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## Programme of Dialogue and Co-operation with China

### WORKSHOP ON MARITIME TRANSPORT POLICIES AND PRACTICES

### DEVELOPMENTS IN THE MARITIME TRANSPORT SECTOR IN 1996-1997

Paris, 4-5 November 1997

*This paper is provided for information under Session 1 of the draft Agenda [SG/CHINA/MTC/A(97)1].*

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## **SUMMARY**

This document will serve as a background material for the forthcoming Workshop on Maritime Transport Policies and Practices between OECD Member countries and China (Session 1). It contains an assessment of the developments in the different shipping markets during the course of 1996 and, whenever possible, the early part of 1997.

The seaborne trade for the main dry bulk cargoes decreased in 1996 (-0.4 per cent in volume compared with the previous year) and the freight rates in this sector reached their lowest level since the beginning of the decade. On the other hand, the tanker seaborne trade and the volume of containerised cargo rose by 2.7 and 6 per cent respectively, compared with 1995. For the second year running, the tanker industry experienced strengthening charter rates, whilst the container freight rates observed on the main East/West trades continued to decrease, due to a sharp increase in delivery of new tonnages. The world fleet (cargo carrying vessels) expanded from 465.0 million gross tons in 1995 to 482.3 million gross tons in 1996 (+ 3.7 per cent). Its average age remained stable (18 years).

## **ACTION**

The present document is submitted to the workshop participants for information.

## **RELATED DOCUMENT**

Draft Agenda for the Workshop: SG/CHINA/MTC/A(97)1

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## DEFINITIONS AND ABBREVIATIONS

The following terms taken from the Marine Encyclopaedic Dictionary, E. Sullivan and F.I.C.S. Lloyd's of London Press Ltd., 1988, are used extensively in the Report and may not be entirely familiar to all readers:

- **Gross register tonne/tonnage (grt/gt):** the total of all the enclosed spaces within a ship, expressed in tons/tonnes, each basic unit of which equals 100 cubic feet/2.831 cubic metres. The term grt is progressively being replaced by "gross tonnage (gt)", also calculated in basic units of 100 cubic feet/2.831 cubic metres, as defined by the 1964 Convention on Tonnage Measurement of ships which came into force in 1982, but which contains a 12-year transitional period.
- **Deadweight tonnage (dwt):** a ship's dwt indicates the maximum weight in tons/tonnes of cargo, stores, fuel and domestic water that may be loaded before her loadline (unless otherwise stated, the summer loadline) is submerged. dwt can also be expressed in terms of size, each unit of which measures 40 cubic feet or less/one cubic metre or less.
- **Freight ton/tonne:** Unit of cargo on which a freight rate is based, generally one tonne or one cubic metre.
- **Very Large Crude Carrier (VLCC):** a large tanker of no official size but variously described as being one between 100 000 tonnes dwt and 350 000 tonnes dwt.
- **Ultra Large Crude Carrier (ULCC):** a large tanker of no official size but variously described as being one between 350 000 tonnes dwt and 550 000 tonnes dwt.
- **Worldscale:** an index designed to express the current charter value of a particular oil carrier anywhere in the world regardless of the route on which she is operating. The basic schedule contains calculated US\$/per tonne rates for a vessel of specified characteristics under defined conditions for virtually all oil shipping routes. These rates are used as the yardstick (Worldscale 100) to express the current charter rate. Thus, W25 indicates that the charterer will pay the shipowner one-quarter of the basic schedule rate per tonne of cargo moved in the particular voyage. An extensively revised schedule called New Worldscale (NWS) was introduced on 1 January 1990 and is not directly comparable to Worldscale.
- **Combination carrier:** a ship designed to carry either oil or other cargo, normally not concurrently. They include Ore/Oilers (O/O), Ore/Bulk/Oilers (OBO), Oil Products/Bulk/Crude oil carriers (PROBO) and tankers which can also load a limited number of containers.

- **Panamax:** The largest size of ship capable of transiting the Panama Canal (maximum beam acceptable 32.30 metres).
- **Charter types:**
  - **Voyage or "spot" charter:** the vessel is chartered to transport a specified tonnage of cargo at a particular price per ton/tonne, regardless of the duration of the voyage.
  - **Trip charter:** the vessel is chartered for a specific movement on a daily rate (either per dwt or as a lump sum) without reference to the amount or nature of the cargo.
  - **Consecutive voyage charter:** the vessel is chartered for a number of voyages or a period of time with the cargo transported being paid for at agreed rates per tonne.
  - **Time or period charter:** the vessel is chartered for a specific period of time on a monthly rate per dwt, with the charterer paying the cost of fuel and port charges.
  - **Bareboat or demise charter:** the vessel is chartered for a specified period of time on a daily or monthly rate per dwt or grt, with the charterer providing and paying for the manning, the maintenance, the insurance and the cost of fuel and port charges.
  - **Contract of affreightment:** the owner is paid by the charterer to deliver specified parcels of cargo at given intervals over a specified period of time at an agreed rate per tonne, without a particular vessel being designated.
- **"Point-to-point" or "door-to-door" tariff:** the indication of a single price per tonne for a movement between one inland location and another, involving more than one mode of transport (road, barge, sea, rail, etc.) without giving a breakdown of the allocation of the price between the various modes. These are contrasted with "port-to-port" or "range-to-range" tariffs which cover only the sea-leg.
- **Unit-load vessels:** dry cargo ships designed to receive cargo which before loading has been consolidated into uniform units (packages such as pallets, trailer loads, containers or barges) to facilitate handling and transfer between transport modes.
- **Ro-ro vessels:** unit-load vessels where the cargo is moved on and off using trailers normally carrying containers; a common characteristic of these vessels is their intermodal capabilities, *i.e.* their cargo can go directly into the highway system.
- **TEU:** twenty-foot equivalent units. The basic unit for expressing the capacity for carrying containers upon fully cellular, part-container, or ro/ro vessels. The purpose of this unit is to put on a single basis, ships designed to move containers of 20, 35 or 40 feet in length, with a standard height and width of eight feet. Capacity is also expressed in FEU forty-foot (equivalent units).

## DEVELOPMENTS IN THE MARITIME TRANSPORT SECTOR IN 1996-1997

### DEMAND FOR SHIPPING SERVICES

#### DEVELOPMENTS IN SHIPPING MARKETS

1. The volume of the main dry bulk trade decreased in 1996 after rising to a new record in 1995. Despite this, the faster increase in fleet supply meant that the general tone of the market was subdued as compared to the record freight levels seen in 1995. Elements of firmness in trade volumes can be observed for steam coal which continued the expansion of recent years, due to primary demand from the electricity generating sector. Against this growth in coal trade, both iron ore and grain trade saw small declines. The overall economic situation improved in the year and, given the decline in freight rates, this reinforces the argument that a change in traded volumes of low value seaborne bulk commodities is not the sole criterion for judging the supply/demand balance.
2. The tanker industry saw a second successive year of strengthening charter rates and another rise in total cargo liftings to another record level. Much of this cargo supply came from non-OPEC sources, despite higher output from OPEC than in 1995. For a third successive year, a geographical disparity was apparent between rapidly rising crude supply in the Atlantic Basin and fast-growing oil demand east of Suez. This was even though consumption in western markets was more robust than in the previous year.
3. Japan continued to account for approximately 30 per cent of all dry bulk cargoes making it the principal export destination for these types of commodities. In 1996, Japan's imports of basic raw materials (iron ore, coal, ferrous scrap and steel) collectively accounted for 255.4 Mt which was just 0.2 per cent greater than 1995's 255.0 Mt. This negligible increase reflected the overall tone of the global market. In oil trades, imports (crude and products) corresponded to 257.5 Mt, or some 14 per cent of the world total. Like the dry bulk trades, much of this consisted of cargo shipped on long-haul routes.
4. In 1993, Australia overtook North America (USA plus Canada) as the leading export region of the five major dry bulk commodities (coal, iron ore, grain, phosphate rock and bauxite/alumina). Since then the gap has widened as coal demand from the Asian area in particular has continued to expand. Among oil producers, Saudi Arabia retained its position as the world's largest exporter, followed by non-OPEC Norway and the Former Soviet Union (FSU).
5. The pace of growth in the Asia-Pacific region slowed from exceptionally fast rates seen in previous years. However, in the global context, the countries in the region are still exhibiting faster than average expansion. This has led to a rapid build-up in demand for basic raw materials including many of the fundamental dry bulk commodities and oil. For example, China's GNP growth fell from 10.2 per cent in 1995 to 9.5 per cent in 1996; South Korea's fell from 9 per cent to 6.6 per cent and the other countries in the region, as a group (Chinese Taipei, Hong Kong (China), Malaysia and Singapore) saw their aggregate rate of growth fall from 6.9 per cent in 1995 to 6.1 per cent in 1996. These growth rates were well in excess of countries in Europe and North America.

## **DRY AND LIQUID BULK SHIPPING MARKETS**

6. According to the estimates for 1996, the total volume of seaborne trade in the five major dry bulk commodities: coal (metallurgical and steam), iron ore, grain, bauxite/alumina and phosphate rock, fell in 1996 at a preliminary 1,089 Mt. This was 4 Mt less than the previous year but nearly one-third more than the 834 Mt recorded in 1986. Coal was the only one among the five major bulk commodities which seaborne trade grew, but this did not offset the decline in trade seen by both iron ore (down 12 Mt to 390 Mt) and grain (down 8 Mt to 188 Mt). Coal trade increased by 14 Mt to reach 437 Mt, which was a new record and was also 58 per cent greater than the 276 Mt recorded in 1986. Trade in phosphate rock increased from 30 Mt to 31 Mt. Trade in bauxite/alumina slightly increased from 52 to 53 Mt.

7. Deep-sea oil trade volumes continued increasing for both crude and oil products, doing so at slightly higher rates than a year earlier. Seaborne crude grew by an estimated 2.5 per cent from 1,415 to 1,450 Mt, while product shipments rose by 3.7 per cent to 395 Mt from 381 Mt in the previous year. The widespread availability, though, of short-haul oil supplies meant that this expansion of oil liftings was not fully matched by corresponding growth of vessel tonne-mile employment.

### **Steel/Iron Ore**

8. It has often been noted that when there is a strong steel sector there is also a strong shipping market. With approximately 50 per cent of all dry bulk commodities related to the steel industry this is perhaps not surprising. In 1996 global steel production fell by just 0.4 per cent and, at the same time, freight rates were subdued. Total output is monitored by the International Iron and Steel Institute, based in Brussels. They recorded global output at 752 Mt as against 756.2 Mt in 1995. Most regions suffered a decline in output although there were a couple of notable exceptions: South America and China.

9. The rapid economic expansion in China and the burgeoning domestic demand led to a new record output of steel. This had the effect of lifting production above 100 Mt for the first time and also supplanting Japan as the world's largest producer. This extra output was largely achieved through conventional blast furnace means rather than through electric arc (EAF) methods. As a result, imports of iron ore rose to a new record of 44.1 Mt. For comparison this is far less than Japan's import requirement (approximately 120 Mt) on a similar steel output. This is because: a) one-third of Japan's production is EAF-based and b) because China has its own (albeit low grade) supplies of iron ore.

10. Japan's steel output in 1996 fell by nearly 3 Mt from the previous year to 98.8 Mt. Exports of steel fell by almost exactly the same amount as the decline in production, indicating that domestic consumption remained very similar to 1995 at 83.6 Mt. Although EAF production rose to a new record as a proportion of total output (33.4 per cent), this was partly due to the fall in overall steel output. A greater quantity of steel was produced by this means in both 1990 and 1991, implying that the potential remains for further expansion from this production process.

11. In other Asia-Pacific countries steel output was lifted to a new record of 80 Mt (1995: 76 Mt). This was due to the above average economic growth rates which were a direct result of the high levels of industrial output. Korean steel production rose to a new record 41 Mt (from 37 Mt in 1995) while Chinese Taipei's output expanded to 12.3 Mt from 11.6 Mt. India's steel industry promises to expand rapidly in the years ahead and, in 1996, output was raised to 21.8 Mt from 20.8 Mt. Imports of iron ore in the region were focused on South Korea and Chinese Taipei, as India has its own indigenous supplies. These two countries imported, respectively, 34.1 Mt (1995: 35.1 Mt) and 10.0 Mt (9.2 Mt).

12. In Europe output declined by 7 Mt to 163 Mt. Italy and Germany accounted for most of the reduction driven by special reasons in each country. In Italy it was the introduction of a new property tax that hit housing construction, whilst in Germany it was the general construction sector that was responsible. In eastern Europe and the FSU together there was a further decline in output to 107 Mt (from 112 Mt in 1995). Poland was particularly hard hit in 1996 with an output cut of 14 per cent over the previous year. The FSU's steel production fell to 76.5 Mt as compared to 160 Mt in 1986.

13. Exports of iron ore were dominated by Australia and Brazil which between them accounted for around 70 per cent of seaborne trade. shipments from Australia fell by 2 Mt to 133 Mt. Nonetheless this was still the second largest tonnage from the country (after 1995). A similar pattern was seen in Brazil where the 129.7 Mt of exports was 1.3 Mt down on 1995, which was the highest ever level. The four other significant exporters in international trade: Canada, South Africa, Sweden and India, all suffered tonnage reductions of 1-2 Mt in 1996 to, respectively, 27.9 Mt, 19.3 Mt, 16.1 Mt and 31.7 Mt

## Coal

14. Seaborne coal trade soared to a new record tonnage in 1996 at a preliminary 437 Mt. This was a 14 Mt increase over 1995 and was due to further expansion in demand particularly from the electricity generation sector. The bulk of the increase was achieved in the steam coal component which rose by 8 Mt to 261.5 Mt. The increase in metallurgical coal imports was due to further demand in South America and South-East Asia. Total seaborne trade in metallurgical coal was 175.7 Mt (1995: 172.1 Mt). Record imports of coal were recorded in Japan, Brazil, South Korea, Chinese Taipei, India, Israel and the Philippines.

15. Much of the expansion was focused on the Asian region where the drive for more imports was generated by new coal-fired power stations. Some of these came on stream in 1995 and the bulk of the extra requirement in 1996 was attributable to power stations that had started up a year earlier.

16. As mentioned above, Japanese imports rose to a new record of 128.8 Mt. Of this total, metallurgical coal imports were unchanged at 73 Mt; a level which has been closely sustained since 1988. Steam coal imports rose by 3 Mt to 52.6 Mt as a result of power stations that were commissioned in 1995. One new power station started consuming coal in 1996: the 1,000 MW unit at Haramachi owned by Tohoku Electric.

17. Imports of coal by other Asian countries were a particular feature of 1996. In South Korea a jump in electricity generation of 11 per cent triggered a surge in coal demand. Like most countries Korea now has the usual wide variety of electricity capacity. As a result an increase in electricity consumption does not necessarily lead to a directly similar increase in coal demand. In fact coal consumption in the Korean power stations expanded faster than electricity growth due to new generating units coming on stream. As a result coal imports increased for the sixth year in succession to 45.7 Mt, of which steam coal (mainly for power station use) rose to a new record 26.7 Mt. In Chinese Taipei, imports increased to a record 30.7 Mt (from 29.2 Mt). This was again directly as a result of new coal-fired generating capacity. In Hong Kong (China) imports slumped from 9.1 Mt to 6.8 Mt as a result of reduced electricity imports by mainland China. At the same time imports of electricity by the colony increased and stock-piles were reduced.

18. Coal imports in the European Union increased for the third year running to reach 138.5 Mt. Coal production in the region fell by 7 Mt to 128 Mt. This was far more than the increase in imports and indicates that the overall consumption of coal continues to be substituted by other energy forms, notably

gas and nuclear. At the same time, and because of the rapid decline in domestic production, the dependency of the EU on imported coal continues to grow.

19. On the exporters' side, Australia led the way exceeding 140 Mt for the first time. Some 65 Mt of this total was shipped to Japan. Whilst the tonnage transported to Europe was considerably less, at just 17 Mt, the vessel demand is almost as large for this trade because of the far greater length of haul: approximately 12,700 nautical miles (nm) as against 4,000 nm to Japan. There was a significant increase in exports to India to reach 11.2 Mt, which comprised 95 per cent metallurgical coal.

20. The USA saw little change in the volume of exports; in total, shipments amounted to 70.8 Mt of which metallurgical grade accounted for to 60 per cent. Growing demand in the US domestic market put pressure on prices which, in turn, reduced the competitiveness of US coal on the export market.

21. Shipments from South Africa were effectively unchanged at 61.9 Mt. This was partly due to the capping of exports as capacity constraints were encountered at the main export port of Richards Bay.

22. Amongst the other significant exporters Canada (33.8 Mt), Indonesia (32.0 Mt), China (29.0 Mt) and Colombia (25.0 Mt) all achieved record tonnages in 1996 although it is fair to say that the increases were more modest than in many previous years.

## **Grain**

23. The 1996/97 trade year (July to June) saw a record level of grain consumption, according to the International Grains Council. However, at the same time there were record harvests in several key importing countries. As a result, and combined with the stocks carried in from the previous year, trade volumes were not as great as the level of demand would normally suggest.

24. Wheat production rose to 581 Mt, an increase of 41 Mt over the previous year - this was the second largest on record. At the same time coarse grain output rose to a new peak of 881 Mt. This was some 90 Mt more than the previous year and gives an indication of the surplus available. In the context of overall trade totalling around 190 Mt, the significance of this increase is clear to appreciate.

25. The USA remains the dominant global exporter, accounting for around 44 per cent of world trade. In 1996/97 exports reached 79 Mt (down 20 Mt on the previous year). This was due to a combination of factors including extra availability from South America (especially Argentina) and to a recovery in shipments from Australia after the severe drought of the previous year. The US farm policy reform, otherwise known as the "FAIR" act, was signed in April 1996 and is intended to lead to lower global grain prices and, at the same time, to benefit US farmers in the long term.

26. Shipments from Canada were no more than average, with 23 Mt in the 1996/97 trade year. Three-quarters of this total is wheat, the vast majority of which is shipped to Japan and South East Asia. Less than one million tonnes of wheat is exported to Europe.

