.1	9.3	5.8	5.1
Dry bulk carriers	323	1 097	2 651	4 024	6 673	11 365	5 539	846	2.2	3.9	8.1	13.8	16.0	36.4	33.9	14.7
Other dry cargo ships	1 117	2 271	3 677	3 836	4 414	4 654	3 310	2 050	7.7	8.0	11.2	13.1	10.6	14.9	20.2	35.6
Total	14 593	28 304	32 698	29 198	41 675	31 214	16 348	5 759	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: Fearnleys, Review, various issues.

Table 27

Tankers and combined carriers laid up and idle and estimated as tonnage unlikely to trade again, 1985-1988
(As at mid-September)

	1985		1986		1987		1988	
	000 dwt	%	000 dwt	%	000 dwt	%	000 dwt	%
10- 24,999	211	1.1	93	1.9	95	2.1	74	2.9
25- 49,999	531	2.7	157	3.3	176	3.9	103	4.1
50- 99,999	339	1.7	131	2.7	221	4.8	60	2.4
100-199,999	660	3.4	160	3.3	498	10.9	-	-
over 200,000	17 826	91.1	4 258	88.8	3 579	78.3	2 293	90.6
Total	19 567	100.0	4 799	100.0	4 569	100.0	2 530	100.0

Source: E.A. Gibson, Shipbrokers Ltd., London. Monthly bulletins, various issues.

49. Changes in demolition prices in 1987 and 1988 are shown in table 28. A serious decrease in the amount of tonnage sold for demolition in 1988 could be considered the main reason for a remarkable rise in scrap prices, as the demand of scrap yards exceeded the supply of ships offered for demolition. Demolition prices showed a constant increase during 1988, and practically all monthly prices were above those of 1987. Thus, the annual average price in all three main markets was significantly higher than in 1987, with the 1988 average in the Far East market 40.7 per cent higher than a year before, in the Pakistan/India region - 63.3 per cent higher and in South Europe - 45.5 per cent higher.

50. Taking into consideration the downward trends in the demolition of vessels, Taiwan Province of China, whose share of the demolition market in 1987 amounted to 54 per cent, decided to close two thirds of its breaking capacity and for 1988 it accounted for 38 per cent of the world demolition market. 10/

51. Table 29 shows the average age of bulk carriers sold for scrapping during the last eight years. The average age of tankers and combined carriers sold for demolition in 1988 was the highest in the period in question (11.1 per cent above the previous year's figure), and that of dry bulk carriers was 18.1 per cent above the previous year's figure; this means that it was practically at the level of 1981, which was the highest in the period in question.

Table 28

Demolition prices in 1987-1988
(Dollars per LDT)

Month	Market					
	Far East		Pakistan/India		South Europe	
	1987	1988	1987	1988	1987	1988
January	145.0	200.0	117.5	195.0	70.0	95.0
February	132.5	230.0	115.0	195.0	70.0	105.0
March	137.5	250.0	115.0	210.0	77.5	115.0
April	148.5	230.0	117.5	220.0	77.5	115.0
May	148.5	240.0	117.5	240.0	77.5	115.0
June	159.0	240.0	115.0	251.0	77.5	130.0
July	160.0	240.0	130.0	245.0	80.0	130.0
August	175.0	250.0	145.0	250.0	85.0	130.0
September	185.0	240.0	155.0	230.0	85.0	130.0
October	230.0	250.0	175.0	240.0	95.0	130.0
November	200.0	250.0	175.0	245.0	95.0	130.0
December	200.0	250.0	190.0	245.0	95.0	130.0
Annual average	168.4	237.0	139.0	227.0	82.1	119.5

Source: Institute of Shipping Economics, Bremen, Shipping Statistics, various issues.

Table 29

Average age of bulk carriers sold for demolition in 1981-1988
(Years)

Year	Tankers and combined carriers	Dry bulk carriers
1981	14.03	23.51
1982	13.53	21.35
1983	14.08	18.95
1984	15.14	21.34
1985	13.86	19.87
1986	15.71	18.66
1987	17.50	19.33
1988	19.46	22.83

Source: Howard Houlder Chartering (London); see Fairplay International, (London), 4 December 1986, p. 43, and Lloyd's List, 6 January 1987 and 5 January 1989.

Chapter V

FREIGHT MARKETS

A. Freight rates of main cargo sectors

52. As shown in table 30, the annual average freight rate indices in the dry cargo and tanker sectors in 1988 showed a significant upward movement as compared with the previous year. This was largely the result of an increase in international seaborne trade, as well as an improved supply/demand relationship for a number of ship types and size categories. In 1988 all monthly dry cargo tramp trip charter indices and quarterly dry cargo tramp time charter indices were above the corresponding figures for 1987. As a result, the annual averages were respectively 12.1 per cent and 61.1 per cent higher than in the previous year. Moreover, in 1988 both annual average dry cargo tramp charter indices were at their highest level since 1981.

53. The trends in the dry bulk carriers freight market in 1988 can be illustrated by reference to the pattern of grain trade from the United States (Gulf of Mexico) to Japan (cargo sizes of 50,000-55,000 tons). Freight rates for this cargo at the beginning of the year stood at about $22.05 per ton. During the next three months they increased steadily and in March amounted to $27.10 per ton. However, in April they decreased to $25.00 per ton. The decrease continued during May-July, with the year's lowest level of $19.10 in July. The steady upward tendency started in August ($20.35 per ton) and continued during the remaining part of the year. In November and December freight rates achieved their highest level of $24.75 and $24.65 per ton respectively. Thus, they were 25.8 per cent above the level for the corresponding period of the previous year. In this particular trade all monthly freight rates in 1988 were above those in 1987. As a result, the annual average rate was $23.10 per ton as compared to $16.30 per ton in 1987, $10.20 per ton in 1986 and $13.60 per ton in 1985. 11/

54. The highest and lowest rates recorded during 1988 (together with comparisons for 1987) for single voyages in certain leading dry cargo trades which are of particular interest to developing countries are summarized below:

Commodity	Route	Freight rate range			
		1987		1988	
		($US/ton)			
		High	Low	High	Low
Grain	United States (Gulf of Mexico) / China	26.95	23.50	34.00	25.00
Grain	United States (Gulf of Mexico) / Venezuela	19.50	10.00	19.00	17.50
Sugar	Queensland/Japan	17.00	11.00	20.00	-
Fertilizers	Aqaba/West Coast India	15.00	9.50	22.25	17.00
Fertilizers	United States (Gulf of Mexico)/West Coast India	33.00	-	45.00	38.00
Ore	Brazil/Japan	9.50	4.70	11.60	9.50
Ore	Brazil/Continental Europe	8.10	3.00	7.10	4.90
Ore	West Africa/Continental Europe	5.80	2.20	7.10	4.97

Sources: Lloyd's List, London, 3 January 1989.

Table 30

Freight rate indices, 1986-1988
(Monthly or quarterly figures)

	Liner freight rates a/ (1980 = 100)			Dry cargo tramp time charter b/ (1976 = 100)			Dry cargo tramp trip charter c/ (July 1965 to June 1966 = 100)			Tanker freight indices c/												
										VLCC/ULCC			Medium-size crude carriers			Small crude and product carriers			Handy size dirty			Handy size clean		
Period	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988	1986	1987	1988
January	144	121	116				166	164	193	32	33	34	64	87	76	84	127	123	128	197	169	134	204	167
February	139	121	118	92	107	234	152	166	203	26	30	33	56	66	78	76	106	124	128	161	..	156	175	155
March	135	123	117				157	167	207	27	27	34	59	61	68	96	89	109	149	128	147	158	167	148
April	136	123	120				158	175	203	29	32	37	54	71	72	91	110	111	132	126	149	143	150	148
May	135	123	121	85	131	224	158	172	189	31	37	38	74	74	68	99	104	101	163	148	130	154	148	151
June	134	124	124				153	166	194	50	39	34	79	74	69	98	112	98	129	128	143	168	172	143
July	131	124	124				151	169	184	38	54	41	68	79	77	97	102	101	159	142	162	154	152	148
August	128	124	125	88	141	201	148	177	187	46	69	41	81	80	66	110	109	99	142	144	143	149	147	142
September	128	123	123				163	178	185	38	41	47	71	69	73	101	93	101	133	127	141	146	169	144
October	127	121	121				161	182	196	23	47	53	50	77	78	90	105	105	143	140	146	137	179	155
November	127	116	118	95	176	238	164	189	199	26	48	62	58	83	106	90	101	134	137	150	177	141	176	176
December	126	115	120				161	184	198	29	42	71	67	78	128	99	109	181	134	184	234	152	170	236
Annual average	133	122	121	90	139	224	158	174	195	33	42	44	65	75	80	94	105	116	140	148	158	149	167	160

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

a/ Liner index compiled by the Ministry of Transport of the Federal Republic of Germany. Monthly weighted assessments of freight rates on cargoes loaded or discharged by liners of all flags at ports in the Antwerp/Hamburg range. (See paragraph 58 for certain comments regarding this index.)

b/ Compiled and published on a quarterly basis by the General Council of British Shipping.

c/ 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.

55. Both high and low freight rates for almost all dry bulk commodities presented above showed an increase as compared to the previous year, with the most significant increase being for ores from West Africa to Continental Europe and from Brazil to Japan (+125.9 per cent and +102.1 per cent for low rates respectively), for grain from the United States to Venezuela (+75.0 per cent for low rates), and for fertilizers from Aqaba to India (+48.3 per cent and +78.9 per cent for high and low rates respectively). High rates for grain from the United States to Venezuela and for ores from Brazil to Continental Europe decreased (2.6 per cent and 12.3 per cent below the level of 1987).

56. High demand for tanker tonnage in 1988 caused an increase in freight rates in most oil trades. The annual average indices were higher than in the previous year, though much lower than for the dry cargo sector. Thus, the annual average for VLCC/ULCC in 1988 was 4.8 per cent above the 1987 level, while medium-size crude and small crude and product carriers' annual average indices increased by 6.7 per cent and 10.5 per cent respectively. The average handy-size dirty tankers index increased in 1988 by 6.7 per cent as compared with 1987, while the average handy-size clean tankers index decreased by 4.2 per cent. With respect to the monthly indices for individual tonnage groups, a downward trend in tanker freight rates is observed in the first half of the year, resulting mainly from the existence of large stocks of crude oil in the developed market-economy countries. Starting from July when the stocks needed replenishment and oil prices fluctuated at a lower level, the rates began to increase, and thus in December 1988 all indices achieved their highest level.

57. Freight rates in individual tanker trades recorded substantial changes during 1988. Thus worldscale spot rates for 90,000 dwt dirty tankers from the Persian Gulf to West Europe were reported to be 92 points in January 1988, 63 in June, 71 in September and 120 by the year end. Worldscale spot rates for VLCC in the same trade amounted to 32 in January, 34 in June, 42 in September and 65 in December 1988. 12/

58. The liner freight rate indices shown in table 30 are compiled by the Ministry of Transport of the Federal Republic of Germany and are based on the foreign trade of that country. Consequently, the indices may not be truly representative of trends for this sector of the world shipping industry. Nevertheless, it is considered that they provide a general indication of such trends. It should be borne in mind that this index is also seriously influenced by changes of currency rates in terms of the deutsche mark against the United States dollar. At the beginning of 1988 liner freight indices were at a very low level, during the spring-summer months they experienced a certain improvement (+7.7 per cent in August), and this was followed by a general decrease in the Autumn months with signs of recovery in December. However, the annual average for 1988 was only marginally lower than the 1987 annual average (-0.8 per cent).

B. Liner freight rates as a percentage of prices of selected commodities

59. For many developing countries, most non-bulk key exports and imports are moved by liner services. Liner freight rates may thus have a significant effect on the national income of developing countries, their balance of payments and their competitiveness. Table 31 gives liner freight rates as a percentage of prices for selected commodities in 1986 (the latest available data). The ratio of freight for commodities such as coffee (Colombia-Europe)

Table 31

The ratio of liner freight rates to prices of selected commodities, 1970 and 1983-1986

Commodity	Route	Freight rate as a percentage of price a/ b/ c/				
		1970	1983	1984	1985	1986
Jute	Bangladesh-Europe	12.1	21.4	11.4	8.4	21.9
Cocoa beans	Ghana-Europe	2.4	2.6	2.1	1.9	3.2
Coconut oil	Sri Lanka-Europe	8.9	9.8	5.7	12.6	21.9
Tea	Sri Lanka-Europe	9.5	6.9	5.1	6.9	8.4
Coffee	Brazil-Europe	5.2	7.4	6.0	5.0	..
Coffee	Colombia (Atlantic ports)-Europe	4.2	4.4	n.a.	6.7	3.1
Cocoa beans	Brazil-Europe	7.4	9.7	6.9	6.9	..
Coffee	Colombia (Pacific ports)-Europe	4.5	5.2	4.9	6.1	3.2

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by the Royal Netherlands Shipowners' Association.

a/ C.i.f. prices were quoted for jute (UK-pwc grade), cocoa beans (Ghana-Europe), and palm kernels. For cocoa beans (Brazil-Europe) and coffee (Colombia-Europe and Brazil-Europe), unit values of exports were 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, a "tank cleaning surcharge" (for coconut oil only), port delay and additional port surcharges (for Colombia 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 1983-1986, the prices of jute, coconut oil and cocoa beans were taken from UNCTAD, Monthly Commodity Price Bulletin, the December issue of each following year.

decreased in 1986 as compared with 1985. This could be explained by a significant increase in prices for this commodity associated with a moderate increase in freight rates.

