
Review of maritime transport, 1972-1973



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Review of maritime transport, 1972-1973

**(Review of current
and long-term aspects of maritime transport)**

Report by the secretariat of UNCTAD



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EXPLANATORY NOTES

References to dollars (\$) are to United States dollars unless otherwise stated.

References to tons are to metric tons, unless otherwise specified.

The term "billion" signifies 1,000 million.

Use of a hyphen between years, e.g., 1965-1966, signifies the full period involved, including the beginning and end years.

An oblique stroke (/) between years, e.g., 1965/66, signifies a season or crop year.

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

* * *

The following symbols have been used in the tables in this *Review* :

A full stop (.) is used to indicate decimals.

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

A dash (—) signifies that the amount is nil, or less than half the unit used.

* * *

The description and classification of countries and territories in this document and the arrangement of material, should not be considered as implying any judgement by the Secretariat of the United Nations regarding the legal status of any country or territory or in respect of the delineation of its boundaries, or regarding its economic system or degree of development. Inclusion of a particular country or territory in any economic or geographical grouping (or its exclusion) has been dictated by economic and statistical considerations.

ABBREVIATIONS

Names of organizations

ECE	Economic Commission for Europe
EEC	European Economic Community
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICHCA	International Cargo Handling Co-ordination Association
IBRD	International Bank for Reconstruction and Development
ILO	International Labour Organisation
IMF	International Monetary Fund
OAU	Organization of African Unity
OECD	Organisation for Economic Co-operation and Development
SIDA	Swedish International Development Agency
UNDP	United Nations Development Programme

Other abbreviations

CAF	Currency adjustment factor(s)
c.i.f.	Cost, insurance, freight
dwt	Deadweight tons
f.a.s.	Free alongside ship
f.i.o.	Free in and out of ship
f.o.b.	Free on board
grt	Gross registered tons
Intascale	International Tanker Nominal Scale
LASH	Lighter aboard ship
LNG	Liquefied natural gas
LPG	Liquefied petroleum gas
n.e.s.	Not elsewhere specified
nrt	Net registered tons
OBO	Ore/bulk/oil
pwc	Pakistan white cuttings (jute)
Ro/Ro	Roll on, roll off
RSSI	Ribbed smoked sheet No. I (rubber)
ULCC	Ultra large crude carrier
VLCC	Very large crude carrier

INTRODUCTION

1. This review has been prepared by the UNCTAD secretariat in accordance with item V of the programme of work of the Committee on Shipping.¹ The review brings together and integrates the material previously appearing in mimeographed form as "Review of maritime transport, 1972"² and "Review of maritime transport, 1973".³

2. The purpose of this review is to present statistical evidence of developments in international maritime transport and to relate recent developments to longer term trends of world shipping. Special attention is given to factors affecting the trade and shipping of developing countries.

3. This review is presented in two parts. Part one consists of five chapters. Chapter I describes the development of international seaborne trade during 1971-1972 and in the period 1960-1972 as a whole. Chapter II reviews the development of the world merchant fleet during 1972-1973 and also in the period 1965-1973. Relevant statistical series have been reconstructed to indicate new trends in the world supply of tonnage. Chapter III examines trends in prices for new and second-hand vessels and chapter IV surveys developments in shipbuilding with emphasis on the production aspects of the industry. Chapter V describes changes in freight rates in 1972-1973. In part two, chapter VI, is a report on a study on the global cost of sea transport prepared by the secretariat. Finally, chapter VII covers the institutional developments in world shipping, unitization, the UNCTAD training courses, air transport, land bridges and the world cruise fleet, all of which appear to be of particular or potential interest for developing countries. The bibliography⁴ remains a regular feature of this review.

4. At the very end of 1973 certain important developments occurred which may affect the international seaborne trade in the future. As their possible effect on the trade was not apparent at the time of drafting this report, certain aspects expressed in it are, by necessity, of a rather tentative character.

¹ See *Official Records of the Trade and Development Board, Fifth Session, Supplement No. 2* (TD/B/116/Rev.1), annex II.

² TD/B/C.4/106 and Corr.1.

³ TD/B/C.4/114 and Corr.1.

⁴ See p. 110 below.

Part One

**DEVELOPMENTS IN WORLD SEABORNE TRADE
AND SHIPPING TONNAGE**

Chapter I

THE DEVELOPMENT OF INTERNATIONAL SEABORNE TRADE

A. General development

5. In the long run, the international seaborne trade, as part of world foreign trade, has followed a rising trend. Its year-to-year evolution is, however, subject to fluctuations. In the period 1960-1972, the annual rate of change in the international seaborne trade fluctuated between 4 per cent and 13 per cent. Although a wide range of factors influence the course of the world trade as a whole, and consequently, of international seaborne trade, the experience of recent years points to the dominant influence of a few industrial countries on world trade and likewise on international seaborne trade. For example, it has been noted that a relatively low rate of growth in 1971 in these countries was accompanied by a correspondingly low rate of growth in the volume of international seaborne trade in the same year, as compared with 1970. Conversely, a relatively high rate of economic growth in these countries in 1972 was reflected in the increased volume of world seaborne trade in the same year. Similarly, a strong upsurge in the volume of world seaborne trade in 1973 was, to some extent, a result of the shortage of oil in the United States of America and of the large-scale purchases of cereals by the USSR from the United States of America.

6. The statistical information relating to international seaborne trade between 1960 and 1972 is found in table 1.

During this period, the volume of international seaborne trade in terms of cargo loaded increased by 1,781 million tons which was slightly more than 1.6 times the volume of 1,080 million tons recorded in 1960. The average compound rate of growth over the period was 8.5 per cent per annum.

7. On the basis of the statistical data in table 1, this chapter reviews the changes in the volume, composition and pattern of international seaborne trade in 1970 and 1972 in comparison with those which occurred between 1960 and 1971. Since trade data for 1973 are not yet available, only limited reference is made to the particular changes in international seaborne trade which occurred in 1973 and this is done on the basis of available general information.

8. As mentioned earlier, there have been contrasting rates of growth from year to year, also within relatively short periods of cyclical fluctuations. For example, 1970 was the year in which the highest rates of growth were recorded in total seaborne trade (13 per cent), as well as in each of the major particular trade sectors, namely tanker cargo (13 per cent) and main bulk cargoes (16 per cent). Conversely, 1971, was a year of virtual stagnation in the dry cargo trade and of a comparatively low rate of growth (6 per cent) in tanker cargoes. The average rate of growth in the three-year period 1968-1970 was 11 per cent, as compared with 8.3 per cent in the pre-

TABLE 1
Development of world international seaborne trade,^a 1960-1972
(Goods loaded)^b

Year	Tanker cargo		Dry cargo				Total (all goods)	
	Million tons	Percentage increase/decrease over previous year	Million tons	Percentage increase/decrease over previous year	Million tons	Percentage increase/decrease over previous year	Million tons	Percentage increase/decrease over previous year
1960	540	13	540	4	228	..	1,080	8
1961	580	7	570	6	239	5	1,150	6
1962	650	12	600	5	246	3	1,250	9
1963	710	9	640	7	269	9	1,350	8
1964	790	11	720	13	308	14	1,510	12
1965	862	9	812	13	327	6	1,674	11
1966	950	10	820	1	340	4	1,770	6
1967	1,023	8	887	8	352	4	1,910	8
1968	1,141	12	966	9	384	9	2,107	10
1969	1,276	12	1,036	7	419	9	2,312	10
1970	1,440	13	1,165	13	488	16	2,605	13
1971	1,530	6	1,167	—	490	—	2,697	4
1972	1,637	7	1,224	5	505	3	2,861	6

^a Sources: For tanker cargo, total dry cargo and all goods: United Nations, *Monthly Bulletin of Statistics*, January issues for main bulk commodities: Fearnley and Egers Chartering Co. Ltd., *World Bulk Trades, 1972* (Oslo, 1973).

^b Excluding international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system. Including petroleum imports into Netherlands Antilles and Trinidad for refining and re-export.

^b Revised on the basis of revised trade data included in United Nations, *Monthly Bulletin of Statistics*, vol. XXVIII, No. 1 (January 1974), p. xxiii, special table D.

^c Data on iron ore, grain, coal, bauxite/alumina and phosphate.

ceding three-year period 1965-1967, and 5 per cent in the years 1971/1972, the last two years for which data are available. Changes in the average rate of growth in intervals of three years between 1962-1970 and also in the years 1971-1972 are given below:

Period	Average annual rate of growth (percentage)
1962-1964	9.7
1965-1967	8.3
1968-1970	11.0
1971-1972	5.0

9. The exceptionally high growth rates in the years 1968-1970, particularly in 1970, coupled with the increase in distances resulting from the closure of the Suez Canal since 1967 and also with changes in the pattern of trade, created the high demand conditions for shipping which characterized the freight markets during this three-year period, particularly in 1970.

10. The rate of growth of international seaborne trade was less than 4 per cent in 1971, which created a low demand for tonnage. However, in 1972 when economic growth picked up in the industrial countries, a rate of growth of 6 per cent was recorded. Clearly, this relatively small increase in the rate of growth of international seaborne trade in 1972 does not fully reflect the increased economic activity in that year, the total effects of which on the volume of international seaborne trade were not felt until some time later. Thus 1973 witnessed an exceptionally high rate of growth in world seaborne trade and conditions of high demand for tonnage have been created, similar to those which characterized the year 1970. On the basis of preliminary estimates, the rate of growth in 1973 may be as high as 13 per cent.⁵

11. The long-term developments in world seaborne trade, as well as the short-term variations in the rate of growth of this trade, are closely followed by changes in both the over-all size and the composition of the world merchant fleet. These changes are discussed in chapter II.

B. Development by types of commodities

12. Table 1 also shows the changes in the volume of international seaborne trade in the period 1960-1972 by major types of cargo. It can be seen from the table that during this period, tanker cargo increased annually at an average compound rate of slightly less than 10 per cent and reached 1,637 million tons in 1972. By comparison, the growth rate for dry cargo was about 7 per cent, its volume amounting to 1,224 million tons in 1972. As a result of this higher growth rate, tanker cargo represented 57.2 per cent of the total tonnage of cargo loadings in 1972 as compared with 56.8 per cent in 1971 and 50 per cent in 1960.

13. The greatest part of tanker cargo is composed of crude petroleum, the rest consisting of a wide variety of petroleum products. In 1971 crude petroleum accounted for 79.1 per cent of total tanker cargo (see table 3). It can be observed from table 1 that the rate of growth of trade in tanker cargo has been higher in

1972 than in 1971. A rate of growth of 7 per cent was recorded in 1972 as against 6 per cent in 1971 and an average of 10.2 per cent in the period 1965 to 1969. The trend has been accelerated in the year 1973. Available information indicates that there has been an increase of 10.6 per cent in total tanker cargo trade during this year.⁶

14. There are no complete data to show the development of world dry cargo trade by type of cargo, but the development of world seaborne trade in the five main dry bulk commodities, i.e., iron ore, grain, coal, bauxite/alumina and phosphate rock, for the period 1960-1972 is indicated in table 1. The changes in the volume of seaborne trade in these five commodities generally kept pace with the changes in the total volume of dry cargo traded, so that their share in world dry cargo trade was 41.3 per cent in 1972 as compared with 42.2 per cent in 1960. In the years 1968-1972, trade in the main bulk commodities grew at an average rate of 7.4 per cent, compared with the average rate of growth of 7 per cent for total dry cargo trade over the same period. Also in 1973 the trade in iron ore, coal and grain increased by 13.7 per cent as against 10.5 per cent rate of growth of the total dry cargo trade. This implies that the share of the main bulk commodities in the world seaborne dry cargo trade is tending to increase.

15. It can also be seen from table 1 that an increase of about 15 million tons in the trade of the five main bulk commodities was recorded during 1972 as compared with a marginal increase of only 2 million tons in 1971. Grains alone accounted for an increase of 13 million tons or 86.7 per cent of the total increase in the trade of the five commodities in 1972.⁷ This increase took place mainly in the latter part of 1972 and, as mentioned earlier, it was to a large extent attributable to the purchase of grains by the USSR from the United States of America. Shipments of grains gained momentum in early 1973 and they have had a strong impact on the volume of demand for tonnage. This topic is taken up further in chapter V.

16. The remaining 58.7 per cent of the dry cargoes carried by sea in 1972 consisted of a great variety of heterogeneous products. The greater part consists of what is known as "general cargo", which is transported by liner vessels, including container and other vessels carrying unitized cargo, and also by tramps and specialized carriers which in many trades compete with liners.

17. A number of minor bulk commodities, which increasingly tend to be transported in bulk and in full shiploads, account for the remainder of the dry cargo.

18. The volume trades of these minor bulk commodities amounted to 125 million tons in 1972⁸ as against 94 million tons in 1971. Timber, sugar, salt, soya beans, fertilizers, cement, gypsum, sulphur, pyrites, ilmenite, manganese and chrome ores, petroleum coke, scrap iron, pig iron and steel products are included in this group of commodities.

19. The volumes of world seaborne trade indicated above do not give a complete picture of world demand

⁵ Lambert Bros. Shipping Ltd., *World Trade Review and Outlook* (London), No. 7 (December 1973).

⁶ Fearnley and Egers Chartering Co. Ltd., *Review 1973* (Oslo).

⁷ See Fearnley and Egers Chartering Co. Ltd., *World Bulk Trades, 1972* (Oslo, 1973).

⁸ *Ibid.*, table 23. The table refers to cargoes lifted by bulk carriers of over 18,000 dwt.

TABLE 2
World seaborne trade, 1962-1973
(In 1000 million ton-miles)

Year	Total trade (estimate)	Crude oil	Oil products	Iron ore	Coal	Grain	Other cargo (estimate)
1962.....	4,356	1,650	650	314	170	272	1,300
1963.....	4,704	1,850	600	348	202	304	1,400
1964.....	5,353	2,150	620	456	199	378	1,550
1965.....	5,849	2,480	640	527	216	386	1,600
1966.....	6,238	2,629	700	575	226	408	1,700
1967.....	7,230	3,400	730	651	269	380	1,800
1968.....	8,372	4,197	750	775	310	340	2,000
1969.....	9,374	4,853	760	919	385	307	2,150
1970.....	10,654	5,597	890	1,093	481	393	2,200
1971.....	11,729	6,554	900	1,185	434	406	2,250
1972.....	13,072	7,670	950	1,156	442	454	2,400
1973 *.....	14,800	8,750	1,020	1,330	495	505	2,700

Source: Fearnley and Egers Chartering Co. Ltd., *Review, 1973* (Oslo), table 2. (Figures for 1971 and 1972 have been revised.)

* Estimated.

for shipping. Since the distances of shipment, which have increased significantly in recent years, also have to be taken into account. Relevant data reflecting world shipping performance (in 1,000 million ton-miles) are given in table 2, in which the rising trend can be seen in the perspective of several years.

C. Development by groups of countries

20. The percentage shares of various groups of countries in the volume of international seaborne loadings and unloadings of cargoes by categories of goods in 1965, 1970 and 1971 are shown in table 3. This table also shows the shares of various groups of countries in the total loadings and unloadings in 1972. The absolute figures on which this table is based are given in annex II, in which a more detailed breakdown in percentage shares according to geographical areas is given. Certain changes in the pattern of world seaborne trade can be observed by following the changes which have taken place in the shares of volume of goods loaded and unloaded in the foreign trade of different groups of countries.

Total loadings

21. It can be seen from table 3 that the slow changes in the relative importance of groups of countries in total loadings which was observed in earlier years persisted in 1971 and 1972, though at a relatively faster pace. Thus the combined share of developed market-economy countries and countries of Southern Europe increased from 30.1 per cent in 1971 to 31.2 per cent in 1972, at the expense of the share of developing countries and socialist countries of Eastern Europe and Asia which declined further from 63.9 per cent to 63.2 per cent and from 6 per cent to 5.6 per cent, respectively, in the same period.

22. Significant changes occurred in the relative shares of each of the geographical groups of developing countries; for example, the share of Africa declined from 13.8 per cent in 1971 to 13.2 per cent in 1972 and that of Latin America and the Caribbean from 15 to 13.5 per cent, whereas the share of Asia increased from 34.7 to 36.1 per cent over the same period of time.

23. When the trend between 1965 and 1972 is examined, one basic remark which can be made is that rather small changes occurred during this period in the relative shares of all groups of countries in total loadings. The share of developed market-economy countries plus Southern Europe was 29.8 per cent in 1965 and 29.7 per cent in 1970, but it increased to 30.1 per cent in 1971 and to 31.2 per cent in 1972. The share of developing countries increased from 63.3 per cent in 1965 to 64.1 per cent in 1970, but subsequently it declined to 63.8 per cent in 1971 and 63.2 per cent in 1972. The share of socialist countries of Eastern Europe and Asia declined from 6.9 per cent in 1965 to 6 per cent in 1971 and 5.6 per cent in 1972.

24. More significant changes occurred within geographical groups of developing countries. The share of developing countries in Africa increased from 11.3 per cent in 1965 to 13.2 per cent in 1972. However, there has not been an uninterrupted rising trend. The share of these countries, after having reached a height of 15.4 per cent in 1970, dropped to 13.8 per cent in 1971 and to 13.2 per cent in 1972. In the case of developing countries in Asia, the percentages are: 1965: 30 per cent; 1970: 32.1 per cent; 1971: 34.7 per cent; 1972: 36.1 per cent. The share of Latin American countries has been: 1965: 21.6 per cent; 1970: 16.2 per cent; 1971: 15 per cent; 1972: 13.5 per cent.

Loadings by categories of goods

25. With respect to the various categories of goods loaded, the share of developing countries in crude petroleum loadings declined from 95.3 per cent in 1965 to 95 per cent in 1970, and 94.7 per cent in 1971. There was also a further decrease in the relative share of developing countries in loadings of petroleum products in 1970 and 1971. The share of developing countries in shipments of petroleum products fell from 67.8 per cent in 1965 to 65.4 per cent in 1970, and 64.1 per cent in 1971, and of dry cargo from 35.9 to 33.2 per cent and 31.9 per cent respectively. The combined share of developed market-economy countries and countries of Southern Europe in loadings of crude petroleum remains insignificant as in previous years. Their share in loadings of

TABLE 3
 World seaborne trade,^a 1965, 1970, 1971 and 1972:^b shares of groups of countries^{c,d}
 (Millions of tons and percentages of world total)

Groups of countries	1965				1970				1971				1972	
	Crude petroleum	Petroleum products	Dry cargo	Total all goods	Crude petroleum	Petroleum products	Dry cargo	Total all goods	Crude petroleum	Petroleum products	Dry cargo	Total all goods ^e	Total all goods	Total all goods
World total	622.0	242.3	768.6	1,632.9	1,109.9	332.5	1,124.2	2,566.6	1,209.7	319.7	1,162.5	2,691.9	2,861.0	2,861.0
Percentage share of each category of goods in the total.....	(38.1)	(14.8)	(47.1)	(100.0)	(43.2)	(13.0)	(43.8)	(100.0)	(44.9)	(11.9)	(43.2)	(100.0)	(100.0)	(100.0)
World total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Developed market-economy countries (excluding Southern Europe)	0.1	23.0	53.5	28.6	1.5	24.8	56.0	28.4	1.7	25.7	58.1	28.9	28.9	31.2
Southern Europe	—	0.3	2.4	1.2	—	1.8	2.4	1.3	—	1.5	2.4	1.2	1.2	1.2
Socialist countries of Eastern Europe and Asia	4.6	8.9	8.2	6.9	3.5	8.0	8.4	6.2	3.6	8.7	7.6	6.0	6.0	5.6
Developing countries: total	95.3	67.8	35.9	63.3	95.0	65.4	33.2	64.1	94.7	64.1	31.9	63.9	63.2	63.2
Of which:														
in Africa	16.0	1.7	10.6	11.3	25.4	2.3	9.4	15.4	21.5	2.6	8.8	13.8	13.2	13.2
in Asia	58.4	23.3	9.2	30.0	57.4	27.1	8.6	32.1	62.6	26.4	8.3	34.7	36.1	36.1
in Latin America and the Caribbean	20.9	42.8	15.4	21.6	12.2	36.0	14.3	16.2	10.6	35.0	14.0	15.0	13.5	13.5
in Oceania	—	—	0.7	0.4	—	—	0.9	0.4	—	0.1	0.8	0.4	0.4	0.4

A. GOODS LOADED

(Million tons)

(Percentages)

B. GOODS UNLOADED

	(Million tons)												
	622.0	221.7	793.5	1,637.2	1,101.2	298.5	1,091.0	2,490.7	1,198.7	299.7	1,133.7	2,632.1	2,847.0
World total	(38.0)	(13.5)	(48.5)	(100.0)	(44.2)	(12.0)	(43.8)	(100.0)	(45.5)	(11.4)	(43.1)	(100.0)	(100.0)
Percentage share of each category of goods in the total	(Percentages)												
World total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Developed market-economy countries (excluding Southern Europe)	76.4	77.0	72.3	74.5	76.3	78.1	73.9	75.5	75.3	77.4	74.2	75.1	78.7
Southern Europe	2.5	2.0	4.2	3.2	3.7	2.6	4.1	3.7	3.9	3.0	4.2	3.9	3.4
Socialist countries of Eastern Europe and Asia	0.4	1.0	5.9	3.2	1.6	1.1	6.0	3.5	1.6	1.0	5.0	3.0	3.4
Developing countries:													
total	20.7	20.0	17.6	19.1	18.4	18.2	16.0	17.3	19.2	18.6	16.6	18.0	17.9
<i>Of which:</i>													
in Africa	2.5	5.1	4.1	3.7	1.7	4.2	3.8	2.9	1.8	3.5	4.0	2.9	2.7
in Asia	5.5	8.5	9.0	7.6	6.1	8.3	7.3	6.9	6.7	8.0	8.0	7.4	7.8
in Latin America and the Caribbean	12.7	6.0	4.3	7.7	10.5	5.2	4.6	7.3	10.6	6.5	4.4	7.5	7.1
in Oceania	—	0.4	0.2	0.1	0.1	0.5	0.3	0.2	0.1	0.6	0.2	0.2	0.3

Source: Annex II and United Nations, *Monthly Bulletin of Statistics*, vol. XXVIII, No. 1 (January 1974).

The world totals recorded in this table do not correspond exactly to the rounded totals in table I.

^a See note a to table I. Great Lakes and St. Lawrence Seaway trade (in dry cargo) amounted to 37 million tons in 1965, 36 million tons in 1968, 42 million tons in 1970, 39 million tons in 1971, and 37 million tons in 1972.

^b Preliminary figures for 1972: breakdown by type of cargo for 1972 not yet available.

^c Derived from annex II; 1972 figures estimated from data in United Nations, *Monthly Bulletin of Statistics* (see source).

^d See annex I for the composition of these groups.

^e Revised data which as such may not be identical with the corresponding data in table 3 of the "Review of maritime transport, 1972" (TD/B/C.4/106 and Corr.1).

TABLE 4
 Index of growth of total world seaborne trade ^a by groups of countries ^{b,c}
 and by category of goods (1965-1972)
 (1965 = 100)

Groups of countries	A. Goods loaded							
	Crude petroleum		Petroleum products		Dry cargo		All goods	
	1970	1971	1970	1971	1970	1971	1970	1971
World total	178	194	137	132	146	151	157	165
Developed market-economy countries (excluding Southern Europe)	4250 ^d	5175 ^d	148	148	153	164	156	167
Southern Europe	—	—	750	587 ^e	145	152	170	170
Socialist countries of Eastern Europe and Asia	133	152	122	128	151	141	141	142
Developing countries: total	178	193	132	125	135	134	159	167
In Africa	284	262	186	198	130	125	214	201
In Asia	175	208	159	149	136	136	168	191
In Latin America and Caribbean	104	99	115	108	136	137	118	114
In Oceania	—	—	— ^f	— ^f	170	164	173	171

Groups of countries	B. Goods unloaded							
	Crude petroleum		Petroleum products		Dry cargo		All goods	
	1970	1971	1970	1971	1970	1971	1970	1971
World total	177	193	135	135	137	143	152	161
Developed market-economy countries (excluding Southern Europe)	177	190	136	136	140	147	154	162
Southern Europe	256	295	173	205	136	145	175	195
Socialist countries of Eastern Europe and Asia	719	762	155	136	139	121	169	153
Developing countries: total	157	178	123	128	125	134	138	151
In Africa	119	133	110	91	126	140	122	128
In Asia	198	234	131	128	112	127	139	156
In Latin America and Caribbean	147	162	126	159	146	146	144	156
In Oceania	—	—	178	189	171	159	204	228

Groups of countries	All goods loaded		All goods unloaded	
	1971	1972	1971	1972
World total	165	175	161	174
Developed market-economy countries (excluding Southern Europe)	167	183	162	176
Southern Europe	170		195	
Socialist countries of Eastern Europe and Asia	142	142	153	185
Developing countries: total	167	175	151	163
In Africa	201	205	128	130
In Asia	191	211	156	179
In Latin America and Caribbean	114	110	156	161
In Oceania	171	179	228	240

Source: Table 3.

^a See note a to table 1. Great Lakes and St. Lawrence trade (in dry cargo) amounted to 37 million tons in 1965, 42 million tons in 1970, 39 million tons in 1971 and 37 million tons in 1972.

^b Derived from annex II. 1972 figures are derived from United Nations, *Monthly Bulletin of Statistics*, vol. XXVIII, No. 1 (January 1974), p. xxiii, special table D.

^c See annex I for the composition of these groups of countries.

^d Crude petroleum loadings in developed market-economy countries (excluding Southern Europe) amounted to 0.4 million tons in 1965 and to 20.5 million tons in 1971.

^e Loadings of petroleum products in Southern Europe amounted to 0.8 million tons in 1965 and to 4.7 million tons in 1971.

^f Loadings of petroleum products in Oceania amounted to 0.2 million tons in 1970 and to 0.4 million tons in 1971.

petroleum products increased further to 27.2 per cent in 1971 as against 26.6 per cent in 1970 and 23.3 per cent in 1965. The share of the socialist countries of Eastern Europe and Asia in loadings of both crude petroleum and petroleum products increased to 3.6 per cent and 8.7 per cent respectively in 1971, as compared with 3.5 and 8 per cent in 1970.

Total unloadings

26. The relative shares in total unloadings of cargoes of developed market-economy countries were: 1965: 74.5 per cent; 1970: 75.5 per cent; and 1971: 75.1 per cent. The relative shares in total unloadings of cargoes of countries in Southern Europe show an upward trend: 1965: 3.2 per cent; 1970: 3.7 per cent; and 1971: 3.9 per cent. The combined share of developed market-economy countries and countries of Southern Europe in 1972 was 78.7 per cent as compared with 78.4 per cent in 1971. The relative shares in total unloadings of cargoes of socialist countries of Eastern Europe and Asia rose from 3.2 per cent in 1965 to 3.5 per cent in 1970, but it dropped to 3 per cent in 1971 and rose again in 1972 to 3.4 per cent. The share of developing countries as a whole in unloadings of international seaborne cargoes has decreased since 1965, although in 1971 there was a slight recovery compared with 1970. The relative percentage figures are: 1965: 19.1 per cent; 1970: 17.3 per cent; 1971: 18 per cent; and 1972: 17.9 per cent.

Unloadings by categories of goods

27. It can be seen from table 3 that the share of developing countries in unloadings of crude petroleum decreased from 20.7 per cent in 1965 to 18.4 per cent in 1970 but rose to 19.2 per cent in 1971. Similarly, their share in unloadings of petroleum products fell from 20 per cent in 1965 to 18.2 per cent in 1970 but rose to 18.6 per cent in 1971. In the case of dry cargoes, the share of developing countries dropped from 17.6 per cent in 1965 to 16 in 1970, but it also rose to 16.6 per cent in 1971. In contrast the combined share of developed market-economy countries and countries of Southern Europe in unloadings of crude petroleum and petroleum products increased from 78.9 and 79 per cent in 1965 to 80 and 80.7 per cent in 1970 and then dropped slightly to 79.2 and 80.4 per cent in 1971 respectively. Their share in unloadings of dry cargo likewise increased from 76.5 per cent in 1965 to 78 per cent in 1970 and dropped to 74.4 per cent in 1971. The share of socialist countries of Eastern Europe and Asia in crude petroleum unloadings, which had increased from 0.4 per cent in 1965 to 1.6 per cent in 1970, remained unchanged at 1.6 per cent

in 1971. Their share in petroleum product unloadings have shown only insignificant change, but their share in dry cargo unloadings dropped from 5.9 per cent in 1965 and 6 per cent in 1970 to 5 per cent in 1971.

Indices showing the growth of world seaborne trade

28. Table 4 shows the growth of world seaborne trade by groups of countries and by categories of goods in the form of indices for loadings and unloadings (1965 = 100). It indicates that international seaborne trade in 1972 increased to 175 index points as against 165 points in 1971 and 157 points in 1970 in terms of goods loaded, and to 174 index points in 1972 as against 161 points in 1971 and 152 points in 1970 in terms of goods unloaded. It is also clear from the table that this growth is unevenly distributed among the various groups of countries.

29. Between 1965 and 1971, the index for all goods loaded, and for all goods unloaded, in developed market-economy countries registered a growth slightly faster than the index for total world trade, while in the case of countries of Southern Europe the increase was significantly faster. The changes in the index in 1972 as compared with 1971 show that the tendency for the share of these groups of countries to increase persisted in 1972.

30. With regard to the whole period 1965-1972, the increase for socialist countries of Eastern Europe and Asia was considerably smaller for goods loaded (1972 index points 142) than for goods unloaded (1972 index points 185). Similar observations can be made if the particular changes from 1971 to 1972 are examined. The index for goods loaded remained unchanged at 142 points whereas an increase of 32 points was recorded in the index for goods unloaded. It can be observed from table 4 that the relative slowness in the rate of growth of goods loaded is due mainly to the slow pace of growth in crude petroleum and petroleum products loaded, whereas the index for dry cargo loaded in socialist countries of Eastern Europe and Asia registered a growth faster than the corresponding index for world dry cargo loadings.

31. For developing countries, in 1972 the index stood at 175 for all goods loaded and at 163 for all goods unloaded. These figures indicate that while changes in the quantities of exports from the developing countries have tended to keep pace with those in world seaborne trade since 1965, the growth of their trade in terms of goods unloaded has been relatively slow. However, it can be seen from table 4 that the particular developments which occurred from 1971 to 1972 did show some improvement in this connexion.

Chapter II

THE DEVELOPMENT OF THE WORLD MERCHANT FLEET

A. Changes in the world fleet

32. Between mid-1971 and mid-1973, the world active seagoing merchant fleet⁹ increased from 239 million grt to 284.2 million grt or, correspondingly, from 365.2 million dwt to 444.6 million dwt. The annual rates of increase, including 1970-1971, were:

	<i>In grt</i> (%)	<i>In dwt</i> (%)
1970-1971	9.7	11.9
1971-1972	9.1	10.7
1972-1973	9.0	10.0

Some slight slowing down in the rate of increase in the world fleet can be observed. Resulting from these tonnage changes, the dwt/grt ratio of the world fleet is now slightly higher at 1.56 than it was in the preceding year, when it stood at 1.55.

33. The year-to-year changes in the world merchant fleet since 1965 are shown in table 5. Over the period 1965-1973, the world fleet expanded by 137.4 million grt and by 1973 the tonnage was 94 per cent greater than in 1965. This represents an average annual growth rate of 8.7 per cent in grt; the corresponding growth rate in dwt was 10.2 per cent.

⁹ Excluding the estimated reserve fleet under the United States flag and the Great Lakes fleet of the United States and Canada.

34. Tanker tonnage has grown more rapidly than that of non-tankers in the period 1965-1973. During this period tankers registered an annual growth rate of 11.8 per cent in dwt and non-tankers an annual growth rate of 9 per cent in dwt. Between 1972 and 1973, the growth of the tanker fleet was 11.6 per cent, compared with 8.6 per cent for non-tankers. However, within the group of non-tankers, bulk carriers, including combined carriers, recorded notable increases in tonnage over the period 1965-1973. The bulk carrier fleet multiplied 4.28 times in terms of grt and 4.78 times in terms of dwt during the period. No other category of ships recorded such a rate of expansion in tonnage. A slowdown is noticeable, however, in the pace of increase of bulk carriers. Between 1972 and 1973 the percentage increase in terms of dwt in the tonnage of this category of vessels was 16.1, compared with 21 per cent between 1971 and 1972 and 17.3 per cent between 1970 and 1971.

35. It can be seen from table 5 that the category "other ships" showed relatively small increases, in terms both of grt and of dwt. The average annual rate of growth between 1965 and 1973 was only 3.4 per cent in terms of grt and 2.8 per cent in terms of dwt; from 1972 to 1973, the tonnage of this category of ships increased by 4 per cent and 1.9 per cent respectively. There are, however, certain types of vessels, e.g. small size and specialized vessels included in this category, whose number and tonnage capacity are increasing rapidly, but

TABLE 5
World shipping tonnage,^{a,b} 1965-1973
(Mid-year figures)

Year	Tankers		Bulk carriers ^c		Other ships		Total	
	Million grt	Million dwt	Million grt	Million dwt	Million grt	Million dwt	Million grt	Million dwt
1965	54.4	86.1	16.3	24.9	76.1	93.5	146.8	204.5
1966	59.8	94.4	20.7	31.2	78.5	95.5	159.0	221.1
1967	63.9	102.5	26.4	40.6	80.8	97.8	171.1	240.9
1968	68.9	112.6	32.2	52.0	82.9	97.5	184.0	262.1
1969	77.1	127.0	39.0	62.0	85.9	99.3	202.0	288.3
1970	85.8	148.0	43.9	72.1	88.2	106.0	217.9	326.1
1971	95.8	169.0	51.0	84.6	92.2	111.6	239.0	365.2
1972	104.6	187.5	60.6	102.4	95.6	114.3	260.8	404.2
1973	115.0	209.2	69.8	118.9	99.4	116.5	284.2	444.6

^a Sources: *Lloyd's Register of Shipping: Statistical Tables* (London) 1965-1973 and supplementary data regarding the United States reserve fleet and the Great Lakes fleets of the United States and Canada published by the United States Department of Commerce, Maritime Administration. Figures in dwt up to and including 1969 regarding tankers are based on data from Institute of Shipping Economics, *Shipping Statistics: Facts and Figures about Shipping, Shipbuilding, Seaports and Sea-borne Trade* (Bremen) and regarding bulk carriers on data published in Fearnley and Egers Chartering Co. Ltd., *Review*, 1972 (Oslo).

^b Excluding the United States reserve fleet and the Great Lakes fleets of the United States and Canada (see table 6, note a, for various estimates of these fleets).

^c Up to and including 1969, figures in grt are not strictly comparable with those in dwt, as the grt series refers to all commercial vessels (including, for example, fishing and research ships) of 100 grt and above, while the dwt series includes only sea-going cargo and/or passenger-carrying vessels and tonnage for commercial purposes of 300 grt and over.

^d Up to and including 1969, figures in dwt are not strictly comparable with those in grt, as the dwt figures refer to bulk carriers of 10,000 dwt and above whereas the grt figures refer to bulk carriers of 6,000 grt and above.

which cannot be separately identified in the aggregate figures shown in table 5. Certain developments regarding specialized vessels are discussed further in section C below.

36. A notable feature in the development of the world merchant fleet between 1965 and 1973 has been a tendency for the dwt/grt ratios to increase. This is particularly characteristic of the long-term growth of the tanker and bulk carrier fleets. On the basis of table 5 the estimated dwt/grt ratios during the period 1965-1973 are given below:

Estimated dwt/grt ratios for tankers and bulk carriers, 1965-1973

Year	Tankers	Bulk carriers
1965	1.58	1.53
1966	1.58	1.51
1967	1.60	1.54
1968	1.63	1.64
1969	1.65	1.59
1970	1.72	1.64
1971	1.76	1.66
1972	1.79	1.69
1973	1.82	1.70

37. Because the grt is related to the closed cubic space of the vessel and the dwt is related to the carrying capacity of this vessel, an increase in the dwt/grt ratio can be regarded as an indication of increased cargo carrying capacity. Therefore, increasing dwt/grt ratios imply rising productivity for tankers and bulk carriers.¹⁰ The trend to increased dwt/grt ratio is the result of technological advances. For example, as the size of vessels increases, the horsepower needed per dwt to supply a given speed is lower than in small vessels. This reduces the engine and bunker space and weight. As crew numbers do not increase proportionally to the increase of the size of vessels, relatively less space is required for accommodation. The corresponding savings in space and weight lead to increased dwt/grt ratio.

B. Flag distribution by groups of countries with particular reference to developing countries

38. The distribution of the world tonnage as at 1 July 1972 and 1 July 1973 by flag of registration and by type of vessel is given in annexes III and V, and annex IV gives the distribution by geographical areas. A summary of the information included in the annexes is given in tables 6 and 7. Table 6 shows the share of world tonnage by groups of countries of registration, while table 7 gives the composition of world tonnage by type of vessel.

1. OVER-ALL TONNAGE CHANGES BY GROUPS OF COUNTRIES

39. Countries are classified in accordance with the classification given in annex I. They are:

(a) Developed market-economy countries, excluding Southern Europe;

(b) Southern Europe excluding Cyprus;

(c) "Open registry" countries, namely: Liberia, Panama, Cyprus, Somalia and Singapore;

(d) Socialist countries of Eastern Europe and Asia;

(e) Developing countries in Africa, Asia and Latin America;

(f) Other—unallocated.

40. It can be seen from the preceding paragraph that Cyprus, Singapore and Somalia have now been included with Liberia and Panama as "flag of convenience" countries. As countries with a declared open registry policy, they give encouragement to the registration under their flags of tonnage beneficially owned abroad. It is generally known that the greatest part of the fleets registered in these five countries is beneficially owned by residents of developed market-economy countries and of countries of Southern Europe. The changed classification of countries shown in paragraph 39 above, as compared with that used in previous issues of this *Review*, means that certain data shown here are not comparable with those shown in issues of earlier years. To preserve comparability, the relevant tables have been reconstructed to conform to the new statistical series commencing from 1965.

41. It may be remarked that the exclusion from the developing countries' total fleet of tonnages registered under the flags of Singapore and Somalia may have the result that the tonnage of this group of countries is understated, since some of the tonnage registered in Singapore and Somalia may be beneficially owned by nationals of these two countries. This distortion however, is probably more than compensated for by the fact that some of the tonnage registered under the flags of other developing countries is almost certainly beneficially owned by foreigners.

42. In consequence of the exclusion of tonnage registered under the flags of Singapore and Somalia from the tonnage of the group of developing countries, and the reconstruction of the statistical time series, the share of developing countries as shown in table 6 is not comparable with the corresponding data presented in the *Review of maritime transport* of earlier years.

Changes between 1965 and 1973

43. Changes in the flag distribution of the world merchant fleet in the period 1965-1973 are shown in table 6. It can be seen from the table that during this period there have been substantial changes in the share of particular groups of countries in the world tonnage.

44. The share of developed market-economy countries and of the countries of Southern Europe combined fell from 69.8 per cent in 1965 to 64.3 per cent in 1971, 63.2 per cent in 1972 and 62 per cent in 1973. However, in the same period of time, the share of flags of open registry countries jumped from 15 per cent to 19.9 per cent in 1971, 21.4 per cent in 1972 and 23.2 per cent in 1973. Consequently, the combined share of these three groups of countries in 1973 stood at 85.2 per cent, higher than their corresponding share of 84.8 per cent in 1965. Such a grouping of flags appears appropriate since it is generally accepted that most of the tonnage, if not all of it, registered under the flags of open registry countries, is beneficially owned in developed market-economy countries and countries of Southern Europe.

¹⁰ For a discussion of the productivity of shipping, see paras. 74-77 below.

TABLE 6
Distribution of world tonnage (grt)^a by groups of countries of registration, 1965 and 1969-1973
(Mid-year figures)

Flags of registration in groups of countries ^b	Tonnage (million grt)										Shares of world tonnage (percentage)					Increase in tonnage					
																1965-1973			1972-1973		
	1965	1969	1970 ^c	1971 ^d	1972 ^e	1973 ^f	1965	1969	1970 ^g	1971 ^h	1972 ⁱ	1973 ^j	1973 ^k	Million grt	Share (%)	Index 1973 (1965 = 100)	Million grt	Share (%)	Share (%)		
World total	146.8	202.0	217.9	239.0	260.8	284.2	100.0	100.0	100.0	100.0	100.0	100.0	100.0	137.4	100.0	194	23.4	23.4	100.0		
Developed market-economy countries (excluding Southern Europe)	90.6	118.5	124.2	133.5	141.9	148.2	61.8	58.6	57.0	54.4	52.2	54.4	52.2	57.6	47.9	164	6.3	6.3	26.9		
Open registry countries: Liberia, Panama, Cyprus, Singa- pore, Somalia ^k	22.1	35.9	40.9	47.5	56.0	66.0	15.0	17.8	18.7	19.9	21.4	23.2	23.2	43.9	32.0	299	10.0	10.0	42.7		
Southern Europe (excluding Cyprus)	11.8	14.8	17.6	20.2	22.9	27.9	8.0	7.3	8.1	8.4	8.8	9.8	9.8	16.2	11.7	236	5.0	5.0	21.4		
Socialist countries of Eastern Europe and Asia	10.9	18.1	19.5	21.3	22.6	23.7	7.4	9.0	8.9	8.9	8.7	8.3	8.3	12.8	9.3	217	1.1	1.1	4.7		
Developing countries, ^l total	10.7	13.7	14.5	15.2	15.9	16.9	7.3	6.8	6.7	6.4	6.1	6.0	6.0	6.2	4.5	158	1.0	1.0	4.3		
Of which:																					
in Africa	0.6	0.8	0.8	1.0	1.1	1.2	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.4	200	0.1	0.1	0.4		
in Asia	5.5	7.7	8.0	8.1	8.6	9.1	3.8	3.8	3.7	3.4	3.3	3.2	3.2	3.6	2.6	165	0.5	0.5	2.2		
in Latin America and the Caribbean	4.6	5.2	5.7	6.0	6.2	6.6	3.1	2.6	2.6	2.4	2.4	2.4	2.4	2.0	1.5	143	0.4	0.4	1.7		
Oceania	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Other, unallocated	0.7	1.0	1.2	1.3	1.5	1.5	0.5	0.5	0.6	0.5	0.6	0.5	0.5	0.8	0.6	214	—	—	—		

Source: Compiled from Lloyd's Register of Shipping: Statistical Tables (London) and supplementary data.
a Excluding, respectively in 1965, 1969, 1970, 1971, 1972 and 1973:

(i) United States reserve fleet of about 10.4, 6.6, 6.3, 5.0, 4.3 and 2.5 million grt.
(ii) United States Great Lakes fleet of about 2.0, 1.8, 1.7, 1.7, 1.8 and 1.7 million grt.
(iii) Canadian Great Lakes fleet of about 1.2, 1.5, 1.5, 1.5, and 1.5 million grt.

b Tonnage by individual countries and by type of ships as at 1 July 1973 is shown in annex V.

c In million dwt, this column reads, from top to bottom: 326.1, 186.4, 70.3, 25.6, 21.7, 20.4, 1.1, 11.7, 7.6, 0.0, 1.7.

d In million dwt, this column reads, from top to bottom: 365.2, 204.9, 82.7, 30.7, 23.6, 21.3, 1.2, 12.0, 8.1, 0.0, 2.0.

e In million dwt, this column reads, from top to bottom: 404.2, 220.3, 99.0, 35.3, 25.6, 22.3, 1.4, 12.5, 8.4, 0.0, 1.7.

f In million dwt, this column reads, from top to bottom: 444.6, 231.1, 117.2, 43.7, 26.5, 23.9, 1.6, 13.2, 9.0, 0.1, 2.2.

g Based on dwt, this column reads, from top to bottom: 100.0, 57.2, 21.6, 7.8, 6.7, 6.2, 0.3, 3.6, 2.3, 0.5.

h Based on dwt, this column reads, from top to bottom: 100.0, 56.1, 22.7, 8.4, 6.5, 5.8, 0.3, 3.3, 2.2, 0.5.

i Based on dwt, this column reads, from top to bottom: 100.0, 54.5, 24.6, 8.7, 6.3, 5.5, 0.3, 3.1, 2.1, 0.4.

j Based on dwt, this column reads, from top to bottom: 100.0, 52.0, 26.4, 9.8, 6.0, 5.3, 0.3, 3.0, 2.0, 0.5.

k Tonnage under these flags is shown separately, since it is believed that most of it is effectively controlled by interests outside these countries.

l Excluding Liberia, Panama, Singapore and Somalia.

45. A closer observation of the changes in the tonnage under the flags of Liberia, Panama and other open registry countries shows that the registration of tonnage under these flags, which had slowed down at the beginning of the decade 1960-1969, has again accelerated in recent years.¹¹ Moreover, it appears that, currently, nationals of an increased number of maritime countries¹² are preferring these flags to their national flags. It is, apparently, because of this widening preference for the open registry flags that the discussions regarding some of the economic aspects associated with such developments have recently been revived both in the countries concerned and on an international level.¹³

46. The share of tonnage under the flags of socialist countries of Eastern Europe and Asia was 8.3 per cent in 1973 as against 8.7 per cent in 1972, 8.9 per cent in 1971 and 7.4 per cent in 1965.¹⁴ The over-all increase in the share of tonnage under the flags of this group of countries between 1965 and 1973 is attributed mostly to the growth of the fleets of the USSR, Poland, China and German Democratic Republic. The increase in the combined tonnage under these four flags has been 11.8 million grt, as compared with a total increase of 12.8 million grt for the group as a whole.

47. The relative share of tonnage under the flags of developing countries dropped further in 1973, though only slightly as compared with 1972. As against 7.3 per cent in 1965, the share of tonnage of this group of countries had fallen to 6 per cent in 1973, all in terms of grt.

¹¹ Between 1960 and 1963 the share of these flags in the world total dropped from 12.4 per cent to 11.2 per cent, but it jumped from 15.6 per cent in 1967 to 20.9 per cent in 1972.

¹² According to press reports, 40 per cent of Dutch owned tonnage is currently registered under foreign flags ("Lloyd's List" (London), 2 November 1972; also *Journal pour le transport international* (Basel), 33rd year, 24 November 1972. See also "Lloyd's List" (London) 19 March 1973, for information regarding trends to transfer ships from the Dutch to open registry countries flags.) A trend towards a preference for flags of open registry countries is also noticed in the case of tonnage controlled by shipping companies in the Federal Republic of Germany; see for example the annual report of the Shipowners Association of the Federal Republic of Germany as reported in *Journal de la marine marchande et de la navigation aérienne* (Paris), 54th year, No. 2766 (21 December 1972), p. 3262. The Hamburg shipowner, F.M. Fisser, has suggested that a German "flag of convenience" should be created for tramp vessels up to 40,000 dwt (*Journal de la marine marchande et de la navigation aérienne* (Paris), 55th year, No. 2787 (17 May 1973) p. 1193). Note also the discussions concerning the opening of a ship's registry in Hong Kong ("Lloyd's List" (London), 5 April, 30 August and 4 September 1973), and the information that Kawasaki Steel Corporation, along with Mt. Newman Mining Company in Australia, was to establish a Liberian shipping corporation to operate at least three 120,000 dwt ore carriers (*Seatrade* (Colchester, U.K.), vol. 3, No. 4 (April 1973)). In Panama, special arrangements have been made to allow registration of vessels under charter, without the need to renounce the ship's original registry. In particular, tonnage chartered for a period not longer than two years, may be registered in the Panamanian registry, provided that the country of registry so allows (C. Hale, "A flag of convenience", *The Financial Times* (London), 25 April 1973, p. 35).

¹³ The Maritime Transport Committee of OECD, further to the inclusion of a chapter on the subject in its report *Maritime Transport, 1971*, had decided to establish an *ad hoc* Group to investigate more fully the economic, safety and environmental consequences of flag of convenience fleets. See OECD, *Maritime Transport, 1972* (Paris, 1973). See also in this connexion: ILO, Joint Maritime Commission, *Flags of Convenience* (JMC/21/4) (Geneva, International Labour Office, 1972), and item 5 in the agenda of the Preparatory Technical Maritime Conference for 1975.

¹⁴ The particular country data used in the discussion are derived directly from *Lloyd's Register of Shipping: Statistical Tables* (London, 1965 and 1973).

Although an over-all decline occurred between 1965 and 1973 in the share of developing countries in the world tonnage, the particular developments have not been identical for all geographical groups of developing countries. The share of developing countries in Africa remained practically unchanged from 1965 to 1973. However, the share of developing countries in Asia declined from 3.8 per cent in 1965 to 3.2 per cent in 1973, and that of developing countries in Latin America and the Caribbean from 3.1 per cent to 2.4 per cent over the same period of time.

Changes between 1971 and 1973

48. The increase in world merchant tonnage between mid-1971 and mid-1973 has been distributed unevenly between the various groups of countries. In terms of grt the share of the flags of developed market-economy countries (excluding Southern Europe) further decreased from 55.9 per cent in 1971 to 52.2 per cent in 1973. However, the share of flags of countries in Southern Europe increased from 8.4 per cent in 1971 to 9.8 per cent in 1973, and the share of tonnage under the flags of "open registry" countries increased from 19.9 per cent to 23.2 per cent. If the three groups of countries are taken together, their share of world tonnage is seen to have increased from 84.2 per cent in 1971 to 85.2 per cent in 1973.

49. The tonnage of the main fleets under flags of open registry countries for the years 1971, 1972 and 1973 are shown below:¹⁵

Country	1971 (grt)	1972 (grt)	1973 (grt)
Liberia	38,552,240	44,443,652	49,904,744
Panama	6,262,264	7,793,598	9,568,954
Cyprus	1,498,114	2,014,675	2,935,775
Singapore	581,777	870,513	2,004,269
Somalia	592,664	873,209	1,612,656
	47,487,059	55,995,647	66,026,398

The most marked changes to be noted are the fall in the share of Liberia in the total, from 81.2 per cent in 1971 to 75.6 per cent in 1973 and the growth of the fleets of Singapore, Somalia and Cyprus. These changes probably signify changes in the relative importance of different countries in the beneficial ownership of ships under open registry flags.

50. The share of flags of socialist countries of Eastern Europe and Asia in world tonnage in grt has fallen from 8.9 per cent in 1971 to 8.3 per cent in 1973. However, the particular share of socialist countries of Asia remained stable at about 0.5 per cent.

51. The share of flags of developing countries as a group in terms of grt declined from 6.4 per cent in 1971 to 6 per cent in 1973. The decline in the share of developing countries in these early years of the second United Nations Development Decade is even more marked if seen in terms of dwt, which related to the carrying capacity of ships. The shares of developing countries of

¹⁵ Source: *Lloyd's Register of Shipping: Statistical Tables* (London, 1971, 1972, 1973).

world tonnage in terms of dwt, and of the main geographical groups in the period 1970 to 1973 are:

	Percentage share of developing countries in the world fleet in terms of dwt ¹⁶			
	1970	1971	1972	1973
Asia	3.6	3.3	3.1	3.0
Africa	0.3	0.3	0.3	0.3
Latin America and Caribbean	2.3	2.2	2.1	2.0
Total developing countries	6.2	5.8	5.5	5.3

It can be seen that only in the African region was the share maintained between 1970 and 1973.

52. As at 1 July 1973, 13 of the developing countries¹⁷ had merchant fleets exceeding 500,000 dwt. Together with the corresponding data for 1 July 1972 these are:

	1972		1973	
	grt	dwt	grt	dwt
India	2,649,677	4,155,108	2,886,595	4,574,156
Brazil	1,884,537	2,723,131	2,103,319	3,052,651
Argentina	1,401,075	1,798,924	1,452,552	1,882,279
Republic of Korea	1,057,408	1,637,544	1,103,925	1,620,391
Philippines	924,564	1,312,343	947,210	1,312,228
Kuwait	656,403	1,085,598	676,879	1,127,888
Israel	698,068	949,244	645,391	890,174
Indonesia	618,589	717,861	668,964	792,336
Pakistan	532,637	738,502	503,429	701,694
Venezuela	411,242	577,537	478,643	653,565
Mexico	416,832	582,066	453,024	630,510
Chile	382,013	554,929	383,886	554,696
Cuba	398,030	530,434	416,305	544,363

53. The picture described above is not encouraging. During the first two years of the Second United Nations Development Decade not only have the developing countries been unable to increase their share in the world merchant fleet tonnage, but in some respects their position has deteriorated, and is therefore a matter of concern in view of the objectives of the International Development Strategy for the Second United Nations Development Decade¹⁸ and also of resolution 70 (III) of the United Nations Conference on Trade and Development.

2. CHANGES IN TYPE OF VESSEL AND GROUPS OF COUNTRIES

54. It is shown in table 7 that as at 1 July 1972 and 1 July 1973 the percentage shares in the world fleet of various categories of vessels were as follows:

	1972 (%)	1973 (%)
Tankers	40.1	40.5
Ore and bulk carriers, including combined carriers	23.2	24.5
General cargo ships	25.8	23.8
Container ships	1.6	2.1
Barge carrying vessels ¹⁹	0.2	0.2
Other ships	9.1	8.9

¹⁶ Derived from *Lloyd's Register of Shipping: Statistical Tables* (London), various issues.

¹⁷ Excluding Liberia, Panama, Somalia and Singapore.

¹⁸ Cf. General Assembly resolution 2626 (XXV), para. 53.

¹⁹ In *Lloyd's Register of Shipping: Statistical Tables* (London), 1972, the term "Lighter carrier" is used for "Barge carrying vessels".

As compared with 1971, there was an increase in the percentage share of ore and bulk carriers, container vessels and barge carrying vessels, and a relatively small increase in the share of tankers. The share of general cargo ships declined from 28.1 per cent in 1971 to 23.8 per cent in 1973.

55. The particular changes which occurred from 1971 to 1973 confirmed the two major trends observed in relation to the whole period 1965 and 1973 which is also covered by table 7: first, the rapid increase in the shares of oil tankers and ore and bulk carriers—particularly the latter; second, the downward trend in the relative share of general cargo ships. Among the major reasons for this latter trend has been the shifting of dry cargoes to bulk carriers and to specialized carriers, including container vessels, barge carrying vessels and vehicle carriers.

56. Similarly, with regard to the changes in the relative shares of groups of countries in the world fleet by vessel type between 1965 and 1972 as well as from 1971 to 1973, the combined share of the world tanker fleet under the flags of developed market-economy countries, countries of Southern Europe and open registry countries increased from 91.6 per cent in 1965 to 91.9 per cent in 1972 and 92.4 per cent in 1973. The share of these flags in the ore and bulk carrier fleet (including combined carriers) dropped from 95.5 per cent in 1965 to 93.2 per cent in 1972 and 1973. There are no detailed data available to show changes in the share of these three groups of countries with regard to general cargo vessels between 1965 and 1973. However, the general picture given by table 7 in this connexion is that their combined relative share has declined. This does not necessarily mean a decline in the relative share of these groups of countries in the corresponding field of shipping activity. It should rather be seen as a result of specialization and unitization, particularly in the field of liner shipping. It is worth noting in this connexion that in 1973, 95 per cent of the tonnage of container ships and barge carrying vessels and 99.5 per cent of vehicle carriers were registered under the flags of countries in this combined group.

57. The socialist countries of Eastern Europe and Asia have concentrated their shipping activities mostly in the sector of general cargo vessels. The percentage shares of flags of socialist countries of Eastern Europe and Asia in the world fleet by type of vessels in 1965, 1971, 1972 and 1973²⁰ are:

²⁰ Data derived from table 7.

TABLE 7
 Percentage share of world tonnage by type of vessel as at 1 July, 1965, 1971, 1972 and 1973^a
 (In terms of grt)

Groups of countries and year	All ships ^b	Tankers	Ore and bulk ^c carriers including combined carriers	General cargo ^d	Container ships	Barge carrying vessels	Other ships
<i>Index of tonnage increase: 1965 = 100</i>							
World total							
1973	144	211	428			131	
1972	178	192	372			126	
1971	163	176	313			121	
1965	100	100	100			100	
World total							
1973	100.0	40.5	24.5	23.8	2.1	0.2	8.9
1972	100.0	40.1	23.2	25.8	1.6	0.2	9.1
1971	100.0	40.1	21.3	28.1	1.2	—	9.3
1965	100.0	37.1	11.1			51.8	
Developed market-economy countries (excluding Southern Europe)							
1973	52.2	53.8	56.0	41.7	94.9	100.0	50.6
1972	54.4	55.8	59.6	45.9	94.4	100.0	51.6
1971	55.9	57.2	60.6	49.9	96.8	—	51.4
1965	61.8	62.9	69.0	—	—	—	64.6
Southern Europe							
1973	9.8	8.3	10.3	13.6	—	—	7.5
1972	8.8	7.5	7.9	12.9	0.4	—	7.3
1971	8.5	7.3	7.1	11.9	0.3	—	7.3
1965	8.0	4.9	6.2	—	—	—	9.3
Open registry countries							
1973	23.2	30.3	26.9	16.4	3.4	—	4.8
1972	21.4	28.6	25.7	13.9	3.1	—	4.4
1971	19.9	26.9	25.2	11.6	2.9	—	4.0
1965	15.0	23.8	20.3	—	—	—	6.7
Socialist countries of Eastern Europe and Asia							
1973	8.3	3.7	2.5	14.5	—	—	30.5
1972	8.7	4.2	2.4	13.9	0.1	—	30.7
1971	8.9	4.4	2.3	13.5	—	—	30.9
1965	7.4	4.5	1.3	—	—	—	9.5
Developing countries, excluding Liberia, Panama, Singapore, Somalia							
1973	6.0	3.6	3.7	12.8	1.7	—	6.0
1972	6.1	3.6	3.8	12.3	2.0	—	5.7
1971	6.3	3.8	4.3	12.0	—	—	6.2
1965	7.3	3.8	3.2	—	—	—	9.2
Of which:							
in Africa							
1973	0.4	0.2	—	1.2	—	—	0.8
1972	0.4	0.2	0.1	1.0	—	—	0.8
1971	0.4	0.2	—	0.9	—	—	0.9
1965	0.4	0.1	—	—	—	—	0.5
in Asia							
1973	3.2	1.5	2.7	7.0	1.7	—	2.8
1972	3.3	1.5	2.7	6.8	2.0	—	2.4
1971	3.4	1.6	3.2	6.9	—	—	2.4
1965	3.8	0.7	2.9	—	—	—	5.4
in Latin America and the Caribbean							
1973	2.3	1.9	1.0	4.6	—	—	2.4
1972	2.4	1.9	1.0	4.5	—	—	2.5
1971	2.5	2.0	1.1	4.2	—	—	2.9
1965	3.1	3.0	0.3	—	—	—	3.3
Other-unallocated							
1973	0.5	0.3	0.6	1.0	—	—	0.4
1972	0.6	0.3	0.6	1.1	—	—	0.3
1971	0.5	0.4	0.5	1.1	—	—	0.2
1965	0.5	0.1	—	—	—	—	0.7

Source: Compiled from *Lloyd's Register of Shipping: Statistical Tables* (London) and supplementary information on the United States reserve fleet and the United States and Canadian fleets.

^a Excluding respectively in 1965, 1971, 1972 and 1973: (i) United States reserve fleet of about 10.4, 5.0, 4.3 and 2.5 million grt; (ii) United States Great Lakes fleet of about 2.0, 1.7, 1.8 and 1.7 million grt; (iii) Canadian Great Lakes fleet of about 1.2, 1.5, 1.5 and 1.5 million grt.

^b Vessels of 100 grt and over.

^c Ore and bulk carriers of 6,000 grt and more, including combined ore/oil and ore/bulk/oil carriers; combined carriers amounted in: 1973 to 349 ships with a total tonnage of 19,538,746 grt; 1972 to 294 ships with a total tonnage of 15,073,353 grt; 1971 to 240 ships with a total tonnage of 10,672,516 grt; 1965 to 90 ships with a total tonnage of 2,015,000 grt (UNCTAD secretariat estimate).

^d This category includes passenger/cargo vessels (both liner and tramp).

Liner shipping has been undergoing a process of change as a result of which container ships, barge-carrying vessels and vehicle carriers currently dominate many of the major liner trades. As can be seen, the participation of developing countries in these specialized types of liner tonnage is very limited.

60. The importance of the fact that the share of developing countries in the world tonnage of general cargo ships is considerably higher than their total share of world tonnage can be seen in conjunction with trends in demand for tonnage, as these can be assumed from the trade data presented in chapter I. There it was shown that trade in oil and in bulk cargoes has been expanding much more rapidly than trade in other cargoes. However, from 1972 to 1973 there were signs of some improvement in the composition of the fleets of developing countries by type of vessel. The share of developing countries in tanker tonnage did not decline further during the year, as it did from 1971 to 1972. Although their share in the bulk carrier fleet declined, the decline was less than from 1971 to 1972, i.e. by 0.1 per cent as against 0.5 per cent. Further relevant developments may occur in the near future. According to press reports,²³ seven oil producing countries, including Algeria, Libya and Saudi Arabia, decided to form the Arab Maritime Company for the transport of oil. However, according to the same source, in early 1973 the total fleet of tankers in service, under construction or on order owned by the Arab Organization of Petroleum Exporting Countries (AOPEC) group of countries stood at 1.5 million dwt, which accounted for not more than 2.2 per cent of the world tanker tonnage on order.

C. Trends in types, sizes and age distribution

1. TRENDS IN TYPES

61. The trend towards specialization in the supply of tonnage to meet the demand for tonnage in each of the major fields of maritime transport and the specialized demand for the transport of specific individual commodities and products has been present since the 1950s. However, it has become prominent in world merchant shipping since the latter part of the decade 1960-1969.

62. A number of major factors have contributed to this trend. First has been the multiplication of both the types and the volume of commodities and products which are currently transported by sea. A second factor has been the technological progress in the world ship-building industry which has made it possible, for example, to carry liquified natural gas (LNG) in bulk and led to the construction of other highly specialized and sophisticated types of vessels such as container ships, barge carrying vessels, vehicle carriers, ore, bulk and combined carriers. Thirdly, there has been the economic necessity for carriers to increase their efficiency, particularly in those sectors of maritime transport where competitive conditions exist both in the supply of and the demand for tonnage.

63. An example indicative of the growing importance of specialized ship types is to be found in the analysis of the world merchant fleet by principal types of vessels

presented in *Lloyd's Register of Shipping; Statistical Tables*, which specifies twenty-one different types of vessels whose tonnage changes are separately noted, whereas only ten types of vessels were specified in 1971.²⁴ Before 1970 practically the only specialized types noted were oil tankers and ore and bulk carriers.²⁵

64. Table 9 shows the composition in 1972 of the world merchant fleet by various types of vessels. This table will constitute, as from this year, a regular feature of the *Review*. For earlier years, the grouping had to be based on a wider category of vessels as indicated in the table. The table confirms certain basic trends in the composition of the world merchant fleet which have been already referred to in the preceding paragraphs. The figures for tonnage changes show that, in the new build-ups, a high proportion of world total tonnage is accounted for by oil tankers, ore and bulk carriers (including bulk/oil carriers) as well as by a number of specialized carriers such as container vessels, liquified gas or petroleum carriers, barge carrying vessels, vehicle carriers and chemical tankers, which did not exist in significant number up to a few years ago.

2. TRENDS IN SIZE

65. Table 10 is a new addition to the *Review* and will become a regular feature of future issues. This table shows the trends in the average size of different types of ships in 1972. To the extent that data are available, the table goes back to 1965. A parallel series giving the estimated average size of vessels on order is also shown in table 10.

66. The marked increase in the sizes of vessels—particularly of tankers and/or bulk and ore carriers—in recent years is clearly demonstrated by the figures in table 10. The tendency for the average size of tankers to increase has been continuous, but it appears that the rate of increase was notably faster in the period 1965-1973 than in the period 1960-1965. Consequently, by 1973, the average size of tankers (of 100 grt and above) was estimated at 31,740 dwt as compared with 29,016 dwt in 1972 and 16,385 dwt in 1965. The average size of ore/bulk carriers (including combined carriers) of 6,000 grt and above increased from 20,456 dwt in 1965 to 35,203 dwt in 1972 and to 37,330 in 1973. Between 1970 and 1973, the average size of container vessels increased from 11,420 grt to 14,970 grt while that of the LNG carriers increased from 4,690 to 6,090 grt. Further rapid increases in the average size of the various types of vessels should be expected in the next few years, since available information²⁶ shows that more than two thirds of tankers of 10,000 dwt and over on order in 1972 belonged to the size groups of 100,000 dwt and above. Moreover, 128 ore/bulk carriers out of 406 on order at the end of 1972 belonged to the size group of 100,000 dwt and above.

67. The data for average sizes of vessels in service do not fully reflect the rapid and continuing changes in actual sizes of vessels built, particularly with regard to the upper limits of sizes of the various types of vessels. For example, in 1965 only 4 per cent of tanker tonnage

²⁴ As presented in table 2 of *Lloyd's Register of Shipping; Statistical Tables* (London), for the years 1972 and 1971 respectively.

²⁵ Changes in fishing vessels, and also fish carriers and factory ships, were also separately shown in *Lloyd's Register of Shipping; Statistical Tables* (London) presumably for historical reasons.

²⁶ Fearnley and Egers Chartering Co., Ltd., *Review 1972* (Oslo).

²³ *Seatrade* (Colchester, U.K.), vol. 3, No. 2 (February 1973), p. 32.