27. Argentina's exports for many years hovered around the 10 Mt level. In the 1996/97 trade year, however, exports were 18 Mt. This near doubling in export availability was achieved by a combination of several factors including: a) a larger sown area, b) ideal growing conditions, c) improvements to the transport system allowing less wastage, and d) greater application of fertilisers.

28. On the importing side Japan is the leading destination, although the structure of grain trade is such that there are far fewer exporters than there are importers. A simple statistic illustrates this point. The top five exporters account for 92 per cent of global trade whereas the top five importers (which includes Japan and China) account for just 34 per cent of the total. Imports by Japan were 26.3 Mt, a figure typical of the previous ten years.

29. Chinese imports have become the most variable element in the grain market. In recent years, volumes purchased have swung by up to 10 Mt from one year to the next. In 1996/97 the country was in its low cycle, with just 5.6 Mt of imports. This contrasts sharply with the 17.5 Mt of the previous year. The variability from one year to the next is of course due to the huge uncertainty that dominates Chinese grain production. The country is so vast that there have been occasions in recent years when production has been hit by droughts in one part of the country and at the same time floods in other regions. These individual events are all too common but when they coincide the requirement for substitute imports becomes a priority.

30. South Korea has slowly emerged as a significant grain importer. Since 1989/90 the country's requirements have doubled and, in 1996/97, had reached 13.1 Mt. Otherwise there was little of note in grain import requirements; Egypt imported 9.2 Mt (unchanged from the previous year), while Chinese Taipei's imports slipped by 0.4 Mt to 7.0 Mt.

### **Bauxite and alumina**

31. Seaborne trade in bauxite/alumina is estimated to have risen to 53.1 Mt in 1996, representing an increase of around 2.8 per cent on the previous year. Changes in the trade often go hand in hand with changes in the steel industry as, for obvious reasons, the target markets for the products are similar. In 1996, however, the aluminium producers apparently gained a small market share over steel, reflecting the continuous drive to lighter materials.

32. Alumina production rose to a new record in 1996, estimated by the International Primary Aluminium Institute at 40.9 Mt (1995: 38.5 Mt). Much of the expansion can be attributed to the European producers who lifted output from 5.9 Mt in 1994 to over 9 Mt in 1996. At the same time primary aluminium production rose (also to a new record) to 18.6 Mt. Once again, it was Europe that accounted for this production growth with output having been raised from 3.2 Mt in 1993 to 6.4 Mt in 1996.

### **Phosphate rock**

33. Seaborne trade in phosphate rock, as derived from statistics issued by the International Fertilizer Association, rose to 31 Mt in 1996 from 30 Mt the previous year. Most of the 1 Mt gain in trade was achieved by Morocco and Jordan, although several other exporters contributed smaller amounts. The one notable exception to the general trend was the USA, which continued its decline of recent years. Exports from the USA were cut to 1.6 Mt in 1996 compared to 9 Mt in 1989. The decline in US exports is attributed to the gradual exhaustion of the phosphate rock mines in Florida.

### **Minor bulk cargoes**

34. The wide coverage of commodities included in this sub-category remains daunting. There are, for example, over 200 categories devoted to steel products all of which at some time are carried by bulk

carrier. In addition, there are many types of timber/forest products some of which are carried in conventional bulk carriers while other forms are not. Many (relatively) high value minor ores are carried in small parcels of 4,000-6,000 tonnes. For the food/agriculture-based categories, there is a wide variety of commodities, many of which are shipped in bags in general cargo ships. Some of these cargo types are also shipped in containers, although it is exceptional to find any reference to this in any official customs statistics.

35. For steel products, exports from the European Union rose strongly in 1996. Germany, Italy and Spain were the leading trio of exporters. Globally though, Japan remains the largest steel exporter - despite a cut of 30 per cent in shipments in recent years. In 1996, exports declined to 20.6 Mt from 23 Mt in 1995 and (for comparison) from 33 Mt in 1985. The main reason for the decline was a reduction in shipments to its once largest market China (down 33 per cent) and Chinese Taipei (down 14 per cent). Imports by China actually increased in 1996, although this country took its extra requirements from cheaper suppliers in the region. Total imports by China rose to 16 Mt in 1996 from 14.4 Mt in the previous year. The leading steel importer, however, was the USA which took 4 Mt more than in 1995 to reach 26 Mt. This extra requirement was simply to cover growing domestic consumption in a country where most steel plants were operating at, or near, full capacity.

36. Trade in ferrous scrap is difficult to quantify as a seaborne trade, as the largest regional supplier is the EU. However the majority of exports are carried by a variety of means (including overland) to other EU countries. Outside the EU, the largest exporter is the USA which in 1996 exported 8.4 Mt. This was a 2 Mt reduction on the previous year and was due to tightening demand for scrap within North America. As a result scrap prices rose which, in turn, reduced the international competitiveness of US-sourced material.

37. Trade in soyabeans (34.4 Mt) and meal (32.7 Mt) is dominated by the USA which controls the bulk (about 24.5 Mt) of beans shipments and 6 Mt of the soyameal total. Brazil is the second largest exporter but, unlike the USA, the proportions are reversed with 4 Mt of beans and 11 Mt of meal. The two main markets are Europe (especially the Netherlands) and the Asia-Pacific region (particularly Japan).

38. World trade in rice doubled between 1989 and 1995 (from 10.8 Mt to 21 Mt). In 1996, however, the total slipped back to 19 Mt. This was due to reduced requirements by China and Indonesia. Thailand is the main exporter, accounting for around 30 per cent of all exports.

## **Oil**

### ***Crude Oil Supply***

39. Global oil output in 1996 (including NGLs, condensates, feedstocks and non-conventional fuels) rose for a fifth successive year to 72.0 million barrels per day (Mb/d), or 2.08 Mb/d above year-earlier levels, of which just over half (1.11 Mb/d) came from non-OPEC sources. This year-on-year increase in total oil supplies was the largest since 1988 and followed the same pattern as seen in recent years, i.e. rising exports from short-haul suppliers within the Atlantic Basin, in particular from the North Sea and Latin America, but relatively minor gains for most areas east of Suez. Admittedly, rising oil consumption and a strengthening of the international prices for crude and products created the conditions to raise output but, from a shipping perspective, this extra production from short-haul sources meant limited growth of tonne-mile demand for the oil carrier fleet.

40. Crude output from the main producing regions west of Suez contributed most to the growth of oil supplies in 1996. In the western hemisphere, North American output rose marginally to 11.05 Mb/d, as Canada saw modest increases and production in the US remained at 1995 levels. Supplies from Latin America rose sharply to 9.50 Mb/d (0.84 Mb/d higher), as: a) Venezuela raised output via new joint-venture agreements with foreign companies, b) Mexico experienced no major disruptions in its oil production, in contrast to 1995, and c) further expansion took place of Brazil's offshore output.

41. A 0.36 Mb/d rise in crude supplies from the North Sea to over 6 Mb/d, including a surge to almost 6.4 Mb/d late in the year, resulted mainly from new field developments in the Norwegian sector. Use of enhanced oil recovery (EOR) technology plus floating production and offloading units (FPSOs) helped to make this possible. In contrast, UK output saw virtually no change from 1995 levels as the start up of some new fields was delayed during the year. The first crude from the Foinaven field in the new "west of Shetland" province, which was due to start flowing in July, was subjected to a series of delays totalling over 12 months, thus deferring initial output until second-half 1997.

42. Among other regions, supplies from West Africa rose as various new offshore fields commenced production, with output rising by over 0.2 Mb/d from Nigeria alone - despite the notional constraints placed on it by required adherence to OPEC sales quotas. North African oil production remained at levels achieved a year earlier as gains from Algeria offset declines in other countries within that region. Output from the FSU continued falling for the ninth consecutive year, despite continued investments by foreign oil companies in some republics, to average slightly over 7 Mb/d. Compared with previous years, though, the extent of the reduction from 1995 levels (just 0.07 Mb/d) indicated further progress towards ending this long slide in oil production.

43. East of Suez, oil supplies from the Middle East rose by 0.16 Mb/d, despite the absence of any rise in output from Saudi Arabia, with most producers in the region achieving small increases. Late in the year, Iraq resumed crude exports under the United Nations' "oil-for-food" agreement at some 0.55 Mb/d. In the Asia-Pacific region, production also rose, with most of these additional supplies (0.13 Mb/d) originating from mainland China.

### ***Refined Products Supply***

44. World supply of refined products grew again in 1996 as both plant utilisation and refining capacity expanded further, thereby demonstrating the particular buoyancy of oil demand. Globally, crude oil distillation capacity is estimated to have grown by 1.8 Mb/d, of which around 1.22 Mb/d came on stream in the Asia-Pacific region. Within this area, South Korea raised its plant capacity by an additional 0.7 Mb/d to 2.5 Mb/d while in Thailand two new refineries entered service; together with capacity expansion at the Sriracha refinery, this led to a collective increase of 0.36 Mb/d in that country. This rise in Asia-Pacific refining capabilities implies that greater scope exists for such countries to raise the supply of refined products in that region, in line with greater demand for oil east of Suez.

45. In the main industrial economies, refinery throughputs at crude distillation units generally rose except in Japan, where plant utilisation continued at rates close to those of 1995. By contrast, throughputs in the OECD's European member countries rose considerably from year-earlier levels, while refineries in the US and South Korea were running very close to maximum practical levels - despite the large rise in overall plant capacity in the latter.

### *Oil Demand*

46. Global demand grew again to a new record level of 71.9 Mb/d, or 1.6 Mb/d higher than a year earlier, which was the largest annual increase since 1988. Oil consumption in 24 OECD countries (i.e. excluding the Czech Republic, Hungary, Mexico, Poland and South Korea) rose by 0.7 Mb/d, compared to 0.4 Mb/d in 1995, with most of this increase concentrated in the western hemisphere; non-OECD growth of oil demand rose by 0.9 Mb/d, against 1.0 Mb/d in 1995, mainly due to higher consumption in Asia. Overall, this is indicative of how vigorous demand growth has been in both the Atlantic Basin and in the newly-industrialising economies of the Asia-Pacific region.

47. Oil demand in markets west of Suez firmed in 1996, particularly in North America where it expanded by 0.5 Mb/d, with the US accounting for most of this rise. In Latin America, consumption also grew, by 0.24 Mb/d, including gains in Brazil and Mexico which, in the latter case was partly due to recovery from the currency crisis it had suffered in late 1994. Across the Atlantic, oil use in Western Europe grew by another 0.3 Mb/d, as in 1995. As in the previous nine years, apparent oil demand in the FSU continued to fall, doing so at a similar rate as in 1995 of 0.1 Mb/d, reflecting weak economic conditions in Russia and other ex-Soviet republics.

48. New records for oil demand were recorded in markets east of Suez, with the largest increases again taking place in Asia. Oil consumption in China grew by 0.3 Mb/d to 3.6 Mb/d in 1996, while demand in India and South Korea rose by 0.12 Mb/d apiece, to 1.67 Mb/d and 2.11 Mb/d respectively. The developing Asian economies (DAEs) also increased their use of oil, with gains for Thailand and Chinese Taipei of 0.06 Mb/d each, while Japan experienced a similar rise in oil use. This limited increase by the standards of the Japanese economy followed an even smaller gain of 0.03 Mb/d in 1995.

49. Besides larger quantities of oil products being shipped to Far Eastern markets, the other main feature of the year was the application of more stringent regulations on sulphur content for some products by certain Asian countries. One consequence of this was greater imports of West African light sweet crudes, which are highly marketable in the region as the desulphurisation capacity of refineries east of Suez is still relatively limited. One consequence of this was a large increase in reported spot chartering on eastbound trades from that region, compared with 1995.

### *Oil Exports*

50. One of the most noteworthy features of oil trades in 1996 was the partial resumption late in the year of Iraqi crude exports; this followed the relaxation of the six-year UN trade embargo which had been imposed against that country when it invaded Kuwait in August 1990. The deal allowed supplies with a value totalling US\$2 billion of crude to be sold in a six-month period, so that the actual volume of exports would depend on the selling price. At the levels which prevailed for similar crudes when the agreement entered force, this equated to around 0.55 Mb/d of sales. Supplies were to be channelled through the Mina al Bakr loading terminal in the northern Arabian Gulf and via pipeline through Turkey to the Eastern Mediterranean. After the initial six months, another US\$2 billion of sales were expected to be permitted over a similar period. By adding to availability of Middle East crude in Mediterranean markets, renewed Iraqi oil exports could mean still lower VLCC employment on Arabian Gulf -West trades - if the refiners who buy these supplies subsequently cut their liftings of crude from Arabian Gulf-based producers.

51. The prospect of this partial return of Iraqi crude to world markets led to OPEC's decision in June to raise its ceiling on oil sales from 24.52 to 25.03 Mb/d - the first increase since October 1993. This was

also a response to strong demand conditions world-wide but primarily meant that Iraqi sales could be then accommodated without cutting existing quotas of other group members.

52. Exports of crude oil in areas west of Suez rose once more in 1996, with this again dampening demand for large tankers on westbound trades from the Middle East. Within the Atlantic Basin, North Sea exports rose to 4.23 Mb/d, a net increase of 0.1 Mb/d from 1995 levels as Norway raised its market share in Europe and the US; by comparison, the UK's oil sales decreased slightly due to delays in the start-up of various new fields and the loss of market share in areas such as Mediterranean Europe.

53. Among other loading areas, crude exports from both West Africa and North Africa to the US dropped by over 0.1 Mb/d, with Algeria's shipments to that country falling to negligible volumes, although its deliveries to western Europe increased considerably in the early months of 1996. Elsewhere, FSU exports of crude rose for the ninth consecutive year as demand in the former Soviet republics continued to decline, leaving total exports in 1996 at 2.12 Mb/d, or 0.21 Mb/d above a year earlier.

54. In the Caribbean Basin, exports from Latin American countries were boosted again, with most of the crude shipped within that region being bound for US markets. Crude exports from Mexico grew to 1.54 Mb/d or 0.24 Mb/d higher than 1995 levels, with this rise in exports corresponding to the country's substantial output increase in 1996. This was despite the explosion at the Cactus gas processing plant during the third quarter, which affected crude production at some associated fields. Similarly, Venezuela raised both output and exports, as its progress continued towards a long-term target of achieving sustainable oil production of 6.0 Mb/d by 2005. Higher output and exports partly followed from the government's decision to open the oil sector to foreign participation via joint ventures and other production agreements. Elsewhere in the western hemisphere, 1996 saw the first crude exports from Alaska, after the abolition in November 1995 of the US federal government's ban which had been in force since 1973. shipments of North Slope crude to Asia-Pacific discharges began in June, but these had to be carried on US flag tankers and the volumes exported were too small to have a significant effect on overall tonnage demand.

55. Exports to western destinations from producing areas east of Suez were somewhat lower: crude shipments to the US from the Middle East remained virtually stable at 1995's 1.48 Mb/d, while such exports to Western Europe were down by some 0.17 Mb/d, to 3.5 Mb/d. However, deliveries to Far East destinations increased substantially, with South Korea alone importing some 0.2 Mb/d of additional Middle Eastern crude; by comparison, exports to Japan from the Arabian Gulf states were unchanged from 1995 levels. Elsewhere, crude exports from Far Eastern producers to destinations within the area declined as domestic oil demand in exporting countries such as Malaysia and Indonesia rose during the year.

### ***Oil Imports***

56. West of Suez, US oil imports were particularly high as a result of the stronger tone of oil demand and the limited scope that existed to increase domestic crude production. At 9.7 Mb/d, total imports were a new record and 0.56 Mb/d above year-earlier levels; a particularly marked rise took place in arrivals of refined products after their slump of 1995, with these rising by 0.32 Mb/d and thereby almost recovering to 1994 volumes. A shortage of spare refining capacity amid very high rates of plant utilisation necessitated this increase. By comparison, crude oil imports grew by 0.24 Mb/d from 1995 levels, to 7.48 Mb/d, with increasing supplies coming mainly from Latin America.

57. Crude imports by the EU-15 countries reversed the decline seen a year earlier to reach almost 10.9 Mb/d, with most of the rise originating from intra-EU sources, followed by Eastern Europe

(predominantly the FSU) plus North African and West African suppliers; in contrast, imports of crude from Near/Middle East sources fell for the third consecutive year. By comparison, EU-15 imports of products were virtually unchanged from 1995 at 3.7 Mb/d, due to extra throughput at member states' refineries.

58. East of Suez, Japan reduced its crude oil imports for the second year running, although arrivals of refined products rose to their highest level for six years, to 0.7 Mb/d. Lower crude imports reflected in part Japan's aim of reducing its dependency on oil within its total energy mix, and substantial growth of steam coal use. In contrast, greater products imports partly arose from: a) the liberalisation of Japan's refining sector under the deregulation measures introduced in May, plus b) increased availability of products within the Asia-Pacific region amid refinery expansion in South Korea and Thailand.

59. South Korea's total crude imports rose by 0.26 Mb/d in 1996 as a result of the country's greatly enlarged refining capacity, with most of these additional supplies originating from the Middle East. Product imports by that country rose as well, in particular for naphtha and LPG as demand for these products by Korea's petrochemical industry increased. Despite firmer prices, crude imports by the China rose by 0.11 Mb/d (the country's largest import increase ever) as oil demand grew substantially, making it a net importer of crude for the first time. In previous years, China's oil imports had been highly sensitive to price increases, leading to erratic patterns of purchasing.

### *Suez Canal Oil Flows*

60. Oil flows through the Suez canal on northbound trades continued falling for a fourth consecutive year to 0.52 Mb/d, a level last seen in the late 1970s. Most of this oil transiting the canal originated in Saudi Arabia and other Arabian Gulf producing nations, and was mostly bound for Mediterranean discharges. Of these, Italy, Greece and Turkey were the main destinations, although shipments to these countries have declined substantially in recent years.