60. The most significant increase in the ratio of freight rates to prices relates to jute (Bangladesh-Europe) and coconut oil (Sri Lanka-Europe), where the ratios increased from 8.4 per cent and 12.6 per cent in 1985 to 21.9 per cent for each commodity in 1986. In both cases this increase could be attributed on the whole to a drastic fall in prices. Thus, 1986 coconut oil prices were 49.7 per cent lower than those of 1985 and prices for jute were 60.3 per cent lower. The growth in the ratios of freight rates to prices for tea (Sri Lanka-Europe) and cocoa beans (Ghana-Europe) was also connected with the decrease in prices for these commodities accompanied by an increase in freight rates.

C. Estimates of global freight costs

61. Table 32 shows estimates of total freight costs in world trade as the ratio of ocean freight to the total c.i.f. value of imports by groups of countries. Globally, total freight costs in 1987 were estimated at $121.6 billion, which is 15.9 per cent more than in 1986. At the same time the value of international trade increased by 18 per cent. Consequently, the proportion of freight costs in the total value of world trade decreased insignificantly, i.e. by 0.09 per cent, and amounted to 5.24 per cent in 1987. For developing countries, however, and especially those in Africa and Oceania, this ratio continued to be more than double that for developed market-economy countries, i.e. 8.90 per cent as against 4.39 per cent (see graph 4). The differences in the ratio of ocean freight to the total c.i.f. value of imports by groups of countries can be partly attributed to the fact that importers in developed market-economy countries can exercise greater control over levels of freight rates applicable to liner imports than importers in developing countries. The high level of freight factors applicable to the imports of developing countries, particularly in Africa and Oceania, may also to a certain extent be attributed to the fact that those countries generally import goods by sea over longer distances and may be using more relatively expensive liner services.

Table 32

Estimates of total freight costs in world trade[a/] by groups[b/] of countries, 1980, 1986 and 1987

Year	Country group	Estimate of total freight costs of imports (millions of dollars)	Value of imports (c.i.f.) (millions of dollars)	Freight costs as a 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
1986	1. World total	104 881	1 966 725	5.33
	2. Developed market-economy countries	70 777	1 596 980	4.43
	3. Developing countries - total	34 104	369 745	9.22
	Of which: in Africa	6 895	62 183	11.09
	America	6 770	74 967	9.03
	Asia	19 067	217 343	8.77
	Europe	1 052	12 641	8.33
	Oceania	320	2 611	12.26
1987	1. World total	121 588	2 321 223	5.24
	2. Developed market-economy countries	82 616	1 883 480	4.39
	3. Developing countries - total	38 972	437 743	8.90
	Of which: in Africa	7 327	64 830	11.30
	America	8 118	92 917	8.74
	Asia	21 894	261 752	8.36
	Europe	1 284	15 406	8.34
	Oceania	349	2 838	12.30

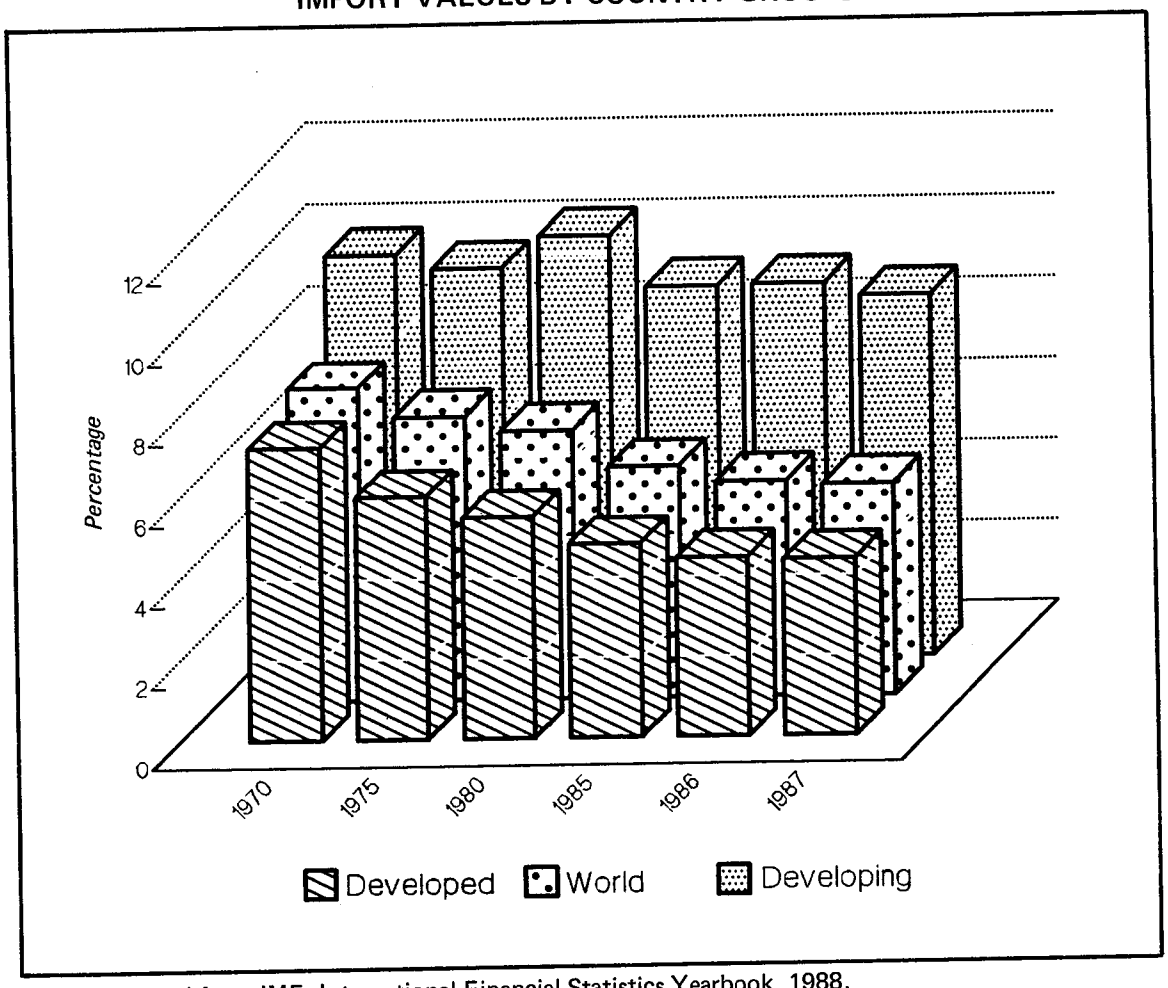
Source: Derived from IMF f.o.b./c.i.f. factors and IMF import data.

a/ The estimate for the world is not complete, since data for countries which are not members of IMF are not included.

b/ The estimates presented here reflect the inclusion of Yugoslavia in this review in "Developing countries in Europe"; in previous years Yugoslavia was classified as a developed market-economy country.

Graph 4

FREIGHT AS PERCENTAGE OF C.I.F. IMPORT VALUES BY COUNTRY GROUPS



Source: Derived from IMF, International Financial Statistics Yearbook, 1988.

Chapter VI

MULTIMODAL TRANSPORT AND TECHNOLOGICAL DEVELOPMENTS

A. Multimodal transport

1. Development of multimodal transport operators

62. In chapter VI of the Review of Maritime Transport, 1987, a first attempt was made to present some statistics on the development of multimodal transport operators. Progress in terms of such development during the past year does not seem to have been very great; in fact, according to the information provided in Containerisation International Yearbook, 1988 edition, there was virtually no increase in the number of MTOs. In view of the lack of alternative data sources, it is difficult to fully document whatever growth there may have been.

63. However, one indication may be the amount of cargo handled by the Japanese NVO-MTOs during the first half of 1988. This tonnage increased by 67.0 per cent (1,449,000 tons) for exports and by 109.7 per cent (882,000 tons) for imports. 13/

64. A separate, though related, development has been that of parcel service operators. Eighty per cent of the market is dominated by five major companies: Airborne, Emery, Fedex, UPS and DHL. The major growth comes from small parcels and documents, whereas normal cargo traffic (shipments over 68 kg) experienced an annual growth rate of 3 to 5 per cent.

65. It is worth noting that FIATA (International Freight Forwarders Association) has paid particular attention to multimodal transport by creating a Multimodal Transport Institute as probably the most important element of its new organizational structure.

2. Unit-train operations

(a) United States landbridge

66. Double-stack train operations in the United States continued to expand in 1988. Although the secretariat has not been able to obtain full details of train departures, table 33 gives an indication of the present status. Specifically, it can be noted that, for example, the biggest operator was expecting its annual stack-train operation to reach 400,000 FEUs in 1988, up from 300,000 FEUs in 1987.

67. A tendency has been observed to reduce the length of the trains in order to schedule more frequent departures and also to reduce the actual trip time, since a shorter train can gain cruising speed much faster than a very long and heavy one. Savings of up to five hours are being aimed at.

Table 33

Operation of double-stack trains from/to the west coast of the United States and Canada

VO-MTO	Route (from the west coast to inland points)	Frequency per week	FEU capacity	Railway
APL	Los Angeles/Chicago	5	1 400	UP
	Chicago/Dallas/Houston/S. Ant. (domestic)	4	160	UP
	Los Angeles/Chicago/New York	2	560	UP
	Los Angeles/Atlanta	3	840	SP
	Los Angeles/Memphis	3	580	SP
	Oakland/Chicago	1	280	UP
	Seattle/Chicago	2	540	UP
	Seattle/Chicago/New York	1	270	UP
	Subtotal (Nos. of trains)	17	4 630	
CSX/SLS	Long Beach/Chicago/New York	1	280	SP/BN/CSX
	Long Beach/Kansas/Chicago	1	280	SP/BN
	Long Beach/Houston/Nola/Memphis/Atlanta	2	560	SP/CSX
	Tacoma/Chicago	3	630	BN/CSX
	Tacoma/Chicago/New York	1	210	BN/CSX
	Subtotal (Nos. of trains)	8	1 960	
KLine	Long Beach/Chicago/New York	2	200	UP
	Portland/Chicago/Columbus & New York	1	150	UP
	Seattle/Chicago/Columbus & New York	2	150	UP
	Long Beach/Houston Dallas, Nola, Atlanta	1	120	SF/UP
	Tacoma/Chicago/New York	1	120	...
	New York/Chicago/Portland	1	120	...
	Subtotal (Nos. of trains)	6	860	
Maersk	Tacoma/Chicago/(Welland, Can.)/New York	2	560	UP
	Oakl'd/Houston/Dallas/Nola/Memph/Atlan. (separated in Brownwood)	1	100	ATSF
	Houston/Dallas/NOLA/Memph/Atlan./Oakl'd (combined in Brownwood)	1	100	ATSF
	Subtotal (Nos. of trains)	4	760	
NYK	Los Angeles/Chicago-Cincinnati/New York	2	280	SP/CSX/CONR
	(separated in St. Louis)	1	...	...
	Seattle/Chicago/New York	1	150	BN/CONR
	Los Angeles/Dallas/Houston/Nola/Memphis	2	200	ATSF/BN/KCS
	Chicago/Oakland	5	...	SP/CSX
	Cincinnati/Oakland	2	...	SP/CSX
	Subtotal (Nos. of trains)	13	...	
OOCL	Long Beach/Chicago-Houston/NOLA/Dallas (separated in El Paso)	1	230	SP/Mill/SOO
	Long Beach/Chicago/New York	1	100	and CONR
	Subtotal (Nos. of trains)	2	330	

Table 33 (continued)

VO-MTO	Route (from the west coast to inland points)	Frequency per week	FEU capacity	Railway
MOL	Los Angeles/Kansas City/Chicago	1	150	SP
	Los Angeles/Chicago/Colombus	1	150	SP
	Los Angeles/Colombus/New York	1	200	SP
	Los Angeles/Dallas/Memphis/Atlanta	1	100	SP
	Los Angeles/Houston/New Orleans	1	100	SF
	Seattle/Chicago/New York	1	200	BN/CONR
	Chicago/Kansas City/Los Angeles	1	150	SP
	Chicago/Colombus/Los Angeles	1	150	SP
	New York/Colombus/Los Angeles	1	200	SP
	New York/Chicago/Portland	1	200	BN/CONR
	New Orleans/Houston/Los Angeles	1	100	SF
	Atlanta/Memphis/Dallas/Houston/Los Angeles	1	100	SF
	Subtotal (Nos. of trains)	12	1 800	
Ever-green	Los Angeles/Chicago/New York	1	200	SP/BN/CONR
	Los Angeles/Chicago/New York	1	100	SP/BN/CONR
	Seattle/Portland/Chicago	1	100	SP
	Los Angeles/Dallas/Houston/NOLA/Memphis	1	80	BN
	Subtotal (Nos. of trains)	4	480	
Hanjin	Seattle/Chicago/New York	1	200	BN/CONR
BN	Seattle/Chicago	7	1 400	BN
SF	Long Beach/Chicago	7	1 400	SF
CN	Vancouver BC/Toronto	1	60	CN Rail
	Toronto/Vancouver BC	1	60	CN Rail
	Twelve stack-train operators	83	14 570	

Source: Advice from carriers themselves and various news reports.

APL = American President Line
CSX = CSX Corporation
CSX/SLS = CSX/Sea-Land System
KLine = Kawasaki Kishen Kaisha
NYK = Nippon Yusen Kaisha
OOCL = Orient Overseas Container Line
MOL = Mitsui OSK Line
BN = Burlington Northern Railroad Co
SF = Santa Fe Railway Co
CN = Canada National Railroad
UP = Union Pacific Transportation Co
SP = Southern Pacific Railroad
ATSF = Atchison Topeka and Santa Fe Railway Company
CONR = Conrail
Mill = Millwaukee Railroad
SOO = SOO Line Corporation

(b) Trans-Siberian Container Service (TSCS)

68. A total of 93,643 TEUs were handled by Soyuztranzit (Sotra), the Soviet organization in charge of co-ordinating movement on the TSCS in 1987. It is estimated that in 1988 the container traffic on the TSCS will grow to around 104,000 TEUs. There are about 30 west-bound block-trains monthly, each consisting of around 50 container flat cars able to load one 40' or two 20' containers, making 100 TEUs per train. The development of container traffic on the TSCS is reflected in table 34. 14/ The TSCS will, under the current and subsequent USSR five-year economic plans, see "dynamic expansion and development" 15/ through 1995.