TABLE 9
Analysis of world fleets by principal types of vessels, 1965 and 1970-1973^a
(In thousands of tons)

	1965	1970	1971	1972	1973
Oil tankers	55,046	86,140	96,141	105,129	115,365
Liquefied gas carriers		1,350	1,622	1,887	2,276
Chemical carriers		451	557	551	652
Miscellaneous tankers				126	115
Bulk/oil carriers	18,757	8,317	10,673	15,073	19,539
Ore and bulk carriers		38,334	43,124	48,415	53,110
General cargo (including passenger cargo)		72,396	71,931	70,591	69,506
Miscellaneous cargo ships				547	574
Container ships (fully cellular)		1,908	2,781	4,310	5,899
Barge carrying vessels				484	565
Vehicle carriers				488	359
Fishing factories and carriers		7,804	9,037	9,620	10,275
Fishing vessels (including trawlers)					
Passenger liners		2,991	3,002	3,052	3,301
Ferries and other passenger vessels				3,787	4,189
All other vessels ^b	86,588	7,799	8,335	4,281	4,502

Source: Lloyd's Register of Shipping: Statistical Tables (London), 1965-1973.

^a The data in this table include the United States reserve fleet and the United States and Canadian Great Lakes fleets. The data are therefore not comparable with the data given in tables 5 and 6 above.

^b Including livestock carriers, supply ships and tenders, tugs, cable ships, dredgers, icebreakers, research ships and others.

TABLE 10
Trends in average size of world fleet by selected types of vessels, 1965-1973
(Figures in parentheses denote dwt)

	1965	1966	1967	1968	1969	1970	1971	1972	1973
Average size of oil tankers of 100 grt and above	10,370	11,040	11,620	12,260	13,190	14,110	15,280	16,270	17,460
Equivalent average size in dwt ^a	(16,385)	(17,443)	(18,592)	(19,984)	(21,764)	(24,269)	(26,893)	(29,016)	(31,740)
Average size of ore bulk carriers of 6,000 grt and above (including bulk/oil carriers)	13,370	14,380	15,710	16,870	17,570	18,450	19,490	20,830	21,990
Equivalent average size in dwt ^a	(20,456)	(21,714)	(24,193)	(27,160)	(27,936)	(30,258)	(32,353)	(35,203)	(37,330)
Average size of container ships of 100 grt and above in grt	—	—	—	—	—	11,420	12,040	13,810	14,970
Average size of liquefied gas carriers in grt	—	—	—	—	—	4,690	4,960	5,370	6,090
Average size of all other ships of 100 grt and above ^b in grt	2,460	2,440	2,400	2,270	2,200	2,110	2,040	1,980	1,920

Estimated average sizes of vessels on order as at end of:

	1965	1966	1967	1968	1969	1970	1971	1972	1973
<i>Estimates of:</i>									
Average size of tankers of 10,000 dwt and above (in dwt)	75,000	98,030	135,030	151,140	145,990	166,700	176,960	163,720	170,570
Average size of ore/bulk carriers of 10,000 dwt and above (in dwt)	40,910	40,720	39,650	44,720	59,100	69,010	63,430	65,020	55,850
Average size of container ships in dwt (vessels of capacity of 300 or more containers)	—	—	—	—	—	19,610	19,330	18,580	17,090
Average size of liquefied gas carriers in dwt (vessels of 12,000 dwt and over)	—	—	—	—	—	19,210	20,160	26,350	51,620
Average size of all other ships of 1,000 grt and above	7,780	7,820	8,500	8,950	9,490	9,780	9,930	9,690	9,820

Sources: (i) Existing fleet: Estimated by the UNCTAD secretariat on the basis of data published in Lloyd's Register of Shipping: Statistical Tables (London), 1965-1973; (ii) New orders: Estimated by the UNCTAD secretariat from data given in Fearnley and Egers Chartering Co. Ltd., Review, 1973 (Oslo), for oil tankers, bulk carriers and other ships; size estimates of container ships and liquefied gas carriers were based on data given in World Ships on Order: Supplement to

Fairplay International Shipping Journal (London), November issues of years 1970-1973.

^a Converted from grt on the basis of the estimated dwt/grt ratios for tankers and bulk carriers shown in para. 36.

^b Includes container ships and liquefied gas carriers up to 1969.

belonged to the size group of 80,000 dwt and above, whereas in 1973 47.2 of tanker tonnage was in this size group.²⁷ The share of tanker tonnage in the size group of 200,000 dwt and above has shown a rapid increase so that in 1973 it accounted for 30.6 per cent of the total tanker tonnage, as compared with about 16 per cent in 1972, 6 per cent in 1970 and 0.7 per cent in 1968. In the case of ore and bulk carriers, no one vessel above the limit of 80,000 dwt existed in 1965, whereas in mid-1973

25 per cent of the existing ore and bulk carrier tonnage belonged to the size group of 80,000 dwt and above.

3. TRENDS IN AGE DISTRIBUTION

68. The age distribution of the world merchant fleet as at 1 July 1973 by groups of countries and by type of vessel is shown in table 11, together with comparative data for 1965, 1971 and 1972. It will be observed that the relatively younger fleets are to be found in the developed market-economy countries.

²⁷ The discussion is based on data derived from *Lloyd's Register of Shipping: Statistical Tables* (London), 1973.

TABLE 11
Age distribution of world merchant fleet as at 1 July 1965 and 1971-1973^a
(Percentage of total tonnage (grt) of each group)

	Year	Total	0-4 years	5-9 years	10-14 years	15-19 years	20-24 years	25 years and over
World total	1965	100	27	26	14	7	19	7
	1971	100	38	23	18	10	5	6
	1972	100	39	23	17	11	5	5
	1973	100	39	25	15	11	5	5
<i>By group of countries:</i>								
Developed market-economy countries (excluding Southern Europe)	1965	100	28	26	15	8	19	4
	1971	100	46	27	15	3	4	5
	1972	100	43	25	15	8	3	6
	1973	100	45	26	14	7	3	5
Southern Europe	1965	100	19	24	10	9	24	14
	1971	100	30	13	18	16	8	15
	1972	100	35	15	18	16	8	8
	1973	100	33	19	16	18	7	7
Open registry countries (Liberia, Panama, Cyprus, Singapore, Somalia)	1965	100	24	31	14	7	20	4
	1971	100	33	18	21	14	6	8
	1972	100	36	19	17	16	7	5
	1973	100	36	20	15	17	8	4
Total of all three groups	1965	100	27	26	15	8	19	5
	1971	100	41	22	17	8	5	7
	1972	100	40	22	16	11	5	6
	1973	100	41	24	14	11	5	5
Socialist countries of Eastern Europe and Asia	1965	100	45	25	9	2	8	11
	1971	100	31	35	17	8	2	7
	1972	100	28	36	18	10	2	6
	1973	100	27	35	20	10	3	5
Developing countries ^b	1965	100	..	..	..	..	..	..
	1971	100	18	13	27	34	5	3
	1972	100	30	20	19	11	8	12
	1973	100	29	21	21	11	7	11
<i>By ship type:</i>								
Tankers	1965	100	34	33	19	5	7	2
	1971	100	39	24	20	11	3	3
	1972	100	42	24	18	11	3	2
	1973	100	42	24	16	12	4	2
Bulk carriers ^c	1965	100	49	24	8	3	8	8
	1971	100	56	27	11	3	1	2
	1972	100	53	31	11	2	1	2
	1973	100	48	31	12	4	2	3
Other ships	1965	100	18	21	13	10	28	10
	1971	100	27	19	20	13	9	12
	1972	100	29	19	19	15	8	10
	1973	100	27	20	17	16	8	12

Source: Compiled from *Lloyd's Register of Shipping: Statistical Tables* (London), 1965, 1971, 1972 and 1973, and supplementary data.

^a Excluding vessels of less than 100 grt; also excludes the United States reserve fleet and United States and Canadian Great Lakes tonnage (estimated age distribution).

^b The age composition of tonnage under the flags of Argentina, Brazil, Hong Kong, India, Indonesia, Israel, Kuwait, Mexico, Pakistan, Philippines, Republic of Korea, and Venezuela only is provided by the source and reflected in this table.

^c Ore and bulk carriers of 6,000 grt and more, including combined OBC carriers.

69. As at 1 July 1973, about 39 per cent of the world fleet consisted of vessels less than five years old and 79 per cent of vessels less than 15 years old. The corresponding percentages in 1972 were 39 per cent and 79 per cent, and in 1965 27 per cent and 67 per cent. This evolution has implications for the productivity of shipping space, as newer ships tend to be larger, faster and better designed than older vessels. Economic factors primarily govern changes in the age composition of the world fleet, whereas more sophisticated technology contributes towards the building of technically advanced vessels. Consequently, the introduction of new technology in ocean shipping has the effect of accelerating the rate of obsolescence as old vessels become less efficient productive units by comparison with new tonnage. However, in periods of high tonnage demand conditions, like those witnessed in 1973, the rate of scrapping even of very old vessels declines to very low levels.²⁸

70. In 1973, as in previous years, the fleets registered under the flags of developed market-economy countries had the largest proportion of vessels less than five years old. The trend since 1965 has been as follows: 1965: 28 per cent; 1971: 46 per cent; 1972: 43 per cent; and 1973: 45 per cent. In the countries of Southern Europe, 33 per cent of vessels were less than five years old in 1973. The corresponding figures in 1972, 1971 and 1965 were 35 per cent, 30 per cent and 19 per cent. On the other hand, 36 per cent of vessels registered under the flags of open registry countries were less than five years old in 1973 as against 36 per cent in 1972, 33 per cent in 1971 and 24 per cent in 1965. When the three groups (of developed market-economy, Southern Europe and open registry countries) are considered together, it is seen that the proportion of tonnage under five years of age stood at 41 per cent in 1973 as against 40 per cent in 1972, 41 per cent in 1971 and 27 per cent in 1965. The proportion of vessels less than 15 years old was 79 per cent in 1973 as against 78 per cent in 1972, 80 per cent in 1971 and 68 per cent in 1965. At the other end of the scale, the proportion of vessels of 20 years or more has declined from 24 per cent in 1965 to 12 per cent in 1971, 11 per cent in 1972 and 10 per cent in 1973. Thus, the age composition of the aggregated tonnage under the flags of these groups of countries has improved significantly in the period 1965 to 1973 and it is significantly more favourable than the age composition of the tonnage under the flags of the socialist countries of Eastern Europe and Asia and also of developing countries.

71. In the case of the fleets under the flags of the socialist countries of Eastern Europe and Asia, 27 per cent of the tonnage was less than five years old in 1973, as compared with 28 per cent in 1972, 31 per cent in 1971, and 45 per cent in 1965. The share of tonnage in the age group of 15 years and over was 18 per cent in 1973, as against 18 per cent in 1972, 17 per cent in 1971 and 21 per cent in 1965.

72. A complete breakdown by age groups for the fleets of developing countries is not available.²⁹ The data included in table 11 refer to the age composition of only

the countries listed in note *b* to the table. These data show that the age composition of the tonnage of the major fleets of developing countries is substantially inferior to that of the world fleet. It is likely that if complete data for the total tonnage under flags of developing countries were available, they would further worsen the picture.

73. Within the different types of vessels shown in table 11, the largest proportion of tonnage less than five years old is in the bulk carrier fleet. In 1973, 48 per cent of the bulk carrier fleet belonged to this age group whereas the proportion of tankers less than five years old in 1973 was 42 per cent. As for "other ships" the proportion of five-year old vessels was 27 per cent in 1973. This favourable age structure of the bulk carrier fleet is largely due to the fact that few ships of this type were built before the early 1960s. Even if the fleet continues to expand at the present rate its future age structure will change and the proportion of tonnage less than five years old will fall relatively to the total fleet; this has already been seen in the fall between 1972 and 1973 from 53 per cent to 48 per cent of the share of this tonnage which was less than five years of age.

D. The productivity of shipping space

74. Other conditions being equal, larger, faster and better designed ships raise the productivity of shipping space. Productivity can best be measured by the number of ton-miles of cargo carried per year per dwt of a given fleet of ships. This measure takes into account the effect of voyage distance on shipping productivity. There are no data available that would make it possible to measure productivity of all vessels in terms of ton-miles. Such data, however, are available for bulk carriers of 18,000 dwt and above and for tankers of 10,000 dwt and above. The productivity estimates are presented in table 12 for tankers and in table 13 for bulk carriers. The estimates in these tables cannot be compared with similar estimates published in the *Review of maritime transport* of previous years, in which different sources of data were used.

75. Both series of productivity indices relate to the productivity of the active fleet, that is, they exclude tonnage which is laid-up. Clearly, in periods when laid-up tonnage is very small, the difference between the productivity of the total fleet and the productivity of the active fleet is small. When the volume of tonnage laid-up is significant, the productivity of the active fleet is clearly higher than that of the total fleet. There may also be an influence on the productivity of the active fleet itself when there is a substantial amount of tonnage laid-up, although the direction of any such influence is not clear. One factor which may be of importance is that in times of low freight rates, tonnage may not be placed for chartering nor be put into lay-up but may be held in reserve in expectation of higher rates. Also tonnage may be operated at reduced speed or at less than full loads. This could account for the falls in productivity of the bulk carriers in 1962, 1969 and 1971.

76. It can be seen from tables 12 and 13 that on the whole the productivity of both the oil tanker and the bulk carrier fleets has been increasing in the periods covered by these tables. However, the average increase in the case of tankers was 2.3 per cent per annum whereas in the case of bulk carriers, the average increase was

²⁸ See chap. V below.

²⁹ The data included in table 7 of the *Review of Maritime Transport, 1971* (United Nations publication, sales No. E.73.II.D.2) and in corresponding tables of the *Review* for earlier years for developing countries was based on estimations and is not comparable with the data used for this discussion.

TABLE 12
Estimated ton-miles of oil shipments per dwt, by oil tankers^a of 10,000 dwt and over, 1962-1973

Year	Oil shipments (million tons)	Grain shipments (million tons)	Total oil/grain shipments (million tons)	Estimated ton-miles of oil/grain shipments (thousand million ton-miles)	Total fleet (million dwt)	Total active fleet (million dwt)	Ton-miles per active dwt (in thousands)	Index of active fleet productivity (1962 = 100)
1962	536	4.7	540.7	2,320	65.1	63.0	36.8	100
1963	582	4.3	586.3	2,468	69.5	68.7	35.9	98
1964	652	7.1	659.1	2,800	76.3	75.8	36.9	100
1965	727	11.8	738.8	3,170	84.7	84.3	37.6	102
1966	802	9.2	811.2	3,367	94.1	93.7	35.9	98
1967	865	4.7	869.7	4,153	102.5	102.2	40.6	110
1968	975	2.9	977.9	4,962	114.3	114.1	43.5	118
1969	1,080	2.1	1,082.1	5,624	129.3	129.1	43.6	118
1970	1,240	2.0	1,242.0	6,497	148.7	148.5	43.8	119
1971	1,315	1.5	1,316.5	7,462	168.4	167.2	44.6	121
1972	1,433	3.0	1,436.0	8,635	186.0	184.8	46.7	127
1973	1,585 ^b	..	..	9,770	212.4	212.2	46.0	125

Source: Compiled on the basis of Fearnley and Egers Chartering Co. Ltd., *Review, 1973* (Oslo) and *idem, World Bulk Trades, 1972* (Oslo).

^a Estimated grain shipments in ton-miles have been included.

^b Estimated figure.

TABLE 13

Estimated ton-miles of bulk commodities carried per dwt, by bulk carriers, including bulk/oil carriers^a of 18,000 dwt and above, 1960-1972

Year	Bulk cargo (million tons)	Oil cargo (million tons)	Total bulk cargo, including oil (million tons)	Estimated ton-miles of bulk cargo carried, including oil (thousand million ton-miles)	Total fleet (million dwt) ^b	Total active fleet (million dwt) ^c	Thousand ton-miles per active dwt	Index of active fleet productivity (1960 = 100)
1960	38	2	40	132	4.1	3.9	33.8	100
1961	53	2	55	192	5.3	5.2	36.9	109
1962	73	3	76	275	7.9	7.8	35.3	104
1963	98	3	101	386	11.0	10.7	36.1	107
1964	138	4	142	550	14.7	14.6	37.7	112
1965	171	5	176	683	18.0	17.9	38.2	113
1966	207	11	218	931	24.1	24.0	38.8	115
1967	258	29	287	1,330	33.2	33.2	40.1	119
1968	326	54	380	1,903	44.0	44.0	43.3	128
1969	374	59	433	2,225	53.3	53.3	41.7	123
1970	439	61	500	2,636	62.2	62.2	42.4	125
1971	458	97	555	3,043	72.8	72.5	42.0	124
1972	526	132	658	3,639	87.9	86.6	42.0	124

Sources: Compiled on the basis of Fearnley and Egers Chartering Co. Ltd., *Trades of World Bulk Carriers* (Oslo), 1969 and 1970 issues; and *World Bulk Trades 1972* (Oslo, 1973).

^a Including oil cargoes in combined carriers, figures between 1960 and 1964 have been estimated by the UNCTAD secretariat.

^b Mid-year figures.

^c Estimated by the UNCTAD secretariat.

lower and equal to 2 per cent per annum.³⁰ The average length of voyage has increased substantially over the last decade. For crude oil cargoes the average loaded voyage was 4,500 miles in 1962 and had risen to 5,650 miles in

³⁰ The productivity estimates, being computed on the basis of active tonnage, tend to be high in years like 1960 when the laid-up tonnage as a proportion of the total bulk carrier fleet was equal to 5 per cent, which is well above the average of laid-up tonnage in the period 1960-1972. And since 1960 was used as a base year, the productivity estimates of subsequent years tended to rise at a relatively low rate. For reasons of comparison, it is noted that in the year 1962 the laid-up tanker tonnage as a proportion of the total tanker fleet was equal to 3.2 per cent which also is considerably higher than the average of laid-up tanker tonnage in the period 1962-1973.

1970 and to 6,500 miles in 1972. For dry bulk cargoes, the figures are 3,550, 4,950 and 5,000 miles respectively.³¹ The trends in the estimated productivity of tankers and bulk carriers during the period under consideration showed close correspondence with the trends in the average distance of laden voyage, in the average size of vessels and in the dwt/grt ratios.

77. As mentioned in paragraph 74 above, it is not possible to estimate the productivity of the world fleet as a whole on the same basis as for tankers and bulk carriers. The data available enable this to be done only

³¹ Fearnley and Egers Chartering Co. Ltd., *World Bulk Trades, 1972* (Oslo), p. 8, table 3.

TABLE 14
Cargo carried per dwt of world fleet, 1960-1972

Year	World fleet ^a (million dwt)	Total carried cargo ^b (million tons)	Cargo carried per dwt (tons)	Index (1960 = 100)
1960	157.7	1,080	6.85	100
1961	164.1	1,150	7.01	102
1962	171.9	1,250	7.27	106
1963	181.4	1,350	7.44	109
1964	190.9	1,510	7.91	115
1965	204.5	1,674	8.18	119
1966	221.1	1,770	8.01	117
1967	240.9	1,910	7.92	116
1968	262.1	2,107	8.04	117
1969	288.3	2,312	8.02	117
1970	326.1	2,605	8.00	117
1971	365.2	2,697	7.38	108
1972	404.2	2,861	7.08	103

^a For 1965 to 1972, the figures are derived from table 5 above. For 1960 to 1964, the figures are derived from *Review of maritime transport, 1971 (op. cit.)*, table 4.

^b Taken from table 1 above.

on the basis of the number of tons of cargo carried per dwt. These are shown in table 14 together with indices relative to the period 1960-1972. The general trend for the productivity of shipping tonnage to increase is also shown in this table. The significant drop in productivity in 1971, and to a lesser extent in 1972, can be explained by a reference to the relative increases in laid-up tonnage in 1971 and 1972.

E. Tonnage on order

78. During the 12-month period ending on 31 October 1973, the world tonnage on order increased by 87.4 million dwt or by 5.13 per cent as against a decrease of 1.1 million dwt in the corresponding period ending 31 October 1972. The reduction in the volume of new orders in 1972 was understandable in the light of a weak freight market, greater laid-up tonnage, uncertainties in time of delivery and in future market expectations. However, in the third quarter of the year the position changed and in December 1972 alone, more than 10 million grt of shipping was contracted, as compared with 21 million grt placed with world shipyards during the preceding 11 months.³² Heavy ordering of new tonnage continued during the first four months of 1973, and a relative slowing down in the period May-July 1973, partly because of a sharp rise in prices and partly because delivery dates had been pushed well into the latter part of the 1970s, was only temporary. In the quarter August-October 1973, there was a net increase of 26.3 million dwt. As shown in table 15 the world tonnage on order as at 31 October 1973 stood at 257.9 million dwt and amounted to an equivalent of 58 per cent of existing world tonnage, as against 170.5 million dwt on 31 October 1972 which amounted to 42.2 per cent of the then existing tonnage. The corresponding figures for 1971 were 171.6 million dwt and 47 per cent respectively.

79. Table 15 also gives data about tonnage on order for 1971-1973 by types of vessels and by groups of coun-

tries. As can be seen, the sharp increase in the total order book in 1973 was almost entirely due to tanker orders. The only other net increase was registered by the bulk carrier tonnage on order (3.9 million dwt). However, this was more than offset by a sharp decline in the tonnage of combined carriers on order. Finally, orders for ships other than tankers, bulk carriers (including combined carriers) and container ships, increased only marginally (0.1 per cent). A summary of yearly changes in the period 1969-1973 with regard to three main groups of tonnage is shown in table 16.

80. Tables 15 and 16 do not provide sufficient detail to show trends in new orders for other modern types of vessels which characterize current developments in shipbuilding and shipping. For example, liquefied gas carriers are included in orders for tankers of less than 150,000 dwt, and unit load system vessels other than container ships are included in the category of "other ships". However, some information in this regard is presented and discussed in chapter IV below.

81. The combined share of flags of developed market-economy countries, countries of Southern Europe and open registry countries in the tonnage on order was 84.2 per cent in 1973 and 83 per cent in 1972, as against 89 per cent in 1971. At first sight this implies a significant decline in the combined share of these groups of countries. However, of the tonnage on order 6.7 per cent in 1973 and 7.3 per cent in 1972 is recorded as being for "flags not yet known" as against 3.1 per cent in 1971. It seems reasonable to assume that this tonnage is for owners in the above groups of countries. If the tonnage on order for "flags not yet known" is added to the tonnage on order for flags of the combined group of developed market-economy, Southern Europe and open registry countries, then the resulting share of this group of countries combined, would become 90.9 per cent in 1973 and 90.3 per cent in 1972, as against 92.1 per cent in 1971, and the change appears to be less significant.

82. It can be seen from table 15 that in relation to the distribution of tonnage on order by vessel type, significant changes occurred in 1973 for the combined group of flags of developed market-economy countries, countries of Southern Europe, open registry and "flag

³² *Lloyd's Register of Shipping: Merchant Shipbuilding Return* (London), for the quarter ended 31 December 1972.

TABLE 15
World tonnage on order as at 31 October, 1968-1973
(Million dwt tons and percentages)

Groups of countries and year	All ships (million dwt)	Tankers 150,000 dwt and over	Tankers under 150,000 dwt	Ore/oil and ore/bulk/oil carriers	Other bulk carriers	Container ships	Other dry cargo ships	
World total								
1968	78.5	—	50.7	—	18.1	..	9.7	
1969	101.8	49.8	11.8	13.7	14.6	2.9	9.0	
1970	132.0	65.5	11.7	20.0	20.9	3.8	10.1	
1971	171.6	87.0	16.4	26.2	28.0	4.2	9.8	
1972	170.5	93.7	25.2	19.5	21.2	3.2	7.7	
1973	257.9	155.9	52.7	13.8	25.1	2.6	7.8	
World total								
1968	100	64.6 %	11.5 %	13.4 %	23.0 %	2.9 %	12.4 %	
1969	100	49.0 %	8.9 %	15.1 %	14.4 %	2.9 %	8.8 %	
1970	100	49.6 %	9.6 %	15.3 %	15.8 %	2.9 %	7.7 %	
1971	100	50.7 %	9.6 %	15.3 %	16.3 %	2.4 %	5.7 %	
1972	100	55.0 %	14.8 %	11.4 %	12.4 %	1.9 %	4.5 %	
1973	100	60.5 %	20.4 %	5.4 %	9.7 %	1.0 %	3.0 %	
Developed market-economy countries (excluding Southern Europe)								
			<i>Percentage share of world tonnage</i>					
1971	60.4	61.1	56.4	70.0	55.4	80.1	41.4	
1972	56.9	58.1	52.3	69.0	52.6	66.6	33.4	
1973	47.6	48.3	43.9	58.4	50.6	51.9	27.1	
Open registry countries: Liberia, Panama, Cyprus, Somalia, Singapore								
1971	22.8	27.9	12.1	21.9	23.2	3.7	5.8	
1972	20.6	25.3	13.3	15.2	22.2	2.3	5.6	
1973	27.9	31.7	25.6	15.7	22.1	5.4	15.3	
Southern Europe								
1971	5.8	3.7	14.0	3.8	8.2	2.7	12.2	
1972	5.5	4.0	8.8	4.6	7.5	10.2	7.2	
1973	8.7	8.4	10.6	4.4	8.0	16.0	10.5	
Socialist countries of Eastern Europe and Asia								
1971	3.5	0.9	5.6	—	5.0	12.0	23.9	
1972	4.8	1.3	8.0	1.6	6.9	17.4	33.7	
1973	4.2	0.8	9.2	2.3	5.9	24.4	28.9	
Developing countries—total								
1971	3.8	0.8	7.2	4.3	6.5	1.2	13.5	
1972	4.4	0.5	9.4	6.7	9.2	1.8	17.1	
1973	4.5	1.8	5.1	15.4	10.4	2.3	16.6	
Of which:								
In Africa								
1971	0.1	—	0.1	—	—	—	1.3	
1972	0.3	—	1.1	—	—	—	3.9	
1973	0.3	—	1.0	—	—	—	4.4	
In Asia								
1971	2.1	0.8	4.3	0.8	4.3	1.2	5.3	
1972	2.2	0.5	4.5	2.0	5.8	1.8	5.6	
1973	2.5	1.5	2.4	3.7	7.2	2.3	5.7	
In Latin America and the Caribbean								
1971	1.6	—	2.8	3.5	2.2	—	6.9	
1972	1.9	—	3.8	4.7	3.4	—	7.6	
1973	1.7	0.3	1.7	11.7	3.1	—	6.5	
Flag not yet known								
1971	3.1	5.6	0.4	—	0.4	0.3	2.6	
1972	7.3	10.8	5.4	2.9	0.5	1.7	2.8	
1973	6.7	8.8	4.5	3.8	2.1	—	1.6	
Other-unallocated								
1971	0.6	—	4.3	—	1.3	—	0.6	
1972	0.5	—	2.8	—	1.1	—	0.2	
1973	0.4	0.2	1.1	—	0.9	—	—	

Source: Compiled from *World Ships on Order: Supplement to Fairplay International Shipping Journal* (London), November issues of 1968-1973.

TABLE 16
Tonnage on order in million dwt as at 31 October, 1969-1973

Year	All ships	Change (%)	Tankers	Change (%)	Bulk carriers (including combined carriers)	Change (%)	Other ships	Change (%)
1969	101.8		61.6		28.3		11.9	
1970	132.0	+29.7	77.2	+27.4	40.9	+44.5	13.9	+16.8
1971	171.6	+30.0	103.4	+33.9	54.2	+32.5	14.0	+0.07
1972	170.5	- 0.6	118.9	+15.0	40.7	+24.9	10.9	-22.1
1973	257.9	+51.3	208.6	+75.4	38.9	- 4.4	10.4	- 4.6

Source: Compiled from table 15.

not yet known". The share of this combined group of flags for tankers of 150,000 dwt and above has decreased from 98.3 per cent in 1971 to 98.2 per cent in 1972 and 97.2 per cent in 1973. However their share in orders for tankers under 150,000 dwt has risen from 82.9 per cent in 1971 and 79.8 per cent in 1972 to 84.6 per cent in 1973. The share of these countries in orders for ore/oil and ore/bulk/oil carriers has dropped considerably from 95.7 per cent in 1971 and 91.7 per cent in 1972 to 82.3 per cent in 1973, while their share of other bulk carriers which dropped from 87.2 per cent in 1971 to 82.8 per cent in 1972 remained unchanged at that level in 1973. The share of these countries in orders for container ships has also fallen, from 86.8 per cent in 1971 to 80.8 per cent in 1972 and to 73.3 per cent in 1973. Finally their share of orders for other dry cargo ships, which had dropped from 62 per cent in 1971 to 49 per cent in 1972, increased to 54.5 per cent in 1973.

83. In 1973 and 1972 the shares of flags of socialist countries of Eastern Europe and Asia by type of vessel were 0.8 per cent and 1.3 per cent respectively for tankers above 150,000 dwt, 9.2 per cent and 8 per cent respectively for tankers under 150,000 dwt, 2.3 per cent and 1.6 per cent respectively for ore/oil and ore/bulk/oil carriers, 5.9 per cent and 6.9 per cent respectively for other bulk carriers, 24.4 per cent and 17.4 per cent respectively for container ships and 28.9 per cent and 33.7 per cent respectively for other dry cargo ships. The corresponding figures in 1971 are: 0.9 per cent, 5.6 per cent, 0 per cent, 5 per cent, 12 per cent and 23.9 per cent. These figures show a marked increase in the interest of these countries in ore/oil and ore/bulk/oil carriers and in container ships.

84. In the case of the developing countries as a group, the share of tonnage on order under their flags rose marginally to 4.5 per cent in 1973 as compared with 4.4 per cent in 1972 and 3.8 per cent in 1971. The figures relative to developing countries show that in the next few years developing countries may not be in a position even to maintain their present share of the world fleet

unless they resort to extensive buying of second-hand tonnage. This, however, may not be likely to happen in view of the very high prices for such tonnage currently prevailing in the market.

85. Certain noticeable changes occurred between 1971 and 1973 in the share of developing countries in the tonnage on order by type of vessels. These are shown in the following data:

	1971 (%)	1972 (%)	1973 (%)
Oil tankers above 150,000 dwt	0.8	0.5	1.8
Oil tankers under 150,000 dwt	7.2	9.4	5.1
Ore/oil and ore/bulk/oil carriers	4.3	6.7	15.4
Other bulk carriers	6.5	9.2	10.4
Container ships	1.2	1.8	2.3
Other dry cargo ships	13.5	17.1	16.6

It can be seen that there has been a shift of interest of developing countries from oil tankers under 150,000 dwt to combined carriers and oil tankers of 150,000 dwt and above. The share of developing countries in tonnage on order for container ships increased from 1.2 per cent in 1971 to 2.3 per cent in 1973, but this is totally due to the decline of the total tonnage for container ships on order in the same period. The share of combined carrier tonnage on order increased from 6.7 per cent in 1972 to 15.4 per cent in 1973. Available information³³ shows that the combined carrier tonnage on order for developing countries (2.1 million dwt) is shared by Brazil (69.2 per cent), India (16 per cent), Malaysia (7.8 per cent) and Peru (7 per cent). Given the structure of the export/import trade of these countries, the data may be taken as indicating an effort by these countries to seek efficiency and to reduce their transport costs through combined operations in the respective sectors of their trade.

³³ *World ships on order: Supplement to Fairplay International Shipping Journal* (London), No. 37 (29 November 1973).

Chapter III

WORLD SHIP PRICES AND THE FLEETS OF DEVELOPING COUNTRIES

A. Changes in prices of new vessels

86. The prices of new buildings rose gradually throughout the 1960s and the rise accelerated sharply in 1969 and 1970 with a further moderate increase in 1971. The jump in the prices of new buildings in 1969 to 1971 reflected both increases in costs (principally in wages and in steel prices) and the ability of the shipbuilders to increase the prices further, taking advantage of the high demand for tonnage in relation to the production capacity of the world shipbuilding industry. During 1972 the prices for most sizes of bulk carriers and tankers dropped below 1971 levels as a result of the lower volume of new orders.³⁴ However, prices rose sharply in 1973 though not in a uniform pattern for all types of vessels. The course of prices for tankers and bulk carriers (including combined carriers) for the period 1963-1973 is given in table 17, which is based on actual contracts.

87. The prices of new buildings in the table are quoted in United States dollars. However, in many cases contracts are currently made in the currency of the country of build. Thus, because of the frequent changes in 1973 of exchange rate parities among all major currencies, the conversion of prices in United States dollars at varying exchange rates makes it virtually impossible to know the extent to which the changes shown in the table are due to changing costs and market conditions or to monetary changes.

88. Inflation undoubtedly has had an impact on shipbuilding prices. Outside Japan, it is common practice for shipyards to use escalation clauses in their contracts, particularly for forward deliveries. To date Japanese shipyards have been asking fixed prices for export ships and this has been one of the attractions they were able to

offer to foreign shipping companies. However, according to press reports,³⁵ the Japanese shipbuilding industry appears to have accepted a proposal made by the EEC Committee of Builders of Large Ships to adopt also in Japan a sliding-scale system for prices for deliveries in and after 1978. At the time of drafting this review, it was known that two of the major Japanese shipbuilders have reached a definite decision on the adoption of sliding-scale systems for deliveries in and after 1978.³⁶ It was not known, however, if any common formula for implementation of the sliding-scale system has been worked out by the Japanese and European ship-builders.

89. Table 18 shows new building prices for liner type vessels for the period 1963-1973.³⁷ For reasons of comparison the table also gives prices for buying a new readily available vessel of the same type.³⁸

90. It can be observed from table 18 that the prices for constructing liner type vessels, which up to 1967 moved only very slowly upwards, started moving faster after 1968 and jumped by 66.7 per cent between 1970 and 1973. Inflation has undoubtedly had an impact on

³⁵ *Shipping and Trade News* (Tokyo), 21 June 1973.

³⁶ *Ibid.*, 17 August 1973.

³⁷ The table is based on prices given in *Fairplay International Shipping Journal*. The Fairplay data refers to a hypothetical closed/open shelterdecker of 11,000/13,000 dwt, propelled by a 7,000 bhp diesel engine giving a speed of 15 knots. The costs for constructing the ship are based on world averages for the price of raw materials machinery, equipment and labour as well as normal overheads. The ship is fitted with a bare minimum of equipment.

³⁸ The data for readily available vessels was discontinued in 1973. The explanation given in *Fairplay International Shipping Journal* is that:

"In the past the price has been estimated for the purchase of a ready-for-delivery Fairplay 11,000/13,000 tonner, but in view of the very close relationship between the freight market and ready-ship prices it is impossible to obtain a realistic figure and the price is now omitted."

(*Fairplay International Shipping Journal* (London), vol. 248, No. 4689 (5 July 1973), p. 72).

³⁴ See chapter IV ("Trends in shipbuilding") where the supply and demand situation in shipbuilding during 1972 is discussed.

TABLE 17
Representative new building prices for bulk carriers and tankers, 1963-1973
(In millions of dollars at year end *)

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973
18,000 dwt bulk	3.1	3.5	3.6	3.6	3.8	4.3	4.6	6.3	5.4	5.5	..
30,000 dwt bulk	3.7	3.8	4.3	4.4	4.9	5.4	5.7	8.7	8.1	7.5	12
87,000 dwt tanker	7.9	8.2	8.5	8.8	9.0	9.4	10.0	17.0	17.3	15.0	25
96,000 dwt OBO	—	—	—	9.7	10.0	11.0	12.0	23.0	23.7	21.0	29
210,000 dwt tanker	—	—	—	13.2	14.7	16.6	19.0	31.0	33.5	31.0	47

Source: Fearnely and Egers Chartering Co. Ltd., *Review, 1971* (Oslo) and *ibid.*, 1973.

* Dollar figures at ruling rates of exchange.

TABLE 18
Prices for newly built and readily available liner type vessels 11,000/13,000 dwt, * 1963-1973
(In pounds sterling)

Year	Prices for constructing new vessels (at mid-year)	Closed shelter-decker per dwt *	Prices for new readily available vessel (at mid-year)	Closed shelter-decker per dwt *
1963	1,025,000	79.0	850,000	65.25
1964	1,035,000	79.50	975,000	75.0
1965	1,050,000	80.75	900,000	69.25
1966	1,090,000	83.75	900,000	69.25
1967	1,095,500	84.25	940,000	72.25
1968	1,165,000	89.60	960,000	73.85
1969	1,200,000	92.10	1,000,000	76.90
1970	1,350,000	100.80	1,200,000	92.30
1971	1,600,000	123.0	1,300,000	100.0
1972	1,900,000	146.15	1,100,000	84.62
1973	2,250,000	165.38	—	—

*Source: Fairplay International Shipping Journal (London), vol. 244, No. 4637 (6 July 1972) and *ibid.*, vol. 248, No. 4689 (5 July 1973).*
 * See foot-note 37.

shipbuilding prices, and construction costs certainly increased much faster than in earlier years. However, it may not be a coincidence that throughout the period since 1969 world shipyards have been fully booked for a substantial number of years ahead. On the other hand, prices for readily available vessels were directly influenced by the existing freight market situation. This aspect is discussed further in the following section.

91. Freight market conditions, particularly conditions of high demand for tonnage such as existed in 1970 and 1973, also appear to influence the course of shipbuilding prices. This can be observed from table 17 in conjunction with the appropriate freight rate indices given in table 32.

92. A further indication of the movement of shipbuilding prices is given by data relating to tankers and bulk carriers of relatively large sizes between the end of 1972 and the end of May 1973.³⁹ The figures are:

Type of vessel	Size of vessel	Price in United States dollars per dwt at:		Percentage rate of increase
		End 1972	31 May 1973	
Product carrier	30,000 dwt	380	490	28.95
Bulk carrier	60,000 dwt	170	250	47.06
Bulk carrier	110,000 dwt	160	230	43.75
Tanker	135,000 dwt	150	225	50.0
Tanker	250,000 dwt	140	190	35.71
Tanker	380,000 dwt	132	180	36.36

It can be seen from this data that prices have increased relatively less than for larger sizes than for smaller sizes of the same types of vessels.

B. Changes in prices of second-hand vessels

93. The prices of second-hand vessels generally fluctuate with the level of market freight rates, the degree of fluctuation varying among vessel types. The variations are illustrated in tables 19, 20 and 21 which give average values for second-hand tankers, dry bulk carriers and liner type vessels respectively. During the freight rate upsurge between 1968 and 1970, the prices of most sizes

of second-hand tankers more than doubled. The prices of dry bulk carriers rose by one third in the smaller sizes and by more than two thirds in the larger. In this period, the prices of larger size liners increased by about one quarter while those of smaller liners increased only nominally.

94. In the ensuing open market freight rate decline of 1971, the prices of second-hand vessels of all three types declined by about one third from the previous year levels. During 1972, the prices of larger size tankers continued to decline, while those of second-hand dry bulk carriers increased up to 30 per cent and those of liners increased about 10 per cent. Throughout the spring and summer of 1972, activity in the second-hand market remained at low levels and prices tended to fall. Tonnage traded consisted mainly of liner and shelterdeck tramps. There was some demand for dry bulk carriers with

charter party attached and also for bulk carriers equipped for the carriage of cars. During the autumn, interest in second-hand tonnage increased. Because of the reactivation of the freight markets, there was increased demand for all types of second-hand tonnage and prices rose. Sales of comparable vessels made in the first and third quarters of 1972 are shown below:

Month of sale	dwt	Year built	Price (dollars)
<i>Open/closed shelterdeckers:</i>			
February	9,225	1951	290,000
October	8,150	1953	450,000
<i>Bulk carriers:</i>			
April	19,000	1961	1,790,000
October	20,100	1971	2,750,000

³⁹ "Sale & purchase monthly report for May 1973", published by R. S. Platou A/S (Oslo).

TABLE 19
Tankers: second-hand prices, average values, 1966-1973 *
(In millions of dollars at end of years)

Tonnage (dwt)	Built	1966	1967	1968	1969	1970	1971	1972	1973
15/16,000	1951/52	0.6	0.7	0.5	0.5	0.9	0.5	0.4	1.5
18,000	1952/53	0.9	0.9	0.8	0.8	1.5	0.8	0.7	1.9
19/20,000	1959/60	1.6	1.7	1.2	1.4	3.3	2.0	2.0	4.0
25,000	1958/59	1.5	2.0	1.8	1.9	4.0	2.2	2.2	5.0
35,000	1958/59	2.1	2.4	2.4	2.6	6.0	3.5	3.5	7.5
50,000	1963/64	3.6	4.4	4.2	4.5	10.0	7.0	6.0	13.0
60,000	1964/65	—	5.3	5.5	5.8	12.0	8.5	7.5	16.0
80,000	1966/67	—	—	7.7	8.0	19.0	12.0	10.5	25.0
100,000	1967/68	—	—	—	12.0	26.0	16.0	13.5	30.0
200,000	1969/70	—	—	—	—	40-45	30.0	30.0	52.0

Source: Fearnley and Egers Chartering Co. Ltd., *Review, 1973* (Oslo).

* The prices are market value estimates at existing exchange rates for a charter-free tanker in good condition and with fairly prompt delivery on cash basis.

95. The sale market for second-hand tonnage during 1973 was characterized by a high level of activity, in contrast with 1972. The increased demand for all types of second-hand tonnage followed the strong demand conditions in the freight markets which had developed in the last quarter of 1972 and continued throughout 1973. As a result, the prices of all types of second-hand tonnage rose sharply. The rise of prices tended to be higher for tankers of all sizes than for bulk carriers and the prices of the latter categories of vessels rose more sharply than the prices of liner type vessels. The course of prices for second-hand tankers, bulk carriers and liner type vessels is given in tables 19, 20 and 21 respectively.

96. Within each category of vessels (tankers, bulk carriers, etc) variations also exist with regard to the rate at which prices of second-hand tonnage have appreciated, mostly depending on the particular demand for vessels of various size groups and different ages. Thus the prices of second-hand tankers of less than 100,000 dwt rose more sharply than for tankers of under 200,000 dwt. Also, from 1972 to 1973 the price for a 50,000 dwt bulk carrier rose by 64.3 per cent as compared with a 59 per cent increase for a 25,000 dwt bulk carrier of less age. In respect of liner type vessels, however, the rate of increase appears to have been relatively uniform for all sizes of vessels.

TABLE 20
Dry bulk carriers: second-hand prices, average values, 1968-1973 *
(In millions of dollars at end of year)

Tonnage (dwt)	Built	1968	1969	1970	1971	1972	1973
18,000	1963	2.1	2.2	2.8	2.2	2.3	4.5
25,000	1966	3.5	3.6	4.8	3.1	4.1	6.5
35,000	1965	4.0	4.2	6.0	3.7	4.9	8.0
50,000	1967	5.0	5.2	9.0	5.7	7.0	11.5
60,000	1972	—	—	11.0	8.3	9.5	17.0

Source: Fearnley and Egers Chartering Co. Ltd., *Review, 1973* (Oslo).

* The prices are market value estimates at existing exchange rates for a charter-free vessel in good condition and with fairly prompt delivery on cash basis. Bulk carriers of 50,000 dwt and over are gearless.

TABLE 21
Liner type vessels: second-hand prices, average values, 1968-1973 *
(In millions of dollars at end of year)

Tonnage (dwt)	Built	1968	1969	1970	1971	1972	1973
6,600	1958	0.88	0.89	1.0	0.79	0.77	1.1
12,500	1956	1.4	1.4	1.5	0.85	0.95	1.5
13,500	1959	1.6	1.6	1.7	1.2	1.4	2.1
16,000	1963	2.4	2.8	3.0	2.3	2.5	3.4

Source: Fearnley and Egers Chartering Co. Ltd., *Review, 1973* (Oslo).

* The prices are market value estimates at existing exchange rates for a charter-free vessel in good condition and with fairly prompt delivery on cash basis.

97. Changes in the prices of second-hand tonnage, both in the short-term and in the long-term, tend to follow closely the fluctuations in the freight markets. This can be seen by comparing the data given in tables 19, 20 and 21 with that of table 32 below (freight note indices, 1969-1973), especially where the long-term situation, is concerned. As for the short-term situation, the close correspondence between the course of freight rates and the movements of second-hand tonnage is reflected in tables 22 and 23, with regard to bulk carriers of 38,000 dwt and to liner type vessel of between 10,500 and 12,500 dwt, respectively.

TABLE 22

The course of the estimated second-hand values for 38,000 dwt bulk carriers built in 1966 (1,650,000/1,750,000 cubic feet with cranes) under changing freight market conditions

As at end of	Estimated rate per dwt for 12-month time charter (in dollars)	Estimated second-hand value (in millions of dollars)
July 1972	1.65	3.3
September	3.0	4.0
October	3.65	5.0
November	3.45	4.9
December	3.85	5.0
January 1973	4.2	5.4
March	4.5	6.4
May	4.75	7.0
June	5.4	7.5
July	5.8	8.1
August	6.5	8.5
September	7.0	8.65

Source: "Sale & purchase monthly report", published by R. S. Platou A/S (Oslo) (various issues).

TABLE 23

Estimated developments of freight rates and values for good class 10,500/12,500 dwt shelterdecker (In dollars)

As at end of	Estimated rate per dwt for 12-month time charter	Estimated value for 1956 build	Estimated value for 1960 build
July 1972	3.3	725,000	1,100,000
August	3.4	725,000	1,250,000
September	3.65	850,000	1,400,000
October	4.6	900,000	1,450,000
November	5.0	900,000	1,450,000
December	5.0	900,000	1,450,000
January 1973	5.5	950,000	1,500,000
February	6.0	1,100,000	1,700,000
March	6.1	1,200,000	1,800,000
April	6.1	1,200,000	1,800,000
May	6.1	1,350,000	2,100,000
June	6.4	1,400,000	2,150,000
July	6.7	1,500,000	2,300,000
August	6.9	1,500,000	2,300,000
September	7.5	1,600,000	2,450,000

Source: "Sale & purchase monthly report", published by R. S. Platou A/S (Oslo) (various issues).

C. Acquisition and financing of new and second-hand vessels by developing countries

98. Complete information regarding total additions to the merchant fleets of developing countries in 1971 and 1972 is shown in table 24. It can be seen from the table that *net* additions to the merchant fleets of developing countries during the two years amounted to 153 ships aggregating 1.6 million grt or 2.2 million dwt. During the period, new deliveries were received of 136 ships of 1.6 million grt, 165 second-hand ships of 0.97 million grt were obtained from other countries and another 19 ships are listed as "other additions". These gross additions were partly offset by deductions of 167 ships of 1.1 million grt.

99. The distribution of new deliveries by regional groupings of developing countries was as follows: Africa: 12 ships of 91,000 grt, 107,000 dwt; Asia: 60 ships of 879,000 grt, 1,331,000 dwt; Latin America and the Caribbean: 64 ships of 626,000 grt, 810,000 dwt. These new deliveries were acquired by the developing countries from the various groups of countries as follows: from developed market-economy countries and Southern Europe, 942,000 grt; from Socialist countries of Eastern Europe and Asia, 280,000 grt; and from yards in developing countries, 374,000 grt.

100. Of the total of 165 second-hand ships acquired, 24 ships of 135,000 grt were registered in developing countries in Africa; 115 ships of 625,000 grt were registered in developing countries in Asia and 42 ships of 295,000 grt were registered in developing countries in Latin America and the Caribbean. The total of these regional figures exceeds the 165 ships acquired, since they include 16 vessels transferred between developing countries. Of the 165 second-hand ships acquired by developing countries, 138 were bought from developed market-economy countries and Southern Europe, 2 came from Socialist countries of Eastern Europe and Asia and 25 from open registry countries.

101. The level of the net additions is such that if developing countries are to meet the objectives of the International Development Strategy for the Second United Nations Development Decade⁴⁰ and also of Conference resolution 70 (III), they will need to accelerate the rate at which their merchant fleets are built up. It may be recalled that the resolution reflected the aspiration of developing countries to expand their merchant fleets to at least 10 per cent of the deadweight tonnage of the world fleet by 1980. If the world fleet grows to around 384 million grt⁴¹ by 1980 and if allowance is made for scrapping of around 2 per cent per annum,⁴² the fleets of the developing nations will, in absolute terms, have to increase by approximately 22.3 million grt during the period or by 3.2 million grt per year as an average in order to attain the 10 per cent target.

⁴⁰ General Assembly resolution 2626 (XXV), para. 53.

⁴¹ Based on a number of studies estimating the expected growth of the world merchant fleet for the period 1975-1980 as reported in "World Shipping demand and shipbuilding capacity", *The Motor Ship* (London), vol. 54, No. 636 (July 1973), p. 159.

⁴² During the period 1965-1971, the broken up tonnage rate for all ships varied between 1.51 per cent and 2.15 per cent; the rate of all ships totally lost varied between 0.27 per cent and 0.48 per cent during the same period of time (*Lloyd's Register of Shipping: Statistical Tables* (London), 1972).

TABLE 24

Changes^a in the ocean-going merchant fleets of developing countries in 1971 and 1972: acquisition of new and second-hand ships by type of vessel and country of construction or previous flag: ocean-going ships of 1,000 grt and over
(In number of ships, thousands of grt and thousands of dwt)

	All ships						Of which:								
	Tankers			Bulk carriers			Freighters			Other ships					
	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt			
ADDITIONS	336	2,773	3,940	44	617	1,007	19	301	467	238	1,437	1,910	35	418	556
New deliveries	136	1,596	2,250	15	297	502	7	148	257	95	819	1,050	19	332	441
of which:															
in Africa	12	91	107	1	6	10	—	—	—	9	50	74	2	35	23
in Asia	60	879	1,333	7	217	384	4	93	166	35	331	451	14	238	332
in Latin America and Caribbean..	64	626	810	7	74	108	3	54	91	51	439	525	3	59	86
Acquired from:															
Developed market-economy countries and Southern Europe	64	942	1,395	10	259	447	3	83	148	33	278	372	18	322	427
Socialist countries of Eastern Europe and Asia	28	280	366	3	32	44	1	10	12	23	228	295	1	9	14
Own yards	44	374	489	2	6	11	3	55	96	39	312	382	—	—	—
Flag changes	181	1,055	1,524	25	272	435	11	137	186	129	560	788	16	86	115
in Africa	24	135	193	2	27	42	2	23	34	19	82	113	1	3	4
in Asia	115	625	892	16	127	194	6	79	112	82	365	509	11	54	77
in Latin America and Caribbean..	42	295	438	7	118	199	3	34	40	28	114	165	4	28	34
Acquired from:															
Developed market-economy countries and Southern Europe	138	797	1,137	19	190	298	10	118	164	98	427	591	11	62	84
Socialist countries of Eastern Europe and Asia	2	8	10	—	—	—	—	—	—	2	8	10	—	—	—
Other developing countries	16	89	125	—	—	—	1	19	22	14	68	101	1	2	2
Open registry countries	25	161	251	6	82	137	—	—	—	15	58	85	4	22	29
Other additions	19	123	164	4	45	70	1	16	24	14	61	70	—	—	—
DEDUCTIONS ^b	183	1,146	1,698	14	275	483	10	81	116	148	729	1,056	11	59	43
NET ADDITIONS	153	1,627	2,239	30	339	524	9	219	352	90	711	850	24	357	513
Of which:															
in Africa	34	244	328	4	65	102	2	24	34	25	117	166	3	38	26
in Asia	52	737	1,058	19	185	277	1	120	204	16	187	205	16	245	372
in Latin America and Caribbean..	67	647	855	7	91	144	6	76	115	49	406	481	5	74	115
Other net additions:															
Liberia	299	6,456	13,068	79	3,914	8,327	163	2,476	4,665	54	68	74	3	—2	2
Panama	258	1,550	2,580	25	766	1,481	42	299	461	185	435	594	6	50	44
Singapore	86	413	608	3	1	2	3	113	192	76	280	395	4	20	19
Somalia	68	429	616	3	1	1	13	165	250	54	275	380	—2	—12	—15

^a Source: Compiled from data on tonnage additions and deductions which were made available to the UNCTAD secretariat by the United States Department of Commerce, Maritime Administration.

^b Including deductions from the fleets of developing countries as a result of transfers to flags of other developing countries, the total of which is also shown under "Flag changes acquired from other developing countries".

^c Minus signs indicate deductions.

102. One reason for the inability of developing countries as a whole to achieve a rate of expansion corresponding to the aim and targets of the International Development Strategy is the inadequate supply of capital on suitable terms to meet the immense cost that such an expansion of shipping tonnage entails. Most developing countries rely almost entirely on the import of ships to establish or expand their fleets. They have, therefore, to meet the capital requirements in foreign currencies, in most cases in the face of severe balance of payments difficulties and of the competing demand for investment capital from other sectors of their economies. Hence, the availability of credit from abroad, on relatively easy terms and conditions, becomes a prerequisite for the expansion of merchant fleets of developing countries. Most of the available evidence, however, suggests that in recent years credit conditions generally have become more, rather than less, difficult and strict for developing countries.

103. The OECD "Understanding on export credits for ships" of May 1969⁴³ limited the use of government facilities for export credits for ships to cases in which provision is made for a maximum duration of eight years from vessel delivery, payment at delivery of at least 20 per cent, loan repayments in equal instalments at stated regular intervals and an interest rate of not less than 6 per cent. These terms are generally too onerous for newly-established merchant fleets of developing countries. In October 1972, OECD took action which appears to inhibit further the granting of credits for the export of vessels to developing countries. According to the signatory countries, the OECD resolution of October 1972 is aimed at reducing and ultimately eliminating a variety of government aids to shipbuildings.⁴⁴ In their implementation protocols to the resolution, several countries stated that the duration of credits should be reduced to a maximum of seven years and that the minimum down payment should be raised to 30 per cent. Some of the participant countries stated, however, that the terms of the 1969 Understanding (eight years and 20 per cent) should apply to the export of ships to developing countries. Without prejudice to the need for action to find a solution to the difficulties which these policies create for developing countries, there are other problems arising from the current commercial and financial situation which may be ultimately more important in their adverse effects. This is particularly the case where finance for the construction of bulk carriers and tankers is concerned; these are the types of ships to which developing countries must increasingly turn if they are to realize their ambitions to expand their fleets.

104. A particular problem arises from the fact that the time charter, formerly acceptable to financial institutions as providing a steady cash flow over the future and thus a solid basis, in association with the ship itself, for lending, is no longer accepted so readily. Financiers claim two reasons for the change, namely, the continuing inflation of major cost elements in shipping and the disturbances in the currency markets that have devalued the earnings of ships, which in the case of long-term charters have most frequently been quoted in dollars. In this situation, financial institutions are seeking to protect themselves more thoroughly in the future by turning to

more sophisticated systems of financing. These systems were originally designed to cope with the huge financial requirements of the construction of VLCCs and LNG carriers but are increasingly being adopted for smaller ships because of the proven weakness of the time charter in providing a secure future cash flow in times of inflation and currency disequilibrium.

105. With the types of arrangements now becoming more common, multiple currency arrangements may be included under which repayments have to be remitted in any one of a number of specified currencies. Such provisions create complications for the borrower even where highly developed and relatively free foreign exchange markets exist; in the typical developing country they exacerbate existing difficulties arising from the foreign exchange restrictions which generally exist as a result of the severe balance-of-payments problems of such countries. Additionally, the lending package may take into account the foreign exchange earning capacity of the whole fleet of the borrower and, in particular, the currencies in which revenue is earned and obligations are incurred. The implication of such considerations is that the interest and repayments of the particular loan being arranged would become a first charge on the foreign exchange earnings of the borrower's fleet, a situation which few central banks in developing countries are likely to find acceptable. Besides, the small fleets of predominantly liner tonnage of most shipowners in developing countries would frequently not be considered to provide the required flows of foreign exchange, either in size or in mix, even if exchange control regulations permitted the arrangement. Lastly, lenders appear to be giving increasing weight to the identity and experience of the prospective borrower as a factor in deciding whether or not a loan will be granted. This tendency increases the difficulties of a prospective borrower in a developing country whose financial standing and past commercial performance may not be known to the lender in a financial centre.

106. The developments which have occurred are the market response of the lenders to the changed situation which has materialized. Their response is not designed to be discriminatory, but the fact is that it makes it more difficult for a borrower unknown to the lenders, with a small fleet and in a country with foreign exchange controls, now to raise money on commercial terms for constructing or buying bulk carriers or tankers. Normal commercial sources of finance are probably now effectively closed to shipowners in most developing countries except for purchases of conventional break-bulk liners or tramp type tonnage; even with these ship types similar problems may arise as a result of the current market situation.

107. As a consequence, the role of international financial institutions as providers of finance to develop the fleets of developing countries acquires increasing importance. In this connexion, two loans by IBRD, namely, of \$83 million to India for the acquisition of six oil tankers and of \$8.5 million to Indonesia for the rehabilitation of the inter-island fleet of the country are important. In the past, IBRD has not participated to a significant extent in the financing of merchant marines.

108. At the same time as the difficulties noted above have occurred, some recent developments have widened the sources of capital used. Recent examples of financing methods which have been used to enable developing countries to acquire ships may be noted as signs of this

⁴³ For the text of the OECD Understanding, see *The OECD Observer* (Paris), No. 41 (August 1969), p. 12.

⁴⁴ Cf. *Activities of OECD in 1972: Report by the Secretary-General* (Paris, OECD), p. 38, para. 84.

more favourable trend.⁴⁵ The IBRD loans have been mentioned above; the other examples cited concern Ecuador, Sri Lanka, Argentina and India.

109. Ecuador has established a joint-venture tanker fleet with the Japanese shipping company Kawasaki Kisen Kaisha (K-Line) to transport petroleum from Ecuador's newly-developed oil deposits. Formation of the shipping enterprise resulted from the Ecuadorian "Reserve of Cargo" Law which reserves half of petroleum exports to the country's shipping. The terms of the agreement are reported to provide for a no-interest loan to Transnave, the Ecuadorian shipping line, for the amount of the Ecuadorian company's paid-in-share of the joint-venture's legal capital, with full financing of new tanker construction to be supplied by the Japan Import-Export Bank. K-line will provide the training of the joint-venture shipping line's administrative, technical and operating personnel. A similar arrangement has also been proposed with regard to banana carriers.

110. For Sri Lanka a London commercial bank has arranged for both financing and management services in the acquisition of a 12,000 dwt merchant vessel. A bank in the Federal Republic of Germany has provided financing of 80 per cent of the vessel's cost at 8 per cent interest and the London bank has arranged for the services of the vessel's captain and chief engineer. In another case, the Government of Spain has recently granted a credit of \$100 million to Argentina for the construction of vessels in Spain or for the supply of Spanish equipment for vessels constructed by shipyards in Argentina. In July 1972 the British Government granted to the Government of India an interest free loan of £5.04 million for the purchase of a 250,000 dwt OBO carrier to be built in the United Kingdom for the Great Eastern Shipping Company. The loan is for 25 years, including a seven-year grace period and is free of interest and service charges.

111. An international group of 43 banks has granted a loan of \$200 million to the Compagnie nationale algérienne de navigation for 12 years to finance the construction of three 125,000 cubic metres LNG carriers. The Export Bank of Algeria has provided a guarantee for the loan. Since the cost of construction at current prices is about \$300 million, it is estimated that the remaining \$100 million will be covered by credit to be provided by the shipbuilders. This arrangement is to be

the first of similar financing arrangements in favour of the Compagnie nationale which would include 10 LNG carriers with a total credit of one billion dollars.⁴⁶ According to the same source of information, the Compagnie nationale is also planning to build 6 to 10 oil tankers of 120,000-125,000 dwt each, but no specific finance arrangements have been announced.

112. A 29,600 dwt multi-purpose oil tanker was acquired by the Venezuelan Petrolenn Corporation from Italy.⁴⁷ The operation of this vessel is considered as a pilot project, the aim being to acquire sufficient tonnage to transport a reasonable percentage of petroleum exports on Venezuelan flag vessels. Among the alternative financing solutions being considered for future acquisition by Venezuela is joint venture, like the one between Ecuador and the K-Line of Japan.⁴⁸

113. The Republic of Korea, aiming to build up an ocean-going fleet large enough to carry one half of her total export-import trade, plans to turn to international banking syndicates but also to Japan for financing the fleet expansion project. Already, in the bilateral shipping agreement between the Republic of Korea and Japan, the latter agreed to grant a credit of \$50 million over a period of 10 years.⁴⁹

114. Peru has obtained from Spain's Servicio Técnico Commercial de Constructores Navales Españoles a loan of \$30 million over 11 years at 5 per cent to purchase six general cargo ships. Peru also reached a similar agreement with the shipyard Wartisila Ab of Turkey (Finland) for six general cargo vessels of 13,700 dwt each. Credit and loan facilities amounted to \$31.6 million, and of this a cash loan of \$6.3 million is to be repaid over 13 years at 8 per cent and a credit of \$ 25.3 million is to be repaid over 12 years at 4 per cent.⁵⁰

115. These examples signify a move towards new sources and methods of financing. At the same time, they illustrate the problems which developing countries have encountered in raising the large amounts of capital required for shipping. For the majority of developing countries the problem of obtaining adequate credits at suitable terms remains formidable.

⁴⁶ *Journal de la marine marchande et de la navigation aérienne* (Paris), 27 September 1973.

⁴⁷ *Seatrade* (Colchester, U.K.), vol. 3, No. 5 (May 1973).

⁴⁸ See para. 109 above. See also *The Rise of National Fleets*, Economic study No. 16 (June 1973) published by H. P. Drewry (Shipping Consultants) Ltd., London.

⁴⁹ *Shipping and Trade News* (Tokyo), 31 May 1973.

⁵⁰ *The Rise of National Fleets* (*op. cit.*).

⁴⁵ The examples are based mainly on a report in *Seatrade* (Colchester, U.K.), vol. 2, No. 9 (September 1972) and on *Indian Shipping: Journal of Indian National Shipowners' Association* (Bombay), vol. XXIV, Nos. 11-12 (November-December 1972).

Chapter IV

TRENDS IN SHIPBUILDING

A. General developments

116. The world's shipyards delivered an estimated 52.6 million dwt of new buildings of all types of vessels during 1973. This tonnage exceeded the total of new buildings delivered in 1972 by about 10 million dwt and it represents the highest level of new tonnage delivered in any year. Table 25 shows the year-to-year additions to the shipping capacity on the basis of new buildings delivered over the period 1964-1973. Because of the high volume of vessels currently on order, deliveries of new buildings in 1974 and 1975 are expected to exceed substantially those of 1973 which was a record year.

117. It can be observed from table 25 that the greatest proportion of the total deliveries of new buildings each year comprises tankers, which accounted for 185 ships totalling 28 million dwt in 1973 as compared with 125 ships aggregating 20.1 million dwt in 1972. Total deliveries of combined carriers in 1973 were 55 ships aggregating 8.3 million dwt as compared with 50 ships totalling 7.8 million dwt in 1972. It was the first year since 1969 that a slowdown in deliveries of combined carriers occurred. Deliveries of bulk carriers (including ore carriers) in 1973 accounted for 215 ships totalling 9.3 million dwt as compared with 243 ships totalling 9.2 million dwt in 1972. Finally, deliveries of other ships in 1973 amounted to 700 ships aggregating 7 million dwt, as compared with 684 ships totalling 6.8 million dwt in 1972.

118. The trend towards the domination of tankers and dry bulk carriers (including combined carriers) in

the yearly total deliveries of new buildings has been present since 1960 but has become increasingly prominent in the last few years, and it is expected that the share of tanker tonnage in new deliveries will be further increased in the next few years. This will be the result of the massive new orders for tankers. Between 1 November 1972 and 31 October 1973 the order book for tankers increased by 89.6 million dwt.⁵¹ It is worth noting that the net increasing in the total world order book during this particular period has been 87.4 million dwt, because of a reduction in the order book for other than tanker tonnage by about 2.2 million dwt (see table 15). In fact tankers accounted for 80.8 per cent of the total order book at the end of October 1973, but new orders for tankers were sharply reduced during the last two months of the year and it may not be excluded that, because of new developments during this quarter in the tanker freight markets, a number of orders already placed may be cancelled. At the end of 1973 tankers on order and under construction aggregated 178.8 million dwt, an increase of 79 million dwt compared with 99.8 million dwt at 31 December 1972.⁵²

119. With the productive capacity of the world shipbuilding industry constantly expanding and with the world shipyards fully booked for at least the next three

⁵¹ *World Ships on Order: Supplement to Fairplay International Shipping Journal* (London), No. 33 (23 November 1972) and *ibid.*, No. 37 (29 November 1973).

⁵² *Ships on Order, End June 1973*, supplement to *The Motor Ship* (London), July 1973, and *Ships on Order, End December 1973*, supplement to *The Motor Ship* (London), January 1974.

TABLE 25
Deliveries of new buildings, 1964-1973
(In thousand dwt)

Year	Tankers ^a		Combined carriers ^a		Bulk carriers ^a (incl. ore carriers)		Other ships ^b		Total	
	Number	dwt	Number	dwt	Number	dwt	Number	dwt	Number	dwt
1964	147	8 324	9	523	70	1 890	295	2 456	521	13 193
1965	149	9 259	12	631	159	4 920	359	1 900	679	16 710
1966	144	10 347	15	978	179	5 881	463	2 111	801	19 317
1967	103	7 967	41	3 073	236	8 166	581	4 076	961	23 282
1968	114	11 097	32	2 720	249	7 897	625	4 800	1 020	26 514
1969	125	16 385	23	2 028	200	5 999	716	6 000	1 064	30 412
1970	142	20 122	30	3 384	185	6 208	692	6 120	1 049	35 834
1971	138	20 397	42	5 634	214	8 154	686	5 588	1 080	39 773
1972	125	20 568	50	7 774	243	9 179	684	6 759	1 102	44 280
1973	185	28 000	55	8 300	215	9 300	700	7 000	1 155	52 600

Source: Fearnley and Egers Chartering Co. Ltd., *Review, 1973* (Oslo), p. 9, table 4.

^a Vessels over 10,000 dwt.

^b All seagoing cargo carrying vessels over 1,000 grt.

to four years, fears are once again expressed that the rate of output may well exceed the new building requirements by 1974-1975.⁵³ Prospects have often looked like this also in the past, but equally often developments proved not to move according to forecasts. It appears that in recent years trends in actual tonnage requirements have given more support to those who planned the shipbuilding capacity with optimism than to the conservatives. It remains to be seen whether this will happen again in the next few years.

