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TRANSPORT, 2001**



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## Abbreviations

<b>ACIS</b>	Advance Cargo Information System
<b>c.i.f.</b>	cost, insurance and freight
<b>dwt</b>	deadweight tons
<b>FIO</b>	free in and out
<b>f.o.b.</b>	free on board
<b>GDP</b>	gross domestic product
<b>grt</b>	gross registered tons
<b>IICL</b>	Institute of International Container Lessors
<b>IMF</b>	International Monetary Fund
<b>IMO</b>	International Maritime Organization
<b>LNG</b>	liquefied natural gas
<b>LPG</b>	liquefied petroleum gas
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>OPEC</b>	Organization of Petroleum Exporting Countries
<b>TEU</b>	twenty-foot equivalent unit
<b>ULCC</b>	ultra-large crude carrier
<b>UNCTAD</b>	United Nations Conference on Trade and Development
<b>VLCC</b>	very large crude carrier
<b>WS</b>	Worldscale
<b>WTO</b>	World Trade Organization

### **Explanatory notes**

All references to dollars (\$) are to United States dollars, unless otherwise stated.

“Tons” refers to metric tons, unless otherwise stated.

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

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

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

In some tables, the data shown for earlier years have been revised and updated, and therefore differ from those shown in previous issues of the *Review*. This relates in particular to the distribution of world tonnage according to country groups, specifically the classification of major open-registry countries. Up to the 1994 edition of the *Review*, the majority of tables included five countries in this group, namely, Bahamas, Bermuda, Cyprus, Liberia and Panama, while some tables also included Malta and Vanuatu. In order to improve consistency and to reflect practices of ship registration, Malta and Vanuatu have been included in all tables referring to major open-registry countries. This reclassification primarily affects the share of developing countries in Europe in total world tonnage.

In the tables and the text, the use of the term “countries” refers to countries, territories or areas.

**Approximate vessel size groups referred to in the *Review of Maritime Transport*, according to generally used shipping terminology**

Crude oil tankers:

ULCC	300,000 dwt plus
VLCC	150,000 – 299,999 dwt
Suezmax	100,000 – 149,999 dwt
Aframax	50,000 – 99,999 dwt

Dry bulk carriers:

Capesize	80,000 dwt plus
Panamax	50,000 – 79,999 dwt
Handymax	35,000 – 49,999 dwt
Handy	20,000 – 34,999 dwt

# INTRODUCTION

The *Review of Maritime Transport* is an annual publication prepared by the secretariat of the United Nations Conference on Trade and Development. Its purpose is to identify the main developments in world maritime transport and to provide relevant statistical data. It focuses on developments of maritime activities in

developing countries as compared with other groups of countries. It also highlights the correlation between the development of global trade and maritime transport activities in general. Regional developments in East Asia trade and transport networks are the subject of this year's special chapter

## SUMMARY OF MAIN DEVELOPMENTS

### **Development of the world economy and seaborne trade**

- World output grew in 2000 by 4.0 per cent over 1999, the highest in a decade. The developed market-economy countries experienced growth of 3.5 per cent, while developing countries recorded an average increase of 5.1 per cent. In 2001, the output growth of the world is expected to drop, with the output of OECD countries dropping to 2.0 per cent.
- The growth in the volume of world merchandise exports increased by 11.9 per cent compared to 5.0 in 1999, while imports increased by 11.3 per cent compared to 6.1 per cent. This high growth was based on the performance of developing countries and also North America. The slowdown of the North American economy will significantly reduce trade growth in 2001.
- The total industrial production index of OECD increased by 6.0 per cent to 121.2 from 114.3 in 1999 (1995=100). The positive result was due to the performance of the United States and OECD European countries.
- World seaborne trade (goods loaded) recorded its fifteenth consecutive annual increase reaching a record high of 5.88 billion tons. The annual growth rate increased to 3.6 per cent compared to only 0.9 per cent in 1999.

Global maritime trade growth will likely decline to 2.0 per cent in 2001.

- Total maritime activities measured in ton-miles increased to 22,940 billion ton-miles, in comparison with 21,930 billion ton-miles in 1999.

### **Development of the world fleet**

- The world merchant fleet expanded to 808.4 million deadweight tons (dwt) at the end of 2000, a 1.2 per cent increase. Newbuilding deliveries were up by 9.6 per cent to 44.4 million dwt and tonnage broken up and lost declined by 27.7 per cent to 22.2 million dwt leaving a net gain of 9.4 million dwt.
- The fleet of oil tankers and dry bulk carriers, which together make up 70.1 per cent of the total world fleet increased by 1.1 per cent and 2.0 per cent respectively. There was a 8.8 per cent increase from 63.6 to 69.2 million dwt in the container ship fleet and a 6.9 per cent increase from 17.3 to 18.5 million dwt in the liquefied gas carriers fleet.
- The average age of the world fleet remained around 14 years with almost 34 per cent of the fleet 20 years and over. General cargo vessels had the oldest average age at 17.0 years and container vessels were the youngest at 10.4 years.

- Registration of ships by developed market-economy countries and major open-registry countries accounted for 25.2 and 48.5 per cent of the world fleet respectively. Open registries increased their tonnage by 1.9 per cent and two thirds of this beneficially-owned fleet is owned by market-economies and developing countries. Developing countries share reached 19.4 per cent or 157.0 million dwt of which 115.7 million dwt is registered in Asia.

### **World fleet productivity and supply and demand**

- The main operational productivity indicators for the world fleet, tons carried per dwt and thousands of ton-miles per dwt increased to 7.19 and 28.38 respectively. This was an increase of 1.0 per cent and 3.3 per cent from 1999.
- World total surplus tonnage continued to decrease and stood at 18.4 million dwt in 2000 or 2.3 per cent of the world merchant fleet. The surplus capacity in the tanker sector declined to 13.5 million dwt, while overcapacity in the dry bulk sector dropped to 3.8 million dwt from 7.9 million dwt in 1999.

### **Freight markets**

- The year 2000 was a good year for the tanker market. The overall volume of seaborne crude oil trade increased by 3.3 per cent. The average freight indices for VLCC, medium-size crude carriers and small crude and product carriers increased by 104.2, 77.9 and 73.3 per cent respectively.
- In 2000, seaborne shipments of the main bulks, particularly iron ore and coal, increased by 7.4 per cent. The improved balance between supply and demand resulted in higher rates for both time- and trip-charters with annual average increases in the indices of 63.6 per cent and 11.8 per cent.
- Again, by the end of 2000 the level of freight rates in the main containerized routes — transpacific, transatlantic and Asia-Europe were mostly above the levels that prevailed at the end of 1999. The eastbound legs were the

only ones to show a deterioration in rates: 11.7 for the Pacific and 4.3 for the Atlantic. The westbound legs showed healthy rates of improvement: 11.7 for the Pacific and 11.3 for the Atlantic. The route Asia-Europe showed a marginal increase of 0.3 per cent, considerably less than the 2.7 increase in rates along the Europe-Asia route.

### **Total freight costs in world trade by groups**

- World total freight payments as a proportion of total import value decreased to 5.39 per cent in 1999, down from 5.69 per cent in 1998. The freight factor was 4.50 per cent for developed market-economy countries compared to 4.83 per cent in 1998, while for developing countries it was down to 8.21 per cent from 8.34 per cent in 1998. The freight factor for the developing countries in Africa increased to 12.0 per cent and for developing countries in the Americas to 7.9 per cent. For Asian developing countries the freight rate factor decreased to 7.8 per cent while for those in Oceania the factor remained unchanged at 12.0 per cent.

### **Port development**

- World container port traffic continued to expand at a rate of 7.3 per cent over 1998, reaching 192.3 million TEUs. Ports of developing countries and territories handled 80.9 million TEUs or 41.4 per cent of the total. In 1999 there were 48 developing countries and territories with terminals that handled more than 100,000 TEU.

### **Trade and transport efficiency**

- The technological developments in international transport have standardized transport activities around the world. The Compendium of Trade Facilitation Recommendations for rationalizing procedures and documentation for international trade was updated in 2000. However, the lack of a uniform legal framework governing multimodal transport has resulted in individual Governments and regional and subregional intergovernmental bodies taking the initiative of enacting legislation to overcome uncertainties which presently exist.

- The development of cargo rail services proceeded during the year in several regions. Regulators slowed down the pace of consolidation in North America. The container leasing industry seemed to rebound along with the increased in trade. Container manufacturing continued to be dominated by China.

### **Review of regional developments**

- The growth of output reached by countries in East Asia (Japan; Republic of Korea; China; Hong Kong, China; Taiwan Province of China; and the major ASEAN countries) showed that the recovery from the financial crisis of 1998 has endured. Merchandise trade had a booming year in 2000. Most of the major countries in the region reached double digit growth in the volume of exports and imports. Total fleet, including that beneficially owned in open registries, reached

298.9 million dwt at the end of 2000 (37.0 per cent of the world fleet) with an average age of 12.2 years lower than the world average.

- The transport network in East Asia embraces all transport modes and its functioning implies streamlined procedures and enabling legislation to accompany the efficient movement of goods. In South East Asia the transport network is anchored by hub-centres of varying capacity such as Singapore, Port Klang and Bangkok with links provided by vessels of companies that are slowly recovering from the financial crisis of 1997. New areas, such as the Mekong River Basin, are being incorporated to international trade. The high cost and cumbersome trading procedures of landlocked countries such as Lao People's Democratic Republic are issues that need to be addressed to reap the benefits of trade

## Box 1

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

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

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

The following guidelines are offered by Lloyd's Maritime Information Services for the tables in this year's *Review* relating to fleet development.

*Former Yugoslavia*

Most ships have been allocated to either Croatia (CRT) or Slovenia (SLO), with very few left under Yugoslavia (YUG).

*Major open-registry countries*

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

## **Chapter I**

# **DEVELOPMENT OF INTERNATIONAL SEABORNE TRADE**

*The first chapter of the Review provides an overview of the demand for global maritime transport services, together with background information on the world economic situation, and a review and forecast of developments in world seaborne trade.*

### **A. WORLD ECONOMIC BACKGROUND**

#### **(a) World output**

##### *General*

1. During the year 2000 the growth of world output accelerated to 4.0 per cent, the highest of the decade (see table 1), and confirmed the recovery from the slowdown of 1998. This yearly average, however, masks the considerable imbalance in world output growth for the first and second half of the year. During the first half of 2000 world economies continued the recovery started in 1999, fostered by increased exports from Europe and East Asia and strong demand in North America. By the end of the year demand in North America and Japan became less firm due to persistent weaknesses in stock exchanges and increased crude oil prices.

2. Growth of output above the world average was achieved in China (8.0 per cent), countries in transition (5.6 per cent) and Asian developing countries (6.2 per cent). In China the rapid growth in the construction and manufacturing sectors more than offset the slow growth in agriculture. A rebound in foreign direct investment also contributed to the good performance. In transition economies, a flexible business sector was able to take advantage of the currency depreciation and fostered exports and replaced imports with domestic production. There was also some recovery of domestic demand.

3. Developing countries in Asia performed above world average. Countries in East Asia demonstrated a complete recovery from the 1998 currency devaluation by increased business investment and private consumption in the wake of good export performance. There was an increase of intra-Asian trade. By the end of the year, however, there were doubts that this performance would be sustainable in light of the increased crude oil prices and reduced demand from North America. In South Asia, a large grain surplus coupled with robust industrial performance and growing demand for information technology services led to good performance of the Indian economy. Other countries benefited from higher tea and rubber prices and garment demand. Countries in West Asia performed just above the world average as Governments were cautious in fostering domestic demand in spite of increased earnings from crude oil.

4. The performance of other developing countries was less uniform. Countries in Africa and Latin America performed below world average. African oil exporting countries, such as Algeria, Libyan Arab Jamahiriya and Nigeria, benefited from increased oil prices. The reverse occurred in oil importing countries, some of which were also affected by natural disasters (e.g. floods, drought) and armed conflicts. Similar disparity was found in Latin America. Performance was better in Mexico, Chile and countries in the Caribbean Basin, which benefited from increased oil prices and strong demand from abroad, notably from North America. Brazil achieved good recovery from its crisis and achieved 4.0 per cent growth —

the same as the world average. Other countries continued to struggle with poor domestic demand or lackluster export performance.