61. Southbound cargo flows also fell, dropping from 1995's 0.2 Mb/d to 0.18 Mb/d. Most of this oil (mainly refined products) originated from European sources, while East Mediterranean loadings fell to negligible levels. The main destinations were Asian discharges, with a significant rise in oil cargoes bound for the Indian sub-Continent, especially India, whereas shipments to South-East Asia fell substantially, most notably to Singapore.

### *Oil Prices*

62. Crude prices rose sharply during the second half of 1996 to their highest sustained levels since the period preceding their collapse in 1986, excluding the six-month period following the 1991 Gulf war. The causes of this rise in prices were mainly: a) lower-than-expected growth of non-OPEC output, b) firm demand conditions, and c) the low level of oil inventories held in the major industrial nations.

63. The price for dated Brent crude rose significantly, to average \$20.65/barrel for the year, against \$17.03 in 1995, and reached a five-year-high of \$24.70 in October. Other benchmark crudes followed suit, with the prices of Dubai and West Texas Intermediate (WTI) averaging \$18.54 and \$22.15 respectively. Due to periods of adjustment between prices of different grades, various arbitrage trades evolved which, at times, contributed to cargo movements that contrasted starkly with conventional patterns.

64. Spot prices for refined products also saw substantial increases from year-earlier levels. Gasoline prices, basis Rotterdam delivery, rose by over 16 per cent to \$22.99/barrel, their highest level for four years. Low-sulphur residual fuel oil averaged \$17.52/barrel, or 11 per cent above the year before, but gas oil saw the sharpest rise of all: from averaging \$20.47 per barrel in 1995, this hardened to \$25.91 in 1996. These sharp increases resulted from very strong products demand in markets in both east and west of Suez.

65. The average figures quoted above disguise the volatility of prices in 1996; for example, Brent's spot value varied from as low as \$16.60 in late January to the October peak of \$24.70 cited above - a range of over \$8/barrel. One reason for this wide variation in price was the continued operation by refiners of "just-in-time" stock management policies. Although these helped to economise on the costs of holding inventory, they meant that average stock holdings were low by recent historical standards. This served to make markets (and prices) more responsive to any perceived interruptions to normal oil supply conditions.

### **Demand for Tanker Shipping**

66. According to Fearnley's "World Bulk Trades", total seaborne oil trade volumes rose to an all-time high of 1.85 billion tonnes (Bnt), up 2.7 per cent from 1995's level. Both crude and oil products transported by sea rose to 1.45 Bnt (+0.04 Bnt) and 0.4 Bnt (+0.01 Bnt) respectively. This rise in seaborne trade volumes is indicative of the rise in global oil demand during the year, which in terms of tanker employment translated into a marginal rise in tonne-mile demand for crude carriers from 7.34 to 7.40 trillion tonne-miles, and for product carriers from 1.95 to 2.01 trillion tonne-miles. However, most of the export growth came from non-OPEC sources which are predominantly associated with short-haul trades, entailing a decrease in the average distance for crude oil shipments.

67. Specific features of 1996 tanker trades included:

- a) the continued influence of charterers' ship vetting policies and heightened port state control. These led to increased demand for modern tonnage and reduced the scope on some trades for older units to find regular employment. This reduction in fixing of overaged vessels to some destinations (e.g. South Korea) contributed to the overall rise in freight rates and also to wider differentials between oil company-approved and "non-approved" vessels.
- b) much higher bunker prices than in 1995, which followed from the general increase in international oil prices described above, and which thereby added to owner's voyage expenses. Therefore, some of the rise in freight rates seen in 1996 reflected the need to cover these higher fuel costs.
- c) further growth in eastbound fixing from the Middle East, whereas Arabian Gulf-West trades again saw limited activity. This rise in Arabian Gulf-East shipments was despite only limited growth of Japanese oil demand and stagnant imports of crude by that country. Instead, greater shipments on these trades largely resulted from increased demand for crude from refiners in South Korea, Thailand and China.
- d) renewed exports from Iraq in December; these added to cargo lifting opportunities in the Eastern Mediterranean for Aframax and Suezmax tonnage - although this happened too late in the year to have much impact on overall oil trade patterns and vessel demand in 1996. In particular, the availability of short-haul Iraqi crude for lifting in the East Mediterranean could mean lower imports by Western Europe of Middle East crude shipped from the Arabian Gulf.

- e) high demand for West African oil in markets east of Suez, which meant substantially greater fixing of million-barrel tankers and VLCCs on trades to Asian discharges. Reported spot chartering on West Africa-Eastbound routes rose by around 45 per cent compared with 1995 to reach 28.6 million dwct. Part of this resulted from swings in the relative prices of respective crudes; specifically, Asian imports from West Africa tended to rise when their prices eased relative to Middle East grades.
- f) high exports from Latin America, the North Sea and the FSU; these all meant plentiful employment opportunities for dirty Aframaxes, especially on short-haul trades. However, the North Sea continued to provide employment for larger sizes, too, with regular liftings again in evidence by million-barrel tonnage and VLCCs, mainly to North America. Such was the shortage of light sweet crudes in markets east of Suez, though, that occasional shipments were also seen to destinations as far afield as Chinese Taipei.
- g) firm demand for oil products east of Suez; this encouraged greater shipments to Asian discharges from refineries in Western Europe and the FSU when price differentials between various benchmarks made such trades commercially attractive.

## **DEVELOPMENTS IN LINER SHIPPING**

### **General**

68. The volume of containerised cargoes rose by approximately 6 per cent in 1996 from around 36 million TEU to around 37 million TEU, including an increase of approximately 3 per cent on the most important East-West lanes and approximately 10 per cent on trades within Asia.

69. Structural changes in world liner shipping are continuing. With the increasing size of container ships there is growing co-operation between suppliers in the form of strategic alliances and consortia, and in some cases mergers, which in turn steps up the pressure on shipping companies to co-operate.

70. The large number of international orders -- some of them speculative -- for large container ships in 1996 increased load capacity by 12 per cent, a figure above that for cargo growth. The continuing rationalisation efforts by shipping companies in the form of alliances and co-operative agreements will however do nothing to ease pressure on liner shipping markets. In addition capacity demolition between now and the year 2000 is bound to be small, owing to the excellent condition and relatively young age of the existing fleet.

71. The fierce competition in individual sectors of the intermodal transport market will thus continue, since falling returns to liner shipping will continue to strengthen the trend towards consortia, mergers, rationalisation and innovations across the entire range of enterprise services. shipping companies will have to cope with cost increases through more effective cost management and transfer of activities to regions with lower costs.

## **Evolution of trades**

### ***Europe/North America***

72. Liner trades between Europe and North America continued the gradual improvement in capacity use observed in previous years. Both eastbound and westbound container trades grew by 1 per cent. Significantly higher growth (around 4 per cent) is expected for 1997.

### ***Europe/east coast of South America***

73. In 1996 competition in trades between Europe and the east coast of South America became more acute. The Bovine Spongiform Encephalopathy (BSE) issue has also led to falling northbound meat cargoes. For northbound and southbound dry cargo the weak start to the year was made up by buoyant market volume. In view of good capacity use by all carriers the market is hoping that freight rates will stabilise.

### ***Europe/west coast of South America and the Caribbean***

74. Trades between Europe and the west coast of South America are being hit by falling southbound cargoes. There is moderate market growth of northbound traffic. In trades between Europe and the Caribbean cargo volumes are more favourable than expected, particularly eastbound owing to the good coffee harvest. Experts do not expect major market or competitive changes in 1997.

### ***North America/South America (east and west coasts)***

75. Competitive pressure has increased on both routes primarily due to the arrival of additional aggressive and expanding carriers. Capacity use on services to the east coast of South America is good southbound, with northbound cargoes not quite up to expectations. The situation is the reverse on the west coast where northbound cargoes are better than expected, southbound worse than expected.

### ***America/Australia/New Zealand***

76. Refrigerated cargoes and meat in particular are important here. Higher domestic production in the USA and falling American meat prices have led to a marked decline in US imports. Northbound cargoes of meat from Australia/New Zealand to the USA are correspondingly well below the previous year. Specialists expect the refrigerated cargo market to recover slowly in 1997 in volume terms, but with continuing pressure on freight rates. The southbound dry cargo market performed better than expected in 1996.

77. Low growth rates were also recorded on trans-Pacific trades. Container cargoes rose by 2 per cent, and growth of 1 per cent is expected in 1997.

### ***South Africa***

78. The economic situation in South Africa did not significantly improve in 1996. Nearly all key economic variables were adjusted downwards, while expected real GDP growth of 3 per cent is less than hoped for and below that of the previous year. The economic growth which is expected for 1997 results from the good performance of the agricultural sector following favourable weather conditions. The contribution of industry to GDP has levelled off.

79. Cargo volumes in liner shipping from and to the countries of southern Africa did not increase in 1996 -- following significant growth in the two previous years. Competition from cross traders has increased in recent years, and revenues fell in 1996. Companies in the South African trades in particular were hit by the dramatic fall in the value of the Rand, which has depreciated by 20 per cent against the US dollar since the beginning of the year.

80. The SAECS consortium has the biggest market share of overall traffic. Waiting times in South African ports are proving a problem, and have led to higher costs of container traffic in both hemispheres. On the whole, experts consider the 1996 results to be worse than expected. Prospects for South Africa are nevertheless seen as good in the long term and economic growth in the Republic of South Africa is expected to recover.

### ***Indian Ocean/East Africa***

81. In 1996 economic conditions in Réunion, Madagascar and Mauritius remained basically the same. On the whole the East African market has shown a positive trend in the past 12 months. The Ugandan economy in particular is recovering after a severe recession. The general outlook in Kenya is also good. Foreign trade with the EU, the main trading partner, has progressed considerably in recent years. Decisive for future developments is whether Kenya can meet the economic and political conditions agreed with donor countries. Tanzania is also on the way to improvement, although without any decisive breakthrough so far.

82. Freight rates remained stable in 1996 and revenues improved. Steady progress is expected for the future.

### ***Far East***

83. In the Far East traffic has grown faster than for the North American trades. Growth rates of 7 per cent were recorded for container cargoes on trades between northern Europe and the Far East, and the figure is expected to rise to 8 per cent in 1997. Despite this increase in cargo volumes, freight rates sank still further in this region in 1996 and slightly raised during the first 3 months of 1997.

### ***Northern Europe -- Australia/New Zealand***

84. Trades between northern Europe and Australia/New Zealand showed positive growth rates of 6 per cent for container cargoes. A further 6 per cent increase is expected in 1997.

***Intra-European trades***

85. The vast majority of intra-European trades reported largely stable markets, although market shares were hotly contested. The proportion of break-bulk shipments declined further on all routes, while containerisation continued to grow.

86. Continued strong participation by far eastern carriers, which send part-shipments throughout the Mediterranean via hub ports such as Gioia Tauro has further increased pressure on freight rates and competition for cargo volumes in this region.

**OUTLOOK FOR SHIPPING DEMAND**

87. As mentioned previously, seaborne trade in the five major dry bulk commodities rose marginally in 1996 to 1,103 Mt. Two major commodities within this total (grain and iron ore) were marked down as compared to 1995. In 1997, all five components are expected to increase although, for phosphate rock and bauxite/alumina, the magnitude of the increase is expected to be modest.

88. With economic growth expected to be positive, the underlying tone of the dry bulk market should also be so. After the record levels of trade in 1996 (albeit only fractionally ahead of the previous year), 1997 is expected to return to higher expansion rates. Most of this growth is expected to be generated in Europe and in Asia. Firm levels of steel production should boost demand for iron ore (and to a lesser extent metallurgical coal) in both regions, while the expansion in steam coal requirements is expected to be more sharply focused on Japan and other Asian countries.

89. As far as the freight market is concerned, there is no question that there will be a record volume of business concluded in 1997. However against this there is, in certain size sectors, a large newbuilding order-book. At the start of 1997 the market was concerned that Panamax vessels in particular would drag freight rates down due to the large volume of them due for delivery in the year. On 1<sup>st</sup> January 1997 there were 73 such vessels scheduled for delivery in the year. However by 1<sup>st</sup> May only 8 had been delivered and, as a result, freight rates remained firmer than had been expected. The reason for the very slow pace of deliveries is not yet clear.

**Iron Ore**

90. With crude steel output expected to grow in many significant iron ore importing countries, there seems little reason to doubt that trade in ore will increase in 1997. This should impact mainly on Panamax and Capesize vessels. After the downturn in Europe and Japan in 1996 both regions are expected to be much firmer in 1997 which will increase demand for Australian and Brazilian ore. Most of the Brazilian increase will be directed to Europe, although there remains some uncertainty about exports from the country since the privatisation of CVRD, the state-owned producer.

**Coal**

91. The increase in steel output described above will lift demand for metallurgical coking coal. This is most likely to benefit the USA, Canada and Australia. Steam coal demand is also expected to increase as a number of power stations come on-line in Japan, South Korea, Chinese Taipei and elsewhere.

92. Total seaborne coal trade in 1996 was 436 Mt; in 1997 this tonnage could easily be lifted significantly above this level. Although much of the long-term demand is likely to be focused on the Asia-Pacific region, there is still substantial potential in the European area. Germany is embarked on a slow process of reducing subsidies to the coal mines which, it is anticipated, will eventually lead to the closure of a number of domestic mines. However, like the United Kingdom's example, the replacement of coal production by imports may not necessarily occur. In the UK the substitute, when the coal mines were closed, was gas generation with the consequence that overall coal consumption halved.

### **Grain**

93. Estimates by the International Grains Council(1<sup>st</sup> May 1997) point to production in 1997 of 578 Mt (1996: 580 Mt). While this is effectively unchanged on the previous year, it is also very early in the season to be too specific. The closeness is more one of coincidence and the actual final outcome may vary by  $\pm 10$  Mt. At the same time coarse grain production is forecast by the IGC at 897 Mt (1996: 889 Mt). Once again these estimates remain preliminary and the variation could be  $\pm 15$  Mt

94. In any event, taken together, both forecasts point to increased availability in 1997. While grain consumption has been on a slowly rising trend over the past three decades grain production has been far more variable, for obvious reasons. Accordingly the estimates for trade in grain this year are, in total, not that different to the previous year; however at the same time they also have attached to them the greatest degree of risk. Currently, grain trade in 1996/97 is anticipated at 179 Mt (1995/96: 181 Mt).

### **Bauxite/alumina**

95. In January to April 1997, primary aluminium production was ahead of the previous year's equivalent period by 8.1 per cent. Producers in the Far East are continuing the growth trend established in 1996. At the same time production of alumina has increased by 3.3 per cent with SE Asian producers showing the fastest growth. Forecast of capacity constraints in the years ahead have led to both Guinea and Jamaica embarking on ambitious expansion programmes.

### **Phosphate rock**

96. Following the expansion in trade in 1996, prospects for a further increase in 1997 seem well founded. A new phosphoric acid plant is due to be commissioned in Thailand in 1997; the plant is expected to consume 0.7 Mt of rock per year. Much of the new supply will come from relatively long-haul sources, especially South Africa and Jordan.

### **Oil**

97. As has been explained, the increases seen in tanker earnings in 1995 were consolidated in 1996 amid firmer oil demand, further shifts in oil trade patterns and extra scope for back-haul trading. Furthermore, continued high rates for owners in the opening months of 1997 showed that the upswing phase of the market had not run its course.

98. Tanker demand is determined by oil supply/demand conditions, net changes in fleet size and evolving oil trade patterns. After the large gains in oil supply of 1996, further increases are forecast during

1997 in response to continued growth of oil consumption. As at May 1997, the International Energy Agency was expecting world demand to rise by 1.7 m/d - a slightly faster rate than in 1996.

99. Most of the additional oil supplies expected to materialise in 1997 are again poised to originate from short-haul sources. However, some of this would come from planned offshore developments, especially in the North Sea. Two possible problems could be encountered in this regard:

- a) adverse weather conditions can severely disrupt tanker loadings from offshore facilities and the limited availability of tank storage at these locations often entails interruptions to crude output;
- b) as the UK experienced in 1996, some new installations may be bedevilled by technical difficulties before output can commence.

100. Together, these factors mean that actual increases in oil production from short-haul sources could be lower than projected, necessitating greater exports from long-haul suppliers to compensate. Similarly, the emergence of new trade routes may partially offset the negative implications of greater short-haul supplies on the demand for tankers.

101. In terms of tonnage supply, prospects are highly intriguing: additions to the fleet are set to be their lowest for many years, and the prospect of some slippage from scheduled delivery dates almost guarantees that the final total will be lower than implied by the order-book. Thus, ship supply considerations are potentially very favourable - even given that the prospective firmness of freight rates ensures there will be no major revival in tanker demolition.

### **Liner shipping**

102. The world shipping market is also expected to grow in 1997, by around 7 per cent. On the most important East-West lanes volumes are likely to grow by around 6 to 7 per cent. Trades within Asia continue to grow faster than the East-West lanes. In the medium term, up to the year 2000, containerised cargoes on the world market (excluding coastal trades) are expected to grow by some 6 per cent per annum.

## SUPPLY OF SHIPPING SERVICES

## OVERALL DEVELOPMENTS

103. During 1996, the gross tonnage (gt) of the world merchant fleet<sup>1</sup> of vessels over 100 gt expanded from 465.0 Mgt to 482.3 Mgt, an increase of 17.3 Mgt (3.7 per cent) from the end of 1995. In terms of deadweight, the cargo-carrying fleet rose from 717.5 million deadweight (Mdw) to 739.7 Mdw. Growth was seen in all sectors except dry bulk/oil where there was a fall of 1.9 Mgt. The average age of the cargo carrying fleet remained stable at 18 years.