120. It may be seen from table 26 that the various estimations of the total world demand for tonnage in 1975 and 1980 greatly differ from each other, the Japanese estimations being the most optimistic. The shipbuilding capacity required to produce the tonnage each year needed to meet these forecasts varies even more markedly than the forecasted tonnage requirements, from a capacity of over 30 million grt to reach the Japanese forecast to one of only about 10 million grt to reach the EEC forecast. Since capacity at present is about 25 million grt, and is increasing each year, all forecasts imply an over-capacity of the world shipbuilding industry by 1975, particularly with regard to tanker tonnage.⁵⁴ The foreseen over-capacity, however, varies from 10 per cent in the case of the Japanese estimations to 30 per cent in the case of the estimations by the Association of West European Shipbuilders.⁵⁵

TABLE 26
Forecast of world shipping demand

	1975	1980
	(in million grt)	
Japan Shipbuilders Association ..	318	440
Euro-Economics	287	400
Lambert Bros.	287	—
Association of West European Shipbuilders	275	381
Maynard P.R.C.	270	360
EEC (Macro)	266	337
Mean of these estimates	284	384
Booz-Allen and Hamilton	274	361

Source: "World shipping demand and shipbuilding capacity", *loc. cit.*

121. From the point of view of the shipping industry a limited degree of over-capacity in the world shipbuilding industry could be regarded favourably since it would be expected to stimulate competition and ensure that ship building prices are cost oriented. Seen from this angle, the basic long-term problem facing the world shipbuilding and shipping industries is now to prevent any particular country or group of countries from monopolizing the market.

⁵³ In this connexion, see also OECD, *Maritime Transport, 1972* (*op. cit.*).

⁵⁴ See O. Onarheim, "Some thoughts on shipbuilding and shipping", *Norwegian Shipping News* (Oslo), vol. 29, No. 8 B (4 May 1973), p. 62.

⁵⁵ The *ad hoc* Working Party on Shipbuilding of OECD has estimated the world's production capacity of the shipbuilding industry at 40 million grt (*Shipping and Trade News* (Tokyo), 22 August 1973).

122. In addition to uncertainties as to the expected level of future newbuilding orders, the shipbuilding industry faces other fundamental problems. These problems are:

(a) Providing shipbuilding ways to accommodate the ever increasing size of large tankers, now contemplated in the 1 million dwt range;

(b) Providing for the new technologies associated with the large sized vessels and with the development of new vessel types, like liquid gas carriers and high speed container ships;

(c) Increasing shipbuilding productivity to counteract the escalating cost of input factors, e.g. higher wage rates, increased prices of steel;

(d) Creating appropriate organizational arrangements to provide requisite financing, marketing, servicing and production facilities.

123. The long-term prospects for the shipbuilding industry also depend on a number of other factors, the outcome of which is still uncertain and which are, therefore, difficult to evaluate. One major factor is the present world monetary difficulties and the uncertainty with regard to the outcome of the discussions and negotiations on a new monetary system. Frequent fluctuations in exchange rates create problems for both the shipyards and the shipowners. On the other hand, aids and/or subsidies, being extensively used by almost all important shipbuilding countries in the world,⁵⁶ tend to become a dominant factor in the economics of the world shipbuilding industry.

B. Particular developments by type of vessel

1. BULK CARGO VESSELS

(a) Tankers

124. Except for a mid-summer lull in 1972, the world order book has been dominated by the rapidly increasing volume of tankers on order. In one quarter alone, June to September 1973, the share of tankers in the total order book rose from 71 to 73.5 per cent, at the expense of all other types of vessels, except liquified gas carriers. Most of the tanker tonnage on order is in the size group of 100,000 grt and above, and the number on order at the end of September 1973 stood at 445 ships.⁵⁷ It is significant that there is a rapid increase in demand for tankers of 400,000 dwt, although the first vessel of such a size⁵⁸ has only very recently been delivered and there is, therefore, only little experience of the performance of tankers of this size. At the end of June 1973, 24 tankers of more than 400,000 dwt were on order, and this number rose to 36 ships during the third quarter of the year.⁵⁹ Thus the trend towards the building of VLCC's continues, despite widespread predictions of their over-supply by the mid-1970s, their increased building and operating costs, particularly insurance costs associated

⁵⁶ In this connexion reference is made to *Shipbuilding Credits and Government Aid*, Economic study No. 13 (February 1973), published by H. P. Drewry (Shipping Consultants) Ltd., London.

⁵⁷ *Lloyd's Register of Shipping: Merchant Shipbuilding Return for Third Quarter, 1973* (London).

⁵⁸ The "Globtik Tokyo", 483,664 dwt.

⁵⁹ *Lloyd's Register of Shipping: Merchant Shipbuilding Return...* (*op. cit.*) for second and third quarters of 1973.

with the series of explosions experienced by VLCC's in recent years, and the limited number of ports capable of accommodating fully-laden VLCC's.

125. There appears to be a number of factors that have encouraged the demand for tankers over 400,000 dwt.⁶⁰ In the first place, it has become clear that Europort will be able to accommodate vessels of 75-76 ft. draught as a result of a revision of its dredging programme, and that the United States of America plans to establish central terminal stations for ULCCs at Bahamas and elsewhere.⁶¹ Secondly, technological advances have made possible the construction of "restricted draught tankers", i.e., tankers of the size group of 400-425,000 dwt with 72-73 ft. instead of 76 ft. draught or tankers of 475,000 dwt with 82 ft. instead of 92 ft. draught, for example, the "Globtik Tokyo" (483,664 dwt).⁶² According to press reports, the USSR is also building a 370,000 dwt tanker which in spite of her size will be able to call at most ports of the world.⁶³

126. In the light of the rapid growth of the world oil trade in the past decade, a computation has been made to estimate what would have been the present and future structure of the tanker fleet had the development of VLCC's not taken place. If the average size of tankers had remained unchanged, the tanker fleet of 1976 would number about 11,000 vessels instead of 3,700 vessels as currently projected. The repercussions which this much larger fleet would have had on such factors as manning requirements, crew costs and vessel traffic congestion in restricted waterways are evident.⁶⁴

127. Tankers in the category of up to 150,000 dwt also featured quite prominently in the world order books in 1972 and 1973 in terms of both numbers and tonnage.⁶⁵ At the end of October 1973, 936 tankers of 52.6 million dwt were on order as compared with 660 ships of 25.3 million dwt at the corresponding date in 1972. As a result the share of tankers of up to 150,000 dwt in the world order book increased from 14.8 per cent in October 1972 to 20.4 per cent at the end of October 1973. There are no data available to show how this tonnage is distributed by groups of sizes. It appears, however, that the greater part belongs to the upper half of this category and more particularly to the size group between 75,000 and 90,000 dwt, which are to be used as secondary carriers for the distribution of crude oil from central terminal stations for ULCCs.

⁶⁰ However, the first order for a 707,000 dwt tanker by Globtik Tankers Ltd., was cancelled (*Journal de la marine marchande et de la navigation aérienne* (Paris), 55th year, No. 2795 (12 July 1973)).

⁶¹ "Demand for 400,000 dwt ULCCs displaying rapid increase", in *Zosen* (Tokyo), vol. XVIII, No. 6 (September 1973), pp. 16-17 and p. 25. The increasing demand for ULCCs prompted the shipping department of the Japanese Ministry of Transport to start preparing demand estimates for vessels of that size from 1980 to 1985. The estimate would form the basis for the Ministry's action on giant shipyard construction plans of major Japanese shipbuilders (*Shipping and Trade News* (Tokyo), 3 August 1973).

⁶² "Les pétroliers trapus", *Journal de la marine marchande et de la navigation aérienne* (Paris), 55th year, No. 2809 (18 October 1973), p. 2639.

⁶³ *Fairplay International Shipping Journal* (London), vol. 240, No. 4702 (4 October 1973), p. 29, where a report by the Novosti Press Agency is cited.

⁶⁴ John I. Jacobs and Co. Ltd., *World Tanker Fleet Review* (London), 31 December 1971.

⁶⁵ *World ships on order: Supplement to Fairplay International Shipping Journal* (London), No. 33 (23 November 1972) and *ibid.*, No. 37 (29 November 1973).

(b) Dry bulk carriers and combined carriers⁶⁶

128. During 1972 deliveries of newly built dry bulk carriers and combined carriers were at record levels and for the first two quarters of 1973 the tonnage of bulk carriers (including combined carriers) under construction remained at a level similar to the average for 1972, though higher than for the last quarter of 1972. At 30 September 1973, 7.13 million grt of bulk carriers were under construction as compared with 7.97 million grt at the end of 1972. However, 6.44 million grt of this category of vessels were completed during the nine months ending 30 September 1973 as compared with 6.98 million grt for the corresponding period of 1972.

129. The total order book for bulk carriers and combined carriers remained practically unchanged during the 12-month period ending 30 September 1973, e.g. 18.7 million grt as compared with 18.8 million grt at the corresponding date in 1972. An upsurge in the total orders for bulk carriers and combined carriers which was recorded in the first quarter of 1973 (increased by 1.7 million grt) has been only of temporary character. The downward trend in the level of total orders for bulk and combined carriers, which started after the first quarter of 1971 when the total orders for these types of vessels stood at 27.3 million grt, the highest level ever recorded, has continued. The downward trend is most marked in the case of orders for combined carriers. For example, between the end of March and the end of September 1973, the level of the total order book for bulk/oil carriers declined from 8.7 million grt to 7 million grt whereas in the same period the level of order book for dry bulk carriers increased from 11.4 million grt to 11.7 million grt.

130. The growth of the dry bulk carrier fleet during the last decade has been the result of absorbing the large growth in dry bulk cargo trades (notably iron ore) as well as replacing other vessel types, like shelterdeckers, formerly used in the dry bulk trades. The vessel-type replacement process is now substantially completed. Hence the future expansion of the dry bulk carrier fleet will be based on world trade growth in dry bulk commodities and the use of bulk carriers for the transport of commodities which have traditionally used liner-type vessels, e.g. the ocean transport of automobiles.

131. There appears to be a conflict of views regarding the future demand for bulk/oil vessels. Some observers feel that it was only because of the extremely low building prices for vessels in the 1960s that there was a boom in the construction of combined carriers. Others feel that as the port facilities for handling dry bulk cargoes expand, combined operations involving the transport of oil and dry bulk cargoes will become a basic feature in the major trades and a decisive means for keeping freight costs low. Finally, there are those who are in favour of "liquidizing" dry cargoes such as iron ore, coal and sulphur and transporting them in liquid form.⁶⁷ A necessary corollary of this new development is that SLURP (slurried dry cargoes petroleum) ships would supersede bulk/oil carriers and that this new type of vessel would grow to the same upper size limit as the supertanker.

⁶⁶ *Lloyd's Register of Shipping: Merchant Shipbuilding Return...* (*op. cit.*) for first, second and third quarters of 1972 and 1973.

⁶⁷ For a further discussion on the subject, see *The maritime transport of iron ore: Report by the UNCTAD secretariat* (United Nations publication, Sales No. E.74.II.D.4), paras. 79-85 and 109-120.

2. GENERAL CARGO AND UNIT LOAD SYSTEM VESSELS

132. In terms of tonnage, general cargo vessels are far overshadowed by the tanker and dry bulk carrier fleets and the share of these types of vessels in the total world shipbuilding activity is steadily diminishing. Yet in terms of numbers of vessels, the general cargo vessels are very important to shipbuilders.

TABLE 27
Vessels delivered worldwide, 1967-1971

	Number of vessels	Thousands of dwt
GENERAL CARGO VESSELS		
<i>Liner-deep sea</i>		
Conventional	392	4,593
Semi-container	238	3,142
Sub-total	630	7,735
<i>Liner-short sea</i>		
Conventional	218	904
Semi-container	169	925
Sub-total	387	1,829
Total liners	1,017	9,564
Tramp vessels	1,189	8,065
Specialized	307	1,684
Total general cargo vessels	2,513	19,313
UNIT LOAD BY STEAM VESSELS		
Container ships/barge carriers		
Container ships	109	2,106
Barge carriers	8	266
Total	117	2,372
Short-sea container and Ro/Ro vessels	185	578
Total unit load system vessels ..	302	2,950
Total general cargo vessels and unit load ships	2,815	22,263
as per cent of all vessels	(51 %)	(14 %)
TOTAL: ALL VESSELS	5,516	157,093

Source: *Fairplay International Shipping Journal* (London), vol. 243, No. 4630 (18 May 1972).

133. Between 1967 and 1971, 5,516 vessels of all types, totalling 157 million dwt, were delivered to the world shipping fleet (see table 27). Of this total, 2,815 vessels (51 per cent of total deliveries) were general cargo vessels and unit load system ships. The tonnage of these groups of ships was 22.3 million dwt, equal to about 14 per cent of all delivered tonnage and was composed as follows:

	Vessels of	dwt
Tramp	1,189	8,065,000
Liner	1,017	9,564,000
Specialized	307	1,684,000
Total general cargo	2,513	19,313,000
Unit load system ships	302	2,950,000
Totals	2,815	22,263,000

The ordering of new dry cargo vessels and unit load system vessels together has continued to slow down. At the end of October 1972, there were on order 1,048 general dry cargo vessels of 7.7 million dwt, a reduction of 2.1 million dwt from a year earlier. Container ships on order at the above date totalled 170 of 3.2 million dwt, a 12-month reduction of 1 million dwt.⁶⁸ By the end of July 1973, only 31.22 per cent of the number of vessels on order belonged to this category of vessels.⁶⁹

134. In the 12-month period ending 30 September 1973, the following changes occurred with regard to general cargo vessels on order, under construction and delivered (in million grt).⁷⁰

	September 1972	September 1973	Changes
Total on order	6.5	5.6	-0.9
Under construction	4.0	2.5	-1.5
Delivered	1.1	0.8	-0.3

135. It can be seen that between 1967 and 1971, 302 unit load system vessels of about 3 million dwt were delivered. Similar information for subsequent years is not available. If one considers the enormous impact which unit load system vessels (container ships, barge carriers and Ro/Ro vessels) have had on shipping,⁷¹ the size of this fleet is surprisingly small. Because of their high average speed and fast turnaround, the potential carrying capacity of these vessels far exceeds that of a similar tonnage of traditional liner vessels. It should be noted, however, that in addition 407 semi-container ships of about 4 million dwt were included in the liner vessel category.

136. Since the late 1960s the fully cellular container vessel has been the main type of unit load system vessels being built. Available data indicate, however, that the container ship building boom is largely over. The tonnage of container vessels on order or under construction at 30 September 1973 stood at one million grt as against: 1.6 million grt at 31 December 1972; 2.3 million grt at 30 June 1972; 2.9 million grt at 31 December 1971; 3.2 million grt at 30 June 1971; 3.2 million grt at 31 December 1970; 3.0 million grt at 30 June 1970; and 2.9 million grt at 31 December 1969.⁷²

Moreover, the share of tonnage of container-ships on order in the total order book for general cargo vessels dropped from a high of 40.2 per cent at the end of March 1972 to only 17.8 per cent at the end of September 1973.⁷³ This implies that at the present time relatively greater flexibility is being shown by shipowners in connexion with their orders for general cargo vessels.

137. Other unit load carriers appear to be attracting an increasing interest in certain major trades. For example, according to press reports⁷⁴ there is a growing awareness

⁶⁸ *World ships on order: Supplement to Fairplay International Shipping Journal* (London), No. 33 (23 November 1972).

⁶⁹ *Ibid.*, No. 36 (23 August 1973).

⁷⁰ *Lloyd's Register of Shipping: Merchant Shipbuilding Return...* (op. cit.) for third quarters of 1972 and 1973 (ships of more than 2,000 grt only are included in the data).

⁷¹ See paras. 225-232 below.

⁷² Data derived from *Lloyd's Register of Shipping: Merchant Shipbuilding Return...* (op. cit.), various issues.

⁷³ *Lloyd's Register of Shipping: Merchant Shipbuilding Return...* (op. cit.), corresponding issues.

⁷⁴ *Seatrade* (Colchester, U.K.), vol. 3, No. 9 (September 1973).

in Australian trades that in the long hauls from South-West Pacific, the roll-on/roll-off concept has proved its superiority over the cellular container ship. The Australia/Japan trade is one of the few major trades in the world where the roll-on/roll-off vessel and the cellular container-ship have come into direct competition, and the result is reported to have been overwhelmingly in favour of the roll-on/roll-off system. As the use of alternative unit load systems expands in other trades in which container-ships have already been in operation for some time, more experience will be gained with regard to the relative suitability of the different systems so far as satisfying the particular transport requirements of each trade is concerned.

138. In the North Atlantic trades, for example, roll-on/roll-off vessels, bulk containers-ships, and barge carrying vessels are all currently offering their particular services to the trade in addition to full container vessels. Also in the trades from United States ports to Japan—Far East, full containers-ships, break-bulk/cellular ships, barge carrying vessels and roll-on/roll-off vessels are already present. With the exception of barge carrying vessels, a similar composition of the supply of tonnage is found in the trades between Europe and Australia (South Pacific) and in the trades between North and South Pacific.

139. According to press reports⁷⁵ the Containers' Committee Report to the International Union of Marine Insurance annual conference held in September 1973 in Venice expressed serious concern over certain aspects of container vessels. One of the major points of concern relates to the vibration problems experienced by new high-speed container-ships. Apparently the underwriters are concerned because, for commercial reasons, these vessels may not be operated at the slower speeds necessary to reduce vibration and this in turn may lead to increased risks and correspondingly higher premiums.

140. At the end of 1973, however, the high speed vessels were generally being operated at speeds well below the designed service speeds in order to save fuel. If bunker fuel continues to be much more expensive than in the past the practice of operating fast ships at below their maximum speeds may be maintained. Other points were also raised at the Conference. It was said that on feeder services the small feeder vessel performing the final 200-300 miles of the voyage presents a greater hazard to the cargo insurer than the container-ship making the ocean crossing. Crane damage incidents were reported to have occurred rather frequently on barge carrying vessels. These situations also may lead to increased insurance premiums and hence increased total transport costs.

141. The current trend in shipbuilding with regard to unit load vessels is apparently to provide for more flexible and diversified tonnage. It is suggested in some press reports that the fear of over tonnage in certain major trades is one factor favouring the trend towards flexibility in new unit load vessels, since this would help operators to seek alternative employment for their vessels if necessary.

142. In the light of these observations it is useful to note that some 40 deep-sea roll-on/roll-off vessels are currently in operation or under construction. Also, based on existing tonnage and tonnage on order by the end of

1972, it is estimated that there will be about 27 barge carrying vessels in operation by the end of 1974. It is also interesting to note that out of 69 full container-ships under construction or on order in mid-1973 only 27 appear to be designed to operate in trans-oceanic routes. Twelve of these were designed to carry 1,000 or more containers while the remaining 15 were of 774 container capacity. A more detailed picture of the type composition of unit load systems tonnage on order at the end of June 1973 is provided in table 28.

TABLE 28
Unit load system vessels on order at mid-1973

Type of vessel	Number
Full container-ships ^a	69
Bulk container-ships	29
Container/part refrigerated ships ..	44
Container/trailer ships	58
Part container-ships ^b	393
Bulk-vehicle carriers	37
Vehicle carriers	28
Barge carriers	10
Container-barge carriers	4
Pallet vessels	1

Source: Compiled from *World Ships on Order: Supplement to Fairplay International Shipping Journal* (London), No. 36 (23 August 1973).

^a Including 25 container-ships with container capacity between 50 and 266 units.

^b Carrying from a minimum of 72 to a maximum of 465 containers. Presumably at least part of the vessels classified by the source under this category are what are usually called multi-purpose vessels.

3. OTHER VESSELS

(a) Liquefied gas carriers⁷⁶

143. Although the seaborne transport of liquefied gas started between Algeria and the United Kingdom in 1964, the growth of the liquid gas carrier fleet was small in the subsequent years, but it has accelerated in the last few years. The majority of the vessels built between 1967 and 1971 were liquefied petroleum gas (LPG) carriers, as shown below:

Gas carriers delivered, 1967-1971⁷⁷

	Number of vessels	Total dwt
LPG carriers	99	929,000
LNG carriers	11	227,000
TOTAL	110	1,156,000

Subsequently, however, considerable impetus has been given to the enlargement of the liquid gas carrier fleet, largely on account of the expected energy supply problems of the United States of America and Japan.

⁷⁶ The term "liquefied gas carriers" refers to ships capable of transporting liquid natural gas (LNG) or liquid petroleum gas (LPG) or other similar hydrocarbon and chemical products which are all carried at pressures greater than atmosphere or at sub-ambient temperature or a combination of both. A description of the main types of gas carriers is contained in *Review of maritime transport, 1971 (op. cit.)*, para. 92.

⁷⁷ *Fairplay International Shipping Journal* (London), vol. 243, No. 4630 (18 May 1972).

⁷⁵ "Lloyd's List" (London), 27 September 1973.

TABLE 29
Liquid gas carriers: type and capacity analysis, January 1973

Cargo capacity range (cubic metres)	Pressurized		Semi-refrigerated		Refrigerated		Insulated		LPG/oil, etc.		Total	
	Number	Cubic metres	Number	Cubic metres	Number	Cubic metres	Number	Cubic metres	Number	Cubic metres	Number	Cubic metres
Up to 499	32	8,948	3	1,132	—	—	—	—	1	424	36	10,504
500-999	75	55,264	15	13,182	10	7,818	—	—	4	3,142	104	79,406
1,000-1,999	44	58,565	30	44,392	3	3,300	—	—	8	10,064	85	116,321
2,000-4,999	11	31,853	42	120,380	4	15,145	—	—	3	9,510	60	176,888
5,000-9,999	—	—	6	16,600	—	—	—	—	—	—	6	16,600
10,000-19,999	—	—	11	78,694	1	5,748	1	5,123	3	22,439	16	112,004
20,000-39,999	—	—	—	—	—	—	1	5,000	—	—	1	5,000
40,000-59,999	—	—	4	49,314	20	292,920	—	—	3	38,733	27	380,967
60,000-99,999	—	—	—	—	14	393,926	3	80,300	—	—	17	474,226
100,000 and over	—	—	—	—	6	188,195	—	—	—	—	6	188,195
Total delivered	162	154,630	105	307,094	66	1,492,688	13	553,532	23	131,736	369	2,639,680
Total on order	—	—	7	18,100	22	2,289,775	21	2,100,081	—	—	50	3,407,956
TOTAL	162	154,630	112	325,194	88	2,782,463	34	2,653,613	23	131,736	419	6,047,636

Source: *Liquid Gas Carrier Register, 1973*, compiled by H. Clarkson and Co. Ltd., London.
NOTE. Second line of figures in each case refers to vessels on order.

144. Recent emphasis has been focused on the LNG carriers, which are generally larger than the LPG carriers. LNG carriers are among the most elaborate and costly of existing merchant vessel types, the larger size LNG carriers being priced at 50 to 75 million dollars each. Liquefied gas carriers also require expensive terminal facilities. Currently, ships of 125,000 cubic metres capacity are under construction, particularly in France, the United States of America and Japan. It is worth noting in this connexion that only in May 1973 was the first order for a LNG carrier placed with Japanese builders. Yet, by the end of June 1973, Japan accounted for 0.5 million grt of the 3 million grt of the total world order book for this type of vessel. Further advances are foreseen regarding the upper size of LNG carriers, and 200,000 cubic metres capacity or even greater have been considered even before a vessel of 100,000 cubic metres has been built.

145. Advances have been rapid with regard both to the total tonnage of liquified gas carriers in existence and on order and to the size of the vessels. The type and size composition of the existing fleet and tonnage on order at the beginning of 1973 are shown in table 29. Between mid-1972 and mid-1973, the level of total orders for liquified gas carriers increased from 1.9 million grt to 3 million grt. At mid-1973, LNG carriers accounted for about 60 per cent of the number, and for about 80 per cent of the tonnage, of liquified gas carriers on order. Presumably, the current energy situation in the industrial countries, together with the development of new sources of supply of natural gas—e.g. in Iran, Indonesia, and Algeria—boosted the demand for this type of vessel (see table 30). Recently, new sources of supply of liquified gas have been located at relatively short distances from

consuming countries, for example, in the North Sea. It is too early, however, to assess the impact these discoveries may have on the future needs for LNG carriers.

(b) Vehicle carriers⁷⁸

146. Vehicle carriers are specifically built or converted bulk carriers with movable car decks. They often carry a cargo of cars in one direction and such bulk cargoes as grain, iron ore, coal or forest products on the return trip. The vehicle carrier fleet has grown rapidly in recent years, particularly in 1970 and 1971. These vessels are now the major method of transporting assembled vehicles for export. Average vessel carrying capacity has increased from about 1,300 cars for vessels entering service in 1969 to about 2,000 cars for those completed in 1971, with the largest vessels capable of carrying about 3,500 cars.

(c) Push-barge vessel

147. The commission of the first ocean-going push-barge vessel of 23,000 grt, consisting of a barge without engine and a push-tug, built by the French company Union Navale, may constitute a starting point for future developments in the field of ocean transport. The barge has a capacity of 27,000 cubic metres while the push-tug has a power of 5,800 h.p.⁷⁹

⁷⁸ "Vehicle carriers", as defined, are vessels designed to carry cars with loading other than by roll-on ramps and are an alternative to the roll-on car carriers. Cf. United Kingdom, National Ports Council, *National Ports Council Bulletin* (London), No. 2 (Summer 1972), p. 32.

⁷⁹ *Journal de la marine marchande et de la navigation aérienne* (Paris), 55th year, No. 2787 (17 May 1973).

TABLE 30

Firm LNG tanker orders, June 1973, and trades in which new tonnage will be employed

Capacity (cubic metres)	Delivery	Trade
87,000	1973	Abu Dhabi - Japan
29,000	1973	
75,000	1973	Brunei - Japan
75,000	1973	Brunei - Japan
75,000	1973	Brunei - Japan
40,000	1973	Algeria - France
<hr/> 381,000		
87,000	1974	
29,000	1974	
75,000	1974	Brunei - Japan
35,000	1974	
35,000	1974	
120,000	1974	
<hr/> 381,000		
125,000	1975	Abu Dhabi - Japan
125,000	1975	Algeria - United States of America (El Paso)
125,000	1975	Algeria - United States of America (El Paso)
75,000	1975	Brunei - Japan
75,000	1975	Brunei - Japan
75,000	1975	Brunei - Japan
<hr/> 600,000		
125,000	1976	
125,000	1976	
125,000	1976	Abu Dhabi - Japan
120,000	1976	
120,000	1976	
125,000	1976	Algeria - United States of America (El Paso)
125,000	1976	Algeria - United States of America (El Paso)
125,000	1976	Algeria - United States of America (El Paso)
125,000	1976	Algeria - United States of America (El Paso)
125,000	1976	Algeria - United States of America (El Paso)
<hr/> 1,240,000		
125,000	1977	
125,000	1977	
120,000	1977	
125,000	1977	Algeria - United States of America (El Paso)
125,000	1977	Algeria - United States of America (El Paso)
125,000	1977	Abu Dhabi - Japan
125,000	1977	Algeria - United States of America (Eascogas)
125,000	1977	Algeria - United States of America (Eascogas)
<hr/> 995,000		
125,000	1978	Algeria - United States of America (Eascogas)
<hr/> 3,722,000		
	CUMULATIVE TOTAL	

Source: *World Trade in Liquefied Natural Gas*, Economic study No. 17 (July 1973) published by H. P. Drewry (Shipping Consultants) Ltd., London.

C. Trends in propulsion

148. The world merchant fleet in mid-1973 was virtually entirely composed of steamships and motorships. Steamships are mostly powered by steam turbines. A relatively small number of vessels are powered by gas turbines and there are only three vessels in commission powered by nuclear fired boiler installations.

149. The great majority of the vessels under construction at the end of September 1973, that is 2,029 ships out of a total of 2,157, were motorships. However, in terms of tonnage the ratio was 53.5 per cent for motor

ships and 46.5 per cent for steamships. For purposes of comparison, it may be noted that in September 1972, out of a total of 1,969 ships under construction, there were 1,829 motorships which in terms of tonnage accounted for 54 per cent of the total.⁸⁰ The slight reduction in the share of motorships in the total tonnage from 1972 to 1973 can be explained by the great increase in the share of ULCC tankers in the total order book during this period.

⁸⁰ *Lloyd's Register of Shipping: Merchant Shipbuilding Return...* (op. cit.), for the third quarters of 1972 and 1973.

TABLE 31
Trends in propulsion of vessels under construction and on order at 30 September, 1971-1973

Size group (grt)	Motorships as a percentage of total number of vessels																	
	Under construction						Not commenced						On order					
	1971		1972		1973		1971		1972		1973		1971		1972		1973	
100-999	855	(99.9)	879	(99.9)	1,082	(100.0)	483	(100.0)	444	(100.0)	676	(100.0)	1,338	(99.9)	1,323	(99.9)	1,758	(100.0)
1,000-3,999	347	(100.0)	336	(100.0)	323	(100.0)	272	(100.0)	182	(100.0)	286	(100.0)	619	(100.0)	518	(100.0)	609	(100.0)
4,000-9,999	228	(99.6)	241	(100.0)	222	(100.0)	285	(100.0)	180	(100.0)	279	(100.0)	513	(99.8)	421	(100.0)	501	(100.0)
10,000-39,999	362	(89.5)	334	(89.8)	326	(93.6)	660	(97.0)	400	(97.0)	537	(96.8)	1,022	(96.3)	734	(93.7)	863	(95.6)
40,000-69,999	56	(60.7)	69	(63.8)	85	(81.2)	158	(76.6)	136	(83.8)	277	(96.4)	214	(72.4)	205	(77.1)	362	(92.8)
70,000-99,999	35	(54.3)	35	(51.4)	27	(77.8)	71	(69.0)	56	(83.9)	113	(71.7)	106	(64.2)	91	(71.4)	140	(72.9)
100,000 and over	56	(10.7)	75	(16.0)	92	(7.6)	258	(9.7)	245	(6.9)	353	(8.5)	314	(9.9)	320	(9.1)	445	(8.3)

Source: Lloyd's Register of Shipping. Merchant Shipbuilding Return (op. cit.) for third quarters of 1971 1972 and 1973.

150. The diesel engine is the predominant form of motive power for ships of below 100,000 grt. Of ships under construction and on order at the end of September 1973, practically all of those under 20,000 grt were motor vessels as can be seen from table 31. The dominance of the diesel engine is less marked in larger size groups although it is yearly gaining ground in relation to steam turbines in all size groups between 20,000 grt and 99,999 grt. Over that size, however, the steam turbine remain the most popular form of propulsion.

151. Similar trends have been observed over the last 20 years. Diesel engines have been increasingly used for the propulsion of the relatively lower ranges of size groups of vessels, whereas steam turbines have been available to meet the demand for the increased horsepower required for the propulsion of the ever increasing upper sizes of vessels—particularly of tankers using a simple single screw. But diesel engine development has continued so that, with a lag of time, they could meet the propulsion needs of each successive vessel size increment and thus make inroads into the very large classes of vessels.

152. Although experiments were carried out in the early 1950s, gas turbines have only recently started being used in big fast vessels. Up to 1972, four container ships were fitted with this type of propulsion machinery and a number of vessels under construction or on order⁸¹ are to be equipped with gas turbines.⁸² Recent press reports have indicated that the four gas turbine container ships of the "Euroliner" type did not come up to expectations with regard to speed and they are shortly to be fitted with new second generation gas units in order to reach an operational speed of around 33 knots.⁸³ Earlier reports⁸⁴ indicated that in spite of certain incidents due to the novelty of the system, the gas turbine has given absolutely satisfactory results, has shown itself more economical than any other type of propulsion machinery and is easy to maintain and repair.

153. The advocates of the diesel engine see new possibilities for this type of propulsion engine making further inroads in the propulsion of the ULCC and fast ships, like container ships, because of the renewed interest in multi-screw vessels. It is claimed that this is due to both economic and safety reasons. Multi-screw vessels have greater manoeuvrability than single screw ships, while some of the disadvantages of the multi-screw propulsion as, for example, higher crew costs, have disappeared because of technological progress, which has permitted the periodically unmanned engine-room and day-shift maintenance work. The desirability of fuel economy is an added factor in favour of multi-screw vessels, since the more economical diesel engines could

be used instead of steam-turbine engines, when the total power needed is applied to two or more screws.⁸⁵

154. It appears that current technological developments in the propulsion of ships mean, at least with regard to certain types and sizes of vessels, that the selection of main propulsion machinery now ranges from all the standard forms of steam-turbines, slow speed and medium speed diesel engines, to aero and industrial type gas turbines.⁸⁶

155. Nuclear propulsion is still very much at an experimental stage. To date, four nuclear-powered non-military ships have been completed. The latest vessel to join the nuclear-powered fleet was the 8,350 ton *Mutsu*⁸⁷ but the Japanese Ministry of Transport has announced plans for the construction of a second nuclear-powered ship, probably a container ship with propulsion at 80,000-120,000 b.hp. A research committee will be assigned to draw up plans for the ship and construction is to start in 1975.⁸⁸ According to the plans the ship will be commissioned within five years. In the meantime, the construction of a second nuclear-powered ice-breaker, the *Artika*, is going ahead in the USSR.

156. The advocates of nuclear-power seem once again to be optimistic. They feel that the increase in the price of fuel and diesel oil, the increase in the size of ships, the advent of high-speed big container ships and LNG carriers, the desirability for countries which currently are heavily dependent on imports of oil to diversify their sources of energy and the danger of a shortage in oil supplies, have all brought new elements favouring nuclear-power vis-à-vis conventional propulsion systems. New studies claim a considerable advantage in favour of a nuclear-powered vis-à-vis a conventional ULCC.⁸⁹ Similar optimism was expressed in the past, too, but technological advances in conventional systems of propulsion, coupled with the not particularly favourable experience gained from the operation of existing nuclear-powered ships, have not so far allowed nuclear-power to become an attractive technical and economic proposition.

D. Automation and other technological advances

157. Applications of automation on board ships have been expanding since the early 1960s as a result of technical and economic considerations. At the technical level, marine automation tends to increase the vessel's operating efficiency, reliability and safety. At the economic level,

⁸¹ Including 3 tankers of 35,000 dwt each, the first of which is under construction at Portland, Oregon (*The Motor Ship* (London), vol. 54, No. 634 (May 1973)) and a roll-on/roll-off ferry to be built by the Whyalla Shipbuilding and Engineering Works (*Shipping World and Shipbuilder* (London), vol. 166, No. 3881 (May 1973)).

⁸² According to *The Motor Ship*, in March 1973 the total power of gas turbines to be installed on vessels on order was 128,650 b.hp. Two gas turbine powered ships are under construction in Australia (*Fairplay International Shipping Journal* (London), vol. 248, No. 4700 (20 September 1973)).

⁸³ *Journal pour le transport international* (Basel), 34th year, No. 24 (15 June 1973).

⁸⁴ *Journal de la marine marchande et de la navigation aérienne* (Paris), 55th year, No. 2787 (17 May 1973), and *Navires, ports et chantiers* (Paris), No. 277 (June 1973).

⁸⁵ *The Motor Ship* (London), vol. 53, No. 632 (March 1973) and *ibid.*, vol. 54, No. 638 (September 1973).

⁸⁶ S. Ohashi and M. Komoto, "Optimum propulsion installation for four different types of ship", *Shipping World and Shipbuilder* (London), vol. 166, No. 3883 (July 1973), p. 805.

⁸⁷ For its trial run in Mutsu Bay during June 1973, it was reported that the vessel's nuclear reactor would use only one fifth of its critical mass and the ship would be driven by an auxiliary boiler and engine. But in the open sea outside the bay, the reactor could be tested for criticality and its total output of 36,000 kilowatts. *Scandinavian Shipping Gazette* (Copenhagen), vol. 57, No. 6 (June 1973), p. 15.

⁸⁸ *Seatrade* (Colchester, U.K.), vol. 3, No. 8 (August 1973).

⁸⁹ *Journal de la marine marchande et de la navigation aérienne* (Paris), 55th year, No. 2787 (17 May 1973) and *ibid.*, No. 2790 (7 June 1973). Also United States of America, Department of Commerce, *Commerce Today* (Washington D.C), vol. III, No. 15 (30 April 1973).

automation helps to reduce the size of the crew. Rapidly rising manning costs and the shortage of manpower continue to be important incentives for reducing the size of crews through automation.

158. The contribution of automation to the reduction in crew size has been impressive. Typical manning levels of the 10,000 dwt Liberty ship of a generation ago were approximately 30-35 men. Today a Liberty replacement-type vessel such as the "Freedom" class (14,800 dwt) has a manning scale of 31 men which can be reduced to 20 men with the installation of additional optional automation devices permitting the engine room to be left unmanned at night. Large vessels also operate with small crews. One extensively automated 205,000 dwt tanker is manned by a crew of 29 as compared with a 70 man crew of a 105,000 dwt tanker delivered in the early 1960s and not extensively automated.

159. Shipboard functions that are automated relate to bridge control, engine room operations and cargo handling. "One-man" bridge control installations are common in vessels of all sizes. In many respects the trawler industry has led the way in the concentration and simplification of ship control. The tasks of steering, course keeping, navigation, anti-collision and vessel stabilizing can all be highly automated through the use of radar, autopilots, position calculators and computers. These equipments can observe obstructions above or below the ocean surface, give automatic warning and provide alternative evasive courses. Through the use of satellites and a world-wide network of radio transmitters, very precise vessel position reckonings may also be obtained.

160. In the engine room, automatic controls perform a wide range of monitoring and order-execution functions for main and auxiliary engines. Not only have onerous and tedious tasks been removed from the engine room crew, but considerable contributions have been made to fuel economy, increased engine life, avoidance of smoke and safety of operations. Current engine room automation is focusing on diagnostic monitoring systems which predict the need for preventive maintenance of individual engine components, thus avoiding both engine breakdowns and the need to dismantle engine and accessory equipment to check their condition.

161. As to cargo handling, the control of liquids particularly lends itself to automation. The mechanized operation of cargo valves by the use of hydraulics, which avoid fire risk, has proved to be a reliable and fast way of controlling the very large size valves now in use. Automation of dry cargo handling is more difficult to achieve. The rationalization of handling cargoes of this type has mainly been achieved through mechanization.

162. Despite the progress made in marine automation, there is increasing awareness of the cost-effectiveness of different degrees of automation, and its effect on maintenance and running costs is likely to lead to greater interest in improving existing systems than in innovations. A notable factor which has probably contributed to recent thinking has been that, for the automation concept to work with efficiency, detection and control devices must have a very high degree of long-term reliability. Such confidence in long term reliability does not appear to have been established beyond any doubt. It has been observed that, for example, a proportion of ships fitted for unmanned machinery spaces have not been operated in the way they were intended.⁹⁰

163. Even assuming the final success of automation techniques, "the best trade-offs between manpower and automation" have not yet been worked out.⁹¹ There are still many things to be evaluated.

"Among them are: man's tone position as a back-up device for automation devices versus the use of redundancy or other related techniques; man's value for maintenance at sea versus the carrying out of all such functions in port or in dry dock; the social problems of small crews on long voyages; and the training required of the personnel of these ships must be established."⁹²

⁹⁰ *The Motor Ship* (London), vol. 53, No. 632 (March 1973).

⁹¹ "Lloyd's List" (London), 12 September 1973, where a report on the "Ship Operation Automation" symposium held in Oslo is provided.

⁹² *Ibid.*, p. 5.

Chapter V

FREIGHT MARKETS

A. General developments

164. In the dry bulk and tanker cargo markets, the weak conditions which has existed since the end of 1970 continued during the first half of 1972. In the latter part of 1972 there was an upsurge in demand which continued, strongly intensified, into 1973 so that by mid-1973 freight rates in several trades were pushed to levels higher than those recorded in 1970. This was in sharp contrast to the weak conditions prevailing in the freight markets during the early months of 1972 when freight rates in a number of trades reached their lowest level since 1970. So strong were conditions in the freight markets by the end of 1972 that absorption of new and of recommissioned laid-up tonnage capacity did not have any apparent dampening effect on rising freight rates. Some minor fluctuations were observed in a few trades during the third quarter of 1973, but on the whole there were no weakening effects on the freight markets. On the contrary, after a short pause the market was further strengthened at the beginning of the last quarter of the year and freight rates were pushed to new heights in October.

165. A number of factors contributed to the strength of the dry cargo and tanker cargo freight markets. Foremost among these in the dry cargo markets was the import of grain by the USSR, China and India, in which a substantial proportion of the grain chartering was arranged on a time charter basis, a switch from voyage chartering which characterized the freight market in the early stages of the grain movements in 1972.⁹³ In the tanker cargo markets a major factor was the decision of the Government of the United State of America to introduce major changes in its oil import policies and the suspension of quotas as a result of increased demand for oil in the United States which was accentuated by a decline of 2 to 3 per cent in domestic oil production.⁹⁴ The increased demand for oil was not limited to the United States of America alone. There has been a similar increase in Western Europe and Japan stimulated by the accelerated pace of economic growth which occurred in 1972 and which led to an expansion of world seaborne trade as a whole. Consequently, the third quarter of the year saw further increases in freight rates and the rate of increase was sharper than it had been in the previous six months. Confidence in the strength of the freight market accounted for an increased volume of forward fixtures both on a voyage and on a time charter basis.

166. The resumption of hostilities in the Middle East in October 1973 did not appear to have any immediate effect on the markets, which remained as firm as before the hostilities, but the market situation radically changed after the imposition of restrictions on the production and shipment of oil by certain producing countries and the embargo imposed on exports to certain destinations. The immediate effect was felt particularly on the tanker markets, but also to a certain extent on the dry cargo markets, particularly in trades to which combined carriers and tankers were shifted from tanker trades.

167. At the time of writing this review (December 1973) the restrictions regarding shipments of oil are still in force and the freight market situation confused, particularly because of difficulties facing owners in getting adequate bunkers. What will be the eventual outcome of the present situation is impossible to assess. If oil does continue in short supply the effects would not be restricted to the demand for tanker tonnage but would spread to all shipping both through the problem of bunkers and the repercussions of restricted oil shipments on the economies of the importing countries.⁹⁵ There may be changes in the pattern of the oil trade in order to meet the changing supply situation, and also in the dry cargo trades because of an increased demand for coal, for example, or because of a preference for relatively less distant sources of supply. Shipowners, particularly the smaller shipowners, may find it difficult to get bunkers, and those who fail to solve their fuel supply problems may be pushed out of the market. Ships may sail at reduced speeds to economise on fuel, which will reduce the productivity of tonnage and hence the supply relative to the demand. Prospects for the future are dependent on whether and when the restrictions on oil production and export are lifted. If this were to happen in the near future the market may rapidly return to conditions perhaps even stronger than those which prevailed until the beginning of October. If the resumption of unrestricted oil shipments in considerably delayed, a situation may emerge in the freight markets which will be unfavourable to the suppliers of tonnage.

168. In the liner trades, 21 freight rate increases which had been announced during the last months of 1971 came into effect early in 1972.⁹⁶ Further freight rate increases were announced by shipping conferences during 1972 and 1973 particularly in the latter part of 1973, many of which were not due to come into

⁹³ *Shipping World and Shipbuilder* (London), vol. 166, No. 3883 (July 1973).

⁹⁴ *Shipping Statistics and Economics: Six Monthly Review* (London), 1 January to 30 June 1973, published by H. P. Drewry (Shipping Consultants) Ltd., London.

⁹⁵ For example, according to press reports the Ministry of International Trade and Industry in Japan felt that the economy of the country is about to experience a jolt it has not known since the Second World War if there is no improvement in oil supplies by the end of March 1974 (*Financial Times* (London), 13 November 1973).

⁹⁶ See *Review of maritime transport, 1971*, (*op. cit.*), table 16.

effect until 1974. As can be seen from the data in paragraph 172 below, the emphasis in 1973 has been on straightforward increases in liner tariffs rather than on surcharges. A marked feature of 1972 had been the sharply increased use of surcharges by liner conferences as a means of securing immediate increases in revenue.⁹⁷ In fact, 194 straightforward increases in liner tariffs were announced in 1973 as compared with 58 in 1972 while, excepting currency adjustment surcharges and bunker surcharges, only 27 cases of new or increased surcharges were recorded in 1973 as against 72 in 1972. The difference between the two years in this regard may be considered as a result of the fact that, in general, freight markets were much stronger in 1973 than in 1972, which made it easier for conferences to increase rates directly and not to resort to surcharges to secure increased revenue. This pattern of an accelerated pace of increase in liner freight rates occurring when open market freight rates are at a high level is consistent with past experience. The only difference appears to be that in 1973 there was no time lag between the rise in open market rates and increases in liner freight rates.

B. Changes in freight rates in 1973

1. DRY CARGO TRAMP MARKET FREIGHT RATES

(a) Voyage charter freight rates

169. As a result of the strengthening of demand for tonnage in the latter part of 1972, the amount of laid-up tonnage declined rapidly and on 31 October 1973 stood at 729,000 grt, compared with 3.2 million grt at the corresponding date of 1972 and 4.9 million grt at the end of May 1972, the highest level of laid-up tonnage reached since 1969. Strong demand conditions continued to characterize the freight markets up to the last months of 1973, in spite of the uncertainties created by the imposition of restrictions on oil shipments. The developments throughout 1972 and 1973 are reflected in the monthly freight rate indices shown in table 32. It may be observed from the table that the monthly index for voyage charter dry cargo freight rates which had fallen to 66 in 1972 rose to 215 in October, 222 in November and 241 in December 1973—higher than at any time in the period since the beginning of 1969. By way of comparison, selected maximum and minimum tramp voyage freight rates in the years 1970 to 1973 are shown in annex IX.

170. The mid-year months are traditionally a relatively quiet period in freight markets. However, in 1973 the situation was different owing to the grain import programmes of the USSR, China and India. Growing demand for the transport of iron ore, coal and other dry bulk commodities also strengthened the freight markets so that it seemed unlikely that dry cargo freight rates would suffer an early major set back. So strong was the dry cargo market that the influx in October of combined carriers and tankers after the imposition of restrictions on oil shipments had only a limited effect on the level of freight rates. Later, however, the dry cargo market was

very unsettled and it appeared that bunker supplies became a problem of increasing seriousness. One of the effects of the uncertain bunker situation was heavy time chartering by owners to shift the responsibility for fuel supplies to the charterers. Increased demand for coal, however, pushed freight rates upwards in some trades.

(b) Time charter freight rates

171. The time charter sector was active throughout 1972 and 1973, in spite of the problems posed to owners by continuous monetary fluctuations, and rates moved up throughout the two years. In the first half of 1973, heavy time chartering for the shipment of grains largely accounted for the rapid increase in time charter rates. During the period, the time charter index rose from 75 at the end of December 1971 to 134 one year later and 267 at the end of September 1973 (base year 1968 = 100). A preference for time chartering by owners was strongly revived at the beginning of November partly as a consequence of the desire of shipowners to shift the refuelling task and risk to charterers. Later in November, however, activity in the time charter sector slowed down; at the end of December 1973 the time charter index stood at a record high of 358.

2. CARGO LINER FREIGHT RATES

172. It was observed in a previous review⁹⁸ that, as a result of the introduction of an increasing diversity of surcharges in addition, or as an alternative, to straightforward rate increases, a comparison of only the freight rate increases made by different conferences does not give a complete picture of the over-all changes in the costs of maritime transport in the liner trades. Surcharges fall into a number of categories. Port congestion surcharge is one of the most commonly used to cover a sudden rise in liner costs of operation due to congestion of ships at a particular port. As such, it is not of general application in a trade and therefore it is not included in table 33. The most important of the other surcharges included in the table are:

- (a) Emergency surcharge;
- (b) Currency adjustment factor on devaluation surcharge;
- (c) Bunker surcharge;
- (d) Pre-shipment surcharge;
- (e) Handling surcharge or landing, storage and delivery surcharge.

173. In 1972 and 1973 a number of shipping conferences announced increases in liner freight rates. The majority of these announcements distinguished between general increases in freight tariffs and the introduction of or changes in surcharges. These freight rate changes in liner trades are recorded in table 33, where (a) general increases in freight tariffs, (b) new or increased surcharges, and (c) surcharges reduced, cancelled or incorporated in tariffs are recorded separately. The freight rate changes recorded in table 33 can be summarized as follows:

⁹⁷ See paras. 176-177 below.

⁹⁸ *Review of maritime transport, 1971 (op. cit.)*, para. 130.

Type of freight rate changes	Number of freight rate changes ⁹⁹	
	1972	1973
General increases in freight tariffs	58	194
General freight increases partly offset by incorporating into the tariffs part or all of pre-existing surcharges	29	11
Announcements of new surcharges or of increases in pre-existing surcharges . .	119	348
CAF (currency adjustment factors) . .	47	166
Bunker	—	155
Others (pre-shipment, emergency, handling, landing, storage etc.) . .	72	27
Cases where pre-existing surcharges were incorporated into tariffs through corresponding increases in tariffs	17	16
Cases where surcharges were reduced or cancelled without being incorporated into tariffs	33	69
TOTAL	256	638

In one case a straight freight rate reduction was announced in 1972 for shipments by containers and in the Australia/Europe trade a freight rate reduction by stages spread over three years was announced for shipments of wool.

174. It can be seen from the data given above that because of the emergency situation in the last quarter of 1973 with regard to the supply and price of oil, an extraordinary number of bunker surcharges were imposed. It is worth noting that out of a total of 155 bunker surcharges imposed during the year, only 13 had been introduced up to the end of October. As a result of the great instability in the international monetary situation, 166 new increased currency adjustment surcharges were announced in 1973, as against 47 in 1972. As can be seen from table 33, during the last two months of 1973, when the position of the United States dollar was strengthened in international monetary markets, 33 reductions of currency adjustment factors were announced.

175. In general, freight rate increases in the liner trades in 1973 were not only relatively more numerous but also greater than in 1972. This is shown below:

Summary of straightforward increases in freight tariffs ¹⁰⁰

Size group of increase	1972		1973	
	Number of increases	Percentage of total increases	Number of increases	Percentage of total increases
Under 5%	2	(3.9)	4	(2.5)
5-7.4%	6	(11.8)	19	(12.1)
7.5-9.9%	6	(11.8)	8	(5.1)
10-12.4%	22	(43.1)	64	(40.8)
12.5-14.9%	10	(19.6)	26	(16.6)
15-19.9%	4	(7.8)	27	(17.2)
20% and over	1	(2.0)	9	(5.7)
	51	(100.0)	157	(100.0)

⁹⁹ The number of changes summarized is greater than the number of the announcements recorded in table 33 below and in table 25 of the review of maritime transport for 1972 (TD/B/C.4/106) because in several cases one announcement covers more than one change.

¹⁰⁰ Excluding announcements which (a) referred to a flat increase in terms of specific amount of money per unit of cargo (there were 11 such announcements in the year 1973 as against 3 in 1972) and (b) did not specify the percentage increase (there were 26 such announcements in 1973 as compared with 4 in 1972).

It can be seen that in 1972 less than 10 per cent of the total number of increases were of 15 per cent or more, whereas in 1973 the corresponding figure was over 22 per cent. The over-all trends in liner freight rates are shown by the liner freight index included in table 32. The index, after remaining virtually stable throughout 1972, rose from 132 in December 1972 to 154 in December 1973. The monthly average for 1973 was 140 as against 131 in 1972. The rise in 1973 can be explained by the evidence of increasing liner freight rates presented here, but the stability in 1972 is more difficult to understand in view of the number of freight rate increases which occurred and the number of surcharges imposed during the year. One possibility is that the revaluation of the Deutschmark during the year offset the effects of freight rate increases and surcharges; another is that only freight rate increases were offset while surcharges were generally not included in the index. Whatever the explanation, the behaviour of the index in 1972, and perhaps by implication also in 1973, does not truly reflect the changes in liner freight rates and the increased costs of shipping goods which shippers had to bear during the period.

176. It can be observed generally from table 33 that a number of conferences in 1972 which did not introduce emergency surcharges announced general freight rate increases of between 10 and 15 per cent. In both 1972 and 1973 the great majority of increases were within this size range. In some trades such general increases were to be implemented at two stages. The level of emergency surcharges introduced in 1972 in all but two cases were between 10 and 15 per cent, a range which corresponds to that of the general increases in tariffs. The level of other categories of surcharges varied greatly, according to the specific factors which the surcharges were intended to cover.

177. Shipping conference, mainly in the transatlantic trades, introduced at the beginning of 1972 a 15 per cent emergency surcharge and an 8.6 per cent currency adjustment factor. Later in the year these surcharges were incorporated into the general tariffs, with a consequential increase of 21 to 24 per cent in these tariffs. It would appear that emergency surcharges have been used to bring about an immediate increase in freight rates and, in innovating this device, conferences succeeded in avoiding the necessity of giving shippers the advance notice of current plus two months under existing conference practice.

178. Shipping conferences tended to defend the increases in freight rates on the grounds of rising operating costs. Rises in cost elements do not in themselves necessarily mean a deterioration in the profitability of a liner shipping operation, since, for example, a change in the relative importance of specific elements in the over-all operating costs, an improvement in the utilization of cargo capacity of the conference vessels or a change in the cargo composition, if they occurred, would all tend to offset rising money costs. Indeed it lies within the capacity of shipowners themselves to initiate some changes that would mitigate the effects of cost increases. Therefore, changes in cost factors can be used to justify changes in the levels of liner freight rates only if, and in so far as, the entire profitability of liner operations has changed adversely, and then only to the extent that is needed to restore the cost/revenue relationship to a reasonable level. In 1973 there was a heavy concentration during December of announcements of freight rate increases (56 out of the total of 194 for the year) and bunker surcharges

TABLE 32
Freight rate indices 1969-1973 (monthly and quarterly figures)

	Liner freight rates ^a (1965 = 100)				Dry cargo tramp time charter ^b (1968 = 100)				Dry cargo tramp voyage charter ^c (July 1965-June 1966 = 100)				Tanker trip charter ^d (Intascale = 100 up to 15 September 1969 World scale thereafter)			
	1969	1970	1971	1972	1973	1969	1970	1971	1972	1973	1969	1970	1971	1972	1973	
January	108	112	121	131	134				68	109	83	(117)	129	207	85	141
February	108	113	122	131	134			107	69	115	73	(121)	134	155	68	147
March	110	113	124	131	135	95	120	88	66	121	75	(132)	145	140	58	152
April	110	113	125	132	136		121	87	66	137	60	(125)	137	110	59	142
May	108	113	125	132	138		124	83	67	145	66	(121)	133	103	55	182
June	109	113	125	132	137	97	193	87	69	149	72	(158)	173	80	76	268
July	109	114	126	131	139		120	72	70	144	81	(203)	223	69	80	267
August	109	114	127	131	139		127	74	69	155	81	(205)	226	81	81	301
September	110	115	128	131	142	99	206	75	77	183	(89)	99	236	259	71	346
October	110	115	130	132	146		129	74	90	215	(104)	115	260	286	75	390
November	110	117	131	132	145		111	75	90	222	(126)	139	256	281	87	249
December	111	117	131	132	154	111	176	75	94	241	(137)	150	205	226	108	216
Yearly average	109	114	126	132	140	101	181	93	98	253	85	(178)	196	107	84	233

^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.

^b As of 1970, compiled and published on a quarterly basis by the United Kingdom Chamber of Shipping.

^c Compiled and published by Norwegian Shipping News (Oslo).

^d As published by Norwegian Shipping News (Oslo). Intascale numbers to August 1969, thereafter World scale numbers. The equivalent Intascale numbers for the period September 1969 to December 1970 are shown in parentheses.

NOTE: The indices in this table have been taken to the nearest round figure.

(65 out of 155 for the year). These came at a time when the shipping lines in most trades were reported to be cutting down the number of their sailings and plying their vessels at reduced speeds to reduce the bunker consumption. In addition to saving fuel, these measures would also have the effect of increasing the utilization of the carrying capacities of vessels. There is also evidence that shippers of low freight paying cargoes have found it difficult to secure space for them in recent months which suggests that the lines may have secured a better composition of cargoes carried in terms of freight

earnings. It is impossible to judge whether the freight rate changes which occurred in 1973, particularly in the month of December, were justified. While there is no doubt that in a number of countries inflation was greater in this year than in preceding years, and while the rise in bunker prices is well known, yet it is remarkable that such a large increase in the number of announcements of increases in tariff rates and of new surcharges, together with a marked tendency for such increases to be bigger, should have occurred in a year when open market freight rates reached their peak.

TABLE 33

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

Abbreviations and symbols used in this table

Type of surcharge: Bunker = Bunker surcharge; CAF = Currency adjustment factor (including devaluation surcharge); Emg. = Emergency surcharge; Handl. = Handling surcharge; Presht. = Preshipment charges of taxes.

Units: B/L = per bill of lading; FT = per freight ton; M³ = per cubic metre; MT = per metric ton; PU = per paying unit; W/M = per weight and/or measurement ton.

Others: approx. = approximately; prev. = previously; unspec. = unspecified; (...) indicates that the previous level of the surcharge was not specified in the source.
n.a. = not available in the source.

PART ONE: 1972 ^b

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
1	Conférence Export des lignes de navigation desservant l'Indochine *Entente de Fret en sortie de Marseille et ports du Sud de la France sur Ceylan, l'Inde et le Pakistan Entente de Fret en sortie de Marseille et ports annexés sur la Malaisie, la Thaïlande, les Philippines, Hong Kong, la Chine, la Corée et le Japon	28 December 1971		to 9 % from (...) CAF	
3					
4					
7	Japan East Canada Freight Conference *Japan West Canada Freight Conference Trans Pacific Freight Conference	1 January 1972		to 7.25 % from (...) CAF	
8	*River Plate / Mediterranean / River Plate Freight Conference including Northbound Reefer Cargo Agreement	1 January		to 8.57 % from 3.5 % CAF	
9	*West Africa/South Africa Freight Agreement	1 January	15 %		
10	Brazil/Europe/Brazil Freight Conference	3 January			From 3 % to 1.5 % Bunker
11	*Association of West India Trans Atlantic Steamship Lines (WITASS)	5 January		to 8.6 % from 3.5 % CAF	
12	*Ceylon/UK and Eire Conference	5 January		to 7 % from 2.5 % CAF	
13	*European/South Pacific and Magellan Conference	5 January		to 8.6 % from 3 % CAF	

^a Announced by shipping conferences or groups of lines serving particular trades but excluding announcements by individual lines.

^b Conferences which appear more than once in the list are marked with an asterisk when listed for the first time.