5. The average growth of developed market-economy countries was 3.5 per cent but with wide differences. At the two extremes were North America and Japan, with growth of 5.1 per cent and 1.3 per cent respectively, while the European Union achieved 3.3 per cent growth. The strong domestic demand in North America was somewhat reduced during the course of the year by the tightened monetary policies that pushed up interest rates to 6.5 per cent. This affected business investment and precipitated the decline in the stock markets. Nevertheless, the overall performance was better than that of the previous year.

Table 1

**World output, 1990–2000  
(percentage change)**

	1990–1995 <sup>a</sup>	1995–2000 <sup>a</sup>	1990–2000 <sup>a</sup>	1998	1999	2000 <sup>b</sup>
<b>World</b>	2.0	3.1	2.6	1.9	2.7	4.0
<b>Developed market-economy countries</b>	1.8	2.9	2.3	2.1	2.6	3.5
<i>of which in:</i>						
United States	2.4	4.3	3.4	4.4	4.2	5.1
Japan	1.4	1.1	1.3	-2.5	0.2	1.3
European Union	1.5	2.5	2.0	2.7	2.4	3.3
<i>of which in:</i>						
Euro area	1.6	2.4	2.0	2.8	2.4	3.4
Germany	2.0	1.8	1.9	2.1	1.6	3.1
France	1.0	2.4	1.7	3.2	2.9	3.1
Italy	1.3	1.7	1.5	1.5	1.4	2.9
United Kingdom	1.6	2.8	2.2	2.6	2.2	3.1
Transition economies	-6.9	1.9	-2.6	-0.6	2.3	5.6
China	12.0	8.3	10.1	7.8	7.1	8.0
<b>Developing economies</b>	4.1	3.7	3.9	0.5	2.7	5.1
<i>of which in:</i>						
Africa	1.5	3.6	2.5	3.2	2.9	3.5
Latin America	3.6	2.9	3.3	1.9	0.1	3.7
Asia	4.9	4.1	4.5	-0.8	4.2	6.2

Source: UNCTAD secretariat calculations, based on data in 1995 dollars.

<sup>a</sup> Annual average.

<sup>b</sup> Estimates.

6. In Japan, the long-expected recovery appeared during the first half of the year led by exports, prompting a tightening of monetary policy. However, some economic indicators for the second half of the year were less bright (e.g. increased unemployment) and fuelled fears of a new bout of recession. The performance in the European Union was stellar — the best result since 1991 with unemployment down below 9 per cent. It was led by exports fostered by increased weakness of the Euro vis-à-vis the dollar prompting the intervention of the monetary authorities to stop its slide in the third quarter of the year. Domestic demand was also strong in most countries. By mid-year, however, there were doubts on whether economic performance was sustainable in the face of the slowdown in North America.

### *Prospects*

7. Forecasts of economic output growth for 2001 unanimously agreed that performance would be below the levels achieved in 2000. The main concern being the behaviour of the economy in the United States since European and East Asian economies would probably follow the United States' trend. More specifically, concern focused in the financial sector and the speed with which events could be transmitted to the other sectors of the economy.

## **(b) Merchandise trades**

### *Recent developments in international trade*

8. During 2000 the volume of exports expanded in most of the regions at double-digit rates (see table 2). The rate of growth for import volume, however, was less uniform. For developed countries, two-digit rates of growth for imports were localized in North America and Japan. Imports were also strong in economies in transition, namely Central and Eastern Europe, the Baltic States and the CIS where growth reached 15.4 per cent. China recorded the highest percentage growth of 33.1 per cent. Developing countries recorded a growth in imports of 15.4 per cent, unevenly distributed between Asia, Africa and Latin America.

### *Trends in imports and exports*

9. During the year 2000, the growth of world merchandise trade was supported by the strong demand in North America, Western Europe and East Asia. The recovery of imports in Latin America was also apparent. The estimate for growth of world merchandise volume in 2001 was lower (7 per cent) due to the slowdown of the economies at the end of the year.

## **(c) OECD countries' industrial output**

10. The industrial production index (1995=100) for OECD countries, another fundamental indicator for the global maritime transport sector, averaged 121.2 in 2000, an increase of 6.0 per cent over the average index for 1999 (see graph 1).

11. This increase is higher than the 3.3 per cent growth achieved in 1999 when the index reached 114.3. The strong results for most of 2000 were due to the continuing good performance of the United States, for which the index reached 129.0, and European countries, members of OECD, for which the index climbed to 117.4. Industrial growth in Japan was more modest where the index increased to 105.4. The industrial index declined to 120.9 for the first quarter of 2001 and seems to justify the OECD outlook for the years 2001 and 2002 states that output growth peaked during the year 2000.

Table 2

**Growth in the volume of merchandise trade by selected geographical region, 1998–2000  
(annual percentage change)**

<b>Exports</b>			<b>Countries/regions</b>	<b>Imports</b>		
<b>1998</b>	<b>1999</b>	<b>2000</b>		<b>1998</b>	<b>1999</b>	<b>2000</b>
4.8	4.8	9.9	Developed economies <sup>a</sup>	7.7	7.6	9.6
<i>of which in:</i>						
4.8	5.1	12.1	North America	10.4	11.2	11.3
6.7	4.4	10.1	European Union (15)	8.4	5.3	8.6
-1.3	2.1	9.2	Japan	-5.3	9.5	10.9
5.7	7.0	15.7	Developing economies <sup>a</sup>	-3.6	4.4	15.4
<i>of which in:</i>						
0.3	5.0	7.3	Africa	6.1	-0.9	5.4
8.0	7.1	10.3	Latin America	8.8	-1.5	11.1
2.7	1.1	14.0	Middle East <sup>b</sup>	-0.4	1.3	14.6
2.8	6.6	16.2	Asia <sup>c</sup>	-7.8	8.6	15.7
6.0	-2.0	17.9	Economies in transition <sup>a</sup>	-8.3	9.0	15.4
4.5	9.6	28.3	China	2.5	15.2	33.1

*Source:* WTO Annual Report 2001, tables on world merchandise imports and exports by region and selected economies based on volume estimates made from trade value reported and measured at constant prices and exchange rates.

<sup>a</sup> Excluding significant double counting.

<sup>b</sup> Includes Israel.

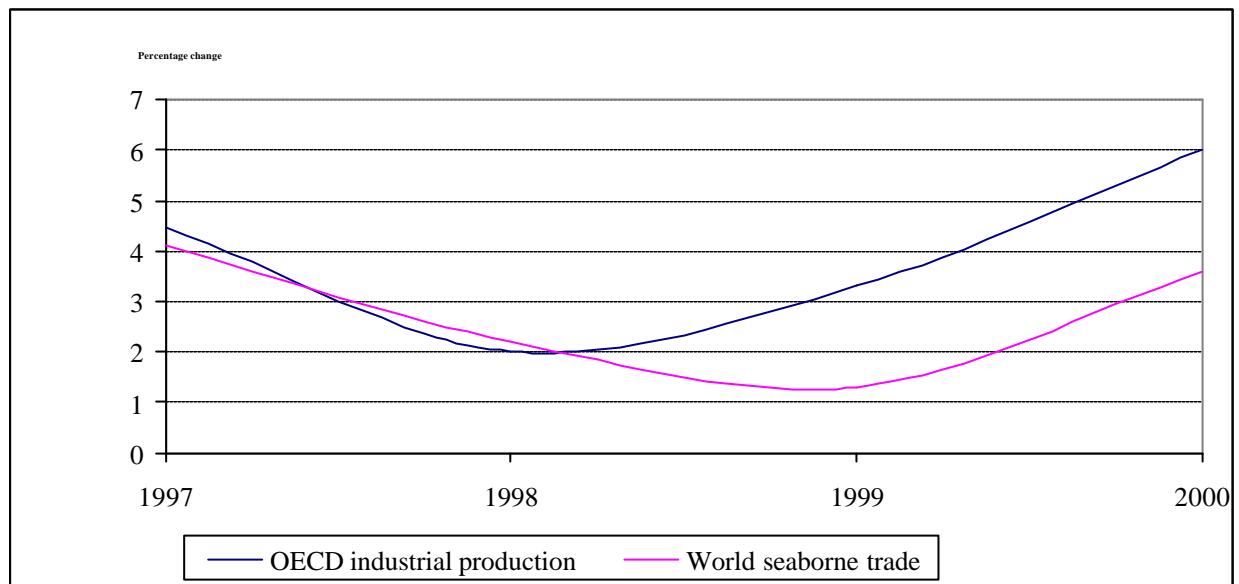
<sup>c</sup> Includes Japan; China; Hong Kong (China); and Taiwan Province of China and developing countries in the Pacific.

## B. WORLD SEABORNE TRADE

### (a) Overall seaborne trade

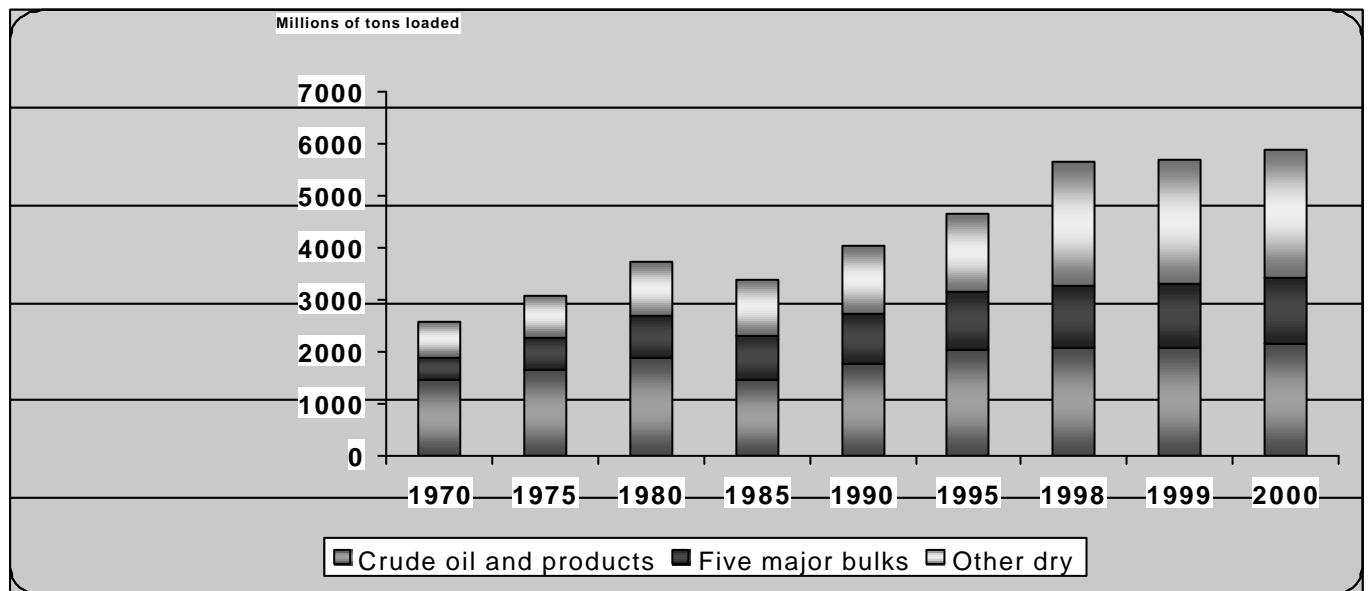
12. The expanding world seaborne trade recorded its fifteenth consecutive annual increase in 2000, reaching a record high of 5.88 billion tons of exported goods. The annual growth rate, calculated with the provisional data available for 2000, accelerated by 3.6 per cent. As shown in graph 2 and table 3, this rate is four times that reached in 1999, which was only 0.9 per cent.

Graph 1

**Annual change in OECD industrial production and world seaborne trade, 1997–2000**

Source: OECD, *Main Economic Indicators*, April 2001.