Table 1. **Fleet changes by ship type, 1995-96**  
(Basis end-year figures)

Ship type	Million GT		Change GT	%	% share of world fleet
	1996	1995			
Oil	146.4	143.5	+2.9	+2.0	(30.4)
Liquefied gas	15.8	14.9	+0.9	+6.0	(3.3)
Chemicals	12.9	12.1	+0.8	+6.6	(2.7)
Other liquids	0.5	0.4	***	+9.2	(0.1)
<b>All bulk liquid cargo</b>	<b>175.6</b>	<b>170.9</b>	<b>+4.7</b>	<b>+2.8</b>	<b>(36.4)</b>
Dry bulk *	135.4	128.5	+6.9	+5.4	(28.1)
Dry bulk/oil	12.2	14.1	-1.9	-13.5	(2.5)
Other dry bulk #	9.8	9.0	+0.8	+8.9	(2.0)
<b>All bulk dry cargo</b>	<b>157.4</b>	<b>151.6</b>	<b>+5.8</b>	<b>+3.8</b>	<b>(32.6)</b>
General cargo +	57.8	57.5	+0.3	+0.5	(12.0)
Container	43.1	38.7	+4.4	+11.4	(8.9)
Ro-ro	21.3	20.4	+0.9	+4.4	(4.4)
Passenger **	18.0	16.8	+1.2	+7.1	(3.7)
Refrigerated cargo	7.2	7.2	-	-	(1.5)
Other break-bulk cargo	1.9	1.9	-	-	(0.4)
<b>All non-bulk ship types</b>	<b>149.3</b>	<b>142.5</b>	<b>+6.8</b>	<b>+4.8</b>	<b>(31.0)</b>
<b>Cargo-carrying fleet</b>	<b>482.3</b>	<b>465.0</b>	<b>+17.3</b>	<b>+3.7</b>	<b>(100.0)</b>

\* including ore carriers

# including self-discharging vessels

+ including passenger/general cargo ships

\*\* including passenger/ro-ro ships

\*\*\* 0.04 Mgt

Source: Lloyd's Register of shipping "World Fleet Statistics 1996".

1. NB: figures include all propelled sea-going merchant ships, i.e. excluding military, fishing and offshore vessels, plus other miscellaneous ship structures.

104. The expansion was due to the large number of completions during the year, some 38.7 Mdw, this being an increase of 4.9 Mdw from the total added to the fleet a year earlier. Japan and South Korea continued to battle for supremacy of the shipbuilding market, completing 16.4 Mdw and 11.9 Mdw of the total respectively. Despite this large number of new vessels the average age of the fleet remained at 18 years old.

105. Removals from the cargo-carrying fleet (including vessels for scrap and losses) totalled 589 ships of 17.2 Mdw, (477 vessels of 16.0 Mdw in 1995); the average age of all removals was 26 years.

106. With the large number of deliveries (38.7 Mdw compared to 33.8 Mdw in 1995) and fewer orders reported, the order-book fell by 6.0 Mdw to stand at 62.0 Mdw at the end of 1996. The containership order-book which has been growing since 1992, increased by 2.2 Mdw, whilst the dry bulk order-book fell by 5.2 Mdw. In the oil sector, contracting increased to 8.8 Mdw - the first time new orders have increased since 1993. Over the last few years, South Korean builders have been expanding their yard capacity, with the construction of new facilities, whilst their Japanese counterparts have been cutting costs in an effort to compete. During 1996 Japan was attractive to shipowners investing in new tonnage due to the weak Yen against the US dollar.

## **THE WORLD MERCHANT FLEET BY MAJOR SHIP TYPES**

### **Tankers**

#### *Existing Fleet*

107. During 1996, oil tanker supply grew in number of vessels from 6,761 ships to 6,878 whilst in terms of gross tonnage, a 2 per cent growth from 143.5 Mgt to 146.4 Mgt was recorded. Deadweight of the world fleet grew by 4.5 Mdw to 270.3 Mdw.

108. Oil tanker completions totalled 158 ships of 11.3 Mdw. Although this was fewer ships than in 1995 (164), there was an increase in the tonnage total of 0.3 Mdw. Included in the total were 23 VLCCs of 6.7 Mdw, making up 59.2 per cent of the total tonnage completed. The largest number of new ships by size group were the 58 vessels which entered the small tanker sector (under 5,000 dwt) with a total tonnage of 0.13 Mdw. In terms of gross tonnage a total of 6.29 Mgt was completed, with South Korea delivering 32 ships of 2.66 Mgt and Japan 59 ships of 2.45 Mgt. The domination of these two countries in the construction of oil tankers is highlighted by the fact that the next largest builder was Spain with 8 ships of 0.3 Mgt.

109. The average age of the fleet remained at 17 years with 52.3 per cent of tonnage over 15 years. An exceptionally sharp increase was seen in the fleet over 20 years with 35 per cent in this category compared with 27.4 per cent a year earlier. The oldest deadweight size in the oil fleet was the 20-24,999 dwt group with an average age of 24 years, a rise from the 23 year average a year earlier. At the other end of the scale the most modern fleet segment was the 83 ships in the 45-49,999 dwt group with an average age of 8 years. During 1996, 12 vessels were completed and added to this group. The recent trend for building larger sized VLCCs (250,000 dwt and above), is reflected by the ageing of the 200-249,999 dwt size, rising from an average of 14 years in 1995 to 15 years a year later.

110. LNG, LPG and chemical carriers make up 16.3 per cent of the total gross tonnage of the liquid bulk carrying fleet, consisting of 2,187 chemical carriers of 12.9 Mgt and 1,034 liquid gas vessels of 15.8 Mgt. During 1996, 97 new chemical carriers were completed with a total deadweight of 1.5 Mdw; of these 53 are under 10,000 dwt. Liquid gas carrier completions amounted to 57 vessels of 0.9 Mdw with 42 of them constructed in Japan. Despite a rise of one year, the chemical fleet remains the youngest in the liquid bulk fleet with an average age of 13 years, whilst the liquid gas fleet has an average age of 14 years.

### ***Newbuilding Order-book***

111. The oil tanker order-book fell from 19.1 Mdw at the end of 1995 to 15.4 Mdw by year-end 1996. This fall continued the trend that commenced in 1991 due to owners' concerns about the outlook in the tanker sector and large numbers of deliveries exceeding tonnage contracted. Since the beginning of 1997 a reverse has been seen, with a large number of orders reported. Included in the 8.8 Mdw of new orders reported during 1996 (3.0 Mdw higher than in 1995) were seventeen VLCCs, more than three times the number a year earlier when only five were contracted. The largest share of the oil fleet order-book was held by South Korea with 56 ships of 7.9 Mdw at the end of 1996, followed by Japan with 28 ships of 4.3 Mdw. These two countries combined held a 78.8 per cent share of the newbuilding market in this sector. Ukraine had the third largest order-book, although much smaller than the first two at 0.5 Mdw.

112. In the chemical sector, the order-book has doubled since 1993 to stand at 2.6 Mdw at the end of 1996; orders reported during the year totalled 1.6 Mdw. Croatian shipyards held the largest volume of orders when measured in deadweight tonnage (14 ships of 0.57 Mdw), whilst in number terms Japan had 30 ships of 0.30 Mdw.

113. The liquefied gas carrier sector received 0.6 Mdw of new orders during the year giving a year end order-book of 1.6 Mdw, a fall of 0.3 Mdw from the end of 1995. Out of a total of 56 ships on order, Japan has 26 and South Korea 13 of them.

### **Bulk and Ore Carriers**

#### ***Existing Fleet***

114. The dry bulk carrier fleet (excluding self-discharging vessels and OBOs) stood at 4,957 vessels of 135.4 Mgt (239.2 Mdw) at the end of 1996. This fleet has seen a rapid expansion during the 1990s, with a net increase of 38.1 Mdw since the end of 1991. The large number of orders placed between 1993-95 was reflected in the amount of tonnage completed during the year, amounting to 239 ships of 16.3 Mdw; it is interesting to note that nearly 23 per cent of the fleet in deadweight terms has been built in the last five years. The largest amount of tonnage in the existing fleet is in the 60-69,999 dwt size with 532 ships of 34.8 Mdw accounting for 14.6 per cent of the total deadweight. Significant increases were seen in the 45-49,999 and 150-174,999 dwt fleet segments, the first of these growing from 7.3 Mdw to 9.6 Mdw whilst there was a 5.5 Mdw increase in the latter.

115. The average age of the fleet remained the same as twelve months earlier at 14 years, indeed this has not changed since end-1993. The youngest sector of the fleet is the 150-174,999 dwt group with an average age of 5 years, due to the large number of new ships entering the fleet. In 1996 this amounted to 34 vessels of 5.6 Mdw. The amount of over-age tonnage increased despite a growth in vessel

scrapping. vessels over 20 years totalled 1,469 ships of 53.3 Mdw (22.3 per cent of the fleet), whilst 446 (12.8 Mdw) were over 25 years. For comparison, at the end of 1995 these age groups consisted of 1,266 ships (46.3 Mdw) and 364 ships (10.6 Mdw) respectively.

116. Of the 239 ships completed, 53 were in the 45-49,999 dwt group, whilst 45 entered the Panamax fleet (50-79,999 dwt). The majority of new Panamax bulk carriers are now over 70,000 dwt; this is shown by the 33 that were completed in this size category. Amongst the 39 large Capesize vessels delivered were two over 200,000 dwt.

### ***Newbuilding Order-book***

117. The end-1996 order-book for dry bulk carriers (excluding OBOs) comprised 418 ships of 24.5 Mdw (13.7 Mgt); in terms of deadweight, dry bulk tonnage accounted for 39.5 per cent of the world order-book for cargo-carrying ships. Orders reported at 18.1 Mdw were 1.3 Mdw down on the peak a year earlier, as owners turned their attention to the oil sector. Handymax (40-49,999 dwt) saw the addition of 84 ships to the order-book whilst 48 were added to the 20-29,999 dwt group. The Capesize order-book (80,000 dwt and above) saw a large fall in contracting from 55 ships of 8.9 Mdw in 1995 to 20 ships of 3.6 Mdw in 1996. Without allowing for slippage, 308 ships of 10.6 Mdw are due for delivery in 1997.

118. As in the bulk liquid sector, Japan and South Korea are the major shipbuilding nations for dry bulk tonnage, with Japan having 183 ships of 9.9 Mdw (5.6 Mgt) and South Korea 73 ships of 7.2 Mdw (3.8 Mgt) at end-1996. Domestic owners in these two countries will receive many of these vessels. China, which is now the world's third largest shipbuilder, and had 67 dry bulk carriers on order totalling 2.8 Mdw (1.6 Mgt) as 1996 closed.

### **Combined Carriers**

119. The end-1996 fleet of combined carriers (dry bulk/oil) consisted of 249 ships of 12.2 Mgt (21.8 Mdw). A further 52 ships were added to the fleet under 5,000 dwt due to reclassification by Lloyd's Register. Despite this, the long-term trend of decline in this fleet continued. During the twelve months under review 3 vessels of 0.3 Mdw were delivered (all built by Hyundai in South Korea), whilst 18 of 2.2 Mdw were scrapped.

### **Liner vessels**

#### ***Existing fleet***

120. At the end of 1996, the world container fleet comprised 1949 container vessels, representing 43.1 million gt (48.6 million dwt) or a 3,072,127 TEU capacity, an increase from 1995 of 10.5 per cent in terms of number of vessels and of 12.0 per cent in terms of deadweight tonnage. vessels above 4,000 TEU capacity accounted for 17 per cent of the new capacity (531,834), a sharp increase compared with 1995.

Table 2. Container vessels fleet (by size)

Size	1995		1996	
	Percentage of total container fleet	TEU capacity	Percentage of total container fleet	TEU capacity
Under 1 000 TEU	13	347 611	12	374 518
1 000 to 2 000 TEU	30	824.459	30	902 365
2 000 to 3 000 TEU	25	658 785	23	717 964
3 000 to 4 000 TEU	19	497 441	18	545 446
Above 4 000 TEU	13	360 525	17	531 834
	100	2 688 821	100	3 072 127

Source: Lloyd's Register of shipping, *World Fleet Statistics*, 1996

121. These figures show that i) deliveries concern predominantly large capacity vessels and ii) the fleet increase is well above the growth of maritime trade. The continuing effort towards rationalisation of shipping companies, and the restructuring of ship services taking place in strategic alliances and other maritime consortia lead to an important need in new tonnages. 1996 have seen an unprecedented wave of deliveries. Keeping in mind the slow pace of scrapping, which is not expected to speed up as the existing fleet is modern and young (its average age was 10 beginning of 1997), serious risks of overcapacities are still present.

Table 3. Container vessels deliveries (1990/1996)

Deliveries (in dwt)	1990	1991	1992	1993	1994	1995	1996
	2.0	2.3	2.4	2.6	3.7	4.3	5.4

Source: Lloyd's Register of shipping, *World Fleet Statistics*, 1996

122. The trend towards concentration of supply of shipping services continued. During the first half of 1997, the merger of the containers activities of P&OCL and Nedlloyd became effective while a number of mergers or take-over were announced (*inter alia*, Hanjin shipping and DSR/Senator lines; NOL and APL; Cast and Likes lines; Canadian Pacific and Contship). Strategic alliances are another factor of concentration of the supply of shipping services. Although Strategic Alliances are still at an infant stage, they create a new escalation in the "critical size" of shipowners or groups of shipowners acting on the large East/West lanes (transpacific; transatlantic and Europe/Far-East), which now stands at around 400,000 TEUs capacity of the fleet. As important, these alliances should naturally evolve towards more integration of activities such as joint terminals and joint ownership of equipments and vessels.

123. Deliveries of ro-ro vessels remained at a low level in 1996 as in 1995: 90 vessels amounting to 422,000 dwt (2.8 per cent of the existing fleet, expressed in capacity), compared to 86 vessels delivered in 1995 (434.000 dwt).

***Newbuilding orderbook***

124. At the end of 1996, the world orderbook of cellular vessels amounted to 453 vessels, representing 12.3 million dwt (895,711 TEU). This was an equivalent to 25.3 per cent of the carrying capacity of the existing fleet. vessels over 4000 TEU capacity on order were representing 34 per cent of the orderbook in terms of TEU capacity. In 1995, the world orderbook of cellular vessels represented 27.2 per cent of the existing fleet, and the share of vessels over 4 000 TEU, 37.4 per cent of the fleet on order.

125. On the other hand, 81 ro-ro vessels were on order, representing a carrying capacity of 862,000 dwt (3.3 per cent of the existing fleet).

**TONNAGE LOST, LAID UP AND SCRAPPED****Losses/Sinkings**

126. Figures for 1996 show a total of 179 cargo-carrying ships of 0.89 Mgt were lost, compared with 1995's total of 188 ships of 0.90 Mgt. The total is made up of 143 ships of 0.47 Mgt which were lost at sea (actual total losses) and 36 ships of 0.42 Mgt declared constructive total losses. The average age of all the losses was 23 years, an average slightly higher than in 1995 (22 years).

127. In the bulk liquid sector, 8 oil-carrying vessels of 0.32 Mdwat were lost, with an average age of 23 years, the largest of these being a 300,029 dwt vessel which was declared a constructive total loss. A further two chemical and two liquid gas carriers were also lost.

128. In the dry bulk sector, an increase in casualties was seen with 11 ships of 0.5 Mdwat (0.29 Mgt) reported lost with an average age of 21 years. A year earlier, 8 vessels of this type were lost. Of the 11 ships, 8 were lost at sea, including one Capesize, one Panamax and six Handysize.

129. The largest number of ships lost in any of the cargo-carrying sectors were the 77 lost from the general cargo fleet. The average age of these was 24 years broken down into 64 of 0.24 Mdwat lost at sea and 13 of 0.09 Mdwat declared constructive losses.

**Lay Up**

130. Tonnage laid up, excluding vessels being used for storage, fell from an end-1995 total of 338 ships of 4.3 Mgt (6.5 Mdwat) to 303 ships of 3.7 Mgt (5.4 Mdwat) during 1996. A total of 11 vessels of 0.3 Mdwat left lay up to be demolished and, with a further 152 ships in lay up over 30 years of age, more tonnage is likely to follow to the scrapyards.

131. In terms of cargo-carrying capacity, tanker laid up tonnage fell by 0.98 Mdwat to an end-1996 total of 55 ships of 2.76 Mdwat. Dry cargo lay up also fell, to 2.59 Mdwat from a year earlier total of 2.78 Mdwat.

132. Tonnage being used for storage duties totalled 100 ships of 12.4 Mdwat, this being a net decrease of 9 ships and 1.5 Mdwat from a year earlier. The vast majority of vessels in storage, as in previous years, were tankers.

## **Scrapping**

133. A sharp increase in dry bulk scrapping saw total cargo-carrying demolitions rise during 1996, with 463 ships of 15.8 MdwT being broken up. This compared with 359 ships of 14.5 MdwT the previous year. The average age of the scrapped vessels fell from 27 years in 1995 to 26 years in 1996.

### ***Demolition by Ship Type:***

134. The largest single category in terms of deadweight within total demolitions was the oil sector, with 89 vessels of 5.7 MdwT (2.9 Mgt) and an average age of 24 years. This figure is lower than a year earlier (108 ships of 10.4 MdwT) due to a firmer tanker market, leading to some owners holding on to older tonnage. Within this sector a noticeable change was seen in the VLCC category (over 200,000 dwt) where only 13 such units were scrapped in 1996, as opposed to 29 units in 1995. (A high proportion of this latter figure was accounted for by ships that had been sold for demolition in second-half 1994). Scrappings in the rest of the bulk liquid fleet included 15 chemical carriers of 112,653 dwt and 6 liquid gas carriers (28,336 dwt).

135. The number of dry bulk demolitions increased sharply in 1996 to 103 ships of 5.5 MdwT (3.1 Mgt). A year earlier only 28 vessels of 1.7 MdwT (0.9 Mgt) went to the scrapyards. This increase was due to a fall in freight rates and the large number of new ships entering the market. The average age of the ships was 25 years; this was 3 years younger than the comparable figure in 1995. Dry bulk/oil vessels scrapped totalled 18 ships of 2.2 MdwT (1.2 Mgt) with an average age of 23 years; of these 13 were over 100,000 dwt. In 1995, only 8 dry bulk/oil cargo were scrapped (1.0 MdwT).

136. The existing containership fleet, which has seen vast numbers of new ships, has an average age of 11 years. Therefore, it is not surprising that only 12 vessels went for scrap during 1996.