TABLE 33 (continued)
 Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
 PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
14	Timor Dilly Conference	7 January		to 11 % from (...) CAF for shipments from Federal Republic Germany, Holland and Belgium to 9 % from (...) CAF for shipments from other European countries	
15	*Australia/US Atlantic and Gulf Conference	8 January		6.32 % CAF	
16	*Continental/North Atlantic West-bound Freight Conference	10 January		to 8.57 % from (...) CAF	
17	*India, Pakistan Conferences	12 January		5.5 % CAF for West-bound trade from India and Pakistan	
18	*UK/Canadian North Pacific freight Association	14 January		to 8.5 % from (...) CAF	
19	UK/US Pacific Freight Association				
20	*European South Pacific and Magellan Conference	15 January			From 2.5 % to 1 % Bunker
21	*North of Brazil and Amazonia/Europe/North of Brazil and Amazonia Freight Conference	17 January		to 9 % from 5 % CAF (9.5 % initially announced)	From 3 % to 1.5 % Bunker
22	*Conférence Export-Import des lignes de navigation desservant Madagascar, les Comores et l'île de la Réunion (CIMACOREM)	20 January		2.3 % CAF, on all rates quoted in Swiss francs	
23	*The "8900 Lines"	27 January		to 8.6 % from 3.5 % CAF	
24	*Associated Continental/Mediterranean	29 January		to 8.6 % from 5 % CAF westbound trade	
25	*Middle East Lines (ACMEL/AMMEL)				
26	*Outward Continental North Pacific Westbound Freight Conference	29 January delayed from 14 January		to 8.57 % from 5.5 % CAF	
27	*Brazil/Mediterranean/Brazil Freight Conference and Northbound Reefer Cargo Agreement (Brazil)	1 February			from 3 % to 1.5 % Bunker
28	Greece/USA Westbound Freight Conference				
29	Turkey/USA Westbound Freight Conference	1 February		15 % Emg.	\$3. Bunker cancelled
31	*Italian West Africa Conference	1 February			from 5 % to 3 % Bunker
32	Malabar-Australia Rate Agreement	1 February delayed from 1 January	15 %		
33	UK-Canadian North Pacific Freight Association and	1 February		15 % Emg.	3 % Bunker cancelled
34	UK-US Pacific Freight Association				
35	*Australia to Europe Shipping Conference	5 February		to 8.57 % from (...) CAF for wool rates	
36	Middle East US Atlantic and Gulf Rate Agreement No. 9778	6 February		to 8.6 % from 3.5 % CAF	
37	Association of West India Trans Atlantic Steamship Lines (WITASS)	7 February		\$0.50 W/M pilotage surcharge on cargo loaded or discharged at Puerto Cortez	
		14 February		\$5.— per set of B/L "institution of a Salvadorian legislation fee"	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
38	Associated Continental/Mediterranean	14 February			from 8.6 % to 7.5 % CAF for Westbound trade
39	Middle East Lines (ACMEL/AMMEL)				
40	UK/US Gulf Ports Rates Agreement	14 February		11.7 % Emg.	3.5 % CAF cancelled from \$2./FT to \$1./FT Bunker
41	*Pacific Westbound Conference	15 February		4.5 % Emg. for all goods to Hong Kong	
42	*North Atlantic Baltic Freight Conference	21 February delayed from 9 January		5.5 % CAF	
43	Inter-American Freight Conference	1 March		4.5 % except for temporary rates and cargoes in bulk rated on a f.o.b. basis (10 % initially announced)	
44	*Outward Continent/Australia Conference	1 March	14 % approx. (up to 20 % for some cargo)		
45	*UK-Australia Conference				
46	Shipping Lines operating between Europe and Madagascar, les Comores and L'Ile de la Réunion	1 March		8 % Emg.	
47	Shipping Lines operating between Hamburg, Bremen and Amsterdam, Rotterdam, Antwerp	1 March	5 % to 10 % approx.		
48	UK North Continent/Seychelles Conference	1 March	10 % approx.		
49	UK-River Plate Conference to Europe/Argentine Freight	1 March			£1.-W/M minimum £0.25 per B/L handl. for less than 254 kg. or 10 c.ft. from Glasgow and Liverpool
51	Conference *Brazil/Europe/Brazil Freight Conference				
52	*United States Great Lakes-Bordeaux/Hamburg range Westbound Conference	1 March	7.5 to 10 % approx.		from \$2./FT to \$1./FT Bunker
53	*West Coast of Italy Sicilian and Adriatic ports/North Atlantic range Conference (WINAC)	March		15 % Emg.	Bunker (...) cancelled
54	*Mediterranean/USA Great Lakes Westbound Freight Conference	3 March		10 % Emg.	
55	*Med.-Gulf Conference in accordance with West Coast of Italy, Sicilian and Adriatic ports/North Atlantic range Conference (Also reported as West Indies North Atlantic Conference) (WINAC)	15 March delayed from 4 January		3 % CAF	
57	North Atlantic Mediterranean Freight Conference	15 March		15 % Emg.	3 % Bunker cancelled
58	*Marseilles/North Atlantic USA Freight Conference	20 March		15 % Emg.	3 % Bunker cancelled
59	Med.-Gulf Conference and West Coast of Italy, Sicilian and Adriatic ports/North Atlantic range Conference (WINAC)	21 March	22 %		15 % Emg. and 8.5 % CAF incorporated in tariff. Bunker (...) cancelled 3 % currency cancelled
60			15 % Emg. and 8.5 % CAF incorporated in tariff		
61	Association of West India Trans Atlantic Steamship Lines "Islands Section" (WITASS)	22 March			to \$4.95/FT from \$3.45/FT landing storage and delivery charges in Barbados port

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
62	Entente de Fret en sortie des ports du Sud de la France à destination de Ceylan, l'Inde et le Pakistan	23 March followed by 1 May		F.Fr. 2.50/MT pre-shpt. to F.Fr. 4.00/MT from F.Fr. 2.50/MT pre-shpt. charges	
63	Marseilles/North Atlantic USA Freight Conference	26 March	21 % 15 % Emg. and 8.75 % CAF incorporated in tariff		15 % Emg. and 8.57 % CAF incorporated in tariff
64	Association of West India Trans Atlantic Steamship Lines (WITASS)	27 March		to \$3 from \$2.50 consular dues for cargo from Europe including Scandinavia to Mexico	
65	Shipping Lines operating between United States East Coast and Puerto Rico and vice-versa	end of March	15 % to 25 %		
66	American Great Lakes-Mediterranean Eastbound Freight Conference	Beginning of April	10 % approx. for rates per long ton, limited to \$5. in cases of rates per W/M	to 8.75 % from (...) CAF (CAF not applicable for cargo to Israel)	
67	Great Lakes United Kingdom East-bound Conference	Beginning of April	\$5./ton for rates up to \$45. \$4./ton for rates between \$45 and \$60. \$2./ton for rates over \$60./ton	to 8.5 % from 5 % CAF	from 5 % to 2.5 % Bunker
68	United States Great Lakes-Bordeaux/Hamburg range Eastbound Conference	Beginning of April	\$4./ton for rates up to \$45. \$3./ton rates up to and including \$60. \$1./ton rates over \$60./ton	to 8.5 % from 5 % CAF	from \$2 to \$1. Bunker
69	US Great Lakes Scandinavian and Baltic Eastbound Conference	Beginning of April	\$7./ton which takes into account increase of CAF (...)		increased CAF (...) incorporated in tariff Bunker (...) cancelled
70	*Accordo Merci Italia/Canarie	1 April	CAF and Bunker (...) incorporated in tariff		CAF and Bunker (...) incorporated in tariff
71	Brazil/Mediterranean/Brazil Freight Conference and	1 April			from 3 % to 1.5 % Bunker
72	Brazil/Europe/Brazil Freight Conference				
73	Canadian Continental Eastbound to Freight Conference				
75	Continental Canadian Westbound Conference United States Great Lakes - Bordeaux/Hamburg range Westbound Conference	1 April		to 8.5 % from (...) CAF	from (...) to \$1./FT Bunker
76	Indonesia Europe Freight Conference	1 April followed by 1 September	Rate increase in two stages, level of which varies according to type of cargo. As such not specified in the source		
77	*Mediterranean North Pacific Coast Freight Conference	1 April		15 % Emg. 8.57 % CAF	
78	*New Zealand Conference (assumed to refer to the New Zealand European Shipping Association)	1 April		FI 2. to 6./ton cargo handling charges for river transport (higher charges initially fixed)	

TABLE 33 (continued)
 Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
 PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
79	North Continent-Aqaba Agreement	1 April	12.5 % approx.		
80	Tariff Agreement Canary Islands	1 April	15 % approx.		
81	UK/Jordan Conference	1 April	12.5 % approx.		
82	Continental North Atlantic to Westbound Freight Conference	3 April	21 % 15 % Emg. and 5.5 % CAF incorporated in tariff	2.5 % CAF	15 % Emg. and 5.5 % CAF incorporated in tariff
87	North Atlantic Baltic Freight Conference				
	North Atlantic Continental Freight Conference				
	North Atlantic French Atlantic Freight Conference				
	North Atlantic United Kingdom Freight Conference				
	North Atlantic Westbound Freight Association				
88	Leeward and Windward Islands and Guianas Conference	17 April		2.5 % CAF	
89	*American West African Freight Conference	17 April or 15 days after effective decision of the United States Government to devalue the dollar		to 8.5 % from 5.5 % CAF	
90	Accordo Merci Italia/Canarie	24 April		to (...) from (...) surcharges for loading operations	
91	Association of West India Trans-Atlantic Steamship Lines WITASS) (General, Islands and Mexican Sections)	1 May	\$2.30 to \$7 gross/FT in westbound trade \$2.34 gross/FT average in eastbound trade; reduced Bunker (...) incorporated in tariff for Islands and Mexican Sections. 8.6 % CAF incorporated in tariff	to \$4.16 min. and \$8.35/FT max. from (...) depending on port, minimum charge \$0.70 landing, storage and delivery charges for Caribbean ports from Scandinavia and Continent	—In Islands and Mexican Sections: reduced Bunker (...) incorporated in tariff \$1./ton separate Bunker cancelled —In General section: reduced Bunker costs have been taken into account. In addition: 8.6 % CAF incorporated in tariff \$0.50/W/M pilotage charge for Puerto Cortez cancelled
92	Australian Northbound Shipping Conference	1 May	15 % on all cargo from Australia to Japan		
93	Comité de Fret Marseille-Mer Rouge	1 May	10 %		
94	*Continental-Red Sea, Conference	1 May	10 % with certain exceptions		
95	Convention to North Continent	1 May	unspecified increase for shipments from Italy to Antwerp, Rotterdam, Amsterdam Hamburg and Bremen		
96	Red Sea and Gulf of Aden Agents' Agreement	1 May	10 % approx. for net rates on the most frequent cargo		
97	UK-Red Sea Conferences:	15 May	10 % approx.		
to	*UK/Aden Conference				
100	*UK/Assab and Djibouti Lines Conference				
	*UK/Jeddah and Yembo Conference				
	*UK/Sudan Conference				

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
101	US Atlantic and Gulf/Australia-New Zealand Conference	28 May	\$8.50 on rates up to \$50 W/M \$11.25 on rates over \$50 W/M and up to \$70 W/M \$14. on rates over \$70 W/M and up to \$90 W/M \$12. on rates over \$90 W/M (this measure replaces introduction of a 6.32 % CAF planned for 7 May)	To \$4.45/ton from (...) New Zealand service charge	
102	Australia-US Atlantic and Gulf Conference	End of May	6.32 %		
103	Australia and New Zealand/Eastern Shipping Conference	1 June followed by 1 September	11 % 2.5 % for Japanese imports to Australia		
104	Entente de fret ports français métropolitains (sauf Dunkerque)/Djibouti	1 June	10 %		
105/106	Far East/Africa Freight Conference Japan/West Africa Freight Conference	1 June	10 % (12.5 % initially planned) 14 % CAF incorporated in tariff		14 % CAF incorporated in tariff
107	*Mediterranean/Canada Westbound Freight Conference	1 June	10 %		
108	Mediterranean North Pacific Coast Freight Conference	1 June	24 % 15 % Emg. and 8.5 % CAF incorporated in tariff		15 % Emg. and 8.57 % CAF incorporated in tariff
109	New Zealand European Shipping Association	1 June	8.57 % CAF incorporated in tariff	Pre-shipment charges for Rotterdam: Fl.6/MT exquay/shed Fl. 3.20/MT general cargo ex lighter Fl.2/MT bagged cargo ex lighter	8.57 % CAF incorporated in tariff
110	Pacific Westbound Conference	1 June	10 % approx. for commodities now rated at \$85 or less. Cargo rated above increased selectively. 5 % average increase for refrigerated freight		
111/112	South and East Africa Rate Agreement United States/South and East Africa Conference	1 June	15 % approx. both directions		\$3/FT. Bunker cancelled
113	*Far East Conference	2 June		To 8.5 % from 4.5 % CAF for Japanese ports	
114/116	Continental-Red Sea Conference to UK/Red Sea Conference Lines and UK/Sudan Conference	12 June	8.6 % CAF incorporated in tariff		8.6 % CAF incorporated in tariff
117	*Associated Central West Africa Lines	15 June		£0.75/FT handling charges between Europe and Zaire	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
118	*East Africa Conference	19 June (as from 19 July according to other source)	9.5 % CAF incorporated in tariff		9.5 % CAF incorporated in tariff
119	Association of West India Trans-Atlantic Steamship Lines (WITASS-General Section)	1 July			\$2/FT pre/after tackle charge cancelled for Puntarenas on both westbound and eastbound shipments
120	Conférence "Fret" France Antilles et Guyane Française	1 July	10 % maximum, increase varying with tariff series. F.Fr.5.50/PU bunker incorporated in tariff		F.Fr. 5.50/PU bunker incorporated in tariff
121	India, Pakistan, Bangladesh and Sri Lanka Conferences	1 July		Pre-shipment charges (...), previously announced for 1 February and 1 May, from Europe, postponed initially to 1 July and then indefinitely	
122/	Conferenza Italia/Algeria-Morocco	1 July			Bunker (...) cancelled
123	Conferenza Italia/Portogallo and vice versa				
124/	*Continent West Africa Conference	1 July		F.Fr. 5.50/PU handling in Boma and Matadi (Zaire)	
125	*Organisation du Trafic Méditerranée-Afrique de l'Ouest				
126	Europe-Indonesia Freight Conference	1 July			Surcharge (...) cancelled for shipments from Scandinavian and Baltic ports
	Far East African Shipping Conference:				
127	Hong Kong/West Africa Freight to Conference	1 July	10 % 8.57 % CAF incorporated in tariff		8.57 % CAF incorporated in tariff
129	Japan and Hong Kong/South Africa Shipping Conference Far East/East Africa Freight Conference				
130/	River Plate/Mediterranean/River Plate Freight Conference	1 July	15 % approx.		CAF (...) and bunker (...) cancelled
131	Brazil/Mediterranean/Brazil Freight Conference				
132	*Shipping companies operating between British Isles and Persian/Arab Gulf (assumed to be the same as "Arabian and Iranian ports")	5 July		6 % CAF	
133	Hamburg/Bremen-London Conference	10 July	7 %		
134	Continent West Africa Conference	12 July		DM.2/FT handling for cargo transported between Europe and Pointe Noire	
135	Associated Central West Africa Lines	15 July		\$0.25/FT handling in Pointe Noire	
136	Italian West Africa Conference	15 July		It. L.1,500/FT handling in Matadi and Boma (Zaire)	
		also 15 July		It. L.350/FT handling in Pointe Noire	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
137	Organisation du trafic Méditerranée-Afrique de l'Ouest (OTRAMA)	15 July		Ffr. 3.00/FT Handl. in Pointe Noire	
138	Association of West India Trans-Atlantic Steamship Lines (WITASS)	17 July		to \$8.60/ton from \$7.85/ton Landing storage and delivery charges for St Kitts	
139 to 143	*Far Eastern Freight Conference *Europe/Japan and Japan/Europe Freight Conferences *Philippines/Europe Freight Conference *Sabab, Brunei and Sarawak Freight Conference	23 July		6% CAF for shipments from United Kingdom and Eire	
144	Calcutta East Coast of India-Bangladesh/USA Conference	August	8.7% approx. net increase		
145	West Coast of India and Pakistan/USA Conference	August	5.8% approx. net increase		
146	*Canadian North Atlantic Westbound Freight Conference	1 August		3% CAF from British ports	
147	The "8900" Lines	1 August	15% 8.6% CAF incorporated in tariff		8.6% CAF incorporated in tariff From \$2./FT to \$3./FT discount allowance on cargo pre-palletized by shippers
148	UK to Australia Conference	1 August		8.57% CAF	
149	UK and Continent/Leticia and Iquitos Gentleman's Agreement	1 August	8.6% CAF and 1.5% Bunker incorporated in tariff plus slight increase for rounding off		8.6% CAF and 1.5% Bunker incorporated in tariff
150	Shipping Lines operating between United Kingdom and Marseilles	7 August		5% CAF	
151	Shipping Lines operating between United Kingdom and Portugal	7 August		10% CAF increased operating costs	
152	India, Pakistan, Bangladesh, Sri Lanka and Burma outward Freight Conference	15 August	13%		from 13.5% to 12.5% CAF from \$3/ton to \$1.50/ton Bunker
153	Association of West India Trans-Atlantic Steamship Lines (WITASS) (Island Section)	21 August		\$12.15/FT landing storage and delivery charge for chilled and frozen cargo in Barbados to \$7.50/FT from \$7.28/FT for Montserrat to \$5.50/FT from \$4.16/FT for St. Lucia, landing storage and delivery charges	
154	Ceylon/USA Freight Conference	22 August	12.5% (15% initially planned) except for tea where net increases are —loose tea: 4.24% —palletized tea: 4.47%		From 13.5% to 12.5% Suez surcharge From \$3./FT to \$1.50/FT Bunker
155	Far East Conference	1 September		Hong Kong \$12/MT or M ³ for imports (Eastbound) Hong Kong \$9/MT or M ³ for exports (Westbound)	

TABLE 33 (continued)
 Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
 PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
155	Far East Conference (continued)	1 September		Surcharge for stuffing/unstuffing of groupage containers in Hong Kong - Less than container loads	
156	North Europe US Pacific Freight Conference (new conference grouping: Outward Continental North Pacific Freight Conference and UK-US Pacific Freight Association)	1 September	15 % Emg. and 8.57 % CAF incorporated in tariff plus net increase (...) to cover increased cargo handling costs		15 % Emg. and 8.57 % CAF incorporated in tariff
157	*UK/Spain Freight Association	4 September		to 7 % from 4 % Emg.	
158	European South Pacific and Magellan Conference	25 September		\$0.80/FT surcharge for shipments from Colombian ports (Pacific coast) \$1.16/FT surcharge for shipments to Colombian ports (Pacific coast)	
159	Australia/Canada East Coast St Lawrence and Lakes Conference	1 October	6.5 %		
160	Australia/US Atlantic and Gulf Conference				
161	Australia/to Europe Shipping Conference				
		1972	4 % (sheepskins excepted)		
		1973	4 % (sheepskins included)		
		1974	4.5 % (sheepskins included)		
		Also	Reductions over 3 years for wool rates beginning 1972/73 wool season, as follows: 15 % in 1972, 12.5 % in 1973 and 10 % in 1974		
162	*Europe/South and South East African Conference	1 October		pre-shpt. charges: D.Kr. 12 to 14./MT for Danish ports DM 4.80/MT for port of Bremen Fl. 4 to 9/MT for Amsterdam B.Fr. 50/MT for Antwerp F.Fr 5.50/MT for Le Havre to £1./FT from (...) for ports of the United Kingdom	
163	Europe/East African Conference	then postponed			
164	Continent West Africa Conference	1 October then postponed (except for Rotterdam)		pre-shpt. charges: DM. 3/MT ex quay for Hamburg/Bremen Fl.2.25/MT to Fl.9/MT for Rotterdam/Amsterdam B.Fr. 35 to 65/FT for Antwerp	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
165	South African Coastwise Conference Lines	1 October	13.2 %		1 % Bunker cancelled
166	UK/Aden Conference	1 October		to £1/FT from £0.50/FT pre-shpt. charges for Birkenhead Glasgow and Liverpool	
170	UK/Jeddah and Yembo Conference Agreement				
	UK/Assab and Djibouti Lines' Agreement				
	UK/Massawa Lines' Agreement				
171	UK/Berbera Lines' Agreement	1 October	10 %		
172	United Kingdom to Australia Conference	1 October			From 8.75 % to 6.6 % CAF
173	Conférence Export Import des Lignes de Navigation desservant Madagascar, les Comores et l'Île de la Réunion (CIMACOREM)	(2 October delayed from 3 July)	4.5 % average increase but 4.3 % prov. reduction applicable until 31-12-72 granted to trade to and from Madagascar		
174	*UK/Israel Conference	2 October		£1.50/MT with a minimum of £0.50/BL-wharfage charge from Liverpool and Manchester for less than container load shipments	
175	UK/Madagascar, La Réunion and Comoro Islands Conference	2 October	4.5 %		
176	European South Pacific and Magellan Conference	16 October		\$5.65/MT or \$5/M ³ Handl. surcharge on shipments from Chilean ports \$5/FT Handl. on shipments to Chilean ports	
177	Association of West India Trans-Atlantic Steam Ship Lines (WITASS)	23 October		\$0.64/FT surcharge on shipments from Colombian ports (Atlantic coast) \$0.89/FT surcharge on shipments to Colombian ports (Atlantic coast)	
178	South and South East African Freight Conference	30 October	7.5 % approx.		
179	United Kingdom/Lobito Outward Conference				
180	West Coast South America North-bound Conference	2 November		\$5.50/FT Handl. surcharge for Chilean ports	
181	East African Conference	6 November	10 %		
182	Europe/Mauritius Conference	6 November	7.5 %		
183	European/South Pacific and Magellan Conference	6 November		to \$9.50/MT from \$5.65/MT or to \$8.45/M ³ from \$5.00/M ³ Handl. on shipments from Chilean ports to \$8.45/FT from \$5.00/FT, minimum charge \$1.00/BL Handl. on shipments to Chilean ports	

TABLE 33 (continued)
Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
PART ONE: 1972 ^b (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
184	Europe Indonesia Conference	15 November delayed from 1 October			pre-shpt. charges: S.Kr. 6 to 9/MT for Gothenburg Fl. 2 to 6/MT for Rotterdam/Amsterdam F.Fr. 5.30 to 9.93/MT for Le Havre/Dunkirk B.Fr. 27.81 to 83.44/MT for Antwerp
185	Far Eastern Freight Conference to Europe/Japan and Japan/Europe Freight Conferences	24 November Eastbound	10 % on the average in some areas, on container service between United Kingdom/Eire and Japan		
189				Philippines/Europe Conference Sabah, Brunei and Sarawak Freight Conference	15 December Westbound
190	Shipping Lines operating between Australia and North American Pacific coast	end of November	6.5 % except for canned and dried fruit		
191	Canadian North Atlantic Westbound Freight Conference	1 December	Scaled increases for service 1: £1.50 £1.60 £1.70 for W/M rates up to £17.50 £3.00, £3.20, £3.45 for W rates up to £17.50 £1.25 £1.35 £1.45 for W/M - rates over £17.50 up to £24.90 - £2.25, £2.40, £2.60 for W rates over £17.50 W/M rates in range £23.80, £24.90 increased to £25 Service 2 and 3 rates increased proportionately		
192	*Conference of Malta and Alexandria Steamship Lines	1 December			pre-shpt. taxes: £1.50/MT for Liverpool £1.00/MT for Hull: these taxes do not apply to complete container loads
193	Europe/South and South East African Conference	1 December			10 % CAF both directions
194	*Levant Conference	1 December			£1.50/MT pre-shpt. for Liverpool
195	Red Sea and Gulf of Aden/-US Atlantic and Gulf Rate Agreement No. 8558	1 December	10 % except for coffee		
196	South African, Europe and Beira/ Europe Shipping Conferences	1 December			10 % Emg.
197			Atlantic and Gulf/West coast of South America Conference	27 December			$5.50/FT Handl. for Chilean ports

ANNOUNCEMENTS MADE IN 1972 FOR 1973

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
199	Accordi Sud Pacifico	1 January 1973	unspec. increase (new rates fixed individually)		

TABLE 33 (continued)
 Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
 PART ONE: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
200	American West African Freight Conference	1 January 1973	10 % (Maximum \$7/W/M) both directions		8.57 % CAF cancelled
201	Associated Continental Middle East Lines	1 January 1973		\$2 net/MT until 31 March on iron and steel shipments (classes 1 to 3 of the tariff)	
202	Conference of Gibraltar and Morocco Steamship Companies	1 January 1973	12.5 % approx.		
203	Conference of Malta and Alexandria Steamship Companies	1 January 1973	12.5 %		
204	Conférences Maritimes Algérie-France	1 January 1973	to be announced (both directions)		
205	Continent/Israel/Continent Conference	1 January 1973	10 % approx.		
206	East Coast Colombia Conference	1 January 1973	\$6/W/M 5 % Bunker, \$1.80 additional charge and \$1 consular clearance fee incorporated in tariff	\$1.27/ton separate surcharge to cover charges assessed by Colombian port authorities	5 % Bunker incorporated \$1.80 additional charge incorporated. \$1. consular clearance fee incorporated in tariff
207	European/South Pacific and Magellan Conference	1 January 1973	unspecified increase (new rates fixed individually)		Bunker (...) cancelled
208	Joint Service France/Israel	1 January 1973	10 % approx. (to and from Haifa and Ashdod)		
209	Levant Conference	1 January 1973	12.5 %		
210	Outward Continent/Australia Conference	1 January 1973		2.5 % surcharge for freight payable at destination upon request of the shipper to £12/20 ft container from £4 in Liverpool £5 in Manchester and £10 in London to £24/40 ft. container from £8 in Liverpool and £19 in London	
211	UK/Israel Conference	1 January 1973	12.5 %	Terminal charges for containers to Haifa and Ashdod in loading ports of London, Liverpool and Manchester	
212	West Africa/South Africa freight Agreement	1 January 1973	10 % 10 % CAF incorporated in tariff		10 % CAF incorporated in tariff
213	Japan/Latin America Eastbound to Freight Conference	1 February 1973	10 % approx.		\$1. Bunker cancelled
215	Japan West Coast South America Freight Conference				
216	Japan/Mexico Freight Conference				
217	Mediterranean/USA Great Lakes Westbound Freight Conference	1 February 1973	10 % approx. CAF (...) incorporated in tariff		CAF (...) incorporated in tariff
218	American Great Lakes/Mediterranean Eastbound Freight Conference				
218	Associated Continental Middle East Lines	1 March 1973	7.5 % approx. (Eastbound freight tariff)		

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART ONE: 1973 (concluded)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
219	North of Brazil and Amazonia/ Europe/North of Brazil and Amazonia Freight Conference	1 March 1973		\$1.50/FT Transshipment additional for port of Manaus (southbound trade) to \$9./FT from \$6/FT port additional for Manaus (southbound trade)	
220	Shipping Lines operating between UK and Arabian and Iranian ports	1 March	7.5 %		
221	Med./Gulf Conference	(...) (assumed to be in March in accordance with Conference item 53)		15 % Emg.	Bunker (...) cancelled
222	Burma/United Kingdom and Continent Conference	}		to 10 % from (...) CAF for eastbound trade to 8.5 % from (...) for westbound trade	from (...) to 5 % CAF
223	UK Nord Continent/Burma Conference				
224	Ceylon/UK and Eire Conference				
225	Trans-Pacific Freight Conference of Japan	(...)	Reduction of 5 % equivalent to \$2 approx. for shipments by containers		
226	Bombay/Australia Rate Agreement	(...)			from 8.57 % to 7 % CAF
227	Conferencia de Fletes Italo-Franco Española	(...)		to (...) from (...) Handl. in Italian ports	
228	Mediterranean/Canada Westbound Freight Conference	}		6 % CAF on all non-contract general and refrigerated cargo from New Zealand to United Kingdom, Continent and Mediterranean ports	Surcharge (...) on cargo of more than 5 tons per piece cancelled
229	Mediterranean/USA Great Lakes Westbound Freight Conference				
230	New Zealand European Shipping Association	(...)			
231	Association of West India Trans-Atlantic Steam Ship Lines (WITASS)	(...)		\$1.50 on cargo from Continent, Scandinavia, United Kingdom and Ireland to Honduras Pacific and Atlantic coasts	From \$2/B/L to \$1.50/B/L special surcharge to Panama and Canal Zone on cargo from Le Havre-Hamburg range and Marseilles

PART TWO: 1973

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
1	Independent Combined Lines (ICL)	1 January	n.a.		
2	Japan/Latin America Eastbound Conference	1 January	12.5 %		12.5 % CAF included in tariff
3	Japan/West Coast South America Freight Conference	1 January	12.5 %		12.5 % CAF included in tariff
4	Japan/Mexico Freight Conference	1 January	12.5 %		12.5 % CAF included in tariff

TABLE 33 (continued)
 Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
 PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
5	Pacific-India/Pakistan/Ceylon/Burma Agreements	1 January	14.25 % [West Coast India- West Coast North America]	US\$3.35/T Handl. (Pacific Coast)	Bunker reduced by 50 %
6	Pacific-India/Pakistan/Ceylon/Burma Agreements	1 January	13 % [West Coast USA to India]		
7	Unicorn Shipping Lines (Durban)	1 January	15 %		
8	Conférence Export-Import des Lignes de Navigation desservant Madagascar, les Comores et l'Île de la Réunion (CIMACOREM)	1 January	4.3 %		
9	Associated Continental Middle East Lines	1 January		\$2/1000 kg. unspec. surcharge for metal products	
10	Conférence Algérie-France	1 January	14/15 %		
11	UK/West Africa Lines Joint Service (UKWALL)	15 January		CAF from 2.5 % to 4 %	
12	Bank Line Ltd. London-Glasgow	January	15 %		
13	Liner serving the trade between Europe and River Plate	Beginning of February			1.5 % Bunker cancelled
14	Japan/Canadian Great Lakes Freight Agreement	1 February	12.5 %		
15	Iceland/Continental Europe-Iceland Lines	1 February	15 %		
16	Association of West India Trans- Atlantic Steamship Lines (WITASS)	1 February		US\$6.25/T receiving storage	
17	Conferenza Italia/Portogallo and vice versa	1 February		55/60 % of unspec. handl. charge	
18	Accordo Merci Italia-Canarie	1 February		55/60 % of unspec. handl. charge	
19	Comité de Liaison France Maroc	15 February	10 %		
20	Lines operating between Hamburg and Sweden	15 February	n.a.		
21	Burma Continental Conference (Outward)	16 February		CAF from 10 % to 21.5 %	
22	Burma Continental Conference (Homeward)	16 February		CAF from 8.57 % to 20.10 %	
23	Burma/UK Continent/Burma Services	16 February		11.5 % CAF (from UK) 11.35 % CAF (from Burma)	
24	Italy-Portugal Shipping Conference (ITALPORT)	19 February		8 % CAF	
25	Italy-Algeria-Morocco Conference (CITALMAR)	19 February		8 % CAF	
26	Companies in traffic between Europe and East Africa	20 February		11.1 % CAF	
27	Pacific/India/Pakistan, Ceylon, Burma Agreement	20 February	12.50 % [East Coast India-Pacific Coast]	US\$3.35/T Handl.	Bunker reduced 50 %- West Coast USA
28	Entente de Fret Marseille-Mer Rouge (sauf Djibouti)	20 February		11.1 % CAF	
29	North Continent/Aqaba Agreement	20 February		11.1 % CAF	
30	Continental Red Sea Conference	20 February		11.1 % CAF	
31	The Association of West India Trans- Atlantic Steam Ship Lines (WITASS)	20 February		10 % CAF	
32	Associated Middle East Lines (ACMEL)	20 February		11.1 % CAF	
33	Outward Continent Australia Conference	20 February		CAF from 9 % to 21 %	
34	UK/Australia Shipping Conference	20 February		CAF from 9.21 % to 16.56 %	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
35	India Pakistan Conferences	20 February		11.11 % CAF	
36	Far Eastern Freight Conference	20 February		CAF 12 % (from UK)- 24 % (from Belgium, Federal Republic of Germany, and the Netherlands) - 21.5 % (from France) - 18 % (from Scandinavia) - 24 % (from Japan) - 18 % (from others)	
to	Europe Japan and Japan Europe Freight Conference				
39	Philippines Europe Conference Sabah, Brunei, Sarawak Freight Conference				
40	European/South Pacific and Magellan Conference	20 February		10 % CAF	
41	European East African Conference	20 February		11.11 % CAF	
42	Accordo Agenti Mar Rosso e Golfo di Aden	20 February		11.11 % CAF	
43	Mauritius Outward Conference	20 February		CAF increased from 10.4 % to 22.66 %	
44	Europe/Brazil (Southbound) Conference	20 February		11 % CAF	
45	Brazil/Europe (Northbound) Conference	20 February		8 % CAF	
46	Italy/West Africa Conference	20 February		7 % CAF	
47	Italy/Far East Conference	20 February		6.4 % CAF	
48	Conférence Export des Lignes de Navigation desservant l'Indochine	20 February		10 % CAF	
49	UK-Red Sea Conference	20 February		11.11 % CAF	
50	North of Brazil and Amazonia/ Europe/North of Brazil and Ama- zonias Freight Conference	20 February		11 % CAF	
51	India/Pakistan/Bangladesh Conference	20 February		11.11 % CAF	
52	Sri Lanka Continental Conference	20 February		11.11 % CAF	
53	Conferenza Centro America	21 February		11 % CAF	
54	Brazil-Mediterranean-Brazil Freight Conference	21 February		11 % CAF	
55	River Plate/Mediterranean/River Plate Freight Conference	21 February		11 % CAF	
56	Sri Lanka/Continental Europe Conference	21 February		CAF from 5.5 % to 17.22 %	
57	UK/Sudan Conference	21 February		11.11 % CAF	
58	Sri Lanka/UK-Eire Conference	21 February		11.6 % CAF	
59	Conferenza Merci Messico	21 February		11 % CAF	
60	Accordo Merci Tirreno Levante [AMETILE]	21 February		11 % CAF	
61	Europe/Sudan Conference	21 February		11.11 % CAF	
62	Lines serving the trade between Continental Europe and Eastern Mediterranean	22 February		5 % Bunker	
63	Continent-Turkey-Continent Conference (CONTURCON)	22 February		5 % Bunker	
64	Consortium Line (North Continent Europe-UK-North of Spain)	22 February		5 % CAF	
65	Mediterranean Middle East Conference (MEDMECON)	22 February		11.1 % CAF	
66	North of Brazil and Amazonia/ Europe/North of Brazil and Ama- zonias Freight Conference	1 March		\$1.5/T Transshipment	
67	Continent Israel Continent Conference	1 March		5 % Bunker	
68	Egypt/Italy Freight Conference	1 March		11 % CAF	
69	Lignes associées au trafic entre Afrique du Sud/Sud-Ouest et Sud-Est	1 March	n.a.		

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
70	Conférence Hambourg/Londres	1 March		4 % CAF	
71	Armements opérant entre ports français de la Méditerranée et Maroc	2 March	10 %		
72	Japan/Philippines Freight Conference	5 March		CAF from 10 to 14.5 %	
73	Japan/Hong Kong, Japan/Straits Freight Agreement	5 March		CAF from (...) to 14.3 %	
74	Japan/Thailand Freight Conference	5 March		CAF from (...) to 13.5 %	
75	Japan/India, Pakistan Gulf/Japan Conference	5 March		CAF from (...) to 14.2 %	
76	Bay of Bengal/Japan/Bay of Bengal Conference	5 March		CAF from (...) to 14.2 %	
77	West Coast of Italy/Sicily-Adriatic ports-North Atlantic Range	6 March	n.a.		
78	Lines serving the trade between Continent and Libya and Tunisia	12 March		5 % Bunker	
79	Continental North Atlantic Westbound Freight Conference	15 March		10 % CAF from North America	
80	North Atlantic/Continental Freight Conference	16 March		10 % CAF from Europe	
81	Conférence sur le trafic entre Japon/Amérique du Nord	18 March		10 % CAF	
82	Aliberia Conference South and Northbound	19 March		5 % Bunker	
83	Conference for UK/India, Pakistan, Bangladesh, Sri Lanka	19 March		Handling charge from 15 % to 20 %	
84	Entente de Fret Marseille-Mer Rouge (sauf Djibouti)	19 March		11.10 % CAF	
85	Portugal/North Continent Conference (Northbound)	19 March		5 % Bunker	
86	North Continent/Portugal Conference (Southbound)	19 March		5 % Bunker	
87	Gulf European Freight Association (GEFA)	20 March	10 %		
88	Continental/US Gulf Freight Association	21 March		10 % CAF	
89	Combi Line in the trade Europe-USA/ports of South Atlantic	21 March	10 %		
90	Armements en trafic entre Hambourg/Bayonne-Égypte			5 % Bunker	
91	USA-Spain-Portugal	23 March		11.11 % CAF	
92	Conference of Malta and Alexandria Steamship Companies	26 March		10 % CAF	
93	Australia/Canada East Coast, St. Lawrence and Great Lakes Conference	12 March		7.88 % CAF	
94	Associated Central West Africa Lines	1 April	15 %		
95	Joint Service Continent/New Zealand	1 April	6 %		
96	Italian West African Conference	1 April	15 %		
97	North Europe/US Pacific Freight Conference	1 April		10 % CAF	
98	North Europe/Canada Pacific Freight Conference	1 April		10 % CAF	
99	New Zealand European Shipping Association	1 April	6 %		
100	Anglo Soviet Shipping Co. (Volgo Balt Line)	1 April	7.5 %		
101	Conferenza Mercati Messico	1 April			20 % reduction of unsp. surcharge
102	Egypt/Italy Freight Conference	1 April		5 % CAF	
103	Japan/Latin America Eastbound Freight Conference	1 April	10 %		

TABLE 33 (continued)
Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
104	Japan/West Coast South America Freight Conference	1 April	10 %		
105	Japan/Mexico Freight Conference	1 April	10 %		
106	Lines serving the trade between North Continental Europe and Greece/Lebanon/Syria	1 April	n.a.		
107	Conference of Morocco and Gibraltar Steamship Companies	1 April	10 %		
108	Lines serving the trade between Spain and Italy	1 April			20 % reduction of unspec. surcharge
109	Eastern Canada/Australia/New Zealand Conference	1 April		{ 10.6 % CAF Australia 8.5 % CAF New Zealand	
110	UK/West Italy and Sicily Freight Agreement	2 April	12.5 %		
111	European/South Pacific and Magellan Conference (ESPM)	4 April		US\$13.5/T Handl. in Chilean ports	
112	Mauritius Outward Conference	4 April	22.6 %		22.66 % incorporated in tariff
113	North Continent/Spain Conference	9 April	n.a.		
114	Aliberia Maritime Conference	9 April	n.a.		
115	South and South East African Conference	9 April		CAF to 15 % from 10	
116	Atlantic Portugal Eastbound Freight Conference	15 April	10 %		3 % Bunker incorporated in tariff
117	Conferenza Italo/Portogallo y vice versa	16 April	10 %		8 % unspec. charge cancelled
118	Conferenza Italia Algeria Morocco (CITAMAR)	16 April	10 %		8 % unspec. charge cancelled
119	Entente de Fret Marseille Levant	16 April	15 %		
120	European/South Pacific and Magellan Conference (ESPM)	17 April		\$20/FT Handl. in Chilean Ports	
121	Association of West India Trans-Atlantic Steamship Lines (WITASS)	1 May	\$2.65/T (unspec. section)		
122	Association of West India Trans-Atlantic Steamship Lines (WITASS)	1 May	\$7.50/T (unspec. section)		
123	Conférences en Trafic Sortie Ports Dunkerque Boulogne et COA	1 May	15 %		
124	Organisation du Trafic Méditerranée Afrique de l'Ouest Marseille (OTRAMA)	1 May	15 %		
125	Service Combiné Maroc Allemagne	1 May	n.a.		
126	Convention Italie Occidentale Sicile (Secteur Hambourg/Anvers)	1 May	2.5 %		
127	Continent West Africa Conference (COWAC)	1 May	15 %		
128	Shipping Lines serving the trade Europe/Oceania	1 May	7.5 %		
129	Europe/South and South East Africa Conference	1 May		n.a. Handl.	
130	Europe/East African Conference	1 May		n.a. Handl.	
131	Lines serving the trade between Marseille/Gibraltar	1 May	15 %		
132	Trade between Mexico and Bremen/Havre range of ports	1 May	10 %		
133	Combi Line in the trade between South Atlantic/USA and Europe	1 May	10 %		
134	Italia West Africa Line	1 May	15 %		
135	Malaysia-Pacific Rate Agreement	1 May		7 % CAF	
136	Mediterranean North Pacific Coast Freight Conference	1 May	\$6.50/MT till 50\$ \$8.50/MT till 75\$ \$10.50/MT till 100\$ \$14.50/MT more than 100\$		

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
137	Lines serving the Hamburg/Antwerp and Algeria	1 May	10 DM/per T		
138	Accordo Merci Tirreno Levante (AMETILE)	1 May	11 %		11 % CAF incorporated in tariff
139	Convention to North Continent	1 May	2.5 %		4 % tax per bill of lading cancelled
140	European South Pacific and Magellan Conference (ESPM)	4 May		Handl. from \$9 to \$13.5/T/F	
141	North Continent Portugal Conference (Southbound)	6 May		5 DM/MT unspec.	
142	North Atlantic Westbound Conference	7 May	10 %		
143	UK/Spain Freight Association	7 May	n.a.		n.a. CAF incorporated in tariff
144	Conference of Malta and Alexandria Steamship Lines	11 May		5 % CAF	
145	Associated Antwerp Lines	14 May		10 % CAF	
146	Canadian North Atlantic Westbound Freight Conference	14 May	n.a.		
147	Outward Continent/Australia Conference	14 May	n.a.		
148	North Atlantic French Atlantic Freight Conference	14 May	10 %		
149	North Atlantic Baltic Freight Conference	14 May	10 %		
150	North Atlantic Mediterranean Freight Conference	16 May	10 %		
151	Entente de Fret Marseille Levant	16 May	50 %		
152	European/South Pacific and Magellan Conference (ESPM)	17 May		\$20/FT Handl. in Chilean ports	
153	West Coast of Italy, Sicily and Adriatic Ports/North Atlantic Range	17 May		10 % CAF	
154	Mediterranean North Pacific Coast Freight Conference	17 May		10 % CAF	
155	Marseille/North Atlantic USA Freight Conference	17 May	10 %		
156	Spain/US North Atlantic Westbound Freight Conference	20 May	10 %		
157	Mediterranean-Gulf Conference	21 May		10 % CAF	
158	North Atlantic/UK Conference	24 May	10 %		
159	Calcutta East Coast of India and Bangladesh/USA Conference	27 May			from 10 to 5.5 % CAF
160	India, Pakistan, Bangladesh, Ceylon and Burma Outward Freight Conference	27 May			from 10 to 5.5 % CAF
161	Lines securing the trade between New Zealand and United States	May		6 % CAF	
162	Entente de Fret Marseille-Mer Rouge (sauf Djibouti)	1 June	10 %		
163	American West African Freight Conference	1 June	12.50 %		
164	Far East/East Africa Freight Conference	1 June	13 % (for East and South Africa) 12.5 % (for West Africa)		
165	Japan and Hong Kong/South Africa Shipping Conference				
166	Conference of Gibraltar and Morocco Steamship Companies	1 June		\$1.5/1000 kg.pre-shpt.	
167	Conferencia de Fletes Italo-Franco Española (COFIFE)	1 June	10 %		
168	Italian West Africa Conference	1 June		CAF to 7 % from 6 %	
169	Inter-American Freight Conference Section A	1 June		2 % unspec.	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
170	Atlantic and Singapore, Malaya and Thailand Conference	1 June	10 %		
171	Atlantic and Gulf Indonesia Conference	1 June	5 %		
172	Mediterranean Canada Westbound Freight Conference	1 June	10 %		
173	Canada/Mediterranean Freight Conference	1 June	10 %		
174	Mediterranean/USA Great Lakes Westbound Freight Conference	1 June	10 %		
175	American Great Lakes/Mediterranean Eastbound Freight Conference	1 June	10 %		
176	USA/South and South East African Conference	1 June	15 %		
177	Continent/Turkey/Continent Conference (CONTURCON)	1 June	n.a.		
178	Continent West Africa Conference (COWAC)	1 June		10 % for wood	
179	Gibraltar and Morocco Conference	4 June		12 % unspec.	
180	India, Pakistan, Bangladesh, Ceylon and Burma	11 June		10 % CAF	
181	UK/USA Gulf Westbound Freight Conference	15 June	12.5 %		
182	Association of West India Trans-Atlantic Steamship Lines (WITASS)	15 June		2 % CAF	
183	Pacific Westbound Conference	15 June	10 %		
184	North Atlantic Westbound Freight Association	15 June	US\$3/WM		
185	Companies in Traffic with Gibraltar	18 June	10 %		
186	Outward Continent, Australia Conference	21 June		7.24 % CAF	
187	Associated Continental Middle East Lines (ACMEL)	21 June		6 % CAF	
188	Continent Red Sea Conference	25 June		7.5 % CAF	
189	Ethiopia Djibouti and Aden Continent Rates Agreement	25 June		7.5 % CAF	
190	North Continent/Aqaba Agreement	25 June		7.5 % CAF	
191	Far Eastern Freight Conference-	25 June		CAF for shipments to UK/Irish Republic from 12 % to 14 %; Federal Republic of Germany, Belgium, Netherlands from 24 % to 26 %; France from 21.5 % to 22 %; Scandinavia from 18 % to 24 %; Japan from 24 % to 28 %; Hong Kong from 18 % to 19 %; Philippines from 14 % to 16 %; Singapore and Malaysia from 18 % to 20 %	
192	Philippines/Europe Conference;				
194	Europe/Japan and Japan/Europe Conference, Sabah, Brunei and Sarawak Freight Conference				
195	Sudan/UK and Continent Freight Agreement	27 June		7.5 % CAF	
196	Continent Israel Continent Conference	30 June	7 %		5 % Bunker cancelled
197	Brazil/Europe/Brazil Freight Conference (Hamburg/Bordeaux-Brazil Section)	1 July	3.5 %		
198	Communauté Tarifaire Continent/Iles Canaries	1 July	12.5 %		

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
199	Entente Ports Français (sauf Dunkerque) Djibouti	1 July	10 %		
200	North of Brazil and Amazonia/ Europe/North Brazil and Amazonia	1 July	11 %		
201	Brazil/Europe/Brazil Freight Conference (UK/Brazil)	1 July	12 %		
202	Mediterranean Middle East Conference (MEDMECON)	1 July	10-15 %		
203	UK/Israel, Israel/UK Shipping Conference	1 July	6 %		
204	Accordo Noli Tirreno-Tunisia-Libya	1 July	15 %		
205	Lines serving the trade between East Coast of Mexico and Hamburg-Bordeaux range of ports	1 July		0.5 % CAF from 11.5 % to 12 %	
206	Association of West India Trans-Atlantic Steam Ship Lines (WITASS)	1 July			CAF from 12 % to 11.5 %
207	Inter-American Freight Conference	1 July	10 % East Coast US, South America		
208	South Africa Far East Freight Conference	1 July	15 %		
209	Joint Service France Israel	1 July	6 %		
210	Atlantic and Gulf West Coast of South America Freight Conference	2 July		\$20/FT Handl. for Chilean ports	
211	West Coast South America North-bound Freight Conference	2 July		\$17.5/FT Handl. for Chilean ports	
212	"Lomera Lines" Joint Service between London and Near East	2 July		10 % CAF	
213	European South Pacific and Magellan Conference (ESPM)	2 July		CAF from 10 % to 11.5 %	
214	Associated Continental Middle East Line (ACMEL)	6 July		4 % CAF	
215	East African Conference Lines	6 July		CAF from 11.11 % to 26.40 % excepting traffic for Nacala and Portuguese Ports of East Africa which is increased from 21.66 % to 40.47 % and traffic from Italy	
216	Association of West India Trans-Atlantic Steam Ship Lines (WITASS)	6 July		16 % CAF	
217	East African Conference Line	9 July			CAF reduced from 11.11 % to 8 % in the trade from Italy
218	North Continent Aqaba Agreement	9 July		CAF from 7.5 % to 16 %	
219	Continent Red Sea Conference				
220	Ethiopia, Djibouti, Aden Continent Rates Agreement				
221	Lines serving the Ro/Ro Trade between Felixstowe and Rotterdam/Antwerp	9 July		10 % CAF	
222	Lines serving the trade between UK and Sweden	10 July		10 % CAF	
223	Outward Continent Australia Conference	16 July		CAF from 28.24 % to 36.6 %	
224	European South Pacific and Magellan Conference (ESPM)	16 July		6 % CAF	
225	Conférence Centre Amérique	16 July		6 % CAF	
226	Conférence Marchandises Mexique	16 July		6 % CAF	
227	Association of West India Trans-Atlantic Steam Ship Lines (WITASS)	16 July		1.5 % CAF	

TABLE 33 (continued)
Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
228	Traffic between Australia/New Zealand	16 July	8 %		
229	Conferenza Centro America	16 July			2 % CAF Reduction
230	Conferenza Merci Messico	16 July			2 % CAF Reduction
231	New Zealand European Shipping Association	16 July		14.90 % CAF	
232	Italian West African Conference	20 July		11 % CAF	
233	Australian Conferences Lines	22 July		3.76 % CAF	
234	Mauritius Outward Conference	23 July		22 % CAF	
235	Associated Antwerp Lines	23 July		CAF from 10 % to 15 %	
236	North Continent Aqaba Agreement to Continental Red Sea Conference	27 July		CAF from 16 % to 18 %	
238	Ethiopia Djibouti and Aden Continent Rates Agreement				
239	Far Eastern Freight Conference- to Japan/Europe-Europe/Japan		27 July		
242	Conference-Philippines/Europe Freight Conference Sabah, Brunei and Sarawak Freight Conference	1 August		CAF increased to 33 % from Federal Republic of Germany, Belgium, Netherlands; 29 % from Scandinavia; 24 % from Hong Kong; 23 % from Korea; 20.5 % from Philippines; 25.5 % from Singapore and Malaysia. CAF 16 % from UK and Irish Republic and 31 % from Japan	
243	UK/Sudan Conference Lines	1 August	12.5 %		
244	North Continent Aqaba Agreement	1 August	12.5 %		
245	Continental Red Sea Conference	1 August	12.5 %		
246	Entente de Fret Marseille Levant	1 August	10 %		
247	West Coast of India Seychelles-East Africa Conference	1 August	n.a.		
248	Madras/Malaysia/Singapore Conference	1 August	n.a.		
249	Continental Canadian Westbound Conference	1 August		12.5 % CAF	
250	CNAN (Algerian Line in the trade between Algiers and Hamburg/Antwerp)	1 August		20 DM/T Handl.	
251	Europe Canada Lakes Lines	1 August	12.5 %		
252	Inter-American Freight Conference (Brazil/East Coast of USA)	1 August	12 %		
253	Canadian Continental Eastbound Freight Conference	1 August		12.5 % CAF	
254	Shipping lines operating the service between London and Greek ports	1 August	10.34 %		10.34 % CAF incorporated in tariff
255	Conferenza Merci Messico	1 August	5 %	CAF from 11 % to 17.5 %	
256	Conférence Centre Amérique	1 August	5 %	CAF from 11 % to 17.5 %	
257	Conferenza Italia Algeria Morocco	1 August		5 % Bunker	
258	Conferenza Italo-Portogallo and vice versa	1 August		5 % Bunker	
259	Continent West Africa Conference (COWAC)	1 August			2.9 % reduction CAF
260	Italy/Far East Conference	6 August		CAF from 15.4 % to 17.5 %	
261	India, Pakistan and Ceylon Conference	7 August		CAF from 11.11 % to 27.85 %	
262	Mediterranean Middle East Conference (MEDMECON)	9 August		12 % CAF from 11.1 % to 23.1 %	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
263	Thailand/Europe Conference	13 August		n.a. CAF increased to 23 %	
264	Conference of Gibraltar and Morocco	13 August		12 % CAF	
265	UK/Madeira and Canary Islands Conference	15 August		CAF from 6 % to 10 %	
266	Conference in Traffic between UK and Finland	15 August		7 % CAF	
267	Conférence Centre Amérique	16 August		CAF from 17.5 % to 21 %	
268	Conférence Marchandises Mexique	16 August		CAF from 17.5 % to 21 %	
269	Association of West India Trans-Atlantic Steamship Lines (WITASS)	16 August		CAF from 17.5 % to 21 %	
270	Lines serving the trade between Europe and Bahamas	16 August			2.5 % reduction
271	Hapag Lloyd AG in the trade between Europe and Porto Rico/Virgin Islands	17 August	14.5 %		
272	Continental Red Sea Conference	20 August			Reduction CAF from 18 % to 13 %
273	North Continent Aqaba Conference	20 August			Reduction CAF from 18 % to 13 %
274	Thailand/Europe Conference	25 August			Reduction CAF from 23 % to 19 %
275	Continental North Atlantic Westbound Freight Conference	1 September	\$ 2.5/M ³		
276	Scandinavian/Baltic/US North Atlantic Westbound Freight Conference	1 September	\$2.5/M ³		
277	Far Eastern Freight Conference, to Europe/Japan, Japan/Europe, Philippines/Europe, Sabah, Brunei and Sarawak	1 September	Rate increase in two stages: 8 % on 1 Sept. 1973 4 % on 1 March 1974		
280		1 March			
281	Outward Continent Australia Conference	1 September	8.5 %		
282	Thailand/Europe Conference	1 September	7.5 %		
283	UK/North Continent/Seychelles Conference	1 September	10 %		
284	Italy/Far East Conference	1 September	8 %		
285	The lines serving the trade between Antwerp and Finland	1 September	n.a.		
286	North Atlantic/French Atlantic Freight Conference	1 September	10 %		
287	Conference Continent/Corsica	1 September	5.2 %		
288	Association of West India Trans-Atlantic Steamship Lines (WITASS)	1 September			CAF from 21 % to 18 %
289	Far Eastern Freight Conference, to Europe/Japan-Japan/Europe, Philippines/Europe, Sabah, Brunei and Sarawak Freight Conferences	1 September	7.5 %		7.5 % Suez Canal surcharge incorporated in tariff
292					
293	Conférence Centre Amérique	1 September	20 %		CAF from 21 % to 18 %
294	East Canada Japan Freight Conference	1 September	10 %		
295	Inter-American Freight Conference	1 September	12 %	2 % Handl.	
296	Conférence Marchandises Mexique	1 September			CAF from 21 % to 18 %
297	Conferencia de Fletes Italo-Franco Española	1 September	10 %	5 % Bunker	10 % CAF incorporated in tariff
298	Rio de la North of Brazil and Amazonia/Europe Freight Conference	1 September		CAF from 8 % to 15 %	
299	Accordo Merci Tirreno Levante	1 September	10/15 %		
300	UK/Australia Conference	1 September	8.5 %		

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
301	Agreement 9984 (USA South)	1 September	10 %		
302	West Coast of Italy and Sicily and Adriatic ports	1 September	10 %		
303	US Gulf Rate Agreement 9360	1 September	10 %		
304	European South Pacific and Magellan Conference	1 September		n.a. Handl. in Chilean Ports	
305	Continent North Atlantic Westbound Conference	1 September	7 %		
306	Conference of Malta and Alexandria Steamship Lines	1 September	5 %		5 % Bunker cancelled
307	Conference of Malta and Alexandria Steamship Lines	3 September	10 %		10 % CAF incorporated in tariff
308	Levant Conference	3 September	10 %		10 % CAF incorporated in tariff
309	Conférence de l'Est Africain (Southbound)	10 September	11.11 %		11.11 % CAF incorporated in tariff
310	Gentlemen's Agreement UK Continent Leticia and Iquitos	10 September		CAF increased from (...) to 17 %	
311	East African Conference (Northbound)	10 September	21.66 %		21.66 % CAF incorporated in tariff
312	North of Brazil and Amazonia Europe North of Brazil Amazonia Conference	10 September		11 % CAF	
313	East African Conference (to East Africa)	10 September		10.78 % CAF	
314	East African Conference (from East Africa)	10 September		10.40 % CAF	
315	Europe East Africa Conference	10 September		3.54 % CAF	
316	Outward Continent/Australia Conference	12 September			CAF from 36.06 % to 31.73 %
317	Association of West India Trans-Atlantic Steamship Lines (WITASS)	16 September			CAF from 18 % to 16.5 %
318	Fiji Conference Lines	18 September			2.4 % Reduction
319	Marseilles North Atlantic USA Freight Conference	20 September	n.a.		
320	Association of West India Trans-Atlantic Steamship Lines (WITASS)	26 September		CAF from 16.5 % to 19 %	
321	Conférence Centre Amérique	26 September		CAF from 18 % to 19 %	
322	Conférence Marchandises Mexique	26 September		CAF from 18 % to 19 %	
323	North Continent Aqaba Agreement	27 September		CAF from 13 % to 15.5 %	
324	Continental Red Sea Conference	27 September		CAF from 13 % to 15.5 %	
325	Ethiopia Djibouti and Aden Continent Rates Agreement	27 September		CAF from 13 % to 15.5 %	
326	Associated Continental Middle East Lines	28 September		CAF from 10 % to 12.5 %	
327	Transpacific Freight Conference of Japan	1 October			9.5 % reduction of unspec. surcharge
328	Japan Atlantic and Gulf Freight Conference	1 October			9.5 % reduction of unspec. surcharge
329	Lines serving the trade between Hamburg/Antwerp and Malta and Cyprus	1 October		CAF from 5 % to 7.5 %	
330	Continent Turkey Continent Conference (CONTURCON)	1 October		CAF from 5 % to 7.5 %	
331	Far Eastern Freight Conference; Japan to Europe/Europe Japan Freight Conference; Philippines Europe Conference; Sabah, Brunei and Sarawak Conference	1 October		CAF increased to 25.5 % from France	CAF reduced to 12 % for shipments from UK/Irish Republic, to 29 % from Japan, and to 23 % from Singapore and Malaysia

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
335	Conférence des Frets pour l'Extrême-Orient et l'Indochine; Conférence des Charentes	1 October		CAF increased to 25.5 %	
336	Italian West African Conference	1 October			CAF reduced from 11 % to 9.20 %
337	Zurich Agreement of the Trade between Antwerp/Hamburg and Greece, Syria, Lebanon			Bunker increased from 5 % to 7.5 %	
338	Continent Australia Conference	1 October	25 %		
339	Joint Service (Lomera Lines) serving the trade between London and East Mediterranean	1 October	n.a.		
340	UK/Spain Freight Association	1 October	n.a.		
341	Red Sea and Gulf of Aden Agreement	1 October	10 %		
342	India/Pakistan and Bangladesh to Conference; Sri Lanka/UK and	1 October	7.5 % from Europe to India, Pakistan, Bangladesh and Sri Lanka; 12.50 % from India, Pakistan, Bangladesh to Europe; 12.50 % from Sri Lanka to Europe		
344	Eire Conference; Sri Lanka Continental Conference				
345	Mediterranean Middle East Conference (MEDMECON)	1 October	15 % from Italy/Yugoslavia to Persian Gulf		
346	UK/Eire Portugal Conference	1 October	n.a.		
347	East Coast of India/West Asia Conference	1 October	12 %		
348	Outward Continent Australia Conference	10 October		CAF from 31.73 % to 35.54 %	
349	East African Conference	10 October		12.60 % CAF for Scandinavia, Federal Republic of Germany, Netherlands, Belgium, France and Portugal	
350	UK/Lobito Conference	10 October		4 % CAF	
351	UK/Australia Conference	20 October		CAF from 21.84 % to 23.72 %	
352	UK/Spain Freight Association	22 October		7.5 % Bunker	
353	Egypt Italy Freight Conference	27 October	20 % by weight or 15 % per item W/M		
354	Association of West India Trans-Atlantic Steamship Lines (WITASS)	29 October	15 %		15 % CAF incorporated into tariff
355	European/South Pacific and Magellan Conference (ESPM)	29 October		22.5 % CAF trade Hamburg/Bordeaux-Marseilles-Poland and West Coast of South America	
356	Canadian North Atlantic Westbound Conference	1 November	12.50 %		
357	Service Commun Maroc-Allemagne	1 November		5 % Bunker	
358	North Continent Portugal Conference	1 November		7.5 % Bunker	
359	Portugal North Continent Conference				
360	Liberia Maritime Conference	1 November		7.5 % Bunker	
361	Far Eastern Freight Conference, to Europe/Japan-Japan/Europe,	1 November		CAF increased to 31 % for shipments from Federal Republic of Germany, Belgium and Netherlands	
364	Philippines/Europe, Sabah, Brunei and Sarawak Freight Conferences				
365	Joint Service HSM and Head Line serving the trade Antwerp-Greenock/Belfast				
				5 % Bunker	

TABLE 33 (continued)
Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
366	Convention Italie Occidentale Sicile	1 November	5 % Bunker		
367	Conferenza Italia-Portogallo et vice versa	1 November	20 %		Bunker incorporated in tariff
368	Conferenza Italia-Algeria-Morocco				
369	Mediterranean Canada Westbound Conference	1 November		10 % CAF	
370	Brazil/Mediterranean/Brazil Freight Conference	1 November	12 %		
371	Trade New Zealand/Europe	1 November	6.25 % meat and milk products		
372	Lines serving the trade Hamburg/Bremen to Sweden	1 November		5 % Bunker	
373	Continental Red Sea Conference, to Ethiopia, Djibouti and Aden	1 November		CAE increased from 15.5 % to 17.5 %	
375	Continent Rates Agreement, North Continent Aqaba Agreement				
376	Conferencia de Fletes Italo-Franco-Española	1 November		5 % Bunker	
377	Thailand Europe Conference	1 November		CAF increased from 19 % to 21.5 %	
378	Association of West India Trans-Atlantic Steamship Lines (WITASS)	5 November		\$1.20/T Bunker	
379	Conférence Export-Import des Lignes de Navigation desservant Madagascar, les Comores et l'île de la Réunion (CIMACOREM)	5 November		3 % Bunker	
380	Conference of Gibraltar and Morocco Steamship Companies	5 November		7.5 % Bunker	
381	Lines serving the Trade between Europe and Near East and North Africa	5 November		15 % Bunker for Algeria and Tunisia, 12.5 % for Malta, 5 % for Israel	
382	Lines serving the Trade between Benelux and Irish Republic	5 November		5 % Bunker	
383	Conférence Centre Amérique	12 November		\$1.20/T Bunker	
384	Entente de Fret Marseille-Levant	12 November		10 % Bunker	
385	UK Continent/Papeete and Noumea Agreement	12 November		5 % Bunker	
386	Lines serving the Trade between Lübeck/Antwerp and Finland	12 November		5 % Bunker	
387	Egypt-Italy Freight Conference	12 November		5 % Bunker	
388	Mediterranean Middle East Conference (MEDMECON)	12 November		\$1.20/T Bunker	
389	North Europe-Egypt-North Europe Conference	13 November		Bunker increased from 7.5 % to 12.5 %	
390	Continental Red Sea Conference, to Ethiopia Djibouti and Aden	13 November		4.5 % Bunker	
392	Continent Rates Agreement North Continent/Aqaba Agreement				
393	Cyprus Agreement in the Trade with Europe	13 November		Bunker increased from 7.5 % to 12.5 %	
394	Continent Turkey Continent Conference	14 November		Bunker increased from 7.5 % to 12.5 %	
395	European South Pacific and Magellan Conference (ESPM)	14 November		\$2/T Bunker	
396	Entente de Fret Ports Français (sauf Dunkerque) Djibouti	15 November		4.5 % Bunker	
397	Organisation du Trafic Méditerranée, Afrique de l'Ouest, Marseille (OTRAMA)	15 November		3.5 % Bunker	
398	Conference France-Djibouti	15 November		4.5 % Bunker	

TABLE 33 (continued)
 Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
 PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
399	UK/Israel-Israel/UK Conference	15 November		5 % Bunker	
400	Associated Continental Middle East Lines (ACMEL)	16 November		3.5 % Bunker	
401	Lines serving the Trade Europe/North America	18 November		7 % Bunker	
402	Service Commun France-Portugal	19 November	15 %		Bunker reduced by 1 %
403	Lines serving the Trade Hamburg-Tunisia	19 November		15 % Bunker	
404	Accords Agenti Mar Rosso e Golfo di Aden	19 November		4.5 % Bunker	
405	Associated Continental Middle East Lines (ACMEL)	19 November			CAF reduced from 12.5 % to 6 %
406	Continental Red Sea Conference, to Ethiopia Djibouti and Aden	19 November			(CAF reduced from 17.5 % to 9 %)
408	Continent Rates Agreement North Continent/Aqaba Agreement				
409	River Plate/Mediterranean/River Plate Freight Conference	19 November		9 % Bunker	
410	Brazil Mediterranean Brazil Freight Conference	19 November		4.40 % Bunker	
411	Lines operating between Marseilles and Malta	19 November		15 % Bunker	
412	Levant Conference serving the Trade between Greece and Turkey	19 November		5 % Bunker	
413	Lines serving the Trade between UK/Irish Republic and Portugal	19 November		7.5 % Bunker	
414	Far Eastern Freight Conference, to Japan-Europe/Europe-Japan	19 November			CAF reduced from 31 % to 26.5 % for shipments from Federal Republic of Germany, Netherlands and Belgium
417	Freight Conference, Philippines Freight Conference, Sabah Brunei and Sarawak Freight Conference				
418	Lines serving the Trade between Europe and Persian Gulf	19 November			CAF reduced from 12.5 % to 6 %
419	Conference of Malta and Alexandria Steamship Companies	19 November		5 % Bunker	
420	Mediterranean Middle East Conference (MEDMECON)	19 November		Bunker 7 % (instead of \$2/WT)	
421	Member Lines of the "Service France Portugal"	19 November	15 %		Bunker reduced by 1 %
422	Conférence d'Afrique du Sud et du Sud-Est	20 November		Bunker 2.7 % to 4 %	
423	Britain/Benelux Line	20 November		5 % Bunker	
424	Marseilles/North Atlantic USA Freight Conference	20 November		7 % Bunker	
425	UK/Red Sea Freight Rate Agreement	21 November		3.2 % Bunker	
426	European South Pacific and Magellan Conference (ESPM)	22 November			CAF reduced to 18 %
427	Thailand Europe Conference	23 November			CAF reduced to 6 %
428	East African Lines	26 November		10 % Bunker	
429	Europe East African Conference	26 November		3 % Bunker	
430	Brazil Europe Brazil Freight to Conference, North of Brazil Europe	26 November	5 %		
431	North of Brazil Freight Conference				
432	Brazil Europe Brazil Freight Conference	26 November		Bunker from 1.5 % to 5 %	
433	North of Brazil and Amazonia/Europe North of Brazil and Amazonia Freight Conference	26 November		5 % Bunker	
434	Gentlemen's Agreement Leticia/Iquitos	26 November		5 % Bunker	
435	Mediterranean North Pacific Coast Freight Conference	26 November		7 % Bunker	

TABLE 33 (continued)
Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974
PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
436	Sri Lanka Conference	28 November		3.2 % Bunker	
437	Canadian/North Atlantic Westbound Freight Conference (Trade from UK/Eire)	29 November		£1 per measurement ton £1.60 per weight ton	
438	Continental Canadian Westbound Freight Conference (Sector Hamburg-Bordeaux to Sector Boston-Hampton Roads)	30 November		\$2.50 per M ³ \$4 per MT	
439	Conférence Internationale Madagascar, les Comores, la Réunion et l'Île Maurice (CIMACOREM)	30 November		Bunker increased from 3 % to 7 %	
440	Brazil/Mediterranean/Brazil Freight Conference	30 November			CAF 11 % homeward and 8 % outward cancelled
441	Continental North Atlantic Westbound Freight Conference	1 December	7 %		
442	North Europe-Egypt/North Europe Conference	1 December	n.a.		
443	Rate Agreement 9984	1 December	7 %		
444	North Atlantic Baltic Freight Conference	1 December	7 %		
445	North Atlantic French Atlantic Freight Conference	1 December	7 %		
446	Continental and Scandinavia Baltic Westbound South Atlantic Agreement	1 December	7 %		
447	North Atlantic/UK Freight Conference	1 December	10 %		
448	Conference of Malta and Alexandria Steamship Companies	1 December	12.5 %		
449	UK/River Plate Conference	1 December	18 %		
450	Europe/Argentina Freight Conference	1 December	18 %		
451	South Atlantic Rate Agreement	1 December	7 %		
452	UK/West Africa Lines Joint Service (UKWAL)	1 December		3.5 % Bunker	
453	Associated Central West Africa Lines (CEWAL)	1 December		3.5 % Bunker	
454	Continent West Africa Conference (COWAC)	1 December		3.5 % Bunker	
455	Tariff Agreement Continent/Canary Islands	1 December		7.5 % Bunker	
456	Far Eastern Freight Conference, to Japan/Europe and Europe/Japan	1 December			CAF reduced to 23 % for shipments from France; to 22.5 % from Scandinavia; to 17.5 % from Korea; to 15.5 % from Philippines; to 20 % from Singapore/Malaysia
459	Freight Conference, Philippines/Europe Freight Conference, Sabah, Brunei and Sarawak Freight Conference				
460	East Africa Conference Lines	1 December			CAF reduced from 12.60 % to 5.68 % (shipments from France, Federal Republic of Germany, Belgium, Netherlands, Scandinavia and Portugal)
461	Association of West India Trans-Atlantic Steamship Lines (WITASS)	1 December			CAF reduction of 6 % in the trade Bordeaux-Hamburg, Marseilles, Poland, German Democratic Republic and the Baltic (USSR)

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduced, cancelled or incorporated in tariff
462	Italian West Africa Conference	1 December		10 % Bunker	
463	UK/Lobito Conference	1 December		3.5 % Bunker	
464	Conferencia de Fletes Italo-Franco-Española (COFIFE)	1 December		10 % Bunker	
465	Service Commun entre le Continent et la Nouvelle-Zélande	1 December			CAF from 26 % to 22 %
466	Egypt Italy Freight Conference	1 December		Bunker from (...) to 11 %	
467	Fiji Conference Lines	1 December			CAF from 26 % to 22 %
468	"8900" Lines in trade US-Persian Gulf	1 December		Bunker \$2.50/FT	
469	Portuguese Joint Service	1 December		3.5 % Bunker	
470	East Coast Colombia Conference	2 December	15 % (between Atlantic/US Gulf and Baranquilla, Cartagena and Santa-Marta)		
471	North Atlantic Mediterranean Freight Conference	3 December		10 % CAF	
472	European South Pacific and Magellan Conference (ESPM)	3 December		\$4/WT Bunker	
473	Trade between London, Greece/Turkey	3 December		5 % Bunker	
474	Association Maritime Nouvelle-Zélande/Europe	3 December		6 % Bunker	
475	Fiji Conference Lines	3 December		6 % Bunker	
476	Conférence des Lignes desservant l'Afrique du Sud et le Sud-Est (entre Walvis Bay et Beira)	3 December		2.7 % Bunker	
477	Entente de Fret des Lignes de Navigation desservant Papeete et Nouméa au départ des ports européens	3 December		Bunker from 5 % to 7.5 %	
478	Conférence Maritime Continent-Corse	3 December		6 % Bunker	
479	Brazil/Europe/Brazil Freight Conference (UK)	3 December		5 % Bunker	
480	Portuguese Joint Service	3 December		2.7 % Bunker (to South Africa and Mozambique)	
481	Mediterranean Canada Westbound to Freight Conference (MEDCAN)	3 December		7 % Bunker	
482	and Canada Mediterranean Freight Conference				
483	The trade between UK and Alexandria	3 December		5 % Bunker	
484	Service France-Portugal	3 December		15 % Bunker	
485	The trade between Bremen/Hamburg and Denmark/Sweden	3 December		Bunker from (...) to 10 %	
486	UK River Plate and Europe/Argentina Freight Conference	5 December		Bunker from 5 % to 7 %	
487	Canada/UK Eastbound Freight Conference	5 December		\$2.50/FT Bunker	
488	Continental Red Sea Conference, to North Continent/Aqaba	6 December			CAF from 9 % to 7 %
490	Agreement, Ethiopia Djibouti and Aden Continent Rates Agreement (EDACRA)				
491	Inter-American Freight Conference "Section C" (Northbound)				
492	Zurich Agreement	10 December		5 % Bunker (trade South America East Coast to USA)	
				15 % Bunker (ports in the Hamburg-Antwerp sector and ports in Greece, Syria, Lebanon)	

TABLE 33 (continued)

Liner freight rate changes and surcharges announced ^a during the years 1972, 1973 and January-March 1974