Graph 2

**International seaborne trade for selected years**

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

Table 3

**Development of international seaborne trade, selected years<sup>a</sup>  
(goods loaded)**

Year	Tanker cargo		Dry cargo			Total (all goods)		
			Total		<i>of which main bulk commodities<sup>b</sup></i>			
	million tons	% change	million tons	% change	million tons	% change	million tons	% change
<b>1970</b>	1 442		1 124		448		2 566	
<b>1980</b>	1 871		1 833		796		3 704	
<b>1990</b>	1 755		2 253		968		4 008	
<b>1998</b>	2 082		3 549		1 170		5 631	
<b>1999</b>	2 085	0.1	3 598	1.4	1 196	2.2	5 683	0.9
<b>2000<sup>c</sup></b>	2 149	3.1	3 736	3.8	1 285	7.4	5 885	3.6

Source: Estimated by UNCTAD secretariat on the basis of annex II and data supplied by specialized sources.

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

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

<sup>c</sup> Estimates.

13. The annual growth of world seaborne trade for 2000 was geographically unevenly distributed. Oil exporting countries, notably members of OPEC which agreed to raise production quotas during the year had a growth rate above the world average. North America, Europe and Japan also had above average growth rates — ranging between 4 and 5 per cent. Although world seaborne trade increased in Latin America, Africa and Oceania, it did so at below the world average — 1.0, 0.5 and 2.3 per cent respectively. In view of economic forecasts, annual growth rates in 2001 are expected to be lower over the previous year.

### (b) Seaborne trade in tankers

#### *General developments*

14. In 2000 the total world shipments of tanker cargoes reached 2.15 billion tons, after growing 3.1 per cent during the year. About three quarters of this tanker trade was in crude oil with the remainder in petroleum products. The share of overall tanker shipments of total world seaborne trade was 36.5 per cent.

#### *Crude oil production*

15. Since 1998 crude oil production first contracted and then expanded. Figures<sup>1</sup> released for 1998 and 1999 indicate that crude oil production decreased by 2 per cent to 71.9 million barrels per day (mbpd)

<sup>1</sup> The totals collected by BP include crude oil, shale oil, oil sands and natural gas liquids (NGL) — the liquid content of natural gas when this is recovered separately.

in 1999. Most of this decrease was due to production cuts in OPEC countries, 5.2 per cent on average to 29.3 mbpd, while production in OECD countries, notably the United States, Canada, Mexico, Norway and the United Kingdom, decreased by 2.0 per cent to 21.1 mbpd. The remaining oil producing countries, Azerbaijan, Kazakhstan, the Russian Federation, China and a number of small producers, actually raised production by 2.4 per cent to 21.4 mbpd.

16. In 2000, however, crude oil production increased in line with the three quota increases agreed by OPEC members during the year. Latest figures indicated an increase of crude oil production of 4.0 per cent to 74.5 mbpd. Again, most of the change was due to OPEC countries, having raised production by 5.6 per cent. Production in OECD countries increased by 2.4 per cent while the remaining oil producing countries, taking advantage of elevated prices, increased by 2.3 per cent.

17. Fluctuation in crude oil production during 2000 varied within countries. The highest rates of growth, over 7 per cent, were achieved by the major OPEC members in the Middle East, except Iraq whose United Nations-monitored production level is contingent to the price of oil. Among OECD members, production in Canada and Mexico expanded by around 4 per cent. The Russian Federation's production also expanded by about 6 per cent. Slight fluctuations were observed in the United States where production remained the same and in China where it expanded by slightly more than 1.0 per cent.

#### *Crude oil shipments*

18. Crude oil seaborne shipments increased during 2000 by 3.3 per cent to 1.60 billion tons from 1.55 billion tons. Recent trends in the trade structure of crude oil were maintained during the year. From the main origin, the Middle East Gulf, shipments to the countries in the Far East and Japan were steady while those to the Republic of Korea increased by 3 per cent to pursue expanding demand from refineries and the policy to enlarge stockpiles to 80 days by 2004. China almost doubled its imports to 70 million tons. During 2000 shipments to Western Europe increased by 2.0 per cent with a large portion of the crude oil being transshipped at Suez to use the SUMED pipeline to reach the Mediterranean Sea. The remaining shipments went through the Suez Canal. Additional traffic from North Africa (about one fifth of the total) and from the Black Sea (about one quarter of the total) supplied Western Europe through Mediterranean, Atlantic and North Sea ports. Imports into the United States from the Middle East Gulf increased by 3.0 per cent during 2000 while the country continue to diversify with suppliers from Latin America and from West Africa recording an increase of 1.0 per cent and 17.0 per cent respectively. Shipments from West Africa to the Far East increased by 19.0 per cent through the year and maintained a trade that developed during 1999 at the time of reduced production in the Gulf.

#### *Petroleum products shipments*

19. The global seaborne trade in petroleum products increased by 2.2 per cent during 2000 to reach 0.54 billion tons. The pattern and volume of shipments were the same as in 1999 with the exception of an increasing trade between developing countries of Asia. Additional information about this trade is given in chapter VII.

#### **(c) Dry cargo shipments**

##### *General developments*

20. In 2000, overall dry cargo shipments grew at a rate of 3.8 per cent, reaching 3.74 billion tons for goods loaded (see table 3). Most of the increase was produced in the five main dry bulk trades namely iron ore, coal, grains, bauxite/alumina and rock phosphate which grew at the impressive rate of 7.4 per cent to reach a total of 1.28 billion tons. The remaining trades, minor bulks and liner cargoes, grew by 2 per cent to reach 2.45 billion tons. The share of dry cargo shipments in world seaborne trade was 63.5 per cent of total goods loaded during the year.

### *World crude steel production*

21. World crude steel production in 2000 increased by a 7.4 per cent to reach 845.4 million tons. The three main producing regions of North America, the European Union and Asia accounted for almost three quarters of world production. North America and the European Union, each making-up about 17 per cent of the world output, increased production by 4.6 and 4.9 per cent respectively. Japan and India, together make-up another 18 per cent of world production recorded increases of 13.0 and 10.9 per cent respectively. Increases of production in Taiwan Province of China and the Republic of Korea were 9.1 and 5.1 per cent respectively. The regional increases were higher for the group of six countries (Russian Federation, Ukraine, Belarus, Moldova, Kazakhstan and Uzbekistan) up by 16 per cent, for South America, up by 12.7 per cent and for the Gulf up by 10.7 per cent. Countries in these regions make up about 17 per cent of the world production. Central and Eastern Europe recorded increases of 8.9 per cent. In the same year, world pig iron production, another useful indicator for predicting dry bulk trades, increased by 5.6 per cent to 576.1 million tons.

### *World steel consumption*

22. Estimated apparent steel consumption for 2000 was 752 million tons, an increase of 5.8 per cent from the 1999 level. Increases were highest in the Republic of Korea, 13.5 per cent, and Brazil, 12.1 per cent. Consumption in Asia reached 332.2 million tons, about 44 per cent of the total apparent world steel consumption, and grew by 6.9 per cent. Consumption in the European Union with a share of 19 per cent of world consumption, increased by 4.5 per cent. A similar consumption increase of 4.8 per cent was achieved by China. Countries in Africa, the Russian Federation and the United States increased consumption by about 3 per cent. Australia and New Zealand reduced consumption by 5.9 per cent. Short-term forecasts for 2001 indicate that consumption growth will slow down to approximately 2.2 per cent while medium-term forecasts reduce the consumption growth rate to 2 per cent.

### *Iron ore trade*

23. The increase in production and consumption of steel was reflected in the 10.7 per cent increase in iron ore shipments during 2000 to reach a total of 455 million tons. Brazil and Australia accounting for around two-thirds of world exports, recorded growth rates of about 13 per cent. Sweden recorded an even higher growth rate of 15 per cent. Other exporters such as Canada and India achieved much lower growth export rates of 4 and 1 per cent respectively. Short-term forecasts indicate declining growth rates for this trade. However, in the medium term increased exports from the East Coast of India are expected. China is likely to be the biggest influence on seaborne iron ore demand. Last year the country registered a 21 per cent increase to 70 million tons.

### *Coal trade*

24. Coal shipments went up by 7.9 per cent in 2000 and reached an all time record of 520 million tons. Growth was stronger in shipments of thermal coal, which grew 8.4 per cent to 335 million tons while shipment of coking coal increased by 6.9 per cent to 185 million tons. Preliminary figures for 2000 indicate that Australia, by far the largest exporter with 186.7 million tons of thermal and coking coal had a recorded export growth of 8.8 per cent. Two Latin American exporters of thermal coal, Colombia and Venezuela, increased exports by 18.3 and 25 per cent to reach 35.6 and 8.5 million tons respectively. More impressive was the 47.3 per cent increase achieved by China — exporting 58.8 million tons. In other countries, including the United States, Canada and Indonesia, coal exports were steady. Fluctuations in coal shipments are expected in the near future due to several reasons. Lower export growth rates in South Africa may be due to terminals reaching capacity while Canadian exporters may find it preferable to export to United States by rail due to favourable prices prevailing in that market. Higher imports will, in all probability, occur in Japan following the recent agreement signed with China and in Eastern Europe as heralded by coking coal shipments into the Ukraine from the United States.

### *Grain trade*

25. World grain trade reached 225 million tons in 2000, an increase of 2.3 per cent from the previous year. Exports from the largest exporter, the United States, reached 86 million tons while exports from Argentina and Australia remained stable at 19.3 and 20.8 million tons respectively. Those from the European Union and Canada also increased reaching 29.6 million tons and 22.2 million tons respectively. Increases were particularly noticeable in the Middle East and North Africa as imports replaced scant crop harvests affected by drought. For the season 2000–2001, estimates of world wheat stocks indicate an increase of 11 million tons to 115 million tons while world stocks of coarse grains are expected to remain unchanged at 141 million tons. Shipments (mostly cereals) corresponding to the Food Aid Convention of 1999 to satisfy the demand of LDC countries, increased slightly from 8.1 to 8.5 million tons.

### *Other bulk trades*

26. During the year 2000, shipments of bauxite and alumina, the primary inputs for the aluminum industry, totalled 55 million tons. Bauxite shipments contracted by 3.5 per cent to 31.4 million tons while alumina shipments increased by 3.6 per cent to 23.6 million tons. These changes confirmed the trend of producers to refine bauxite and ship alumina instead. Bauxite shipments from West Africa, about half of the world total, decreased while alumina shipments from Australia, also about half of the world total, expanded. Bauxite and alumina shipments from Jamaica were steady. Production of primary aluminum products increased by 2.4 per cent to 21.9 million tons during the same year. The increase in production was particularly high in four regions: Far East Asia with 10 per cent, South Africa with 9 per cent and Oceania and Latin America with approximately 5 per cent each. In North America and Western Europe production held steady. Similar levels of shipments and production are expected in 2001.

27. Rock phosphate shipments continued to decline. Following a decline by 3.6 per cent in 1999 when total exports reached 30.1 million tons, there was a further decline of 12.0 per cent to 26.5 million tons in 2000. Morocco, a major exporter, recorded a 7.9 per cent drop to 10.5 million tons, while other African exporters such as Algeria, Senegal, Togo and Tunisia realized a 20.3 per cent drop to 4.3 million tons. Imports by the European Union dropped 17.9 per cent to 7.0 million tons while those to Asian countries fell 10.9 per cent to 5.7 million tons. For the near future, a further decline of 4 per cent is forecasted. This reflects long-term trends of more efficient fertilizers (less was required to achieve the same crop yield) and increased crops from cultivated area where fertilizer was not used.

28. The minor bulks, a heterogeneous mix of merchandise, increased about 3 per cent to 0.7 billion tons. Agriculture products such as sugar, rice, soyameal and oilseeds decreased by 2 per cent to 130 million tons. Fertilizers increased by 3 per cent to 66 million tons. Forest products increased 2 per cent to 161 million tons. Steel products increased strongly by 7.5 per cent to reach 187 million tons. Other industrial cargoes such as cement, coke, and petroleum coke, scrap, pig iron, salts and ores increased 5 per cent to 161 million tons. Overall forecasts for these minor bulks indicate similar volumes of shipments in 2001 with some cargoes, such as sugar, increasing strongly while others, such as steel products, declining slightly.

