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Chapter IV Trade and Freight Markets



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Chapter IV

TRADE AND FREIGHT MARKETS

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

A. LINER SHIPPING MARKET

(a) Developments in liner markets

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

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

establish optimal ship sizes in the context of total door-to-door transport solutions.

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

Supply-side dynamics

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

Table 31

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

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

Source: *Containerisation International*, November 1997.

Table 32

Estimated capacity of global alliances in container shipping, 1997

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

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

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

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

67. Shipping lines entering global alliances generally expect to realize advantages with regard to both the cost of shipping and transport services and their marketing. Synergies can be expected not only in the actual ocean carriage, but even more so in equipment management and pre- and post-transportation operations, including terminal operations. It is particularly in the inland portions of the transport chain and in container management that the potential for rationalization gains appears to be highest. According to industry sources, up to 20 per cent of containers moved overseas are empty, at an estimated cost of \$2-3 billion. The problem of

empty containers is a major one in container shipping, as reflected in the statistics of major ports of the world. In 1996, for instance, 22 per cent of import containers and 12 per cent of export containers handled in the port of Hong Kong, China, were empty. In other words, the port handled some 2.4 million empty TEUs; this situation is clearly not only caused by trade imbalances, but also by a lack of coordination among carriers. While different cargo requirements may make certain empty movements inevitable even in balanced trades, there still seems to be considerable scope for achieving cost reductions by improving equipment interchange facilities in the context of the new cooperative arrangements.

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

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

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

Relations between shippers and carriers

71. Shippers can expect to benefit from the alliances through improved service quality and equipment availability, as well as reduced transport

costs, provided that these potential advantages are not cancelled out by the adverse effect the alliances may have on the competitive situation in any given liner shipping market.

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

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

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

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

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

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

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

Policy framework

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

75. At the global level, the General Agreement on Trade in Services (GATS) is the most recent example of an instrument aimed at opening markets and creating a fair and regulatory environment for all maritime service providers. The objective of GATS is to liberalize services by progressively dismantling barriers to trade and opening maritime service markets to foreign competition. To this end, a number of countries have entered into commitments to reduce market access restrictions for shipping, port and auxiliary services on a most-favoured nation basis and to grant non-discriminatory access to and use of port and auxiliary services. Unfortunately, the major trading nations were not able to agree on meaningful market access commitments, thus making it impossible to reach a comprehensive and global agreement on the liberalization of maritime

particular markets. These small shippers are often transport services. Nevertheless, by 1 August 1996 (the deadline established by the Decision on Maritime Transport Services, taken by the Council on Trade in Services), 35 States members of the World Trade Organization (WTO) had included maritime transport commitments in their final country schedules.

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

(b) Freight level of main liner services

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

Table 33

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

	Trans-Pacific		Europe-Asia		Transatlantic	
	Asia to USA	USA to Asia	Europe to Asia	Asia to Europe	USA to Europe	Europe to USA
1996						
First quarter	1 746	1 339	1 219	1 369	1 480	1 384
Percentage change	-6.4	-9.1	-3.0	-5.9	2.6	2.6
Second quarter	1 628	1 428	1 218	1 346	1 495	1 342
Percentage change	-6.8	6.6	-0.1	-1.7	1.0	-3.0
Third quarter	1 627	1 517	1 167	1 337	1 610	1 310
Percentage change	-0.1	6.2	-4.2	-0.7	7.7	-2.4
Fourth quarter	1 543	1 384	1 137	1 281	1 621	1 311
Percentage change	-5.2	-8.8	-2.6	-4.2	0.7	0.0
1997						
First quarter	1 473	1 280	995	1 112	1 459	1 302
Percentage change	-4.5	-7.5	-12.5	-13.2	-10.0	-0.7
Second quarter	1 407	1 277	1 036	1 156	1 444	1 246
Percentage change	-4.5	-0.2	4.1	4.0	-1.0	-4.3
Third quarter	1 369	1 428	1 067	1 187	1 602	1 274
Percentage change	-2.7	11.8	3.0	2.7	10.4	0.0
Fourth quarter	1 362	1 182	1 056	1 157	1 458	1 261
Percentage change	-0.5	-17.2	-1.0	-2.5	-9.0	-1.0
1998						
First quarter	1 345	1 119	1 040	1 183	1 472	1 284
Percentage change	-1.2	-5.3	-1.5	2.2	1.0	1.8
Second quarter	1 459	1 015	869	1 227	1 477	1 210
Percentage change	8.5	-9.3	-16.4	3.7	0.3	-5.8