69. Transit time across Soviet territory is usually 17 days from Vostochny to Brest, 17 days to Riga and 15 days to Dzhulfa. The objective is to reduce this transit time to 14 days by 1990. Total door-to-door time between Japan and typical destinations in Western Europe averages 35 to 40 days; however, to points in Finland it may be only 25 to 30 days.

Table 34

Loaded TEUs handled by Sotra to/from selected destinations 1981-1987

Year	China	Iran (Islamic Republic of)	Afghanistan	Eur./Far East/Eur.	Total
1981	2 969	42 394	1 571	70 498	117 432
1982	2 421	17 381	1 411	64 897	86 110
Change (%)	-18.5	-59.0	-10.2	-7.9	-26.7
1983	10 930	45 925	4 378	66 072	127 305
Change (%)	+351.5	+164.2	+210.3	+1.8	+47.8
1984	6 692	21 873	5 482	66 257	100 304
Change (%)	-38.8	-62.2	-25.2	+0.3	-21.2
1985	11 486	12 479	5 103	72 619	101 687
Change (%)	71.6	-42.9	-6.9	+9.6	+1.4
1986	10 388	6 554	6 767	76 226	99 935
Change (%)	-9.6	-47.5	+32.6	+5.0	-1.7
1987	11 180	4 469	5 206	72 788	93 643
Change (%)	+7.6	-31.8	-23.1	-4.5	-6.3

Source: Sotra, Moscow

70. The new Baikal-Amur mainline railway, which is already beginning to ease traffic on the old Trans-Siberian Railway, and the introduction of a trans-China rail link that will go through Kazakhstan, are both likely to contribute to a reduction in Asia/Europe transit times, for example reducing transit time between Hong Kong and Western Europe by a week or more. 16/

(c) Other container train services

71. The 1987 edition of the Review of Maritime Transport, in its table 35, showed block-train container movements for three selected countries (India, Kenya and Malaysia). Owing to lack of comparable data for 1988, it has not been possible to produce a similar table this year. However, the information that has been made available to the UNCTAD secretariat indicates a clear pattern of growth in the three countries concerned (see paras. 72-74 below). Table 35 this year instead shows the number of container trains in nine selected developing countries.

Table 35

Other container train services

Country	Route (from/to)	Frequency per week	User
India	Bombay/New Delhi	3	Common user
	New Delhi/Bombay	3	Common user
	Madras/Bangalore	1	Common user
	Bangalore/Madras	1	Common user
	Madras/New Delhi	1	Common user
	Total	9	
Kenya	Mombasa/Embakasi (Nairobi)	7	Common user
	Embakasi (Nairobi)/Mombasa	7	Common user
	Total	14	
Malaysia	Port Klang/Butterworth (Penang)	6	Common user
	Butterworth (Penang)/Port Klang	6	Common user
	Port Klang/Various destinations	16	Common user
	Various destinations/Port Klang	16	Common user
	Total	44	
Indonesia	Tanjong Priok/Bandung	1	Common user
	Bandung/Tanjong Priok	1	Common user
	Total	2	
Nigeria	Lagos (Apapa)/Kaunda/Kano	3	Common user
Republic of Korea	Seoul/Busan	63	Common user
	Busan/Seoul	63	Common user
	Total	126	
Saudi Arabia	Damman/Riyadh	12	Common user
Sri Lanka	Nuwara Eliya/Kandy/Colombo	1	Common user
Thailand	Sattahip/Bangkok	1	American President Line
	Bangkok/Sattahip	1	American President Line
	Total	2	

Source: Containerisation International Yearbook, 1987 and various news reports.

India

72. There is now a freight container train running on alternate days from Bombay to the inland clearance depot (ICD) in New Dehli. This frequency is likely to increase to one train per day in the near future. The number of TEUs handled by the Indian Railways from April 1987 to March 1988 reached 37,835. The distribution was as follows:

Southern ICDs	12,094
New Delhi ICD	21,805
Amingaon ICD	2,220
Ludhiana ICD	714
Non-ICD traffic	2,356
Total	37,835 TEUs

Kenya

73. Container traffic has steadily increased, and Kenya Railways now operates a very regular service of unit trains between Mombasa and the ICD at Embakasi. The total number of containers (TEUs) handled both ways increased from 21,767 in 1987 to 25,617 in 1988. Growth is expected to continue in 1989 due to marketing efforts.

Malaysia

74. Train services have expanded considerably during the last 12 months. From a very modest level, the number of containers carried has increased considerably. A second service has been added, and plans for direct unit train services between Port Klang and Bangkok are in the final phases of preparation.

3. Development of inland clearance depots in India

75. In India, there are seven ICDs functioning on the railways at: Bangalore, Guntur, Anaparti, Coimbatore, New Dehli, Amingaon and Dhandari Kalan.

76. The container traffic handled at New Dehli ICD is growing fast. With an installed capacity of 6,000 TEUs per annum, this ICD handled 3,676 TEUs in 1984/85, 11,546 in 1985/86 (annual growth of about 212 per cent) 18,180 in 1986/87 (57 per cent) and 21,805 in 1987/88 (20 per cent). It is expected to handle some 26,000 TEUs in 1988/89 (19 per cent).

4. Sea-air services

77. The volume of sea-air cargo traffic from Japan to different destinations continues to grow, rising from less than 20,000 tons in 1985 to 34,000 in 1986, 46,000 in 1987, and about 63,000 in 1988. Available detailed figures (see table 36) show that the sea-air export traffic from Japan reached about 34,000 tons in 1986, of which the share for Europe was 85 per cent. Since the all-air traffic from Japan to Europe in the same year was estimated at approximately 70,000 tons, the volume of the sea-air cargo amounted to a significant share (about 30 per cent) of the total traffic involving air transport. The sea-air freight from Japan to Central and South American

countries showed a remarkable growth from about 2,000 tons in 1985 to 3,104 tons in 1986 and 6,228 tons in 1987, which reflects the advantage of sea-air services in terms of being able to overcome difficulties or insecurities of transport from ports to inland points in mountainous countries in the region, as well as cumbersome Customs procedures in some ports.

Table 36

Sea-Air Traffic from Japan

Destination	1985		1986		1987	
	Tons	(%)	Tons	(%)	Tons	(%)
Europe	16 654	(84.9)	28 679	(85.4)	35 634	(77.5)
Latin America	1 977	(10.1)	3 104	(9.2)	6 228	(13.5)
Other areas	970	(5.0)	1 826	(5.4)	4 113	(9.0)
Total	19 601	(100.0)	33 599	(100.0)	45 975	(100.0)

Source: Shipping and Trade News, Tokyo, special edition, September 1988.

78. The main interface points for sea-and-air multimodal services in the developing countries saw a considerable increase in this kind of activity in 1988. During the first six months of 1988, 7,985 tons were transloaded at the airport of Dubai in the sea-air service, for the first time exceeding 1,000 tons per month. In Singapore, sea-air traffic during the first six months of 1988 increased by 90 per cent in comparison with the same period in 1987 and totalled 3,571 tons.

5. International physical distribution

79. In 1988, productive industry in developed countries increasingly realized the benefits which can be obtained from the well-organized physical distribution of its products. Depending on the industry, surveys show that physical distribution costs represent between 9 and 10 per cent of the sales value of goods. Physical distribution costs are almost evenly split between transport costs, packing costs and warehousing costs.

80. Owing to the cost-reducing efforts of mode and terminal operators and to the ingenuity of multimodal transport operators, transport costs are being drastically reduced. Additional savings are now coming from packing and warehousing policies and from new forms of organization, including the establishment of distribution centres at key locations on transport networks.

81. International physical distribution is undergoing great changes, including a tendency to shift production bases from one country to another. Transport service industries are becoming more and more committed to meeting the diversified needs of customers by providing improved information and transport services.

82. A shift of emphasis in shipments is being observed from raw materials to manufactured goods, with a marked tendency for parcels to become smaller.

Transport service industries are now accommodating this tendency towards smaller cargo units by establishing small parcel service divisions. Related international cargo tracking systems are being developed to provide information services for customers and to supply them with up-to-the-minute information on their cargoes in transit. To cope with the changing needs of international physical distribution, new and various combinations of sea/air, truck and rail multimodal transportation are being offered to customers to provide them with optimum physical distribution services.

83. As a corollary to the extension of co-operation between the transport service industries and their customers, the need for closer communication links is also growing. The latest development in the field of "electronic data interchange" (EDI) is very important in this regard. This development is discussed below (see paras. 88 et seq.).

6. Development of a model MT document

84. The most recent developments in multimodal transport concern the creation of a model multimodal transport document (MT document). One of the shortcomings of combined transport at present is the proliferation of combined transport documents. There are at least eight different "model" combined transport documents in use, and while some are quite similar, others differ greatly. The Shipping Division of UNCTAD submitted to the eleventh session of the Committee on Shipping a multimodal transport document, codenamed MULTIDOC, based on the United Nations Convention on International Multimodal Transport of Goods. However, until that Convention comes into force, it is unlikely that carriers would wish to utilize MULTIDOC. Consequently, the Committee on Shipping, in its resolution 60 (XII) adopted at its twelfth session in November 1986, instructed the UNCTAD secretariat:

> "to elaborate a standard form and model provisions for multimodal transport documents, in close collaboration with the competent commercial parties and international bodies, based on the Hague Rules and the Hague-Visby Rules as well as existing documents such as the FBL of the International Federation of Freight Forwarders Associations (FIATA) and the International Chamber of Commerce (ICC) uniform rules for a combined transport document."

Accordingly, the secretariat invited a total of 27 organizations and individuals, including the Federation of ASEAN Shippers' Councils, to participate in an informal meeting in Geneva on 12 October 1988. This meeting was attended by 20 representatives from 12 organizations.

85. The meeting agreed to consider the elaboration of a multimodal transport document, although it was acknowledged that different legal régimes in different countries might make actual application of one standard document difficult. All agreed, however, that they were interested in uniformity and that the existing model multimodal transport documents all had shortcomings in one way or another. One of the problems was the gap in liability that might occur at intermediate, or interface, points in a multimodal transport operation. Warehousemen and cargo handling enterprises usually disclaim liability by, in any event, reduce their liability to even lower limitation amounts than those which apply to any one type of transport. Further, in many countries, domestic transport is not subjected to mandatory law or, alternatively, a greater reduction of liability is permitted than under the international conventions dealing with the different modes of transport.

86. A multimodal transport document, combined transport document or bill of lading normally consists of a front page laid out to accommodate the entry of details concerning the cargo and the transport and a back page containing the contract clauses. The UNCTAD secretariat had prepared some suggestions for draft clauses for the meeting to consider. It was generally agreed that most of the headings which the draft contained were relevant, but that there might be a need for some additional and revised headings. It is expected that a final version will be presented to the Committee on Shipping for its consideration in due course.

87. As the ICC uniform rules for a combined transport document are in need of updating, it was also agreed that an attempt to produce a set of UNCTAD uniform rules should be made, possibly in the form of joint UNCTAD/ICC rules carrying the United Nations and ICC logos.

B. Technological developments

1. Electronic data interchange

88. In the course of an international trade transaction, a large number of parties have to produce, check, transfer, receive, process and file hundreds of information elements relating to the goods, their transport and their payment. Such information transfer, traditionally carried out by filling in and transmitting paper documents, is slow, error-prone, and costly. With the proliferation of computers and the use of tele-transmission techniques, it has become possible to rationalize the processing and transmission of information. This is normally called "electronic data interchange" or simply EDI. EDI is generally defined as "the computer-to-computer transfer of commercial and administrative transactions using an agreed standard to structure the data pertaining to that transaction."

89. The concepts of EDI are now being introduced in all developed countries, where a number of systems have been created, linking branches of the same company, counterparts in the same industry (e.g. banks, airlines) or small groups of operational partners (e.g. Customs and freight forwarders; Customs and airlines; container operators and sea carriers; etc.).

90. In South-East Asia, the greatest progress in this field has been made in Hong Kong and Singapore, but steps are also being taken in Malaysia to link various organizations involved in the transport of goods. The creation of a "Community System" centred on Port Klang is now being studied by a Working Group created for this specific purpose. Partners in such a system would, at the beginning, be the container terminal, shippers and consignees, banks, insurance companies, etc. Efforts in this direction are also being made in the Middle East, while in the other regions of the developing world, less progress has been made.

91. The ECE Working Party No. 4 on trade facilitation has been at the centre of the development of a set of rules for electronic data interchange for administration, commerce and transport, originally known under the acronym EDIFACT, but recently renamed UN/EDIFACT to indicate the universal nature of the new rules.

92. UN/EDIFACT is a set of principles which facilitates the electronic interchange of business data between manufacturers, exporters, wholesalers,

distributors, retailers, brokers, forwarders, shippers, consignees, carriers, banks, insurers, port authorities, etc. It replaces the usual paper documents with electronic files through uniformly-built messages that follow international standards. By using UN/EDIFACT, local EDI projects, such as the one for Port Klang, can grow without fear of technological obsolesence. Similarly, multimodal transport operators will be able to use UN/EDIFACT when they wish to establish regular means of communication with their clients in order to facilitate close supervision of the movement of goods from door to door.