### **(d) Liner shipments of containerized cargoes**

29. The balance of 1.75 billion tons of dry cargoes was carried as breakbulk, ro-ro and containerized traffic, increasing by less than 1 per cent during the year. Breakbulk general cargo shipping services continued to back-up the main container trades. However, these services dwindled as the use of containers increased for all types of cargoes. It is estimated that the total containerized traffic was about 50 million TEUs. Shipments of containerized cargo differ from other dry bulk cargo in the increased use of transhipment to reach destinations that complements the direct calls of larger vessels. During 2000, the trends observed during the past two years in the three main containerized routes — transpacific, transatlantic and Europe-Far East — broadly held. The economic recovery of countries in the Far East continued to fuel exports to the United States across the Pacific, albeit with a slowing trend over the fourth

quarter of 2000. Transpacific westbound shipments gave signs of picking up early in the year, although annual figures are needed to make a definite statement on their performance. Imbalance over the transatlantic trade continued with the appreciation of the United States dollar, vis-à-vis European currencies, fostering westbound shipments to North America. Imbalance also persisted between westbound and eastbound legs on the Europe Far East route.

30. The North-South containerized routes link other regions to the main routes mentioned above at major transhipment hubs. Singapore and Hong Kong, China articulated shipments for countries in the Far East and China. Colombo, Dubai, Aden and Salalah did the same for countries in South Asia and the East Coast of Africa. Shipments to West African destinations pass through Algeciras, where feeder vessels called, or came directly from Western European ports. Panama, Miami and Freeport assure shipments to and from the Caribbean while complementing direct services to the East and West Coast of South America on account of the long distances along these coasts.

#### **(e) World shipments by country groups**

31. The breakdown of the 5.88 billion tons of world seaborne trade loaded by major cargo segments and country groups is shown in table 4 and graph 3. The share of developed market-economy countries (DMECs) of goods loaded and unloaded in 2000 are 42.5 per cent and 62.4 per cent respectively of total world volume. For these countries crude oil and petroleum products loaded account for 6.2 and 23.4 per cent of total world exports while imports account for 68.6 per cent for crude oil and 50.2 per cent for petroleum products. Segregation for regional groupings is given in annex II. In terms of regional groupings, for the DMECs, Europe remains the most important exporter of crude oil and petroleum products with a total of 136.5 million tons (6.3 per cent of world total). North America is the largest importer of crude oil and petroleum products with 555.5 million tons (25.9 per cent) closely followed by Europe with 514.5 million tons (24.0 per cent) and Japan with 265.9 million tons (12.4 per cent).

32. In the dry bulk segment, the share of developed market-economy countries remained at 60.9 per cent for exports and 61.5 per cent for imports. Again, annex II gives an insight into the regional distribution of these cargoes. Europe remains the largest dry cargo market for exports and imports with 29.5 per cent and 38.7 per cent respectively. Two countries in North America (United States and Canada) and in Oceania (Australia and New Zealand) are also large exporters of dry shipments with shares of 14.0 per cent and 10.3 per cent respectively. This underlines their important shares in shipping the three major dry bulk commodities – iron ore, coal and grain.

Table 4

**World seaborne trade<sup>a</sup> in 1970, 1980, 1990, 1998, 1999 and 2000,  
by types of cargo and country groups<sup>b</sup>**

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry	Total all	Oil		Dry	Total all
		Crude	Products <sup>c</sup>	cargo	goods	Crude	Products <sup>c</sup>	cargo	goods
<i>Trade in millions of tons</i>									
<b>World total</b>	1970	1 109	232	1 162	2 504	1 101	298	1 131	2 529
	1980	1 527	344	1 833	3 704	1 530	326	1 823	3 679
	1990	1 287	468	2 253	4 008	1 315	466	2 365	4 126
	1998	1 548	534	3 549	5 631	1 515	548	3 855	5 918
	1999	1 553	532	3 598	5 683	1 543	510	3 955	6 007
	2000	1 605	544	3 736	5 885	1 633	513	4 097	6 242
<i>Percentage share of trade by groups of countries</i>									
<b>World total</b>	1970	42.6	12.7	44.7	100.0	43.5	11.9	44.6	100.0
	1980	41.2	9.3	49.5	100.0	41.6	8.9	49.5	100.0
	1990	32.1	11.7	56.2	100.0	31.9	10.8	57.3	100.0
	1998	27.5	9.5	63.0	100.0	25.6	9.3	65.1	100.0
	1999	27.3	9.4	63.3	100.0	25.7	8.5	65.8	100.0
	2000	27.3	9.2	63.5	100.0	26.2	8.2	65.6	100.0
<b>DMECs</b>	1970	2.0	27.1	60.0	31.1	80.4	79.6	79.1	79.9
	1980	6.3	25.5	64.7	37.0	72.0	79.5	67.8	70.5
	1990	13.4	32.6	63.4	43.8	72.5	81.4	61.7	67.3
	1998	4.8	22.4	61.8	42.4	71.3	52.9	61.8	63.4
	1999	6.3	23.2	60.1	42.0	70.7	49.6	60.1	61.9
	2000	6.2	23.4	60.9	42.5	68.6	50.2	61.5	62.4
<b>Central and Eastern Europe<sup>d</sup></b>	1970	3.4	8.0	6.9	5.6	1.2	1.0	3.8	2.3
	1980	3.6	14.6	5.2	5.4	2.3	0.4	6.0	4.0
	1990	4.6	11.8	3.8	5.0	2.6	0.3	5.8	4.1
	1998	2.8	4.0	4.3	3.8	1.3	0.4	1.4	1.3
	1999	3.7	5.4	4.8	4.6	1.6	0.4	1.2	1.2
	2000	3.6	5.3	5.0	4.6	1.5	0.4	1.2	1.2

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products <sup>c</sup>			Crude	Products <sup>c</sup>		
<b>Socialist countries of Asia <sup>e</sup></b>	1970	-	-	1.2	0.5	0.5	0.1	2.0	1.2
	1980	1.4	1.7	1.0	1.2	1.4	1.6	4.0	2.7
	1990	2.7	0.9	2.0	2.0	0.3	0.3	3.4	2.1
	1998	1.7	1.3	3.7	2.9	1.9	6.4	6.8	5.5
	1999	1.2	1.1	3.9	2.9	2.4	5.1	7.0	5.7
	2000	1.1	1.0	3.9	2.9	4.3	5.0	7.1	6.2
<b>Developing countries</b>	1970	94.6	64.9	31.9	62.8	17.9	19.4	15.1	16.6
	1980	88.7	58.2	29.0	56.3	24.3	18.5	22.3	22.8
	1990	79.6	54.7	30.8	49.2	24.6	18.0	29.1	26.5
	1998	90.7	72.3	30.2	50.8	25.5	40.3	30.0	29.8
	1999	88.9	70.3	31.2	50.6	25.4	44.9	31.7	31.2
	2000	89.1	70.2	30.3	50.0	25.7	44.4	30.2	30.2
<i>of which in:</i>									
<b>Africa</b>	1970	25.5	2.4	9.1	15.2	1.7	4.7	3.6	2.9
	1980	19.0	1.5	5.6	10.8	4.0	2.9	4.7	4.2
	1990	24.1	7.6	4.3	11.2	5.6	2.3	4.3	4.5
	1998	16.8	7.2	2.2	6.7	0.9	2.8	3.4	2.7
	1999	16.2	7.3	2.2	6.5	1.0	3.4	3.6	2.9
	2000	15.6	7.2	2.2	6.3	0.9	3.4	3.5	2.8
<b>Americas</b>	1970	12.2	35.4	13.8	16.0	10.5	5.6	4.4	7.2
	1980	12.4	28.4	13.2	14.3	13.3	4.9	5.4	8.7
	1990	13.3	11.9	13.2	13.1	5.7	3.8	4.0	4.5
	1998	16.3	17.3	9.8	12.3	6.0	11.7	6.2	6.6
	1999	16.4	17.5	9.7	12.3	5.9	12.3	6.1	6.6
	2000	15.9	17.2	9.5	12.0	5.6	12.1	5.8	6.2
<b>Asia</b>	1970	56.9	27.0	8.1	31.3	5.5	8.5	6.7	6.4
	1980	57.3	28.1	9.7	31.0	6.9	9.8	12.0	9.7
	1990	42.2	34.9	12.6	24.7	12.6	10.9	19.9	16.6
	1998	57.4	47.4	17.7	31.4	18.2	24.5	20.0	20.0
	1999	56.1	45.1	18.7	31.4	18.1	27.6	21.7	21.3
	2000	57.3	45.3	18.1	31.3	18.8	27.3	20.5	20.6

Country group	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products <sup>c</sup>			Crude	Products <sup>c</sup>		
<b>Europe <sup>e</sup></b>	1970	-	-	-	-	-	0.1	0.1	-
	1980	-	-	-	-	-	0.2	-	-
	1990	-	0.2	0.3	0.2	0.7	0.5	0.8	0.7
	1998	0.0	0.4	0.4	0.3	0.4	0.4	0.3	0.3
	1999	0.0	0.4	0.4	0.3	0.4	0.4	0.3	0.3
	2000	0.0	0.4	0.4	0.3	0.4	0.4	0.3	0.3
<b>Oceania <sup>e</sup></b>	1970	-	0.1	0.8	0.4	-	0.5	0.3	0.2
	1980	-	0.2	0.5	0.2	0.1	0.7	0.2	0.2
	1990	-	0.1	0.4	0.2	-	0.5	0.1	0.2
	1998	0.3	0.0	0.1	0.1	0.0	1.1	0.1	0.2
	1999	0.3	0.0	0.1	0.1	0.0	1.1	0.1	0.2
	2000	0.2	0.0	0.1	0.1	0.0	1.2	0.1	0.2

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

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

<sup>b</sup> See annex I for the composition of these groups, and note 4 thereto regarding the recording of trade of landlocked countries. Since 1986, Yugoslavia, previously included among the "developed market-economy countries", was included in the group of "developing countries in Europe".

<sup>c</sup> Including liquefied natural gas (LNG), liquefied petroleum gas (LPG), naphtha, gasoline, jet fuel, kerosene, light oil, heavy fuel oil and others.

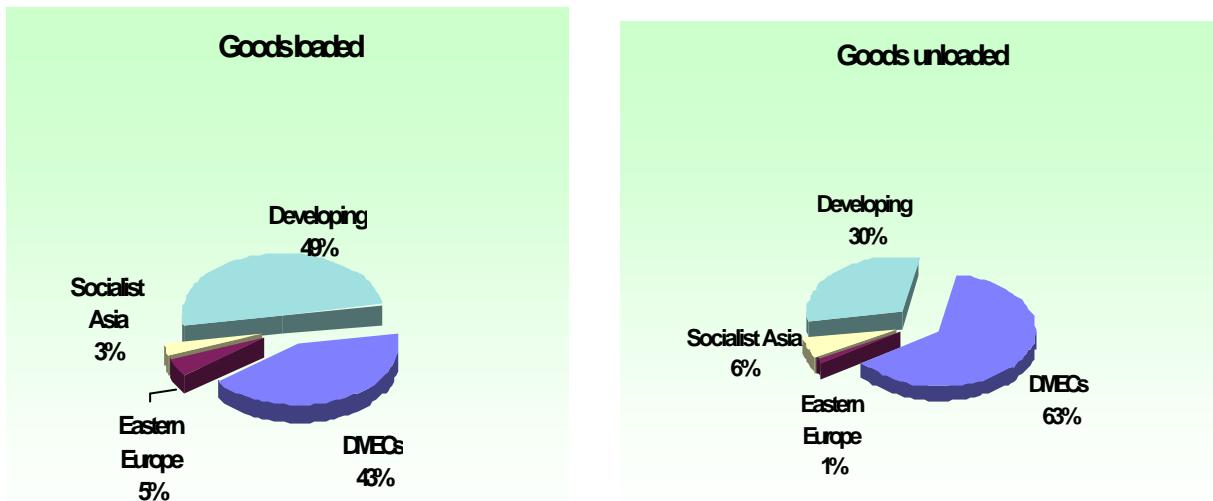
<sup>d</sup> Including the former USSR in data for 1970 and 1980.