### ***Demolition by Country:***

137. During 1996, Indian breakers dominated the purchasing activity, receiving 255 cargo-carrying ships of 4.6 Mgt (7.5 MdwT). This total was higher than in 1995 when 133 ships of 2.6 Mgt (4.4 MdwT) were taken. Bangladesh was the second-ranked demolition country, taking 54 ships of 2.2 Mgt (4.0 MdwT), an increase of nine in number, but in deadweight terms a fall of 0.7 MdwT on 1995 tonnage.

138. Elsewhere, Pakistan took 33 ships of 2.1 Mgt (3.9 MdwT) whilst China - a major demolition country in the past - took only 3 vessels of 0.06 Mgt (0.09 MdwT). Chinese breakers were restricted in their acquisitions, with primarily localised tonnage and/or damaged vessels in the vicinity being taken. This is due to the continuing foreign exchange restrictions placed on the shipbreaking industry.

## THE FREIGHT MARKET

### GENERAL

139. In 1996, the dry bulk market was characterised by a much more subdued tone after the record freight highs seen in the previous year. This change was probably inevitable given the pessimism that prevailed for most of the time. This was in anticipation of a substantial number of new vessels known to be scheduled for delivery in the year. In fact, 1996 was the ninth consecutive year of net fleet expansion. The record level of deliveries (approximately 17.9 Mdw, including combination tonnage) was partly offset by a sharp increase in fleet deletions to approximately 9.5 Mdw (comprising 7.2 Mdw bulk carriers and 2.3 Mdw of combined carriers). See previous chapter - *Supply of shipping Services* - for more details.

140. By comparison with the dry bulk sector, the tanker market was in overall terms at its firmest for several years, with even the dirty trades - usually the sector most susceptible to depression - experiencing generally higher freight rates. Very strong oil demand conditions outweighed the expansion in the fleet despite the switching of some combined carriers to the oil trades. While there were substantial increases in the oil price there was no lack of chartering interest. Increased bunker costs did offset some of the rise in nominal rates yet owners' average earnings still rose. Greater demand for modern tonnage accentuated the trend towards a two-tiered rate structure that had already been emerging on some trades.

### DRY BULK FREIGHT MARKETS

141. As was noted in the chapter on *Demand for shipping Services*, underlying demand remained at very high levels during 1996. The overall total is estimated to be fractionally greater than 1995 which, if confirmed in due course to be correct, establishes 1996 as a record year for dry bulk cargo movements. At the same time freight rates were, on average, some 34 per cent lower than a year earlier. The net increase in the fleet was the principal reason for this decline, which started at the end of August 1995 and continued virtually uninterrupted for the next thirteen months. There was then (in October 1996) a sharp turn-around in the market with freight rates recovering to similar levels to the start of the year.

142. Changes in the Baltic Freight Index (BFI) were typical of general developments in the year. The Index started 1996 at 1,598. At that time the markets were falling and the downward trend continued though to the low point of the year at 992 point on September 25. This point was the lowest for many years: the previous time that the 1,000 points barrier had been breached was 1987. Hence, there was a clear contradiction in the market in that the year was a record in terms of cargo movements but, at the same time, freight rates touched the lowest point for a decade.

Table 4. **Baltic freight index - quarterly averages**

	<b>1 January 1985 = 1000</b>				<b>Per Cent</b>
	<b>1993</b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>Change</b>
1Q	1 361	1 174	2 073	1 458	-29.7
2Q	1 548	1 372	2 164	1 381	-36.2
3Q	1 394	1 474	2 024	1 080	-46.6
4Q	1 301	1 886	1 666	1 344	-19.3
Annual Average	1 399	1 478	1 981	1 314	-33.7

*Source:* SSY Consultancy and Research Ltd

143. After the low point for the year was reached, a fairly rapid recovery ensued, such that the BFI jumped above 1,500 points by early November. This 50 per cent rise in the market in just six weeks or so was one of the fastest on record and demonstrates why there was such a diversity of opinion prevalent in the market in 1996. The annual average of the BFI was 1,314, some 33.7 per cent lower than the previous year which was, in percentage terms, a near identical reversal of the growth in the market between 1994 and 1995.

144. The variation in the BFI's component rates are summarised in the following table:

Table 5. **Representative dry bulk freight rates 1996, maxima, minima, averages**

	<b>High</b>	<b>Low</b>	<b>Average</b>
1996 Baltic Freight Index	1 598	992	1 314
Grain 55 000 US Gulf/ARA \$/t	15.89	9.01	12.93
Trans-Atlantic Round - Panamax \$/day	13 071	6 629	10 221
Grain 52 000 US Gulf/Japan \$/t	28.83	18.81	23.78
Trip Cont/Far East - Panamax \$/day	16 386	9 207	13 411
Grain 52 000 NPAC/South Japan \$/t	16.68	10.38	13.29
Trans-Pacific Round - Panamax \$/day	13 250	6 321	9 883
Coal 120 000 Hampton Roads/Japan \$/t	13.02	10.52	11.88
Coal 110 000 HR/ARA \$/t	6.16	4.48	5.31
Coal 130 000 Queensland/Rotterdam \$/t	9.99	6.79	8.55
Trip Far East/Europe Panamax \$/day	8 931	3 593	6 373
Iron Ore 135 000 Tubarao/Rotterdam \$/t	5.74	4.45	5.14

*Source:* SSY Consultancy and Research

145. Freight rates for Capesize tonnage remained fairly stable in the first quarter of 1996 in what was apparently a well-balanced market. In the second quarter however, the market started to soften in what was seen at the time as a fair reflection of the extra fleet supply. The bench-mark Hampton Roads/Rotterdam coal route fell to \$4.90 per tonne in May while Newcastle Rotterdam slipped to \$10.60.

146. The beginning of the fourth quarter saw a substantial rise in the market. This was attributed to a variety of reasons including: bad weather and port congestion; an active steel market in the latter half of the year; cheaper coal available in Australia whilst in the Atlantic market supplies remained tight. Finally, it was suggested that some vessels that were due for delivery in the fourth quarter were postponed to 1997.

147. Quarterly averages of the SSY Capesize Indices, covering both the Atlantic and the Pacific markets and each comprising ten representative routes, are shown in the table below. The Indices demonstrate a more volatile market in the Pacific in 1996.

Table 6. **SSY Capesize Indices - Atlantic and Pacific - quarterly averages**

<b>SSY Capesize Indices</b>				
<b><u>Atlantic</u></b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
1st Quarter	3 265	5 808	3 918	4 112
2nd Quarter	3 764	5 618	3 611	
3rd Quarter	4 287	5 079	3 377	
4th Quarter	5 632	4 085	3 893	
Annual average	4 237	5 147	3 694	
<b><u>Pacific</u></b>	<b>1994</b>	<b>1995</b>	<b>1996</b>	<b>1997</b>
1st Quarter	na	na	3 526	4 180
2nd Quarter	na	na	3 754	
3rd Quarter	na	na	2 865	
4th Quarter	na	na	3 733	
Annual average	na	na	3 458	

Both indexes rebased to 4 114 on 6 January 1997

Source: SSY Consultancy and Research

148. For Panamax sizes in particular, 1996 was a weaker year for ship owners in terms of overall freight rates although this was also true across all vessels sizes. For the marker grain route US Gulf/Japan, the rate dropped to \$18.80 per tonne as compared to a high of \$37.90 just a year earlier. Trans-Atlantic trade was notably reduced from 1995 as a result of the better harvest in Europe, which was attributed to the relatively mild weather. The South American grain market was subject to some delays, although this is not an unusual feature these days.

149. For Panamax coal trades it was much the same story. Freight rates declined through the year subject to a late and sharp recovery in the third and fourth quarter. There were significant quantities of US-sourced mid/high sulphur coal shipped to the North European utilities, continuing the trend which started in 1995. Panamax combination carriers competed fiercely with small Capesize tonnage, securing around half of the available tonnage.

150. For period business, the large number of newbuildings that hung over the market led to both owners and charterers taking a cautious stance. As a result, more short-term business was concluded with 3/5 months and 4/6 months being fairly common. Twelve-month rates for standard non-overflow vessels averaged around \$10 000 per day, with larger modern eco 70 000 dwt types achieving up to \$1 500 per day above that level.

151. For Handysize spot business freight rates fell generally. On the Continent to Far East route hire rates started the year at around \$13 500 per day for Handymax then fell to \$11 000 towards the end of the year, with the usual variations as the year progressed. This trade was supported by steels and fertiliser business but the main factor - leading to the general decline - was the decline in the Europe to Far East scrap market.

152. In the Pacific, the by now all too familiar pattern of gradual decline was evident. The magnitude of the reduction was not as great as for the larger Panamax and Cape sizes, but this is a typical market feature anyway. The reason for the reduced volatility, as compared to the larger sizes, is of course simply that there are many more vessels available (so the highs are not reached) but at the same time there are more opportunities (as there are many more commodities from which to choose).

153. For period business, well-gearred 45 000 dwt vessels were achieving around \$10 000 per day for charters of 12 months or more at the start of the year. These rates drifted down as the year progressed, reaching a low of \$9 000 per day by the third quarter.

## **TANKER FREIGHT MARKET**

154. From mid-1995 onwards, tanker trading conditions have been transformed by a strong upturn in freight rates which followed US federal government action that banned any commercial dealings with Iran by American-owned companies. This resulted in significant adjustments to patterns of oil purchases and hence in vessel trading patterns. In hindsight, these factors coincided with a general upturn in global oil demand which meant that, far from proving to be just a transitory influence, those changes in mid-1995 heralded the onset of the strongest tanker markets of the 1990s to date. This upturn in rates materialised despite another net increase in the tanker fleet and greater oil trading by combined carriers in response to dry bulk market weakness.

155. In 1996, dirty freight rates experienced a general improvement across virtually all size sectors and an accompanying rise in vessel earnings, albeit that these left owners of some modern tonnage still far short of break-even performance. In clean trades, the situation was patchier, but higher rates nonetheless ensued on certain routes. Firmer rates were partly offset by higher ship operating costs and, for tonnage engaged in spot trading, by increased bunker expenses. Nonetheless, greater optimism emerged regarding short- to medium-term trading prospects, with this continuing into 1997. One consequence of firmer markets was increased interest in newbuilding ordering, with a spate of new contracting commencing before 1996 was over, and continuing into 1997. These developments are noted in the *Supply of shipping Services* chapter.

156. Apart from higher tanker rates arising from net growth in oil trade and higher bunker prices, a third factor contributed to charter market firmness in 1996: this was the growing influence of vessel quality considerations, as had already been apparent in the previous two years. More stringent port state control regimes and more widespread ship vetting by leading charterers in effect precluded some ships from regular use on particular trades. The gap between rates for oil company-approved and non-approved vessels was at times as large as five Worldscale points for VLCCs, while the corresponding differential for Aframax or Suezmax ships could be up to ten points.

157. Although age alone is a poor indicator of vessel quality, one manifestation of port state control can be seen in the mounting number of countries that now operate maximum age limits on tankers calling at their ports (some of which have done so for several years). These controls typically apply on a discretionary basis and when suitable tonnage is unavailable, ships above the notional limit may still be acceptable. Nonetheless, countries such as China (usually 15 years), Nigeria (17 years), South Korea and Syria (20 years each) already have such rules in place. Furthermore, the prospect exists of this list becoming longer, given that vessel age can be more readily identified than any objective measure of a ship's condition.

### **Dirty Single Voyage Chartering**

158. As in 1995, higher oil demand and increased seaborne trade volumes resulted in greater reported fixing from most loading areas, especially those west of Suez. Other general features of the year included:

- Continued growth of chartering from the Middle East to eastbound destinations, in contrast with another year of limited activity on AG-West routes. Some of this dearth of westbound fixing arose from greater reliance by western economies on oil from Atlantic Basin sources. However, the expansion of the Saudi Arabian and Iranian tanker fleets, since the early 1990s, means that some of these countries' exports to the West now move in their own vessels.
- Heightened competition among charterers for 1990s-built tonnage on AG-East trades, as a result of South Korea's greater emphasis on use of modern vessels to carry its oil imports/
- Further evidence of some owners' reluctance to trade black oils to US destinations, even when rates were firm, due to the threat posed by unlimited liability in the event of an oil spill.
- Continued evolution of inter-area "balancing trades" as a result of regional shortages or surpluses of particular grades of crude. These created additional opportunities for back-haul cargo trading (and thereby contributed to higher earnings for some vessels by reducing the time that they spent in ballast). shipments of light, sweet crudes from the Atlantic Basin to the Asia-Pacific region were one aspect of these trades, providing VLCCs with back-haul cargoes after AG-West employment.
- More widespread use of VLCCs from loading areas outside the Middle East - particularly from West Africa, as a result of the balancing trades highlighted above.

159. As the accompanying table shows, annual average rates on benchmark trades for respective sizes of ship increased in nominal terms by around 10-15 per cent from 1995 levels, although this takes no account of higher voyage costs arising from firmer bunker prices. The conventional seasonal pattern was largely followed, corresponding to changes in oil demand and to the timing of refinery maintenance in the

main oil-consuming regions. In general, rates declined on most trades in the second quarter, following the end of northern hemisphere winter, with an upturn in the second half of the year - albeit that this took longer to materialise in the Aframax and million-barrel sectors than for VLCCs.

160. After seasonal increases towards the end of the year, chartering demand remained strong into early 1997. This was why, after the 1997 Worldscale schedule had been published, owners were able to maintain rates at their former nominal index levels. Given that 1997 Worldscale base rates were on average around 6-9 per cent higher than in 1996, this represented a significant gain that boosted actual earnings. By May, these firm conditions had generally persisted, and the limited amount of new tonnage due for delivery in the remainder of 1997 gave owners cause to envisage another year-on-year increase in voyage rates.

161. One feature of the tanker market in the opening months of 1997 was the strength of dirty rates on trades to the USA. For example, on Aframax shipments from Caribbean loadings, rates remained firm into the second quarter, in contrast with those available in the North Sea and Mediterranean; however, this did not attract extra tonnage from these regions that could have brought the respective markets closer into line. The refusal of various owners to carry dirty cargoes to US discharges, due to the threat they faced of unlimited liability if an oil spill took place, seems to have been responsible.

Table 7. **Dirty Tanker Spot Rates (US\$/tonne) - averages for period**

<b>Cargo size (tonnes)/route:</b>	<b>1995</b>	<b>1996</b>	<b>1q96</b>	<b>2q96</b>	<b>3q96</b>	<b>4q96</b>	<b>1q97</b>
80 000 North Africa-Mediterranean	3.87	4.36	4.77	4.60	4.00	4.05	4.66
130 000 West Africa-USAC/Gulf	6.64	7.46	7.50	7.59	7.16	7.57	8.43
280 000 Arabian Gulf-UK/Continent*	5.39	6.11	6.47	5.83	6.35	5.80	6.38
260 000 Arabian Gulf-Japan	5.95	6.95	7.40	6.62	7.14	6.64	7.17

\* Basis Cape/Suez trading.

Source: SSY Consultancy and Research

NB: Despite the market's upturn, 1996 average earnings for newer VLCCs on AG-Eastbound trades were, at around \$34 000 per day in time-charter equivalent terms, still well below break-even levels - especially for ships built in the late 1980s and early 1990s, when newbuilding prices were much higher.

### **Dirty Period Chartering**

162. Maintaining the pattern of recent years, most charterers remained reluctant to commit themselves to time-charters of longer than 12 months, a tendency that arose from the continued desire for operating flexibility. This widespread aversion to fixing for over one year was even though the international oil companies' direct ownership of tankers continued to decline. Having said this, some longer-term business did transpire in the form of bare-boat "off balance sheet" financing deals that gave these companies the security of cover at significantly lower cost than if they owned the vessels.

163. Amid plentiful short-haul cargo supply, modern Aframax tonnage was particularly in demand, partly due to the suitability of these vessels to satisfy draft restrictions at South American loading ports and US discharge terminals. A distinct two-tiered market was evident, with 1990s-built double-hulled units commanding one-year rates of around \$18 000 per day, or some \$4 000 higher than those for older, single-hulled ships.

164. Once again, time-chartering in the million-barrel sector was mostly confined to short-term fixing of older units by South American charterers. From the limited business that was reported for newer vessels, rates appeared to rise marginally to levels exceeding \$20 000 per day.

165. By contrast, period chartering of VLCCs increased compared with 1995, with much of this fixing being accounted for by Iranian charterers or by companies in Asia-Pacific countries. One-year rates for 1990s-built ships averaged almost \$28 000 per day, or significantly above 1995 levels of around \$23 500. Little fixing took place of mid-1970s built vessels, but rates of some \$17 500 per day for 12-month time-charters indicated the limited opportunities for period employment of these older ships.

### **Clean Single Voyage Chartering**

166. An overall rise in products trade volumes compared with 1995 led to concomitant growth of reported clean chartering, with much of this again involving tonnage over 40 000 dwt. The increasing popularity of larger clean ships has been a prominent feature of the 1990s and has arisen from several factors. These have been: changes in charterers' preference, greater supply of these sizes and the growth of longer-haul products movements; the last of these can be directly traced to the disruptions to products supply that arose from Iraq's 1990 invasion of Kuwait.

167. Expansion of long-haul products trades was also boosted in 1996 by tighter product specifications in some countries: this contributed to additional back-haul trading as some nations were forced to import suitable supplies and to export domestically-refined products which no longer met required standards. With stricter limits on sulphur and benzene content likely to be enacted in some regions within the next few years, these balancing trades seem set for further expansion - unless the relevant upgrading of older refineries is undertaken to comply with new requirements.

168. Higher imports of refined products by the US and Western Europe, a function of high refinery utilisation and lack of spare capacity in these areas, added to demand for clean tonnage in 1996. To an extent, the increase in clean trades to US discharges merely represented a reversal of the major slump in imports seen in the previous year; this had been precipitated by the introduction of tighter controls on maximum sulphur content of products at the start of 1995. Increased shipments of clean products to the US may also represent a likely longer-term trend: the risks associated with spilling white oils are lower than for dirty cargoes, given its less persistent nature. Furthermore, the high expense of building new refineries in the United States means that additional plant to serve that market may be constructed elsewhere in the western hemisphere, to be supplemented at times of peak demand by supplies from farther afield.