93. UN/EDIFACT sets out to "structure", i.e. to construct in an organized configuration, the various information elements which have to pass from one computer to another to complete the transaction, in the same way as a language is the structuration of words into sentences used to convey a meaningful message to the interlocutor. By analogy with a language, UN/EDIFACT provides rules for assembling "words" into meaningful groupings which in turn are assembled into "sentences" on the basis of "grammatical rules". UN/EDIFACT thus includes syntax rules governing the assembly of data elements into segments which are grouped into messages. When such messages comply with the UN/EDIFACT syntax rules and have been approved by Working Party No. 4, they receive the designation United Nations Standard Messages (UNSM).

94. In some cases, the functions of messages may be equivalent to those of traditional paper documents, while in other cases messages may represent separate tasks, or separate steps in the performance of a given task, which, when combined, could be equivalent to the overall function of an existing document. A message may also be equivalent to several documents, as EDI is not a mere electronic transcription of existing paper-based procedures, but should lead to a substantial rationalization of the information flow.

95. Examples of messages which are equivalent to one traditional paper document are the "Commercial Invoice message" (a message claiming payment for goods or services supplied under conditions agreed between the seller and the buyer), the "Despatch Advice message" (a message which enables the sender to specify the contents of a shipment of goods, as well as additional information relating to the shipment, such as order information, product description, physical characteristics, type of packaging, marking, carrier information and configuration of goods within the transport equipment), or the "Purchase Order message" (a message specifying details for goods or services ordered under conditions agreed between the seller and the buyer).

96. An example of "progressive transfer" of information might be a "Booking message" sent in several phases: first, the transport operator needs a rough estimate of the space required for the shipment as early as possible to facilitate his planning. The precise details may be supplied by the originator later as they become available, until finally the transport originator has sufficient data to create a bill of lading or a multimodal transport document.

97. An example of a message equivalent to several documents can be found in the "Data Interchange for Shipping Companies" (DISCO) project of the International Chamber of Shipping: the standard message under development is intended for the interchange of cargo-related data between shipping companies and their agents from ports of loading to ports of discharge and vice versa. The information exchanged will have to be collected from exporters, agents,

port authorities, etc. in the form of booking or despatch advice messages and will be used at the discharge end to create arrival notices, freight invoices, freight and cargo manifest messages or equivalent paper documents, as required.

98. In the transport sector, a number of projects are at various stages of implementation: the international electronic transport information service TRANSPOTEL aims at creating an electronic market-place for the transport industry by bringing supply and demand together simply and efficiently. UNICORN is used by ferry operators to book berths and transfers for passengers and space for cars, as well as to issue tickets. The DOCIMEL project aims at replacing the CIM Rail Consignment Note by electronic data interchange between railways, their customers and Customs. The COST306 project is intended for the interchange of goods transport messages. Other projects, such as the Data Interchange for Shipping (DISH) and SHIPNET, both originally launched in the United Kingdom, concern electronic data interchange between shippers, freight forwarders, shipping lines, roll-on/roll-off operators and airlines.

99. In this connection the International Maritime Organization (IMO) recently submitted to its Facilitation Committee a set of proposals concerning six messages covering the clearance of vessels, called EDIMAR. 17/ Similarly, an international forwarding and transport message (IFTM) has been submitted to ECE Working Party No. 4 for approval. This message contains a message framework suitable for multimodal and multiconsignment international forwarding and transport. It can be used by all means of transport, e.g. ocean, air, river, courier, pipeline, rail, road or short-sea.

2. Evolution in container dimensions

100. Harmonization and standardization of equipment and, above all, dimensions and rating of containers are the major elements for the orderly development of multimodal transport. Apart from the introduction of the 8'6" height and the increase of the maximum gross mass of 20' containers to 24 tons, the present ISO 668 standard has not been changed since its introduction in 1964, thereby considerably assisting the growth of containerization and multimodal transport. The two changes, while important, have not affected the intermodality and interchangeability of containers.

101. Deregulation of road transport in the United States and the consecutive introduction of high-cube and super high-cube containers, at first in domestic service and then in the trans-Pacific trades and finally the trans-Atlantic trades, has created an entirely new situation in this area. The United States Technical Advisory Group for Standardization of Freight Containers has been considering a new standard for "Requirements for Domestic Dry Van Cargo Containers" with the following parameters:

Width	8 feet 6 inches	(2.59 m)
Height	9 feet 6 inches	(2.90 m)
Length	40 feet	(12.19 m)
	45 feet	(13.72 m)
	48 feet	(14.63 m)
	53 feet	(16.15 m)
Maximum gross mass	67,000 pounds	(30,481 kg)

The upper and bottom fitting arrangements of these containers correspond to the arrangement of corner fittings of 40 ft ISO containers.

102. These parameters have been taken into consideration by the ISO Working Group "Future Containers" in relation to the proposed future-generation container standards. According to recent information on the work of the Working Group, the proposals for 24'6" and 49' length containers (from the European side) and 48' and 53' (from the American side) are being considered.

103. It should be noted that the number of high-cube containers has grown considerably in recent years. The number of high-cubes was only 2.6 per cent of the total world container population in 1980, but in 1988 it increased to about 221,000 TEUs, or 4.5 per cent of the total.

104. Another development in 1988 was the introduction of 40' dry cargo containers conforming to all the ISO standard requirements but having a width of 2.5 m. The design of the corner posts, the endwall and the door permitted this container design to be compatible with the 8' cell guide system on container ships. This permits the stowage of 24 Europallets (1200 x 1000 mm) instead of 21 in the usual standard-type container. Several short-sea European operators introduced the 2.5 m width containers in their services during 1988.

105. The European Committee for Standardization (CEN) TC 119 "Swap bodies for combined goods transport road/rail" has been working for some time on standardization of the equipment used for combined rail/road transport in Europe. In May 1988 the CEN/TC 119 approved the following dimensions and weights for general purpose swap bodies Class C: 18/

Length:	7150 mm, 7420 mm, 7820 mm
Width:	2500 mm max; except for certain thermal swap bodies which, according to Council Directive No. 88/218/EEC, are allowed a maximum width of 2600 mm
Height:	2670 mm
Rating:	16 t max.

106. During the discussion of developments in container standards at the thirteenth session of the Committee on Shipping (March 1988), developing countries expressed concern over the proliferation of containers with bigger dimensions and ratings than those which were prescribed by the present ISO standard and to which their containerization facilities were oriented. This change would require adaptations in their transport infrastructure that they could not afford, given their limited resources.

107. At that same session, the Committee on Shipping adopted resolution 61 (XIII) in which it instructed the UNCTAD secretariat to closely monitor developments in ISO meetings related to developments in container dimensions and ratings, especially in Technical Committee 104, and to report at regular intervals to States members of UNCTAD and to the Committee on Shipping. It also encouraged all States members of UNCTAD to participate actively in ISO's work on container standards.

108. The question relating to the evolution of the weight and dimension of loading units and its consequences on the organization of inland transport was brought to the attention of the ECE Working Party on Combined Transport. The Working Party agreed that in modifying existing container standards the intermodality and interchangeability of loading units should be safeguarded as much as possible. It was noted that what is acceptable in the United States,

Canada or the Far East is not necessarily acceptable in Europe or in developing countries in other regions, and vice versa. The Working Party agreed on a number of principles that should be taken into account by standardization organizations, such as ISO, in elaborating new standards for loading units in combined transport.

109. According to those principles, it is important to:

Ensure the intermodality of loading units;

Take into account internationally agreed standard unit loads (1000 x 1200 mm);

Retain compatibility with European pallet dimensions (800 x 1200 mm; 1000 x 1200 mm);

Take account of environmental and safety aspects of road traffic, including weights and dimensions;

Take into consideration economic aspects relating to all participants in the relevant transport chains. 19/

3. Identification of containers by means of automated data processing

110. An automatic container identification system is currently being discussed in ISO. A common standard for such a system is desirable to ensure that all containers could be identified at any place in the world using the same identification system and generating the same data element.

111. The system under consideration consists of a small, solid-state transponder unit (tag) fixed to the upper side wall of the container. This tag keeps electronically the alpha-numeric unit code of the container, as well as its size, length and tare weight. ISO proposes to store only this information on the tag, as it is container-specific and will not change over the life of the container. In principle, however,the tag is freely programmable and could hold any other information necessary for efficient container handling (type of cargo, actual weight, destination, etc.).

112. The information on the tag will be read by an interrogator operating on high-frequency radio waves. The interrogator unit will decode the modulation of the radio wave reflected by the tag on the container and transmit this data segment to any receiver requesting the information.

113. It is expected that a Draft International Standard on the performance requirements of such an automatic container identification system will be published in 1989. Up to now, some difference exists between the different countries' positions in relation to the radio wave frequency to be utilized for this system. It was noted that two major American liner-operating companies have already begun to equip their container fleets, chassis and double-stack railway wagons with automated data identification systems.

114. The possibility of bar coding of containers is also under study.

4. Container production

115. Overcapacity and low container prices in the early and mid-1980s forced many manufacturers out of business, particularly in Europe and in the United States of America. The production of standard dry freight containers was transferred to the Far East and particularly to Republic of Korea which has a comparative advantage in production as compared with developed market-economy countries and which produced about 300,000 TEUs or about 60 per cent of the world total in 1988, and to Taiwan, Province of China, which produced 90,000 TEUs or just under 20 per cent of the world total production figure. The distribution of container production by regions is shown in table 37.

Table 37

Container production in 1987

Region or country/territory	Number produced (TEU)	(%)
Republic of Korea	220 000	50.6
Taiwan, Province of China	82 000	18.8
Japan, China, India	42 500	9.8
Western Europe	48 700	11.2
Eastern Europe	26 000	6.0
Other	15 800	3.6
TOTAL	435 000	100.0

Source: Cargo Systems, January 1988.

116. By the second half and especially by the end of 1988, it became evident that the world container manufacturing industry had insufficient capacity to meet demands for new equipment. This situation resulted in lengthened delivery times and higher prices.

117. The insufficient manufacturing capacity and high level of demand resulted in manufacturers in the Republic of Korea and Taiwan, Province of China, being booked up until the end of 1989. Consequently, new sources of supply are emerging. In 1988 an important production capacity was placed in service in Thailand, where about 18,000 TEUs will be produced annually. A factory with the same capacity has started its activity in Manila (Philippines). China produced about 20,000 boxes in 1987 and is considered by some major lines as a possible container production base in the future.

118. Container manufacturing activity in the USSR is centred in two plants, the largest in Abakan having a total capacity of 40-50,000 containers a year, and the second in Ilichevsk with a capacity of 5,000 TEUs. However, Soviet production is for the time being focused almost exclusively on domestic consumption.

119. The container shortage experienced in 1988 and the rise in the prices quoted by the Far Eastern companies explain the re-entry into the market of some Western European container manufacturers, notably in Belgium and in Italy. Here, however, container production concentrates primarily on the

building of more sophisticated specialized container types, such as refrigerated and tank containers. After a long period of dormancy, containers are once again being manufactured in small quantities in the United States. Domestic container production in the United States seems likely to grow over the next few years.

120. According to an analysis made by a specialized review, 20/ between 50 and 80 per cent of the dry freight containers produced in 1988 were intended to replace older units constructed during the period 1978-1981. This means that despite the entry of around 500,000 TEUs of new dry freight container into the market in 1988, the net increase in the world container fleet is likely to be only between 100,000 and 250,000 TEUs. If the situation persists, many lines and lessors will not be able to guarantee new containers of a given standard in sufficient quantity. This situation has given rise to increasing importance being given to the container repairing industry.

5. Container leasing

121. Of the 5 million TEUs of containers in use all over the world, shipping firms are believed to be in possession of 45.8 per cent of the total, or some 2,200,000 TEUs, whereas leasing companies possess 50.8 per cent, or around 2,430,000 TEUs.

122. In 1988, with some indications of recovery in the liner sector and with the shortage of containers, leasing rates increased, and this has significantly improved the position of the leasing industry. However, in the long term, the forecasts suggest that, overall, world liner trade will become more balanced, and there is a trend among the major operators to decrease the percentage of leased containers in their fleets.

123. Many take-overs and mergers of different types and sizes of container leasing companies occurred during 1988; a number of companies have gone out of business or adapted their activities to the new conditions. The restructuring of the leasing industry has led to the establishment of even larger leasing companies and further concentration in this area. Now each of the two so-called "super lessors" controls a fleet of about half a million TEUs.

124. The rationale behind these "super lessors" is the desire to achieve economies of scale. New technology, particularly computerized management systems, has made leasing companies more efficient, thus permitting them to operate a considerably larger fleet with essentially the same staff.

125. The creation of companies with large container fleets reflects the prevailing trend towards the establishment of consortia and pooling arrangements in the shipping industry as a whole.

126. According to some forecasts, in the 1990s the leasing industry will be characterized by the following three groups of companies: the super lessors with a fleet in the order of 500,000 containers, other lessors that also offer global coverage and have fleets of between 150,000 and 250,000 TEUs, and a large number of smaller lessors with fleets of up to 50,000 TEUs concentrating on particular markets such as specific routes or special types of containers.

C. Other developments related to multimodal transport

1. UNCTAD MT workshops

127. 1988 saw a continued high level of training in the field of multimodal transport. A total of 11 deliveries of the MT-Workshop were made either by UNCTAD alone or by UNCTAD in association with ESCAP. Up to the end of 1988, over 550 persons had taken part in such deliveries. A total of 297 participants from 22 different countries followed the deliveries in 1988. For 1989 a similar number of deliveries is planned, and these deliveries will increasingly be undertaken by local training centres without the need for assistance by UNCTAD.

128. A new workshop especially designed for organizations wishing to become multimodal transport operators has been developed and was validated in January 1989. Its syllabus includes a presentation of the implications of a multimodal transport operation and a detailed analysis of the organization (technical, commercial and financial) of a multimodal transport operator. This workshop is at present only available in French.

2. ECE work on TIR

129. In 1988 the ECE decided to publish a "TIR Handbook". 21/ This handbook contains the text of the TIR Convention, 1975, relevant comments and other useful information for Customs authorities and transport operators. The handbook is available in English and French.