<sup>e</sup> Estimates.

33. During 2000 the share of developing countries in total seaborne exports was 50.0 per cent while their share of seaborne imports was 30.2 per cent. These percentages have remained fairly stable since 1998. Their trade structure reflects a sharp contrast with that of developed market-economy countries. The developing countries' combined share of total crude oil and petroleum products exports represented 89.1 per cent and 70.2 per cent respectively. For imports the shares were 25.7 per cent for crude oil and 44.4 per cent for petroleum products. In the dry cargo sector the share of developing countries' exports reached 30.3 per cent of total world exports while almost the same share, 30.2 per cent, of world imports was reached.

Graph 3

**World seaborne trade by country groups**  
*(percentage distribution of tonnage, 2000)*



Source: Table 4.

34. There were regional variations among groups of developing countries. Developing countries of Asia claimed the largest shares in exports and imports reaching 31.3 per cent and 20.6 per cent of world exports and imports respectively. The share of developing countries in the Americas was 12.0 per cent of world exports and 6.2 per cent of world imports. The shares for African countries were about half of that for the Americas: 6.3 per cent of world exports and 2.8 of world imports. Considerable smaller were the shares for developing countries of Europe, 0.3 per cent of world exports and imports and Oceania which reached 0.1 per cent of world exports and 0.2 for imports.

35. In specific trades the same trend was also clear. The share of Asian developing countries in world exports of crude oil was 57.3 per cent and 45.3 per cent for petroleum products. This is a reflection of the role of Middle East oil producers and the refining activity in the Far East. Developing countries of Africa and America reached similar shares for the export of crude oil: 15.6 per cent and 15.9 per cent respectively. For exports of petroleum products, however, the shares were different: 7.2 per cent for developing countries in Africa and 17.2 per cent for those in the Americas. Again for exports of dry cargo, Asian developing countries claimed the largest share at 18.1 per cent, followed by developing countries of the Americas with 9.5 per cent and African developing countries with a 2.2 per cent.

36. For imports of crude oil, the share of developing countries in Asia was 18.8 per cent of the world total for this commodity. The shares for developing countries in the Americas and Africa were 5.6 per cent and 0.9 per cent respectively. For imports of petroleum products the corresponding shares for developing countries in Asia, the Americas and Africa were: 27.3 per cent, 12.1 per cent and 3.4 per cent. Imports of crude oil into developing countries in Europe reached 0.4 per cent of world imports, similar to the percentage for imports of petroleum products. Developing countries in Oceania showed negligible imports of crude oil, compatible with the scant refining capacity in the region, while the share of world petroleum products imports was 1.2 per cent.

37. The share of socialist countries in Asia of world exports for 2000 was 2.9 per cent and reached 6.2 per cent for world imports. Over the recent years imports have risen in line with the increased role of trade in the economic development of China and the high rates of economic growth achieved by this country. The export trade of countries of Central and Eastern Europe (including the former USSR) accounted for 4.6 per cent of world trade, due to shipments of crude oil and petroleum products from the Black Sea. Seaborne imports for these countries reached 1.2 per cent of world total and were complemented by imports carried overland from other European countries.

#### (f) Demand for shipping services

38. Table 5 provides data on total demand for shipping services in terms of ton-miles. World shipping performance for 2000 reached 22,940 billion ton-miles, an increase of 4.6 per cent from the 1999 figure. This increase was higher than the 3.6 per cent increase in cargo volume (see table 3), and indicated an increase in average transport distance for world seaborne cargoes. Longer distances for crude oil and oil products resulted in ton-miles increasing by 4.3 per cent for the two commodities, higher than the 3.1 per cent increase in the corresponding cargo volume. This reflects the increased supply of crude oil from the West Coast of Africa to the Far East and for oil products the increased shipment to North America and Europe from Middle East Gulf refineries.

Table 5

#### World shipping performance by types of cargo, selected years (billions of ton-miles)

Year	Oil		Iron ore	Coal	Grain <sup>a</sup>	Bauxite and alumina	Phosphate	Other dry cargoes	World total
	Crude	Products							
<b>1970</b>	5 597	890	1 093	481	475	-	-	2 118	10 654
<b>1980</b>	8 385	1 020	1 613	952	1 087	-	-	3 720	16 777
<b>1990</b>	6 261	1 560	1 978	1 849	1 073	205	154	4 041	17 121
<b>1998</b>	7 889	1 970	2 306	2 419	1 064	205	135	5 600	21 588
<b>1999</b>	7 975	2 010	2 317	2 350	1 186	204	133	5 753	21 928
<b>2000</b>	8 340	2 080	2 515	2 500	1 210	211	133	5 951	22 940

Source: Fearnleys (Oslo), *Review 2000*.

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

39. Longer average distances for all dry cargoes resulted in ton-miles increasing by 4.8 per cent, a full 1 per cent more than the 3.8 per cent increase in cargo volume. For the five main dry bulks, ton-miles increased by 6.1 per cent to reach 6,569 billion ton-miles. This percentage growth is less than the 7.4 per cent increase in cargo volume, and this indicates that these cargoes were transported along shorter routes. There is some evidence for this — United States increased its coal imports from Latin America and China's increased bulk exports to a large extent went to Asian destinations. Conversely, the remaining dry cargoes (min or bulks and liner cargo) were transported on average over larger distances during 2000.

## Chapter II

# STRUCTURE AND OWNERSHIP OF THE WORLD FLEET

*This chapter reviews the supply-side dynamics of the world maritime industry. The information and data comprehensively cover the structure and ownership of the world fleet. The chapter also reviews deliveries and demolition of vessels, tonnage on order, newbuilding prices and markets for second-hand tonnage.*

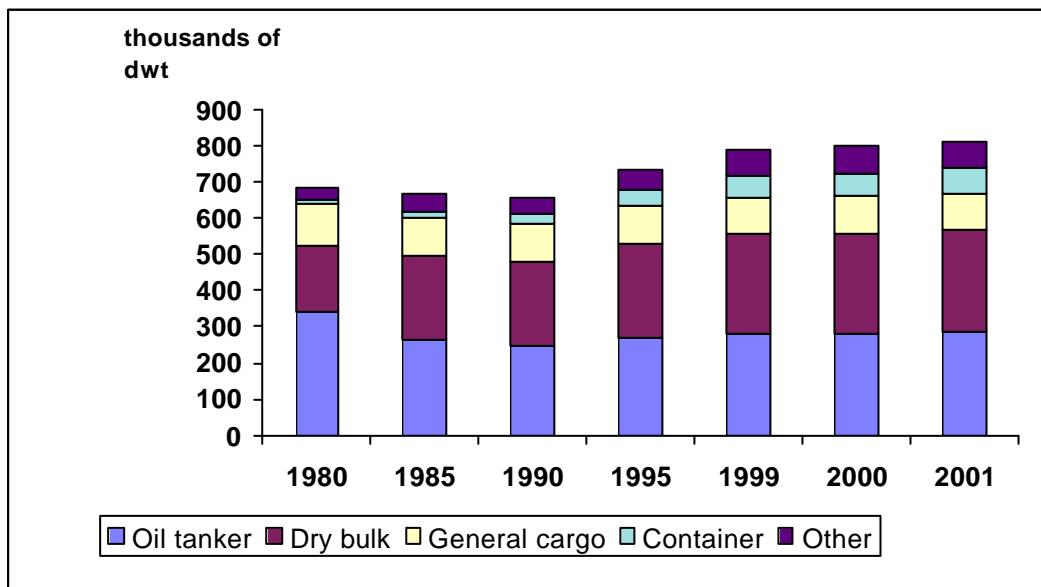
### A. STRUCTURE OF THE WORLD FLEET

#### *Principal types of vessel*

40. Comparative time-series data on the world fleet for 1999, 2000 and 2001 are provided in graph 4 and table 6. The world merchant fleet amounted to 808.4 million deadweight tons (dwt) on 1 January 2001. This represents a 1.2 per cent increase over 2000, when the world fleet had expanded at a rate of 1.3 per cent from the tonnage in 1999. Newbuilding deliveries were 44.4 million dwt, while 22.2 million dwt of tonnage was broken up. The fleet was also decreased by losses and vessels taken out of service, leaving a net gain of 9.4 million dwt in 2000 as compared with a net gain of 10.3 million dwt in 1999.

Graph 4

#### World fleet by principal type of vessel, selected years



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

Table 6

**World fleet size by principal types of vessel, 1999–2001<sup>a</sup>**  
*(beginning-of-year figures, in thousands of dwt)*

Principal types	1999	2000	2001	Percentage change 2000/2001
<b>Oil tankers</b>	279 509	282 458	285 442	1.1
	<i>35.4</i>	<i>35.4</i>	<i>35.3</i>	
<b>Bulk carriers</b>	275 519	276 091	281 655	2.0
	<i>34.9</i>	<i>34.6</i>	<i>34.8</i>	
<b>Ore/bulk/oil</b>	17 720	16 723	11 391	-31.9
	<i>2.2</i>	<i>2.1</i>	<i>1.4</i>	
<b>Ore/bulk</b>	257 799	259 368	270 264	4.2
	<i>32.7</i>	<i>32.5</i>	<i>33.4</i>	
<b>General cargo ships</b>	101 259	101 481	102 653	1.2
	<i>12.8</i>	<i>12.7</i>	<i>12.7</i>	
<b>Container ships</b>	61 147	63 637	69 216	8.8
	<i>7.8</i>	<i>8.0</i>	<i>8.6</i>	
<b>Other types of ships</b>	71 291	75 328	69 412	-7.9
	<i>9.1</i>	<i>9.3</i>	<i>8.6</i>	
<b>Liquefied gas carriers</b>	16 471	17 334	18 525	6.9
	<i>2.1</i>	<i>2.1</i>	<i>2.3</i>	
<b>Chemical tankers</b>	7 740	7 813	8 044	3.0
	<i>1.0</i>	<i>1.0</i>	<i>1.0</i>	
<b>Miscellaneous tankers</b>	885	849	768	-9.5
	<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	
<b>Ferries and passengers ships</b>	4 803	4 944	5 038	1.9
	<i>0.6</i>	<i>0.6</i>	<i>0.6</i>	
<b>Others</b>	41 392	44 388	37 037	-16.6
	<i>5.3</i>	<i>5.5</i>	<i>4.6</i>	
<b>World total</b>	788 725	798 995	808 377	1.2
	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	

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

<sup>a</sup> Percentage shares are shown in italics.

41. The tonnage of oil tankers and dry bulk carriers continued to increase in 2000 by 1.1 per cent and 2.0 per cent respectively. These two types of ships represented 70.1 per cent of total tonnage in 2000, a slight increase from 70.0 per cent in the previous year. The fleet of general cargo ships increased in 2000 by 1.2 per cent and represented 12.7 per cent of the total world fleet. Containerships in terms of deadweight tonnage increased by 5.6 million dwt or 8.8 per cent, which now represents 8.6 per cent of the total world fleet. This relatively high rate of increase reflects the growing portion of manufactured goods being traded which are generally moving in containers. Dwt tonnage of liquid gas carriers (mainly LNG and LPG carriers) and ferries/passenger ships have been steadily increasing.

*World containership fleet*

42. The world fleet of fully cellular containerships continued to expand substantially in 2000 in terms of both number of ships and their TEU capacity, reaching 2,595 ships with a total capacity of 4,734,079 TEUs by the beginning of 2001, representing an increase of 6.6 per cent in the number of ships and 10.1 per cent in TEU capacity over the previous year (see table 7). Ship sizes also continued to increase with average carrying capacity per ship growing from 1,766 TEUs in 1999 to 1,824 TEUs in 2000, reflecting the building of larger vessels to achieve economies of scale for reduction in operating costs. At the beginning of 2001, the well-defined trend for large container vessels continued unabated. The total orderbook for the year was 375 vessels of which 127 were larger than 4,000 TEU and 109 vessels were in the size bracket of 2,000–3,999 TEU. Most of the remaining 139 vessels are in the range of 1,000–1,999 TEUs.