169. Among other areas, growth of clean products imports was most apparent in Asia-Pacific countries, with notable increases by China and India. Greater demand from the latter country was especially significant, in that the under-developed state of India's oil tanker terminals meant that these resulted in serious port congestion. Some vessels, specifically in the 25-50 000 dwt fleet segment waited for several months to discharge cargoes, thereby removing substantial volumes of tonnage from available supply. This was a factor that contributed to tighter trading conditions for these sizes.

170. For larger ships, areas of interest west of Suez included the transatlantic gas oil trades, with greater use of tonnage over 50 000 dwt on this route, both to the US from Western Europe and in the opposite direction. Elsewhere, such sizes still found employment on long hauls through the Suez Canal to markets in Asia - even though total southbound flows for all vessel sizes were down from 1995. Algerian exports to markets east of Suez fell by 0.6 million tonnes, but this contrasted with a 1.1 Mt rise in Russian products exports, divided almost equally between the Baltic and Black Sea loading areas. Among destinations for oil cargoes shipped southwards through the Canal, a large reduction in flows to Singapore was outweighed by far higher deliveries to India - where some vessels encountered the port congestion already described above.

171. Compared with the dirty trades, there was not the same broad improvement in the clean tanker market, with average rates on some representative routes falling slightly from 1995 figures. This was partly due to net fleet growth in the 30-50 000 dwt size group, although other factors also explain the lack of any increase on rates for some specific routes. For example, greater use of 40-50 000 tonners for Caribbean-US Atlantic Coast/US Gulf shipments contributed to marginally weaker earnings on this trade for 30 000 tonners - despite a very strong performance in first quarter 1996. This had arisen from severe cold weather in the north-east United States that resulted in spot earnings (expressed in time-charter terms) of over \$22 000 per day, compared with an average for the year of only \$13 000.

172. A shift towards larger parcel sizes on clean Aframax trades from the Middle East to Japan and South Korea likewise prevented a greater rise in rates for 50/55 000-tonne cargoes on this route, despite higher imports by both countries. Moreover, after adjustment for higher bunker expenses, time-charter equivalent earnings were virtually unchanged from 1995, at some \$18 000 daily. Increased fixing of 70/80 000-tonne parcels on these trades is expected to continue.

173. The table below shows average rates on certain routes, but is partially deceptive: greater back-haul trading meant less ballast time for some ships, thus boosting average earnings.

174. A large increase in rates in first quarter 1997 was seen on most representative routes; this was even though weather in the northern hemisphere was much milder than 12 months earlier - a factor which could have been expected to prevent an upswing of such magnitude. These substantial increases in rates were followed by a partial easing in the second quarter, but still kindled owners' expectations of a notable rise in clean tanker earnings for 1997 as a whole.

Table 8. **Clean Tanker Spot Rates (US\$/tonne) - Averages for period**

<b>Cargo size (tonnes)/route:</b>	<b>1995</b>	<b>1996</b>	<b>1q96</b>	<b>2q96</b>	<b>3q96</b>	<b>4q96</b>	<b>1q97</b>
30 000 Caribbean-USAC/US Gulf	10.59	10.64	13.05	11.08	8.61	9.86	13.15
30 000 North Africa-UK/Continent	9.90	11.71	13.13	11.94	10.13	10.13	14.16
40/45 000 Arabian Gulf-WC India	7.53	7.46	7.80	6.83	6.80	7.13	9.41
50/55 000 Arabian Gulf-Japan/Korea	18.56	18.93	20.29	17.51	17.72	20.21	23.22

*Source:* SSY Consultancy and Research

### **Clean Period Chartering**

175. In keeping with the trends outlined above, a visible preference was evident in period chartering ships of around 40/45 000 dwt, specifically for modern units, with only limited fixing of smaller, older tonnage. One-year time-charter rates averaged around \$14 250 per day, or similar to their levels of the previous two years. By comparison, period charter interest in 30 000 tonners was again less pronounced, owing to the trend towards larger parcel sizes on various trades, plus the limited number of modern units of this size in the existing fleet.

## **LINER FREIGHT MARKET**

### **Evolution of freight market**

176. The declining trend of container freight rates observed on the three main East/West routes since 1995 continued during the whole year of 1996. The Europe/Far East trades, both ways, were the only ones showing signs of recovery during the first quarter of 1997 (+ 4 per cent). On these trades, the rate discipline is supported by an expansion of the FEFC membership and by satisfactory loading factors. This is not the case on the Transpacific trades, where the conferences have to face strong competition from independent companies and where the entering into service of a great number of large container vessels in 1997 could severely increase the existing gap between the supply of tonnage and demand of transport. The trends are similar on the Transatlantic market. Some Asian shipowners which were not active on these trades in 1996 offered new services beginning 1997, whereas European exports to the US were slowing down.

### **Time Charter Market for Container vessels**

177. In 1996 time charter rates for container vessels basically remained steady, although with setbacks for vessels of around 1 000 TEU. Utilisation on a time charter basis is generally on behalf of international liner shipping companies. German companies in particular have placed extensive orders for new container ships of all sizes for delivery up to around the end of 1998. Many calculations assume continuing growth rates in container cargo, particularly in China, south-east Asia and South America, and continuing satisfactory conditions on the time charter market for container vessels. However the market does not expect the present high level of time charter rates to be maintained in the long term.

178. A declining trend was already perceptible in autumn 1996. The level of some time charter extensions concluded in the last quarter was already slightly down. Rate prospects up to 900 TEU remained constant to slightly rising. A fall in rates was particularly noticeable for vessels of around 700 TEU. The situation is difficult for 500 TEU vessels. There is a surplus here on the continent in particular, reflected in longer periods of non-utilisation.

179. In general, prospects of charter extensions with the same charterer are still seen as positive, but new charters are in some cases very difficult to come by. Experts see the general trend as falling rather than rising, owing in particular to a surplus of new construction. For the next 15 months they expect the time charter market on the whole to weaken, with likely falling revenues being at least partly offset in the dollar area by a more favourable rate of exchange than in 1995 and 1996.

**STATISTICAL ANNEX**

Table 1.  
**World seaborne dry cargo and oil trade movements, 1984-1996**  
 In million tonnes

	Dry cargo	% change	Oil	% change	Total	% change
1984	2,065	10	1,227	1	3,292	7
1985	2,134	3	1,159	-6	3,293	0
1986	2,122	-1	1,263	9	3,385	3
1987	2,178	3	1,283	2	3,461	2
1988	2,308	6	1,367	7	3,675	6
1989	2,400	4	1,460	7	3,860	5
1990	2,451	2	1,526	5	3,977	3
1991	2,537	4	1,573	3	4,110	3
1992	2,573	1	1,648	5	4,221	3
1993	2,625	2	1,714	4	4,339	3
1994	2,735	4	1,771	3	4,506	4
1995	2,891	6	1,796	1	4,687	4
1996 (est.)	2,945	2	1,845	3	4,790	2

Source : Fearnleys *Review 1996* , Oslo, 1997.

Table 2

**World seaborne trade of main bulk commodities  
in terms of tonnage and tonne-miles, 1984-1996**

In million tonnes

	Iron Ore	Coal	Grain	Bauxite/ alumina	Phosphate rock	Crude oil	Oil products	Others (est.)
1984	306	232	207	44	44	930	297	1,232
1985	321	272	181	40	43	871	288	1,277
1986	311	276	165	41	41	958	305	1,288
1987	319	283	186	45	42	970	313	1,303
1988	348	304	196	48	44	1,042	325	1,368
1989	362	321	192	49	41	1,120	340	1,435
1990	347	342	192	52	35	1,190	336	1,483
1991	358	369	200	53	31	1,247	326	1,526
1992	334	371	208	48	29	1,313	335	1,583
1993	354	367	194	51	27	1,356	358	1,632
1994	383	383	184	49	29	1,403	368	1,707
1995	402	423	196	52	30	1,415	381	1,788
1996 (est.)	390	437	188	53	31	1,450	395	1,847

In '000 million tonne-miles

	Iron ore	Coal	Grain	Bauxite/ alumina	Phosphate rock	Crude oil	Oil products	Others (est.)
1983	1,359	1,074	1,135	145	159	4,478	1,080	3,206
1984	1,670	1,289	1,157	172	162	4,508	1,140	3,386
1985	1,702	1,473	1,004	166	156	4,007	1,150	3,428
1986	1,699	1,558	914	167	155	4,640	1,265	3,458
1987	1,761	1,622	1,061	180	165	4,671	1,345	3,495
1988	1,950	1,682	1,117	189	176	5,065	1,445	3,675
1989	2,012	1,752	1,095	190	173	5,736	1,540	3,887
1990	1,978	1,849	1,073	205	154	6,261	1,560	4,041
1991	2,008	1,999	1,069	200	140	6,757	1,530	4,170
1992	1,896	2,001	1,091	177	133	6,977	1,620	4,340
1993	2,001	1,949	1,038	184	124	7,391	1,775	4,532
1994	2,165	2,014	992	180	129	7,469	1,860	4,791
1995	2,287	2,176	1,160	199	136	7,375	1,945	5,060
1996 (est.)	2,220	2,215	1,115	204	137	7,400	2,005	5,249

Source: Fearnleys *Review 1996*, Oslo, 1997; Fearnleys *World Bulk Trades 1996*, Oslo, 1996.

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Table 3

**World seaborne trade carried by combined and bulk carriers in 1995**

(dry cargo)

Ships over 50 000 dwt

In '000 tonnes

From	To	UK/ Continent	Mediterranean	Other Europe	North America	South America	Japan	Other Asia	Others	Total 1995	Total 1994	Total 1993
UK/Continent		1,810	380	310	990	60	120	6,010	330	10,010	12,920	12,980
Mediterranean		1,110	700	480	530	150	0	500	160	3,630	4,650	3,950
Other Europe		15,450	2,220	2,320	930	2,000	110	12,360	1,030	36,420	35,130	31,730
Africa		23,640	14,810	21,300	4,080	1,630	9,570	24,090	300	99,420	91,080	89,510
N. America		54,340	22,790	19,540	9,350	9,500	57,310	67,380	11,060	251,270	208,250	218,270
S. America		64,460	17,680	15,070	18,180	7,510	30,760	41,220	2,680	197,560	200,090	180,600
Asia		7,710	2,860	2,790	4,610	1,370	28,460	31,840	460	80,100	72,670	68,460
Australia		31,330	9,580	7,100	1,880	5,250	122,570	85,190	1,260	264,160	249,720	240,340
Total 1995		199,850	71,020	68,910	40,550	27,470	248,900	268,590	17,280	942,570		
Total 1994		193,670	56,950	63,280	43,460	22,850	237,440	230,580	26,280		874,510	
Total 1993		180,980	59,270	70,840	39,450	28,340	235,000	219,880	12,080			845,840

Source: Fearnleys *World Bulk Trades 1996*, Oslo, 1996.

Table 4

**Iron ore: World seaborne trade in 1995**

In '000 tonnes

From:	To:	UK/ Continent	Mediterranean	Other Europe	United States	Japan	Other Far East	Others	Total 1995	Total 1994	Total 1993
Scandinavia		10,218	165	2,160	61	0	1,093	2,698	16,395	19,046	18,874
Other Europe		1,200	234	1,541	0	0	138	0	3,113	3,617	4,220
West Africa		6,389	3,582	989	317	61	0	32	11,370	9,998	9,089
Other Africa		3,841	1,996	4,626	0	4,700	5,961	271	21,395	19,427	18,611
N. America		15,192	1,127	911	6,062	1,064	1,519	229	26,104	26,338	22,595
S. America [Atlantic]		46,946	9,758	8,773	7,315	28,609	23,518	16,186	141,105	134,133	119,815
S. America [Pacific]		1,025	0	0	111	2,815	7,713	493	12,157	13,312	10,419
Asia		1,229	1,843	999	0	23,069	7,317	2,805	37,262	32,869	35,605
Australia/New Zealand		21,116	2,823	1,940	703	60,115	45,280	1,378	133,355	124,126	114,562
Total 1995		107,156	21,528	21,939	14,569	120,433	92,539	24,092	402,256		
Total 1994		105,646	18,520	20,494	14,189	116,090	86,864	21,063		382,866	
Total 1993		90,001	18,664	17,329	11,562	114,326	83,038	18,870			353,790

Note: Import statistics are used whenever possible. Imports to the United States from Canada via Great Lakes are excluded.  
"Others" are partly estimated.

Source: Fearnleys *World Bulk Trades 1996*, Oslo, 1996.

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Table 5

**Coal: World seaborne trade in 1995**

In '000 tonnes

From:	To:	UK/ Continent	Mediterranean	Other Europe	South America	Japan	Other Far East	Others	Total 1995	Total 1994	Total 1993
N. America		22,884	11,574	14,408	9,286	28,297	13,156	4,067	103,672	87,343	87,140
Australia		11,223	4,749	3,995	5,324	65,330	33,504	12,577	136,702	130,318	130,877
S. Africa		14,966	5,113	14,196	1,629	6,432	13,351	5,909	61,596	53,705	54,261
S. America [Caribbean]		9,672	908	5,018	1,285	185	345	5,845	23,258	21,698	20,744
China		1,881	401	114	0	9,808	15,745	671	28,620	24,299	18,899
NIS		1,029	1,767	2,424	1,200	5,111	2,136	1,342	15,009	14,768	14,310
Other E. Europe		7,013	479	7,700	1,420	0	0	48	16,660	19,635	16,673
West Europe		538	17	841	0	0	0	91	1,487	2,238	1,631
Others		1,722	290	1,417	950	11,278	16,033	4,457	36,147	29,415	22,153
Total 1995		70,928	25,298	50,113	21,094	126,441	94,270	35,007	423,151		
Total 1994		69,856	22,310	47,724	16,861	117,595	79,738	29,335		383,419	
Total 1993		66,381	21,378	42,575	16,789	112,745	80,676	26,144			366,688

Note: Exports from USA to Canada are excluded. Coal transportation between most continental countries as well as between East European countries is considered as overland transport.

Source: Fearnleys *World Bulk Trades 1996*, Oslo, 1996.

Table 6

**Grain: World seaborne trade in 1995**

In '000 tonnes

From:	To:	UK/ Continent	Mediter- ranean	East Europe	Other Europe	Africa	Americas	Near East	Indian Ocean	Japan	Other Far East	Not Specified	Total 1995	Total 1994	Total 1993
United States		7,655	7,810	1,374	1,379	13,668	17,324	3,758	5,736	26,227	38,312	825	124,068	91,811	102,578
Canada		868	774	63	105	2,480	2,701	7	2,060	2,427	7,220	120	18,825	21,267	19,576
S. America		4,108	2,015	15	360	1,338	6,914	228	1,171	632	2,623	26	19,430	19,252	19,977
Australia		0	113	0	26	192	91	30	2,016	1,637	3,882	349	8,336	16,046	13,572
Others		62	2,028	1,050	359	8,705	1,840	1,219	4,411	450	5,066	315	25,505	35,978	38,038
Total 1995		12,693	12,740	2,502	2,229	26,383	28,870	5,242	15,394	31,373	57,103	1,635	196,164		
Total 1994		10,923	7,279	6,332	2,173	25,262	33,774	4,695	17,540	30,871	44,493	1,012		184,354	
Total 1993		11,644	9,243	24,081	1,158	26,068	27,264	5,321	14,497	33,040	39,918	1,507			193,741

Note: The term "grain" comprises wheat, maize, barley, oats, rye, sorghum, and soybeans.

Source: Fearnleys *World Bulk Trades 1996*, Oslo, 1996.

Table 7

**Bauxite and alumina: World seaborne trade in 1995**

In '000 tonnes

From:	To:	UK/ Continent	Other Europe	North America	Japan	Others	Total 1995	Total 1994	Total 1993
Mediterranean		383	457	88	6	0	934	645	2,104
Africa		1,029	8,047	4,469	2	0	13,547	13,835	13,639
Jamaica		591	991	4,985	0	0	6,567	6,620	7,910
Other Americas		935	5,303	5,322	27	414	12,001	9,545	9,652
Asia		268	411	608	942	753	2,982	2,561	2,185
Australia		438	1,650	4,900	1,062	5,191	13,241	13,767	12,675
Others		182	899	1,184	18	128	2,411	2,310	2,595
Total 1995		3,826	17,758	21,556	2,057	6,486	51,683		
Total 1994		3,633	12,368	21,224	1,973	10,085		49,283	
Total 1993		3,938	13,181	23,036	1,990	8,615			50,760

Note: Import statistics are used whenever possible. "Others" are partly estimated.

Source: Fearnleys *World Bulk Trades 1996*, Oslo, 1996.

Table 8

**Phosphate rock: World seaborne trade in 1995**  
In '000 tonnes

From:	To:	UK/ Continent	Mediterranean	Other Europe	Americas	Japan	Australia New Zealand	Others	Total 1995	Total 1994	Total 1993
Morocco		1 078	2 212	1 350	3 357	76	289	1 059	9 420	9 526	8 397
Other Africa		1 113	561	1 205	1 409	295	108	2 275	6 965	4 877	5 444
United States		539	-	58	196	506	382	1 408	3 089	3 303	3 593
Pacific Islands		0	-	-	-	-	443	11	453	578	633
Others		2 656	895	1 718	263	405	416	4 064	10 418	10 946	8 660
Total 1995		5 385	3 667	4 331	5 225	1 281	1 639	8 817	30 346		
Total 1994		5 258	3 860	3 905	5 063	1 159	1 916	8 070		29 230	
Total 1993		4 752	3 529	3 718	3 599	1 326	1 647	8 156			26 727

Note: Import statistics are used whenever possible. Imports to East European countries from ex-USSR are excluded.

Source: Fearnleys *World Bulk Trades 1996*, Oslo, 1996.