Chapter VII

OTHER DEVELOPMENTS

A. United Nations Convention on a Code of Conduct for Liner Conferences

130. During 1988, three more States, namely Mauritania, Somalia and Zambia, became Contracting Parties to the United Nations Convention on a Code of Conduct for Liner Conferences, which came into force on 6 October 1983. Thus, at the end of March 1989, the total number of States Contracting Parties to the Convention stood at 73. 22/

131. In accordance with the provisions of article 52 of the Convention, a Review Conference was convened in Geneva from 31 October to 18 November 1988 in order "to review the working of the Convention, with particular reference to its implementation and to consider and adopt appropriate amendments". All States were invited to attend the Review Conference. The Conference was attended by 102 States, including 63 States Contracting Parties. However, a substantial part of the time allotted to the Review Conference was taken up in trying to resolve differences in respect of certain procedural questions. Since no agreement on the rules of procedure could be reached at the end of the second week, it was agreed to commence discussions on the substantive issues while the President of the Conference was entrusted with the task of trying to find a solution to the outstanding questions relating to the rules of procedure. Principally, these outstanding questions related to the extent and manner to which States, non-Contracting Parties, should participate in decision-making at the Review Conference.

132. Five sets of specific issues relating to the implementation and working of the Convention were identified by the UNCTAD secretariat as appropriate for consideration by the Review Conference. These cover:

- The implications for the Convention of the technological and structural changes in world liner shipping;
- The scope of application of the Convention;
- Reservations to the Convention;
- Modalities of implementation;
- The activities of non-conference lines in liner trades to which the Convention applies.

During the session there was time available only for a general exchange of views on these matters. At the conclusion of the session, a resolution was adopted unanimously requesting the Secretary-General of the United Nations to convene a resumed session of the Review Conference in 1989 after agreement had been reached between States on the outstanding issues relating to the rules of procedure through consultations to be undertaken by the President of the Conference and the Secretary-General of UNCTAD.

133. The resolution adopted by the Review Conference recognized the continuing validity of the Convention and invited all States entitled to become contracting parties, which have not yet done so, to consider ratifying or acceding to the Convention.

B. United Nations Convention on International Multimodal Transport of Goods

134. The United Nations Convention on International Multimodal Transport of Goods, 23/ which was adopted by consensus on 24 May 1980 by the United Nations Conference of Plenipotentiaries, was open for signature in New York from 1 September 1980 to 31 August 1981 and remained open for accession thereafter. It will enter into force 12 months after 30 States have become Contracting Parties by definitive signature, ratification or accession. By January 1989, five countries - Chile, Malawi, Mexico, Rwanda and Senegal - had ratified or acceded to the Convention, while three countries - Morocco, Norway and Venezuela - had signed the Convention subject to ratification.

C. United Nations Convention on the Carriage of Goods by Sea (Hamburg Rules)

135. This Convention, 24/ which was adopted on 30 March 1978 by a conference of plenipotentiaries, was opened for signature in New York from 31 March 1978 to 30 April 1979 and has remained open for accession since then. It will enter into force 12 months after 20 States have become Contracting Parties by definitive signature, ratification or accession. By January 1989 14 countries, namely Barbados, Botswana, Chile, Egypt, Hungary, Lebanon, Morocco, Nigeria, Romania, Senegal, Sierra Leone, Tunisia, Uganda and the United Republic of Tanzania, had ratified or acceded to the Convention, while 22 countries - Austria; Brazil; Czechoslovakia; Denmark; Ecuador; Finland; France; Germany, Federal Republic of; Ghana; the Holy See; Madagascar; Mexico; Norway; Pakistan; Panama; Philippines; Portugal; Singapore; Sweden; the United States of America; Venezuela and Zaire - had signed the Convention subject to ratification.

D. United Nations Convention on Conditions for Registration of Ships

136. The United Nations Convention on Conditions for Registration of Ships was adopted by consensus on 7 February 1986 by the United Nations Conference on Conditions for Registration of Ships at the fourth part of its session. 25/ The Convention will enter into force 12 months after the date on which not less than 40 States, the combined tonnage of which amounts to at least 25 per cent of world tonnage stipulated in annex III to the Convention, have become Contracting Parties to it.

137. By the end of March 1989, the Convention had been ratified by Côte d'Ivoire, Hungary, Iraq, Libyan Arab Jamahiriya and Mexico, while the following 10 States had signed the Convention subject to ratification, acceptance or approval: Algeria, Bolivia, Cameroon, Czechoslovakia, Egypt, Indonesia, Morocco, Poland, Senegal, USSR.

E. UNCTAD Committee on Shipping

138. The UNCTAD Committee on Shipping held its thirteenth regular session in Geneva from 14 to 22 March 1988. 26/ The Committee considered a large number of issues in relation to world shipping and multimodal transport, including the question of the prolonged imbalance between supply and demand in ocean shipping and the elaboration of practical measures to be taken in order to bring about a balanced situation in the shipping industry. Members of the Committee considered that, on the whole, there were signs of improvement in the situation, although States were urged to intensify measures to bring about a more balanced situation in world shipping and shipbuilding. The Committee

requested the UNCTAD secretariat to continue to monitor developments in this respect and report thereon at its next session. The Committee also discussed a considerable number of other issues relating to international maritime policy and international co-operation in ocean shipping.

139. The Committee adopted two resolutions and one decision in which it, inter alia, requested the Secretary-General of UNCTAD to convene during 1989 a group of experts in order to propose an appropriate framework and modalities of inter-regional co-operation in the field of shipping services. Its next session will be devoted primarily to the consideration of issues in the field of multimodal transport, as well as the development of co-operation among developing countries in the field of maritime transport.

F. UNCTAD Model Clauses on Marine Hull and Cargo Insurance

140. The UNCTAD Model Clauses on Marine Hull and Cargo Insurance, which were drafted by the Working Group on International Shipping Legislation and endorsed by the Trade and Development Board of UNCTAD in March 1987, are intended to provide guidelines for insurance markets, particularly those of developing countries wishing to develop their own insurance clauses and conditions. They include sets of clauses for both hull and cargo insurance. For hull insurance, two alternative sets of clauses have been formulated: one provides for "all risks" cover, and the other is a "named perils" version. For cargo insurance there are three sets of clauses providing "all risks", "named perils" and "intermediate" coverage. The UNCTAD Model Clauses are to be reproduced shortly, together with a booklet containing detailed explanations concerning their practical meaning and use.

G. Maritime liens and mortgages

141. The Joint Intergovernmental Group of Experts on Maritime Liens and Mortgages and Related Subjects, established by UNCTAD and IMO, has met five times. The work has, so far, been confined to the review of the existing international Conventions on Maritime Liens and Mortgages and the preparation of a draft set of articles for a convention on maritime liens and mortgages. The draft articles cover such issues as: recognition and enforcement of mortgages, hypothèques and charges; claims to be granted maritime lien status and their priority; rights of retention; extinction of maritime liens; effects of forced sale and provisions dealing with temporary change of flag.

142. The sixth and final session of the Joint Group is to be held in London from 25 to 29 September 1989 to carry out the final reading of the text of the revised draft articles on maritime liens and mortgages and to examine the scope of the revision which may be required in respect of the 1952 Convention on Arrest of Ships.

H. Maritime fraud

143. The work of UNCTAD in the field of maritime fraud in 1988 resulted in the establishment of the Maritime Advisory Exchange (MAE) - known during its preparatory stage as the Maritime Fraud Prevention Exchange. The MAE is to provide a focal point for all information necessary for combating maritime fraud. It is established, under the auspices of UNCTAD, by the organizations involved in providing shipping information, namely the Baltic and International Maritime Council (BIMCO), the International Chamber of Commerce

(ICC) and Lloyd's of London Press Ltd. The secretariat of the MAE receives all enquiries and transmits them to its operating companies, namely, BIMCO Services, International Maritime Bureau and Lloyds Maritime Information Services, for direct reply. The MAE, which is located in London, started operation from 1 December 1988.

I. UNCTAD Minimum Standards for Shipping Agents

144. These Standards have been prepared by the UNCTAD secretariat in close collaboration with the organizations involved in shipping agency matters and have been endorsed by the Committee on Shipping of UNCTAD. They include provisions regarding "professional qualifications", "financial qualification" and "code of professional conduct". They are intended to serve as guidelines for national authorities and professional associations in the preparation of their own standards to be applicable to shipping agents.

J. UNCTAD training programmes in shipping and ports

145. During 1988 the UNCTAD secretariat continued and extended its activities for training of management in the field of shipping, ports and multimodal transport. The ad hoc activities included:

(a) Secretariat contributions to external courses where the objectives were considered sufficiently relevant (e.g. a port planning seminar in China);

(b) Organization of seminars where special needs were detected (e.g. a seminar in Antwerp for container terminal managers);

(c) Arrangement of individual fellowships or study tours as part of technical assistance projects (e.g. an Indian port official to study equipment maintenance as practised in the United Kingdom).

On a more widespread basis, the secretariat has continued to promote its two programmes for the local training of management staff in developing countries (IPP - Improving Port Performance and TRAINMAR) and has started a new programme to facilitate on-the-job training (JOBMAR).

146. In 1988 two IPP training packages were in regular use: IPP1 for the management of general cargo operations, and IPP2 for container terminal development policy. IPP1 is now conducted exclusively by trainers from developing countries - either in their own countries or in others by special co-operation arrangements. IPP2, on the other hand, is conducted only by a small number of specially qualified trainers, generally from industrialized countries. This package may be used both for the training of senior managers and as an appreciation seminar for top decision-makers. As well as for training, during 1988 (as in 1987) it was also used as a format to enable individual countries facing major problems with container terminal performance to examine these problems. During 1988 progress was made with developing two new packages - IPP3 for equipment management and IPP4 for equipment procurement - which will be ready for use during 1989. Linked with these packages, a set of written and audiovisual materials on characteristics of container handling equipment were published and made available for a nominal payment.

147. The TRAINMAR programme, which has as its objective the reinforcement of local training activities through the provision of pedagogic skills, enforcement of professional standards and the encouragement of co-operation between centres, has continued to expand. In addition to the 22 centres already co-operating on a full member basis, new centres in Africa, Latin America and the Middle East started to co-operate through association with existing centres. The principle of regional networks was reinforced and, at a General Meeting held in Bremen, the basis for a permanent system of co-operation was discussed. This meeting was attended by 60 delegates from outside the host country, representing 41 countries. Two regions undertook to take steps towards establishing permanent network arrangements for co-operation. At the end of the year a new regional programme was established in the Caribbean with generous financial assistance from the Government of France. As well as the courses produced by members in the developing countries, new courses were contributed from Norway and the United States during the year, while the secretariat contributed course materials on multimodal transport.

148. UNCTAD continued to promote and assist with the organization of international workshops on important aspects of international shipping, primarily for experts from developing countries. Thus, in 1988 a workshop on the Review Conference on the United Nations Convention on a Code of Conduct for Liner Conferences was held in Leningrad, with generous financial assistance from the Government of the Union of Soviet Socialist Republics.

149. Arrangements were completed for the introduction from 1 January 1989 of an on-the-job training initiative - JOBMAR. The objective of JOBMAR is to improve the practical management skills of middle/senior managers from developing countries by providing them with an opportunity to work "on the job" in countries with a more advanced maritime sector. JOBMAR emphasizes a "hands-on" approach to acquiring management skills. Experience, which cannot be simulated by traditional training methods, is gained by effectively dealing with business situations under actual commercial pressures, and progress is measured by practical results. The initial programme will be limited to 20-25 participants.

150. Organizations interested in any of the above programmes should contact the Director of the Shipping Division of UNCTAD.

K. New Worldscale

151. The new Worldwide Tanker Nominal Freight Scale, code name New Worldscale, replaced the 20-year-old Worldscale as the basis of chartering of tankers with effect from 1 January 1989. It is a schedule of freight rates applying to tankers carrying oil cargoes in bulk, but the the rates provided are intended solely as a standard reference. As an index of the freight value for a tanker, the New Worldscale is used principally to express spot market tanker freight rates. The index is designed to show the current freight value of a particular class of tanker anywhere in the world, regardless of the voyage it is trading on. It is the basis for most spot charters in the tanker industry. In general, it is considered that the principal advantage of using a scale system is that it can greatly simplify the negotiation of tanker charters. A simple reference in the charter is sufficient to cover all the voyages that are possible within the designated trading areas of that charter. The New Worldscale features include the following revised nominal

factors: a larger standard vessel of 75,000 dwt, steaming at an average speed of 14.5 knots on a daily bunker consumption of 55 metric tonnes of 380 cst fuel oil with a fixed daily hire of $12,000. The New Worldscale Schedule will include the publication of the round voyage mileages used in the calculation for each rate. In future, New Worldscale will be completely recalculated once every 12 months, providing revised rates effective from 1 January of each year that reflect changes in bunker prices and port costs. 27/

L. Currency adjustment factors (CAF)

152. The European Shippers' Council (ESC) made a decision to adopt a policy for the elimination of currency adjustment factors at the ESC meeting in the Hague in September 1988. 28/ CAFs were first introduced as a temporary measure in the late 1960s/early 1970s. ESC claims that shippers' councils have virtually no means of verifying conferences'/independent carriers' figures from which CAF calculations are produced. It also claimed that no other industry, apart from shipping, protects its position by a system comparable to CAFs. In addition, CAFs should no longer be relevant in view of currency hedging techniques which are now widely used. It is not clear to what extent conferences may be prepared, at the moment, to reconsider this issue.

Notes

1/ Based on Institute of Shipping Economics and Logistics (Bremen), Shipping Statistics, No. 9, 1988, p. 20.