Table 7

**Distribution of the world fleet and TEU capacity of fully cellular containerships by groups of countries, in 1999, 2000 and 2001**  
*(beginning-of-year figures)*

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares		
	1999	2000	2001	1999	2000	2001
<b>World total</b>	2 365	2 433	2 595	4 061 653	4 297 874	4 734 079
			100.0	100.0	100.0	100.0
<b>Developed market-economy countries</b>	728	693	724	1 561 060	1 530 655	1 665 709
			27.9	38.4	35.6	35.2
<b>Major open-registry countries</b>	887	944	1 003	1 545 818	1 698 576	1 919 117
			38.7	38.1	39.5	40.5
<b>Total developed market-economy and major open-registry countries</b>	1 615	1 637	1 727	3 106 878	3 229 231	3 584 826
			66.6	76.5	75.1	75.7
<b>Countries of Central and Eastern Europe (including former USSR)</b>	35	34	32	26 331	26 699	25 457
			1.2	0.6	0.6	0.5
<b>Socialist countries of Asia</b>	90	89	106	94 863	96 450	105 344
			4.1	2.3	2.2	2.2
<b>Developing countries</b>	542	587	644	691 328	803 135	883 883
			24.8	17.0	18.7	18.7
<i>of which in:</i>						
<b>Africa</b>	10	10	11	110 265	10 719	10 841
			0.4	0.3	0.2	0.2
<b>Americas</b>	162	192	214	157 836	214 153	253 822
			8.2	3.9	5.0	5.4
<b>Asia</b>	365	380	416	516 431	572 212	617 768
			16.0	12.7	13.3	13.0

Flags of registration by groups of countries	Number of ships			TEU capacity and percentage shares		
	1999	2000	2001	1999	2000	2001
<b>Europe</b>	5	5	3	6 035	6 051	1 452
			<i>0.1</i>	<i>0.1</i>	<i>0.1</i>	<i>0.0</i>
<b>Oceania</b>	0	0	0	0	0	0
			<i>0.0</i>	<i>0.0</i>	<i>0.0</i>	<i>0.0</i>
<b>Other, unallocated</b>	83	86	86	142 253	142 359	134 569
			<i>3.3</i>	<i>3.5</i>	<i>3.3</i>	<i>2.8</i>

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

<sup>a</sup> Percentage shares are shown in italics.

#### *Age distribution of the world merchant fleet*

43. Table 8 provides data on the average distribution of the world merchant fleet by types of vessels and by groups of countries and territories. The average age of the total world fleet decreased in 2000 to 13.9 years from 14.1 years in 1999. By type of vessel, the average age of tankers rose slightly to 14.1 years in 2000. The share of tanker tonnage aged 15 years and over increased to 47.8 per cent in 2000 from 47.6 per cent in 1999, reflecting slowdown in scrapping activities in 2000 which stood at 13.5 million dwt (16.7 million dwt in 1999). The average age of the dry bulk carrier fleet decreased slightly to 13.2 years from the 13.8 years in 1999. Containerships continued to be the youngest fleet in 2000, with an average age of 10.4 years up from 9.7 years. This trend is reflected in the share of tonnage between 0 and 4 years of age, 33.4 per cent — the highest among all categories of vessels.

Table 8

#### **Age distribution of the world merchant fleet by types of vessel, as at 1 January 2001 (percentage of total dwt)**

Country grouping	Types of vessel	0–4 years	5–9 years	10–14 years	15–19 years	20 years and over	Average age (years) 2001 <sup>a</sup>	Average age (years) 2000 <sup>a</sup>
		2001 <sup>a</sup>	2000 <sup>a</sup>	2001 <sup>a</sup>	2000 <sup>a</sup>	2001 <sup>a</sup>	2000 <sup>a</sup>	2001 <sup>a</sup>
<b>World total</b>	All ships	18.8	18.4	12.7	16.3	33.8	13.9	14.1
	Tankers	16.6	23.5	12.1	8.8	39.0	14.1	13.9
	Bulk carriers	20.4	16.7	14.3	23.9	24.7	13.2	13.8
	General cargo	11.1	10.0	10.4	19.8	48.7	17.0	17.3
	Container ships	33.4	22.9	12.2	11.0	20.5	10.4	9.7
	All others	18.1	12.7	12.4	16.1	40.7	15.0	14.9
<b>Developed market-economy countries</b>	All ships	19.8	18.8	13.8	15.1	32.5	13.6	13.8
	Tankers	17.6	20.5	11.1	9.0	41.8	14.5	14.2
	Bulk carriers	15.8	18.4	16.7	25.8	23.5	13.5	14.6
	General cargo	17.7	16.7	12.9	18.3	34.4	14.3	14.6
	Container ships	37.3	19.1	13.9	7.9	21.8	10.2	9.2
	All others	19.8	16.1	16.9	16.7	30.4	13.6	13.9

Country grouping	Types of vessel	0–4 years	5–9 years	10–14 years	15–19 years	20 years and over	Average age (years) 2001 <sup>a</sup>	Average age (years) 2000 <sup>a</sup>
<b>Major open-registry countries</b>	All ships	19.6	19.9	12.9	16.1	31.5	13.5	13.7
	Tankers	14.6	27.6	12.3	7.5	38.1	13.9	13.8
	Bulk carriers	22.8	15.3	14.7	24.1	23.2	12.8	13.6
	General cargo	14.9	11.2	11.6	22.8	39.4	15.6	16.2
	Container ships	32.2	26.0	11.7	10.7	19.4	10.2	9.6
	All others	21.1	11.7	9.0	13.2	45.0	15.1	14.2
<b>Subtotal</b>	All ships	19.7	19.6	13.2	15.8	31.8	13.5	13.7
	Tankers	15.6	25.1	11.9	8.0	39.4	14.1	13.9
	Bulk carriers	21.2	16.0	15.1	24.5	23.2	13.0	13.9
	General cargo	15.9	13.1	12.0	21.2	37.7	15.1	15.7
	Container ships	34.5	22.9	12.7	9.4	20.5	10.2	9.4
	All others	20.4	13.9	13.0	15.0	37.7	14.3	14.1
<b>Countries of Central and Eastern Europe</b>	All ships	2.3	7.7	15.5	20.6	53.9	18.6	19.0
	Tankers	1.9	1.4	14.8	21.7	60.2	19.7	20.0
	Bulk carriers	0.0	11.5	10.7	26.0	51.8	18.7	19.5
	General cargo	3.0	6.7	16.7	17.4	56.3	18.7	18.9
	Container ships	16.8	12.4	18.7	22.3	29.7	14.2	15.3
	All others	2.4	9.8	19.5	19.1	49.2	17.9	18.2
<b>Socialist countries of Asia</b>	All ships	5.3	14.4	7.8	15.4	57.1	18.1	18.1
	Tankers	3.2	23.1	14.1	8.8	50.9	16.8	16.5
	Bulk carriers	7.3	17.1	5.0	15.8	54.8	17.5	17.4
	General cargo	3.5	4.5	6.6	15.3	70.0	20.2	20.1
	Container ships	6.0	25.0	18.4	28.2	22.4	14.1	14.5
	All others	3.7	9.7	6.0	15.5	65.2	19.4	19.4
<b>Developing countries (excluding open-registry countries)</b>	All ships	20.0	15.8	11.3	17.7	35.2	14.1	14.2
	Tankers	22.6	17.7	12.2	10.9	36.5	13.6	13.3
	Bulk carriers	21.5	18.3	13.8	23.8	22.7	12.7	12.9
	General cargo	6.2	6.7	7.0	18.9	61.3	19.0	19.3
	Container ships	37.8	23.3	6.4	12.6	19.9	10.0	9.1
	All others	14.5	9.2	9.6	20.6	46.2	16.4	16.9

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

<sup>a</sup> To calculate the average age, it has been assumed that the ages of vessels are distributed evenly between the lower and the upper limit of each age group. For the 20-years-and-over age group, the mid-point has been assumed to be 23.5 years.

44. By country grouping, the major open-registry countries continued to have the lowest average age of all ships (13.5 years in 2000 versus 13.7 years in 1999), as a growing tendency to register newbuildings under open-registry flags was observed. Developed market-economy countries also maintained a low average age of their fleet at 13.6 years in 2000 compared to 13.8 years in 1999. In this group, the average

age of containerships increased by one year to 10.2 years in 2000, as compared with 9.2 years in 1999. The average age of all ships registered in developing countries (excluding major open-registry countries) decreased slightly in 2000 to 14.1 years as compared with 14.2 years in 1999. For this group, the average age of general cargo vessels was almost double that of containerships. The average age of tonnage registered in the socialist countries of Asia continued at 18.1 years in 2000. The countries of Central and Eastern Europe continued to have the oldest fleet (18.6 years in 2000 versus 19.0 years in 1999) with vessels built more than 15 years ago representing about three quarters of the total fleet, with tankers being the oldest class of ships at 19.7 years.

#### *Delivery of newbuildings*

45. Newbuilding activities attained the highest level ever recorded in terms of deadweight tons with deliveries amounting to 44.4 million dwt in 2000 (see table 9) an increase of about 10 per cent from deliveries in 1999. The total number of vessels delivered increased to 1,544 units from 940 units in 1999. This high level of delivery continued to be sustained primarily by tanker deliveries of 21.0 million dwt, which was up 10 per cent from the 1999 level. Another feature was that more of the larger tankers were delivered in 2000 than in the previous year, with an average deadweight tonnage of 134,600 in 2000 compared to 118,600 in 1999. In the dry bulk carriers sector, the number of newbuildings decreased slightly to 193 units in 2000 from 195 units in 1999, while total tonnage expanded to 13.4 million dwt from 13.0 million dwt, with the average deadweight tons per vessel being steady at 66,000. Newbuildings for other types of vessels, including general cargo ships and containerships increased both in number and in deadweight tonnage to 1,195 units and 10.0 million dwt in 2000.

Table 9

#### **Deliveries of newbuildings, selected years**

<b>Year</b>	<b>Oil tankers <sup>a</sup></b>		<b>Combined carriers <sup>a</sup></b>		<b>Dry bulk carriers <sup>a</sup></b>		<b>Others <sup>b</sup></b>		<b>Total</b>	
	<b>No. of vessels</b>	<b>Million dwt</b>	<b>No. of vessels</b>	<b>Million dwt</b>	<b>No. of vessels</b>	<b>Million dwt</b>	<b>No. of vessels</b>	<b>Million dwt</b>	<b>No. of vessels</b>	<b>Million dwt</b>
<b>1980</b>	99	7.0	4	0.4	135	4.7	548	6.2	786	18.4
<b>1985</b>	72	3.9	10	0.7	339	14.7	529	5.3	950	24.6
<b>1990</b>	81	8.7	0	0	119	9.6	523	4.4	723	22.8
<b>1995</b>	83	10.9	0	0	254	15.4	672	7.4	1 009	33.7
<b>1996</b>	98	11.6	3	0.3	268	17.5	713	8.7	1 082	38.2
<b>1997</b>	69	7.5	3	0.3	299	18.8	696	10.2	1 067	36.8
<b>1998</b>	120	12.6	0	0	217	11.6	704	11.1	1 041	35.3
<b>1999</b>	161	19.1	4	0.4	195	13.0	585	8.4	940	40.5
<b>2000 <sup>c</sup></b>	156	21.0	0	0	193	13.4	1 195	10.0	1 544	44.4

Source: UNCTAD secretariat on the basis of data from Fearnleys (Oslo), *Review 2000*.

<sup>a</sup> Vessels over 10,000 dwt

<sup>b</sup> Sea-going, cargo-carrying vessels of over 1,000 gross registered tons (grt).

<sup>c</sup> Provisional.