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

westbound shipments dropped to only 78 per cent of eastbound moves (see table 34), thus hampering the potential for freight improvements on both the incoming and outgoing legs. In 1998, the eastbound market became firmer: in the first quarter, rates fell by 1.2 per cent to \$1,345 per TEU, compared with a 4.5 per cent fall in the corresponding period of 1997.

A shortage of vessel space, however, put an end to the continuous erosion of freight levels. Thus, in the second quarter, rates increased by 8.5 per cent to \$1,459 per TEU. In westbound trades, rates fell by 5.3 per cent to \$1,119 per TEU in the first quarter and were 12.5 per cent lower than in the corresponding period in 1997. In the second quarter, rates further decreased by 9.3 per cent to \$1,015 per TEU. With no increase in cargo volume, westbound rates will remain under pressure in the remaining quarters of 1998.

78. In the Asia-Europe trades, although the freight conferences were in a much stronger position following an increase in their membership early in 1997 and there was no increase in the imbalance of cargo movement in either direction from the previous year's level, the average rates in both directions were down drastically by 12.3 per cent to \$1,039 per TEU

on the eastbound leg and by 13.5 per cent to \$1,153 per TEU on the westbound leg. With Asian exports further expanding, and thus the imbalance of cargo flow between the two directions increasing by 39.7 per cent or 221,000 TEUs in 1997, it was clear that pressure on rates would continue in 1998. In the Europe-Asia trade, freights fell by 1.5 per cent and 16.4 per cent respectively, but rose by 2.2 per cent and 3.7 per cent respectively in the Asia-Europe trade.

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

Table 34

Cargo movements on the three major liner trade routes for 1995-1997 and forecasts for 1998
(thousands of TEUs)

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

Source: Compiled by the UNCTAD secretariat on the basis of data supplied by the Japan Maritime Research Institute; DRI/McGraw-Hill, *World Sea Trade Service Review*, various issues; *Containerisation International*, various issues, and other specialized sources.

(c) Containership charter market

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

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

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

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

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

(d) Liner freight index

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

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

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

Table 35

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

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

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

decreased by 21 per cent (Brazil) and around 25 per cent (Colombia). The ratio for tea decreased moderately, mainly because of an unchanged freight rate and an increase in prices, while the decreases in the ratios for rubber and cocoa beans (from Brazil) were due to larger declines in freight rates (32 per cent for rubber and 13 per cent for cocoa beans)

than in prices (29 per cent for rubber and 12 per cent for cocoa beans). The substantial increase in the ratio for jute was primarily attributable to a significant decrease in its f.o.b. (free on board) price, which rose by as much as 33 per cent, while the freight rate remained unchanged.

Table 36

Ratio of liner freight rates to prices of selected commodities

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

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

^a C.i.f. (cost, insurance and freight) prices are quoted for coffee (Brazil-Europe and Colombia-Europe) and coconut oil. For cocoa beans (Ghana-Europe and Brazil-Europe) and tea, the average of the daily prices in London is quoted. Prices of the remaining commodities are quoted on f.o.b. terms. Freight rates include, where applicable, bunker surcharges and currency adjustment factors, and a tank cleaning surcharge (for coconut oil only). Conversion of rates to other currencies is based on parities given in *International Financial Statistics*, published by the International Monetary Fund (IMF). Annual freight rates were calculated by taking a weighted average of various freight rates quoted during the year, weighted by their period of duration. For the period 1990-1997, the prices of the commodities were taken from UNCTAD, *Monthly Commodity Price Bulletin*, March 1998.