2/ Thus, a publication by the International Shipping Federation (London) entitled "Guide to International Ship Registers" now contains fact-sheets regarding the following countries or territories: Antigua and Barbuda, Bahamas, Bermuda, Cayman Islands, Cyprus, Gibraltar, Honduras, Hong Kong, Isle of Man, Kerguelen, Liberia, Luxembourg, Malta, Mauritius, Netherlands Antilles, Norwegian International Register, Panama, St. Vincent and the Grenadines, Singapore, Sri Lanka, Turks and Caicos Islands, Vanuatu.

3/ In order of importance: Philippines, Hong Kong, Singapore, Republic of Korea, Brazil, India, Iran (Islamic Republic of), Yugoslavia, Malta, Saudi Arabia.

4/ Indonesia, Argentina, Mexico, Egypt, Iraq, Libyan Arab Jamahiriya, Vanuatu, Venezuela, Saint Vincent and the Grenadines, United Arab Emirates.

5/ Surplus tonnage is defined as tonnage which is not fully utilized owing to slow steaming, lay-up status, or lying idle for reasons other than lay up (i.e. casualty, storage, under repair, etc.). For the calculation of surplus tonnage in the dry bulk and tanker sectors, a proportion of the total combined carrier fleet has been allocated to either dry bulk or oil trades according to an analysis of trading patterns, and the estimated surplus in each sector has been calculated accordingly.

6/ Lloyd's List (London), 19 December 1987 and 17 January 1989.

7/ Lloyd's List (London), 17 January 1989.

8/ International Transport Journal (Basel) 1988, No. 30, p. 293.

9/ See table 17 and Lloyd's Shipping Economist (London), November 1988, p. 36.

10/ Fearnleys (Oslo), Review 1988, p. 27.

11/ Fearnleys (Oslo), Review 1987, p. 37, Review 1988, p. 39.

12/ Fearnleys (Oslo), Review 1988, p. 38.

13/ Japan Maritime Gazette.

14/ Containerisation International, March 1988, pp. 47-48.

15/ Japan Maritime Gazette, 20 December 1988, pp. 4-5.

16/ Journal of Commerce, 21 January 1988.

17/ IMO FAL forms 1-6.

18/ Class C means that all swap bodies having this designation are equipped with bottom fittings positioned according to the specification for IC(20') ISO-Containers.

19/ TRANS/WP24/41, pp. 48-49.

20/ Container management, December 1988, pp. 27-29.

21/ TIR Handbook, Customs Convention on the international transport of goods under cover of TIR carnets (TIR Convention), ECE/TRANS/TIR/1 (United Nations publication, Sales No. E.88.VIII.1, ISBN 92-1-139026-5).

22/ Algeria; Bangladesh; Barbados; Belgium; Benin; Bulgaria; Burkina Faso; Cameroon; Cape Verde; Central African Republic; Chile; China; Congo; Costa Rica; Côte d'Ivoire; Cuba; Czechoslovakia; Denmark; Egypt; Ethiopia; Finland; France; Gabon; Gambia; German Democratic Republic; Germany, Federal Republic of; Ghana; Guatemala; Guinea; Guyana; Honduras; India; Indonesia; Iraq; Jamaica; Jordan; Kenya; Kuwait; Lebanon; Madagascar; Malaysia; Mali; Mauritania; Mauritius; Mexico; Morocco; Netherlands; Niger; Nigeria; Norway; Pakistan; Peru; Philippines; Republic of Korea; Romania; Saudi Arabia; Senegal; Sierra Leone; Somalia; Sri Lanka; Sudan; Sweden; Togo; Trinidad and Tobago; Tunisia; Union of Soviet Socialist Republics; United Kingdom (also on behalf of Gibraltar and Hong Kong); United Republic of Tanzania; Uruguay; Venezuela; Yugoslavia; Zaire; Zambia.

23/ For the text of the Convention, see United Nations Conference on a Convention on International Maritime Transport, vol. I, Final Act and Convention on International Multimodal Transport of Goods (United Nations publication, Sales No. E.81.II.D.7 (vol.I)).

24/ For the text of the Convention, see United Nations Conference on the Carriage of Goods by Sea (United Nations publication, Sales No. E.80.VIII.1).

25/ For the text of the Convention, see document TD/RS/CONF/23.

26/ The Committee's report is contained in document TD/B/C.4(XIII)/Misc.2 (TD/B/1170-TD/B/C.4/318).

27/ Lloyd's Shipping Economist (London), December 1988, p. 10, Fairplay International (London), 19 January 1989, p.11.

28/ Containerisation International (London), November 1988.

Annex I

CLASSIFICATION OF COUNTRIES AND TERRITORIES

Code 1 -	Canada	United States of America
Code 2 -	Japan	
Code 3 -	Australia	New Zealand
Code 4 -	Austria (L)	Italy
	Belgium	Luxembourg (L)
	Denmark	Monaco
	Faeroe Islands	Netherlands
	Finland	Norway
	France	Portugal
	Germany, Federal Republic of	Spain
	Gibraltar	Sweden
	Greece	Switzerland (L)
	Iceland	Turkey
	Ireland	United Kingdom of Great Britain and Northern Ireland
	Israel	
Code 5 -	South Africa	
Code 6 -	Albania	Poland
	Bulgaria	Romania
	Czechoslovakia (L)	Union of Soviet Socialist Republics
	German Democratic Republic	
	Hungary (L)	
Code 7 -	China	Viet Nam
	Democratic People's Republic of Korea	
Code 8 - 8.1	Northern Africa	
	Algeria	Morocco
	Egypt	Tunisia
	Libyan Arab Jamahiriya	
8.2	Western Africa	
	Angola	Guinea-Bissau
	Benin	Liberia
	Burkina Faso (L) (absent 78)	Mali (L) (absent 78)
	Cameroon	Mauritania
	Cape Verde	Nigeria
	Congo	St. Helena
	Côte d'Ivoire	Sao Tome and Principe
	Equatorial Guinea	Senegal
	Gabon	Sierra Leone
	Gambia	Togo
	Ghana	Zaire
	Guinea	

Western Sahara dropped in this list

8.3 Eastern Africa

Burundi (L)
Comoros
Djibouti
Ethiopia
Kenya
Madagascar
Mauritius
Mozambique
Reunion
Seychelles
Somalia
Sudan
Uganda (L)
United Republic of Tanzania
Zambia (L)

Code 9 - 9.1 Caribbean and North America

Anguilla (absent in 78)
Antigua and Barbuda
Aruba (absent in 78)
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 (absent in 78 under separate code)
Turks and Caicos Islands
United States Virgin Islands

9.2 Central America

Belize
Costa Rica
El Salvador
Guatemala
Honduras
Mexico
Nicaragua
Panama

9.3 South America - Northern seaboard

Guyana
French Guyana
Netherlands Antilles
Suriname
Venezuela

9.4 South America - Western seaboard

Chile
Colombia
Ecuador
Peru

9.5 South America - Eastern seaboard

Argentina
Bolivia (L)
Brazil
Falkland Islands (Malvinas) a/
Paraguay (L)
Uruguay

Code 10-10.1 Western Asia

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

10.2 Southern and Eastern Asia

Bangladesh
Bhutan
Brunei Darussalam
Democratic Kampuchea
Hong Kong
India
Indonesia
Macau
Malaysia
Maldives
Pakistan
Philippines
Republic of Korea
Singapore
Sri Lanka
Thailand
Union of Myanmar

Code 11 - Malta
Yugoslavia

Code 12 - American Samoa
Christmas Island (Australia)
Fiji
French Polynesia
Guam
Kiribati
Nauru
New Caledonia
Papua New Guinea
Samoa
Solomon Islands
Tonga
Tuvalu
Vanuatu
Wake Island

Notes

1. This classification is for statistical purposes only and does not imply any judgement regarding the stage of development of any country.

2. 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: these countries are marked "(L)".

3. 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
- Socialist countries of Eastern Europe and Asia: Codes 6 and 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

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

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 areas, 1970, 1986 and 1987
(Million 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	1970	0.7	5.3	308.0	314.0	73.4	103.6	170.0	347.0
	1986	0.6	23.6	425.0	449.2	184.4	88.5	204.7	477.6
	1987	1.4	23.8	449.9	475.1	208.7	82.8	204.9	496.4
Japan	1970	-	0.3	41.6	41.9	170.4	30.4	235.1	435.9
	1986	-	0.4	87.2	87.6	202.6	70.7	324.7	597.9
	1987	-	1.3	82.4	83.7	158.7	69.6	392.8	621.1
Australia and New Zealand	1970	-	1.3	92.3	93.6	18.8	2.9	15.4	37.1
	1986	6.9	1.0	238.3	246.2	1.8	6.9	17.8	26.5
	1987	7.3	1.3	234.8	243.4	5.5	7.5	17.8	30.8
Europe	1970	28.6	82.3	244.8	355.6	621.0	100.4	469.0	1 190.4
	1986	168.9	85.7	445.8	700.4	391.7	164.2	687.6	1 243.6
	1987	164.8	106.3	429.0	700.1	401.5	174.2	672.1	1 247.8
South Africa	1970	-	-	13.2	13.2	8.8	2.6	6.2	17.6
	1986	-	-	71.8	71.8	18.0	0.3	8.2	26.5
	1987	-	-	71.4	71.4	17.8	0.3	8.4	26.5
Subtotal: developed market-economy countries	1970	29.3	89.2	699.9	818.3	892.4	239.9	895.7	2 028.0
	1986	176.4	110.7	1 268.1	1 555.2	798.5	330.6	1 243.0	2 372.1
	1987	173.5	132.7	1 267.5	1 573.7	792.2	334.4	1 296.0	2 422.6
Socialist countries of Eastern Europe and Asia									
Socialist countries of Eastern Europe (excluding USSR)	1970	0.2	3.4	34.8	38.5	10.8	3.0	29.2	43.0
	1986	-	14.5	52.6	67.1	28.4	1.0	58.5	87.9
	1987	-	16.4	47.3	63.7	29.2	0.9	61.0	91.1
USSR	1970	38.0	22.9	46.0	106.9	2.5	-	11.9	14.4
	1986	65.0	50.3	40.3	155.6	7.3	0.6	72.5	80.4
	1987	65.1	52.0	40.4	157.5	7.8	0.6	75.3	83.7

Annex II (continued)

Area b/	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products			Crude	Products		
Socialist countries of Asia	1970	-	0.1	13.3	13.4	5.4	0.4	24.4	30.2
	1986	38.0	6.8	25.6	70.5	3.1	1.3	73.0	77.5
	1987	40.0	7.9	27.0	74.9	3.4	1.4	73.5	78.3
Subtotal: socialist countries of Eastern Europe and Asia	1970	38.2	26.4	94.1	158.9	18.7	3.4	65.5	87.6
	1986	103.0	71.6	118.5	293.2	38.8	2.9	204.0	245.8
	1987	105.1	76.3	114.7	296.1	40.4	2.9	209.8	253.1
Developing countries and territories									
Northern Africa	1970	221.4	5.6	28.3	255.4	9.9	5.9	17.9	33.8
	1986	144.9	29.7	40.6	215.3	56.3	4.2	56.5	117.1
	1987	144.6	28.7	39.8	213.1	56.5	4.4	55.2	116.1
Western Africa	1970	60.5	1.0	61.5	123.0	3.6	4.0	14.8	22.4
	1986	96.8	3.2	50.6	150.5	4.1	2.9	27.1	34.1
	1987	93.4	3.0	52.3	148.7	3.8	3.1	24.1	31.0
Eastern Africa	1970	-	1.2	16.1	17.3	5.5	2.6	8.3	16.4
	1986	-	0.6	6.1	6.7	4.9	2.1	9.4	16.4
	1987	-	0.7	6.9	7.6	5.4	2.8	11.6	19.8
Caribbean and North America	1970	-	1.4	28.4	29.8	23.5	4.5	11.2	39.2
	1986	13.9	10.9	24.5	49.3	28.9	9.3	20.3	58.5
	1987	12.3	11.0	23.1	46.4	25.7	9.3	18.1	53.1
Central America	1970	-	3.7	11.9	15.6	6.0	5.5	6.5	18.0
	1986	61.3	5.6	13.5	80.4	3.6	2.7	14.0	20.3
	1987	75.0	6.1	16.8	97.9	3.6	2.8	15.0	21.4
South America: Northern Seaboard	1970	131.1	11.8	36.0	278.9	63.1	3.0	6.7	72.9
	1986	44.1	19.3	16.3	78.7	-	1.5	17.4	18.9
	1987	39.2	20.0	16.5	75.7	-	1.5	18.1	19.6
South America: Western Seaboard	1970	4.6	1.6	29.8	35.9	4.1	1.5	5.9	11.5
	1986	16.0	7.7	28.3	51.9	3.5	1.0	12.1	16.5
	1987	16.2	8.8	29.7	54.7	3.3	1.0	14.8	19.1
South America: Eastern Seaboard	1970	0.1	1.1	54.3	55.5	18.8	1.0	19.8	39.6
	1986	0.4	6.5	184.3	191.2	25.2	1.9	26.1	53.2
	1987	0.1	3.9	177.2	181.2	22.4	2.8	27.3	52.5

Annex II (continued)

Area b/	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products			Crude	Products		
Western Asia	1970	588.7	65.6	3.3	658.6	0.1	1.0	13.1	14.2
	1986	387.4	70.7	21.0	479.1	15.0	6.6	107.0	128.6
	1987	371.3	75.2	28.8	475.3	13.9	6.4	111.3	131.6
Southern and Eastern Asia (n.e.s.)	1970	35.0	23.7	89.3	148.0	54.7	23.3	61.9	139.9
	1986	80.0	72.0	158.3	310.4	118.6	31.0	267.8	417.4
	1987	76.0	73.5	188.9	338.4	118.4	31.6	261.6	411.6
Developing countries in Europe	1970	-	-	-	..	-	0.3	0.7	1.0
	1986	-	1.0	6.7	7.7	7.9	2.2	16.3	26.4
	1987	-	1.0	7.8	8.8	8.0	2.3	17.9	28.2
Oceania (n.e.s.)	1970	-	0.2	9.5	9.7	0.6	1.6	2.9	5.1
	1986	-	0.3	8.1	8.4	-	2.0	3.2	5.2
	1987	-	0.3	7.4	7.7	-	2.4	3.2	5.6
Subtotal: developing countries	1970	1 041.4	216.9	368.4	1 627.7	189.9	54.2	169.7	414.0
	1986	843.8	227.5	558.3	1 629.6	268.0	67.4	577.2	912.6
	1987	828.1	232.2	595.2	1 655.5	261.0	70.4	578.2	909.6
World total c/	1970	1 110.0	330.0	1 165.0	2 605.0	1 101.0	302.0	1 127.0	2 530.0
	1986	1 123.2	409.8	1 945.0	3 478.0	1 105.3	400.9	2 024.3	3 530.5
	1987	1 106.7	441.2	1 977.4	3 525.3	1 093.7	407.7	2 083.9	3 585.3

Source: Compiled on the basis of data provided by the Statistical Office of the United Nations, the UNCTAD data bank, and other 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. Great Lakes and St. Lawrence trade (in dry cargo) amounted to 42 million tons in 1970, 28 million tons in 1986 and 27 million tons in 1987.

b/ See annex I for the composition of groups.

c/ Figures rounded to the nearest million.