### *Demolition of ships*

46. Trends in tonnage, types and average age of broken-up vessels are shown in tables 10, 11 and 12. In 2000, total tonnage sold for demolition contracted substantially by 27.7 per cent from the tonnage of the previous year to 22.2 million dwt, which accounted for 2.7 per cent of the world total deadweight tons, as compared to 3.8 per cent in 1999. Break-up of tankers made up the largest share of total demolition. Sales of tankers for breaking-up reduced significantly by 19.2 per cent to 13.5 million dwt, due to rising freight rates which stopped sales during the second semester. ULCC/VLCC sales went down from 35 units in 1999 to 30 units in 2000. Suezmaxes also decreased from 27 units in 1999 to 18 units in 2000, while Aframaxes decreased from 26 units in 1999 to 20 units in 2000. In the smaller category of crude oil tankers, the reverse was true — 25 ships were sold for scrap in 1999, while 51 units were sold in 2000. Due to the reduced scrapping activity, the average age of tankers sold for demolition was slightly up from 26.2 years in 1999 to 26.9 years in 2000. Dry bulk carriers sold for scrap were almost halved to only 4.6 million dwt in 2000, down from 9.7 million dwt in 1999. There was a reduction of scrapping of all sizes of bulk carriers. The average age of all dry bulk carriers broken up was 25.9 years in 2000 — slightly higher than the previous year. Other ship types also have a similar trading life with containerships being sold to breakers with an average age of 25.7 years and general cargo ships with an average age of 27.3 years in 2000.

Table 10

#### **Broken-up tonnage trends, 1990 and 1996–2000**

<b>Broken-up tonnage</b>	<b>1990</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
<b>Tonnage sold for breaking (million dwt)</b>	16.9	18.1	14.8	25.2	30.7	22.2
<b>Share of broken-up tonnage of the total world fleet (percentage)</b>	2.4	2.4	1.9	3.2	3.9	2.7

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

Table 11

#### **Tonnage reported sold for breaking by types of vessel, 1996–2000 (millions of dwt and percentage shares)**

<b>Types of vessel</b>	<b>Millions dwt</b>					<b>Percentages</b>				
	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>1996</b>	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
<b>Tankers</b>	6.6	3.6	7.4	16.7	13.5	36.1	24.2	29.4	54.2	60.9
<b>Combined carriers</b>	1.9	0.4	1.4	1.1	1.0	10.3	2.9	5.7	3.7	4.3
<b>Dry bulk carriers</b>	7.6	8.2	12.8	9.7	4.6	42.1	55.1	50.9	31.5	20.8
<b>Others</b>	2.1	2.6	3.5	3.3	3.1	11.5	17.9	14.0	10.6	14.0
<b>Total</b>	18.1	14.8	25.2	30.7	22.2	100.0	100.0	100.0	100.0	100.0

Source: UNCTAD secretariat on the basis of data supplied by Fearnleys (Oslo), *Review*, various issues.

Table 12

**Average age of broken-up ships by type from 1996 to 2000<sup>a</sup>**  
**(years)**

<b>Year</b>	<b>Tankers</b>	<b>Dry bulk carriers</b>	<b>Containerships</b>	<b>General cargo ships</b>
<b>1996</b>	26.0	24.3	26.2	27.8
<b>1997</b>	28.2	25.3	22.8	26.9
<b>1998</b>	28.2	25.2	25.5	26.7
<b>1999</b>	26.2	25.0	24.8	26.7
<b>2000</b>	26.9	25.9	25.7	27.3

*Source:* UNCTAD secretariat on the basis of data supplied by Institute of Shipping Economics and Logistics (Bremen), *Shipping Statistics, 2000*, Nos. 1-2.

<sup>a</sup> Ships of 300 grt and over.

## B. OWNERSHIP OF THE WORLD FLEET

### *Distribution of world tonnage by country groups*

47. The total world fleet continued to expand in 2000 by 1.2 per cent to 808.4 million dwt (see table 13 and graph 5). Tonnage of developed market-economy countries increased marginally by 0.2 million dwt to 203.4 million dwt. Major open-registry countries in 2000 expanded their tonnage substantially by 7.5 million dwt or 1.9 per cent to a record high of 392.2 million dwt. Approximately two thirds of these beneficially-owned fleets are owned by developed market-economy countries and the rest by developing countries. The share owned by developing countries has continued to increase. Tonnage registered in developing countries in 2000 increased substantially by 3.4 million dwt or 2.2 per cent to 157.0 million dwt. This increase resulted from the investments made by shipowners in Asian developing countries, whose fleets expanded by 3.5 million dwt or 3.1 per cent to 115.7 million dwt, accounting for 73.7 per cent of the developing countries' total fleet. The fleet of developing countries of America increased by 0.2 million dwt to 34.1 million dwt, while that of African developing countries decreased, by 0.1 million dwt to 6.0 million dwt. A marginal decrease of 0.2 million dwt was found for the fleet of developing countries in Europe while the small fleet of developing countries in Oceania was stable at 0.2 million dwt. The shares of the socialist countries of Asia and the countries of Central and Eastern Europe in total world tonnage had opposite movements in 2000 with the former increasing by 0.3 million dwt and the latter decreasing by 2.0 million dwt.

Table 13

**Distribution of world tonnage (dwt) by groups of countries of registration,  
1980, 1990, 1999, 2000 and 2001<sup>a</sup>**  
*(beginning-of-year figures)*

<b>Flag of registration by group of countries</b>	<b>Tonnage and percentage shares<sup>b</sup> in millions of dwt</b>				
	<b>1980<sup>c</sup></b>	<b>1990<sup>d</sup></b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>World total</b>	682.8	658.4	788.7	799.0	808.4
	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>	<i>100.0</i>
<b>Developed market-economy countries</b>	350.1	219.0	202.6	203.2	203.4
	<i>51.3</i>	<i>33.3</i>	<i>25.7</i>	<i>25.4</i>	<i>25.2</i>
<b>Major open-registry countries</b>	212.6	224.6	376.8	384.7	392.2
	<i>31.1</i>	<i>34.1</i>	<i>47.8</i>	<i>48.1</i>	<i>48.5</i>
<b>Countries of Central and Eastern Europe (including former USSR)</b>	37.8	44.3	20.7	18.3	16.3
	<i>5.5</i>	<i>6.7</i>	<i>2.6</i>	<i>2.3</i>	<i>2.0</i>
<b>Socialist countries of Asia</b>	10.9	22.1	26.0	25.8	26.1
	<i>1.6</i>	<i>3.4</i>	<i>3.3</i>	<i>3.2</i>	<i>3.2</i>
<b>Developing countries</b>	68.4	139.7	150.8	153.6	157.0
	<i>10.0</i>	<i>21.2</i>	<i>19.1</i>	<i>19.2</i>	<i>19.4</i>
<i>of which in:</i>					
<b>Africa</b>	7.2	7.3	6.3	6.1	6.0
<b>Americas</b>	21.8	25.5	34.5	33.9	34.1
<b>Asia</b>	39.1	89.5	108.5	112.2	115.7
<b>Europe</b>	0.2	13.8	1.3	1.2	1.0
<b>Oceania</b>	0.1	3.6	0.2	0.2	0.2
<b>Other, unallocated</b>	3.0	8.7	11.8	13.4	13.4
	<i>0.4</i>	<i>1.3</i>	<i>1.5</i>	<i>1.7</i>	<i>1.7</i>

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

<sup>a</sup> Excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets, which in 2000 amounted respectively to 4.3, 1.9 and 1.8 million dwt.

<sup>b</sup> Percentage shares are shown in italics.

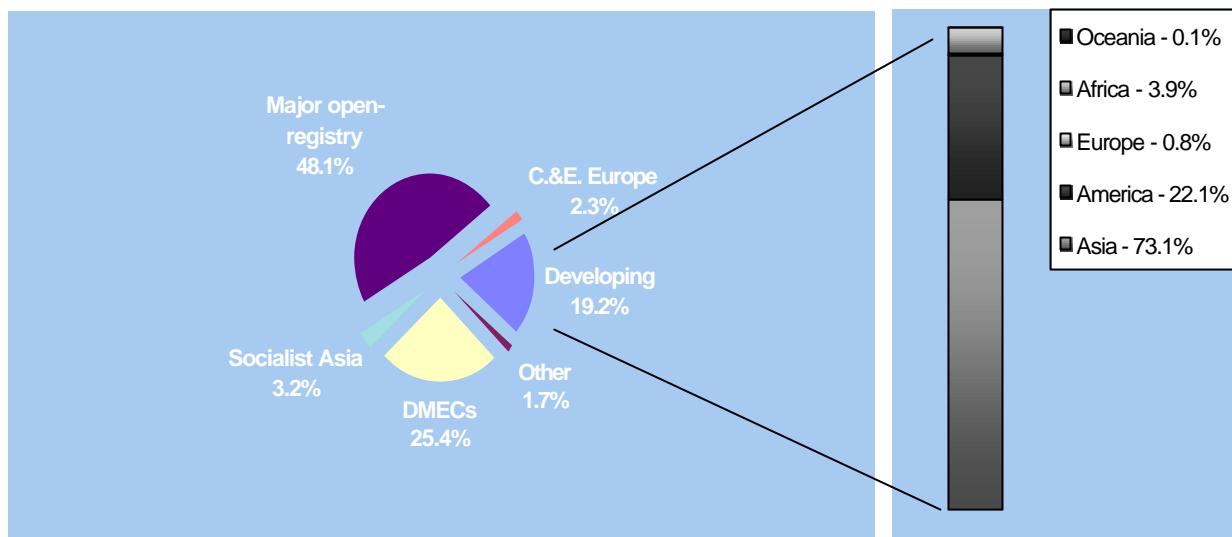
<sup>c</sup> Mid-year figure.

<sup>d</sup> End of year figure.

Graph 5

**World tonnage by country groups, as at 1 January 2001**

(percentage distribution of dwt)



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

*Distribution of world tonnage by types of vessel and country groups*

48. Table 14 provides more detailed data on fleet distribution by types of vessel and country groups for 1970, 1980, 1990, 1998, 1999 and 2000. The share of oil tankers and dry bulk carriers in the total world fleet remained fairly stable in 2000 when compared to 1999. There was a marginal decrease in tankers to 35.3 per cent, while bulkers raised their share to 34.8 per cent. Changes were more noticeable in general cargo vessels, which decreased their share of the world fleet to 12.7 per cent and container vessels, which raised their share to 8.6 per cent. Other types of vessels decreased their share to 8.6 per cent. In the oil tanker sector, the share of developed market-economy countries decreased marginally to 30.0 per cent in 2000 from 30.5 per cent in 1999. Conversely, the open-registry countries' share increased slightly to 50.8 per cent, as compared to 50.2 per cent in the previous year. These very small fluctuations in both country groups still reflect the continuous trend, specifically for owners in developed market-economy countries, to prefer to register tanker tonnage under open registry. The share of developing countries was stable in 2000 at 16.1 per cent, a very small decrease from the previous year. Also the share of Asian developing countries remained stable in 2000 at 12.9 per cent of the world tanker fleet.

49. In the dry bulk carrier sector, the tonnage share of developed market-economy countries in the total world fleet continued to decrease and reached 16.9 per cent in 2000, which stood at one third of its share in 1980 (52.7 per cent). Major open-registry countries continued to expand their share, amounting to 55.0 per cent in 2000, as compared to 54.9 per cent in 1999. The developing countries' share expanded in 2000 to 20.7 per cent, due to the expanding share of developing countries of Asia which in 2000 reached 16.5 per cent (15.7 per cent in the previous year). The fleet developments, in the sector of general cargo ships, of the three major country groups were similar to that of the dry bulk carrier sector. The developing countries' share in the general cargo ship sector continued to increase and now represents 27.1 per cent, which is the highest in this country group's share in the five principal types of vessel.