PART TWO: 1973 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduction, cancelled or incorporated in tariff
493	Cyprus Agreement	10 December		15 % Bunker	
494	Conferences Portugal and Spain	10 December		10 % Bunker	
495	Outward Continent/Australia Conference	10 December		3.8 % Bunker (from British and Scandinavian ports)	CAF reduced to 18.50 % (trade from Italy); CAF reduced to 18.58 % (trade from British ports) CAF reduced to 28.53 % (trade from Scandinavian and other Continental European ports)
496	Japan/Europe Freight Conference	10 December		5.5 % Bunker	
497	Associated Continental Middle East Lines (ACMEL)	10 December		Bunker from 3.5 to 5.5 %	
498	Conferenza Centro America	10 December		\$4/WT Bunker	
499	UK/Canada Islands and Madeira Conference	10 December		5 % Bunker	
500	Fiji Conference Lines	10 December		Bunker from 6 % to 7.7 %	
501	Service Commun entre le Continent et la Nouvelle-Zélande	10 December		Bunker increased from (...) to 11 %	
502	Outward/Continent/Australia Conference	10 December			CAF from 35.54 to 28.53 %
503	UK/Spain Freight Association	10 December		10 % Bunker	
504	Conferenza Italia Portogallo (CITALPORT)	10 December		30 % Bunker	
505	West Italy/Algeria and Morocco Freight Conference (CITALMAR)	10 December		30 % Bunker	
506	Europe-Far East Conferences	10 December		6.7 % Bunker	
507	Continental Red Sea Conference, to Ethiopia Djibouti and Aden	10 December		Bunker from 4.5 % to 6.5 %	
509	Continent Rates Agreement (ADACRA); North Continent Aqaba Agreement				
510	UK/Red Sea Conference Lines	10 December		Bunker from 3.2 % to 4.65 %	
511	Conférence Centre Amérique	10 December		Bunker from \$1.2 to \$4/T	
512	Mediterranean Middle East Conference (MEDMECON)	12 December		15 % Bunker	
513	Mauritius Outward Conference	12 December		7 % Bunker	
514	Comité de Liaison France-Maroc	15 December		15 % Bunker	
515	East Canada/Japan Freight Conference	15 December		Bunker \$3.5/T	
516	Inter-American Freight Conference	15 December		Bunker \$3/T	
517	Sri Lanka/US Conference	15 December	10 %		Bunker from \$1.5 to \$2.5
518	Calcutta, East Coast of India and Bangladesh-USA Conference	16 December			Bunker \$8/FT
519	Association of West India Trans-Atlantic Steamship Lines (WITASS)	16 December			CAF reduced from (...) to 2 % (shipments between Bordeaux-Hamburg sector, Marseilles, Poland/German Democratic Republic and the ports of Baltic (USSR))
520	USA/Far East Conference	16 December		\$3.5/T Bunker	
521	Conférence "Fret" France/Antilles et Guyane françaises	17 December		Bunker from 5F to 9F/T	
522	US Atlantic and Gulf/West Coast of Central America	17 December	10 %		

TABLE 33 (continued)
Liner freight rate changes and surcharges announced^a during the years 1972, 1973 and January-March 1974
PART TWO: 1973 (concluded)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduction, cancelled or incorporated in tariff
523	Association of West India Trans-Atlantic Steamship Companies (WITASS)	17 December		Bunker increased from (...) to \$2 (£0.85)/FT on all rates of freight — westbound and eastbound	
524	Continent Israel Continent Conference (CONISCON)	17 December		15 % Bunker	
525	Atlantic and Gulf West Coast of South America	17 December	15 % (ports between US Atlantic and Gulf/Pacific Coast of Colombia)		
526	Joint Service in the trade between France and Israel	17 December		15 % Bunker	
527	River Plate/Mediterranean/River Plate Freight Conference	19 December		13 % Bunker	
528	West Coast India and Pakistan/US Conference	19 December		Bunker \$6.89/1000 kilos or \$6.18/m ³	
529	Associated Continental and Middle East Lines (ACMEL)	20 December		Bunker from 5.5 % to 10 %	CAF from 6 % to 4 %
530	Conférence Magellan	20 December			CAF reduced from 18 % to 15.5 % in the sector Bordeaux-Hamburg-Marseilles, Spain-Portugal and Poland
531	Entente de Fret Marseille/Mer Rouge (sauf Djibouti)	20 December		Bunker from 4.5 % to 6.5 %	
532	Continent West Africa Conference (COWAC)	20 December		7.5 % Bunker	
533	Associated Central West Africa Lines (CEWAL)	20 December		Bunker from 3.5 % to 7.5 %	
534	Organisation du Trafic Méditerranée Afrique de l'Ouest, Marseille (OTRAMA)	20 December		Bunker from 3.50 % to 7.50 %	
535	European/South Pacific and Magellan Conference (ESPM)	20 December			CAF reduced from 18 % to 15.5 % (in the trade between Hamburg/Bordeaux Range and the west coast of South America)
536	East Coast Colombia Conference	24 December	15 %		
537	Association of West India Trans-Atlantic Steamship Lines (WITASS)	31 December		Bunker from \$2 to \$3/FT	
538	Continental North Atlantic to Westbound Freight Conference;	31 December		Bunker \$5.25/m ³ or \$7.75/1000 kilos (shipments from Bordeaux, Hamburg and Scandinavia to the ports in the sector Miami-Boston)	
540	Scandinavia Baltic/US North Atlantic Westbound Freight Conference; US South Atlantic North Europe Rate Agreement (Westbound)				
541	France/Antilles and French Guyana Conference	31 December		Bunker from 9F to 13.50F/T	

PART THREE: JANUARY-MARCH 1974

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduction, cancelled or incorporated in tariff
542	"Red-Med" Rate Agreement	1 January 1974	10 % (for shipments from all Red Sea ports (except for Port Sudan) and those on the Gulf of Aden to European Mediterranean ports)		

TABLE 33 (continued)

Liner freight rate changes and surcharges announced^a during the years 1972, 1973 and January-March 1974

PART THREE: JANUARY-MARCH 1974 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduction, cancelled or incorporated in tariff
543	Calcutta/Australia Conference	1 January	20 %		
544	India - Pakistan - Bangladesh - Sri Lanka-Burma Outward Freight Conference	1 January	13 % (from US to India sub-continent)		
545	Gentlemen's Agreements Leticia/Iquitos	1 January	10 % (Europe/Amazonia)		
546	Continent Israel Continent Conference (CONISCON)	1 January	n.a.		
547	Joint Service France/Israel/France	1 January	n.a.		
548	U.K./Israel and Israel/U.K. Conference	1 January	n.a.		
549	L'Entente de Frets Marseille-Levant	1 January	25 %		
550	L'Entente de Frets Marseille-Mer Rouge (sauf Djibouti)	1 January	12.5 %		
551	Mediterranean/Canada Westbound Freight Conference	1 January	10 %		
552	Gulf/European Freight Association (GEFA)	1 January	7 %		
553	Freight Conference Marseilles-North Atlantic U.S.A.	1 January	7 %		
554	L'Entente de Frets Ports Français Métropolitains sauf Dunkerque) Djibouti	1 January	20 %		20 % unspec. surcharge incorp. in tariff
555	Convention to North Continent	1 January	n.a.		
556	North Europe/U.S. and Canada Pacific Freight Conference	1 January		\$4/T Bunker	
557	U.S.-Canada-Europe Conference	1 January		8 % Bunker	
558	Europe-Hawaii-Europe Freight Conference	1 January		8 % Bunker	
559	L'Entente de Frets Marseille-Levant	1 January		25 % Bunker	
560	Brazil/Europe/Brazil Freight Conference	1 January		n.a. Bunker	
561	Canada Mediterranean Freight Conference	1 January	10 %		10 % CAD incorporated in tariff
562	Conférences Maritimes Méditerranéennes-France-Tunis	1 January	20 % (between France and Tunisia)		
563	Canada-South Africa Rate Association	1 January		Bunker \$3.5/FT	
564	U.S. Atlantic and Gulf Ports/Far East Conference	1 January		Bunker \$3/T	
565	Inter-American Freight Conference (Canadian Area-Section A)	1 January	10 % (shipments between South America and Atlantic Coast)		
566	North of Brazil and Amazonia/Europe/North of Brazil Freight Conference	1 January		n.a. Bunker	
567	Rate Agreement No. 9988 (Continent/US Gulf)	1 January	\$2.5 all W/M rates; \$4.00 for weight rates up to \$60; \$5 for weight rates over \$60 and up to \$80; \$6 for weight rates over \$80; 7 % for all unit rates		
568	Conference of Malta and Alexandria Steamship Companies	January		10 % Bunker	
569	Europe Pacific Coast Rate Agreement	1 January		\$4/T Bunker	
570	Europe/Indonesia-Indonesia/Europe Conference	7 January		5.5 % Bunker	
571	Spain Portugal/U.S. East Coast Conference	8 January		7 % Bunker	

TABLE 33 (continued)
Liner freight rate changes and surcharges announced^a during the years 1972, 1973 and January-March 1974
PART THREE: JANUARY-MARCH 1974 (continued)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduction, cancelled or incorporated in tariff
572	Atlantic and Gulf/West Coast of South America Conference	14 January	15 %		
573	U.K./Canary Islands-Madeira Conference	15 January	15 %		
574	Inter-American Freight Conference (Canadian Area-Section A)	15 January		Bunker from \$3 to \$5/FT	
575	Atlantic and Gulf/West Coast of South America	17 January	15 % (ports between U.S. Atlantic and Gulf/Chile)		
576	Comité de Liaison France-Maroc	1 February	15 % (between North-Manche-Atlantic and Morocco)		
577	Associated Continental Middle East Lines (ACMEL)	1 February	10 %		
578	West Coast of India and Pakistan/U.S. Conference	1 February	12.5 % (U.S. Atlantic and Gulf Ports)		CAF reduced from (...) to 7.5 %
579	U.S./East and South Africa Conference	1 February		\$3.10-\$3.50/FT Bunker	
580	New Zealand European Shipping Association	1 February	15 %		
581	U.S./South and South East Africa Conference	1 February		Bunker \$3.50/FT	
582	U.S./South and East Africa Conference	1 February		\$3.10-\$3.50/FT Bunker	
583	The American West African Conference	1 February	\$5/FT (the trade between USA/Canada and West Africa)		
584	Trade between Continental Europe/U.K. and West Pacific Islands	1 February	15 %		
585	Red Sea and Gulf of Aden Agents' Agreement	1 February	from 10 % to 15 %		
586	Canadian North Atlantic Westbound Freight Conference	18 February	n.a.		
587	Europe/East Africa Conference	25 February	10 % (from U.K. and continental ports to ports in the sector between North of Rovuma River and Cape Guardafui)		
588	Association of West India Trans-Atlantic Steamship Lines (WITASS)	1 March	\$4-\$8.49 depending on the class of commodity and trade sector		
589	Conférence Internationale Madagascar, les Comores, La Réunion et L'île Maurice (CIMACOREM)	1 March	13 %		
590	Europe/Indonesia-Indonesia/Europe Conference	1 March	17.5 %		
591	Associated Continental and Middle East Lines (ACMEL)	1 March	10 %		
592	Service Commun Germano-Marocain	1 March	n.a.		
593	Conferenza Mercè Messico	(...)		CAF from 18 to 19 %	
594	Continental Red Sea Conference	(...)		CAF from 16 to 18 %	
595	North Continent Agreement	(...)		CAF from 16 to 18 %	
596	New Zealand European Shipping Association	(...)			CAF from 26 to 21 %
597	Aden Red Sea Freight Rate Agreement	(...)	10 %	\$1/FT Bunker \$1.5 to \$2.5/LT	
598	U.K./Spain Freight Association	(...)		5 % CAF	
599	West Coast of India-Mauritius Conference (...)	(...)	12.5 %		

TABLE 33 (concluded)
 Liner freight rate changes and surcharges announced^a during the years 1972, 1973 and January-March 1974
 PART THREE: JANUARY-MARCH 1974 (concluded)

Item No.	Name of Conference	Date of implementation announced	General freight rate increases	Surcharges	
				New or increased	Reduction, cancelled or incorporated in tariff
600	West Coast of India/Seychelles-East Africa Conference	1 March	12.5 %		
601	Far Eastern Freight Conference	(...)	10 % (between Europe and Indonesia)		
602	Lines serving the trade between East Africa and Europe	(...)		CAF increased from 10.4 to 12.26 %	
603	Western Italy North Atlantic Conference (WINAC)	(...)		7 % Bunker	
604	Fiji Conference Lines	(...)		n.a. Bunker	
605	European South Pacific and Mageflan Conference (ESPM)	(...)		Bunker \$5/FT (Minimum of \$2.5/ B/L or P/R)	
606	Associated Continental Middle East Lines (ACMEL)	(...)	10 %		
607	Continental Europe/U.S.A. Gulf Westbound Rate Agreement	(...)	\$2.5 for M rates or W/M rates; \$4 for W rates up to \$60; \$5 for W rates over \$60 and up to \$80; \$6 for W rates over \$80; 7 % increase for contract rates, surcharges and other costs		

Source: For part one of the table, *Journal de la marine marchande et de la navigation aérienne* (Paris), 1972 issues, and *Journal pour le transport international* (Basel), 1972 issues; for parts two and three of the table, the 1973 issues of the same Journals.

179. Increases in the liner freight rates met considerable opposition from shippers in certain trades. It is too early to assess the effects which this opposition may have on conferences in the long run; in the short run, increased participation of non-conference lines became possible in trades hitherto served mainly by conference lines.¹⁰¹ Resistance was also marked in trades with well organized shippers councils,¹⁰² or where the trade, or particular

¹⁰¹ Two particular instances may be cited here. First, according to a *Fairplay* report (*Fairplay International Shipping Journal* (London), vol. 244, No. 4644 (24 August 1972), p. 40) the Australian Dairy Produce Board has secured a firm proposition of a 10 per cent freight rate cut from Orient Overseas Line, which operates outside the Australia-Northbound Shipping Conference, in the trade from Australia and Papua/New Guinea to Philippines, Hong Kong, China, Japan, and other Eastern ports. The same source cited the case of the Australian Metal Trades Export Group being offered a 5 per cent reduction below the existing conference rates from the same line for carrying its exports. Second, according to press reports the Singapore Shipping Freight Booking Centre secured non-conference tonnage to transport mainly shipments of rubber at rates lower than the existing Far Eastern Freight Conference rates by 25 to 40 per cent.

¹⁰² (a) The Australian Shippers' Council refused to accept adjustments from five conferences serving trades between Australia and Asian countries because of monetary changes until these conferences provide details of their financial structure based on their accounting books (*Fairplay International Shipping Journal* (London), vol. 247, No. 4681 (10 May 1973)).

(b) The Malaysian National Shippers' Council and the National Shippers' Council of Singapore reacted to the decision of the Far Eastern Freight Conference to raise freight rates by 12 per cent at

products in the trade, were felt to be so sensitive to the increase that shippers doubted their ability to pass it on in the form of higher c.i.f. prices or to accept any reduction in the f.o.b. price. In other trades the presence of competition from non-conference liners or from non-liner carriers helped shippers to effectively resist increases in conference freight rates.¹⁰³

180. An important development with regard to the pricing of liner services occurred in 1973. A collective agreement was concluded between the Malaysian Palm Oil Producers Association and the Far Eastern Freight Conference for the shipment of palm oil to European destinations at agreed freight rates to remain constant

two stages starting September 1, by stating that they will look into the possibility of chartering vessels and/or using non-conference vessels (*Journal pour le transport international* (Basel), 34th year, No. 28 (13 July 1973) and "Lloyd's List" (London), 16 June 1973).

(c) The Singapore National Shippers' Council has concluded agreements with 16 non-conference liners serving the trade from Singapore to Europe, Japan and United States of America. The freight rates of the non-conference lines are stated to be on an average 30 per cent lower than those of the Far Eastern Freight Conference in the European trade. (*Singapore Trade and Industry* (Singapore), February 1973.)

¹⁰³ In the Japan/India — Pakistan — Persian Gulf trades, the respective conference found itself unable to decide on freight rate increases because of the existence of strong outside competition. The tariff of the conference has remained unchanged since April 1970. Cf. *Shipping and Trade News* (Tokyo), 23 December 1972 and *Japan Maritime Gazette* (Tokyo), 9 October 1973.

during a pre-determined period.¹⁰⁴ The agreement is the first of its kind and both the parties concerned hailed it as a demonstration of a modern approach to securing collective shipping services at a reasonable price by aggregating cargoes, and as a milestone in the consultative process between the conference and the trade body. It will be interesting to see whether similar agreements will be concluded in the same trade with regard to other basic commodities—e.g. natural rubber, exported from Malaysia—or in other liner trades.

181. While welcoming any action that serves to reduce the level of freight rates borne by producers in developing countries, one must be aware of the possible dangers in the approach to freight rate bargaining on an individual product basis. If the lower rate is based on reduced transport costs as a result, for example, of the aggregation of small parcels making it possible to reduce handling and other costs and to make better use of space, then there would appear to be no inherent difficulties in the approach and no dangers to shippers of other products. Where, however, the lower rate arises from the bargaining strength of one group of producers and is not accompanied by any reduction in costs, other sections of the over-all trade, which are less well organized, are certain to be asked to pay higher rates unless the shipping lines are prepared, or can be forced through competition, to accept lower profit rates. It is, of course, perfectly valid for a country to decide that the interests of one group of shippers are paramount and to accept that any reduction in freight rates enjoyed by that group will, if necessary, have to be paid for by increases spread over all other shippers. Of course, where there is competition the lower rates for a product or group of products need not result in increases for other cargoes. What is essential is that the situation is fully analyzed and that the consequences of product bargaining on rates where the profits of shipping lines cannot be squeezed are fully realized.¹⁰⁵

182. Changes in respect of tariffs and surcharges in 1972 and 1973 may not be fully reflected in the liner freight index compiled by the Ministry of Transport of the Federal Republic of Germany. These monthly freight indices, shown in table 32, indicated relative stability throughout most of 1972 but the average of 132 was higher than the 1971 annual average by six index points because of the number of increases in rates which became effective at the beginning of 1972. In 1973 the index rose further and reached 154 in December.

3. TANKER FREIGHT RATES

183. Developments in the tanker freight markets were uneven in 1972. The freight rates of tanker trip charters followed a downward movement between January and May and the monthly freight indices (see table 32) reached the level of 55, which represented the lowest point record-

ed since the downward movement of freight rates started in December 1970. A relatively rapid increase in the laid-up tanker tonnage did not lead to any rise in the freight index, although it undoubtedly prevented the excess of tanker tonnage relative to demand from leading to further falls in rates. At the end of June 1972 laid-up tonnage amounted to 2.4 million dwt (2.32 per cent) of the world tanker tonnage, as compared with 0.96 million dwt (1 per cent) at the end of March 1972 and 0.8 million dwt (0.85 per cent) at the end of December 1971.

184. Rates recovered during the second half of 1972 and rose sharply during the first six months of 1973, so that at the end of June 1973 the index reached a level of 268 as against 132 at the end of December 1972 and 76 in June 1972. Conditions in the tanker freight market were further strengthened during the third quarter of 1973. The increased world-wide demand for oil which had to be increasingly met by distant supplies placed a strain on the available tanker fleet. Consequently, at the end of September 1973, the tanker trip charter freight rate index reached 346, and climbed further to 390 at the end of October 1973 without any indication that the trend was going to be reversed before the end of the year. However, at the beginning of November, after the reduction in oil shipments and the embargo on shipments to certain destinations, tanker freight rates fell sharply to levels which were only a fraction of the all time high levels that had prevailed a few weeks earlier. Rates for large tankers dropped, almost overnight, from about Worldscale 420 to below 100 although relatively smaller vessels continued to enjoy rates at Worldscale 200-230. The downward movement of tanker freight rates was halted in mid-November but at levels which were about half of those in October. At the end of December the tanker trip charter freight index stood at 216 as against 390 at the end of October 1973.

4. THE EFFECT OF THE MONETARY CRISIS

185. The year 1973 witnessed further and frequent monetary changes. Variations in exchange rates between currencies have an impact on the costs and revenue for carriers. As far as costs are concerned the impact depends upon the extent to which a carrier's costs are incurred in the currency which has changed. The initial impact may differ from the eventual impact since the first change may be followed by devaluation or revaluation of other currencies, while for at least some cost items the shipowner is able to switch his purchases to markets which have become relatively cheaper. His revenue, on the other hand, depends first on whether the freight rates are quoted in the currency which has devalued or revalued, and, secondly, on the impact devaluation or revaluation has on the short-term demand for shipping services and on the freight market. With regard to the first point, the revenue of a shipping company is affected if the monetary change involves the currency in which the freight rates are quoted, unless the freight contracts in question contain safeguards linking the freight rate to a fixed value or rate of exchange. With regard to the second point, uncertainty created by a monetary crisis may tend to reduce confidence and to inhibit, particularly long-term, chartering activities. The duration of inactivity is dependent more upon market conditions for commodities than on changes in currency parities. In this regard, the monetary crisis of 1973, occurring, as it did, at the time

¹⁰⁴ The same Malaysian Palm Oil Producers Association has signed a two year contract with a Norwegian group for the movement of one half of the total of Malaysian shipments of palm oil to Europe. A spokesman for the association stated that the entry of the Norwegian group into the trade had resulted in freight rates being substantially reduced ("Lloyd's List" (London), 1 June 1973). This may imply that the pre-determined period is of two-year duration.

¹⁰⁵ See, in this connexion, "Consultation in shipping: second report by the UNCTAD secretariat" (TD/B/C.4/78), chap. III ("Limitations of consultation").

of a strong market, did not appear to have any noticeable adverse effect on the freight markets, in contrast to the monetary crisis of 1971.¹⁰⁶

186. A monetary crisis may have similar effects on shipbuilding. The devaluation of the United States dollar relative to revalued currencies, e.g. the Japanese yen and Deutschmark should in principle improve the comparative cost position of the United States shipyards relative to Japanese and German shipyards. Also, the immediate effect of the devaluation of the United States dollar on non-American shipyards having long-term credits repayable in dollars has been to inflict losses on these shipyards in so far as their currencies have been revalued relative to the United States dollar.¹⁰⁷ Finally, in the case of new tonnage on order, the prices of which are fixed in dollars without escalation or currency adjustment clauses, ship-owners stand to make a capital gain from the devaluation of the dollar. Against this, however, the monetary crisis posed problems to shipowners who had placed contracts in Deutschmarks or Japanese yen, with long-term credit repayable in United States dollars.

187. The devaluation of the United States dollar in February 1973, followed by the further *de facto* devaluation of this currency and also of sterling, implied reductions, in terms of other major currencies which did not devalue, in the revenue of liner companies quoting their freight rates in these devalued currencies. The extent to which losses were incurred depended very much on how soon liner companies could adjust conference rates quoted in dollars or sterling to the prevailing monetary situation. On the other hand, carriers quoting their freights in

revalued currencies benefited under the same conditions. To a certain extent, this opposite situation also occurred in the latter part of the year, when the United States dollar and also sterling recovered partly vis-à-vis other major currencies.

188. The mechanism of adjustment to devaluations of tariff currencies through the imposition of currency adjustment factors operates promptly. However, although the revaluation of a tariff currency, e.g. the Deutschmark, should produce a negative currency adjustment factor, in practice, only one instance of a negative CAF occurred. This was in connexion with the Continent West Africa Conference's northern section where the reduction was 2.9 per cent.¹⁰⁸

C. The level of freight rates, laying up and scrapping

189. In theory a ship will lay up in preference to operating if the level of freight rates is insufficient to meet its operating costs less its costs of lay up. In practice decisions on lay up are seldom made on short-term considerations alone since other short-run alternative courses of action are available to the shipowner. He may undertake a voyage in ballast to a better position, or have the ship surveyed for later operation or await, fully prepared for operation, for an improvement in the freight market.

190. There is a systematic relationship, both in the short run and in the long run, between changes in the level of freight rates and changes in the level of laid-up tonnage. In a strong freight market, the level of laid-up tonnage is generally low, while in a depressed freight market the level of laid-up tonnage is high and it is dominated by high cost ships. The relationship for the period 1966-1972 is illustrated in graphs 1 and 2 in which changes in the freight rate indices of dry cargo

¹⁰⁶ For a general discussion on the effect of the 1971 monetary crisis in the freight markets, see *Review of maritime transport, 1971* (*op. cit.*), paras. 133-136.

¹⁰⁷ The *Financial Times* quoted a quarterly report of Mullion and Co. Shipping thus: "Many contracts not completely finalized have, not surprisingly, collapsed and yards who had taken dollar commitments have, themselves, refused to maintain previously quoted prices." ("Monetary crisis causes shipbuilding problems", *Financial Times* (London), 6 April 1973, p. 11.

¹⁰⁸ *Seatrade* (Colchester, U.K.), vol. 3, No. 8 (August 1973).

TABLE 34
Relationship between changes in freight rates and changes in laid-up tonnage, 1972-1973

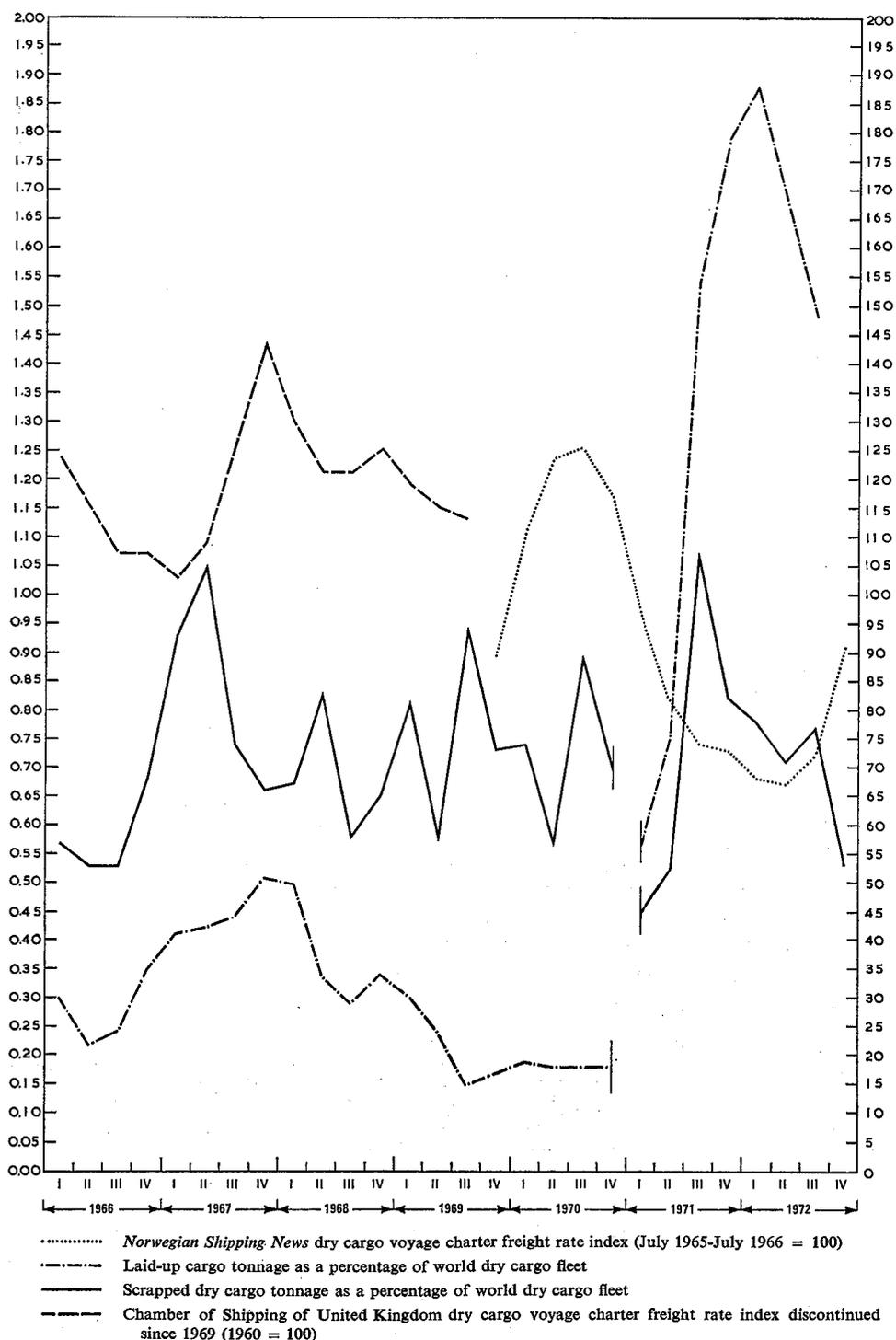
End of quarter	Oil tankers		Dry cargo vessels	
	Tanker freight rate index (Intascale = 100 up to 15 September 1969; Worldscales thereafter) ^a	Laid-up tanker tonnage as a percentage of world fleet ^b	Dry cargo voyage charter freight rate index (July 1965-June 1966 = 100) ^a	Laid-up dry cargo tonnage as a percentage of world dry cargo ^b
1972:				
1st quarter	56	0.96	66	1.88
2nd quarter	76	2.38	69	1.67
3rd quarter	97	1.37	77	1.48
4th quarter	132	0.83	94	1.0
1973:				
1st quarter	152	0.51	121	0.66
2nd quarter	268	0.27	149	0.45
3rd quarter	346	0.17	183	0.39
4th quarter	216	0.22	241	0.36

Sources: ^a For freight indices, table 32.

^b Laid-up tonnage, compiled on the basis of laid-up tonnage for tankers and dry cargo vessels published by the Chamber of Shipping of the United Kingdom and of world tanker and dry cargo fleets published in Institute of Shipping Economics, *Shipping Statistics ...* (*op. cit.*).

GRAPH 1

The course of freight rate indices and laying-up and scrapping as percentages of world tonnage, 1966-1972
Dry cargo vessels



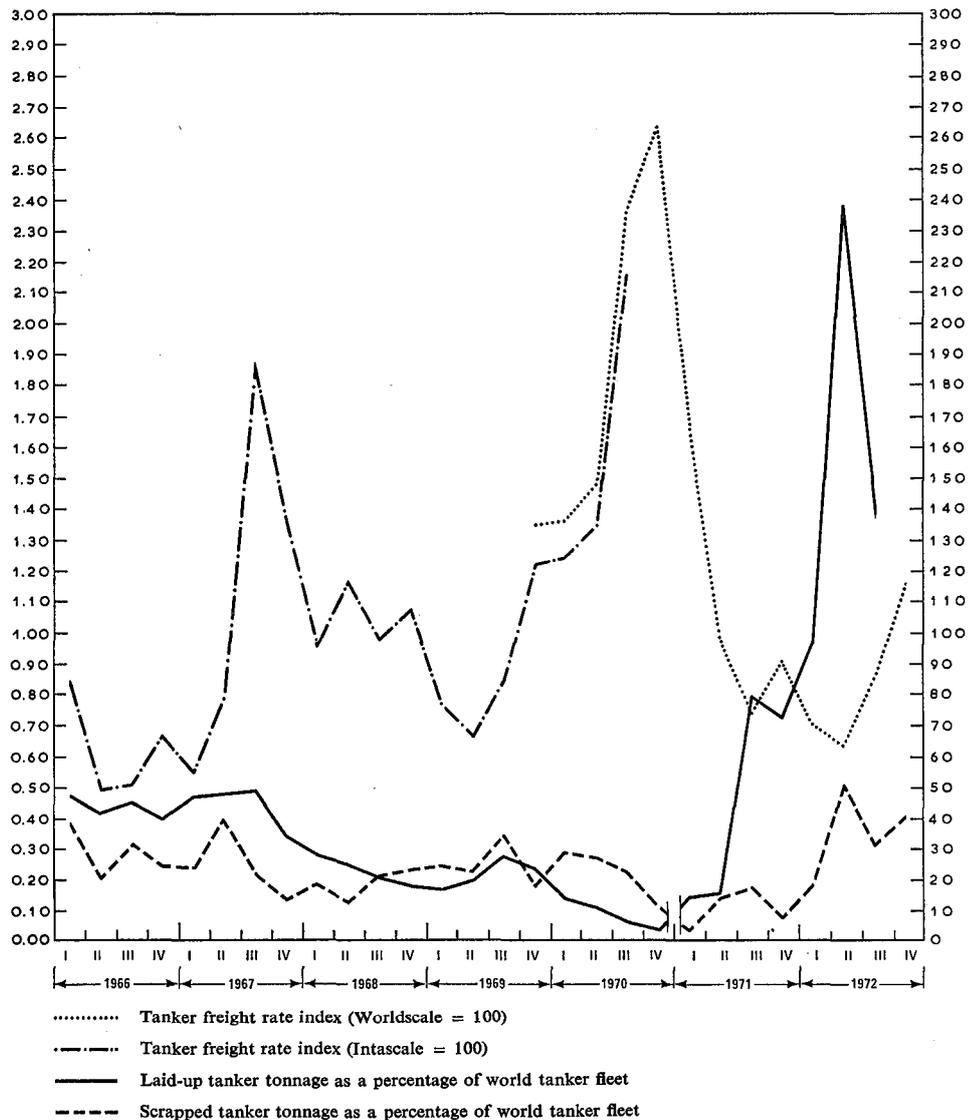
Sources: (a) Freight rate indices: Table 32.

(b) Laid-up tonnage ratio: compiled by the UNCTAD secretariat on the basis of data provided by the Chamber of Shipping of the United Kingdom regarding laid-up tonnage (given by the source as of the beginning of each month up to 1970 and as of the end of each month from 1971 onwards), and on the basis of world fleet tonnage as published in Institute of Shipping Economics, *Shipping Statistics ... (op. cit.)*.

(c) Scrapped tonnage ratio: compiled by the secretariat on the basis of scrapped tonnage and world fleet tonnage as published in Institute of Shipping Economics, *Shipping Statistics... (op. cit.)*.

GRAPH 2

The course of freight rate indices and laying-up and scrapping as percentages of world tonnage, 1966-1972
Oil tankers



Sources: (a) Freight rate index: Table 32.

(b) Laid-up tonnage ratio: compiled by the UNCTAD secretariat on the basis of data provided by the Chamber of Shipping of the United Kingdom regarding laid-up tonnage (given by the source as of the beginning of each month up to 1970, and as of the end of each month from 1971 onwards), and on the basis of world fleet tonnage as published in Institute of Shipping Economics, *Shipping Statistics ... (op. cit.)*.

(c) Scrapped tonnage ratio: compiled by the secretariat on the basis of scrapped tonnage and world fleet tonnage as published in Institute of Shipping Economics, *Shipping Statistics ... (op. cit.)*.

and tanker voyage charter are both shown on the right hand vertical axes and the corresponding changes in the laid-up tonnage as a percentage of world tonnage on the left hand vertical axes. From the graphs, it can be observed that changes in the freight rate indices of both tankers and dry cargo voyage charter are inversely related to their respective laid-up tonnages. Laid-up tonnage seems to respond to movements in freight rates with a short time lag. The detailed short run relationship for 1972 and 1973 is shown in table 34.

191. Changes in the levels of freight rates also have an impact on the level of scrapped tonnage. However,

the relationship between changes in the level of scrapped tonnage and changes in freight rates is not as clear cut as the one between changes in freight rates and laid-up tonnage, and the time lag is longer. It can be seen from the graphs that the level of scrapped tonnage rose substantially when the laid-up tonnage in both categories of vessels went beyond the 1 per cent level.¹⁰⁹

¹⁰⁹ See *Review of maritime transport, 1971 (op. cit.)*, para. 145, for a brief presentation of the factors which can explain this pattern.

TABLE 35
The ratio of liner freight rates to prices of selected commodities, 1963-1972

Commodity	Route	Freight rate as a percentage of price ^{a, b}									
		1963	1964	1965	1966	1967	1968	1969	1970	1971	1972
Rubber	Singapore/Malaysia-Europe	7.5	8.0	7.8	8.8	11.4	10.9	8.2	10.5	14.6	15.4
Tin	Singapore/Malaysia-Europe	1.7	1.2	1.2	1.6	1.9	1.4	1.3	1.2	1.4	1.6
Copra	Philippines-Europe	9.6	11.0	9.0	13.0	9.8	10.8	12.2	14.0 °	16.8	22.1
Hemp	Philippines-Europe	22.6	20.7	25.4	33.2	35.3	38.3	29.5	33.2	—	—
Jute	East Pakistan-Europe	8.7	8.7	8.1	7.3	10.9	12.4	11.1	12.1 °	13.5	12.6
Sisal hemp	East Africa-Europe	7.6	8.4	13.3	14.6	17.0	19.7	18.9	19.5	21.4	18.1
Cocoa beans	Ghana-Europe	3.3	3.1	4.0	2.9	2.8	2.1	1.7	2.4 °	3.5	3.9
Coconut oil	Sri Lanka-Europe	11.2	8.8	7.2	8.5	8.7	7.6	8.7	8.9	10.6	14.5
Tea	Sri Lanka-Europe	5.8	6.5	6.3	6.9	7.7	8.8	9.6	9.5	9.2	8.2
Coffee	Brazil-Europe	6.5	4.9	4.7	5.5	6.2	6.2	6.4	5.2 °	7.6	6.7
Palm kernels	Nigeria-Europe	7.8	9.5	7.3	8.7	9.6	7.7	9.5	8.8 °	11.2	16.9
Coffee	Colombia (Atlantic ports)-Europe	5.1	4.2 °	4.5	4.6	5.1	5.0	5.1	4.2 °	4.8	4.2
Cocoa beans	Brazil-Europe	6.4	8.6	12.9	8.0	7.5	6.4	4.4	7.4 °	10.6	10.7
Coffee	Colombia (Pacific ports)-Europe ..	5.5	4.5 °	4.8	4.9	5.5	5.4	5.4	4.5	5.0	5.0

Source: The Royal Netherlands Shipowners' Association.

^a C.i.f. prices were quoted for rubber, (London-RSSI), tin, copra, jute (UK-pwc grade), sisal hemp, cocoa beans (Ghana-Europe), palm kernels. For cocoa beans (Brazil-Europe), coffee (Colombia-Europe), coffee (Brazil-Europe), unit values of exports were quoted. Prices of the remaining commodities are quoted on f.o.b. terms.

^b Freight rate includes Suez Canal varying surcharges, when applicable. Whenever a conversion of freight rates to other currencies has been necessary, this has been based on currency parities, on year-end parities as published in IMF statistics or in United Nations, *Monthly Bulletin of Statistics*, vol. XXVII, No. 8 (August 1973).

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

D. Liner freight rates as percentage of prices of selected commodities, 1963-1972

192. Table 35 gives the "freight ratios" or the ratios of liner freight rates to export prices of 13 selected primary commodity trades from developing countries to continental Europe for the years 1963 to 1972. For one other commodity, similar data are presented up to 1970.

193. Between 1970 and 1971, the freight ratios of all but one of the thirteen commodities under consideration increased as compared with the previous year. This situation arises from the generally opposite courses of freight rates and export prices in 1971, a year in which sharp increases in liner freight rates were introduced in a number of trades and all the commodities listed in table 35 were affected without exception. The freight rate increases recorded in 1972 range from 3.6 per cent in the case of coconut oil in the Sri Lanka to Europe trade, to 26.4 per cent in the case of sisal hemp in the East Africa-Europe trade. At the same time, ten of these commodity trades—namely, cocoa beans and coffee in the Brazil-Europe trade, rubber, palm kernels, coconut oil, copra, jute, tin and coffee in the Colombia Atlantic and Pacific ports-European trade—sustained a decline in their export prices ranging from 5 per cent in the case of tin to 23.9 per cent in the case of cocoa beans. As a result, the increases recorded in the freight ratios between 1970 and 1971 varied from 9.74 per cent in the case of sisal hemp shipped in the East Africa to Europe trade, to 46.15 per cent in the case of coffee transported from Brazil to Europe. In one commodity trade there has been a 3.16 per cent decrease of the freight ratio (tea in the route Sri Lanka-Europe), whereas in six cases an increase of 20 per cent and above was recorded.

194. The year 1972 witnessed increases in prices for 10 of the 13 commodity trades included in table 35. Copra, coconut oil and palm kernels in the trades for

which data are given are the three commodities whose prices declined in 1972. As a result the "freight ratios" for these three commodities rose sharply in 1972. The other ten commodity trades are divided into three groups. In the case of jute, sisal hemp, tea, coffee (Brazil-Europe) and coffee (Colombian Atlantic ports-Europe), the "freight ratios" decreased under the downward pressure exerted by higher prices. In the case of rubber, tin and cocoa beans (Ghana-Europe), the "freight ratios" rose in 1972, showing that the freight rate increase was faster than the price increase and so more than counterbalancing the downward pressure on "freight ratios" exerted by rising prices. In two other cases, namely, coffee (Colombian Pacific ports-Europe) and cocoa beans (Brazil-Europe), the "freight ratios" remained unchanged or increased marginally.

195. When taking the 1963-1972 period as a whole, it can be observed from table 35 that the "freight ratios" fluctuated over the period, but with regard to 10 of the 14 trade routes the "freight ratios" were higher in 1972 than in 1963. The particular changes of "freight ratios" are shown below:

	"Freight ratio" changes between 1963 and 1972 (Percentage)	
	Increase	Decrease
Sisal hemp	+ 138.2	
Copra	+ 130.2	
Palm kernels	+ 116.7	
Rubber	+ 105.3	
Cocoa beans (from Brazil)	+ 67.2	
Jute	+ 44.8	
Tea	+ 41.4	
Coconut oil	+ 29.5	
Cocoa beans (from Ghana)	+ 18.2	
Coffee (from Brazil)	+ 3.1	
Tin		- 5.9
Coffee (from Colombia (Pacific ports)) ..		- 9
Coffee (from Colombia (Atlantic ports)) ..		-17.65

Part Two

**OTHER ASPECTS OF INTERNATIONAL
MARITIME TRANSPORT**

Chapter VI

ESTIMATED GLOBAL COST OF SEA TRANSPORT

A. Introduction

196. It has been indicated in an earlier UNCTAD report¹¹⁰ that the impact of the cost of sea transport on world trade is felt in two directions. First, other things being equal, the lower the cost of transporting goods by sea between one country and another, the greater will be the volume of ocean-borne international trade. Secondly, the volume of trade between any two countries will depend, other things being equal, on the level of the costs involved in carrying the goods concerned.

197. As far as the secretariat is aware, no detailed information is at present available regarding the over-all level of sea transport costs in relation to the volume and value of the goods transported. It may be added that neither is information available regarding the over-all value of world seaborne trade or, alternatively, regarding what portion of world trade is seaborne. While comprehensive information for total world trade is presented by value, the available information for seaborne trade covers only the volume and not the value of such trade.¹¹¹

198. The purpose of this chapter is to summarize certain existing estimates regarding the over-all cost of sea transport, and through alternative approaches to estimate the order of magnitude of the global cost of sea transport, excluding domestic coastal transport, in 1970. The estimate is attempted in absolute terms as well as a proportion of the value of seaborne trade.¹¹²

B. Existing information

1. INTERNATIONAL MONETARY FUND ESTIMATE

199. In the world and area summary tables of *Direction of Trade*, IMF presents information regarding world trade on a consistent c.i.f. basis for imports and

f.o.b. basis for exports. In adjusting the import figures for those countries which report imports as well as exports on a f.o.b. basis, IMF adds 10 per cent to allow for the cost of freight and insurance.¹¹³ Although there is no detailed explanation available about the way in which the 10 per cent estimate was made, it is understood that IMF found this percentage to be representative on the basis of the detailed freight and insurance information received from countries in connexion with their balance-of-payments reports.

200. More recently IMF has prepared ratios of the value of imports c.i.f. to imports f.o.b. (f.o.b./c.i.f. factors in IMF terminology) for individual countries and has in addition aggregated these into geographical area averages and a world weighted average. For 1969, the most recent year for which complete information is available, the world average ratio was 1.086¹¹⁴ or, stated differently, freight and insurance accounted for 8.6 per cent of world imports f.o.b.¹¹⁵ Assuming that the average percentage increased to 8.7 in 1970¹¹⁶ one can estimate the total combined cost of freight and insurance at \$24,200 million¹¹⁷ and the cost of freight alone at about \$24,000 million¹¹⁸ in 1970. It should, however, be recalled that the ratios developed by IMF apply to total trade, not only seaborne trade, and that freight is not, therefore, synonymous with sea transport cost. On the basis of several

¹¹³ IMF/IBRD, *Direction of Trade*, ... (op. cit.), p. ii. According to IMF the 10 per cent adjustment refers to total trade and not only to seaborne trade.

¹¹⁴ Information communicated to the secretariat by IMF.

¹¹⁵ A somewhat similar percentage, e.g. that "insurance and freight on the trade of the world as a whole apparently averages about 8 per cent of the value of trade", is given by C. O'Loughlin, *The Economics of Sea Transport* (Oxford, Pergamon Press, 1967), pp. 17-18. However, no details are given as the basis of this percentage. The author also states that three-quarters of the world trade is seaborne (*ibid.*, p. 15).

¹¹⁶ According to IMF the estimated weighted average ratio of the value of imports c.i.f. to imports f.o.b. for "industrial countries" increased from 1.078 in 1969 to 1.079 in 1970.

¹¹⁷ Using world exports f.o.b. of \$278,800 million as a substitute for imports f.o.b. as the latter is given on a c.i.f. basis.

¹¹⁸ Using the generally accepted "rule of thumb" that merchandise insurance equals 1-2 per cent of the freight rate, the estimated cost of freight alone would fall between \$23,700 million and \$24,000 million. It may be noted that according to information provided to the secretariat by the Governments of Australia and the United States of America, insurance may for these two countries constitute about 3 per cent and 8 per cent of the freight costs respectively. For 35 countries for which the IMF *Balance of Payments Yearbook* gave separate information for freight (item 3.1) and merchandise insurance (item 3.2) insurance was about 5 per cent of freight (IMF, *Balance of Payments Yearbook*, vol. 22, 1965-69 (Washington D.C.)). These latter figures are, however, balance-of-payments figures and not necessarily the actual cost of freight and insurance as this is discussed in paragraph 202 below.

¹¹⁰ "The impact on world seaborne trade of changes in shipping costs" (TD/B/C.4/76), para. 1.

¹¹¹ For this chapter, information regarding world trade was taken primarily from United Nations, *Monthly Bulletin of Statistics*, vol. XXVI, No. 6 (June 1972), table 52. The world trade data thus exclude the trade of China, Mongolia, Democratic People's Republic of Korea, Democratic Republic of Viet-Nam and socialist countries of Eastern Europe. As an alternative the following source has been used: IMF/IBRD, *Direction of Trade: Annual 1966-70* (Washington D.C.), pp. 5-7, "World table", part B. The coverage of the latter publication is basically the same as the *Monthly Bulletin of Statistics* except that it excludes Cuba; there are also minor differences regarding minor territories.

¹¹² In preparing these estimates the secretariat benefited from the co-operation of selected Governments. The secretariat also consulted IMF regarding their estimates.

assumptions¹¹⁹ the above-mentioned total freight cost estimate was adjusted giving an indicative cost of sea transport of about \$22,000 million in 1970.

2. ESTIMATE BY THE COMMITTEE ON INVISIBLE EXPORTS

201. A recent report by the Committee on Invisible Exports in the United Kingdom¹²⁰ contains aggregate information regarding payments and receipts for transport of 97 countries on the basis of the IMF *Balance of Payments Yearbook*, as well as separate information for each of the 25 major countries.¹²¹ According to the report, 1969 transport receipts for the 97 countries amounted to \$21,500 million, and payments to \$22,600 million for an average of about \$22,000 million. Transport costs thus amounted to about 9.2 per cent of the total trade value (f.o.b.) for these countries. If this ratio is applied to the world trade (exports f.o.b.) as defined in paragraph 197 above, total transport costs would be about \$25,600 million.¹²²

202. This approach is subject to three important limitations.¹²³ Firstly, although most countries for this

purpose report both imports and exports f.o.b., several countries report imports c.i.f.¹²⁴ The resulting freight and/or transport figures are not, therefore, comparable from country to country without adjustment.¹²⁵ Secondly, aggregate figures for transport (items 3 and 4 in the IMF balance-of-payments data) include not only freight, but also merchandise insurance, passenger fares, port expenditure, as well as some other items as indicated in the IMF *Balance of Payments Manual* (tables IIIA and B and IV). It may also be mentioned that although these items are listed separately in the balance of payments for some countries, for other countries only a global transport figure is given. Thirdly, the freight figures relate to the balance-of-payments transactions only. The figures exclude, therefore, transactions between residents of the same country as these are not normally recorded in the balance of payments,¹²⁶ although they represent actual costs. The degree of "under-estimation" of freight on this point depends on whether the countries report imports f.o.b. or c.i.f. (exports are in all cases reported f.o.b. or f.a.s.) and whether the carriage is by national flag vessels, by vessels of the trading partner or by third flag carriers.¹²⁷

203. Total transport figures from the IMF *Balance of Payments Yearbook* as aggregated in *World Invisible*

¹¹⁹ The freight figure before adjustment would include the freights on different modes of international transport, overland (rail and road), air and sea. The freight cost of the two first modes must therefore be deducted. As will be pointed out later (see foot-note 135 below) exports should be reported f.o.b. at the frontier of the exporting country (including transport cost to the border) while imports should be reported c.i.f. at the frontier of the importing country. Assuming that this is actually the case and bearing in mind that much of the overland trade is between adjacent countries, it might for simplicity be assumed that no cost of overland transport needs to be deducted. The second adjustment mentioned above concerns the cost of air transport. However, this information is not readily available, nor is detailed information available regarding the value of airborne trade. Although the absolute cost of air transport per ton can be assumed to be significantly higher than for sea transport, the unit value of the airborne trade will also be higher and it is therefore possible that the average transport cost as a percentage of the value may be approximately the same for airborne and seaborne trade. For Japan, the United Kingdom and the United States of America combined, airborne trade appears to have constituted about 12 per cent of their foreign trade by value. For the purpose of this chapter it has been assumed that for the world as a whole airborne trade may account for some 8 to 10 per cent of the world trade value. On the basis of the above assumptions, the cost of transport of seaborne trade would range between \$21,600 million and \$22,100 million.

¹²⁰ *World Invisible Trade: An analysis by the Economists Advisory Group*, published by the Committee on Invisible Exports, London, July 1972.

¹²¹ As against the 97 countries included in *World Invisible Trade ...* (*op. cit.*) on the basis of the IMF *Balance of Payments Yearbook*, the *United Nations Monthly Bulletin of Statistics* covers 140 countries or territories and the IMF/IBRD *Direction of Trade* 165 countries and territories in its world table, part B (see foot-note 111 above). However, the difference of coverage in terms of value of trade is substantially smaller. In 1970, the f.o.b. value of exports reported in *World Invisible Trade* on the basis of the *Balance of Payments Yearbook* accounted for 86 per cent of the value reported in the *Monthly Bulletin of Statistics* and *Direction of Trade*.

¹²² It should be noted that the trade value refers to total trade and not only to seaborne trade, and that the relative importance of transport costs would therefore be understated. On the other hand, one cannot necessarily assume that transport costs as reported for balance-of-payments purposes will equal the actual cost of sea transport of seaborne trade as discussed further in paragraph 202.

¹²³ A discussion of some of the limitations of transportation reportings in the balance of payments are found in H. F. Karreman, *Methods for Improving World Transportation Accounts, Applied to 1950-1953*, National Bureau of Economic Research (United States), Technical paper 15 (New Jersey, Quinn and Boden, 1961). See also S. G. Sturmev, *British Shipping and World Competition* (London, The Athlone Press, 1962), pp. 415-418.

¹²⁴ Thirty-seven countries accounting for about 31 per cent of the import value in the IMF *Balance of Payments Yearbook* reported imports on a c.i.f. basis.

¹²⁵ The distinction between freight and port expenditures is not clear cut and is considered further in paragraph 208 below. For the balance-of-payments reporting the IMF guidelines are as follows:

"Both exports and imports should be entered at transactions values at a uniform boundary, namely, at the customs frontier of the exporting country (f.o.b.). For imports, the exporting country should generally be the country of first consignment, as it is defined below in the General Note to Table B (paragraph 461). For countries unable to enter imports f.o.b., provision is made for entering them c.i.f. [...] at the customs frontier of the importing country. Although "f.o.b." stands for "free on board", this term should not be interpreted as including costs of loading borne by the international carrier. Such costs are included either in item 3 of Table A as part of freight (for exports transported in domestic carriers and imports transported in foreign carriers), or in item 4, other transportation, as part of port expenditures (for exports transported in foreign carriers and imports transported in domestic carriers). The exclusion of loading costs borne by the international carrier from the f.o.b. value of merchandise is in accordance with the data from which external trade statistics are compiled, and is necessary for balance-of-payments purposes to avoid duplication between the merchandise and other goods and services accounts."

See IMF, *Balance of Payments Manual*, third edition, July 1961 (Washington D.C.), p. 41.

It will, however, be noted later that the United Nations follows a slightly different approach on this point (see foot-note 135 below). For some information about the relative importance of freight costs, port charges and inland freight for transatlantic general cargo shipments, see OECD, *Ocean Freight Rates as Part of Total Transport Costs* (Paris), publication No. 24283/October 1968.

¹²⁶ It should be noted that in the case of imports being reported f.o.b., IMF asks that the freight received by domestic carriers on imports be reported as a memorandum item. This information appears not to be included in the *Balance of Payments Yearbook*, but is used by IMF in reconciling f.o.b. and c.i.f. values (IMF, *Balance of Payments Manual, op. cit.*, pp. 71-72).

¹²⁷ Only if all countries reported both imports and exports f.o.b. and the transport was undertaken by third flag carriers would there be no underestimate of freight cost. At the other extreme, if all countries reported both imports and exports f.o.b. and all imports were carried by vessels of the importing country, there would be no balance-of-payments recording of freight costs.

*Trade*¹²⁸ will therefore on the one hand overstate sea transport costs by including insurance, passenger fares, port expenditures and other, but on the other hand, as mentioned above, understate these costs by excluding freight payments between residents of the same country. It is not known to what extent these two factors offset each other.

204. In an effort to overcome some of these complications, the secretariat selected from the *Balance of Payments Yearbook* countries which reported imports f.o.b., listed freight (item 3.1) separately and at the same time had no important merchant marine. For 12 countries¹²⁹ meeting these criteria, freight payments equalled 9.3 per cent of the f.o.b. value of imports. Although the number of countries thus covered is very small and their share of world trade still smaller, it is interesting to note that the resulting freight percentage is almost identical to the transport cost percentage indicated in paragraph 201 above.

C. New global estimates

205. In view of the limitations of the above balance-of-payments information and the lack of other detailed global estimates, it was found necessary to consider alternative methods of estimating the global cost of sea transport. Three separate approaches will be considered in the following sub-sections. They are estimates based on (a) freight factors; (b) adjustment of international trade data; and (c) specific information collected from selected countries. However, before considering these approaches, mention should be made of another global estimate for 1964.¹³⁰ On the basis of gross earnings of eleven shipowning countries which accounted for 51 per cent of the world fleet, it has been estimated that the gross earnings of the world merchant fleet in international trade was \$11,400 million in 1964.¹³¹

¹²⁸ Cf. foot-note 120 above. *World Invisible Trade* was concerned with balance of payments and receipts, and not with transport costs or sea transport costs as such. The discussion is therefore in no way a criticism of this report but only an attempt to explain the limitations of such data for our purpose.

¹²⁹ The 12 countries are: Costa Rica, Dominican Republic, Ecuador, Ethiopia, Fiji, Haiti, Honduras, Jamaica, Republic of Korea, Nicaragua, Paraguay, and Sierra Leone.

¹³⁰ Dag Tresselt, *The Controversy over the Division of Labour in International Seaborne Transport* (Institute for Shipping Research, Bergen), pp. 6 and 24. The author uses the term "gross earnings of the world's merchant fleet" rather than "cost of sea transport". He points out that the data used occasionally included non-freight items and as they were computed in different ways the estimate should only be considered as a rough order of magnitude figure. It would also appear that gross earnings in this case include earnings from passenger transport and the figure may therefore slightly overstate the sea freight cost of international trade.

¹³¹ This estimate would represent 7.1 per cent of world imports c.i.f. and 7.5 per cent of world exports f.o.b. A more appropriate relationship would be the value of seaborne trade but this is not available. If one assumes that the average freight per ton in 1970 was the same as in 1964, the estimated total cost of sea transport in 1970 would be \$19,000 million. It is likely, however, that such an extrapolation would distort the actual situation. This is particularly so as several offsetting factors will have affected the average freight per ton, e.g. increases in liner freight rates, increases in individual cost items for bulk carriers and tankers, the closure of the Suez Canal and increased average distances for tanker and bulk trades on the one hand, and the trend to larger and more economical tankers and bulk carriers on the other.

1. ESTIMATE BASED ON FREIGHT FACTORS

206. An earlier secretariat report¹³² developed a possible methodology for estimating the average level of freight and insurance charges in the total import price of specific commodities. The report indicated that for selected trades and commodities the average proportion accounted for by freight and insurance charges in the c.i.f. value of goods could be derived on the basis of information about the length of a trade route and the f.o.b. value of the goods carried. The report described inherent limitations in the available trade data and suggested that freight factor functions should be developed separately for different types of commodities (bulk oil, bulk dry cargoes, liner type raw materials and manufactured and semi-manufactured goods). The report then went on to present preliminary results on the basis of a limited number of primary commodities in a few trades for which the necessary trade data were available, including a tentative over-all freight function.

207. Although recognizing the preliminary nature of the over-all freight function, particularly on account of the limited size of the sample and because it included only one of four broad commodity types mentioned above, it was attempted to see what results the function would give if applied to global trade data. However, on the basis of certain assumptions regarding the average unit value of seaborne trade and average distances¹³³ the result was that freight and insurance should on this basis be around 29 to 31 per cent of the trade value. These figures are clearly much too high, thus indicating the importance of the above-mentioned limitations.¹³⁴ Consequently, this approach has been dropped.

2. ESTIMATE BASED ON ADJUSTMENT OF INTERNATIONAL TRADE DATA

208. A second approach was designed to arrive at a global estimate on the basis of over-all trade statistics which, in contrast to trade figures in balance-of-payments

¹³² "The estimation of freight factors: preliminary report by the UNCTAD secretariat" (TD/B/C.4/47).

¹³³ For this purpose it was assumed that the average value of seaborne trade was \$85 per ton and that the average distance was 4,500/5,000 miles. The average unit value was derived from the f.o.b. export value of world trade in the United Nations *Monthly Bulletin of Statistics*, the tonnages of seaborne trade from the same source, excluding the average loading/unloading of socialist countries of Eastern Europe for consistency, and assuming that 75 per cent of world trade values were seaborne.

¹³⁴ The limitation due to the nature of the initial sample may here be of particular importance. As was pointed out in TD/B/C.4/76 and other secretariat reports (particularly "Ocean shipping and freight rates and developing countries" (study prepared by the Economist Intelligence Unit, London), in *Proceedings of the United Nations Conference on Trade and Development, First Session*, vol. V, *Financing and Invisibles: Institutional Arrangements* (United Nations publication, Sales No. 64.II.B.15), p. 212, and *Freight markets and the level and structure of freight rates* (United Nations publication, Sales No. E.69.II.D.13 and TD/B/C.4/38/Rev.1/Corr.1)), the relative importance of sea transport cost will vary significantly from country to country (this will be indicated in paragraph 218 below) and even more drastically from commodity to commodity. Generally, sea transport cost will tend to constitute a significantly higher portion for relatively low value primary commodities, particularly for heavy bulk commodities, than for the relatively high value semi-manufactured and manufactured goods. This point is shown in annex X which presents various published information regarding freight cost as per cent of the unit value for selected commodities. Although these are taken from different sources and cover different time periods, they clearly show the great difference which may exist between different types of commodities.

reports, are generally given on a c.i.f. basis for imports and f.o.b. for exports.¹³⁵ If international trade statistics had been consistently reported on this basis and if all trade was seaborne, then the difference between the two global figures would ideally represent the cost of sea transport and insurance.¹³⁶ Even on these assumptions, differences could arise as a result of:

(a) The time lag between recording exports and imports;

(b) The different ways of identifying the country of origin and destination, taking into account the complications introduced by middle-men trade;

(c) The different procedures of customs valuation adopted by the partner countries, e.g. the use of official or declared values.

209. The 1970 trade data in the United Nations *Monthly Bulletin of Statistics* indicated world imports of \$293,300 million and exports of \$278,800 million, leaving a balance of \$14,500 million. The following qualifications need to be noted in connexion with these data:

(a) They exclude trade with the socialist countries of Eastern Europe and Asia;

(b) The import trade data for 15 countries listed in note *b* of table 36 and accounting for about 22 per cent of world trade are reported f.o.b. rather than c.i.f.;

(c) The data include all trade of the countries listed in the United Nations *Monthly Bulletin of Statistics*, irrespective of mode of transport.

Complete adjustment of the *Monthly Bulletin of Statistics* data shown above in order to arrive at estimates of the order of magnitude of total world seaborne imports c.i.f. and world seaborne exports f.o.b. would require specific data fully covering all the three points mentioned above. As data regarding the seaborne trade of socialist countries of Eastern Europe and Asia are not available, an attempt was made to make adjustments with respect only to points *b* and *c*.

210. The adjustments as shown in annex XI below basically involved deducting from the original trade figures the estimated value of non-seaborne trade and adding the estimated cost of sea transport and insurance in the case of the countries reporting imports f.o.b. as summarized in table 36. These adjustments resulted in an estimated value of about \$211,000 million for seaborne imports c.i.f. and about \$191,000 million from seaborne

¹³⁵ As pointed out in TD/B/C.4/47, the statistical interpretation of these concepts may vary somewhat, particularly regarding loading expenditures and the possible use of f.a.s. instead of f.o.b. Reference is made, in this connexion, to the following quotation from the *Yearbook of International Trade Statistics, 1969* (United Nations publication, Sales No. E.71.XVII.5), p. 6:

"Valuation. At its fifteenth session in 1953 the Economic and Social Council, taking the view that trade statistics must reflect economic realities, recommended that the governments of member States of the United Nations, wherever possible, use transaction values in the compilation of their national statistics of external trade or, when national practices are based on other valuations, endeavour to provide supplementary statistical data based on transaction values. In the case of imports, the transaction value is the value at which the goods were purchased by the importer plus the cost of transportation and insurance to the frontier of the importing country (a c.i.f. valuation). In the case of exports the transaction value is the value at which the goods were sold by the exporter including the cost of transportation and insurance to bring the goods on to the transporting vehicle at the frontier of the exporting country (a f.o.b. valuation)."

¹³⁶ See, however, the preceding foot-note.

TABLE 36
Estimation of seaborne trade value 1970,
(In millions of dollars)

	Imports (c.i.f.)	Exports (f.o.b.)
1. Trade value ^a	293,300 ^b	278,800
2. Deduct estimated value of non-seaborne trade of countries listed in Sections 1 and 3 of annex XI	(85,760) ^b	(87,349)
Estimated value of seaborne trade ..	207,540 ^c	191,451
3. Adjustment of seaborne imports f.o.b. to imports c.i.f. for the countries listed in note <i>b</i>	3,797 ^d	
Estimated value of seaborne trade ..	211,337	191,541

Source: This table summarizes information presented in annex XI below.

^a Data include trade (i) irrespective of the mode of transport used for its carriage; (ii) excluding the trade of socialist countries of Eastern Europe and Asia.

^b Import data for the following countries are reported f.o.b.: Australia, Bermuda, Canada, Dominican Republic, Malawi, Netherlands Antilles, New Hebrides, New Guinea and Papua, Paraguay, Republic of South Africa, Southern Rhodesia, Venezuela, Virgin Islands, United States of America and Zambia.

^c Not including freight and insurance costs in the case of trade of the countries listed in note *b* above.

^d In the case of Australia and Canada the adjustment made to convert import values f.o.b. to c.i.f. does not include insurance costs.

exports f.o.b. and a derived difference of about \$20,000 million or \$19,500 million after deduction of estimated insurance costs.¹³⁷

211. It should be emphasized that the figure of \$19,500 million (representing 10.2 per cent of the estimated value of seaborne exports f.o.b. and 9.2 per cent of the imports c.i.f.) can at best be considered only as an order of magnitude estimate of the cost of sea transport. This is because the figure has been derived from published trade data which have limitations of the kind mentioned in paragraph 208, applying a series of individual adjustments based on information of differing degrees of comprehensiveness. To a great extent the adjustments were made on the basis of specific information provided to the UNCTAD secretariat by countries referred to in annex XI. These data may not correspond with the data recorded for the respective countries in the United Nations *Monthly Bulletin of Statistics* with regard to timing and coverage. For example, it is not known to what extent this information excludes or does not exclude trade with socialist countries of Eastern Europe and Asia. If, and to the extent that, such trade is included, there will be no absolute comparability between the original data of the *Monthly Bulletin of Statistics* and the data provided by individual countries. Furthermore, it is likely that in the case of countries for which specific information on their seaborne trade was not available, the adjustments for non-seaborne trade may have been excessive in so far as it was assumed that all the trade with the adjacent countries was overland. For these reasons, and because of the likelihood that the actual freight and insurance costs for the developing countries listed in section 2 of annex XI are substantially higher than the 10 per cent used to adjust their import trade values from f.o.b. to c.i.f., it is likely that the derived figure of \$19,500 million under-estimates the actual global cost of sea transport.

¹³⁷ Insurance costs assumed to be about 2 per cent of the freight costs (cf. para. 200 above).

3. ESTIMATE BASED ON INFORMATION
FOR SELECTED COUNTRIES

212. A final approach was to collect information for selected countries and aggregate these into global estimates of the cost of sea transport and the value of seaborne trade¹³⁸ respectively. This approach, therefore, relied heavily on the co-operation of the governments of the countries concerned.

213. Fifteen governments were asked to provide separate information for 1969 and/or 1970 regarding: (a) over-all sea transport cost of seaborne imports; (b) over-all sea transport cost of seaborne exports; (c) the value of seaborne imports (preferably c.i.f.); (d) the value of seaborne exports (f.o.b.).

They were also asked for a brief explanation regarding the basis for these figures. These countries accounted for approximately 67 per cent of the world imports and 72 per cent of world exports in 1970.