Annex III

MERCHANT FLEETS OF THE WORLD BY FLAG OF REGISTRATION, a/ GROUPS OF COUNTRIES AND TYPES OF SHIPS, b/ IN GRT AND DWT, AS AT 1 JULY 1988
(dwt figures are shown in parentheses)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
World total e/	397 087 224 (627 953 298)	121 774 424 (234 878 649)	127 039 805 (225 831 631)	68 948 475 (94 386 304)	22 108 601 (24 207 328)	57 215 919 (48 649 386)
Developed market-economy countries and territories						
Australia	2 365 923 (3 648 909)	675 401 (1 164 962)	1 177 557 (2 029 695)	114 053 (149 236)	107 116 (111 498)	291 796 (193 518)
Austria	201 251 (350 617)	-	127 823 (232 715)	73 428 (117 902)	-	-
Belgium	2 118 422 (3 400 961)	117 555 (215 788)	1 164 219 (2 179 271)	120 811 (168 057)	200 067 (217 756)	515 770 (620 089)
Canada	1 207 749 (837 429)	169 589 (260 870)	241 168 (402 862)	35 591 (17 663)	16 083 (14 022)	745 318 (142 012)
Denmark	4 501 727 (6 332 880)	1 576 174 (3 067 104)	162 813 (308 291)	566 549 (648 853)	1 007 454 (1 043 605)	1 188 737 (1 265 027)
Finland	837 952 (810 888)	171 411 (258 004)	69 872 (112 710)	219 652 (268 666)	-	377 017 (171 508)
France	4 506 227 (6 854 064)	1 934 275 (3 796 175)	698 449 (1 196 194)	618 841 (772 724)	560 036 (604 995)	694 626 (483 976)
Germany, Federal Republic of	3 917 257 (4 994 457)	105 359 (203 616)	343 930 (537 394)	1 100 083 (1 670 974)	1 652 067 (1 912 279)	715 818 (670 194)
Gibraltar	3 041 811 (5 795 834)	2 289 260 (4 523 623)	560 130 (985 003)	153 915 (234 822)	-	38 506 (52 386)
Greece	21 978 820 (39 718 620)	8 380 197 (16 819 035)	10 060 094 (18 421 675)	2 287 384 (3 514 354)	200 574 (257 637)	1 050 571 (705 919)
Iceland	174 550 (148 307)	1 039 (1 430)	-	51 336 (87 904)	-	122 175 (58 973)
Ireland	172 768 (172 821)	3 000 (5 375)	-	58 549 (86 564)	15 199 (21 730)	96 020 (59 152)
Israel	545 642 (655 727)	991 (1 897)	42 074 (69 590)	129 228 (175 032)	365 736 (407 686)	7 613 (1 522)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Italy	7 794 247	2 586 627	2 560 817	974 784	251 410	1 420 609
	(11 867 321)	(4 691 290)	(4 571 558)	(1 258 691)	(274 830)	(1 070 952)
Japan	32 074 417	9 457 547	10 846 544	3 856 679	1 838 450	6 075 197
	(48 413 587)	(17 400 929)	(19 802 418)	(5 024 277)	(1 692 973)	(4 492 990)
Luxembourg	1 731	1 731				
	(2 500)	(2 500)	-	-	-	-
Netherlands	3 726 464	368 799	295 423	1 379 622	579 214	1 103 406
	(4 698 468)	(577 319)	(512 772)	(2 041 456)	(566 479)	(1 000 442)
New Zealand	336 808	80 486	26 040	92 008	65 686	72 588
	(378 113)	(126 207)	(42 153)	(94 461)	(66 402)	(48 890)
Norway	9 350 303	4 160 815	1 683 848	667 457	68 691	2 769 492
	(15 235 060)	(8 155 396)	(3 236 963)	(921 374)	(56 042)	(2 865 285)
Portugal	988 844	486 421	266 581	85 186	6 975	143 681
	(1 581 646)	(928 148)	(442 956)	(103 036)	(10 218)	(97 288)
South Africa	485 526	20 978	87 809	276	253 821	122 642
	(522 723)	(33 305)	(169 999)	(400)	(240 356)	(78 663)
Spain	4 415 122	1 600 705	1 105 201	658 810	90 554	959 852
	(7 263 227)	(3 291 282)	(2 045 672)	(1 046 240)	(121 172)	(758 861)
Sweden	2 116 079	149 454	126 509	958 162	87 884	794 070
	(1 926 589)	(247 886)	(203 729)	(964 020)	(71 660)	(439 294)
Switzerland	259 427	799	210 216	31 843		16 569
	(434 041)	(1 132)	(355 090)	(47 692)	-	(30 127)
Turkey	3 281 153	818 551	1 359 879	882 710		220 013
	(5 441 307)	(1 507 022)	(2 393 840)	(1 406 991)	-	(133 454)
United Kingdom	8 260 431	2 764 063	1 285 754	814 272	1 334 542	2 061 800
	(11 113 525)	(4 950 683)	(2 293 918)	(1 101 971)	(1 264 889)	(1 502 064)
United States of America	16 207 927	7 146 330	689 147	1 332 508	3 305 277	3 734 665
	(23 336 796)	(14 656 137)	(1 325 492)	(936 925)	(3 523 284)	(2 894 958)
Subtotal:	134 868 578	45 067 557	35 191 897	17 263 737	12 006 836	25 338 551
	(205 936 417)	(86 887 115)	(63 871 960)	(22 860 285)	(12 479 513)	(19 837 544)
Open-registry countries						
Bahamas	8 962 892	4 354 780	2 368 493	1 032 500	26 338	1 180 781
	(15 020 793)	(8 478 015)	(4 153 131)	(1 396 992)	(41 738)	(950 917)
Bermuda	3 774 298	2 835 940	293 572	192 068	32 416	420 302
	(6 874 182)	(5 631 397)	(503 314)	(262 537)	(31 550)	(445 384)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Cyprus	18 390 642 (32 810 581)	5 421 064 (10 849 317)	8 788 904 (15 714 871)	3 405 972 (5 277 196)	317 557 414 536)	457 145 (554 661)
Liberia	49 733 615 (93 987 093)	26 863 515 (55 084 529)	15 646 826 (29 510 984)	2 019 984 (2 689 153)	816 324 (948 997)	4 386 966 (5 753 430)
Panama	44 604 071 (71 476 002)	9 476 123 (18 607 794)	17 924 023 (31 458 276)	9 313 031 (12 618 047)	3 015 704 (3 505 991)	4 875 190 (5 285 894)
Subtotal:	125 465 518 (220 168 651)	48 951 422 (98 651 052)	45 021 818 (81 340 576)	15 963 555 (22 243 925)	4 208 339 (4 942 812)	11 320 384 (12 990 286)
Socialist countries of Eastern Europe and Asia						
Socialist countries of Eastern Europe						
Albania	56 133 (79 940)	-	-	54 894 (79 940)	-	1 239 (-)
Bulgaria	1 392 381 (1 984 308)	292 188 (470 772)	611 563 (968 523)	354 100 (456 141)	19 097 (18 282)	115 433 (70 590)
Czechoslovakia	157 903 (231 720)	-	75 072 (120 091)	82 831 (111 629)	-	-
German Democratic Republic	1 442 840 (1 800 325)	35 860 (63 257)	338 408 (542 513)	748 632 (961 849)	77 620 (84 230)	242 320 (148 476)
Hungary	76 121 (108 015)	-	-	76 121 (108 015)	-	-
Poland	3 489 449 (4 666 786)	207 503 (364 379)	1 603 918 (2 578 026)	1 257 210 (1 449 561)	-	420 818 (274 820)
Romania	3 560 736 (5 356 547)	523 306 (939 260)	1 667 217 (2 748 337)	1 085 694 (1 465 300)	-	284 519 (203 650)
Union of Soviet Socialist Republics	25 783 969 (29 199 278)	4 286 431 (6 643 095)	3 805 342 (6 157 340)	7 578 684 (9 608 984)	785 524 (799 216)	9 327 988 (5 990 643)
Subtotal:	35 959 532 (43 426 919)	5 345 288 (8 480 763)	8 101 520 (13 114 830)	11 238 166 (14 241 419)	882 241 (901 728)	10 392 317 (6 688 179)
Socialist countries of Asia						
China	12 919 876 (19 359 663)	1 742 463 (2 790 040)	4 391 217 (7 462 707)	5 417 409 (7 613 158)	612 061 (821 318)	756 726 (672 440)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Democratic Peoples' Republic of Korea	405 777 (581 714)	12 918 (20 272)	89 208 (141 712)	255 474 (387 982)	- -	48 177 (31 748)
Viet Nam	337 875 (501 493)	15 217 (28 345)	14 200 (23 706)	278 151 (434 618)	- -	30 307 (14 824)
Subtotal:	13 663 528 (20 442 870)	1 770 598 (2 838 657)	4 494 625 (7 628 125)	5 951 034 (8 435 758)	612 061 (821 318)	835 210 (719 012)
Subtotal socialist countries of Eastern Europe and Asia:	49 623 060 (63 869 789)	7 115 886 (11 319 420)	12 596 145 (20 742 955)	17 189 200 (22 677 177)	1 494 302 (1 723 046)	11 227 527 (7 407 191)
Developing countries and territories of Africa						
Algeria	896 691 (1 052 551)	109 051 (182 072)	76 578 (126 041)	207 503 (299 920)	- -	503 559 (444 518)
Angola	91 038 (121 912)	2 052 (3 036)	- -	66 359 (105 553)	- -	22 627 (13 323)
Benin	4 665 (4 760)	- -	- -	3 104 (4 550)	- -	1 561 (210)
Cameroon	57 348 (71 802)	- -	- -	48 268 (66 709)	- -	9 080 (5 093)
Cape Verde	17 148 (25 864)	446 (571)	- -	12 435 (22 451)	- -	4 267 (2 842)
Comoros	1 187 (1 456)	- -	- -	727 (1 055)	- -	460 (401)
Congo	8 458 (10 840)	- -	- -	- -	- -	8 458 (10 840)
Côte d'Ivoire	118 952 (149 337)	789 (1 170)	- -	102 329 (132 977)	- -	15 834 (15 190)
Djibouti	3 051 (2 650)	- -	- -	1 780 (2 300)	- -	1 271 (350)
Egypt	1 226 725 (1 821 298)	254 586 (481 894)	355 829 (585 921)	486 314 (669 377)	- -	129 996 (84 106)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Equatorial Guinea	6 412			6 412		
	(6 700)	-	-	(6 700)	-	-
Ethiopia	74 143	1 317		70 060		2 766
	(94 142)	(2 200)	-	(88 150)	-	(3 792)
Gabon	24 843	347		19 326		5 170
	(29 276)	(262)	-	(26 462)	-	(2 552)
Gambia	3 529			2 538		991
	(5 098)	-	-	(3 952)	-	(1 146)
Ghana	125 679	965		58 122		66 592
	(122 465)	(1 167)	-	(76 935)	-	(44 363)
Guinea	7 179			210		6 969
	(2 927)	-	-	(185)	-	(2 742)
Guinea-Bissau	4 070			1 301		2 769
	(2 846)	-	-	(1 340)	-	(1 506)
Kenya	7 872					7 872
	(4 841)	-	-	-	-	(4 841)
Libyan Arab Jamahiriya	830 172	708 030		79 379		42 763
	(1 463 243)	(1 343 253)	-	(101 110)	-	(18 880)
Madagascar	91 549	8 863		72 656		10 030
	(117 212)	(13 859)	-	(97 432)	-	(5 921)
Malawi	424	424				
	(300)	(300)	-	-	-	-
Mauritania	36 914			1 572		35 342
	(19 617)	-	-	(2 561)	-	(17 056)
Mauritius	156 698		81 399	23 805	21 109	30 385
	(223 422)	-	(152 447)	(32 076)	(29 240)	(9 659)
Morocco	436 997	10 077	92 339	99 008	4 608	230 965
	(593 015)	(19 069)	(162 910)	(130 801)	(10 071)	(270 164)
Mozambique	36 006	885		9 112		26 009
	(27 810)	(1 620)	-	(16 541)	-	(9 649)
Nigeria	586 868	223 136		311 809		51 923
	(851 930)	(436 029)	-	(385 850)	-	(30 051)
Sao Tome and Principe	1 488			495		993
	(1 172)	-	-	(180)	-	(992)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
St. Helena	3 640	490				3 150
	(2 829)	(565)	-	-	-	(2 264)
Senegal	49 113	478		10 803		37 832
	(37 561)	(590)	-	(16 776)	-	(20 195)
Seychelles	3 233					3 233
	(2 491)	-	-	-	-	(2 491)
Sierra Leone	13 716	499		1 598		11 619
	(8 690)	(1 307)	-	(3 096)	-	(4 287)
Somalia	12 785			6 745		6 040
	(15 860)	-	-	(11 455)	-	(4 405)
Sudan	96 699	832		93 082		2 785
	(127 655)	(1 222)	-	(125 609)	-	(824)
Togo	47 772			46 895		877
	(74 682)	-	-	(74 602)	-	(80)
Tunisia	281 456	131 836	37 230	43 773		68 617
	(447 420)	(259 350)	(58 572)	(54 523)	-	(74 975)
United Republic of Tanzania	32 123	3 643		12 702		15 778
	(33 638)	(6 102)	-	(19 707)	-	(7 829)
Uganda	5 091			5 091		
	(8 600)	-	-	(8 600)	-	-
Zaire	56 393			42 299		14 094
	(75 932)	-	-	(61 189)	-	(14 743)
Subtotal:	5 458 127	1 458 746	643 375	1 947 612	25 717	1 382 677
	(7 663 844)	(2 755 638)	(1 085 891)	(2 650 724)	(39 311)	(1 132 280)
Developing countries and territories of America						
Anguilla	3 303			2 677		626
	(5 408)	-	-	(4 652)	-	(756)
Antigua	323 469			250 325	55 059	18 085
	(555 070)	-	-	(451 954)	(84 682)	(18 434)
Argentina	1 876 673	586 250	464 757	582 889	34 140	208 637
	(2 834 008)	(965 317)	(806 427)	(840 533)	(46 704)	(175 027)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Barbados	8 470			4 108		4 362
	(8 839)	-	-	(8 774)	-	(65)
Belize	620			620		
	(805)	-	-	(805)	-	-
Bolivia	9 610			9 610		
	(15 765)	-	-	(15 765)	-	-
Brazil	6 122 836	1 788 721	2 859 175	962 141	86 973	425 826
	(10 103 844)	(3 260 567)	(4 921 454)	(1 298 224)	(111 978)	(511 621)
Cayman Islands	476 505	69 462	102 700	192 074	3 198	109 071
	(664 260)	(117 085)	(176 468)	(286 792)	(4 384)	(79 531)
Chile	603 557	4 167	320 129	141 436	3 245	134 580
	(912 717)	(6 754)	(596 638)	(199 276)	(4 550)	(105 499)
Colombia	412 321	9 309	91 861	300 430		10 721
	(584 586)	(14 684)	(173 451)	(387 692)	-	(8 759)
Costa Rica	15 080			6 275		8 805
	(13 980)	-	-	(10 978)	-	(3 002)
Cuba	912 002	68 184	61 907	622 183		159 728
	(1 218 841)	(103 315)	(100 039)	(862 434)	-	(153 053)
Dominica	2 224			2 120		104
	(4 218)	-	-	(4 218)	-	(-)
Dominican Republic	48 306	674	11 171	33 534		2 927
	(78 081)	(1 635)	(19 356)	(55 498)	-	(1 592)
Ecuador	428 066	156 776	22 010	209 432		39 848
	(608 977)	(281 493)	(37 531)	(261 144)	-	(28 809)
El Salvador	3 819					3 819
	(3 318)	-	-	-	-	(3 318)
Falkland Islands f/	6 907			537		6 370
	(4 125)	-	-	(630)	-	(3 495)
Grenada	516			199		317
	(484)	-	-	(235)	-	(249)
Guatemala	4 694			4 217		477
	(6 450)	-	-	(6 450)	-	(-)
Guyana	14 956	125		5 035		9 796
	(13 261)	(200)	-	(7 156)	-	(5 905)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Haiti	512					512
	(170)	-	-	-	-	(170)
Honduras	582 170	50 033	60 023	406 392	10 470	55 252
	(873 015)	(88 123)	(104 346)	(641 903)	(14 058)	(24 585)
Jamaica	14 433	1 887		7 731	3 442	1 373
	(21 317)	(3 292)	-	(12 915)	(5 110)	(-)
Mexico	1 448 335	471 283	270 966	148 402	8 350	549 334
	(1 985 347)	(788 346)	(408 934)	(209 627)	(11 804)	(566 636)
Montserrat	711			711		
	(1 016)	-	-	(1 016)	-	-
Nicaragua	13 658			11 514		2 144
	(18 191)	-	-	(18 191)	-	(-)
Paraguay	38 567	2 935		29 073		6 559
	(44 272)	(3 880)	-	(36 058)	-	(4 334)
Peru	674 952	197 044	134 365	187 941		155 602
	(896 866)	(336 764)	(230 068)	(273 372)	-	(56 662)
Saint Kitts and Nevis	300			300		
	(550)	-	-	(550)	-	-
Saint Lucia	1 891			1 431		460
	(2 070)	-	-	(1 928)	-	(142)
Saint Vincent and the Grenadines	900 477	137 606	391 183	292 401	30 956	48 331
	(1 420 136)	(254 446)	(648 857)	(439 334)	(34 098)	(43 401)
Suriname	11 457			7 884	1 343	2 230
	(13 706)	-	-	(11 165)	(1 771)	(770)
Trinidad and Tobago	23 857			3 196		20 661
	(13 715)	-	-	(4 510)	-	(9 205)
Turks and Caicos Islands	3 963	890		1 828		1 245
	(5 469)	(1 580)	-	(3 606)	-	(283)
Uruguay	169 939	117 973		14 248	8 488	29 230
	(282 234)	(228 507)	-	(17 512)	(12 470)	(23 745)
Venezuela	982 117	451 548	109 483	264 016	499	156 571
	(1 428 629)	(760 032)	(180 010)	(375 355)	(1 180)	(112 052)
Virgin Islands (British)	6 806			4 302		2 504
	(6 766)	-	-	(5 897)	-	(869)
Subtotal:	16 148 079	4 114 867	4 899 730	4 711 212	246 163	2 176 107
	(24 650 506)	(7 216 020)	(8 403 579)	(6 756 149)	(332 789)	(1 941 969)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Developing countries and territories of Asia						
Bahrain	54 417 (67 891)	2 416 (3 501)	11 627 (20 003)	17 287 (26 524)	- -	23 087 (17 863)
Bangladesh	431 831 (611 905)	59 708 (101 021)	- -	332 043 (494 106)	- -	40 080 (16 778)
Brunei Darussalam	354 313 (345 001)	636 (820)	- -	176 (288)	- -	353 501 (343 893)
Democratic Kampuchea	3 558 (3 839)	- -	- -	998 (1 481)	- -	2 560 (2 358)
Democratic Yemen	11 177 (12 353)	1 886 (3 185)	- -	2 643 (4 234)	- -	6 648 (4 934)
Hong Kong	7 328 984 (12 352 110)	907 188 (1 665 984)	5 354 679 (9 467 395)	273 957 (359 210)	436 797 (475 532)	356 363 (383 989)
India	6 160 773 (9 922 847)	1 713 421 (2 972 314)	2 728 928 (4 676 114)	1 276 392 (1 861 332)	- -	442 032 (413 087)
Indonesia	2 126 016 (2 956 574)	646 376 (1 097 252)	128 832 (187 465)	887 445 (1 310 835)	59 648 (74 825)	403 715 (286 197)
Iran, Islamic Republic of	4 336 609 (7 939 315)	2 716 557 (5 446 192)	1 068 243 (1 794 805)	404 393 (550 109)	- -	147 416 (148 209)
Iraq	953 069 (1 675 923)	727 287 (1 424 120)	- -	100 146 (138 995)	- -	125 636 (112 808)
Jordan	32 198 (47 710)	- -	25 262 (43 832)	- -	- -	6 936 (3 878)
Kuwait	735 318 (1 010 974)	113 318 (196 087)	- -	265 560 (403 908)	138 654 (147 480)	217 786 (263 499)
Lebanon	405 311 (634 525)	25 183 (40 856)	84 477 (146 268)	227 242 (355 835)	4 858 (4 573)	63 551 (86 993)
Malaysia	1 608 155 (2 265 811)	180 274 (317 031)	378 154 (644 346)	365 774 (556 979)	190 254 (225 238)	493 699 (522 217)
Maldives	104 424 (165 425)	3 098 (5 568)	42 897 (72 260)	51 814 (80 660)	- -	6 615 (6 937)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Oman	25 470	432		11 773		13 265
	(16 399)	(542)	-	(6 535)	-	(9 322)
Pakistan	366 059	43 429		299 638		22 992
	(526 234)	(89 937)	-	(425 678)	-	(10 619)
Philippines	9 311 555	475 776	6 906 455	1 408 804	49 199	471 321
	(15 485 093)	(903 905)	(12 253 427)	(1 917 464)	(72 618)	(337 679)
Qatar	308 668	111 736		95 397	85 594	15 941
	(463 385)	(206 505)	-	(150 402)	(91 537)	(14 941)
Republic of Korea	7 333 704	939 673	4 226 738	856 706	366 632	943 955
	(11 524 125)	(1 625 601)	(7 567 014)	(1 250 447)	(396 039)	(685 024)
Saudi Arabia	2 269 398	1 278 293	170 237	321 029	67 109	432 730
	(3 802 471)	(2 406 732)	(309 663)	(479 288)	(75 650)	(531 138)
Singapore	7 208 974	2 373 225	2 286 723	1 186 847	720 397	641 782
	(11 793 498)	(4 487 253)	(4 027 112)	(1 677 795)	(835 901)	(765 437)
Sri Lanka	410 381	5 001	135 068	255 810		14 502
	(557 603)	(8 708)	(207 345)	(335 550)	-	(6 000)
Syrian Arab Republic	64 101			62 555		1 546
	(97 380)	-	-	(96 471)	-	(909)
Thailand	515 314	74 129		357 095	36 362	47 728
	(776 727)	(134 625)	-	(560 399)	(49 799)	(31 924)
Union of Myanmar	272 665	2 935	112 004	123 434		34 292
	(412 508)	(4 713)	(213 404)	(165 366)	-	(29 025)
United Arab Emirates	824 990	450 411	21 992	113 333	170 260	68 994
	(1 311 865)	(796 949)	(38 497)	(178 181)	(214 733)	(83 505)
Yemen	195 876	192 673		1 260		1 943
	(408 490)	(406 640)	-	(1 850)	-	(-)
Subtotal:	53 753 308	13 045 061	23 682 316	9 299 551	2 325 764	5 400 616
	(87 187 981)	(24 346 041)	(41 668 950)	(13 389 922)	(2 663 905)	(5 119 163)
Developing countries of Europe						
Malta	2 685 888	974 743	1 018 526	600 781	28 866	62 972
	(4 518 532)	(1 787 599)	(1 721 269)	(935 912)	(31 295)	(42 457)