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Table 9

Inter-regional oil and oil product movements in 1995

In million tonnes

From:	To:	United States	Canada	Mexico	S & Cent. America	OECD Europe	Non-OECD Europe	Africa	Australasia	China	Japan	Other Asia (1)	Others (2)	Total 1995	Total 1994	Total 1993
United States		-	5.5	6.0	13.0	9.2	-	0.4	0.7	0.4	0.8	6.6	3.0	45.6	45.3	46.1
Canada		65.7	-	0.1	-	0.4	-	-	-	-	-	-	3.0	69.2	65.3	59.9
Mexico		53.1	0.6	-	5.5	7.1	-	-	-	-	4.0	0.3	-	70.6	70.6	{
S & Cent America		112.9	4.6	0.3	-	15.1	-	1.1	-	-	0.1	3.5	-	137.6	132.2	{ 188.6
OECD Europe		36.7	16.6	-	3.8	-	12.2	8.0	0.1	0.3	-	3.7	3.1	84.5	88.8	75.3
NIS		1.2	-	-	2.7	80.2	26.5	0.4	-	1.3	0.4	4.5	17.2	134.4	124.8	120.1
Non-OECD Europe		-	-	-	-	5.5	-	-	-	-	-	-	0.1	5.6	6.2	7.4
Middle East		79.8	3.5	-	33.1	178.1	17.3	33.6	11.1	7.7	206.8	253.8	-	824.8	818.2	815.9
North Africa		12.9	1.9	-	1.5	99.7	5.0	3.6	-	0.3	1.0	3.9	3.2	133.0	130.8	132.5
West Africa		62.9	2.9	-	12.9	42.3	0.1	0.5	0.1	1.4	1.4	11.0	-	135.5	133.1	133.1
E & S Africa		-	-	-	-	-	-	-	-	-	-	0.3	-	0.3	0.2	0.5
Australasia		0.9	-	-	-	0.1	-	-	-	0.1	3.3	6.3	2.0	12.7	12.1	11.8
China		2.6	-	-	0.1	-	-	-	0.1	-	11.6	7.7	-	22.1	22.4	21.7
Japan		-	-	-	-	-	-	-	-	0.9	-	6.6	-	7.5	6.6	6.0
South Asia		0.1	-	-	-	0.4	-	-	-	-	0.8	0.2	-	1.5	1.9	2.4
Other Asia		6.7	-	-	-	1.3	-	-	11.4	18.6	45.8	6.0	0.2	90.0	87.2	82.9
Others		1.1	2.0	-	-	33.6	-	-	1.0	0.5	-	2.3	-	40.5	33.9	24.3
Total 1995		436.6	37.6	6.4	72.6	473.0	61.1	47.6	24.5	31.5	276.0	316.7	31.8	1815.4		
Total 1994		440.9	37.6	8.5	70.5	486.6	-	42.5	21.5	26.7	277.6	285.1	82.1		1779.6	
Total 1993		421.1	37.3	{ 69.9 }		511.2	-	43.5	22.3	NA	262.5	266.7	94.0			1728.5

1. Includes South Asia.

2. Includes changes in the quantity of oil in transit, movements not otherwise shown, unidentified military use, etc.

Source: BP Statistical Review of World Energy June 1996, London, 1996.

Table 10

**World oil and oil product imports and exports in 1995**

In million tonnes

	I M P O R T S		E X P O R T S	
	Crude	Product	Crude	Product
United States	360.5	76.1	4.8	40.8
Canada	29.4	8.2	54.9	14.3
Mexico	-	6.4	65.2	5.4
South & Central America	59.4	13.2	96.7	40.9
Western Europe	390.1	82.9	55.0	29.5
Eastern Europe	26.6	9.9	70.4	43.0
Middle East	4.5	3.3	718.1	106.7
North Africa	6.9	4.9	102.3	30.7
West Africa	1.9	5.6	133.5	2.0
East & Southern Africa	24.6	3.7	-	0.3
Australasia	21.5	3.0	8.7	4.0
China	17.1	14.4	18.8	3.3
Japan	229.1	46.9	-	7.5
South Asia	34.1	28.9	-	1.5
Other Asia	187.7	66.0	51.6	38.4
Others (1)	10.0	12.0	23.4	17.1
Total 1995	1,403.4	385.4	1,403.4	385.4
Total 1994	1,375.6	378.0	1,375.6	378.0
Total 1993	1,346.9	355.9	1,346.9	355.9

1. Includes changes in the quantity of oil in transit, movements not otherwise shown, unidentified military u

Note: Bunkers are not included as exports. Intra-area movements (for example between countries in Western Europe) are excluded.

Source: *BP Statistical Review of World Energy June 1996*, London, 1996.

Table 11. **Development of world fleet**

Ships of 100 grt and over

Mid-Year	Total world fleet		Oil tankers				Ore and dry bulk carriers				Other vessel types			
	Mill. GT	Mill. DWT	Mill. GT	% World Fleet	Mill. DWT	% World Fleet	Mill. GT	% World Fleet	Mill. DWT	% World Fleet	Mill. GT	% World Fleet	Mill. DWT	% World Fleet
1975	342.2	553.4	150.1	44	281.6	51	85.5	25	146.8	27	106.6	31	125.0	23
1976	372.0	608.3	168.2	45	320.0	53	91.7	25	158.1	26	112.1	30	130.3	21
1977	393.7	648.8	174.1	44	335.3	52	100.9	26	174.4	27	118.6	30	139.1	21
1978	406.0	670.4	175.0	43	339.1	51	106.5	26	184.5	28	124.4	31	146.8	22
1979	413.0	681.5	174.2	42	338.3	50	108.3	26	188.5	28	130.5	32	154.7	23
1980	419.9	690.9	175.0	42	339.8	49	109.6	26	191.0	28	135.3	32	160.1	23
1981	420.8	697.2	171.7	41	335.5	48	113.1	27	199.5	29	136.0	32	162.2	23
1982	424.7	702.0	166.8	39	325.2	46	119.3	28	211.2	30	138.6	33	165.6	24
1983	422.6	694.5	157.3	37	306.1	44	124.4	29	220.6	32	140.9	33	167.8	24
1984	418.7	683.3	147.5	35	286.8	42	128.3	31	228.4	33	142.9	34	168.1	25
1985	416.3	673.7	138.4	33	268.4	40	134.0	32	237.3	35	143.9	35	168.0	25
1986	404.9	647.6	128.4	32	247.5	38	132.9	33	235.2	36	143.6	35	164.9	25
1987	403.5	640.8	127.7	32	245.5	38	131.0	32	231.8	36	144.8	36	163.5	26
1988	403.4	637.1	127.8	32	245.0	38	129.6	32	230.1	36	146.0	36	162.0	25
1989	410.5	646.7	129.6	32	248.4	38	129.5	32	231.4	36	151.4	37	166.9	26
1990	423.6	666.8	134.8	32	257.4	39	133.2	31	238.9	36	155.6	37	170.5	26
1991	436.0	684.3	138.9	32	264.2	39	135.9	31	244.0	36	161.2	37	176.1	26
1992	444.3	694.6	142.9	32	270.6	39	136.8	31	245.7	35	164.6	37	178.3	26
1993	457.9	715.9	143.1	31	270.2	38	141.0	31	251.3	35	173.8	38	194.4	27
1994	475.9	744.0	144.6	30	269.4	36	144.9	30	254.3	34	186.4	39	220.3	30
1995	490.7	767.1	143.5	29	265.8	35	151.6	31	265.4	35	195.6	40	235.9	31
1996	507.9	794.0	146.4	29	270.3	34	157.4	31	275.1	35	204.1	40	248.6	31

Note: "ore and dry bulk carriers" includes combination carriers

Source: Lloyd's Register *World Fleet Statistics Tables*, London, 1997.

Table 12. World fleet by country of registration as at en-1996

Country of registry	ships of 100 grt and over			
	1996 Total fleet '000 GT	% Change sinc End-1995 GT	1996 Oil tankers '000 GT	% Change since End-1995 GT
Australia	2,717.9	-4.7	467.1	-19.3
Austria	94.7	3.0	-	-
Belgium	277.9	15.9	2.4	0.0
Canada	2,406.2	0.2	110.4	-6.2
Czech Republic	78.1	-44.3	-	-
Denmark <sup>1</sup>	5,993.9	2.4	1,026.6	-2.6
Finland	1,511.4	-0.5	302.9	0.0
France <sup>2</sup>	4,383.1	4.5	1,872.1	-7.3
Germany	5,842.1	3.8	10.9	-23.2
Greece	27,507.1	-6.5	13,066.1	1.8
Hungary	50.2	11.3	-	-
Iceland	217.9	4.5	1.8	12.5
Ireland	219.0	2.6	2.9	-68.5
Italy	6,594.3	-1.6	1,780.8	-8.9
Japan	19,200.9	-3.6	5,818.8	-3.5
Korea	7,557.9	8.4	380.3	-4.7
Luxembourg	878.5	-0.3	164.6	4887.9
Mexico	1,128.3	-0.1	425.3	0.2
Netherlands <sup>3</sup>	5,162.6	12.1	626.6	15.2
New Zealand <sup>4</sup>	390.6	25.4	60.6	-20.1
Norway <sup>5</sup>	21,805.7	1.2	8,895.1	1.3
Poland	2,292.6	-2.8	6.3	-4.5
Portugal <sup>6</sup>	677.9	-24.6	217.2	-55.7
Spain <sup>7</sup>	1,674.8	3.5	514.9	17.7
Sweden	3,001.7	1.6	392.4	1.9
Switzerland	400.2	5.0	-	-
Turkey	6,425.7	2.5	709.5	-13.6
United Kingdom <sup>8</sup>	7,014.5	4.5	1,898.6	-4.5
United States	12,024.6	-5.8	3,629.7	-9.0
Total OECD	147,530.3	5.8	42,383.9	-1.1

1. Denmark includes DIS & Faroes.
2. France includes French Antarctic Territory and Wallis & Futuna Islands.
3. Netherlands include Netherlands Antilles.
4. New Zealand includes Cook Islands.
5. Norway includes NIS.
6. Portugal includes MAR and Macao.
7. Spain includes CSR.
8. UK includes Channel Islands and Isle of Man.

Table 12. World fleet by country of registration as at en-1996 (cont'd)

Country of registry	ships of 100 grt and over			
	1996 Total fleet '000 GT	% Change sinc End-1995 GT	1996 Oil tankers '000 GT	% Change since End-1995 GT
Antigua\$Barbude	2176.2	18.1	3.7	0
Argentina	586.3	-1.4	113.7	6.1
Bahamas	24408.8	3.4	10863.3	5.2
Bermuda	3462.2	13.6	1586/5	0
Brazil	4530	-10.8	1802.6	-13.8
Bulgaria	1149.7	-1.4	194	-10
China	16,992.9	0.3	2,190.1	-4.6
Cyprus	23,798.9	-3.5	3,733.1	-14.0
Egypt	1,230.2	-3.0	221.5	0.0
Estonia	545.3	-8.8	5.6	-43.4
Honduras	1,197.8	-0.7	102.8	6.3
Hong Kong, China	7,863.0	-10.6	396.1	-40.8
India	7,127.2	0.01	2,622.0	2.7
Indonesia	2,972.6	7.3	848.7	14.9
Iran	3,566.8	22.9	1,860.1	50.8
Kuwait	2,027.9	-1.4	1,342.5	0.0
Latvia	723.4	-9.4	278.5	-13.6
Liberia	59,988.9	0.3	28,043.7	-3.3
Lithuania	571.5	-6.3	4.7	-42.7
Malaysia	4,175.3	27.2	589.0	43.1
Malta	19,479.4	10.2	7,370.3	8.5
Marshall Islands	4,897.1	58.0	2,721.0	81.1
Panama	82,130.7	14.2	20,910.5	7.2
Philippines	9,033.8	3.3	157.7	7.3
Romania	2,567.5	1.2	429.2	0.0
Russia	13,755.4	-9.5	1,917.2	-16.4
Saint Vincent	7,134.2	15.7	1,228.0	11.5
Saudi Arabia	1,208.3	1.8	258.1	8.7
Singapore	16,448.5	20.8	6,613.5	29.6
Chinese Taipei	6,174.5	1.2	957.3	-0.2
Thailand	2,042.2	17.1	384.6	95.8
Ukraine	3,825.4	-17.1	78.7	-2.6
Vanuatu	1,711.3	-8.7	39.9	3.6
Venezuela	697.2	-11.4	274.8	-23.9
Others	18,146.3	-1.3	3,429.9	-12.4
World Total	507,873.0	3.5	146,366.3	2.0

Table 13. World fleet by country of registration and principal types of vessels as at end-1996

Country of registry	ships of 100 gt and over							In '000 gt % of total	Total
	Oil tankers	% of total	Ore and dry bulk1	% of total	General cargo2	% of total	Miscellaneous3		
Australia	467.1	17.2	1,039.3	38.2	192.1	7.1	1,019.4	37.5	2,717.9
Austria	-	-	-	-	94.7	100.0	-	-	94.7
Belgium	2.4	0.9	55.5	20.0	1.3	0.5	218.7	78.7	277.9
Canada	110.4	4.6	1,347.0	56.0	117.9	4.9	830.8	34.5	2,406.2
Czech Republic	-	-	78.1	100.0	-	0.0	-	0.0	78.1
Denmark	1,026.6	17.1	521.4	8.7	2,741.4	45.7	1,705.1	28.4	5,993.9
Finland	302.9	20.0	80.1	5.3	426.5	28.2	701.9	46.4	1,511.4
France	1,872.1	42.7	447.5	10.2	899.7	20.5	1,163.8	26.6	4,383.1
Germany	10.9	0.2	47.6	0.8	4,807.5	82.3	976.1	16.7	5,842.1
Greece	13,066.1	47.5	10,704.9	38.9	2,014.6	7.3	1,721.4	6.3	27,507.1
Hungary	-	-	-	-	50.2	100.0	-	-	50.2
Iceland	1.8	0.8	0.4	0.2	14.8	6.8	200.9	92.2	217.9
Ireland	2.9	1.3	-	0.0	96.7	44.2	119.5	54.6	219.0
Italy	1,780.8	27.0	1,552.5	23.5	1,198.8	18.2	2,062.1	31.3	6,594.3
Japan	5,818.8	30.3	4,956.1	25.8	3,427.2	17.8	4,998.8	26.0	19,200.9
Korea	380.3	5.0	3,650.2	48.3	2,556.1	33.8	971.4	12.9	7,557.9
Luxembourg	164.6	18.7	86.4	9.8	126.9	14.4	500.4	57.0	878.5
Mexico	425.3	37.7	-	0.0	177.5	15.7	525.5	46.6	1,128.3
Netherlands	626.6	12.1	175.4	3.4	2,464.9	47.7	1,895.9	36.7	5,162.6
New Zealand	60.6	15.5	25.1	6.4	77.4	19.8	227.6	58.3	390.6
Norway	8,895.1	40.8	3,858.0	17.7	3,849.4	17.7	5,213.2	23.9	21,805.7
Poland	6.3	0.3	1,455.0	63.5	542.6	23.7	288.6	12.6	2,292.6
Portugal	217.2	32.0	128.0	18.9	183.0	27.0	150.0	22.1	677.9
Spain	514.9	30.7	23.2	1.4	274.3	16.4	862.1	51.5	1,674.8
Sweden	392.4	13.1	43.7	1.5	1,543.0	51.4	1,025.5	34.2	3,001.7
Switzerland	-	-	370.1	92.5	12.6	3.1	17.5	4.4	400.2
Turkey	709.5	11.0	4,167.6	64.9	1,224.4	19.1	324.2	5.0	6,425.7
United Kingdom	1,898.6	27.1	822.4	11.7	1,662.0	23.7	2,632.5	37.5	7,014.5
United States	3,629.7	30.2	1,301.6	10.8	3,626.3	30.2	3,467.0	28.8	12,024.6
Total OECD	42,383.9	28.7	36,937.1	25.0	34,403.8	23.3	33,819.9	22.9	147,530.3

1. Includes bulk dry, bulk dry/oil, self discharging bulk dry and other bulk dry carrier.
2. Includes general cargo, general cargo/passenger, refrigerated cargo, container, and ro/ro-cargo ships.
3. Includes passenger/ro-ro cargo, passenger, other dry cargo, fish catching, other fishing, offshore supply, other offshore, research, towing/pushing, dredging, liquified gas, chemical, other liquids and other activities.