214. Complete information was received from seven countries and in three cases information was provided regarding sea transport costs of imports only. The other countries which were approached indicated that information regarding the cost of seaborne trade was not available. The countries which provided information accounted for approximately 48 per cent of world seaborne imports but for only 36 per cent of world seaborne exports as indicated in table 36 and annex XI.

215. The resulting information is summarized in table 36. For the responding countries as a whole, the sea transport cost of imports accounted for 10.8 per cent

of the c.i.f. value of seaborne imports (about 12.1 per cent of the estimated f.o.b. value) and the sea transport cost of exports for 8.7 per cent of the f.o.b. value of exports (8 per cent of the estimated c.i.f. value). Altogether, the cost of sea transport represented 10.6 per cent of the f.o.b. value and 9.6 per cent of the c.i.f. value.

216. It should be noted that so far as exports are concerned, table 36 does not include the majority of developing countries whose exports consist mainly of primary commodities or relatively low value semi-manufactures. For this reason, and in view of the data included in annex X, it is considered that the figure of 8.7 per cent for exports significantly understates the over-all cost of sea transport.

217. Consequently, before one can use these percentages in estimating the global sea transport cost of world seaborne trade one needs to consider briefly whether the sample from which they are derived is likely to be representative. Three interrelated points are worth noting in this connexion: (a) the significant difference in relative transport costs of seaborne imports and exports; (b) the great variations from country to country; and (c) the larger coverage for imports. These are discussed further in the following paragraphs.

218. Regarding the difference between the relative sea transport costs it should be recalled that the average sea transport cost for imports was about 12.1 per cent while that for exports 8.7 per cent of the estimated f.o.b. values. The major reason for the significantly higher relative sea transport cost for imports is that the countries included in table 37 account for the bulk of world seaborne imports of primary commodities which have a relatively high transport cost in relation to their values (for example, these countries account for most of the world seaborne imports of petroleum, iron ore, coal, phosphate

¹³⁸ The information for the value of seaborne trade is also used for the adjustments in paras. 210 and 211 above.

TABLE 37
Sea transport cost as a percentage of seaborne trade values of selected countries, 1970
(Millions of dollars equivalent and percentages)

Country	Sea transport cost		Seaborne trade		Sea transport cost as percentage of seaborne trade values	
	Imports	Exports	Imports (c.i.f.)	Exports (f.o.b.)	Imports	Exports
	(Millions of dollars equivalent)				(Per cent)	
Argentina	141	229	1,527	1,608	9.2	14.2
Australia.....	451 ^a	..	4,205 ^a	(4,593) ^{a,b}	10.8	..
Brazil	309	265	2,849 ^c	2,670 ^c	10.9	13.7
France.....	869	446	6,626	5,402	13.1	8.3
Germany, Federal Republic of	1,626	..	15,246	..	10.7	..
Japan	2,997	1,220	17,062	17,065	17.6	7.1
Netherlands	837	..	7,498	(6,286) ^b	11.2	..
New Zealand	109 ^a	219 ^a	1,196	1,201	9.1	18.2
United Kingdom	1,817	1,078 ^d	18,775	16,723	9.7	6.5
United States of America ..	1,878	2,485	27,261	24,488	6.9	10.1
TOTAL	11,034	6,042	102,245	69,157	10.8	8.7

Sources: Seaborne trade: figures taken from Annex XI, except for Brazil where they are estimated on the basis of information communicated to the secretariat by the Government of Brazil.

Sea transport cost: compiled on the basis of information communicated to the secretariat by the respective Governments.

^a Average 1969/70 and 1970/71.

^b Figures not included in total.

^c Estimate based on quantity of seaborne trade and total trade (100 per cent for imports and 97.5 per cent for exports).

^d Estimate based on freight for exports by United Kingdom ships and portion of United Kingdom ships cleared with cargo, thus assuming same average freight per ton.

rock, bauxite, softwood and rubber, and other commodities for which the sea transport costs represent a significantly higher share than the average share accounted for by these costs in commodity values in the aggregate). On the other hand, primary commodities account for a relatively small portion of the combined exports of the countries included in the table 37. Of the countries whose exports are included in the table, Argentina, Brazil and New Zealand are the only countries in which exports of primary commodities account for a significant portion of the total exports, and in each of these cases the relative sea transport cost is significantly higher than the average of 8.7 per cent.¹³⁹ The same applies in the case of the United States of America which, although it is the biggest exporting country of manufactures, also has an important export trade of primary commodities.

219. Regarding the differences between countries, it may be noted that the country with by far the highest relative import transport cost is Japan, which imports very substantial quantities of low value primary commodities from relatively distant sources, whereas the United States of America, which shows the lowest percentage, is self-sufficient for several primary commodities and imports other primary commodities from relatively nearby sources. On the export side, the country with the highest relative transport cost is New Zealand, which exports substantial quantities of meat and dairy products over long distances in vessels with reefer capacity, whereas the United Kingdom and Japan, which have the lowest relative export transport cost, primarily export relatively high-value manufactured goods. In the case of the United States of America, which is an important exporter of primary commodities as well as of manufactured products, the percentage of export transport cost is also relatively high.

220. It was noted in paragraph 214 above that the coverage of the information regarding imports was significantly broader than that relating to exports. One of the reasons is that three countries were able to provide full information relating to imports only. One of the countries for which information is available regarding imports but not regarding exports is Australia, a major exporter of primary commodities. It may be concluded that the exports covered by table 36 are not equally representative of world seaborne exports and that therefore the relative cost of the sea transport of these exports cannot be used without reservation in arriving at the global estimate.

221. Applying the 10.8¹⁴⁰ per cent figure indicated in paragraph 215 and table 36 to the estimated value of seaborne trade (imports c.i.f.) as indicated in paragraph 211 and table 36 would give a global cost of sea transport

¹³⁹ Annex X provides some information regarding freight costs as a percentage of trade values of selected commodities. Information regarding the relative importance of certain exporting or importing countries in the seaborne trade of bulk commodities is indicated in Fearnley and Egers Chartering Co. Ltd., *Trades of World Bulk Carriers, 1970* (Oslo) and OECD, *Maritime Transport, 1970, and a Review of the 60's* (Paris).

¹⁴⁰ If anything, the import sample may include a somewhat higher than average portion of primary commodities and a somewhat lower portion of manufactured products than is the case of the world seaborne trade as a whole. However, any distortion in this respect might be offset by a possible tendency for those developing countries not covered in table 36 to import somewhat lower value manufactured goods with a higher than average relative transport cost.

of about \$23,000 million¹⁴¹ in 1970. It should, however, be emphasized that the basis on which the individual countries collect their data may vary and that the individual figures in table 37 may therefore include some approximations. Similarly, it should be recalled that the estimate is based on information for selected countries, although these account for a very substantial part of world trade.

D. Concluding remarks

222. The main estimates¹⁴² regarding the cost of sea transport which have been presented in this chapter were: (a) \$19,500 million based on adjusted international trade statistics; (b) \$22,000 million derived from IMF f.o.b./c.i.f. factors; (c) \$23,000 million based on information for selected countries.

These estimates are reasonably close to each other but may, if anything, understate the transport cost of seaborne trade as a result of a possible under-estimation of the value of such trade, particularly in the case of the estimate based on adjusted international trade statistics. The secretariat believes that the higher figure of \$23,000 million is the more realistic, particularly as this is based on specific information concerning costs of sea transport. It may be recalled, however, that this estimate is based on information of differing degrees of accuracy and on a large number of assumptions.

TABLE 38
Sea transport cost of United States seaborne trade, 1970
(Millions of dollars and percentages)

	Seaborne trade (f.o.b.)		Seaborne transport cost	Seaborne transport cost as percentage of trade
	Value	Per cent		
I. Imports				
Liners	17,073	67.8	962	5.6 ^a
Tramps	5,357	21.3	425	7.9 ^b
Tankers	2,764	10.9	491	17.8 ^c
TOTAL	25,194	100.0	1,878	7.5
II. Exports				
Liners	16,446	67.1	1,301	7.9 ^a
Tramps	7,041	28.8	1,104	15.7 ^b
Tankers	1,001	4.1	80	8.0 ^c
TOTAL	24,488	100.0	2,485	10.1

Source: Information communicated to the secretariat by the Government of the United States of America.

^a The liner sea transport costs basically reflect the internationally applicable liner conference tariffs. The higher operating costs of United States liner companies are generally compensated through subsidies.

^b Tramp freight rates are not subsidized in the United States.

^c Imports by tankers mostly refer to crude oil, while exports generally refer to oil products.

¹⁴¹ Applying the 10.8 per cent figure to the estimated value of seaborne imports c.i.f. of \$211,337 million would give a cost of \$22,800 million or approximately \$23,000 million. Although serious reservations have been made above regarding the 8.7 per cent figure for the sea transport cost of exports, it may be noted that if this figure were applied to the estimated value of seaborne exports f.o.b. of \$191,451 million, this would give a cost of about \$17,000 million.

¹⁴² It should be recalled that world trade as used in this chapter excludes the trade of China, Mongolia, Democratic People's Republic of Korea, Democratic Republic of Viet-Nam and socialist countries of Eastern Europe.

223. As was seen from table 37 and annex X, the relative cost varies significantly from country to country, depending mainly on the composition of the trade, and even more markedly from commodity to commodity. This is also shown in table 38 which contains information regarding the absolute and relative cost of sea transport for United States imports and exports by vessel type. As already pointed out in paragraph 218, the cost of sea transport tends to be highest for the primary commodities and for countries which primarily export such commodities. Hence, for the developing countries as a group the implication is that sea transport cost will tend to account for a higher percentage of their export values than the global average indicated above.

224. Although the main purpose of this chapter has been to derive a global estimate of the cost of sea transport, the wide differences between countries and the general tendency for the cost of sea transport to constitute a higher percentage of the value of the exports from developing countries as a group should not be overlooked. This is of particular importance, as earlier UNCTAD studies have indicated that the developing countries tend to bear the freight costs of both their exports and their imports.¹⁴³

¹⁴³ *Freight markets and the level and structure of freight rates* (United Nations publication, Sales No. E.69.II.D.13 and TD/B/C.4/38/Rev.1/Corr.1), particularly paras. 229-252, and *Shipping in the seventies: Report by the secretariat of UNCTAD* (United Nations publication, Sales No.E.72.II.D.15), part one, para. 27.

Chapter VII

OTHER TOPICS

A. Institutional developments in world shipping

1. GENERAL

225. In recent years the world shipping industry has been in a continuous process of change.¹⁴⁴ This has occurred under the influence of two major factors. The first is the technological revolution which is taking place. This is in response to the need in the major developed maritime countries to reduce the amount of labour used on ships and on shore per ton of cargo carried and handled. The second factor is the vital role which the carriage of raw materials and oil from distant sources plays in the operation of large-scale basic industries in developed market-economy countries.

226. Unitization of cargoes in all its forms has been expanding as a means for cutting down labour costs and increasing efficiency of transport operations through speeding up the turn-round of ships. It seems, however, that the early forecasts which envisaged the complete disappearance of conventional liner vessels from the major containerized trade routes were rather unrealistic. It may be that a new generation of composite cargo liners will be called upon to cope with these transport requirements.

227. There are indications that, whenever there has been a situation of possible tonnage over-capacity in trades which have been extensively containerized and/or served by barge carrying and roll-on/roll-off vessels, the tendency has been for the operators to devise methods which would strengthen their power to control the market. Shipping consortia, container pooling agreements and opposition to the entry of additional tonnage are methods used to stabilize and control the market.¹⁴⁵

228. In the initial stages of containerization, fears were expressed that, because the direct cargo handling costs of unitized cargo were a much smaller part of total operational costs than in break-bulk operations, the incentive for rate cutting would be increased and there was a danger of the price-regulating machinery of the shipping conferences breaking down in the face of under-utilization of capacity in the liner trades. Current developments in containerized trades have dispelled such fears and tend rather to confirm that, as the number of ships and shipping operators required to satisfy a given level of demand for transport in a particular trade becomes smaller, it becomes relatively easier for the

shipping operators to devise effective methods of regulating the supply of tonnage and curtailing price competition. Two or three big consortia can take action to restrict competition more easily than the relatively large number of break-bulk operators in conventional liner trades could do. It appears that possibilities for monopolistic action in liner trades have tended to increase rather than to decline in highly containerized trades.

229. Co-operation among liner operators to regulate the supply of tonnage through pooling and other devices is a current characteristic in the containerized trades and also in conventional liner services where operators have entered into such agreements.¹⁴⁶ So long as the purpose of such devices is to keep operating costs as low as possible by, for example, avoiding the duplication of services, bunching of vessels in ports on certain days of each month or securing better utilization of ships' time and carrying capacity, they can be regarded favourably, provided that the economic benefits derived are reflected in the level of liner freight rates. It does not appear that users of liner services are satisfied that this occurs in practice.

230. As was indicated in chapter V, increases in liner freight rates have met with increasing resistance on the part of the users of liner services. This resistance may in its turn exert greater pressure on liner operators to look, more than in the past, into the question of rationalization of services and increased management efficiency as a means of keeping their operating costs under control. Both governments and private interests, particularly in developing countries, have become increasingly aware that for such pressure to become effective, there is an urgent need to strengthen their negotiating power as users of liner services. To this end greater efforts must be made effectively to organize and operate shippers' bodies.¹⁴⁷ The developments referred to above, if continued and strengthened, could lead to a new era in which the organization of adequate and rationalized liner services is determined jointly by suppliers and users of such services, and these are provided at a cost which would satisfy both the carriers, as commercial undertakings, and the shippers.

231. One development which may become increasingly important is the renewed interest of governments in policies directed towards ensuring that an increasing proportion of their own trade is transported on their own flag vessels. The efforts now being made in this direction are probably comparable to those made in the 1950s and early 1960s. These policies are pursued through the adoption of cargo sharing formulas or

¹⁴⁴ See in this connexion *Shipping in the seventies ... (op. cit.)* and *Unitization of cargo: Report by the secretariat of UNCTAD* (United Nations publication, Sales No. E.71.II.D.2).

¹⁴⁵ For further information, see paras. 235-253 below.

¹⁴⁶ *Ibid.*

¹⁴⁷ See paras. 254-258 below.

bilateral agreements. In response to the development of cargo sharing there has been a corresponding interest in the formulation of retaliatory measures on the part of other governments.¹⁴⁸

232. In the bulk cargo trades, there has been an important change in the character of the markets,¹⁴⁹ which are no longer as competitive as they were in the past. Currently, there is a strong tendency for the major part of the demand for tonnage for the transport of the major bulk cargoes—e.g. oil, iron ore, coal—to be brought under the control of relatively few large industrial concerns as a means to ensure smooth and stable transport at low cost. At the same time these firms control a substantial part of the supply of tonnage in the form of integrated fleets or tonnage operated under long-term charter arrangements. The practice of not publishing details of the majority of charter transactions reduces the extent of competition in the market because it eliminates one of the basic requisites of a fully competitive market, namely, free access to information. As a result, with regard to certain groups of bulk commodities, the buyers of shipping services are placed in a technically favourable position in the bulk cargo freight markets which enables them to exercise a long-term pressure on the costs of maritime transport. This process constitutes an important change in the traditional institutional arrangements with regard to the transport of the major bulk cargoes. As a result transport costs for these commodities have become much more stable than in the past. Further, freight rates have become cost oriented because of the intensive competition between ship operators and the chartering policies of the major users of bulk shipping, rather than market oriented as in the past.¹⁵⁰

233. Current developments in maritime transport call for bigger, better designed and highly sophisticated vessels such as ULCC, liquefied gas carriers, big container ships and other types of unit load carriers.¹⁵¹ The acquisition of such vessels requires large sums of capital which are increasingly beyond the means of individual ship-owners. The tendency is for banks, financial institutions, and the public to be involved in capital participation, thus changing the pattern of the real ownership in the shipping business.

234. After the enlargement of the membership of EEC, available information suggests that confidential talks have begun in Brussels between officials of the nine member countries to explore the possibilities for a common shipping policy of the Community. In the initial stages the purpose of the consultations is to see to what extent there is agreement between the EEC member Governments. Once the points of disagreement are

recognized, negotiations could be undertaken with a view to solving them. It appears that the establishment of common policies for EEC countries in facing the pressure for cargo sharing in trades to and from developing countries has high priority in these consultations. Press reports suggest that no concrete progress had been made at the time of preparing this Review (end 1973).

2. PARTICULAR EXAMPLES OF INSTITUTIONAL DEVELOPMENTS

(a) Consortia, pooling agreements and joint services

(i) North Atlantic container pooling agreement

235. In November 1971 seven containership companies, which operate 70 per cent of the North Atlantic liner capacity, petitioned the United States Federal Maritime Commission (FMC) for authority to establish a revenue pooling plan. A decision on this application is still pending (December 1973), although it has gained the support of the United States Maritime Administration. Under the proposed agreement the seven companies would divide freight revenue received in the North Atlantic container trade in pre-determined shares. The agreement, which covers United States ports north of Cape Hatteras, would generally set container quotas and fix ports of call for the seven containership companies. The declared objective of the North Atlantic pooling agreement is to alleviate the over-tonnage of container capacity in that trade. The agreement was supported by six European Governments (Belgium, France, the Federal Republic of Germany, the Netherlands, Sweden and the United Kingdom) in a joint *aide-mémoire* transmitted to the United States Government.¹⁵²

236. Supporters of the pool agreement point out that adequate competition to the pool members will exist because of: (a) the growing container shipping capacity of non-pool member companies; (b) the capacity of containership companies serving ports in areas adjacent to the pool agreement ports (i.e., US Gulf and Canadian ports); (c) continuing competition among pool members themselves since only one third of their shipping capacity is covered by the agreement; and (d) the impact of rising air cargo capacity.¹⁵³

237. The main opposition to the proposal comes from the Justice and Transport Departments of the United States of America and interested liner operators and port interests. The two government departments seem to oppose the proposed pool on the grounds that it is a monopolistic device which if adopted would lead to high rates and a reduction in the total service available in the North Atlantic trade. Other opposition has been met from some port authorities of United States East Coast ports and labour unions of the areas served by these ports stated that the vessel schedules proposed by the pool agreement members would not provide adequate shipping service to their ports.¹⁵⁴ At the time of drafting this

¹⁴⁸ For specific information on the subject, see paras. 259-264 below. For an historical review of bilateral arrangements on economic co-operation in merchant shipping, see TD/B/C.4/113.

¹⁴⁹ The structure and economic characteristics of the bulk freight markets have been discussed in *Freight markets and the level and structure of freight rates* (op. cit.).

¹⁵⁰ For a discussion of this topic in connexion with the transport of iron ore, see *The maritime transport of iron ore: Report by the UNCTAD secretariat* (United Nations publication, Sales No. E.74.II.D.4), chap. V.

¹⁵¹ For example, 74.6 per cent of the tanker tonnage on order at 1 July 1973 belonged to the size group of 200,000 dwt and above (cf. Fearnley and Egers Chartering Co. Ltd., *World Bulk Fleet, July 1973* (Oslo)). On the other hand, liquefied gas carriers of 3.1 million grt were on order by 30 September 1973 (cf. *Lloyd's Register of Shipping: Merchant Shipbuilding Return for Third Quarter, 1973* (London)).

¹⁵² The text of the joint *aide-mémoire* is reproduced in *Container News* (New York), vol. 7, No. 4 (April 1972), p. 31.

¹⁵³ *Journal pour le transport international* (Basel), 33rd year, 12 December 1972.

¹⁵⁴ *Ibid.*

Review the conflicting attitudes of the government departments and agencies in the United States have not been resolved.

(ii) *Japan-North America trades*

238. A study made jointly by the Japanese Government and six Japanese shipping lines stated that the increasing number of containerships being introduced in the Japan-North America West Coast routes would further aggravate the over-tonnage situation already in existence. The study projected containership capacity to be over-tonnaged on these routes at least to 1975.¹⁵⁵ According to a press report, in recognition of container over-capacity in the North Pacific trades, shipping companies from Japan, the United States of America and other countries made plans in the latter part of 1972 to prepare a joint freight pooling scheme. The declared aim of the pooling arrangement would be to stabilize freight rates.¹⁵⁶

(iii) *Co-operation among North Atlantic Conferences*¹⁵⁷

239. Four conferences engaged in the North Atlantic trades have submitted what has been referred to as a "talking agreement" to the United States Federal Maritime Commission (FMC) for approval. The four conferences in question are: North Atlantic/United Kingdom Freight Conference, Canada/United Kingdom Freight Conference, North Atlantic Westbound Freight Association and Canadian North Atlantic Westbound Freight Association. Under the proposed agreement, which other conferences can join, the questions to be discussed are mainly concerned with competition. In this regard, the main concern has been the question of shipments of American cargo diverted to Canadian ports and of Canadian cargo to American ports. According to the sources, the Canada/Continental Eastbound and Westbound Conference and the Canada/United Kingdom Freight Conference intend to merge.

(iv) *Shipping pools of German Democratic Republic, Poland and Union of Soviet Socialist Republic lines*¹⁵⁸

240. A shipping pool initially operated between Baltic and West African ports by German Democratic Republic and Polish lines was joined in 1972 by USSR lines. The jointly operated service under the name UNIAFRICA has been successful to an extent that has encouraged similar developments in other trades served by lines of socialist countries of Eastern Europe. Lines of the German Democratic Republic and of Poland are now running jointly the Baltamerika (to Latin America), Cubalco (to Cuba) and Baltafrika (to East Africa) services and the lines of these countries are likely to be joined by lines of the USSR. Integration of this kind is stated to be designed to enable the lines concerned to hold their own in these particular liner trades.

¹⁵⁵ *International Freighting Weekly* (London), No. 143 (29 November 1972).

¹⁵⁶ *Shipping and Trade News* (Tokyo), 4 October 1972.

¹⁵⁷ *Journal pour le transport international* (Basel), 34th year, No. 28 (13 July 1973).

¹⁵⁸ Information from "Lloyd's List" (London), 12 July 1972, p. 2.

(v) *Containership consortia and joint service operations*

241. The formation of consortia continues as a dominant characteristic of container transport. Also, joint service operations tend to be increasingly used in container operations. Several new organizational groupings were reported during the year, most of which were multinational in character.

242. On the Europe-Far East trade, Scanservice (a consortium of Scandinavian members) was joined by Koninklijke Nederlandse Lloyd (Nedlloyd) to form the ScanDutch service. In the same trade, a French shipping company became a member of the "Trio" group composed of Japanese and European members.

243. Five Japanese shipping lines (Mitsui-OSK Lines, Japan Line, Yamashita-Shinnihon, Nippon Yusen Kaisha and Kawasaki Kisen Kaisha) inaugurated a joint containership trade in August 1972 between Japan and the United States East Coast. Seven full-cellular vessels are planned for the trade by April 1973. The five operators have jointly filed a proposal for a space charter agreement with the United States Federal Maritime Commission.¹⁵⁹

244. In late 1972, a container service between the Far East and Europe was commenced by the "Mediterranean Club", a group composed of two Japanese and four Western European operators. Initially, four ships are assigned to the trade, with six vessels of 1,300-container capacity each planned for 1974.¹⁶⁰

245. The Maersk Line of Denmark and Kawasaki Kisen Kaisha (K-Line) of Japan are reported to be planning a jointly operated container service between the Far East and Europe. Three container ships are on order with service planned to begin in 1974.¹⁶¹

246. The Johnson Line and Scanstar, which had formerly operated independently in the Europe-West Coast of the United States route, combined their service in late 1971.¹⁶²

(vi) *Rationalization schemes in conventional liner services in the Far East*¹⁶³

247. Three major Japanese liner operators (NYK Line, "K" Line and Mitsui OSK Line) are currently studying rationalization measures for their conventional liner services in various trades. These measures include a study of the advisability of setting up a joint service and booking cargo office in the Japan/Bangkok route on the pattern of a similar arrangement already existing in the Japan/Saigon route. Rationalization measures have also been partially introduced in the Central American and Caribbean sea routes and talks are envisaged with the United States Federal Maritime Commission with regard to the United States/Japan trade route.

248. The Indonesia-Japan/Japan-Indonesia Freight Conference has decided to adopt a pool system for one year, commencing 1 December 1973. Under the agreement reached, the hauling shares of Japanese and Indonesian lines have been set at 41.5 per cent each, while that of the Maersk line, a third flag carrier in the trade, has been

¹⁵⁹ *Seatrade* (Colchester, U.K.), vol. 2, No. 8 (August 1972).

¹⁶⁰ *Shipping and Trade News* (Tokyo) and *Maritime Day Supplement: Shipping and Trade News* (Tokyo), 20 July 1972.

¹⁶¹ *Seatrade* (Colchester, U.K.), vol. 2, No. 8 (August 1972) and *ibid.*, No. 11 (November 1972).

¹⁶² *Ibid.*, November 1972.

¹⁶³ *Japan Maritime Gazette* (Tokyo), various issues.

fixed at 17 per cent. The pool excludes fertilizers, rice, cement, copra, manganese ore and logs. Similar freight pools are being worked out in the trades between Japan and Latin American countries; Japan and India/Pakistan/Persian Gulf countries; and Japan/West Australia.

(vii) *Joint planning agreement between United States and Brazilian lines*

249. This agreement, which has been approved by the Federal Maritime Commission, supplements previous pool and equal access agreements, by providing for joint planning and research in the field of container ships, conventional ships and heavy-lift ships.¹⁶⁴

(viii) *Other relevant developments*

250. A recommendation on a common African shipping policy to be incorporated in the OAU African Declaration on Co-operation, Development and Economic Independence (Addis Ababa, 25 May 1973)¹⁶⁵ was approved by African heads of State in May 1973. It stated that African countries should take steps to establish consortia of African shipping companies which would enable them to operate with greater efficiency, share the use of terminal and maintenance facilities, explore in common the possibilities for African exports and influence the level of freight rates in ocean and coastal trades.¹⁶⁶

251. The Compañía Naviera Marasía of Spain commenced a monthly service between Australia and Spanish ports in 1972 as a non-conference operator after a prior application for membership to the Australia/Europe Conference had been rejected. A subsequent application for membership has also been refused. It is claimed by the company that

“With the advent of fully containerized conference services, cargo to and from Australia and Europe was consolidated in a few north European ports thereby depriving importers and exporters of a direct link with many other ports, particularly in the Mediterranean and Spain.”¹⁶⁷

252. Applications for membership were also turned down by the Indonesia-Japan/Japan-Indonesia shipping conference. The announcement of this conference's decision to establish a pool in its trade¹⁶⁸ coincided with its decision to turn down applications for entry by two independent operators in the trade.¹⁶⁹ It is interesting to note in this regard a subsequent press report suggesting that the Indonesia-Japan/Japan-Indonesia Freight Conference is considering a plan to abolish the special freight rates being applied on certain products and to apply normal tariff rates instead. It has also been explained that the conference is considering this change in its freight rate policy because competition from outside has decreased recently.¹⁷⁰

253. A pool of parcel bulk carriers has been formed between a Norwegian group and a Greek company, with

effect from 1 January 1973. Each of the participants will, according to the report, provide seven bulk carriers to the pool, bringing the total of the combined fleet to 14 vessels. This level of operation will be reached by mid-1974, when the new pool is expected to be operating 14 vessels aggregating some 360,000 dwt in the parcel commodity trades, particularly in the Pacific.¹⁷¹ According to the source, the Norwegian group, which has been operating a pool of open-hatch geared 24,000/29,000 dwt bulk carriers prior to entering into the new common venture with the Greek firm, has been making significant inroads into the liner trades. Commodities and cargoes which are either not suited to containerization, or physically or economically impracticable for conventional liner and shelterdeck tonnage to lift, are being successfully dealt with by sophisticated parcel bulker operators.

(b) *Maritime agreements between Governments*

(i) *Maritime agreement between the United States of America and the Union of Soviet Socialist Republics*

254. In October 1972, a maritime agreement was signed by the United States of America and the USSR which provides, *inter alia*, that the national-flag vessels of each country will have the opportunity to carry not less than one third of all cargoes moving between the two countries.¹⁷² The maritime agreement, which remains in force until 1975, applies to all liner and bulk-cargo ocean-borne commerce between the two countries (except the carriage of liquefied natural gas), including the large shipments of grain and other agricultural commodities sold during the year by the United States to the USSR. Thus the agreement represents one of the largest (in cargo tonnage) cargo allocation arrangements ever concluded at a governmental level.

(ii) *The United States Federal Maritime Commission studies rules to counter discrimination against United States ships*¹⁷³

255. The Federal Maritime Commission, having noted “a general proliferation of discriminatory laws, edicts and sophisticated schemes which may be adverse to US shipping and foreign trade interests” is undertaking “to clarify the procedures it will follow to meet and counter such conditions”.¹⁷⁴ The text of proposed regulations (Docket No. 72-62) sets out to adjust or meet conditions unfavourable to shipping in the foreign trade of the United States. The proposed new regulations will be subject to the usual rule-making proceedings in which all interested persons may participate.¹⁷⁵

(iii) *India-Egypt bilateral shipping agreement*¹⁷⁶

256. According to press reports, India and Egypt have signed a bilateral shipping agreement designed to

¹⁷¹ *Seatrade* (Colchester, U.K.), vol. 3, No. 3 (March 1973).

¹⁷² United States of America, Department of Commerce, Maritime Administration, press release of 14 October 1972.

¹⁷³ *Congressional Information Bureau* (Washington D.C.), vol. 76, No. 242, p. 1.

¹⁷⁴ Statement by the Chairman of the Federal Maritime Commission as announced by the Commission, press release of 14 December 1972 (Trupp 383-4013 - NR 72-25).

¹⁷⁵ *Ibid.*

¹⁷⁶ See *Indian Shipping: Journal of Indian National Shipowners' Association* (Bombay), vol. XXV, No. 2 (February 1973), p. 5.

¹⁶⁴ *Journal pour le transport international* (Basel), 34th year, No. 38 (21 September 1973).

¹⁶⁵ OAU document CM/ST.12 (XXI).

¹⁶⁶ *Seatrade* (Colchester, U.K.), vol. 3, No. 6 (June 1973).

¹⁶⁷ *Journal of Commerce* (Liverpool), 6 July 1973.

¹⁶⁸ See para. 248 above.

¹⁶⁹ *Japan Maritime Gazette* (Tokyo), 15 October 1973.

¹⁷⁰ *Ibid.*, 31 October 1973.

be an instrument of mutual co-operation in the field of shipping with a view to assisting the trade and shipping of the two developing countries. Under the agreement, the Indian and Egyptian lines are entitled for carriage by their respective fleets to 40 per cent of the trade emanating from each of the countries, the balance of 20 per cent being open for third flag carriers.

(iv) *Maritime agreement between Algeria and Union of Soviet Socialist Republics*

257. A maritime agreement providing for equal sharing of cargo was signed between Algeria and the USSR on 18 April 1973. The Algerian Government, when pressing for this agreement, cited as an example their 1967 agreement with France which in 1972 was renewed for a further five year period. The main purpose of that agreement is to reserve for French and Algerian shipping operators an equal share in the trade between the two countries (excluding oil) and it put an end to the old monopoly for the French flag in the trade between Algeria and France which had existed since the time when the trade was considered to be a coastal trade.¹⁷⁷

(v) *Maritime agreements between Sweden and the USSR and Denmark and the USSR*

258. The two agreements provide for freedom of the seas and do not include specific stipulations with regard to participation in the trade of the countries concerned. However, according to press reports,¹⁷⁸ the two Scandinavian countries agreed to receive letters from the Government of the USSR in which the latter maintains its right to sidetrack "free competition" if circumstances make this necessary.

(c) *Freight booking centres and shippers' councils; Action by Governments*

259. The Sri Lanka Central Freight Booking Office¹⁷⁹ which had functioned under the aegis of the country's Shippers' Council since 1971 has been replaced by law by the Central Freight Bureau, which is a statutory government body.¹⁸⁰ The Central Freight Bureau will be the sole authority to negotiate freight rates and it is thought that this will strengthen the negotiating position of the country, since it is expected that the Bureau will handle all Sri Lanka exports by sea. All existing loyalty arrangements between individual shippers and shipping conferences have been declared null and void with effect from 1 September 1973, the date on which the Central Freight Bureau came into operation. Among the objectives of the Bureau are: the allocation of freight space on any vessel for goods shipped from Sri Lanka to any destination; the aggregation of goods shipped to ensure economic loads on vessels calling at Sri Lanka; rationalization of calls and the availability of vessels; attainment of efficient and regular services for the shipment of goods; fostering the development of the national merchant fleet; improving port

performance, loading rates and cargo handling; negotiations and agreements with shipowners and shipping lines on freight rates, surcharges, adequacy, frequency and efficiency of shipping services and related matters, either on its own behalf or on behalf of shippers, with a view to reducing shippers' costs and obtaining the best freight rates and terms for the carriage of goods; research on shipping and freight rates.¹⁸¹

260. According to initial plans a National Shippers' Council of Japan will be inaugurated in January 1974. The Council is to be composed of the Council of All Japan Exporters' Association (CAJEA) and other shippers' organizations. The project has, for some time, been under study by an *ad hoc* group, the members of which, however, are divided as to how large the projected council should be and what policies are to be followed. Nevertheless, all parties agreed that the new Council would be even more resourceful and powerful than CAJEA, which is currently the main negotiating body vis-à-vis shipping conferences and which, it is claimed, has achieved a great deal more than other shippers' organizations in Japan and abroad in terms of concessions won from freight conferences.¹⁸²

261. In Venezuela, the terms of a decree dated 18 July 1973 give the Venezuelan Government the closest possible control over all the country's maritime affairs, including shipping and forwarding, sale and purchase of ships and the training of merchant marine personnel. It is stipulated that all imports and exports made by any national, State or municipal public entity whatsoever, autonomous institute, government enterprise and all companies in which the Government has invested directly or through government credit organizations shall be transported by government-owned ships or vessels owned by companies in which the Government has a controlling share.¹⁸³

262. In October 1973, the Committee on Merchant Shipping of the United States House of Representatives began public hearings on legal propositions aimed at reserving a certain percentage of oil imports into the United States to tankers flying the United States flag and built in the United States. According to press reports¹⁸⁴ there are no less than 32 such propositions signed by a substantial number of members of the House of Representatives, while similar propositions have also been tabled in the Senate. Such hearings may or may not lead to the enactment of specific legislation and it is worth noting in this connexion that the representative of the Administration when testifying before the Committee declared that the Government prefers to pursue its subsidies programme to expand the United States tanker tonnage rather than the proposed cargo reservation scheme.

263. In November 1973, the Government of the United Kingdom submitted to Parliament a Merchant Shipping Bill in which, *inter alia*, powers are sought to meet flag discrimination and other action by foreign Governments where United Kingdom shipping or trade

¹⁷⁷ *Journal de la marine marchande et de la navigation aérienne* (Paris), No. 2784 (26 April 1973), p. 1002.

¹⁷⁸ *Seatrade* (Colchester, U.K.), vol. 3, No. 4 (April 1973).

¹⁷⁹ See, in this connexion, "Central Freight Booking Office, Sri Lanka: Report prepared for the UNCTAD secretariat" (TD/B/C.4/108).

¹⁸⁰ "Lloyd's List" (London), 8 September 1973.

¹⁸¹ *Seatrade* (Colchester, U.K.), vol. 3, No. 10 (October 1973).

¹⁸² *Shipping and Trade News* (Tokyo), 13 August 1973.

¹⁸³ As reported in *Fairplay International Shipping Journal* (London), vol. 248, No. 4697 (30 August 1973), p. 6.

¹⁸⁴ *Journal de la marine marchande et de la navigation aérienne* (Paris), vol. 249, No. 4702 (4 October 1973), and *ibid.*, No. 4705 (25 October 1973).

interests are affected, or where required to meet the United Kingdom's international obligations. Under the proposed legislation orders can be made to obtain information, to regulate the carriage of goods, to levy charges for ships, to refuse admittance of ships to United Kingdom ports, and to approve or disapprove agreements.¹⁸⁵

264. The Ministry of Transport in Japan is planning to conduct a survey on legislative measures being taken by European countries to cope with the policy measures adopted by other countries to have their cargoes transported aboard their national flag vessels.¹⁸⁶ It is reported in this context that Japan, too, may consider taking relevant legislative measures, depending on the circumstances.

B. Unitization

1. UNIT TRANSPORT

265. Unit cargo transport services in ocean shipping are offered by a variety of different vessel types. Data about the unit load carrying fleet by vessel types and carrying capacity is complete. However it is apparent that lift-on/lift-off cellular container ships make up the largest group. These vessels are specially constructed or adapted for the carriage of containers with fixed vertical cellular guide installations and other container handling features. "Full" container ships devote all or a preponderance of their cubic capacity to the carriage of containers. "Part" container ships have only a portion of their capacity specially fitted for containers.¹⁸⁷

266. Although "full" container ships have proved successful in specific trades, containerization cannot cover all transport needs in any trade and other unit load transport systems such as barge-varying vessels, roll-on/roll-off and multi-purpose ships have a clear role. It is becoming increasingly accepted, however, that, depending on the particular needs of each trade, the application of the appropriate unit load system can achieve benefits in the form of savings in transport costs and efficiency in the operation of transport systems.

267. It is worth noting in this context that complaints have been voiced by shippers that there are large segments of world trade covering commodities which container ship operators wish to containerize, but which can be containerized only at higher total costs to the cargo owner.¹⁸⁸ This implies that, although containerization may be generally in the interest of container ship operators, it may well not always be in the interest of the owner of the cargo. This point is particularly relevant for developing countries which are very much concerned in keeping the transport costs for their exports as low as possible, particularly because these countries have to bear almost the entire incidence of transport costs.

268. The continuing existence of a substantial volume of loose general cargo to be moved around the world has

been recently pointed out in a report issued by the Economic Development Committee for the Movement of Exports in the United Kingdom.¹⁸⁹ This indicates that, at least for the foreseeable future, there will be a continuing role for break-bulk carriers.

269. There appears also to be a substantial demand for shipping services which are flexible enough for the user not to be compelled to adopt standardized forms of packing, particularly when the use of such forms does not lead to cost savings for the user. The cutting down of frequency of services which occurs when large container ships replace smaller break-bulk carriers, coupled with the fact that fully containerized services are maintained only between a relatively small number of central ports, seems to have acted as a check on the willingness of a number of shippers to see their cargoes moving on container ships.

270. In addition to cellular container ships, there are a number of other types of unit load carriers. "Multi-purpose" vessels are constructed to carry a range of cargoes, such as containers, vehicles, palletized, break-bulk or bulk cargoes. The use of multi-purpose vessels provides shipowners with wide flexibility in meeting the varying operating needs of different trade routes. "Barge carrying vessels" currently in service (LASH and Sea Bee) are lift-on/lift-off type vessels. While they have been designed primarily to carry barges, vessels of this type are capable of serving as full or part container ships and in this sense may be classed as multi-purpose ships. "Roll-on/roll-off vessels" for cars, trains and roll-on container units have become a traditional unitized transport mover. Operating initially on short-sea routes, roll-on/roll-off vessels have been extending their services into deep-sea routes, such as Europe-North America, Australia-North America, Australia-Japan and Australia-Europe. Current growth in the use of roll-on/roll-off vessels is occurring in cases where vessels are able to carry roll-on/roll-off freight units, either wholly or in addition to such other cargo as passenger cars and lift-on containers.

271. In this connexion the announcement in May 1973¹⁹⁰ that the members of the United Kingdom/West Africa Liner Joint Service have been studying for some time the future requirements of the service in this trade, and have decided that the immediate needs of the trade require a combination type vessel able to serve a variety of ports without heavy investment in new complex terminal installations, is of interest.¹⁹¹

272. Finally, mention must be made of the pallet-based system. These are an alternative form of cargo unitization, providing substantial saving of cargo handling costs as compared with break-bulk operations and without the heavy capital requirements—for ships and port facilities—of container-based systems. These features of pallet-based systems make them attractive to developing countries. In addition to the use of pallets strapped with cargoes, a basic feature of the pallet-based system is horizontal movement of the pallets aboard ship by the

¹⁸⁵ "Lloyds List" (London), 3 November 1973.

¹⁸⁶ *Japan Maritime Gazette* (Tokyo), 2 November 1973.

¹⁸⁷ Variation in definition and terminology exists among organizations concerned with cataloguing container vessels or compiling container statistics. The definitions used herein are those given in United Kingdom, National Parts Council, *National Parts Council Bulletin* (London), No. 2 (Summer 1972).

¹⁸⁸ *Journal of Commerce* (Liverpool), 16 May 1973.

¹⁸⁹ As reported in a leading article of *Journal of Commerce* (Liverpool), 14 June 1973.

¹⁹⁰ *Journal of Commerce* (Liverpool), 30 May 1973.

¹⁹¹ Commenting on this decision, the *Journal of Commerce* (Liverpool) felt that although containers in themselves are not new to the African continent, in general and in West Africa in particular, it will probably be a long time before a fully cellular service is economically feasible.

use of forklift trucks, replacing the traditional vertical movement by ship- or shore-based cranes. Vessel conversions to pallet-based systems are relatively inexpensive, requiring the installation of sideports and flush tween-decks.¹⁹² Pallet elevators may also be installed. Although pallets constitute a cheap and efficient method of unitizing cargo, they do not appear to be particularly suitable for intermodal transport. However, in trades where the sea leg is the dominant one in the transport chain, or for port to port movement, palletization can be attractive as a cheap alternative form of unitization.

273. In recent years more than 100 vessels have been converted to horizontal operations. The Shipping Corporation of India and the United Kingdom-West Africa Lines are reported to be considering the conversion of large numbers of conventional liner-cargo vessels to horizontal movement.¹⁹³ An all-pallet ship was expected to put in at Calcutta in September 1973 to take a full cargo of tea. A heavy increase in palletization is expected in India for the 1973/74 export season on the grounds that the method saves handling time and also ensures proper treatment of the product.¹⁹⁴ This growing interest in pallet-based systems reflects the inability of liner trades involving developing countries to utilize containers, as illustrated by the trade patterns of Australia. In the year ending 30 June 1972, about 20 per cent of Australia's liner-type cargoes were loaded or discharged in developing countries. Less than 3 per cent of this cargo was containerized. By contrast, about 40 per cent of the much larger liner cargo trade with developed countries was shipped in containers.¹⁹⁵

274. The evolution of unit load transport systems is continuing, but it is too early to draw firm conclusions as to how and when the situation will settle down. International seaborne trade is not homogeneous enough to be served by only one transport or handling system. Whatever the proponents of the one or the other system say, there is enough evidence and experience to suggest that for the immediate future the variety of unit load transport systems available, including multi-purpose type

vessels and pallet ships, will be required, together with conventional, but modernized, break-bulk vessels to adequately serve the transport demands of world trade in non-bulk commodities.

2. GROWTH IN UNIT TRANSPORT

275. The growth in the number and capacity of the several types of unit transport since the mid-1960s, as reflected in data compiled by the National Ports Council (London) in summer 1972, is shown in table 39.¹⁹⁶ Total container capacity of all lift-on/lift-off vessels was expected to exceed 500,000 twenty-foot containers by the beginning of 1973, more than double the capacity of only two years earlier. A slowing of this rapid growth was expected during 1973, and for the end of the year a total capacity of 600,000 twenty-foot containers was projected. The table shows that full and part containerships provide just under two thirds of total container carrying capacity, compared with about 75 per cent at the beginning of 1970. Since the order book for containerships is declining, further reductions in their share of total container capacity are expected. The number of multi-purpose vessels with container carriage capability, however, is clearly increasing. These vessels now provide about 30 per cent of total container lift capacity. Barge carriers are the most recent and fastest growing sector in unit sea transport. During 1972 the first two Sea Bee barge carriers entered service to join the nine LASH-type vessels already in operation. Barge carriers in operation and on order in mid-1972 totalled 18 vessels, ranging in size from 2,500 dwt to 43,000 dwt and having an aggregate tonnage of 570,000 dwt.¹⁹⁷ Their contribution to unit load transport cannot be properly reflected by reference only to their container capacity as shown in table 39.

276. The growing numbers of roll-on/roll-off vessels during this period of enormous expansion of container services indicate that a competitive role exists for this vessel type. Most of the Ro/Ro vessels are less than 5,000 dwt and operate in the short-sea routes. However, as noted in paragraph 270 above, they are now expanding their services into deep-sea trades. An example of this trend is provided by the introduction of five 21,500 dwt

¹⁹² See "Converting general cargo ships to handle unitized cargo: report by the UNCTAD secretariat" (TD/B/C.4/101). Ro/Ro vessels can also provide horizontal pallet movement.

¹⁹³ *Seatrade* (Colchester, U.K.), vol. 2, No. 12 (December 1972).

¹⁹⁴ *Journal pour le transport international* (Basel), 34th year, No. 27 (6 July 1973).

¹⁹⁵ *Overseas Shipping Cargo: October 1972 to December 1972*, published by the Commonwealth Bureau of Census and Statistics, Canberra, Australia (reference No. 14.10).

¹⁹⁶ Full details are given in annex XII, from which table 39 is derived.

¹⁹⁷ *World Ships on Order: Supplement to Fairplay International Shipping Journal* (London), No. 32 (24 August 1972).

TABLE 39
Container capacity of main types of lift-on/lift-off vessels in operation on (or due to come into operation by) 1 January of 1969, 1972, 1973, 1974
(In terms of 20-foot containers)

Vessel type	1969	Percentage share	1972	Percentage share	1973	Percentage share	1974	Percentage share
Full containerships	50,310	58.6	182,322	54.2	295,491	56.5	332,222	55.4
Part containerships	17,777	20.7	44,848	13.4	51,730	9.9	54,157	9.0
Multi-purpose ships	17,765	20.7	98,754	29.4	151,859	29.0	179,783	30.0
Barge-carrying vessels	—	—	10,200	3.0	24,000	4.6	33,630	5.6
TOTAL	85,852	100	336,124	100	523,080	100	599,792	100

Source: United Kingdom, National Ports Council, *National Ports Council Bulletin* (London), No. 2 (Summer 1972).

TABLE 40

Number of container line operators, deep sea trades, 1968 and 1972

Trading areas	Number of operators ^a			
	1968		1972	
<i>Inter-hemisphere</i>				
<i>North America-East Coast^b</i>				
Europe	33	(37)	33	(45)
Near East	5	(5)	6	(6)
Africa	4	(4)	6	(6)
Far East ^c	12	(16)	18	(22)
Oceania	3	(3)	8	(12)
<i>North America-West Coast</i>				
Europe	5	(5)	4	(6)
Africa	—		1	(1)
Far East ^c	13	(17)	17	(21)
Oceania	3	(5)	11	(13)
<i>Europe-Latin America</i>	—		1	(1)
<i>Intra-hemisphere-Western</i>				
<i>North America-East Coast^b</i>				
Latin America ^d	19	(19)	37	(37)
<i>North America-Pacific Coast</i>				
Latin America ^b	3	(3)	4	(4)
<i>Intra-hemisphere-Eastern</i>				
Africa	1	(1)	2	(4)
Far East ^c	—		3	(15)
Oceania	1	(1)	2	(11)
<i>Japan-Oceania</i>	1	(1)	3	(9)

Source: UNCTAD secretariat, compiled from published data.

^a Figures in parentheses represent number of firms (consortia members plus independents).^b Including United States Gulf and Great Lakes.^c Including Indian Ocean.^d Including Caribbean.

Ro/Ro vessels into the Europe/Australia trade, commencing in late 1972.

3. GROWTH OF CONTAINER TRADE ROUTES

277. Table 40 shows the number of container line operators serving the main deep-sea container routes in the years 1968 and 1972. The table also shows the change in the number of firms (members of consortia plus independent firms) participating in each of these routes.

278. In the early years of the expansion of deep-sea container services, the largest number of container operators consisted of those serving the North America-Europe, North America-Far East and North America-Latin America trading areas. Between 1968 and 1972, the number of operators in those trade routes continued to increase and these areas remain the most heavily concentrated routes.

279. During the four-year period, the most rapid growth occurred in the trades Europe-Far East, Europe-Oceania and Japan-Oceania. In 1968 there were only two firms operating in these three trades. By 1972 the number had increased to 15, 11 and 9 firms respectively. These operators are generally organized into a few consortia in each case; for example, in the Europe-Far East trade there were only three operators in 1972,

although 15 shipping lines were represented. In 1973 about 60 per cent of the liner trade between Japan and Western Europe was containerized. Container ships made on average 11.5 sailings a month from Japan with total monthly container capacity of 23,050 containers. In addition there are on an average 23 sailings a month of combined break-bulk/containerships and conventional vessels with a monthly container capacity of 3,250 and a break-bulk cargo capacity of 137,000 metric freight tons.¹⁹⁸

280. The growth in the number of ports providing container services in the deep-sea trades is indicated in table 41. Between 1968 and 1973 the total number of ports in overseas areas served by container trades from North America increased from 154 to 194. Latin America experienced the largest gain during the period in number of ports served, and this area now has the largest number of ports served by container service in the deep-sea trades to North America. In other areas, notably Northern Europe and the Mediterranean, there are many ports which handle containerized cargo in the short-sea trades only.

4. GROWTH IN VOLUME OF UNITIZED CARGO

281. The volume of containerized cargo transported in ocean shipping trades has increased rapidly in recent years. The growth has been most rapid in the deep-sea trades, although coastwise and short-sea trades apparently continue to account for the largest shares of total sea movement of containerized cargo.

282. The busiest deep-sea container trade route is the North Atlantic trade between North America and the United Kingdom-Continental Northern Europe. The combined inbound and outbound United States portion of this traffic, as reported in table 42, doubled each year between 1968 and 1970. The table also shows the rapid growth of commercial containerized cargo in the United States Pacific Coast-Far East trade, which increased

¹⁹⁸ Far Eastern Freight Conference, *Annual Report*, 1972.

TABLE 41

Ports served by container-carrying steamship companies in the trades from the United States of America, 1968, 1972 and 1973
(United States Atlantic and Gulf Coasts, the Great Lakes and the Pacific Coast)

Destination areas	Number of ports served		
	1968	1972	1973*
Europe	47	56	56
Latin America (including Caribbean)	56	73	74
Near East	9	10	10
Africa	11	18	18
Oceania	7	9	9
Hawaii	4	4	4
Far East (including Indian Ocean) ..	20	23	23
TOTAL	154	193	194

Source: *Container News* (New York) (from monthly listings).

* Up to June 1973.

TABLE 42

Containerized commercial cargo: United States
inbound and outbound — main trades, 1968-1970

(Thousands of long tons)

	1968	1969	1970
United States North Atlantic/United Kingdom-Continent	1,488	2,703	5,302
United States Pacific/Far East	253	1,207	1,802

Source: United States of America, Department of Commerce, Maritime Administration, *Foreign Oceanborne Trade of the United States: Containerized Cargo on Selected Trade Routes—Calendar Year 1970* (Washington D.C.).

from 250,000 tons to 1.8 million tons between 1968 and 1970. Total United States inbound and outbound commercial container cargo amounted to 9.5 million tons in 1970, or about 19 per cent of total commercial liner cargo.

283. The container and roll-on/roll-off goods traffic statistics of the United Kingdom distinguish between near-sea, short-sea, deep-sea and coastwise trades. Between 1967 and 1971 the United Kingdom's total foreign and coastwise movement of loaded container and roll-on cargoes increased from 6 to 19 million tons per annum. The deep-sea trades have experienced the most rapid growth in container/Ro/Ro traffic, increasing five-fold between 1967 and 1971. The near- and short-sea trades (i.e. trade with Ireland, Europe and the Mediterranean) accounted for the majority (63 per cent) of total container/Ro/Ro cargoes in 1971, the deep-sea trades for 19 per cent and coastwise trade for 18 per cent. These data are shown in table 43.

284. Of the United Kingdom's 19 million tons of inbound and outbound container and roll-on/roll-off traffic in 1971, 12.6 million tons (66 per cent) moved in containers, 5.1 million tons (27 per cent) consisted of wheeled units and 1.3 million tons (7 per cent) were accounted for by import/export cars and other roll-on/roll-off services not associated with road vehicles or trailers.

5. USE OF DIFFERENT UNIT LOAD SYSTEMS

285. The extent to which each of the major unit load systems is used varies from trade to trade. This is shown in table 44. It can be observed from the table that the supply of tonnage tends to be more varied in the trades to and from the United States of America than in other trades. Another remark also can be made—the variation in the supply of tonnage is greater in trades where the number of operators tends to be close to the total number of lines in the trade.

C. UNCTAD training courses

1. SECOND TRAINING COURSE IN SHIPPING ECONOMICS AND MANAGEMENT

286. This training course on shipping economics and management was held in Geneva between 2 July and 23 November 1973. It was given in French and was financed by UNDP, like the first training course organized in 1971.¹⁹⁹ Twenty-seven participants from 17 developing countries in Africa, Asia, the Caribbean and the Middle East attended the course.

287. The candidates were chosen by their respective governments from middle-management positions in shipping enterprises and government administrations; all had several years of professional experience in maritime transport and most had a university education in economics or law. Immediate application of the knowledge acquired was expected, as the vast majority of the participants subsequently returned to shipping careers, whether to their former posts or to new functions.

288. The training course began with 14 weeks of lectures and seminars in Geneva covering analysis of international trade patterns; the organization and objectives of shipping companies; the choice, acquisition and financing of ships and investment and profitability analysis; chartering; port economics; labour questions;

¹⁹⁹ See *Review of maritime transport, 1971 (op. cit.)*, paras. 239-245.

TABLE 43

Loaded container and roll-on/roll-off goods traffic of the United Kingdom,
inbound and outbound, 1967-1971

(Thousands of tons)

	1967	1968	1969 ^a	1970 ^a	1971 ^a
<i>Foreign trade</i>					
Near- and short-sea ^b		5,338	8,582	10,791	11,959
Deep-sea		709	1,250	2,568	3,595
Unallocated		238	—	—	—
Total foreign	4,137	6,285	9,832	13,359	15,554
<i>Coastwise trade</i>	1,890	2,605	2,909	3,254	3,447
Total foreign and coastwise	6,027	8,890	12,741	16,613	19,001

Source: United Kingdom, National Ports Council, *Container and roll-on port statistics, Great Britain, 1972* (London).

^a Including 1.3 million tons for 1971 and 1 million tons each for 1970 and 1969 of import/export cars and other roll-on/roll-off services not associated with road vehicles or trailers and not previously reported.

^b Ireland, Europe and Mediterranean.

TABLE 44
Type composition of unit load system tonnage in selective trades
(Vessels in service and on order or planned as at mid-1973)

Trade	Full containerships	Barge- carrying vessels	Roll-on/ roll-off	Semi- containerships	Container/ pallet ships	Bulk/ container ships	Multi- purpose	Number of*																																																																																																																																																																																																																																																																																																																														
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on order/planned	16	—	4	3	—	—	—				<i>Far East/United States-Atlantic</i>										in service.....	26	—	2	15	—	—	12	}	8	12	on order/planned	6	—	—	7	—	—	—	<i>Far East/West Europe</i>										in service.....	22	—	—	—	—	—	—	}	4	12	on order/planned	11	—	—	—	2	—	—	<i>Far East/Mediterranean</i>										in service.....	6	—	—	—	—	—	—	}	2	7	on order/planned	5	—	—	—	—	—	—	<i>Japan-Australia</i>										in service.....	3	—	3	—	—	—	—	}	3	9	on order/planned	—	—	4	—	—	—	—	<i>United States/Atlantic-West Europe</i>										in service.....	34	—	10	20	—	—	—	}	15	21	on order/planned	10	—	—	4	—	—	—	<i>United States/Atlantic-Mediterranean</i>										in service.....	11	3	2	6	—	—	—	}	8	10	on order/planned	4	—	—	2	—	—	—	<i>United States/Gulf-West Europe</i>										in service.....	9	7	—	17	—	2	—	}	10	14	on order/planned	—	3	—	—	—	—	—	<i>United States/Australia-New Zealand</i>										in service.....	21	—	3	4	—	—	—	}	8	12	on order/planned	1	2	—	—	—	—	—	<i>Great Lakes-West Europe</i>										in service.....	10	—	5	9	—	—	7	}	6	12	on order/planned	—	—	1	—	—	—	—	<i>Europe-Australia</i>										in service.....	16	—	1	6	—	—	2	}	3	11	on order/planned	5	—	—	—	—	—	—	<i>United States/Atlantic/Gulf-India/Pakistan/Red Sea</i>										in service.....	—	—	—	—	—	—	—	}	2	2	on order/planned	—	6	—	—
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Source: Compiled from *Maritime Day Supplement, 1973: Shipping and Trade News* (Tokyo).

* The figures given here are not comparable with those shown in table 40 because of the different basis of the compilation used.

maritime law and insurance; government shipping policies. These lectures were given by UNCTAD officials and outside experts from Belgian, French and Swiss shipping enterprises, professional organizations and national administrations concerned with maritime transport.

289. The training course also included six weeks training in France. Thanks to the active co-operation of the French Secrétariat général de la Marine marchande and of the various host enterprises and administrations in France, UNCTAD trainees were offered two different three-week periods with shipping companies engaged in a wide variety of trades, with shipping brokers, in the major ports and in the national administration itself.

2. THE UNCTAD/SIDA PORT TRAINING COURSES

290. In keeping with the needs of developing countries to have personnel trained in the economics and management of ports, UNCTAD held its first port management training course in Gothenburg, Sweden, from 3 July to 8 September 1972. The course was financed by the Swedish International Development Agency (SIDA) and organized in conjunction with the Chalmers University of Technology and the Gothenburg Port Authority. The course was designed for twenty-five senior management personnel, and seventeen candidates from developing countries in Africa and eight from

the Middle East developing countries were invited to attend it.

291. A second course in port management training, also financed by SIDA, was held in Algiers from 15 October to 14 December 1973. The course was given in French and was attended by twenty-two participants from seventeen countries.

292. A third course, again financed by SIDA, will be held in 1974 in Gothenburg and its organization will be similar to that of the first course.

293. The objective of the courses has been to make participants capable of recognizing the major organizational and operational problems of their own ports and of suggesting practical and economic solutions to them. Emphasis was also placed on the technological developments taking place in shipping, and the way in which ports in developing countries can adapt to such changes. After a short introduction to transportation economics, the courses covered four main subjects: port administration, port planning, port economics and port operations. In the time available, it was not expected that the participants would become expert in the many subjects which the course covered. Rather, the object was to introduce managers to new techniques and their applications, and to encourage them to develop their knowledge on their return to their own countries.

3. BERTH THROUGHPUT SEMINARS

294. A new training venture, and one which it is hoped will encourage implementation of the results of UNCTAD's ports research, is the organization of short seminars on specific topics. The first of these was a two-week seminar held in Singapore from 3 to 13 December 1973, entitled "Systematic Methods of Improving Berth Throughput". Plans are under way to hold a further four such seminars in different locations in developing countries during 1974.

295. These seminars are designed for senior management personnel with responsibility for port operations and the speedy turn-round of ships in ports and they will be conducted in English, French and Spanish. Methods

of identifying the bottlenecks to higher berth throughput will be described and there will be opportunity for discussion of the application of these methods in particular ports. The seminars will also include guidance on the performance indicators which it is necessary to record for the efficient management of ports.

D. Air transport

296. Table 45 illustrates the trend in air freight volume for the period 1962-1972 and the trend in air freight operating revenues for the period 1962-1971. During the period 1962-1972, the average annual increase in the freight volume has been about 17.1 per cent. The percentage increase during 1972 was nearly 15 per cent, significantly higher than that of nearly 10 per cent recorded in 1971 or that of 7.2 per cent recorded in 1970.

297. The year-to-year average percentage increase in air freight traffic is higher than the corresponding rate of increase in passenger and mail traffic over the whole period, 1962-1972. The comparative figures are:²⁰⁰

	Per cent
Cargo ton-kilometres	17.1
Passenger-kilometres	13.5
Mail ton-kilometres	12.4
Total ton-kilometres	14.1

298. A comparison of the year-to-year percentage change of freight volume in ton-kilometres with that of freight operating revenue per ton-kilometre, shows that any change in freight operating revenue per ton-kilometre resulted in a more than proportionate change in the freight volume. In other words, the demand for air transport is relatively elastic. As table 45 shows, air freight operating revenues have progressively decreased, per ton-kilometre, from 21.6 cents in 1962 to 16.7 cents

²⁰⁰ Based on "Development of world air transport: international and domestic scheduled traffic, 1962-1972" in IATA, *World Air Transport Statistics, 1972* (Geneva, August 1973), No. 17, part I.

TABLE 45
Trends in air freight volume and in air freight operating revenues, 1962-1972
(Scheduled operations of airlines of ICAO member States) *

Year	Freight volume		Total revenue (Millions of dollars)	Freight operating revenues	
	Ton-kilometres (million)	Percentage change		Per ton-kilometre (United States cents)	Percentage change
1962	2,770	17.4	598	21.6	-5.7
1963	3,110	12.3	675	21.7	+0.5
1964	3,760	20.9	772	20.5	-5.5
1965	4,800	27.7	904	18.8	-8.3
1966	5,700	18.8	1,052	18.5	-1.6
1967	6,530	14.6	1,167	17.9	-3.2
1968	7,920	21.3	1,371	17.3	-3.4
1969	9,760	23.2	1,642	16.8	-2.9
1970	10,460	7.2	1,746	16.7	-0.6
1971	11,490	9.8	1,964	17.1	+2.4
1972	13,200	14.9	..	..	..

Source: IATA, *World Air Transport Statistics, 1972* (Geneva, August 1973), No. 17.
* Domestic and international scheduled services; major exclusions: USSR and China.

in 1970, but rose again in 1971. The average annual unit freight revenue decrease of about 3.4 per cent during this period was accompanied by an average yearly increase of about 17 per cent in ton-kilometre freight traffic.

299. The incentive to exploit the relative elasticity of demand for air freight is seen in recent rating developments. Low bulk rates have already been operating, to a limited extent, in the North Atlantic routes. In February 1973 Seaboard World, an all cargo airline, was successful in its applications to the United States Civil Aeronautics Board and the Government of Federal Republic of Germany to introduce simultaneously with Lufthansa a bulk rate for consignments of 30 tons upwards on its services between the Federal Republic of Germany and the United States of America. Subsequently, with the approval of the French Government, reduced rates for 15 and 30 ton loads were introduced between France and the United States of America. Since then, both Air France and KLM have introduced bulk rates on their respective transatlantic services. Seaboard World also introduced reduced rates for bulk shipments between the United States of America and the United Kingdom in the spring of 1973.²⁰¹

300. A great deal of the cargo moved by air is unitized, and containers are increasingly used. The ability to introduce the unit load system in air freight operations has been facilitated by the advent into passenger service of wide-bodied aircraft which have significant cargo capabilities. During the last three years—i.e. 1970-1972—for which data are available, in the North Atlantic where many of these new aircraft operate, the cargo carried by passenger flights increased from 163,623 tons to 257,094 tons, i.e. by 57.1 per cent, whereas the cargo carried in cargo flights decreased from 241,545 tons in 1970 to 229,466 tons in 1971, and recovered to 244,362 tons in 1972, which represents a net increase of only 1.5 per cent.

301. In 1970 air freight operating revenues from scheduled services amounted to 10.4 per cent of total operating revenues of scheduled services, although freight accounted for 22 per cent of total (passengers, freight and mail) ton-kilometres performed. When carried in a combination passenger-cargo aircraft, the freight contributes to the payment of overheads without giving rise to substantial direct costs. At the existing freight rate schedules, all-cargo planes of the Boeing 707 size must operate the high load factors to be profitable. In early 1972 Lufthansa Airlines put into service the first commercial jumbo-jet cargo aircraft (a Boeing 747C/F). The company reports that, compared with a 60 per cent load factor required for break-even operations, the aircraft experienced actual load factors of 71 per cent westbound and 52.4 per cent eastbound during its first six months of operations.²⁰²

302. Much of the growth of air freight traffic was experienced before the advent of container shipments by sea in the late 1960s. The comparison in table 46 suggests that the rapid growth in the ocean carriage of containers in recent years may have contributed to the lower growth rates of air cargo traffic in 1970 and 1971. The opposite view was expressed in testimony to the United States Federal Maritime Commission in connexion with hearings

TABLE 46
Growth of container and air cargo traffic, North Atlantic, 1968-1971

	Container cargo Total United States/ United Kingdom-Continent (thousand long tons) ^a	Air cargo North Atlantic route (thousand metric tons) ^b
1968	1,709	309
1969	3,078 (+ 80 %)	429 (+ 39 %)
1970	5,307 (+ 72 %)	411 (-4 %)
1971 .....	..	458 (+ 11 %)

Sources: ^a United States of America, Department of Commerce, Maritime Administration, *Foreign Oceanborne Trade of the United States: Containerized Cargo on Selected Trade Routes—Calendar Year 1970* (Washington D.C.).

^b IATA, *World Air Transport Statistics, 1972* (Geneva, August 1973).

on the proposed North Atlantic container pool agreement.²⁰³ Rising air cargo capacity was cited as a factor of increasing competitive importance to container movements on the North Atlantic.²⁰⁴ The resurgence of air cargo traffic in 1972 (see table 45) appears to support this latter view.

E. Land bridges

303. Increasing use was made during 1972 and 1973 of "land bridges", that is of overland transport linking two legs of an ocean journey to and from each end of a land mass, or linking the end of an ocean journey with the destination of cargoes across a land mass (mini land bridge), the carriage of cargoes across sea and land being on a through rate basis. Two principal factors have encouraged the development of land bridges. One factor is the containerization of cargoes, which reduces the costs and delays of the multiple cargo handlings involved. The other factor is the existence of through railway systems which allow for a greater number of containers to be moved on scheduled time. Land bridges using road transport are also in operation, but owing to the great number of vehicles and drivers required are as yet of limited capacity.

304. Significant developments occurred during 1973 with regard to the two major land bridges in international trade, i.e. the Siberian Land bridge and the United States land bridge, both used in the trade to and from the Far East.