B. DRY BULK SHIPPING MARKET

(a) Dry bulk trade

87. Overall dry bulk shipments showed a substantial growth of 5.7 per cent, of which main bulk commodities increased by 6.0 per cent and other dry bulk commodities by 5.5 per cent. World crude steel production increased by

6.2 per cent to 794.4 million tons. Raw material shipments to the steel industry also increased strongly. Iron-ore shipments increased by 8.2 per cent to 423 million tons. Coal was again the most important commodity by volume, increasing by 4.1 per cent to 453 million tons, of which the coking coal trade was up by 5.8 per cent to 181 million tons. The grain trade increased by 5.2 per cent to 203 million tons. Grain exports from Argentina and Australia increased significantly, whereas those from the United States decreased.

Iron ore trade

88. Seaborne iron-ore trade is estimated to have increased by 8.2 per cent to 423 million tons in 1997 from 391 million tons in 1996. Exports from Australia increased by as much as 13.8 per cent to 146.7 million tons, and Brazil's exports were up 7.0 per cent to 136 million tons. Australia and Brazil together accounted for two-thirds of the world iron-ore shipments. Canada's exports rose by 15.8 per cent to 32.3 million tons and those of Sweden increased by 14.3 per cent to 18.4 million tons. Other iron-ore-exporting countries did not experience similar high-growth rates. On the import side, trade with the European Union countries climbed by 3.8 per cent to 136 million tons in 1997, compared with 131 million tons in 1996. Iron-ore shipments to Japan rose by 6.2 per cent to 126.6 million tons, while imports to China rose by as much as 25.6 per cent to 55.1 million tons. The Republic of Korea showed a 3.6 per cent rise in imports, reaching 35.5 million tons. Taiwan Province of China indicated an increase to 13.7 million tons in 1997 from 10.1 million tons in 1996.¹²

Steel production

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

Coal trade

90. The world seaborne coal trade increased to 453 million tons in 1997 from 435 million tons

in 1996. Coking coal showed a favourable growth from 171 million tons to 181 million tons while thermal coal moderately increased from 264 million tons to 272 million tons. While exports from Australia showed the strongest growth of 12.5 per cent, reaching 156 million tons, United States exports fell by almost 13.0 per cent to 61.7 million tons, slipping to third place in the world rankings behind South Africa, which showed a growth of about 2.0 per cent to 63.0 million tons. In South-East Asia, Indonesia's coal exports increased by as much as 19.0 per cent to 38.1 million tons. China's exports rose by 5.1 per cent to 30.8 million tons. On the import side, Japan's coal imports increased by 3.2 per cent to 133.6 million tons, with imports from Australia up 9.4 per cent to 71.5 million tons, imports from the United States down almost 21 per cent to 7.6 million tons and those from Canada stable at 18.7 million tons. Imports to the Republic of Korea increased by about 9 per cent to approximately 50 million tons. The imports of Taiwan Province of China were up significantly by about 19 per cent to 37 million tons. The combined imports to Japan, the Republic of Korea and Taiwan Province of China accounted for 48.7 per cent of the world coal trade. The prospects for the coking coal trade are poor, as the traditional major steelwork importers in the European Union and Japan will be needing less coal as a result of the widespread adoption of pulverized coal injection in steel-making furnaces. On the other hand, in response to further rises in import demand for thermal coal, especially in the East Asian countries, the total seaborne coal trade is expected to continue rising by an average of around 3 per cent annually and to reach 510 million tons in the year 2000.¹⁴

Grain trade

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

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

(b) Dry bulk freight rates

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

Dry bulk time-charter (trips)

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

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

Dry bulk time-charter (periods)

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

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

Dry bulk trip-charter

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

Table 37

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

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

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

^a Compiled by the German Ministry of Transport.