Table 13. World fleet by country of registration and principal types of vessels as at end-1996 (cont'd)

Country of registry	ships of 100 gt and over						In '000 gt		Total
	Oil tankers	% of total	Ore and dry bulk <sup>1</sup>	% of total	General cargo <sup>2</sup>	% of total	Miscellaneous <sup>3</sup>	% of total	
Antigua & Barbuda	3.7	0.2	173.8	8.0	1,970.4	90.5	28.1	1.3	2,176.2
Argentina	113.7	19.4	33.7	5.7	156.5	26.7	282.5	48.2	586.3
Bahamas	10,863.3	44.5	4,425.3	18.1	6,493.8	26.6	2,626.5	10.8	24,408.8
Bermuda	1,586.5	45.8	301.1	8.7	722.1	20.9	852.6	24.6	3,462.2
Brazil	1,802.6	39.8	1,889.7	41.7	549.0	12.1	288.9	6.4	4,530.0
Bulgaria	194.0	16.9	532.2	46.3	368.6	32.1	55.0	4.8	1,149.7
China	2,190.1	12.9	6,780.6	39.9	6,727.1	39.6	1,295.0	7.6	16,992.9
Cyprus	3,733.1	15.7	12,653.4	53.2	6,343.3	26.7	1,069.1	4.5	23,798.9
Egypt	221.5	18.0	486.9	39.6	390.3	31.7	131.4	10.7	1,230.2
Estonia	5.6	1.0	159.6	29.3	197.6	36.2	182.5	33.5	545.3
Honduras	102.8	8.6	115.5	9.6	700.5	58.5	279.2	23.3	1,197.8
Hong Kong, China	396.1	5.0	5,749.3	73.1	1,623.1	20.6	100.7	1.3	7,863.0
India	2,622.0	36.8	3,081.1	43.2	660.8	9.3	763.4	10.7	7,127.2
Indonesia	848.7	28.6	221.7	7.5	1,290.4	43.4	611.8	20.6	2,972.6
Iran	1,860.1	52.2	1,014.6	28.4	531.7	14.9	160.2	4.5	3,566.8
Kuwait	1,342.5	66.2	-	0.0	273.2	13.5	412.2	20.3	2,027.9
Latvia	278.5	38.5	-	0.0	281.3	38.9	163.5	22.6	723.4
Liberia	28,043.7	46.7	16,744.1	27.9	7,863.6	13.1	7,337.4	12.2	59,988.9
Lithuania	4.7	0.8	109.7	19.2	200.2	35.0	256.9	45.0	571.5
Malaysia	589.0	14.1	1,272.4	30.5	1,100.2	26.4	1,213.6	29.1	4,175.3
Malta	7,370.3	37.8	7,478.1	38.4	3,890.8	20.0	740.3	3.8	19,479.4
Marshall Islands	2,721.0	55.6	1,095.2	22.4	1,040.9	21.3	40.1	0.8	4,897.1
Panama	20,910.5	25.5	33,018.5	40.2	21,558.8	26.2	6,642.9	8.1	82,130.7
Philippines	157.7	1.7	6,333.6	70.1	1,937.4	21.4	605.2	6.7	9,033.8
Romania	429.2	16.7	864.7	33.7	1,055.1	41.1	218.5	8.5	2,567.5
Russia	1,917.2	13.9	1,767.3	12.8	4,547.7	33.1	5,523.2	40.2	13,755.4
Saint Vincent	1,228.0	17.2	2,626.6	36.8	2,698.1	37.8	581.6	8.2	7,134.2
Saudi Arabia	258.1	21.4	11.7	1.0	586.4	48.5	352.4	29.2	1,208.3
Singapore	6,613.5	40.2	4,343.7	26.4	4,437.4	27.0	1,054.0	6.4	16,448.5
Chinese Taipei	957.3	15.5	2,443.7	39.6	2,601.6	42.1	171.9	2.8	6,174.5
Thailand	384.6	18.8	480.2	23.5	1,045.5	51.2	131.8	6.5	2,042.2
Ukraine	78.7	2.1	451.7	11.8	2,198.5	57.5	1,096.3	28.7	3,825.4
Vanuatu	39.9	2.3	706.4	41.3	652.6	38.1	312.6	18.3	1,711.3
Venezuela	274.8	39.4	111.3	16.0	55.5	8.0	262.5	37.7	697.2
Others	3,839.4	19.1	2,967.3	14.7	8,183.0	40.6	5,124.3	25.4	20,142.3
World Total	146,366.3	28.8	157,381.8	31.0	129,336.8	25.5	74,788.0	14.7	507,873.0

1. Includes bulk dry, bulk dry/oil, self discharging bulk dry and other bulk dry carrier.
2. Includes general cargo, general cargo/passenger, refrigerated cargo, container, and ro/ro-cargo ships.
3. Includes passenger/ro-ro cargo, passenger, other dry cargo, fish catching, other fishing, offshore supply, other offshore, research, towing/pushing, dredging, liquified gas, chemical, other liquids and other activities.

Source: Lloyd's Register *World Fleet Statistics Tables*, London, 1997.

Table 14

**Development of shares of major national groups in the world fleet 1981-1996**

	Mid-1981		End-1995		End-1996	
	Million grt	% World tonnage	Million grt	% World tonnage	Million grt	% World tonnage
OECD Countries(1)	214.7	51	139.5	28.4	147.5	29.0
NIS/CEECs(2)	30.3	7.2	28.8	5.9	23.9	4.7
Developing Asian Economies(3)	17.8	4.2	40.5	8.3	36.7	7.2
China	7.7	1.8	16.9	3.4	17.0	3.3
Open Registry Countries(4)	105.3	25	213	43.4	227.1	44.7
Developing Market Economy Countries	42	10	46.5	9.5	49.7	9.8
Others (5)	3.1	0.7	5.5	1.1	5.9	1.2
Total	420.8	100	490.6	100	507.9	100.0

1. Including Great Lakes Fleets and United States Reserve Fleets.
2. Albania, Bulgaria, Croatia, Estonia, Georgia, Hungary(until 1995), Latvia, Lithuania, Poland(until 1995), Romania, Russia, Slovenia, Ukraine, Yugoslavia.
3. Hong Kong (China), Malaysia, Singapore, Korea(until 1995), Chinese Taipei, Thailand.
4. Antigua & Barbuda, Bahamas, Bermuda, Cayman Islands, Cyprus, Gibraltar, Honduras, Libanon, Liberia, Malta, Mauritius, Oman, Panama, Saint Vincent and Vanuatu.
5. Cuba, Falkland Islands, Indonesia, Israel, North Korea, South Africa and Vietnam.

Source : Lloyd's Register *World Fleet Statistics 1996*, London, 1997.

SG/CHINA/MTC/RD(97)3

Table 15. World fleet by type of vessel and regional distribution end-1996

Percentage of type registered

Type of vessel	Total tonnage million GT	% change End-1996 End-1995	OECD Countries(1)	NIS/ CEECs(2)	Developing Asian Economies(3)	China	Open Registry Countries(4)	Developing Market-Economy Countries	Rest of World (5)
Oil tankers	146.4	2.0	28.7	2.6	6.4	1.5	50.7	9.5	0.6
Chemical carriers	12.9	6.6	42.3	0.4	5.7	0.9	43.0	7.3	0.4
Liquefied gas carriers	15.8	6.0	52.1	0.0	2.5	0.2	37.6	7.4	0.1
Combination carriers	12.2	-13.5	23.3	4.1	6.2	0.0	46.9	19.5	0.0
Dry bulk carriers	145.2	5.5	16.0	2.8	9.3	4.7	49.5	17.4	0.3
General cargo ships	57.2	0.7	14.9	13.2	6.8	8.4	40.2	12.8	3.7
Container ships	43.1	11.4	36.7	1.2	14.0	3.2	38.0	4.6	2.3
Refrigerated carriers	7.2	0.0	12.8	11.9	1.5	1.4	64.2	7.1	1.1
Ro-Ro ships	21.3	4.4	37.9	3.2	5.5	0.5	45.0	7.6	0.5
Passenger ships	18.6	6.9	56.9	2.5	0.7	2.2	28.5	7.6	1.7
Other cargo ships	2.4	4.3	43.6	11.9	4.9	3.0	21.0	15.2	0.4
Fishing vessels	13.1	-1.5	31.2	39.3	0.9	1.8	8.0	15.8	3.0
Other ships	12.5	1.6	42.0	17.0	2.9	5.2	15.5	13.5	4.0
All categories	507.9	3.5	27.1	5.2	8.7	3.3	44.7	9.8	1.2

1. Including Great Lakes and United States Reserve Fleets.
2. Albania, Bulgaria, Croatia, Estonia, Georgia, Latvia, Lithuania, Romania, Russia, Slovenia, Ukraine and Yugoslavia.
3. Hong Kong(China), Malaysia, Chinese Taipei, Thailand and Singapore.
4. Antigua & Barbuda, Bahamas, Bermuda, Cayman Islands, Cyprus, Gibraltar, Honduras, Lebanon, Liberia, Malta, Mauritius, Oman, Panama, Saint Vincent and Vanuatu.
5. Cuba, Falkland Islands, Indonesia, Israel, North Korea, South Africa and Vietnam.

Source: Lloyd's Register *World Fleet Statistics 1996*, London, 1997.

**Note: Categorisation of ships by type**

- Oil tankers : Oil tanker.  
 Chemical tankers : Chemical tanker and chemical/oil tanker.  
 Liquefied gas carriers: Liquefied gas tanker and liquefied gas/chemical tanker.  
 Combination carriers: Bulk/oil carrier and ore/oil carrier.  
 Dry bulk carriers: Bulk carrier, ore carrier, self-discharging bulk carrier, cement carrier, wood chips carrier and urea carrier; etc.  
 General cargo ships: General cargo ship, palletised cargo ship and deck cargo ship.  
 Container ships: Container ship.  
 Refrigerated carriers: Refrigerated cargo ship.  
 Ro-Ro ships: Ro-Ro cargo ship, container/Ro-Ro cargo ship, vehicles carrier and landing craft.  
 Passenger ships: Passenger ship, passenger/general cargo ship, passenger/Ro-Ro cargo ship and passenger/landing craft.  
 Other cargo ships: Live stock carrier, barge carrier and heavy cargo carrier; etc.  
 Fishing vessels: Trawler, fishing vessel, fish factory ship and fish carrier; etc.  
 Other ships: Offshore supply ship, offshore support ship, offshore well production ship, drilling ship, research ship, tug, pusher tug, dredger, hopper dredger, motor hopper, sludge disposal vessel, crane ship, cable ship, ice-breaker.

Table 16

**Development of the wet and dry bulk carrier fleets, 1989-1997**

SIZE GROUPS IN DWT		In service at 1 January								On order 1 January 1997
		1989	1990	1991	1992	1993	1994	1995	1996	
Oil tankers	10 - 40 000	28,349	28,581	28,502	28,246	27,622	26,965	26,286	26,034	1,004
	40 - 150 000	82,190	85,346	90,004	93,962	96,886	97,611	98,739	101,894	8,548
	150 000 +	121,568	125,494	127,907	133,263	135,999	140,899	136,392	136,980	9,380
	Total	232,107	239,421	246,413	255,471	260,507	265,475	261,417	264,908	18,932
Combination carriers	10 - 60 000	1,818	1,712	1,691	1,691	1,631	1,586	1,417	1,316	0
	60 - 100 000	6,073	6,124	5,985	6,029	6,753	6,903	6,493	5,666	0
	100 000 +	25,441	24,498	23,781	22,943	22,845	20,499	16,134	11,163	550
	Total	33,332	32,334	31,457	30,663	31,229	28,988	24,044	18,145	550
Dry bulk carriers	10 - 60 000	111,809	113,334	114,387	114,993	115,179	114,741	120,959	123,380	10,772
	60 - 100 000	39,282	41,407	43,383	44,459	44,202	45,973	54,220	57,057	8,872
	100 000 +	44,387	47,958	53,328	56,439	57,234	59,933	67,011	74,856	9,500
	Total	195,478	202,699	211,098	215,891	216,615	220,647	242,190	255,293	29,144

Source: Fearnleys *World Bulk Fleet January 1997*, Oslo, 1997.

Table 17: **SHIPS LOST AND SCRAPPED: BY VESSEL TYPE 1996**

VESSEL TYPE	LOST			SCRAPPED		
	NO	GT	AGE	NO	GT	AGE
Liquefied gas	2	13011	25	6	21651	30
Chemical	2	5677	19	15	65478	20
Oil	8	154224	23	89	2929544	24
Other liquids	-	-	-	-	-	-
Bulk dry	11	286904	21	103	3141588	25
Bulk dry/oil	-	-	-	18	1186807	23
Self-discharging bulk dry	-	-	-	-	-	-
Other bulk dry	7	15725	24	16	244494	25
General cargo	77	240108	24	154	1022517	28
Passenger/general cargo	-	-	-	11	79519	33
Container	6	93862	16	12	229302	29
Refrigerated cargo	3	3675	19	22	115535	29
Ro-ro cargo	1	1254	13	7	25669	31
Passenger/ro-ro cargo	4	6218	25	3	16650	44
Passenger	3	4676	22	5	12900	28
Other dry cargo	2	25139	28	2	55280	27
Fish catching	38	20683	22	183	295889	24
Other fishing	3	13948	13	20	140796	28
Offshore supply	4	1860	27	1	671	20
Other offshore	-	-	-	2	1723	20
Research	2	652	25	6	58344	27
Towing/pushing	3	1741	24	25	14151	38
Dredging	2	1640	22	5	3141	29
Other activities	1	354	34	6	6367	27
<b>GRAND TOTAL</b>	<b>179</b>	<b>891351</b>	<b>23</b>	<b>711</b>	<b>9668016</b>	<b>26</b>

Source: Lloyd's Register "World Casualty Statistics" London 1996

Table 18  
SHIPS LOST AND SCRAPPED: REGIONAL DISTRIBUTION

100 grt and over

Flag	OECD		Open registries (1)		Eastern Europe (2)		Rest of the world		Total		
	Ships	'000 GT	Ships	'000 GT	Ships	'000 GT	Ships	'000 GT	Ships	'000 GT	
1994	Lost	49	144.5	63	1,076.5	18	98.4	54	256.9	184	1,576.3
	Scrapped	213	2,705.4	179	4,920.7	175	691.2	74	2,098.3	641	10,415.6
	Total	262	2,849.9	242	5,997.2	193	789.6	128	2,355.2	825	11,991.9
1995	Lost	68	71.7	53	677.5	12	46.3	55	109.3	188	904.8
	Scrapped	259	1,946.8	125	4,007.5	228	1,083.5	57	1,485.4	669	8,523.2
	Total	327	2,018.5	178	4,685.0	240	1,129.8	112	1,594.7	857	9,428.0
1996	Lost	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
	Scrapped	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
	Total	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a

(1) Antigua & Barbuda, Bahamas, Bermuda, Cayman Islands, Cyprus, Gibraltar, Honduras, Lebanon, Liberia, Malta, Mauritius, Oman, Panama, Saint-Vincent and Vanuatu

(2) Albania, Bulgaria, Croatia, Estonia, Georgia, Latvia, Lithuania, Poland (until 1995), Romania, Russia, Slovenia, Ukraine, Yugoslavia and ex-USSR

Source: Lloyd's Register "Casualty Returns 1994, 1995, 1996", London

Table 19. **Development of dry bulk freight rates**

	Single voyage rates (\$/tonne of cargo)			Time charter (1 year (\$'000/day))		
	55000	90000	120000	30000	55000	120000
	dwt	dwt	dwt	dwt	dwt	dwt
1994 (average)	24.2	6.1	6.3	8.2	10.1	12.7
1995 (average)	32.7	7.4	7.5	9.5	13.2	16.5
1996 (average)	23.7	5.3	5.1	7.9	10.3	11.0
1996						
January	26.7	5.9	5.7	8.5	12.5	12.0
February	24.8	5.7	5.5	8.3	12.3	12.0
March	25.7	5.5	5.2	9.3	13.3	12.5
April	25.5	5.0	5.0	8.5	13.0	12.5
May	24.2	4.9	4.9	8.0	11.0	12.0
June	22.7	4.9	4.8	7.0	9.0	11.5
July	20.7	4.4	4.5	6.9	9.0	11.0
August	21.2	5.8	5.5	7.0	10.0	11.0
September	19.5	5.0	4.9	7.6	9.0	10.0
October	24.0	5.3	5.2	7.6	7.8	9.9
November	24.0	5.8	5.0	8.2	8.4	8.9
December	26.0	5.9	5.0	8.2	8.2	8.9
1997						
January	25.0	6.0	5.9	7.8	8.2	9.5

Source: Lloyd's *Shipping Economist*, London.

Table 20  
**Development of tanker freight rates**

	SPOT MARKET (Worldscale)			PERIOD MARKET 1 year (\$/dwt/month)		
	30000 DWT	130000 DWT	250000 DWT	30000 DWT	130000 DWT	250000 DWT
1993 (average)	208	74	43	10.1	2.9	1.8
1994 (average)	222	76	39	11.5	3.1	1.7
1995 (average)	245	81	49	11.8	3.2	1.7
1996 (average)	235	92	57	11.2	4.6	2.3
1996						
January	245	90	56	13.2	4.7	1.9
February	260	95	62	13.2	4.7	2.7
March	280	93	57	16.2	4.6	2.2
April	280	93	40	15.2	4.4	2.2
May	260	93	58	14.7	4.7	2.3
June	185	90	62	10.1	4.7	3.0
July	175	93	62	9.2	4.7	3.3
August	240	90	63	11.1	4.4	3.0
September	195	88	57	9.6	4.5	2.2
October	230	95	53	8.2	4.7	1.8
November	190	95	55	7	4.9	1.4
December	275	95	55	7.1	4.7	1.4
1997						
January	335	93	55	17.2	4.7	1.7

Source: Lloyd's *Shipping Economist*, London.

Table 21. **Development of tanker freight rates on selected routes**

	DIRTY				CLEAN	
	AG-WEST (via Suez) (1)	AG-WEST (via Cape)	AG- EAST	MED- USAC	MED-NW EUROPE	MED- USAC
1993 (average)	78	43	49	101	176	157
1994 (average)	73	38	45	117	200	186
1995 (average)	72	48	59	118	198	171
1996 (average)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
1996						
January	78	54	67	93	262	187
February	85	55	72	132	234	227
March	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
April	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
May	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
June	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
July	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
August	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
September	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
October	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
November	55	n.a.	58	127	184	181
December	48	n.a.	51	115	185	243
1997 (2)						
January	52	n.a.	57	116	219	272
February	50	n.a.	48	128	234	249

(1) Does not include Suez Canal tolls.

(2) W100 is reassessed each 1 January.

Note: Per cent of New Worldscale flat rate. Single voyage weighted average rates. As calculated by John I. Jacobs.

Source: *Petroleum Economist*, London.

Table 22. **Development of major conference rates**

	Unit rates (\$)			
	Europe Far-East	N. Atlantic Westbound	Transpacific Westbound	Europe- Australia
1993 (average)	2 724	3 052	1 614	6 099
1994 (average)	2 737	2 913	1 406	6 133
1995 (average)	2 675	2 958	1 640	6 179
1996 (average)	2 675	2 958	1 640	6 179
1996				
January	2 675	2 958	1 640	6 179
February	2 675	2 958	1 640	6 179
March	2 675	2 958	1 640	6 179
April	2 675	2 958	1 640	6 179
May	2 675	2 958	1 640	6 179
June	2 675	2 958	1 640	6 179
July	2 675	2 958	1 640	6 179
August	2 675	2 958	1 640	6 179
September	2 675	2 958	1 640	6 179
October	2 675	2 958	1 640	6 179
November	2 675	2 958	1 640	6 179
December	2 675	2 958	1 640	6 179

Source: Lloyd's *Shipping Economist*, London.