(a) The Siberian land bridge

305. The trans-Siberian land bridge, serving container traffic between Japan and Europe, has made considerable progress in 1973 as shown by the figures given below, of the movement of containers:²⁰⁵

	January	March	May	August
1972	195	510	1,000	1,680
1973	794	1,506	1,850	2,000 (estimated)

²⁰³ See paras. 235-237 above.

²⁰⁴ *Journal pour le transport international* (Basel), 33rd year, 12 December 1972.

²⁰⁵ In outward trade from Japan to Europe, in terms of 20-foot containers. Cf. *Shipping and Trade News* (Tokyo), 16 July 1973 and *Journal pour le transport international* (Basel), 34th year, No. 35 (31 August 1973).

²⁰¹ "Cheap bulk rates plan sparks Atlantic air cargo fight", *Financial Times* (London), 26 April 1973, p. 4.

²⁰² *The Journal of Commerce* (New York), 4 December 1972.

Japanese export circles are not expecting the average volume of 2,000 units a month reached in the summer of 1973 to shrink drastically during the winter of 1973/74 as happened during the winters of 1971/72 and 1972/73. Regular container shipments are currently being made, or are planned, also to and from other places in the Far East, sometimes with transshipment in Japan. On the European side of the land bridge, feeder services are being instituted, on a scheduled basis, to Iran, Italy and Spain, apart from deliveries to main destinations in Western Europe. It is claimed that this trans-Siberian land bridge shortens the transit time from Western Europe to Japan by up to fifteen days.²⁰⁶

306. Japanese exporters seem to be particularly anxious to make increasing use of the Siberian land bridge, because of the continuously rising costs of ocean transport on the routes served by the Far Eastern Freight Conference. Transport costs via the land bridge are claimed to be lower, while at the same time a shorter transit time is offered.

(b) *The United States land bridge*

307. A major land bridge is operated by rail between ports on the east coast and ports on the west coast of the United States of America. It is used for cargoes moving between Europe and Japan and according to press reports it shortens the sea transit time to Japan by seven days as compared with shipment via the Panama Canal.²⁰⁷ The United States rail land bridge is used increasingly also by cargoes destined to points on the east and west coasts of the country and originating in Japan and Europe respectively. More recently a mini land bridge has emerged to serve goods moving between the Atlantic coast of the United States and the Far East.

²⁰⁶ "USSR Boosts Container Investment", *The Journal of Commerce* (New York), 4 December 1972, p. 25a.

²⁰⁷ "Seatrain offering its 'land bridge' service", *Seatrade* (Colchester, U.K.), vol. 2, No. 4 (April 1972), p. 45.

With this goods are transported by rail across the United States and Pacific coast ports are used.²⁰⁸

308. The mini land bridge has been the subject of a fierce dispute. It has been under fire, particularly from ports on the Atlantic coast of the United States, the Council of North Atlantic Shipping Associations and the International Longshoremen's Association. In a subsequent action, a federal court in Philadelphia issued an injunction against the mini bridge service until the Federal Maritime Commission could consider the case, but it subsequently revoked this injunction. In early September 1973, the Commission announced its intent to approve the Far East shipping conference agreement, which would extend the geographic scope of the conference to include inland points in the United States of America and inland points in Japan and other countries in the Far East. The agreement would establish point-to-point, port-to-port, and point-to-port rates from or via United States Atlantic and Gulf ports, in addition to presently established port-to-port rates. In addition to these provisions, the agreement allows the conference to enter into intermodal arrangements with carriers of other transport modes and to adopt a uniform bill of lading therefor.²⁰⁹

(c) *Other land bridges*

309. The continuing closure of the Suez Canal has encouraged the use of two road land bridges in the Middle East. One passes through Israel, linking the port of Eilat, on the Gulf of Aqaba, to Ashdod and Haifa on the Mediterranean. The other land bridge is that passing through Egypt, connecting by road the port of Adabiya, 15 kilometres south of the town of Suez on the Red Sea, to the Mediterranean port of Alexandria. The transit time on both of these land bridges is considerably shorter than that taken by shipments via the Cape of Good Hope.

²⁰⁸ "Railroads extol mini-landbridge", *Container News* (New York), vol. 7, No. 8 (August 1972), p. 10.

²⁰⁹ *Congressional Information Bureau* (Washington D.C.), vol. 77, No. 174 (7 September 1973), p. 1.

TABLE 47
Development of the world cruise fleet,* 1961-1973

Year	Existing fleet (1 January)		New buildings delivered		Lost or scrapped	
	Number	grt	Number	grt	Number	grt
1961	65	1 279 978	4	146 418	2	28 349
1962	67	1 398 047	2	19 334	7	114 941
1963	62	1 302 440	—	—	4	66 345
1964	58	1 236 095	1	25 320	1	11 317
1965	58	1 250 098	3	65 697	3	47 580
1966	58	1 268 215	4	78 835	1	12 812
1967	61	1 334 238	—	—	2	33 154
1968	59	1 301 084	1	25 022	—	—
1969	60	1 326 106	2	80 863	—	—
1970	62	1 406 969	1	18 416	1	16 923
1971	62	1 408 462	5	89 005	2	102 826
1972	65	1 394 641	4	71 921	2	57 003
1973	74	1 473 278	—	—	—	—

Source: Fearnley and Egers Chartering Co. Ltd., *World Cruise Fleet, January 1973* (Oslo, July 1973), table 1.

* Fearnley and Egers define a cruise ship as an ocean-going passenger vessel over 5,000 grt with insignificant cargo space and suitable to cater for holiday-making passengers spending more than two days on board. Ferries, pilgrim ships, troop carriers and passenger vessels built before 1945 are excluded unless the latter have been extensively refitted after 1960. Passenger vessels registered in Socialist countries of Eastern Europe are also excluded.

TABLE 48
Flag distribution of the world cruise fleet, 1972 and 1973

Country	Number of vessels		grt		Number of berths		Potential annual passenger days		Average age per vessel	
	1972	1973	1972	1973	1972	1973	1972	1973	1972	1973
United Kingdom	17	16 (-1)	466,900	411,547	17,192	14,966	5,673,360	4,938,780	15	13
Norway	7	9 (+2)	133,526	173,926	4,359	5,719	1,438,470	1,887,270	2	2
United States of America	8	5 (-3)	123,369	81,502	3,874	2,355	1,278,420	777,150	17	19
Italy	6	7 (+1)	112,249	135,518	3,798	4,583	1,253,340	1,512,390	15	17
France	4	4 (-)	110,615	110,615	2,586	2,765	853,380	912,450	12	12
Greece	6	10 (+4)	103,078	142,127	4,811	5,846	1,587,630	1,929,180	21	19
Federal Republic of Germany	4	5 (+1)	82,184	87,977	2,102	2,509	693,660	827,970	9	9
Liberia	5	5 (-)	73,774	73,594	3,114	2,778	1,027,620	916,740	21	21
Netherlands	2	4 (+2)	62,077	92,077	1,690	3,168	557,700	1,045,440	14	14
Sweden	2	2 (-)	49,235	49,235	870	871	287,100	287,430	11	11
Panama	2	4 (+2)	46,207	98,137	1,720	3,575	567,600	1,179,750	24	23
Yugoslavia	-	2 (+2)	-	11,302	-	628	-	207,240	-	8
Canada	2	1 (-1)	31,427	5,812	988	248	326,040	81,840	18	24
TOTAL	65	74	1,394,641	1,473,369	47,104	50,011	15,544,320	16,503,630	15	14

Source: Fearnley and Egers Chartering Co. Ltd., *World Cruise Fleet, January 1972* (Oslo), and *ibid.*, *January 1973*.

310. Although a land bridge in the strict sense of the term is not involved, it is worth mentioning here that, to reduce transit time, cargoes from Europe to the west coast of the United States of America after crossing the Atlantic by ship have been air freighted across North America in a joint operation between European shipping lines and a United States airline.²¹⁰

F. World cruise fleet

311. Table 47 shows the development of the world cruise fleet for the period 1961 to 1973. It can be seen from the table that over this 13-year period, the world cruise fleet increased from 65 vessels totalling 1.3 million grt in 1961 to 74 vessels totalling 1.5 million grt in 1973. The table also shows that there have been qualitative changes from year to year in the fleet. These changes were caused by the yearly deliveries of new buildings and the withdrawals of lost and scrapped tonnage.

312. The flag distribution of the world cruise fleet for 1973 as compared with 1972 is given in table 48. It can

be seen from the table that in terms of tonnage, 66.2 per cent of the cruising capacity is offered by only five countries, namely the United Kingdom, Norway, Greece, Italy and France. It is worth adding, however, that the average age of the cruising tonnage under the Greek and Italian flags is above 15 years. At present 36.4 per cent of the total cruise tonnage belongs to the age group of 15 years and above, while only 18.5 per cent of the tonnage has an average age of less than 10 years, including the Norwegian tonnage which has an average age of only two years.

313. The demand for leisure activities has a high income elasticity and the demand for holiday cruises should not be an exception. If the economic expansion which has taken place in the last 20 years continues, the long-term outlook for cruising should be favourable although the total demand for berths may be influenced by the cost of construction of new tonnage which will be needed sooner or later, in view of the age of the existing fleet. The success of the cruise operators depends to a large extent on a number of factors including effective marketing strategy, a discussion of which was given in the 1971 *Review*.²¹¹

²¹⁰ R. F. Gibney, "California here we come", *Seatrade* (Colchester, U.K.), vol. 2, No. 9), September 1972, p. 41.

²¹¹ See *Review of maritime transport, 1971 (op. cit.)*, paras. 217-238.

BIBLIOGRAPHY

The annotated list below (which is based on the publications received by the ECE/UNCTAD Joint Reference Unit in 1972 and 1973) is limited to a few important books and reports on the economic aspects of maritime transport and related subjects.

The notes against each item in the list include a brief description, but no attempt is made at a qualitative assessment or critical review of the publications listed.

1972

- J. Bird, *Seaports and Seaport Terminals* (London, Hutchinson University Library, 1971).

This book is a world-wide study of seaports both as "through" gateways and as bases for large-scale seaboard industries. Written by a geographer, the book discusses port approaches and installations, specialized berths and containers, hinterlands and forelands, ports and planning. Examples from all five continents have been used to illustrate these discussions.

- Bremen Economic Research Institute, *Container Facilities and Traffic in 71 Ports of the World, mid-year 1970* (Bremen, 1971).

This book consists of a collection of facts and figures of container facilities and traffic based on the result of a survey made in 1970 by the Bremen Economic Research Institute. Seventy-one ports of the world, excluding ports of countries with centrally planned economies, have been entered in this compilation. The compilation not only gives a description of container facilities and traffic around the middle of 1970 but also deals with future development plans particularly in the container traffic of the North Atlantic.

- P. H. Fricke and E. M. Fricke, "The Index of Current Maritime Research" (Cardiff, University of Wales Institute of Science and Technology, December 1971).

This is an international index and it is concerned with research in progress or completed since 1970, but not published. Major fields of research include anthropology and sociology, economics, geography and law. The index comprises three sections: Section 1 lists alphabetically the institutions and organizations in which research is being conducted by country, name of institution, department within the institution, and by author; section 2 lists alphabetically the researchers; and section 3 classifies research topics.

- S. A. Lawrence, *International Sea Transport: The Years Ahead* (Lexington, Mass., D.C. Heath and Company, 1972).

The author hypothesizes that "[...] increasing economic interdependence and the spread of global technologies imply new patterns of co-operation and conflict [...] which will significantly influence the political context of decisions regarding shipping problems". (p. XV.) Within this framework he analyses contemporary world-wide shipping and details some of its complicated problem areas. He then shows how their resolution will mould the future of merchant shipping.

- Maritime Institute, *Pre-investment Studies in Maritime Transport: Proceedings of the Symposium organized by the Maritime Institute at Gdańsk and UNCTAD's Shipping Research Branch of the Division for Invisibles in Geneva* (26 October 1971) (Gdańsk - Szczecin, 1972), Materials of Maritime Institute, No. 764.

This paper-bound booklet contains five papers presented at the Symposium jointly organized by the Maritime Institute at

Gdańsk and UNCTAD's Shipping Branch of the Division for Invisibles in Geneva. These papers are:

- "Pre-investment studies in shipping as a form of assistance to developing countries" by Professor M. Krzyzanowski;
"Effectiveness of shipping investments under the conditions of socialist economy" by Professor Z. Sójka
"Possibilities to adapt socialist planning methods to the programming of shipping and ports expansion by the developing countries" by Dr. Z. Pelczyński;
"Changing political climate in which the UNCTAD Committee on Shipping has worked since its foundation" by Dr. W. R. Malinowski;
"Main themes of the UNCTAD research studies" by Dr. S. G. Sturmey.

- E. R. Hardy Ivamy, *Payne and Ivamy's Carriage of Goods by Sea*, 9th ed. (London, Butterworths, 1972).

In recent years considerable changes have occurred in the law relating to the carriage of goods by sea. One of the principal developments has been the enactment of the (British) Carriage of Goods by Sea Act, 1971, which repeals the Carriage of Goods by Sea Act, 1924. In the ninth edition of "Payne and Ivamy" important provisions given in the new Act have been added to the text. The contents now include an expanded section on "time charter parties" in chapter 2; a number of recent Canadian and United States decisions on bills of lading in chapter 3; an extension of chapter 7 on "exclusion and limitation of a ship-owner's liability" and of Chapter 10 on "demurrage and damages for detention". Chapter 13 on "carriage of goods by hovercraft" is a new chapter, concerning The Hovercraft Act, 1968, and the Hovercraft (Civil Liability) Order, 1971.

- R. B. Oram and C. C. R. Baker, *The Efficient Port* (Oxford, Pergamon Press, 1971).

In this book, the authors have tried to set out conditions prevailing in the major ports of the world. Attention has been focused, however, on British ports, particularly London. Suggestions for the improvement of cargo handling in small ports are also mentioned. In the last two chapters, an attempt has been made to present some of the latest thinking on the port of the future.

- Planning Research Corporation, *Transoceanic Cargo Study*, 3 volumes, prepared for the United States Department of Transportation (Los Angeles, 1971).

This study in three volumes is "to provide the Department of Transportation and other Government agencies with a reasonably accurate look into the future posture of U.S. International Cargo Transportation".

Volume I bears the title "Forecasting Model and Data Base". The results of the study are presented here together with the three methods used in making forecasts of United States commercial trade with foreign trading partners for the period 1970-1980.

Volume II is concerned with distribution costs and productivities of transoceanic transport technologies. Here main considerations have been given to B-747F/L-500 type jumbo cargo aircraft for

the air mode and representative configurations of tankers, bulk carriers, container ships, break-bulk ships and large carrying vessels for the ocean mode.

Volume III documents the computer programmes of the demand forecasting models and cost models of the study and provides a guide to the use of these programmes. In this volume, the following topics are covered: computer programme documentation for the demand forecasting model; sub-programme design and coding specifications for the demand forecasting model; acceptance test specifications for the demand forecasting model; programme listings for the demand forecasting model; computer operations instructions for the demand forecasting model; computer programmers, manual for the demand forecasting model and computer documentation of the cost model.

R. Colinvaux, ed., *Carver's Carriage by Sea*, 12th ed., vol. 1 and 2, in *British Shipping Laws* (London, Stevens, 1971), vol. 2 and 3.

Carver's Carriage by Sea is a classic English standard work of high standing on the law of maritime transportation. It deals comprehensively with the legal aspects of charter parties and bills of lading and contains, also, a chapter on carriage of passengers.

Since the previous edition, a number of cases have been decided by British courts which affect important fields of the law on maritime transportation.

The twelfth edition brings the work up to date by taking much new court practice into account.

Maritime Research Centre, *Manual of Maritime Research Statistics of Seaborne Trade, Ports and Shipping* (The Hague, Netherlands).

This manual is the first issue in circulation. The contents include an evaluation of existing statistics covering modes, origin, destination, etc.; seaborne trade statistics; port statistics; fleet statistics and commodity classifications used. The preface to this publication explains that the intention is "to periodically update and expand its contents to give better coverage" and "to report on and press for further improvement of maritime statistics". The preface also points out that the present contents do not fully cover all the geographical areas nor all major port statistics.

Bohdan Nagarski, *Port Problems in Developing Countries*, published by the International Association of Ports and Harbours (Tokyo, 1972).

In this book, the author warns port planners in developing countries that stress should not be laid primarily on the size of the port nor on the number of berths. Of rather greater importance is the efficiency with which berths are operated. Efficiency can only be achieved by correct functional design and proper organization of port operations. The book is presented in two parts: part I deals with the various aspects of port planning, whereas part II considers port organization, including administration, operations, finances, personnel, free zones, port statistics, inland transport and auxiliary services.

1973

Asian Development Bank, *Southeast Asian Regional Transport Survey* (Books One - Three), prepared by Arthur D. Little Inc. and Associated Consultants (Times Printers Sdn. Bhd., 1972).

This report, presented in three books, deals with the medium- and long-term development of an integrated network of transport and communications facilities in the South-east Asian region comprising Indonesia, Singapore, Laos, Philippines, Republic of Vietnam, Thailand and Malaysia. Book One presents in highly condensed form an overview of the report including a summary of the recommended transport programme for the region. Book Two, which is divided into two parts, deals with the economies of the region, inland transport, seaports, ocean shipping and air transportation. Book Three, also divided into two parts, consists of fifteen appendices which present the detailed supporting and statistical material for the studies in Book Two along

with the full text of the studies of the principal economic sectors of the region.

Ragnhild Bjørnstad, *Bibliography of Annual Reports in Shipping and Related Industries in the Library of the Institute for Shipping Research at the Norwegian School of Economics and Business Administration*, Institute for Shipping Research, Bergen.

This booklet, consisting of two parts, is a compilation of annual reports, yearbooks, registers, etc., of shipping companies, ship-yards, manufacturers, ports, etc. The first part of the book lists the publications according to different subject headings and the second part lists these same items in alphabetical order.

H. Clarkson & Co. Ltd., *Comp., The Bulk Carrier Register, 1973* (London, 1973).

A record of all bulk carriers and combined carriers as at 1 January 1973, having a deadweight of 10,000 tons and above. The contents include a number of statistical tables. These tables give the size, types and age of bulk carriers, and distribution by flag of registration. There is also a summary of changes in the bulk carrier fleet during 1972 by new deliveries and flag changes. The greater part of the contents, however, is devoted to names of bulk carriers in size and age groups, particulars of bulk carriers and ownership.

H. Clarkson & Co. Ltd., *comp., Liquid Gas Carrier Register, 1973* (London, 1973).

This register is a record of vessels having at least 5 per cent of their total cargo capacity designed to carry gas in liquid form. Vessels whose liquid gas capacities are less than 80 per cent of their total cargo capacities are described as liquid gas/oil, liquid gas/chemical, etc., carriers, and are appropriately listed in the special section provided.

Several sections in the register are devoted to technical information about liquid gas carriers, e.g. design, capacity analysis, particulars of liquid gas carriers under construction, etc.

B. M. Deakin, in collaboration with T. Seward, *Shipping Conferences: A Study of their Origins, Development and Economic Practices* University of Cambridge, Department of Applied Economics, Occasional Paper 37 (Cambridge University Press, 1973).

This study is concerned with why and how shipping conferences came into existence towards the end of the nineteenth century, how they changed and developed under the influence of new technologies which greatly altered both the vessels and the character and volume of the goods they carried across the world, how they are organized and how they operate today.

Particular attention is paid to methods of price formation, price trends and some of the economic and financial consequences of conference membership.

Three conferences, namely, UK/Continent—Far East, UK/Continent—Australia and UK/Continent—India/Pakistan, form the basis for the analytical work undertaken.

K. Fasbender and W. Wagner, *Shipping Conferences, Rate Policy and Developing Countries: The Argument of Rate Discrimination*, published by the Institut für Wirtschaftsforschung (Hamburg, 1973).

This book attempts an empirical investigation of the alleged discriminatory practices used by shipping conferences in determining liner freight rates. For the purpose of the investigation, rate discrimination has been defined as a state of affairs in which rate disparities cannot be adequately justified by differences in costs and where neither intensity of competition nor countervailing power can be advanced as an argument in favour of the particular rate being kept close to cost. The investigation is confined to selective trade routes between the Federal Republic of Germany and developing countries, also to products shipped from different exporting countries to the Antwerp-Hamburg range of ports. The book is divided into seven chapters, of which chapters IV and V are devoted to the discussion and analytical presentation

of the material collected, and chapter VI includes summary, outlook and recommendations.

T. D. Heaver, *The Structure of Liner Conference Rates* (an occasional working paper), Centre for Transportation Studies, University of British Columbia.

Idem, *The Inbound/Outbound Freight Rate Controversy* (an occasional working paper), Centre for Transportation Studies, University of British Columbia.

Idem, *A Theory of Shipping Conference Pricing and Policy* (an occasional working paper), Centre for Transportation Studies, University of British Columbia.

These three papers, by the same author, deal with different aspects of conference pricing. The first paper describes the general factors which account for the differences between rates on commodities in a tariff. The second paper analyses the basis on which rates are set, rather than comparing the absolute level of rates, on different commodities moving under heterogeneous route conditions. The third paper attempts to explain conference pricing and liner behaviour within the framework of Baumol's revenue maximization model. The analysis draws heavily on an earlier work by Sturmeijer but has been extended here by taking into account the behavioural aspects of liner management.

IMCO, *Code of Safe Practice for Bulk Cargoes*, rev. ed. (London 1972).

This Code is intended to establish a standard for safe stowage and carriage of bulk cargoes including ores and similar bulk cargoes, concentrates and similar materials. Its aim is to bring to the attention of those concerned internationally accepted methods of dealing with the hazards to safety which may be encountered when carrying cargo in bulk. The hazards in question may fall into the following categories: (a) improper weight distribution resulting in structural damage; (b) improper stability or reduction of stability during the voyage; (c) spontaneous heating.

E. T. Laing, *Containers, Pallets or Lash?: The Economics of General Cargo Shipping*, QER Special No. 13, published by the Economist Intelligence Unit Ltd. (London, 1973).

Two main drawbacks are associated with traditional handling methods. First, too much time is spent by vessels in port because of the limited speed of manual handling; secondly, labour costs, which account for a large proportion of total expenditures, are rising rapidly in most areas of the world.

Whether solutions to these problems can be sought through the unit load system of cargo handling is the subject of discussion in this study. This study looks at the competitive vessel types, e.g. container ships, palletized vessels and LASH ships, with regard to their comparative costs and stipulates the conditions of costs minimization in general cargo shipping for each category of ships considered.

P. Lorange and V. D. Norman, eds., *Shipping Management: Proceedings from a seminar in Bergen* (23-26 August 1972) (Institute for Shipping Research, Bergen 1973).

This volume contains papers presented at an international research seminar on shipping management jointly organized by the Maritime Research Centre, The Hague, and the Institute for Shipping Research, Bergen. The papers are presented under the following three headings: The structure of management; Forecasts and their use; and Uncertainty and risk. In addition to the papers, the book contains introductory and concluding

chapters, as well as comments on and summaries of individual papers. The contributors are economists and management scientists.

E. D. Naess, *The Great PanLibHon Controversy* (Essex, Gower Press Ltd., 1972).

It was not until the end of the 1940s and early 1950s that the question of a vessel's flag versus her ownership became an international issue. With the rapid expansion of the fleets under the Liberian and Panamanian flags, the traditional maritime nations of Europe joined hands with the international maritime labour unions in a common effort to regulate the employment conditions, among other matters, of seagoing personnel in fleets registered under these flags. This book, written by the Chairman of the American Committee for Flags of Necessity (1958-1961) contains an account of the controversy involving the fleets registered under the flags of "open registry" countries.

Unit Load Council, *Handling Operations in Physical Distribution: Goods Shifted from Pallet to Pallet Compared to the Shipper-Packed Units* (Oslo).

This booklet consists of studies carried out by Mr. T. Bergli and Mr. J. Skorve from Industrikonsulent A/S with the assistance of Stichting Physical Distribution Netherlands. The studies were supervised and co-ordinated by Captain M. Markussen.

The studies investigated handling times and costs for transportation of goods from shipper's production line to receiver's distribution line. In doing so, the transport handling of goods based on shipper-packed units was compared with the still prevalent way of shipping goods from pallet to pallet between the different modes of transportation.

United States of America, Department of Commerce, Maritime Administration, Office of Domestic Shipping, "Report of the First National Planning Conference on Domestic Shipping, 30 April-4 May 1972", vol. 1-3.

This report, in three volumes, constitutes the permanent record of the Conference. Volume 1 summarizes the Conference's recommendations, origins and objectives, organization and operation, programme and presentations, and panel reports. Volume 2 details the specific programme elements of each of the four panels. Volume 3 contains the presentations of the speakers who appeared before the Conference.

Offshore Terminal System Concepts: A Report Submitted to the U.S. Department of Commerce Maritime Administration, September 1972 (parts 1-4), prepared by Soros Associates, Inc., Consulting Engineers, New York.

This report is presented in four parts. Part 1 studies the need for deep-draft port facilities in the United States of America, with a comparison of these needs with existing port capabilities in order to determine where offshore terminals are required. Part 2 deals with the selection of sites having the potential for being developed into deep-water terminals and the examination of the oceanographic and meteorological conditions off each of the coastal areas under consideration. It also reviews the operational, environmental and jurisdictional considerations involved in the selection of these sites and, at the same time, presents an analysis of connecting systems which might be used to move cargoes from an offshore terminal to existing ports and industries. Part 3 analyses various concepts for developing offshore terminals. Five sites were selected for more detailed study in this connexion. Part 4 has not been received by the ECE/UNCTAD Joint Reference Unit.

ANNEXES

Annex I

CLASSIFICATION OF COUNTRIES AND TERRITORIES

Notes

Note 1

This classification is designed to be applied to statistics on seaborne trade and merchant fleets. Seaborne trade is recorded at ports of loading and unloading. The trade of the ports of a country or territory may therefore include goods originating in or destined for another country or territory, such as a neighbouring land-locked country or territory. The trade of land-locked countries or territories cannot be identified in seaborne trade statistics, and these countries or territories are not explicitly included in the trade classification. However, when the classification is applied to registered merchant fleets, land-locked countries or territories possessing merchant fleets are included in the appropriate geographical groups of countries or territories.

Note 2

The groups of countries or territories used for presenting statistics in this review are made up as follows:

Developed market-economy countries, excluding Southern Europe: Codes 1, 2, 3, 4 and 10.4.

Southern Europe: Code 5.

Socialist countries of Eastern Europe and Asia: Codes 6, 7 and 8.

Developing countries, total: Codes 9, 10 (excluding 10.4), 11 and 12.

Of which:

in Africa: Codes 10.1, 10.2 and 10.3.

in Asia: Codes 9.1 and 9.2.

in Latin America and the Caribbean: Codes 11.1, 11.2, 11.3, 11.4, 11.5.

in Oceania: Code 12.

Note 3

In annexes and tables showing statistics of shipping tonnage by groups of countries, however, Cyprus (included in 5), Liberia (included in 10.2), Panama (included in 11.2), Singapore (included in 9.2) and Somalia (included in 10.3), have been excluded from the appropriate groups and shown in a separate group, for reasons explained in paragraph 40 of this *Review*.

Classification of countries and territories *

Code 1—North America

Bermuda	St. Pierre et Miquelon
Canada	United States of America
Greenland	

* Countries shown in parentheses are land-locked countries with merchant fleets (see note 1 above).

Code 2—Japan

Code 3—Australia and New Zealand

Code 4—Northern and Western Europe

(Austria)	Italy
Belgium	Monaco
Denmark	Netherlands
Faeroe Islands	Norway
Finland	Sweden
France	(Switzerland)
Germany,	United Kingdom
Federal Republic of	of Great Britain
Iceland	and Northern Ireland
Ireland	

Code 5—Southern Europe

Cyprus	Portugal
Gibraltar	Spain
Greece	Turkey
Malta	Yugoslavia

Code 6—Central and Eastern Europe (excluding Union of Soviet Socialist Republics)

Albania	(Hungary)
Bulgaria	Poland
(Czechoslovakia)	Romania
German Democratic Republic	

Code 7—Union of Soviet Socialist Republics

Code 8—China, Democratic People's Republic of Korea, Democratic Republic of Viet-Nam

Code 9—Asia, n.e.s.

9.1. Western Asia

Bahrain	Oman
Democratic Yemen	Qatar
Iran	Saudi Arabia
Iraq	Syrian Arab Republic
Israel	United Arab Emirates
Jordan	(formerly Trucial Oman)
Kuwait	Yemen
Lebanon	

9.2. Southern and Eastern Asia

Bangladesh	Malaysia
Bhutan	Maldives
Brunei	Pakistan
Burma	Philippines
Hong Kong	Portuguese Timor
India	Ryukyu Islands
Indonesia	Singapore
Khmer Republic	Sri Lanka
Korea (Republic of)	Thailand
Macao	Viet-Nam (Republic of)

Code 10—Africa

10.1. Northern Africa

Algeria	Libyan Arab Republic
Canary Islands	Melilla
Ceuta	Morocco
Egypt	Tunisia
Ifni	

10.2. Western Africa

Angola	Mauritania
Cape Verde Islands	Nigeria
Congo	Portuguese Guinea
Dahomey	St. Helena Island
Equatorial Guinea	São Tomé and Príncipe Islands
Gabon	Senegal
Gambia	Sierra Leone
Ghana	Spanish Sahara
Guinea	Togo
Ivory Coast	United Republic of Cameroon
Liberia	Zaire

10.3. Eastern Africa

(Burundi)	Mozambique
Comoro Islands	Réunion
Ethiopia	Seychelles
French Territory of the Afars and Issas	Somalia
Kenya	Sudan
Madagascar	(Uganda)
Mauritius	United Republic of Tanzania
	(Zambia)

10.4. Southern Africa

South Africa

Code 11—Latin America

11.1. Caribbean

Antigua	Barbados
Bahamas	Cayman Islands

Cuba	Montserrat
Dominica	St. Kitts-Nevis-Anguilla
Dominican Republic	St. Lucia
Grenada	St. Vincent
Guadeloupe	Turks and Caicos Islands
Haiti	Virgin Islands (U.K.)
Jamaica	Virgin Islands (U.S.)
Martinique	

11.2. Central America

Belize	Honduras
Canal Zone	Mexico
Costa Rica	Nicaragua
El Salvador	Panama
Guatemala	

11.3. South America—Northern seaboard

Guyana	Surinam
French Guiana	Trinidad and Tobago
Netherlands Antilles	Venezuela

11.4. South America—Western seaboard

Chile	Ecuador
Colombia	Peru

11.5. South America—Eastern seaboard

Argentina	(Malvinas)
Brazil	(Paraguay)
Falkland Islands	Uruguay

Code 12—Oceania, n.e.s.

American Samoa	New Guinea
Christmas Island	New Hebrides
Fiji	Papua
French Polynesia	Solomon Islands
Gilbert and Ellice Islands	Tonga
Guam	Wake Islands
Nauru	Western Samoa
New Caledonia	

Annex II

World seaborne trade ^a according to geographical areas, 1965 and 1968-1971 (Million tons)

Area ^b		Goods loaded				Goods unloaded			
		Crude petroleum	Petroleum products	Dry cargo	Total all goods	Crude petroleum	Petroleum products	Dry cargo	Total all goods
1. North America	1965	0.1	3.4	190.7	194.2	73.7	67.9	115.2	256.8
	1968	0.3	4.7	215.5	220.5	85.7	79.6	129.6	294.9
	1969	0.2	4.1	210.6	214.9	75.5	96.1	125.0	296.6
	1970	0.7	5.3	266.3	272.3	73.4	103.6	128.0	305.0
	1971	0.2	5.6	276.5	282.2	94.2	98.4	170.4	363.0
2. Japan	1965	—	0.8	22.0	22.8	69.7	14.0	115.0	198.7
	1968	—	0.5	29.9	30.4	120.3	20.8	179.4	320.5
	1969	—	0.7	39.8	40.6	143.9	22.2	204.5	370.5
	1970	—	0.3	41.6	41.9	170.4	30.4	235.1	435.9
	1971	0.1	0.7	51.7	52.5	191.7	29.8	239.3	460.8
3. Australia and New Zealand	1965	—	1.2	25.2	26.5	18.7	2.0	13.8	34.4
	1968	—	1.1	51.4	52.5	22.6	1.3	15.8	39.7
	1969	—	0.8	72.3	73.2	23.1	2.5	15.6	41.2
	1970	—	1.3	92.3	93.6	18.8	2.9	15.4	37.1
	1971	0.7	1.9	114.7	117.3	13.1	3.6	15.9	32.6
4. Northern and Western Europe	1965	0.3	50.0	165.2	215.5	308.2	85.3	323.3	716.8
	1968	3.9	59.3	207.0	270.2	433.2	82.3	363.8	879.3
	1969	6.3	67.8	213.3	287.3	495.2	86.6	386.5	968.3
	1970	16.3	75.7	216.6	308.7	567.7	93.4	420.9	1,082.0
	1971	19.5	74.1	217.5	311.0	591.0	96.9	407.6	1,095.5
5. Southern Europe	1965	—	0.8	18.6	19.4	15.8	4.4	33.1	53.3
	1968	—	6.3	20.8	27.1	32.9	4.7	31.2	68.8
	1969	—	5.6	25.2	30.7	32.8	8.6	38.9	80.3
	1970	—	6.0	27.0	33.0	40.5	7.6	45.0	93.1
	1971	0.1	4.7	28.0	32.9	46.6	9.0	48.3	103.8
6. Central and Eastern Europe (excluding USSR)	1965	0.4	3.6	22.1	26.1	2.4	1.9	22.6	26.9
	1968	0.3	5.0	30.2	35.5	4.4	2.8	23.2	30.4
	1969	0.1	3.6	31.9	35.6	8.0	3.0	23.4	34.5
	1970	0.2	3.4	34.8	38.5	10.8	3.0	29.2	43.0
	1971	—	3.5	34.7	38.2	14.7	2.6	31.3	48.6
7. USSR	1965	28.3	18.0	32.8	79.1	—	—	12.7	12.8
	1968	34.2	23.2	43.4	100.8	0.1	—	10.9	11.0
	1969	36.1	21.7	47.2	105.0	1.5	—	9.6	11.1
	1970	38.0	22.9	46.0	106.9	2.5	—	11.9	14.4
	1971	43.6	24.2	44.7	112.6	5.1	—	10.0	15.1
8. China, Democratic People's Republic of Korea, Democratic Republic of Viet-Nam	1965	—	—	7.6	7.6	0.2	0.3	11.8	12.2
	1968	—	—	8.6	8.6	—	0.5	12.6	13.1
	1969	—	—	8.8	8.8	0.2	0.4	14.0	14.6
	1970	—	0.1	13.3	13.4	5.4	0.4	24.4	30.2
	1971	—	—	9.2	9.2	—	0.4	15.2	15.6
9.1 Western Asia	1965	348.7	43.3	5.5	397.5	10.9	1.9	13.0	25.9
	1968	477.0	50.7	5.4	533.1	7.6	1.6	16.6	25.8
	1969	528.9	56.3	6.0	591.2	9.1	2.5	17.9	29.5
	1970	601.9	66.2	7.6	675.8	12.9	1.7	18.6	33.2
	1971	717.0	58.6	6.6	782.2	16.5	1.5	22.7	40.7
9.2 Southern and Eastern Asia, n.e.s.	1965	14.6	13.1	65.5	93.3	23.3	17.0	58.2	98.5
	1968	23.2	19.9	76.4	119.5	44.6	21.8	69.8	136.2
	1969	29.3	18.8	84.5	132.5	51.8	23.1	67.8	142.7
	1970	35.0	23.7	89.3	148.0	54.7	23.3	61.9	139.9
	1971	39.5	25.7	90.2	155.4	63.4	22.5	67.4	153.3

Annex II (continued)

World seaborne trade ^a according to geographical areas, 1965 and 1968-1971
(Million tons)

Area ^b		Goods loaded				Goods unloaded			
		Crude petroleum	Petroleum products	Dry cargo	Total all goods	Crude petroleum	Petroleum products	Dry cargo	Total all goods
10.1 Northern Africa	1965	84.6	3.4	29.2	117.2	10.9	3.9	16.3	31.1
	1968	169.8	1.8	27.9	199.5	10.2	4.4	15.0	29.6
	1969	202.9	6.7	28.5	238.1	10.3	5.6	16.9	32.8
	1970	221.4	5.6	28.3	255.4	9.9	5.9	17.9	33.8
	1971	179.2	5.8	26.9	211.9	11.3	4.5	19.0	34.8
10.2 Western Africa	1965	14.7	0.3	41.1	56.1	1.5	4.6	9.9	15.9
	1968	11.0	1.2	50.7	62.9	2.7	4.6	10.6	17.9
	1969	32.9	1.4	56.5	90.8	3.5	4.3	12.1	19.9
	1970	60.5	1.0	61.5	123.0	3.6	4.0	14.8	22.4
	1971	81.1	1.4	58.1	140.7	3.8	3.5	16.0	23.3
10.3 Eastern Africa	1965	—	0.5	11.0	11.5	3.5	3.0	6.2	13.2
	1968	—	1.0	14.9	15.9	4.9	2.5	7.2	14.6
	1969	—	0.8	14.8	15.7	5.1	2.8	7.0	14.9
	1970	—	1.2	16.1	17.3	5.5	2.6	8.3	16.4
	1971	—	1.1	16.8	17.9	6.1	2.5	10.3	18.9
10.4 Southern Africa	1965	—	0.3	8.3	8.5	4.7	1.5	6.2	12.4
	1968	—	0.1	14.2	14.3	7.5	2.6	4.0	14.1
	1969	—	0.1	12.1	12.2	7.7	2.4	4.2	14.3
	1970	—	—	13.1	13.2	8.8	2.6	6.2	17.6
	1971	—	—	15.2	15.2	12.5	3.3	7.8	23.6
11.1 Caribbean	1965	—	0.2	20.4	20.6	4.8	3.0	7.2	15.9
	1968	—	0.2	20.8	21.0	5.8	4.0	7.9	17.7
	1969	—	0.2	22.0	22.3	6.3	4.0	7.6	17.9
	1970	—	1.4	28.4	29.8	23.5	4.5	11.2	39.2
	1971	2.6	26.6	25.9	55.1	51.4	5.8	11.8	69.0
11.2 Central America	1965	1.0	2.6	9.9	13.5	3.5	3.4	4.1	10.9
	1968	—	2.0	12.5	14.5	4.9	4.6	4.5	14.0
	1969	—	2.7	12.0	14.8	5.9	4.7	5.5	16.0
	1970	—	3.7	11.9	15.6	6.0	5.5	6.5	18.0
	1971	—	2.3	13.3	15.6	6.9	6.4	6.7	20.0
11.3 South America, Northern seaboard	1965	123.3	99.2	27.7	250.2	53.9	3.0	4.7	61.6
	1968	131.5	99.0	28.3	258.8	53.3	3.6	5.9	62.8
	1969	132.3	102.7	33.6	268.5	57.0	4.1	5.9	67.0
	1970	131.1	111.8	36.0	278.9	63.1	3.0	6.7	72.9
	1971	121.5	80.8	36.2	238.5	41.0	2.8	6.3	50.1
11.4 South America, Western seaboard	1965	6.0	0.8	25.9	32.7	1.1	1.5	5.1	7.7
	1968	4.4	1.5	29.5	35.4	3.1	1.0	7.2	11.3
	1969	5.4	1.7	28.4	35.6	4.0	1.0	6.4	11.3
	1970	4.6	1.6	29.8	35.9	4.1	1.5	5.9	11.5
	1971	3.8	1.7	30.2	35.7	5.8	0.9	5.7	12.4
11.5 South America, Eastern seaboard	1965	—	0.8	34.4	35.3	15.4	1.4	13.1	29.8
	1968	0.2	0.9	34.6	35.7	15.8	2.0	15.6	33.4
	1969	—	0.2	43.2	43.4	17.1	1.8	17.7	36.6
	1970	0.1	1.1	54.3	55.5	18.8	1.0	19.8	39.6
	1971	0.7	0.6	56.9	58.2	22.2	3.7	19.3	45.2
12. Oceania, n.e.s.	1965	—	—	5.6	5.6	—	0.9	1.7	2.5
	1968	—	—	7.9	7.9	—	1.6	1.9	3.5
	1969	—	—	8.7	8.7	—	1.4	2.1	3.5
	1970	—	0.2	9.5	9.7	0.6	1.6	2.9	5.1
	1971	—	0.4	9.2	9.6	1.3	1.7	2.7	5.7
WORLD TOTAL	1965	622.0	242.3	768.6	1,632.9	622.0	221.7	793.5	1,637.2
	1968	855.8	278.4	929.9	2,064.4	859.6	246.3	932.7	2,038.6
	1969	974.5	296.0	999.3	2,269.8	957.8	277.4	988.5	2,223.7
	1970	1,109.9	332.5	1,124.2	2,566.6	1,101.2	298.5	1,091.0	2,490.7
	1971	1,209.7	319.7	1,162.5	2,691.9	1,198.7	299.7	1,133.7	2,632.1

Source: Data communicated to the secretariat by the Statistical Office of the United Nations; estimated data: the world totals do not correspond exactly to the rounded total in table I in the text.

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

imports into Netherlands Antilles and Trinidad for refining and re-export. Great Lakes and St. Lawrence trade (in dry cargo) amounted to 37 million tons in 1965, 36 million tons in 1968, 37 million tons in 1969, 42 million tons in 1970, 39 million tons in 1971, and 37 million tons in 1972.

^b See annex I for the composition of these groups.

Annex III

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1972
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
1. Liberia	44,443,652 (81,167,857)	25,500,907 (48,480,543)	14,449,486 (26,261,720)	3,903,402	127,111	462,746
2. Japan	34,929,214 (55,091,546)	12,717,207 (22,962,112)	11,707,600 (19,141,671)	6,773,292	711,667	3,019,448
3. United Kingdom of Great Britain and Northern Ireland	28,624,875 (44,038,721)	13,671,263 (24,565,387)	5,602,843 (9,258,104)	5,970,102	1,122,791	2,257,876
(28) Bermuda	813,586 (1,372,899)	598,145 (1,063,609)	154,366 (226,996)	35,494	—	25,581
(39) Hong Kong	457,924 (676,017)	41,472 (65,130)	198,234 (324,821)	195,361	—	22,857
(49) Bahamas	205,862 (295,181)	69,733 (111,066)	56,680 (87,105)	61,847	—	17,602
(81) Cayman Islands	26,172 (40,659)	—	—	25,507	—	665
(87) Gibraltar	21,375 (30,444)	—	19,355 (28,288)	1,500	—	520
(108) Falkland Islands	9,494 (5,718)	—	—	2,100	—	7,394
(111) New Hebrides	3,678 (4,494)	—	—	3,678	—	—
(116) Turks Islands	1,572 (2,160)	—	—	1,323	—	249
(117) St. Vincent	1,477 (2,033)	—	—	1,477	—	—
(122) Montserrat	711 (1,000)	—	—	711	—	—
(124) Gilbert and Ellice Islands..	2,193 (868)	—	—	1,333	—	860
(125) Belize	620 (800)	—	—	620	—	—
(126) Virgin Islands (UK)	713 (725)	—	—	415	—	298
(127) St. Lucia	517 (650)	—	—	517	—	—
(129) Grenada	343 (515)	—	—	343	—	—
(130) Solomon Islands	629 (483)	—	—	629	—	—
(131) St. Kitts, Nevis and Anguilla	396 (480)	—	—	396	—	—
(133) Seychelles	306 (350)	—	—	192	—	114
4. Norway	23,507,108 (39,245,657)	10,680,695 (19,628,777)	8,918,548 (14,875,150)	2,392,223	125,133	1,390,509
5. Greece	15,328,860 (24,563,993)	5,205,116 (9,205,374)	3,676,328 (6,299,995)	5,848,052	—	599,364
6. Union of Soviet Socialist Republics	16,733,674 (17,198,012)	3,660,190 (5,228,924)	257,100 (367,096)	6,243,021	4,787	6,568,576
7. United States of America ^g (estimated active sea-going fleet) ..	9,023,873 (13,692,931)	4,175,105 (7,165,863)	351,091 (648,414)	2,757,627	1,007,006	733,044
8. Federal Republic of Germany ..	8,515,669 (13,285,715)	1,882,186 (3,413,634)	1,934,547 (3,236,754)	3,672,192	521,989	504,755

Annex III (continued)

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1972
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
9. Panama	7,793,598 (12,391,955)	3,979,444 (7,022,780)	886,678 (1,432,531)	2,412,286	1,500	513,690
10. Italy	8,187,323 (11,958,104)	3,119,421 (5,302,794)	2,509,723 (4,218,136)	1,307,498	42,229	1,208,452
11. France	7,419,596 (11,548,491)	4,232,050 (7,582,250)	964,178 (1,565,532)	1,453,956	52,635	716,777
12. Sweden	5,632,336 (8,713,626)	2,020,235 (3,756,765)	1,869,466 (3,074,148)	1,204,631	131,484	406,520
13. Netherlands	4,972,244 (7,210,679)	1,934,189 (3,301,713)	466,556 (731,951)	2,090,268	40,742	440,489
14. Denmark	4,019,927 (6,399,312)	1,888,412 (3,507,449)	491,373 (816,705)	1,234,592	56,184	349,366
(93) Faeroe Islands	42,166 (21,541)	—	—	5,464	—	36,702
15. Spain	4,300,055 (6,204,696)	1,885,532 (3,262,933)	640,006 (1,089,768)	1,045,457	18,350	710,710
16. India	2,649,677 (4,155,108)	287,630 (489,334)	936,437 (1,601,004)	1,310,457	—	115,153
17. Cyprus	2,014,675 (2,908,818)	233,993 (349,415)	109,380 (157,126)	1,621,111	—	60,191
18. Brazil	1,884,537 (2,723,131)	575,880 (908,379)	285,048 (478,930)	950,011	—	73,598
19. Poland	2,012,659 (2,712,319)	55,200 (82,846)	574,174 (875,051)	1,053,956	—	329,329
20. Yugoslavia	1,587,585 (2,341,013)	250,719 (423,184)	336,191 (549,621)	955,057	—	45,618
21. Finland	1,630,473 (2,307,558)	761,882 (1,248,756)	106,723 (166,358)	590,301	3,895	167,672
22. China	1,181,179 (2,228,445)	209,499 (318,907)	12,000 (20,000)	926,150	—	33,530
23. Argentina	1,401,075 (1,798,924)	496,676 (716,561)	124,855 (192,883)	666,158	—	113,386
24. Belgium	1,191,555 (1,710,640)	326,575 (523,730)	381,276 (628,473)	360,488	31,611	91,605
25. Republic of Korea	1,057,408 (1,637,544)	401,083 (699,240)	155,381 (258,244)	392,784	3,200	104,960
26. Australia	1,184,010 (1,566,137)	250,117 (399,203)	463,332 (709,095)	216,056	84,314	33,530
(89) New Guinea	26,186 (29,772)	254 (165)	—	21,962	—	3,970
27. German Democratic Republic ..	1,198,365 (1,498,627)	171,590 (293,403)	184,389 (280,479)	622,002	—	220,384
29. Somalia	873,209 (1,337,872)	142,442 (231,224)	52,456 (79,706)	678,145	—	166
30. Philippines	924,564 (1,312,343)	182,588 (302,527)	78,238 (133,108)	636,139	—	27,599
31. Portugal	1,027,070 (1,232,079)	266,784 (434,109)	84,394 (134,292)	429,850	—	246,042
32. Singapore	870,513 (1,190,830)	103,077 (158,543)	53,202 (75,345)	695,207	—	19,027
33. Kuwait	656,403 (1,085,598)	423,740 (793,637)	—	194,223	—	38,440
34. Bulgaria	741,986 (1,042,791)	194,786 (312,152)	169,106 (243,057)	291,167	—	86,927
35. Israel	698,068 (949,244)	368 (642)	266,019 (417,458)	324,034	78,460	29,187
36. Turkey	743,071 (921,165)	177,022 (277,308)	52,034 (80,409)	368,449	—	145,566

Annex III (continued)

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1972
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
37. Pakistan	532,637 (738,502)	5,990 (8,503)	11,950 (17,250)	474,374	—	40,323
38. Indonesia	618,589 (717,861)	79,211 (115,673)	—	456,689	—	82,689
40. Romania	445,622 (625,929)	69,314 (108,873)	199,700 (292,040)	103,754	—	72,854
41. Mexico	416,832 (582,066)	217,793 (353,318)	32,105 (50,760)	97,838	—	69,096
42. South Africa	511,190 (568,272)	646 (1,000)	32,543 (48,831)	313,214	—	164,787
43. Venezuela	411,242 (557,537)	257,778 (389,297)	—	89,863	—	63,601
44. Chile	382,013 (554,929)	87,001 (145,049)	63,968 (102,362)	213,050	—	17,994
45. Canada (excluding Great Lakes) ^g	847,402 (539,489)	159,742 (211,999)	43,248 (55,836)	148,214	—	496,198
46. Cuba	398,030 (530,434)	51,908 (77,826)	—	264,799	—	81,323
47. Peru	446,374 (484,565)	91,237 (138,462)	29,171 (43,711)	202,570	—	123,396
48. Switzerland	211,728 (318,026)	—	49,673 (73,353)	161,312	—	743
50. Egypt	242,745 (293,602)	69,160 (106,796)	—	137,679	—	35,906
51. Colombia	231,994 (290,306)	14,392 (21,865)	—	211,365	—	6,237
52. Iran	180,659 (240,901)	55,712 (86,597)	—	105,770	—	19,177
53. Ireland	182,319 (240,664)	3,566 (4,725)	98,203 (153,164)	43,234	6,260	31,056
54. Uruguay	142,828 (221,042)	92,757 (151,168)	—	42,477	—	7,594
55. New Zealand	181,901 (191,317)	—	—	130,570	—	51,331
56. Ghana	166,183 (183,370)	—	—	115,152	—	51,031
57. Malaysia	149,304 (181,011)	7,275 (10,420)	20,759 (33,661)	106,990	—	14,280
58. Lebanon	116,571 (177,185)	—	—	116,011	—	560
59. Czechoslovakia	103,049 (170,518)	—	61,404 (98,533)	41,645	—	—
60. Algeria	132,756 (160,503)	31,915 (50,381)	23,494 (34,314)	33,725	—	43,622
61. Iraq	121,399 (147,507)	43,310 (71,166)	—	47,743	—	30,346
62. Thailand	108,271 (143,862)	34,491 (49,789)	—	60,858	—	12,922
63. Nigeria	99,226 (132,050)	2,109 (2,973)	—	87,342	—	9,775
64. Ivory Coast	82,316 (113,966)	166 (92)	—	76,558	—	5,592
65. Iceland	130,561 (95,680)	2,713 (3,374)	—	55,673	—	72,175
66. Madagascar	52,162 (80,270)	29,955 (46,619)	—	17,588	—	4,619
67. Maldives	62,230 (78,697)	—	—	62,230	—	—

Annex III (continued)

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1972
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
68. Albania	57,001 (78,030)	—	—	57,001	—	—
69. Honduras	74,030 (78,027)	1,223 (1,703)	—	69,039	—	3,768
70. Burma	54,877 (72,711)	1,478 (1,709)	—	45,449	—	7,950
71. Ethiopia	45,903 (66,115)	23,937 (37,055)	—	20,742	—	1,224
72. Ecuador	56,807 (66,029)	6,774 (9,943)	—	49,363	—	670
73. Saudi Arabia	50,369 (65,576)	17,098 (27,975)	—	29,644	—	3,627
74. Morocco	46,907 (58,245)	937 (1,015)	—	37,993	—	7,977
75. Zaire	40,221 (50,865)	—	—	35,901	—	4,320
76. Austria	30,788 (46,613)	—	—	30,788	—	—
77. Republic of Viet-Nam	31,979 (46,419)	3,653 (6,176)	—	26,830	—	1,496
78. Hungary	33,811 (45,401)	—	—	33,061	—	750
79. Monaco	33,203 (45,370)	23,294 (35,331)	—	8,909	—	—
80. Sudan	35,502 (42,270)	—	—	34,382	—	1,120
82. Democratic People's Republic of Korea	50,556 (39,648)	—	—	9,266	—	41,290
83. Mauritius	26,088 (38,280)	—	—	24,522	—	1,566
84. Tunisia	28,268 (36,390)	6,433 (9,600)	—	14,763	—	7,072
85. Bangladesh	28,888 (32,683)	4,538 (6,298)	—	11,671	—	12,679
86. Nicaragua	21,845 (32,054)	4,026 (6,107)	—	17,819	—	—
88. Kenya	21,857 (30,165)	3,197 (5,054)	—	10,533	—	8,127
90. Nauru	23,761 (25,618)	—	—	23,761	—	—
91. United Republic of Tanzania	18,718 (24,812)	239 (261)	—	16,075	—	2,404
92. Paraguay	21,884 (23,416)	2,935 (4,114)	—	15,520	—	3,429
94. Guinea	15,538 (20,108)	—	10,764 (15,290)	4,132	—	642
95. Senegal	16,280 (17,440)	3,876 (5,246)	—	6,045	—	6,359
96. Malta	14,641 (16,219)	—	—	10,496	—	4,145
97. Trinidad	17,988 (14,894)	4,713 (6,390)	—	8,799	—	4,476
98. United Arab Emirates	12,296 (16,383)	2,658 (3,609)	—	7,974	—	1,666
99. Guyana	13,735 (14,127)	1,021 (1,202)	—	5,843	—	6,871
100. Jamaica	13,819 (12,869)	—	—	13,173	—	643
101. Bahrain	10,126 (12,240)	433 (574)	—	8,525	—	1,168

Annex III (concluded)

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1972
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
102. Dominican Republic.....	8,881 (11,864)	674 (1,609)	—	7,970	—	237
103. Uganda	5,510 (9,115)	—	—	5,510	—	—
104. Zambia	5,513 (9,110)	—	—	5,513	—	—
105. Libyan Arab Republic	5,932 (7,369)	—	—	4,694	—	1,238
106. Sri Lanka	13,017 (7,222)	1,158 (1,649)	—	1,833	—	10,026
107. Democratic Republic of Viet-Nam	5,002 (6,252)	314 (500)	—	3,981	—	707
109. Guatemala	3,629 (5,272)	—	—	3,629	—	—
110. Fiji	4,839 (5,168)	254 (400)	—	3,757	—	928
112. Costa Rica	4,359 (4,450)	—	—	3,120	—	1,239
113. Yemen.....	2,844 (4,415)	—	—	2,844	—	—
114. Khmer Republic	1,880 (2,783)	—	—	1,880	—	—
115. Tonga	2,502 (2,513)	—	—	1,658	—	844
118. Oman	2,013 (1,880)	—	—	1,023	—	990
119. Barbados	1,676 (1,619)	—	—	1,028	—	648
120. Syrian Arab Republic	1,659 (1,544)	—	—	1,071	—	588
121. Democratic Yemen	1,417 (1,252)	—	—	713	—	704
123. Gabon	1,519 (902)	347 (258)	—	425	—	747
128. Qatar	803 (525)	200 (350)	—	—	—	603
132. El Salvador	1,506 (475)	—	—	—	—	1,506
134. Mauritania	1,681 (334)	—	—	—	—	1,681
135. Gambia	1,135 (315)	—	—	—	—	1,135
136. United Republic of Cameroon..	2,334 (311)	—	—	—	—	2,334
137. Sierra Leone	1,795 (260)	—	—	—	—	1,795
138. Dahomey	206 (150)	—	—	—	—	206
139. Congo	1,070 (—)	—	—	—	—	1,070
140. Jordan	200 (—)	—	—	—	—	200
Other (unallocated)	1,494,903 (1,691,430)	341,300 (607,305)	365,560 (602,752)	* 724,136	—	63,907
WORLD TOTAL	260,806,637 (404,161,998)	104,628,223 (187,527,837)	60,621,335 (102,387,381)	67,433,547	4,171,348	23,952,184

Source: *Lloyd's Register of Shipping: Statistical Tables, 1972* (London), and supplementary data regarding the Great Lakes fleets of the United States of America and Canada and regarding the United States reserve fleet.

^a The designations employed 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 Grt figures are shown on the first line; where available, dwt figures are shown in parentheses on the second line.

^c Countries have been ordered according to dwt tonnage except where dwt figures are not available. In the case of flags of Non-Self-Governing Territories, which are listed out of rank order (see note *g* below); the number indicating rank order is shown in parentheses.

^d Ships of 100 grt and over, excluding the Great Lakes fleets of the United States and Canada and the United States reserve fleet (see also note *g*).

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

^f Including passenger/cargo.

^g Excluding:

- (i) United States Great Lakes fleet estimated at 1,518,737 grt (2,429,833 dwt) of which: tankers: 60,000 grt (79,200 dwt); ore and bulk carriers: 1,508,737 grt (1,838,880 dwt).
- (ii) Canadian Great Lakes fleet estimated at 1,533,233 grt (2,238,636 dwt) of which: tankers: 86,364 grt (131,085 dwt); ore and bulk carriers: 1,234,384 grt (1,838,880 dwt).
- (iii) United States reserve fleet estimated at 4.3 million grt (4,858,065 dwt) of which: tankers: 230,000 grt (360,000 dwt); ore and bulk carriers: 112,000 grt (176,000 dwt).

The figures for the United States reserve fleet apply to vessels of more than 1,000 grt and are thus not directly comparable with the figures from which they have been deducted (but the statistical discrepancy is very small, since few ships of less than 1,000 grt are included in the reserve fleet).

Annex IV

Distribution of world fleet by geographical areas, as at 1 July 1972 (Vessels of 100 grt and above; in grt and dwt)^a

Area	Total tonnage	Of which:				
		Tankers	Bulk carriers	General cargo	Container ships	Other ships
1.* North America	10,684,861 (15,605,319)	4,932,992 (8,441,471)	548,705 (931,246)	2,941,335	1,007,006	1,254,823
2. Japan	34,929,214 (55,091,546)	12,717,207 (22,962,112)	11,707,600 (19,141,671)	6,773,292	711,667	3,019,448
3. Australia and New Zealand	1,365,911 (1,757,454)	250,117 (399,203)	463,332 (709,095)	346,626	843,314	221,522
4. Northern and Western Europe ..	94,330,871 (147,186,397)	40,546,481 (72,874,685)	23,393,109 (38,797,828)	20,581,631	2,134,953	7,674,697
5. Southern Europe	23,022,657 (35,309,609)	7,785,173 (13,602,828)	4,808,308 (8,182,373)	8,658,861	18,350	1,751,965
6. Central and Eastern Europe (excluding USSR)	4,592,493 (6,173,615)	490,890 (797,274)	1,188,773 (1,789,160)	2,202,586	—	710,244
7. USSR	16,733,674 (17,198,012)	3,660,190 (5,228,924)	257,100 (367,096)	6,243,021	4,787	6,568,576
8. China, Democratic People's Republic of Korea, Democratic Republic of Viet-Nam	1,236,737 (2,274,345)	209,813 (319,407)	12,000 (20,000)	939,397	—	75,527
9.1 Western Asia	1,842,531 (2,687,867)	540,861 (980,942)	266,019 (417,458)	832,591	78,460	124,600
9.2 Southern and Eastern Asia ^b	6,691,245 (9,802,763)	1,050,567 (1,756,448)	1,400,999 (2,368,088)	3,783,545	3,200	452,934
10.1 Northern Africa	466,891 (570,612)	111,103 (171,401)	23,494 (34,314)	235,805	—	96,489
10.2 Western Africa	429,504 (520,071)	6,663 (8,719)	10,764 (15,290)	326,831	—	85,246
10.3 Eastern Africa	211,559 (300,487)	57,328 (88,989)	—	135,057	—	19,174
10.4 Southern Africa	511,190 (568,272)	646 (1,000)	32,543 (48,831)	313,214	—	164,787
11.1 Caribbean ^c	660,169 (900,189)	122,315 (190,501)	56,680 (87,105)	379,506	—	101,668
11.2 Central America	552,821 (703,144)	223,042 (361,128)	32,105 (50,760)	192,065	—	75,609
11.3 South America: northern seaboard	442,965 (586,558)	263,512 (396,889)	—	104,505	—	74,948
11.4 South America: western seaboard ..	1,117,188 (1,395,829)	199,404 (315,319)	93,139 (146,073)	676,348	—	148,297
11.5 South America: eastern seaboard ..	3,459,818 (4,772,231)	1,168,248 (1,780,222)	409,903 (671,813)	1,676,266	—	205,401
12. Oceania	63,788 (68,916)	508 (565)	—	56,778	—	6,502
<i>Open registry countries:</i>						
Liberia (not included in 10.2)	44,443,652 (81,167,857)	25,500,907 (48,480,543)	14,449,486 (26,261,720)	3,903,402	127,111	462,746
Panama (not included in 11.2)	7,793,598 (12,391,955)	3,979,444 (7,022,780)	886,678 (1,432,531)	2,412,286	1,500	513,690
Cyprus (not included in 5)	2,014,675 (2,908,818)	223,993 (349,415)	109,380 (157,126)	1,621,111	—	60,191

Annex IV (continued)

Distribution of world fleet by geographical areas, as at 1 July 1972
(Vessels of 100 grt and above; in grt and dwt) ^a

Area	Total tonnage	Tankers	Bulk carriers	Of which:		
				General cargo	Container ships	Other ships
Singapore (not included in 9.2)	870,513 (1,190,830)	103,077 (158,543)	53,202 (75,345)	695,207	—	19,027
Somalia (not included in 10.3)	873,209 (1,337,872)	142,442 (231,224)	52,456 (79,706)	678,145	—	166
Total of open registry countries	55,995,647 (98,997,332)	29,949,863 (56,242,505)	15,551,202 (28,006,428)	9,310,151	128,611	1,055,820
Other (unallocated)	1,494,903 (1,691,430)	341,300 (607,305)	365,560 (602,752)	724,136	—	63,907
WORLD TOTAL	260,806,637 (404,161,998)	104,628,223 (187,527,837)	60,621,335 (102,387,381)	67,433,547	4,171,348	23,952,184

Source: Compiled from annex III above (see notes to that annex).

^a Dwt figures, where available, are shown on the second line (in parentheses).

^b Including 457,924 grt (676,017 dwt) registered in Hong Kong, part of which tonnage is believed to be controlled by foreign interests.

^c Including 205,862 grt (295,181 dwt) registered in the Bahamas; the location of the effective control of this tonnage is uncertain.

* For an explanation of the code numbers, see annex I above.