^b Compiled and published by Lloyd's Ship Manager.

Highest and lowest freight rates for major dry bulk trades

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

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

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

101. For grain shipments, after bumper crops in the southern hemisphere, export volumes from Argentina and Australia were particularly high in spring 1997. Export volume from the United States decreased while Canada's increased. Accordingly the trading pattern fluctuated in 1997 much more than usual, although the changes did not have a substantial impact on regional demand for tonnage. The United States Gulf/Japan freight rate slightly decreased from an annual average spot rate

of \$23.75 per ton in 1996 to \$23.25 per ton in 1997; a monthly average peak of \$23.70 per ton was recorded in September 1997. The annual average spot rate for the United States Gulf/European Continent freight rate on an FIO (free in and out) basis decreased slightly from \$12.90 per ton in 1996 to \$12.65 per ton in 1997. From the second quarter of 1997 onwards, the highest rate was \$13.15 per ton (towards the end of the year) and the lowest \$11.45 per ton (in the autumn).

Table 38
Freight rates for selected commodities, 1996 and 1997

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

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

(d) Baltic Freight Index

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

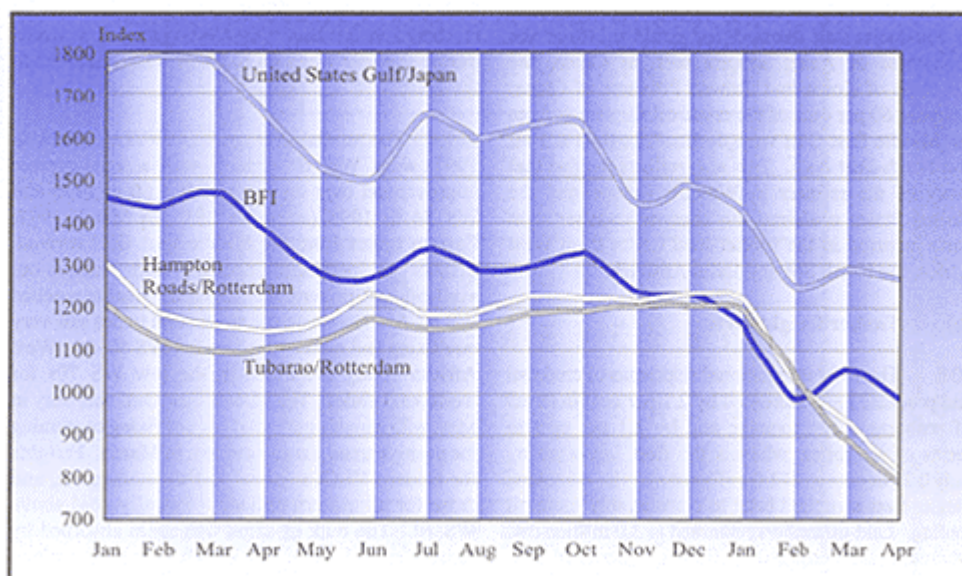
Graph 9 shows the trend in the BFI and selected trade routes for 1997/1998. The year 1997 saw a relatively strong volume increase in main dry bulk commodities.

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

Route		Commodity	Weighting
1	United States Gulf-North Continent	Grain	10 %
1a	Transatlantic round	T/c	10 %
2	United States Gulf-Japan	Grain	10 %
2a	United States Gulf-Far East time charter	Grain	10 %
3	United States North Pacific-Japan	Grain	10 %
3a	TransPacific round	T/c	10 %
6	Hampton Roads-Richards Bay-Japan	Coal	7.5 %
7	Hampton Roads-Rotterdam	Coal	7.5 %
8	Queensland-Rotterdam	Coal	7.5 %
9	Far East to Nopac-Cont	T/c	10 %
10	Tubarao-Rotterdam	Iron Ore	7.5 %

Graph 9

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



Source : London International Financial Futures and Options Exchange.