Annex III (continued)

	Total	Oil tankers	Bulk carrier c/	General cargo d/	Container ships and lighter carriers	Others
Yugoslavia	3 476 354 (5 487 671)	311 511 (529 076)	1 669 910 (2 906 390)	1 355 229 (1 943 379)	49 329 (64 675)	90 375 (44 151)
Subtotal	6 162 242 (10 006 203)	1 286 254 (2 316 675)	2 688 436 (4 627 659)	1 956 010 (2 879 291)	78 195 (95 970)	153 347 (86 608)
Developing countries and territories of Oceania						
Fiji	37 162 (36 752)	4 933 (7 473)	- -	17 711 (20 347)	- -	14 518 (8 932)
Kiribati	3 538 (2 841)	- -	- -	1 835 (1 626)	- -	1 703 (1 215)
Nauru	60 109 (83 771)	- -	36 976 (59 321)	22 185 (24 450)	- -	948 (-)
Papua New Guinea	37 678 (46 259)	1 984 (3 267)	- -	20 225 (29 996)	- -	15 469 (12 996)
Solomon Islands	8 647 (6 797)	- -	- -	3 358 (4 578)	- -	5 289 (2 219)
Tonga	13 585 (17 991)	- -	- -	11 255 (16 863)	- -	2 330 (1 128)
Tuvalu	526 (458)	- -	- -	353 (250)	- -	173 (208)
Vanuatu	789 506 (1 429 699)	246 336 (512 481)	361 462 (631 156)	124 377 (207 623)	10 488 (17 855)	46 843 (60 584)
Samoa	26 087 (34 751)	- -	- -	24 930 (34 325)	- -	1 157 (426)
Subtotal:	976 838 (1 659 319)	253 253 (523 221)	398 438 (690 477)	226 229 (340 058)	10 488 (17 855)	88 430 (87 708)
Subtotal developing countries and territories:	82 498 594 (131 167 853)	20 158 181 (37 157 595)	32 312 295 (56 476 556)	18 140 614 (26 016 144)	2 686 327 (3 149 830)	9 201 177 (8 367 728)
Other unallocated	4 631 474 (6 810 588)	481 378 (863 467)	1 917 650 (3 399 584)	391 369 (588 773)	1 712 797 (1 912 127)	128 280 (46 637)

Notes

Source: Lloyd's Register of Shipping - Statistical tables, 1988 (London), and supplementary data regarding the Great Lakes fleets of the United States and Canada and the United States Reserve Fleet.

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 of America and Canada and the United States Reserve Fleet.

c/ Ore and bulk carriers of 6,000 grt and over, including ore/bulk/oil carriers.

d/ Including passenger/cargo.

e/ Excluding estimates of the United States Reserve Fleet and United States and Canadian Great Lakes fleets, which amounted respectively to 2.7 million grt (3.4 million dwt), 1.4 million grt (2.5 million dwt) and 1.8 million grt (2.6 million dwt).

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).

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