Annex V

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1973
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
1. Liberia	49,904,744 (92,354,834)	29,364,267 (56,648,119)	16,401,016 (29,781,318)	3,523,102	146,848	469,511
2. Japan	36,785,094 (58,585,095)	14,192,676 (26,029,444)	12,583,134 (20,658,924)	5,730,942	950,683	3,327,659
3. United Kingdom of Great Britain and Northern Ireland	30,159,543 (47,155,271)	14,107,064 (25,598,149)	6,981,366 (11,784,584)	5,231,668	1,344,805	2,494,640
(31) Bermuda	860,953 (1,426,520)	621,491 (1,099,485)	145,784 (214,306)	52,085	—	41,593
(47) Hong Kong	342,529 (482,950)	29,492 (45,857)	127,314 (212,850)	159,845	—	25,878
(55) Bahamas	179,494 (255,656)	48,735 (77,786)	56,680 (87,426)	56,125	—	563
(78) Cayman Islands	44,419 (66,544)	—	—	43,567	—	—
(91) Gibraltar	20,855 (30,444)	—	19,355 (28,288)	1,500	—	—
(112) Falkland Islands	9,494 (5,718)	—	—	2,100	—	7,394
(113) New Hebrides	4,369 (5,064)	—	—	—	—	4,369
(118) Turks Islands	1,572 (2,160)	—	—	1,323	—	—
(115) St. Vincent	2,247 (3,243)	—	—	2,247	—	—
(128) Montserrat	711 (1,000)	—	—	711	—	—
(129) Gilbert and Ellice Islands ..	2,193 (868)	—	—	1,333	—	—
(130) Belize	620 (800)	—	—	620	—	—
(127) Virgin Islands (UK)	876 (1,025)	—	—	578	—	—
(125) St. Lucia	904 (1,140)	—	—	904	—	—
(136) Grenada	226 (340)	—	—	226	—	—
(134) Solomon Islands	629 (483)	—	—	629	—	—
(132) St. Kitts, Nevis and Anguilla	652 (570)	—	—	396	—	—
(135) Seychelles	306 (350)	—	—	192	—	—
4. Norway	23,621,096 (40,086,773)	11,162,870 (20,888,392)	8,618,388 (14,578,558)	2,215,246	135,154	1,489,438
5. Greece	19,295,143 (31,437,861)	6,448,081 (11,477,828)	5,812,533 (10,126,951)	6,336,866	3,986	693,677
6. Union of Soviet Socialist Republics	17,396,900 (18,009,493)	3,631,762 (5,234,842)	388,193 (579,926)	6,462,506	35,200	6,879,239
7. Panama	9,568,954 (15,152,829)	4,383,671 (7,781,033)	1,382,717 (2,206,963)	3,182,121	965	619,480
8. United States of America ^g (estimated active sea-going fleet)	10,676,606 (15,094,767)	4,445,696 (7,797,811)	517,523 (1,021,424)	3,018,357	1,723,755	971,275

Annex V (continued)

Distribution of world tonnage by flag of registration^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1973
(dwt figures are shown in parentheses)^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
9. France	8,288,773 (13,285,868)	4,952,463 (9,076,879)	1,061,887 (1,770,447)	1,419,765	135,521	719,137
10. Italy	8,867,205 (13,184,516)	3,437,391 (5,901,239)	2,866,271 (4,859,207)	1,278,966	69,161	1,215,416
11. Federal Republic of Germany ..	7,914,679 (12,147,697)	1,776,626 (3,271,836)	2,006,641 (3,402,543)	2,977,640	613,808	539,964
12. Sweden	5,669,340 (8,802,339)	1,894,801 (3,548,520)	2,131,755 (3,533,884)	1,089,283	151,727	401,774
13. Netherlands	5,029,443 (7,263,899)	1,972,008 (3,416,419)	455,837 (720,109)	1,968,375	153,165	480,058
14. Spain	4,833,048 (7,091,916)	2,200,565 (3,902,187)	838,516 (1,457,742)	1,025,406	20,808	747,753
15. Denmark	4,106,525 (6,489,739)	1,856,204 (3,498,699)	515,274 (856,480)	1,222,596	140,225	372,266
(94) Faeroe Islands.....	41,801 (22,216)	—	—	6,067	—	35,734
16. India	2,886,595 (4,574,156)	313,116 (531,041)	1,118,844 (1,933,440)	1,314,740	—	139,895
17. Cyprus	2,935,775 (4,292,480)	440,442 (684,365)	280,168 (423,035)	2,137,943	—	77,222
18. Brazil	2,103,319 (3,052,651)	688,727 (1,122,180)	317,735 (530,406)	1,005,151	—	91,700
19. Singapore	2,004,269 (3,020,088)	427,054 (743,034)	464,818 (757,137)	1,029,662	55,681	27,054
20. Poland.....	2,072,531 (2,786,076)	30,282 (43,735)	637,478 (972,791)	1,058,771	—	346,000
21. Yugoslavia	1,667,183 (2,463,665)	250,745 (423,480)	383,274 (632,788)	982,639	—	50,525
22. Somalia	1,612,656 (2,427,346)	157,643 (259,535)	272,972 (428,687)	1,180,015	—	2,026
23. Finland	1,545,626 (2,142,073)	730,254 (1,205,685)	62,396 (91,852)	557,310	3,895	191,771
24. China	1,478,992 (2,092,961)	238,998 (365,564)	52,811 (84,825)	1,137,797	—	49,386
25. Argentina	1,452,552 (1,882,279)	533,943 (782,272)	124,855 (192,883)	667,832	—	125,922
26. Portugal	1,271,815 (1,711,435)	476,396 (837,109)	73,340 (117,708)	481,627	5,695	234,757
27. Belgium	1,161,609 (1,625,494)	314,140 (508,195)	394,339 (664,723)	316,454	31,036	105,640
28. Republic of Korea	1,103,925 (1,620,391)	343,178 (590,079)	204,626 (332,846)	388,074	3,451	164,596
29. German Democratic Republic ..	1,219,037 (1,539,281)	171,425 (293,092)	207,187 (315,713)	620,927	—	219,498
30. Australia	1,160,205 (1,531,425)	230,501 (365,409)	452,123 (699,479)	252,672	83,123	141,786
(90) New Guinea	27,827 (31,782)	254 (165)	—	22,074	—	5,499
32. Philippines	947,210 (1,312,228)	187,913 (311,109)	68,344 (118,468)	646,829	—	44,124
33. Kuwait	676,879 (1,127,888)	423,740 (793,637)	—	214,675	—	38,464
34. Bulgaria	756,749 (1,057,554)	194,786 (312,152)	189,698 (268,313)	280,198	—	92,067
35. Turkey	756,807 (939,160)	186,518 (292,843)	52,034 (80,409)	369,488	—	148,767
36. Israel	645,391 (890,174)	368 (642)	288,015 (455,115)	249,942	77,879	29,187
37. Indonesia	668,964 (792,336)	63,894 (91,674)	—	523,011	—	82,059
38. Pakistan	503,429 (701,694)	—	11,950 (17,250)	455,061	—	36,418

Annex V (continued)

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1973
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
39. Venezuela	478,643 (653,565)	292,788 (448,297)	—	119,980	—	65,875
40. Canada ^g (excluding Great Lakes)	930,719 (650,677)	187,742 (255,269)	98,068 (149,882)	141,879	—	503,030
41. Romania	474,497 (642,341)	56,864 (89,853)	190,200 (279,400)	129,503	—	97,930
42. Mexico	453,024 (630,510)	247,837 (396,318)	32,105 (50,760)	100,011	—	73,071
43. Chile	383,886 (554,696)	87,001 (144,861)	63,968 (102,362)	213,072	—	19,845
44. Cuba	416,305 (544,363)	51,908 (77,805)	—	281,549	—	82,848
45. South Africa	490,751 (530,730)	15,206 (19,000)	24,114 (36,421)	280,342	—	171,089
46. Peru	448,325 (487,919)	80,940 (122,162)	29,171 (43,711)	213,000	—	125,214
48. Egypt	268,747 (328,096)	69,160 (106,796)	—	162,191	—	37,396
49. Iraq	228,274 (322,400)	150,185 (245,159)	—	47,743	—	30,346
50. Ireland	229,349 (307,762)	3,682 (4,762)	148,307 (230,843)	34,695	6,260	36,405
51. Switzerland	202,764 (306,735)	2,900 (4,000)	53,855 (83,968)	145,732	—	277
52. Colombia	233,881 (290,619)	14,392 (21,865)	—	203,252	—	6,237
53. Thailand	182,043 (276,143)	102,432 (175,994)	—	65,380	—	14,231
54. Iran	192,386 (257,281)	61,773 (96,117)	—	111,436	—	19,177
56. Malaysia	226,350 (254,984)	4,617 (6,635)	85,407 (95,370)	119,672	—	16,654
57. Uruguay	142,664 (220,911)	92,757 (151,168)	—	42,477	—	7,430
58. Algeria	162,832 (193,505)	31,464 (49,771)	23,494 (34,314)	51,227	—	56,647
59. Ghana	165,565 (183,370)	—	—	115,152	—	50,413
60. Lebanon	119,468 (176,248)	—	—	118,908	—	560
61. New Zealand	156,503 (159,412)	—	—	107,333	—	49,170
62. Austria	95,769 (169,245)	—	22,712 (34,188)	67,125	5,932	—
63. Czechoslovakia	86,510 (143,048)	—	61,404 (98,699)	25,106	—	—
64. Nigeria	110,015 (142,650)	2,479 (3,443)	—	95,630	—	11,906
65. Ivory Coast	88,749 (131,156)	—	—	82,365	—	6,384
66. Iceland	142,777 (106,420)	2,713 (3,374)	—	58,061	—	82,003
67. Maldives	76,963 (98,443)	—	—	76,963	—	—
68. Madagascar	63,919 (97,691)	29,847 (46,551)	—	29,139	—	4,933
69. Ecuador	75,975 (96,589)	24,662 (40,943)	—	49,838	—	1,475
70. Saudi Arabia	58,530 (79,491)	17,098 (27,975)	—	36,992	—	4,440
71. Albania	57,068 (78,000)	—	—	57,068	—	—

Annex V (continued)

Distribution of world tonnage by flag of registration ^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1973
(dwt figures are shown in parentheses) ^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
72. Bangladesh	60,601 (74,123)	9,935 (14,239)	—	34,285	—	16,381
73. Honduras	67,274 (73,126)	1,223 (1,703)	—	62,548	—	3,503
74. Burma	54,877 (72,711)	1,478 (1,709)	—	45,449	—	7,950
75. Hungary	53,580 (72,172)	—	—	52,779	—	801
76. Ethiopia	48,093 (67,525)	23,937 (37,055)	—	22,932	—	1,224
77. Morocco	56,125 (67,387)	937 (1,015)	—	43,303	—	11,885
79. Nauru	46,504 (58,718)	—	19,564 (31,200)	26,940	—	—
80. Zaire	38,966 (57,287)	—	—	34,646	—	4,320
81. Democratic People's Republic of Korea	60,347 (55,458)	9,791 (15,810)	—	9,266	—	41,290
82. Republic of Viet-Nam	37,980 (55,291)	5,016 (8,531)	—	30,980	—	1,984
83. Sri Lanka	43,754 (50,520)	1,454 (2,084)	—	32,274	—	10,026
84. Sudan	38,278 (44,885)	—	—	37,158	—	1,120
85. United Republic of Tanzania	28,371 (37,262)	239 (261)	—	25,593	—	2,539
86. Tunisia	28,408 (36,390)	6,433 (9,600)	—	14,763	—	7,212
87. Monaco	28,062 (36,037)	23,294 (35,331)	—	770	—	3,998
88. Paraguay	21,930 (32,539)	2,935 (4,114)	—	15,566	—	3,429
89. Nicaragua	21,845 (32,054)	4,026 (6,107)	—	17,819	—	—
92. Kenya	21,722 (30,165)	3,197 (5,054)	—	10,533	—	7,992
93. Mauritius	15,564 (22,669)	—	—	13,779	—	1,785
95. Guinea	15,538 (20,108)	—	10,764 (15,290)	4,132	—	642
96. Senegal	17,032 (17,440)	3,876 (5,246)	—	6,045	—	7,111
97. Gabon	12,428 (16,739)	347 (258)	10,503 (15,537)	—	—	1,578
98. Libyan Arab Republic	36,878 (14,884)	26,000 (47,000)	—	5,962	—	4,916
99. Guyana	15,035 (14,551)	1,021 (1,202)	—	6,336	—	7,678
100. United Arab Emirates	10,498 (14,436)	2,658 (3,609)	—	6,876	—	964
101. Trinidad	15,659 (12,894)	4,713 (6,390)	—	5,555	—	5,391
102. Dominican Republic	9,381 (12,650)	674 (1,609)	—	8,470	—	237
103. Jamaica	12,899 (11,424)	—	—	12,253	—	646
104. Guatemala	8,222 (11,022)	—	—	7,972	—	250
105. Jordan	6,187 (10,475)	—	—	5,987	—	200

Annex V (concluded)

Distribution of world tonnage by flag of registration^a and type of ship, in order of size of fleets, in grt and dwt, as at 1 July 1973
(dwt figures are shown in parentheses)^b

Flag of registration ^c	Total tonnage ^d	Of which:				
		Tankers	Bulk carriers ^e	General cargo ^f	Container ships	Other ships
106. Uganda	5,510 (9,115)	—	—	5,510	—	—
107. Zambia	5,513 (9,110)	—	—	5,513	—	—
108. Costa Rica	9,062 (8,690)	—	—	7,091	—	1,971
109. Malta	11,022 (7,349)	—	—	5,600	—	5,422
110. Eiji	7,151 (6,615)	254 (400)	—	3,954	—	2,943
111. Democratic Republic of Viet-Nam	5,002 (6,252)	314 (500)	—	3,981	—	707
114. Yemen	2,844 (4,415)	—	—	2,844	—	—
116. Khmer Republic	2,090 (2,862)	—	—	1,880	—	210
117. Tonga	2,502 (2,513)	—	—	1,658	—	844
119. Bahrain	3,045 (2,155)	433 (575)	—	1,444	—	1,168
120. Oman	2,249 (2,125)	—	—	1,023	—	1,226
121. Syrian Arab Republic	2,057 (1,957)	—	—	1,071	—	986
122. Sierra Leone	3,047 (1,918)	165 (150)	—	1,035	—	1,847
123. Democratic Yemen	1,680 (1,252)	—	—	713	—	967
124. Barbados	2,958 (1,189)	—	—	696	—	2,262
126. Gambia	1,651 (1,065)	—	—	641	—	1,010
131. United Republic of Cameroon ..	2,895 (622)	—	—	—	—	2,895
133. Qatar	803 (525)	200 (350)	—	—	—	603
137. Mauritania	1,681 (334)	—	—	—	—	1,681
138. Dahomey	474 (150)	—	—	—	—	474
139. El Salvador	443 (55)	—	—	—	—	443
140. Congo	1,210	—	—	—	—	1,210
Other (unallocated)	1,467,311 (2,175,746)	329,976 (587,502)	376,791 (620,248)	691,117	—	69,427
WORLD TOTAL	284,198,777 (444,558,651)	115,025,153 (209,187,044)	69,817,618 (118,921,992)	67,625,742	5,898,763	25,831,501

Source: *Lloyd's Register of Shipping: Statistical Tables, 1973* (London), and supplementary data regarding the Great Lakes fleets of the United States and Canada and regarding the United States reserve fleet.

^a The designations employed 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 Grt figures are shown on the first line; where available, dwt figures are shown in parentheses on the second line.

^c Countries have been ordered according to dwt tonnage except where dwt figures are not available. In the case of flags of Non-Self-Governing Territories, which are listed out of rank order (see note g below), the number indicating rank order is shown in parentheses.

^d Ships of 100 grt and over, excluding the Great Lakes fleets of the United States and Canada and the United States reserve fleet (see also note g).

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

^f Including passenger/cargo.

^g Excluding:

(i) United States Great Lakes fleet estimated at 1,735,826 grt (2,759,963 dwt) of which: tankers: 45,532 grt (60,102 dwt); ore and bulk carriers: 1,510,169 grt (2,416,270 dwt).

(ii) Canadian Great Lakes fleet estimated at 1,492,083 grt (2,178,441 dwt) of which: tankers: 64,515 grt (96,127 dwt); ore and bulk carriers: 1,208,587 grt (1,788,709 dwt).

(iii) United States reserve fleet estimated at 2.5 million grt (2,975,000 dwt) of which: tankers: 230,000 grt (360,000 dwt); ore and bulk carriers: 112,000 grt (276,000 dwt).

The figures for the United States reserve fleet apply to vessels of more than 1,000 grt and are thus not directly comparable with the figures from which they have been deducted (but the statistical discrepancy is very small, since few ships of less than 1,000 grt are included in the reserve fleet).

Annex VI

Distribution of world fleet by geographical areas, in grt and dwt, as at 1 July 1973
(Vessels of 100 grt and above) ^a

Area	Total tonnage	Of which:				
		Tankers	Bulk carriers	General cargo	Container ships	Other ships
1.* North America	12,468,278 (17,171,964)	5,254,929 (9,152,565)	761,375 (1,385,613)	3,212,321	1,723,755	1,515,898
2. Japan	36,785,094 (58,585,095)	14,192,676 (26,029,444)	12,583,134 (20,658,924)	5,730,942	950,683	3,327,659
3. Australia and New Zealand	1,316,708 (1,690,837)	230,501 (365,409)	452,123 (699,479)	360,005	83,123	190,956
4. Northern and Western Europe ..	97,104,361 (153,132,084)	42,236,410 (76,961,480)	25,319,028 (42,611,386)	18,589,753	2,790,689	8,168,481
5. Southern Europe	27,855,873 (43,681,830)	9,562,305 (16,933,447)	7,179,052 (12,443,886)	9,203,126	30,489	1,880,901
6. Central and Eastern Europe (excluding USSR)	4,719,972 (6,318,562)	453,357 (738,832)	1,285,967 (1,934,916)	2,224,352	—	756,296
7. USSR	17,396,900 (18,009,493)	3,631,762 (5,234,842)	388,193 (579,926)	6,462,506	35,200	6,879,239
8. China, Democratic People's Republic of Korea, Democratic Republic of Viet-Nam	1,544,341 (2,154,671)	249,103 (381,874)	52,811 (84,825)	1,151,044	—	91,383
9.1 Western Asia	1,939,793 (2,876,386)	653,797 (1,164,455)	288,015 (455,115)	792,778	77,879	127,324
9.2 Southern and Eastern Asia ^b	7,137,310 (10,368,832)	1,062,525 (1,778,952)	1,616,485 (2,710,224)	3,894,443	3,451	560,406
10.1 Northern Africa	563,488 (654,698)	136,652 (217,791)	23,494 (34,314)	284,322	—	—
10.2 Western Africa	459,251 (572,839)	6,867 (9,097)	21,267 (30,827)	339,646	—	—
10.3 Eastern Africa	227,276 (318,772)	57,220 (88,921)	— (—)	150,349	—	—
10.4 Southern Africa	490,751 (530,730)	15,206 (19,000)	24,114 (36,421)	280,342	—	—
11.1 Caribbean ^c	672,644 (901,304)	101,317 (157,200)	56,680 (87,426)	409,045	—	105,602
11.2 Central America	560,490 (756,257)	253,086 (404,128)	32,105 (50,760)	196,061	—	79,238
11.3 South America: northern seaboard	509,337 (681,010)	298,522 (455,889)	— (—)	131,871	—	78,944
11.4 South America: western seaboard	1,132,067 (1,429,823)	206,995 (329,831)	93,139 (146,073)	679,162	—	152,771
11.5 South America: eastern seaboard	3,729,959 (5,194,098)	1,318,362 (2,059,734)	442,590 (723,289)	1,733,126	—	235,881
12 Oceania	91,175 (106,043)	508 (565)	19,564 (31,200)	56,588	—	14,515
<i>Open registry countries:</i>						
Liberia (not included in 10.2)	49,904,744 (92,354,834)	29,364,267 (56,648,119)	16,401,016 (29,781,318)	3,523,102	146,848	469,511
Panama (not included in 11.2)	9,568,954 (15,152,829)	4,383,671 (7,781,033)	1,382,717 (2,206,963)	3,182,121	965	619,480
Cyprus (not included in 5)	2,935,775 (4,292,480)	440,442 (684,365)	280,168 (423,035)	2,137,943	—	77,222

Annex VI (continued)

Distribution of world fleet by geographical areas, in grt and dwt, as at 1 July 1973
(Vessels of 100 grt and above) ^a

Area	Total tonnage	Of which:				
		Tankers	Bulk carriers	General cargo	Container ships	Other ships
Singapore (not included in 9.2)	2,004,269 (3,020,088)	427,054 (743,034)	464,818 (757,137)	1,029,662	55,681	654
Somalia (not included in 10.3)	1,612,656 (2,427,346)	157,643 (259,535)	272,972 (428,687)	1,180,015		
Total of open registry countries	66,026,398 (117,247,577)	34,773,077 (66,116,086)	18,801,691 (33,597,140)	11,052,843	203,494	1,195,293
Other (unallocated)	1,467,311 (2,175,746)	329,976 (587,502)	376,791 (620,248)	691,117		69,427
WORLD TOTAL	284,198,777 (444,558,651)	115,025,153 (209,187,044)	69,817,618 (118,921,992)	67,625,742	5,898,763	25,831,501

Source: Compiled from annex III above (see notes to that annex).

^a Dwt figures, where available, are shown on the second line in parentheses.

^b Including 342,529 grt (482,950 dwt) registered in Hong Kong, part of which tonnage is believed to be controlled by foreign interests.

^c Including 179,494 grt (255,656 dwt) registered in the Bahamas; the location of the effective control of this tonnage is uncertain.

* For an explanation of the code numbers, see annex I above.

Annex VII

Additions to and net changes in the merchant fleets of developing countries and territories during 1971^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:												
				Tankers			Bulk carriers			Freighters			Others			
	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	
9.1^b Western Asia																
<i>Iran</i>																
Additions	5	49	66	—	—	—	—	—	—	5	49	66	—	—	—	
of which: new deliveries ..	4	48	64	—	—	—	—	—	—	4	48	64	—	—	—	
Net additions	2	24	33	—	—	—	—	—	—	2	24	33	—	—	—	
<i>Iraq</i>																
Additions	2	20	27	—	—	—	—	—	—	2	20	27	—	—	—	
of which: new deliveries ..	2	20	27	—	—	—	—	—	—	2	20	27	—	—	—	
Net additions	2	20	27	—	—	—	—	—	—	2	20	27	—	—	—	
<i>Israel</i>																
Additions	2	11	16	—	—	—	—	—	—	2	11	16	—	—	—	
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Net additions	-(2)	-(16)	-(11)	—	—	—	—	—	—	-(1)	-(8)	-(9)	-(1)	-(8)	-(2)	
<i>Kuwait</i>																
Additions	4	31	39	—	—	—	—	—	—	4	31	39	—	—	—	
of which: new deliveries ..	3	30	38	—	—	—	—	—	—	3	30	38	—	—	—	
Net additions	2	28	34	—	—	—	—	—	—	2	28	34	—	—	—	
<i>Lebanon</i>																
Additions	1	4	6	—	—	—	—	—	—	1	4	6	—	—	—	
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Net additions	-(11)	-(47)	-(73)	—	—	—	-(2)	-(5)	-(7)	-(9)	-(42)	-(66)	—	—	—	
<i>Saudi Arabia</i>																
Additions	2	24	38	1	17	28	—	—	—	1	7	10	—	—	—	
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Net additions	1	19	32	1	16	29	—	—	—	—	3	3	—	—	—	
<i>United Arab Emirates</i>																
Additions	1	2	3	—	—	—	—	—	—	1	2	3	—	—	—	
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Net additions	1	2	3	—	—	—	—	—	—	1	2	3	—	—	—	
<i>Sub-total Western Asia</i>																
Additions	17	141	195	1	17	28	—	—	—	16	124	167	—	—	—	
of which: new deliveries ..	9	98	129	—	—	—	—	—	—	9	98	129	—	—	—	
Net additions	-(5)	30	45	1	16	29	-(2)	-(5)	-(7)	-(3)	27	25	-(1)	-(8)	-(2)	
9.2 Southern and Eastern Asia																
<i>India</i>																
Additions	18	215	325	1	9	14	4	99	159	11	88	127	2	19	25	
of which: new deliveries ..	8	111	176	—	—	—	1	46	86	6	57	81	1	8	9	
Net additions	7	136	204	1	-(1)	-(3)	4	99	159	—	20	22	2	18	26	
<i>Indonesia</i>																
Additions	3	35	53	1	14	23	—	—	—	2	21	30	—	—	—	
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Net additions	-(5)	-(8)	-(3)	1	14	23	-(1)	-(18)	-(22)	-(5)	-(4)	-(4)	—	—	—	

Annex VII (continued)

Additions to and net changes in the merchant fleets of developing countries and territories during 1971^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:											
	Number	grt	dwt	Tankers			Bulk carriers			Freighters			Others		
				Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt
9.2 Southern and Eastern Asia (continued)															
<i>Republic of Korea</i>															
Additions	10	195	342	4	172	304	—	—	—	5	18	30	1	5	8
of which: new deliveries ..	4	152	276	2	146	267	—	—	—	2	6	9	—	—	—
Net additions	4	104	169	3	106	170	-(1)	-(10)	-(14)	1	3	5	1	5	8
<i>Malaysia</i>															
Additions	3	32	35	—	—	—	—	—	—	3	32	35	—	—	—
of which: new deliveries ..	3	32	35	—	—	—	—	—	—	3	32	35	—	—	—
Net additions	1	27	27	—	—	—	—	—	—	1	27	27	—	—	—
<i>Maldives</i>															
Additions	8	24	29	—	—	—	—	—	—	8	24	29	—	—	—
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	8	24	29	—	—	—	—	—	—	8	24	29	—	—	—
<i>Pakistan</i>															
Additions	7	58	67	—	—	—	1	12	17	5	40	45	1	6	5
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	-(1)	11	3	—	—	—	-(1)	1	—	—	14	3	—	-(4)	—
<i>Philippines</i>															
Additions	9	23	28	3	7	10	—	—	—	3	7	12	3	9	6
of which: new deliveries ..	3	7	10	—	—	—	—	—	—	1	3	6	2	4	4
Net additions	-(4)	-(40)	-(65)	3	7	10	-(1)	-(5)	-(9)	-(8)	-(50)	-(70)	2	8	4
<i>Thailand</i>															
Additions	4	13	20	1	3	5	—	—	—	2	8	13	1	2	2
of which: new deliveries ..	1	3	5	1	3	5	—	—	—	—	—	—	—	—	—
Net additions	4	13	20	1	3	5	—	—	—	2	8	13	1	2	2
<i>Republic of Viet-Nam</i>															
Additions	1	1	2	—	—	—	—	—	—	1	1	2	—	—	—
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	1	2	—	—	—	—	—	—	1	1	2	—	—	—
<i>Sub-total Southern and Eastern Asia</i>															
Additions	63	596	901	10	205	356	5	111	176	40	239	323	8	41	46
of which: new deliveries ..	19	305	502	3	149	272	1	46	86	12	98	131	3	12	13
Net additions	15	268	386	9	129	205	—	67	114	—	43	27	6	29	40
TOTAL ASIA															
Additions	80	737	1096	11	222	384	5	111	176	56	363	490	8	41	46
of which: new deliveries ..	28	403	631	3	149	272	1	46	86	21	195	260	3	13	13
Net additions	10	298	431	10	145	234	-(2)	62	107	-(3)	70	53	5	21	38
10.1 Northern Africa															
<i>Algeria</i>															
Additions	3	66	72	1	32	50	—	—	—	1	3	4	1	31	18
of which: new deliveries ..	1	31	18	—	—	—	—	—	—	—	—	—	1	31	18
Net additions	3	66	71	1	32	50	—	—	—	1	3	4	1	31	17
<i>Egypt</i>															
Additions	2	5	6	—	—	—	—	—	—	2	5	6	—	—	—
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	2	5	6	—	—	—	—	—	—	2	5	6	—	—	—
<i>Morocco</i>															
Additions	2	4	6	—	—	—	—	—	—	2	4	6	—	—	—
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	-(1)	-(2)	—	—	—	—	—	—	1	-(1)	-(2)	—	—	—

Annex VII (continued)

Additions to and net changes in the merchant fleets of developing countries and territories during 1971^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:											
				Tankers			Bulk carriers			Freighters			Others		
	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt
10.1 Northern Africa (continued)															
<i>Tunisia</i>															
Additions	2	10	15	1	6	10	—	—	—	—	—	—	1	4	5
of which: new deliveries ..	2	10	15	1	6	10	—	—	—	—	—	—	1	4	5
Net additions	2	10	15	1	6	10	—	—	—	—	—	—	1	4	5
<i>Sub-total Northern Africa</i>															
Additions	9	85	99	2	38	60	—	—	—	5	12	16	2	35	23
of which: new deliveries ..	3	41	33	1	6	10	—	—	—	—	—	—	2	35	23
Net additions	8	80	90	2	38	60	—	—	—	4	7	8	2	35	22
10.2 Western Africa															
<i>Congo</i>															
Additions	1	7	12	—	—	—	—	—	—	1	7	12	—	—	—
of which: new deliveries ..	1	7	12	—	—	—	—	—	—	1	7	12	—	—	—
Net additions	1	8	12	—	—	—	—	—	—	1	8	12	—	—	—
<i>Ivory Coast</i>															
Additions	3	24	36	—	—	—	—	—	—	3	24	36	—	—	—
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	3	24	36	—	—	—	—	—	—	3	24	36	—	—	—
<i>Senegal</i>															
Additions	1	2	3	—	—	—	—	—	—	1	2	3	—	—	—
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Sub-total Western Africa</i>															
Additions	5	33	51	—	—	—	—	—	—	5	33	51	—	—	—
of which: new deliveries ..	1	7	12	—	—	—	—	—	—	1	7	12	—	—	—
Net additions	4	32	48	—	—	—	—	—	—	4	32	48	—	—	—
10.3 Eastern Africa															
<i>Kenya</i>															
Additions	1	2	4	—	—	—	—	—	—	1	2	4	—	—	—
of which: new deliveries ..	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	2	4	—	—	—	—	—	—	1	2	4	—	—	—
<i>Madagascar</i>															
Additions	2	27	43	1	18	28	—	—	—	1	9	15	—	—	—
of which: new deliveries ..	1	9	15	—	—	—	—	—	—	1	9	15	—	—	—
Net additions	2	22	37	1	18	28	—	—	—	1	4	9	—	—	—
<i>Sub-total Eastern Africa</i>															
Additions	6	45	65	1	18	28	—	—	—	5	27	37	—	—	—
of which: new deliveries ..	1	9	15	—	—	—	—	—	—	1	9	15	—	—	—
Net additions	5	34	52	1	18	28	—	—	—	4	16	24	—	—	—
TOTAL AFRICA															
Additions	20	163	215	3	56	88	—	—	—	15	72	104	2	35	23
of which: new deliveries ..	5	57	60	1	6	10	—	—	—	2	16	27	2	35	23
Net additions	17	146	190	3	56	88	—	—	—	12	55	80	2	35	22
11.1 Caribbean															
<i>Cuba</i>															
Additions	3	23	34	3	23	34	—	—	—	—	—	—	—	—	—
of which: new deliveries ..	1	11	16	1	11	16	—	—	—	—	—	—	—	—	—
Net additions	2	20	28	3	23	33	—	—	—	-(1)	-(3)	-(5)	—	—	—

Annex VII (continued)

Additions to and net changes in the merchant fleets of developing countries and territories during 1971^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	<i>All ships</i>			<i>Of which:</i>											
	<i>Number</i>	<i>grt</i>	<i>dwt</i>	<i>Tankers</i>			<i>Bulk carriers</i>			<i>Freighters</i>			<i>Others</i>		
				<i>Num-ber</i>	<i>grt</i>	<i>dwt</i>	<i>Num-ber</i>	<i>grt</i>	<i>dwt</i>	<i>Num-ber</i>	<i>grt</i>	<i>dwt</i>	<i>Num-ber</i>	<i>grt</i>	<i>dwt</i>
11.2 Central America															
<i>Honduras</i>															
Additions	1	2	2	—	—	—	—	—	—	1	2	2	—	—	—
<i>of which: new deliveries ..</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	2	3	—	—	—	—	—	—	1	2	3	—	—	—
<i>Mexico</i>															
Additions	4	35	32	—	—	—	—	—	—	3	23	26	1	12	6
<i>of which: new deliveries ..</i>	2	25	18	—	—	—	—	—	—	1	13	12	1	12	6
Net additions	3	32	26	—	—	—	—	—	—	2	20	20	1	12	6
<i>Nicaragua</i>															
Additions	1	1	2	—	—	—	—	—	—	1	1	2	—	—	—
<i>of which: new deliveries ..</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	—	—(4)	—(7)	—	—	—	—	—	—	—	—(4)	—(7)	—	—	—
<i>Sub-total Caribbean and Central America</i>															
Additions	9	61	70	3	23	34	—	—	—	5	26	30	1	12	6
<i>of which: new deliveries ..</i>	3	36	34	1	11	16	—	—	—	1	13	12	1	12	6
Net additions	6	50	50	3	23	33	—	—	—	2	15	11	1	12	6
11.3 South America: northern seaboard															
<i>Venezuela</i>															
Additions	5	58	90	1	31	54	1	6	8	3	21	28	—	—	—
<i>of which: new deliveries ..</i>	2	19	24	—	—	—	—	—	—	2	19	24	—	—	—
Net additions	2	29	44	—	9	18	1	6	8	1	14	18	—	—	—
<i>Sub-total South America: Northern seaboard</i>															
Additions	5	58	90	1	31	54	1	6	8	3	21	28	—	—	—
<i>of which: new deliveries ..</i>	2	19	24	—	—	—	—	—	—	2	19	24	—	—	—
Net additions	2	29	44	—	9	18	1	6	8	1	14	18	—	—	—
11.4 South America: western seaboard															
<i>Chile</i>															
Additions	2	47	84	—	—	—	—	—	—	1	10	16	1	37	68
<i>of which: new deliveries ..</i>	2	47	84	—	—	—	—	—	—	1	10	16	1	37	68
Net additions	—	42	81	—	—	—	—	—	—	—	8	14	—	34	67
<i>Colombia</i>															
Additions	5	34	42	—	—	—	—	—	—	4	24	30	1	10	12
<i>of which: new deliveries ..</i>	2	21	24	—	—	—	—	—	—	1	11	12	1	10	12
Net additions	4	33	40	—	—	—	—	—	—	3	23	28	1	10	12
<i>Peru</i>															
Additions	4	29	44	1	13	20	1	12	17	2	4	7	—	—	—
<i>of which: new deliveries ..</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	2	8	1	13	20	—	—(7)	—(7)	—	—(4)	—(5)	—	—	—
<i>Sub-total South America: Western seaboard</i>															
Additions	11	110	170	1	13	20	1	12	17	7	38	53	2	47	80
<i>of which: new deliveries ..</i>	4	68	108	—	—	—	—	—	—	2	21	28	2	47	80
Net additions	5	77	129	1	13	20	—	—(7)	—(7)	3	27	37	1	44	79

Annex VII (concluded)

Additions to and net changes in the merchant fleets of developing countries and territories during 1971^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:											
				Tankers			Bulk carriers			Freighters			Others		
	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt
11.5 South America:															
eastern seaboard															
<i>Argentina</i>															
Additions	6	39	49	1	3	5	—	—	—	5	36	44	—	—	—
of which: new deliveries ..	3	24	27	1	3	5	—	—	—	2	21	22	—	—	—
Net additions	1	—(10)	—(26)	—(2)	—(36)	—(54)	—	—	—	3	26	28	—	—	—
<i>Brazil</i>															
Additions	20	173	210	3	30	41	—	—	—	17	143	169	—	—	—
of which: new deliveries ..	18	166	201	3	30	41	—	—	—	15	136	160	—	—	—
Net additions	14	133	159	2	16	20	—	—	—	13	127	143	—(1)	—(10)	—(4)
<i>Uruguay</i>															
Additions	2	42	66	2	42	66	—	—	—	—	—	—	—	—	—
of which: new deliveries ..	1	20	30	1	20	30	—	—	—	—	—	—	—	—	—
Net additions	1	38	60	2	42	66	—	—	—	—(1)	—(4)	—(6)	—	—	—
<i>Sub-total South America:</i>															
<i>Eastern seaboard</i>															
Additions	28	254	325	6	75	112	—	—	—	22	179	213	—	—	—
of which: new deliveries ..	22	210	258	5	53	76	—	—	—	17	157	182	—	—	—
Net additions	16	161	193	2	22	32	—	—	—	15	149	165	—(1)	—(10)	—(4)
TOTAL LATIN AMERICA															
Additions	53	483	655	11	142	220	2	18	25	37	264	324	3	59	86
of which: new deliveries ..	31	333	424	6	64	92	—	—	—	22	210	246	3	59	86
Net additions	29	317	416	6	67	103	1	1	1	21	205	231	1	46	81
<i>Total developing countries and territories above</i>															
Additions	153	1383	1966	25	420	692	7	129	201	108	699	918	13	135	155
of which: new deliveries ..	64	793	1115	10	219	374	1	46	86	45	421	533	8	107	122
Net additions	56	761	1037	19	268	425	1	61	107	30	330	364	8	102	141

Source: Compiled from data regarding additions and deductions to merchant fleets which were made available to the secretariat by the United States Department of Commerce, Maritime Administration.

^a Figures regarding the acquisition of second-hand ships, per country, may be obtained by deducting "new deliveries" from "additions". With respect to the countries mentioned hereafter, however, the following breakdown figures of "other additions" should also be taken into account:

Tankers: Algeria: 1 vessel—31,500 grt (50,000 dwt); Cuba: 1 vessel—10,800 grt (16,300 dwt).

Bulk carriers: Venezuela: 1 vessel—5,500 grt (7,600 dwt).

Freighters: Brazil: 1 vessel—4,200 grt (4,300 dwt); Egypt: 1 vessel—3,300 grt (3,200 dwt); Republic of Korea: 2 vessels—7,400 grt (11,200 dwt); Pakistan: 1 vessel—1,000 grt (1,300 dwt); Republic of Viet-Nam: 1 vessel—1,200 grt (1,600 dwt).

^b For an explanation of the code numbers, see annex I above.

Annex VIII

Additions to and net changes in the merchant fleets of developing countries and territories during 1972^a (Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:												
				Tankers			Bulk carriers			Freighters			Others			
	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	
9.1^b Western Asia																
<i>Iran</i>																
Additions	5	36	49	1	11	16	—	—	—	4	25	33	—	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	4	28	39	1	11	16	—	—	—	3	17	23	—	—	—	—
<i>Iraq</i>																
Additions	5	84	133	3	64	106	—	—	—	2	20	27	—	—	—	—
of which: new deliveries	5	84	133	3	64	106	—	—	—	2	20	27	—	—	—	—
Net additions	5	84	133	3	64	106	—	—	—	2	20	27	—	—	—	—
<i>Israel</i>																
Additions	2	52	45	—	—	—	—	—	—	2	52	45	—	—	—	—
of which: new deliveries	2	52	45	—	—	—	—	—	—	2	52	45	—	—	—	—
Net additions	—(8)	—(15)	—(46)	—	—	—	—	—	—	—(10)	—(67)	—(90)	2	52	44	—
<i>Kuwait</i>																
Additions	5	46	59	—	—	—	—	—	—	5	46	59	—	—	—	—
of which: new deliveries	3	30	38	—	—	—	—	—	—	3	30	38	—	—	—	—
Net additions	4	44	56	—	—	—	—	—	—	4	44	56	—	—	—	—
<i>Saudi Arabia</i>																
Additions	1	4	6	—	—	—	—	—	—	1	4	6	—	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>United Arab Emirates</i>																
Additions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	—(1)	—(2)	—(4)	—	—	—	—	—	—	—(1)	—(2)	—(4)	—	—	—	—
<i>Sub-total Western Asia</i>																
Additions	18	222	292	4	75	122	—	—	—	14	147	170	—	—	—	—
of which: new deliveries	10	166	216	3	64	106	—	—	—	7	102	110	—	—	—	—
Net additions	4	139	178	4	75	122	—	—	—	—(2)	12	12	2	52	44	—
9.2 Southern and Eastern Asia																
<i>Bangladesh</i>																
Additions	2	10	14	—	—	—	—	—	—	2	10	14	—	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	2	10	14	—	—	—	—	—	—	2	10	14	—	—	—	—
<i>India</i>																
Additions	14	174	284	1	11	18	—	—	—	8	66	101	5	97	165	—
of which: new deliveries	9	138	229	—	—	—	—	—	—	5	51	78	4	87	151	—
Net additions	4	120	203	—	1	1	—	—	—	—	32	51	4	87	151	—
<i>Indonesia</i>																
Additions	7	16	23	—	—	—	—	—	—	7	16	23	—	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	2	—(6)	—(8)	—(1)	—(8)	—(13)	—	—	—	3	2	5	—	—	—	—
<i>Republic of Korea</i>																
Additions	18	93	142	3	8	13	3	35	56	10	42	61	2	8	13	—
of which: new deliveries	3	17	27	1	3	5	1	10	18	1	4	4	—	—	—	—
Net additions	12	11	—(6)	2	—(56)	—(107)	2	33	53	6	26	36	2	8	13	—

Annex VIII (continued)

Additions to and net changes in the merchant fleets of developing countries and territories during 1972 ^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	<i>All ships</i>			<i>Of which:</i>												
				<i>Tankers</i>			<i>Bulk carriers</i>			<i>Freighters</i>			<i>Others</i>			
	<i>Number</i>	<i>grt</i>	<i>dwt</i>	<i>Number</i>	<i>grt</i>	<i>dwt</i>	<i>Number</i>	<i>grt</i>	<i>dwt</i>	<i>Number</i>	<i>grt</i>	<i>dwt</i>	<i>Number</i>	<i>grt</i>	<i>dwt</i>	
9.2 Southern and Eastern Asia (continued)																
<i>Malaysia</i>																
Additions	13	154	224	—	—	—	1	21	34	7	47	60	5	87	130	34
<i>of which: new deliveries</i>	7	127	185	—	—	—	1	21	34	2	23	29	4	84	123	29
Net additions	9	147	214	—	—	—	1	21	34	7	47	60	1	79	120	74
<i>Maldives</i>																
Additions	6	17	21	—	—	—	—	—	—	6	17	21	—	—	—	—
<i>of which: new deliveries</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	6	17	21	—	—	—	—	—	—	6	17	21	—	—	—	—
<i>Pakistan</i>																
Additions	1	9	15	—	—	—	—	—	—	1	9	15	—	—	—	—
<i>of which: new deliveries</i>	1	9	15	—	—	—	—	—	—	1	9	15	—	—	—	—
Net additions	—(5)	—(25)	—(38)	—	—	—	—	—	—	—(5)	—(25)	—(38)	—	—	—	—
<i>Philippines</i>																
Additions	19	90	133	3	17	24	1	16	28	12	48	69	3	9	12	48
<i>of which: new deliveries</i>	2	18	30	—	—	—	1	16	29	—	—	—	1	2	1	—
Net additions	7	21	42	3	17	24	—	4	10	2	3	2	2	—(2)	6	—
<i>Thailand</i>																
Additions	5	27	39	1	11	17	—	—	—	4	16	22	—	—	—	—
<i>of which: new deliveries</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	5	5	1	11	17	—	—	—	—	—(6)	—(12)	—	—	—	—
<i>Sub-total: Southern and Eastern Asia</i>																
Additions	85	591	895	8	47	72	5	72	118	57	271	386	15	201	320	171
<i>of which: new deliveries</i>	22	309	486	1	3	5	3	47	81	9	87	126	9	173	275	4
Net additions	38	300	448	5	—(35)	—(78)	3	58	97	21	106	139	9	172	290	—
TOTAL ASIA																
Additions	103	813	1187	12	122	194	5	72	118	71	418	556	15	201	320	—
<i>of which: new deliveries</i>	32	475	702	4	67	111	3	47	81	16	189	236	9	173	275	—
Net additions	42	439	625	9	40	44	3	58	97	19	118	151	11	224	334	—
10.1 Northern Africa																
<i>Algeria</i>																
Additions	4	31	46	—	—	—	2	24	34	1	5	8	1	3	4	—
<i>of which: new deliveries</i>	1	5	8	—	—	—	—	—	—	1	5	8	—	—	—	—
Net additions	4	31	46	—	—	—	2	24	34	1	5	8	1	3	4	—
<i>Egypt</i>																
Additions	4	18	22	—	—	—	—	—	—	4	18	22	—	—	—	—
<i>of which: new deliveries</i>	4	18	22	—	—	—	—	—	—	4	18	22	—	—	—	—
Net additions	4	18	22	—	—	—	—	—	—	4	18	22	—	—	—	—
<i>Morocco</i>																
Additions	2	4	6	—	—	—	—	—	—	2	4	6	—	—	—	—
<i>of which: new deliveries</i>	1	2	3	—	—	—	—	—	—	1	2	3	—	—	—	—
Net additions	2	4	6	—	—	—	—	—	—	2	4	6	—	—	—	—
<i>Sub-total: Northern Africa</i>																
Additions	10	53	74	—	—	—	2	24	34	7	27	36	1	3	4	—
<i>of which: new deliveries</i>	6	25	33	—	—	—	—	—	—	6	25	33	—	—	—	—
Net additions	10	53	74	—	—	—	2	24	34	7	27	36	1	3	4	—
10.2 Western Africa																
<i>Guinea</i>																
Additions	1	3	4	—	—	—	—	—	—	1	3	4	—	—	—	—
<i>of which: new deliveries</i>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	3	4	—	—	—	—	—	—	1	3	4	—	—	—	—

Annex VIII (continued)

Additions to and net changes in the merchant fleets of developing countries and territories during 1972^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:											
	Number	grt	dwt	Tankers			Bulk carriers			Freighters			Others		
				Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt
10.2 Western Africa (continued)															
<i>Ivory Coast</i>															
Additions	1	11	15	—	—	—	—	—	—	1	11	15	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	11	15	—	—	—	—	—	—	1	11	15	—	—	—
<i>Nigeria</i>															
Additions	1	9	11	—	—	—	—	—	—	1	9	11	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	9	11	—	—	—	—	—	—	1	9	11	—	—	—
<i>Senegal</i>															
Additions	1	2	2	—	—	—	—	—	—	1	2	2	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	2	2	—	—	—	—	—	—	1	2	2	—	—	—
<i>Sierra Leone</i>															
Additions	1	1	1	—	—	—	—	—	—	1	1	1	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	1	1	—	—	—	—	—	—	1	1	1	—	—	—
<i>Sub-total: Western Africa</i>															
Additions	5	25	33	—	—	—	—	—	—	5	25	33	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	5	26	33	—	—	—	—	—	—	5	26	33	—	—	—
10.3 Eastern Africa															
<i>Madagascar</i>															
Additions	3	21	33	1	9	14	—	—	—	2	12	19	—	—	—
of which: new deliveries	1	9	14	1	9	14	—	—	—	—	—	—	—	—	—
Net additions	3	21	33	1	9	14	—	—	—	2	12	19	—	—	—
<i>Sudan</i>															
Additions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	—(1)	—(2)	—(3)	—	—	—	—	—	—	—(1)	—(2)	—(3)	—	—	—
<i>Sub-total: Eastern Africa</i>															
Additions	3	21	33	1	9	14	—	—	—	2	10	19	—	—	—
of which: new deliveries	1	9	14	1	9	14	—	—	—	—	—	—	—	—	—
Net additions	2	19	30	1	9	14	—	—	—	1	12	16	—	—	—
TOTAL AFRICA															
Additions	18	99	140	1	9	14	2	24	34	13	64	88	1	3	4
of which: new deliveries	7	34	47	1	9	14	—	—	—	6	25	33	—	—	—
Net additions	17	98	137	1	9	14	2	24	34	14	63	85	1	3	4
11.1 Caribbean															
<i>Cuba</i>															
Additions	3	14	20	1	11	16	—	—	—	1	2	2	1	1	1
of which: new deliveries	1	11	16	1	11	16	—	—	—	—	—	—	—	—	—
Net additions	2	6	9	1	11	16	—	—	—	—	—(6)	—(9)	1	1	1
11.2 Central America															
<i>Costa Rica</i>															
Additions	1	3	4	—	—	—	—	—	—	1	3	4	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	3	4	—	—	—	—	—	—	1	3	4	—	—	—

Annex VIII (continued)

Additions to and net changes in the merchant fleets of developing countries and territories during 1972^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:											
	Number	grt	dwt	Tankers			Bulk carriers			Freighters			Others		
				Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt
11.2 Central America (continued)															
<i>Honduras</i>															
Additions	1	2	2	—	—	—	—	—	—	1	2	2	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	1	2	2	—	—	—	—	—	—	1	2	2	—	—	—
<i>Mexico</i>															
Additions	3	20	27	—	—	—	—	—	—	2	8	11	1	13	16
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	2	14	16	-(1)	-(7)	-(11)	—	—	—	2	8	11	1	13	16
<i>Nicaragua</i>															
Additions	3	7	10	1	1	2	—	—	—	2	6	8	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	3	7	10	1	1	2	—	—	—	2	6	8	—	—	—
<i>Sub-total: Carribbean and Central America</i>															
Additions	11	46	63	2	12	18	—	—	—	7	21	27	2	14	17
of which: new deliveries	1	11	16	1	11	16	—	—	—	—	—	—	—	—	—
Net additions	9	32	41	1	5	7	—	—	—	6	13	16	2	14	7
11.3 South America: northern seaboard															
<i>Venezuela</i>															
Additions	1	1	2	—	—	—	—	—	—	1	1	2	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	-(1)	-(3)	-(5)	—	—	—	—	—	—	-(1)	-(3)	-(5)	—	—	—
<i>Sub-total: South America: northern seaboard</i>															
Additions	1	1	2	—	—	—	—	—	—	1	1	2	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	-(1)	-(3)	-(5)	—	—	—	—	—	—	-(1)	-(3)	-(5)	—	—	—
11.4 South America: western seaboard															
<i>Chile</i>															
Additions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Net additions	-(1)	-(2)	-(3)	—	—	—	—	—	—	-(1)	-(2)	-(3)	—	—	—
<i>Colombia</i>															
Additions	5	28	31	—	—	—	—	—	—	5	28	31	—	—	—
of which: new deliveries	5	28	31	—	—	—	—	—	—	5	28	31	—	—	—
Net additions	5	28	31	—	—	—	—	—	—	5	28	31	—	—	—
<i>Peru</i>															
Additions	6	46	57	—	—	—	1	17	16	5	28	41	—	—	—
of which: new deliveries	1	10	13	—	—	—	—	—	—	1	10	13	—	—	—
Net additions	3	24	27	-(1)	-(10)	-(17)	1	17	16	3	17	27	—	—	—
<i>Sub-total: South America: western seaboard</i>															
Additions	11	74	88	—	—	—	1	17	16	10	56	72	—	—	—
of which: new deliveries	6	38	44	—	—	—	—	—	—	6	38	44	—	—	—
Net additions	7	50	55	-(1)	-(10)	-(17)	1	17	16	7	43	55	—	—	—
11.5 South America: eastern seaboard															
<i>Argentina</i>															
Additions	12	128	185	3	52	87	1	5	7	6	57	74	2	14	17
of which: new deliveries	3	30	34	—	—	—	—	—	—	3	30	34	—	—	—
Net additions	7	94	137	3	52	87	1	6	7	1	22	26	2	14	17

Annex VIII (concluded)

Additions to and net changes in the merchant fleets of developing countries and territories during 1972^a
(Thousand grt and dwt; vessels of 1,000 grt and over)

	All ships			Of which:												
				Tankers			Bulk carriers			Freighters			Others			
	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	Number	grt	dwt	
11.5 South America: eastern seaboard (continued)																
<i>Brazil</i>																
Additions	27	228	311	1	2	2	3	55	91	23	172	218	—	—	—	
of which: new deliveries	23	215	292	—	—	—	3	55	91	20	161	201	—	—	—	
Net additions	18	173	231	-(2)	-(23)	-(36)	3	55	91	17	142	177	—	—	—	
<i>Uruguay</i>																
Additions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
of which: new deliveries	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Net additions	-(2)	-(16)	-(20)	—	—	—	—	—	—	-(2)	-(16)	-(20)	—	—	—	
<i>Sub-total: South America: eastern seaboard</i>																
Additions	39	356	496	4	54	89	4	60	98	29	229	292	2	14	17	
of which: new deliveries	26	245	326	—	—	—	3	55	91	23	191	325	—	—	—	
Net additions	23	251	348	1	29	51	4	61	98	16	148	183	2	14	17	
TOTAL LATIN AMERICA																
Additions	62	477	649	6	66	107	5	77	114	47	307	393	4	28	34	
of which: new deliveries	33	294	386	1	11	16	3	55	91	29	229	279	—	—	—	
Net additions	38	330	439	1	24	41	5	78	114	28	201	249	4	28	34	
<i>Total developing countries and territories above</i>																
Additions	183	1390	1974	19	197	315	12	172	266	130	738	992	22	283	401	
of which: new deliveries	72	803	1135	5	78	128	6	102	171	50	398	517	11	225	319	
Net additions	97	866	1202	11	72	99	10	158	245	60	381	486	16	255	372	

Source: Compiled from data regarding additions and deductions to merchant fleets which were made available to the UNCTAD secretariat by the United States Department of Commerce, Maritime Administration.

^a Figures regarding the acquisition of second-hand ships, per country, may be obtained by deducting "new deliveries" "from additions". With respect to the countries mentioned hereafter, however, the following breakdown figures of "other additions" should also be taken into account:

Tankers: Argentina: 1 vessel—18,000 grt, 18,000 dwt; Brazil: 1 vessel—17,000 grt, 20,000 dwt.

Freighters: Brazil: 3 vessels—113,000 grt, 168,000 dwt; Iran: 1 vessel—35,000 grt, 39,000 dwt; Korea (Republic of): 2 vessels—51,000 grt, 78,000 dwt; Kuwait: 1 vessel—99,000 grt, 127,000 dwt; Nicaragua: 1 vessel—36,000 grt, 42,000 dwt.

^b For an explanation of the code numbers, see annex I above.

Annex IX

Selected maximum and minimum ^a tramp freight rates, 1970-1973

Commodities/routes	Currency unit (sterling and United States dollars and cents)	1970		1971		1972		1973	
		High	Low	High	Low	High	Low	High	Low
<i>Heavy grain:</i>									
United States Gulf-West Coast India ..	Dollars	8.7	7.67½	12.8	..	..	..	..	..
North Pacific-East Coast India	Sterling	7.12½	5.2	4.5	4.27½	{ 16.5 ^b 7.1	{ 15.5 ^b ..	30.5 ^b	17.5 ^b
River Plate-Antwerp/Hamburg range ..	Dollars	15.75	8.15	9.25	5.0	11.65	5.3	29.6	12.75
River Plate—Japan	Dollars	22.0	13.25	13.0	7.0	9.5	6.9	30.25	17.75
North Pacific-Republic of Korea	Dollars	..	..	..	..	11.75	6.05	30.5	14.0
<i>Coal:</i>									
Hampton Roads-Rio de Janeiro	Dollars	12.25	5.0	4.2	2.7	2.9	2.4	..	..
<i>Sugar:</i>									
Mauritius-United Kingdom	Sterling	6.25	4.15	4.15	3.47½	7.25	4.0	11.15	7.5
Philippines-USA	Dollars	13.5	7.85	11.0	9.25	12.0	7.75	17.0	14.5
<i>Ore:</i>									
Mormugão-Japan	Dollars	10.3	9.9	6.15	4.1	4.45	3.6	..	..
<i>Copra:</i>									
Philippines-Continent	Cents	44	37	36½	28	43	26½	52	40
<i>Phosphate:</i>									
Casablanca-China	Sterling	7.4	4.47½	3.9	3.25	3.72	3.0	8.8	5.75
Aqaba-West Coast India	Sterling	2.67½	2.55	2.62½	2.15	2.92	1.9	6.99	3.48
<i>Rice:</i>									
China-Sri Lanka	Sterling	5.9	4.25	4.47½	3.72½	6.85	6.75	8.09	6.8
<i>Fertilizers:</i>									
Continent-China (South Coast)	Sterling	9.35	6.12½	6.1	3.25	..	..	8.55	7.75

Source: Based on information in "Lloyd's List" (London), 4 January 1972, 25 January 1973 and 4 February 1974.

^a Approximate levels.

^b In United States dollars as given by the source.

Annex X

Freight costs as percentage of trade values of selected commodities

<i>Commodity</i>	<i>Trade from</i>	<i>To</i>	<i>Freight as percentage of f.o.b. exports or c.i.f. imports</i>
A. Freight cost as percentage of f.o.b. export value selected commodities, 1962¹			
Tea	Ceylon	All destinations	5.5
Rubber	Malaysia	All destinations	5.8
Coffee.....	Brazil	All destinations	5.9
Sugar	Mauritius	All destinations	7.5
Coconut oil	Ceylon	All destinations	12.1
Iron ore	Liberia	All destinations	29.0
Phosphates	Morocco	All destinations	35.0-40.0
B. Freight cost as percentage of c.i.f. import value selected commodities, 1962¹			
Cotton fabrics	All sources	Mauritius	6.3
Electrical machinery	All sources	Mauritius	7.0
Vegetable oils	All sources	Mauritius	8.2
Rice	All sources	Mauritius	10.7
Motor vehicles	All sources	Mauritius	11.9
Flour	All sources	Mauritius	15.2
Petroleum products	All sources	Mauritius	16.7
Fertilizers	All sources	Mauritius	21.5
Cement	All sources	Mauritius	35.8
Wheat	France	Ceylon	23.0 ^a
Sulphate of ammonia	The Netherlands	Ceylon	33.0 ^a
C. Liner freight rates as percentage of c.i.f.^b or f.o.b.^c prices of selected commodities, 1970²			
Tin	Singapore/Malaysia	Europe	1.2 ^b
Cocoa beans	Ghana	Europe	2.4 ^b
Coffee.....	Colombia (Atlantic/Pacific)	Europe	4.2/4.5 ^c
Coffee.....	Brazil	Europe	5.2 ^c
Cocoa beans	Brazil	Europe	7.4 ^c
Palm kernels	Nigeria	Europe	8.8 ^b
Coconut oil	Ceylon	Europe	8.9 ^c
Tea	Ceylon	Europe	9.5 ^c
Rubber	Singapore/Malaysia	Europe	10.5 ^b
Jute.....	East Pakistan	Europe	12.1 ^b
Copra	Philippines	Europe	14.0 ^b
Sisal hemp	East Africa	Europe	19.5 ^b
Hemp	Philippines	Europe	33.2 ^c
D. Freight costs as percentage of c.i.f. import values iron ore, 1969/1970³			
Iron ore	All sources	Japan	31.6/30.0
Iron ore	Australia	Japan	19.8/19.6
Iron ore	Brazil	Japan	41.0/42.8
Iron ore	India	Japan	37.1/42.5
Iron ore	Brazil	Federal Republic of Germany	21.5/21.4
Iron ore	Scandinavia	Federal Republic of Germany	10.2/10.5

Annex X (continued)

Freight costs as percentage of trade values of selected commodities

<i>Commodity</i>	<i>Trade from</i>	<i>To</i>	<i>Freight as percentage of f.o.b. exports or c.i.f. imports</i>
E. Freight costs as percentage of c.i.f. import values of manu- factures, 1963^a			
Sample of manufactured commodities	United States of America	United Kingdom/ Continent	3.5
Sample of manufactured commodities	United Kingdom/ Continent	United States of America	3.3

^a Freight cost and insurance as per cent of c.i.f. import values.

^b Liner freight rates as per cent of c.i.f. prices.

^c Liner freight rates as per cent of f.o.b. prices or export unit values.

Sources:

¹ "Ocean shipping and freight rates and developing countries" (study prepared by the Economist Intelligence Unit, London), in *Proceedings of the United Nations Conference on Trade and Development*, vol. V, *Financing and Invisibles, Institutional Arrangements* (United Nations publication, Sales No. 64.II.B.15), p. 212.

² *Review of maritime transport, 1971: Report by the secretariat of UNCTAD* (United Nations, Sales No. E.73.II.D.2), table 18. Certain explanatory notes have not been included here.

³ *The maritime transport of iron ore: Report by the UNCTAD secretariat* (United Nations publication, Sales No. E.74.II.D.4).

⁴ United States of America, Congress, Joint Economic Committee, *Discriminatory Ocean Freight Rates and the Balance of Payments: Hearings before the Subcommittee on Federal Procurement and Regulation of the Joint Economic Committee* (Washington D.C., 1965), 89th Congress, 1st session, part 3, p. 470, table 3.

A more detailed discussion of the incidence of freight on jute, rubber and timber is to be found in the following reports by the UNCTAD secretariat: "The maritime transportation of jute" (TD/B/C.4/85 and Corr.1); *The maritime transportation of natural rubber* (United Nations publication, E.70.II.D.11); and "The maritime transportation of tropical timber" (TD/B/C.4/59 and Corr.1).

Annex XI

Estimation of seaborne trade, 1970

(In millions of dollars)

	<i>Imports (c.i.f.)</i>	<i>Exports (f.o.b.)</i>	<i>Difference</i>
Total World Trade ^a	293,300	278,800	14,500
<i>Adjustments to reach seaborne trade figure</i>			
1. <i>Countries for which specific information is available</i>			
(a) Argentina			
Deduct total trade	(1,685)	(1,773)	
Add seaborne trade	1,527	1,608	
(b) Australia			
Deduct total trade	(4,479)	(4,621)	
Add seaborne trade (imports estimated f.o.b.) ..	3,742 ^b	4,593	
Add sea freight and insurance to convert imports f.o.b. to c.i.f.	463		
(c) Canada ^c			
Deduct trade with United States of America except seaborne	(8,839)	(9,637)	
Add estimated seaborne freight for imports to convert imports recorded f.o.b. to c.i.f.	467		
(d) France			
Deduct total trade	(18,922)	(17,739)	
Add seaborne trade	6,626	5,402	
(e) Federal Republic of Germany			
Deduct total imports	(29,814)		
Deduct exports to Austria, Belgium, France, the Netherlands, Switzerland as non-seaborne		(14,348)	
Add seaborne imports	15,246		
(f) India			
Deduct total trade	(2,124)	(2,026)	
Add seaborne trade	2,007	1,778	
(g) Italy			
Deduct total trade	(14,939)	(13,210)	
Add seaborne trade	6,283	4,302	
(h) Japan			
Deduct total trade	(18,881)	(19,318)	
Add seaborne trade	17,062	17,065	
(i) Malaysia (West)			
Deduct total trade	(1,111)	(1,369)	
Add seaborne trade	817	1,010	
(j) New Zealand			
Deduct total trade	(1,245)	(1,225)	
Add seaborne trade	1,196	1,201	
(k) The Netherlands			
Deduct total trade	(13,393)	(11,766)	
Add seaborne trade	7,498	6,286	
(l) United Kingdom			
Deduct total trade	(21,689)	(19,348)	
Add seaborne trade	18,775	16,723	
(m) United States of America			
Deduct total trade	(39,756)	(42,590)	
Add seaborne trade (imports estimated f.o.b.)..	25,194	24,448	
Add seaborne freight and insurance to convert imports f.o.b. to c.i.f.	2,067 ^d		

Annex XI (continued)

Estimation of seaborne trade, 1970
(In millions of dollars)

	<i>Imports (c.i.f.)</i>	<i>Exports (f.o.b.)</i>	<i>Difference</i>
2. Adjustments for countries reporting imports f.o.b. for which specific information is not available^e			
Deduct such f.o.b. imports	(8,002)		
Add adjusted c.i.f. imports from IMF, <i>Direction of Trade</i> , or using IMF 10 per cent	8,802		
3. Adjustments for all other countries			
(a) Austria			
Deduct imports from and exports to Federal Republic of Germany, Italy, Switzerland and Yugoslavia as non-seaborne	(2,008)	(1,372)	
(b) Belgium			
Deduct imports from and exports to Federal Republic of Germany, France, the Netherlands as non-seaborne	(6,255)	(7,404)	
(e) Mexico			
Deduct imports from and exports to the United States of America as non-seaborne	(1,568)	(839)	
(d) Norway			
Deduct imports from and exports to Sweden as non-seaborne	(744)	(398)	
(e) Sweden			
Deduct imports from and exports to Norway as non-seaborne	(408)	(736)	
(f) Switzerland			
Deduct imports from and exports to Austria, Federal Republic of Germany, France, Italy as non-seaborne	(3,625)	(1,936)	
(g) Yugoslavia			
Deduct imports from and exports to Austria as non-seaborne	(152)	(51)	
(h) Others^f			
Deduct assumed overland trade	(96)	(59)	
Estimated seaborne trade	211,337	191,451	19,886

Sources: Compiled on the basis of United Nations, *Monthly Bulletin of Statistics*, vol. XXIV (1970 issues) table 52; IMF/IBRD, *Direction of Trade: Annual 1966-70* (Washington D.C.), pp. 5-7, "World table", part B; and information supplied to the UNCTAD secretariat by selected Governments.

^a Excluding the trade of China, Mongolia, Democratic People's Republic of Korea, Democratic Republic of Viet-Nam and centrally-planned economies of Europe and the USSR.

^b Estimated on the basis of information regarding value of total imports f.o.b. and the ratio of total value of imports to value of imports as recorded from entries lodged at sea (including parcel post) ports.

^c Based on information provided by the Government of the United States of America and the f.o.b./c.i.f. factors of IMF.

^d Cost of seaborne transport of imports plus insurance estimated by the United States Government at 0.75 per cent of the value.

^e Includes Bermuda, Dominican Republic, Malawi, Netherlands Antilles, New Hebrides, New Guinea and Papua, Paraguay, Rhodesia, South Africa, Venezuela, Virgin Islands, Zambia. In the case of Bermuda, which reports imports f.o.b., the 1970 trade value was not separately available.

^f Includes the following trades: Afghanistan with Pakistan; Bolivia with Argentina (for Bolivia only); Brazil; Chile; and Nepal with India (for Nepal only).

Annex XII

Number and capacity of container and roll-on/roll-off vessels, 1965-1974 (container capacity expressed in number of 20-foot containers): in operation (or due to come into operation by) 1 January

Type of vessel	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974
<i>Specialized lift-on/lift-off vessels^a</i>										
<i>Full container vessels</i>										
Number of vessels	36	46	66	99	158	258	361	468	595	624
Container capacity	11,339	14,992	21,567	28,976	50,310	93,896	134,083	182,322	295,491	332,222
<i>Part container vessels</i>										
Number of vessels	41	58	70	97	126	161	219	275	310	319
Container capacity	6,658	9,714	10,687	13,809	17,777	23,915	33,446	44,848	31,750	54,157
<i>Total specialized vessels</i>										
Number of vessels	77	104	136	196	284	419	580	743	905	943
Container capacity	17,997	24,706	32,254	42,785	68,087	117,811	167,529	227,170	347,221	386,379
<i>Multi-purpose vessels^b</i>										
Number of vessels	—	—	7	24	77	173	322	530	786	901
Container capacity	—	—	2,079	7,137	17,765	36,690	62,799	98,754	151,859	179,783
<i>Barge carriers</i>										
Number of vessels	—	—	—	—	—	1	2	7	16	23
Capacity: Number of barges OR	—	—	—	—	—	73	146	511	1,083	1,591
Number of containers	—	—	—	—	—	1,650	3,300	10,200	24,000	33,630
<i>Total all lift-on/lift-off vessels</i>										
Number of vessels	77	104	143	220	361	593	904	1,280	1,707	1,867
Container capacity	17,997	24,706	34,333	49,922	85,852	156,151	233,628	326,124	523,080	599,792
<i>Specialized roll-on/roll-off vessels</i>										
<i>Freight</i>										
Number of vessels	86	113	156	199	239	280	340	407	549	585
Capacity (thousand nrt)	127	172	267	375	450	552	677	826	..	..
<i>Cars</i>										
Number of vessels	53	61	72	79	81	88	101	107	127	130
Capacity (thousand nrt)	72	79	106	117	117	123	131	172	193	..
<i>Rail</i>										
Number of vessels	40	44	48	49	56	57	63	66	73	78
Capacity (thousand nrt)	49	61	70	70	70	93	95	106	110	..
<i>Total roll-on/roll-off vessels</i>										
Number of vessels	179	218	276	327	376	425	504	580	749	793
Capacity (thousand nrt)	248	312	443	562	666	778	955	1,129	..	..
<i>Vehicle carriers (lift-on/lift-off)</i>										
Number of vessels	—	—	5	11	22	36	63	89	106	118
Capacity (number of cars)	—	—	6,970	16,720	28,640	48,810	90,338	140,809	174,219	195,599

Source: United Kingdom, National Ports Council, *National Ports Council Bulletin* (London), No. 2 (Summer 1972), p. 32.

^a Specialized lift-on vessels are specially constructed or adapted for container carriage through

installation of fixed vertical guides and other fittings and normally carry no break-bulk cargo. Part (or "limited") container-ships do not use their full cubic capacity for container storage.

^b Multi-purpose vessels are designed to carry a wide range of cargoes, including some containers.

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