C. OIL AND OIL PRODUCTS SEABORNE FREIGHT MARKET

(a) Seaborne trade in oil and oil products

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

104. In 1997 the overall volume of the seaborne crude oil trade increased by 2.3 per cent to

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

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

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

(b) Tanker freight rates

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

Very large crude carriers

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

most used. It was another feature of the 1997 VLCC market that the majority of VLCC cargoes from the Middle East Gulf (approximately 60 per cent) were destined for discharge in the East, and there were a few weeks during the year when no business was concluded to the West.

109. The annual average ULCC/VLCC rates in 1997 were WS 67, which was a considerable improvement over the rates of WS 60 in 1996 and WS 54 in 1995 (see table 39). In March 1997, Eastern routes from the Middle East Gulf revived. Thanks to persistent demand and thinned-out availability of preferred tonnages, the market reached WS 60-65. However, the westbound trades saw very rare fixing and rates mainly around WS 50-55. West African fixing continued in the low WS 70s for westbound trades. The Middle East Gulf was busy in May, with a much-improved pace of fixing continuing the positive trend already evident in March. Freight rates for modern VLCCs gained further momentum, and those for all eastern options eventually paid above WS 70. The bulk of ships was again absorbed by Asian demand while the Western trades remained quiet. Nevertheless, freight rates inched up from the low WS 50s to the high WS 50s. Since the beginning of the third quarter, persistent demand and scarce tonnage availability in the Middle East Gulf enabled owners to push for further rate gains, and exceed the WS 90 mark for the Far East. West African fixing was far from plentiful, but the buoyant conditions prevailing in the Middle East Gulf left few ships for West African cargoes, which paid up to WS 85 for westbound trade. After a lull in the market in the second half of the third quarter, the Far Eastern charterers were very dominant in the Middle East Gulf in October and eventually caused the eastwards market to go beyond the WS 100 level. On the other hand, demand in West Africa dropped back to WS 77 for the United States discharge. This downward trend in the VLCC market prevailed from November to the early months of 1998. A surplus of VLCC units in the Middle East Gulf put pressure on freight rates, which softened to the WS 60s for both the eastbound and the westbound voyages. West African fixing, however, continued at the WS 80 level for westbound trades. From the second half of March 1998 onwards, the VLCC market from the Middle East Gulf regained momentum due to brisk demand on the eastern routes, coupled with relatively stronger needs for modern units. However, these favourable factors may not prevail throughout 1998,

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

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

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

^a

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

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

Medium-sized crude carriers

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

111. At the beginning of 1997 a favourable level of demand in West Africa, combined with reasonable requirements in the Mediterranean and North Sea, led to some busy months for Suezmax units. After this period, Suezmax freight rates for United States-bound cargoes from West Africa slowly came back to WS 92-95. On the other hand, the Aframax market grew stronger in the North Sea. Freight rates rose to WS 120-125. Mediterranean trading

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

Small crude and product carriers

112. The annual average rates for small crude and product carriers (30,000-60,000 dwt) in 1997 rose to WS 165 from WS 152 in 1996 and WS 143 in 1995. Until the end of February 1997, freight levels of the main trades in this category in the Caribbean, the North Sea and the Mediterranean fluctuated moderately between WS 155 and WS 165. In March, the Aframax rate ? as in the Caribbean business ? pushed the market for this size up to the WS 220s. The Mediterranean/United States cargo paid WS 165-170, as did stems from the North Sea bound for the United States. This favourable trend continued towards the end of the second quarter with average freights for the main trades fluctuating at as high as WS 175-185. From July onwards, the trades for this size of vessel continued at the same level as in previous years. Caribbean business for 50,000-ton vessels fluctuated between WS 160 and WS 170. The North Sea and the Mediterranean markets varied in the range of WS 150-160. The overall markets for products for the first six months of 1998 were depressed as compared with the same period in the previous year. A relatively warm winter in the northern hemisphere as well as refineries building up stocks and consequent overcapacity, specifically in Asia have contributed to falling rates in the market.

Handy-size dirty carriers

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

Clean-cargo carriers

114. The market for clean carriers of up to 60,000 dwt made a very positive start in the first quarter of 1997, when the general rate level fluctuated widely, reaching as high as the WS 220s-250s. After that, the market for this category deteriorated, reaching a low at the beginning of the fourth quarter of 1997, when the general rate levels remained depressed at around WS 150. The generally negative market conditions were based on continuing low demand in the main clean market, except for the Caribbean trades. In November, a positive trend emerged in the Middle East Gulf, where the 50,000-55,000-ton class received a boost to as high as WS 185 for Far East trade. The 45,000-ton class moving from the Middle East Gulf to various parts of the Indian subcontinent continued booking cargoes at around the WS 160s. Trade received a welcome boost in Indonesia, where the 50,000-ton size was booked at WS 170 for the Far East. From December 1997 the Caribbean market remained firm at up to WS 220-230, while the Mediterranean trades to Europe slipped back to WS 150 because of a lack of enquiries. This market trend continued in the early months of 1998, and then freights in all markets slowed down.

Tanker period-charter market

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

D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE

Trends in global import value and freight costs

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

Developed market-economy countries

117. Notwithstanding this general trend, there is also a large variation in freight cost ratios among the developed market-economy countries. Among those countries whose total c.i.f. import value exceeded \$100,000 million in 1996, Canada, Germany and the United Kingdom incurred relatively low freight cost ratios of 2.40, 2.68 and 2.78 per cent respectively. The United States and France recorded moderate ratios of 3.24 per cent each, while Japan's ratio was as high as 8.13 per cent, followed by Italy (6.36 per cent) and Spain (5.58 per cent), as compared to 4.19 per cent for the overall developed market-economy countries as a group. These high rates can be primarily explained by

structural features of the import trade, but to extent, they also reflect relatively high charges for distribution, including cargo-handling activities in ports.

Developing countries

118. The overall ratio of freight charges for the developing countries declined almost every year from 1980 (when it was 10.44 per cent) to 1996 (when it was 8.06 per cent), as did that of developed market-economy countries. African developing countries showed a marginally lower ratio of 11.41 per cent in 1996, as compared with 11.44 per cent in 1995. The ratios for West African and East African developing countries were higher, at 13.58 and 13.70 per cent respectively, while the ratio for North African countries was 9.01 per cent, much lower than the ratios for the other subregions in Africa but still higher than the average for developing countries (8.06 per cent). The majority of African landlocked countries paid a comparatively high amount for freight charges: the ratio for Malawi was 39.41 per cent, Rwanda 29.91 per cent, Mali 29.57 per cent, Chad 25.54 per cent and Burkina Faso 21.67 per cent.

119. In 1996, developing countries in Asia accounted for 66.4 per cent of the total freight costs and 67.2 per cent of the total import value of imports of developing countries. The freight factor declined slightly to 7.97 per cent as compared with 8.03 per cent in 1995. It was 8.79 per cent in West Asia, 13.59 per cent in the Islamic Republic of Iran and 13.07 per cent in Kuwait. The freight factor in South and East Asia was 7.84 per cent. Among major importing countries in this group, the Republic of Korea and Singapore paid relatively low levels of freight costs at 5.22 and 5.58 per cent of import value respectively, while Malaysia and Thailand incurred freight costs as high as 9.36 and 9.60 per cent respectively. India and Indonesia paid high freight costs of 10.32 and 10.55 per cent respectively. These variations can be explained by differences in trade and shipping patterns, particularly in the liner sector, which includes special infrastructure facilities covering feeder services between hubs and feeder ports.

Table 40

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

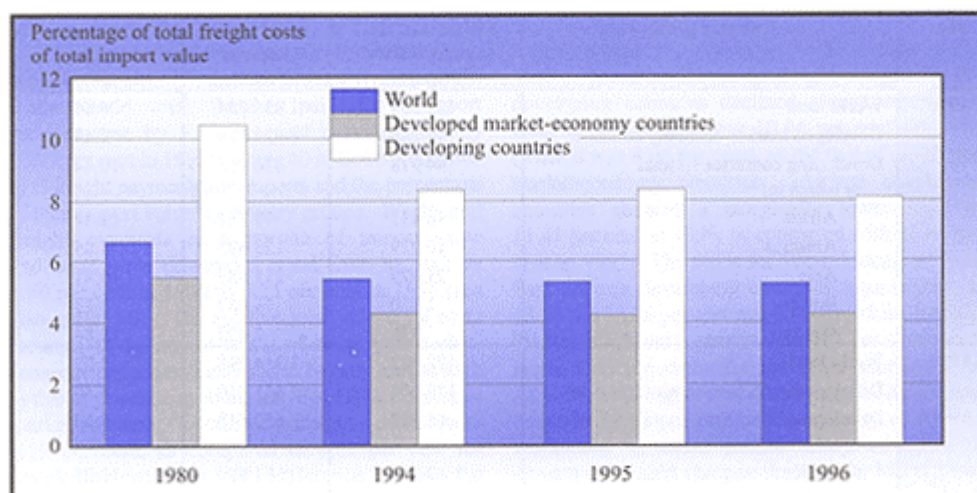
Year	Country group	Estimate of total freight costs of imports	Value of imports (c.i.f.)	Freight costs as percentage of import value
1980	World total	123 264	1 856 834	6.64
	Developed market-economy countries	78 286	1 425 979	5.49
	Developing countries ? total	44 978	430 855	10.44
	<i>of which in:</i>			
	Africa	10 432	77 757	13.42
	America	10 929	123 495	8.85
	Asia	21 979	211 089	10.41
	Europe	1 320	16 037	8.23
Oceania	318	2 477	12.84	
1990	World total	173 102	3 314 298	5.22
	Developed market-economy countries	117 004	2 661 650	4.40
	Developing countries ? total	56 098	652 648	8.60
	<i>of which in:</i>			
	Africa	9 048	81 890	11.05
	America	9 626	117 769	8.17
	Asia	35 054	427 926	8.19
	Europe	1 909	21 303	8.96
Oceania	461	3 760	12.26	
1995	World total	247 325	4 688 637	5.27
	Developed market-economy countries	145 040	3 457 009	4.20
	Developing countries ? total	102 285	1 231 628	8.30
	<i>of which in:</i>			
	Africa	11 598	101 369	11.44
	America	20 305	257 505	7.89
	Asia	68 003	847 054	8.03
	Europe	1 728	20 445	8.45
Oceania	651	5 255	12.39	
1996	World total	259 940	4 954 040	5.25
	Developed market-economy countries	151 145	3 604 494	4.19
	Developing countries ? total	108 795	1 349 546	8.06
	<i>of which in:</i>			
	Africa	12 073	105 821	11.41
	America	21 929	309 560	7.08
	Asia	72 263	906 714	7.97
	Europe	1 842	21 866	8.42
Oceania	688	5 585	12.32	

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

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

Graph 10

Estimates of total freight costs in world trade by groups



Source: Table 40.

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

and Paraguay, both landlocked countries, had higher freight factors of 11.10 and 11.33 per cent respectively, whereas that of Uruguay was as low as 4.51 per cent.

107. Small island developing countries in the Caribbean and Oceania paid higher freights at 10.94 and 12.31 per cent respectively in 1996. The high freight costs reflect the comparatively high freight rates for ocean transport in the island developing countries. Long distances, low cargo volumes, transshipment and high feeding costs contribute to a level of freight charges which are generally higher than those incurred by most other developing countries.

Box 2

Before and after

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

But that is another issue.

Source: Containerisation International, April 1998.

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