Table 14

**Percentage shares of world tonnage by types of vessel and country groups, in 1970,  
1980, 1990 (as at 1 July), 1998, 1999 and 2000 (as at 31 December)<sup>a</sup>**

	<b>Year</b>	<b>Total dwt</b>		<b>Oil</b>	<b>Bulk</b>	<b>General</b>	<b>Container</b>	<b>Other</b>
		<b>Million</b>	<b>Percentage of</b>	<b>tankers</b>	<b>carriers<sup>b</sup></b>	<b>cargo</b>	<b>ships</b>	<b>ships</b>
<b>World total</b>	1970	326.1	100.0	39.4	20.2	30.2	0.9	9.3
	1980	682.8	100.0	49.7	27.2	17.0	1.6	4.5
	1990	658.4	100.0	37.4	35.6	15.6	3.9	7.5
	1998	788.7	100.0	35.6	34.9	13.1	7.8	8.6
	1999	799.0	100.0	35.5	34.5	13.0	8.0	9.0
	2000	808.4	100.0	35.3	34.8	12.7	8.6	8.6
<b>Developed market- economy countries</b>	1970	211.9	65.0	63.9	69.2	65.6	99.0	61.3
	1980	350.1	51.3	52.5	52.7	43.4	74.3	50.4
	1990	219.0	33.3	37.3	29.5	23.1	46.5	45.2
	1998	202.6	25.4	29.8	18.1	19.6	37.1	38.7
	1999	203.2	25.4	30.5	17.0	19.2	34.6	38.6
	2000	203.4	25.2	30.0	16.9	19.6	34.4	37.6
<b>Open-registry countries</b>	1970	70.3	21.6	26.4	24.1	7.6	1.0	3.6
	1980	212.5	31.1	36.2	31.7	20.8	13.5	17.0
	1990	224.6	34.1	41.6	33.2	26.2	21.1	24.2
	1998	376.8	47.2	51.2	53.5	37.0	38.6	35.1
	1999	384.7	48.1	50.2	54.9	37.7	39.8	36.6
	2000	392.2	48.5	50.8	55.0	36.5	40.6	38.2
<b>Central and Eastern Europe</b>	1970	20.5	6.2	4.6	2.1	12.0	-	28.8
	1980	37.8	5.5	2.8	4.2	12.3	2.9	19.2
	1990	44.3	6.7	3.2	6.1	15.5	3.2	10.9
	1998	20.7	2.6	1.2	2.2	7.3	0.7	4.8
	1999	18.3	2.3	1.0	1.8	6.7	0.7	4.4
	2000	16.3	2.0	1.0	1.4	6.3	0.6	3.7
<b>Socialist countries of Asia</b>	1970	1.2	0.4	0.1	-	1.1	-	0.3
	1980	10.9	1.6	0.6	1.6	4.7	0.1	1.3
	1990	22.1	3.4	1.1	3.6	8.5	4.2	2.2
	1998	25.9	3.2	1.2	4.2	7.6	2.7	2.1
	1999	18.3	3.2	1.3	4.1	7.5	2.6	2.0
	2000	26.1	3.2	1.4	4.0	7.6	2.6	1.8
<b>Developing countries</b>	1970	20.5	6.3	4.7	4.3	12.6	-	5.9
	1980	68.4	10.0	7.7	9.2	17.6	7.6	12.0
	1990	139.7	21.2	16.3	25.6	26.2	16.0	17.4
	1998	150.8	18.9	15.9	20.1	26.7	17.3	18.5
	1999	153.6	19.2	16.2	20.1	26.5	18.8	17.5
	2000	157.0	19.4	16.1	20.7	27.1	18.7	17.3

Year	Total dwt		Oil tankers	Bulk carriers <sup>b</sup>	General cargo	Container ships	Other ships	
	Million dwt	Percentage of world total						
<i>of which in</i>								
<b>Africa</b>	1970	1.1	0.3	0.2	-	1.3	-	0.7
	1980	7.1	1.0	1.1	0.1	2.3	..	2.1
	1990	7.3	1.1	1.0	0.5	2.3	0.2	2.9
	1998	6.3	0.8	0.6	0.5	1.6	0.3	1.8
	1999	6.0	0.8	0.6	0.5	1.6	0.3	1.7
	2000	6.0	0.7	0.5	0.4	1.7	0.2	1.8
<b>America</b>	1970	8.7	2.7	2.8	1.4	4.3	-	2.5
	1980	21.8	3.2	2.3	3.3	5.6	0.1	3.7
	1990	25.5	3.9	3.0	3.8	6.2	1.4	4.7
	1998	34.5	4.3	3.1	3.7	9.5	3.8	5.3
	1999	33.9	4.2	2.7	3.5	9.5	4.7	4.8
	2000	34.1	4.2	2.7	3.5	9.6	5.1	4.5
<b>Asia</b>	1970	10.7	3.3	1.7	2.9	6.9	-	2.6
	1980	39.1	5.7	4.3	5.7	9.8	2.7	5.7
	1990	89.5	13.6	10.7	17.6	13.7	13.5	9.1
	1998	108.5	13.6	12.1	15.6	15.3	13.0	11.2
	1999	112.2	14.0	12.9	15.7	15.2	13.6	10.9
	2000	115.7	14.3	12.9	16.5	15.5	13.3	10.9
<b>Europe</b>	1970	-	-	-	-	-	-	-
	1980	0.2	-	-	-	0.1	-	-
	1990	13.8	2.1	1.4	2.8	3.2	0.6	0.4
	1998	1.3	0.2	-	0.3	0.2	0.2	-
	1999	1.2	0.2	-	0.3	0.2	0.2	-
	2000	1.0	0.1	0.0	0.3	0.2	0.0	0.0
<b>Oceania</b>	1970	-	-	-	-	-	-	-
	1980	0.2	-	-	-	0.1	-	-
	1990	3.6	0.5	0.2	0.9	0.8	0.3	0.3
	1998	0.2	-	-	..	0.1	..	0.1
	1999	0.2	-	-	..	0.1	..	0.1
	2000	0.2	0.0	0.0	0.0	0.1	0.0	0.1
<b>Unallocated</b>	1970	1.7	0.5	0.3	0.3	1.1	-	0.1
	1980	3.0	0.4	0.2	0.6	0.9	1.6	0.1
	1990	8.7	1.3	0.5	2.0	0.5	9.0	0.1
	1998	11.8	1.5	0.7	1.9	1.8	3.7	0.8
	1999	13.4	1.7	0.8	2.1	2.4	3.5	0.9
	2000	13.4	1.7	0.7	1.9	2.9	3.1	1.3

Source: UNCTAD secretariat on the basis of data supplied by Lloyd's Maritime Information Services (London). See annex III (b) for details.

<sup>a</sup> Excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets.

<sup>b</sup> Ore and bulk carriers, including combined ore/oil and ore/bulk/oil carriers.

<sup>c</sup> Percentages for 1970 were calculated on the basis of g.r.t.

50. Developed market-economy countries slightly decreased their share of containership deadweight tonnage to 34.4 per cent in 2000. On the other hand, the major open-registry countries' share continued to expand, reaching 40.6 per cent in 2000, approximately two-thirds of which represented containerships beneficially owned by owners in developed market-economy countries. The share of developing countries decreased slightly to 18.7 per cent, of which 13.3 per cent was held by Asian developing countries.

*The structure of the fleet of main country groups*

51. Table 15 provides data on the structure of the merchant fleet of the main country groups as at 1 January 2001. Developed market-economy countries' tonnage in tankers decreased in 2000 by 0.9 million dwt to 42.1 per cent of the group's total fleet from 42.6 per cent in the previous year. Their dry bulk carriers increased by 0.6 million dwt, to 23.4 per cent from 23.1 per cent in 1999. The general cargo ships and containerships share of their fleet expanded slightly to 9.9 per cent and 11.7 per cent respectively as compared to 9.8 per cent and 10.8 per cent in 1999. Major open-registry countries increased their total fleets substantially by 7.5 million dwt. A greater proportion of their fleets was in the oil tanker and dry bulk carrier sectors, with both ship types accounting for 76.5 per cent of their fleet in 2000. Their oil tankers increased in 2000 by 2.6 million dwt to 37.0 per cent of the group's total fleet (the same as in 1999), whilst the dry bulk carriers increased in 2000 by 3.4 million dwt to 39.5 per cent as compared to 39.4 per cent in the previous year. Their general cargo ships decreased in 2000 by 1.6 million dwt, accounting for 9.6 per cent of the group's total fleet, down from 10.2 in 1999. Their containership fleet expanded in 2000 by 2.8 million dwt to 7.2 per cent of their total fleet from 6.6 per cent in 1999.

Table 15

**Structure of the merchant fleets of the main country groups, as at 1 January 2001<sup>a</sup>**  
(millions of dwt and percentage shares)

	World fleet		Developed market-economy countries		Open-registry countries		Developing countries		Central and Eastern Europe		Socialist countries of Asia	
	m. dwt	%	m. dwt	%	m. dwt	%	m. dwt	%	m. dwt	%	m. dwt	%
<b>Total fleet</b>	808.4	100.0	203.4	100.0	392.2	100.0	157.0	100.0	16.3	100.0	26.1	100.0
<b>Oil tankers</b>	285.4	35.3	85.7	42.1	145.0	37.0	45.9	29.3	2.8	17.0	3.9	14.9
<b>Bulk carriers</b>	281.7	34.8	47.6	23.4	155.0	39.5	58.3	37.2	4.0	24.8	11.4	43.5
<b>General cargo ships</b>	102.7	12.7	20.2	9.9	37.5	9.6	27.8	17.7	6.5	39.8	7.8	29.8
<b>Containerships</b>	69.2	8.6	23.8	11.7	28.1	7.2	12.9	8.2	0.4	2.5	1.8	6.9
<b>Other ships</b>	69.4	8.6	26.1	12.8	26.5	6.8	12.0	7.6	2.6	15.9	1.3	4.9

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

<sup>a</sup> Ships of 100 grt and over, excluding the United States Reserve Fleet and the United States and Canadian Great Lakes fleets.

52. In developing countries, tonnage distribution is also characterized by a comparatively high proportion of dry bulk carriers and oil tankers, representing 37.2 per cent and 29.3 per cent respectively in 2000. In absolute terms, their 2000 tonnage in dry bulk carriers and oil tankers stood at 58.3 million dwt and 45.9 million dwt as compared to 47.6 million dwt and 85.7 million dwt for developed market-

economy countries. The share of general cargo ships in this group increased in 2000 to 27.8 million dwt compared to 27.5 million dwt in 1999, while containerships increased by 0.9 million dwt to 8.2 per cent in 2000 from 7.8 per cent in the previous year. In the countries of Central and Eastern Europe, general cargo ships are relatively dominant, accounting for 39.8 per cent in 2000, as compared to 37.7 per cent in 1999. On the other hand, containerships have remained unchanged at 0.4 million dwt, representing around 2 per cent since the early 1990s. The socialist countries of Asia continued to have a predominant share of both dry bulk carriers and general cargo ships. However the absolute tonnage and proportion of these types of vessel increased in 2000 to 11.4 million dwt (from 11.3 million dwt in 1999) or 43.5 per cent (43.8 per cent in 1999) for dry bulk carriers, and remained stable at 7.8 million dwt or 29.8 per cent (30.2 per cent in 1999) for general cargo ships. Conversely, the absolute tonnage of containerships increased by 0.1 million dwt in 2000 to 1.8 million dwt or 6.9 per cent (6.6 per cent in 1999).

## C. REGISTRY OF VESSELS

### *The 35 most important maritime countries and territories*

53. The ranking in terms of deadweight for the 35 most important maritime countries and territories is provided in table 16. In 2000, these 35 countries and territories controlled 94.8 per cent of the world merchant fleet (94.2 per cent in 1999). Romania, which was thirty-fifth in 1999, was replaced in 2000 by the United Arab Emirates, which was thirty-third. Thailand, with a total tonnage of 2.5 million dwt was thirty-fifth in the year 2000 and represented 0.34 per cent of the world total fleet. The five largest countries controlled 51.7 per cent (50.7 per cent in 1999) and the top 10 countries controlled 69.6 per cent (67.7 per cent in 1999) of the world total fleet.

Table 16

### **The 35 most important maritime countries and territories, as at 1 January 2001<sup>a</sup>**

Country of domicile <sup>b</sup>	Number of vessels			Deadweight tonnage			Foreign flag as a percentage of total	Total as a percentage of world total
	National flag <sup>c</sup>	Foreign flag	Total	National flag	Foreign flag	Total		
Greece	785	2 476	3 261	43 580 418	99 526 616	143 107 034	69.55	19.09
Japan	781	2 150	2 931	15 224 574	83 509 376	98 733 950	84.58	13.17
Norway	907	791	1 698	27 733 152	32 307 757	60 040 909	53.81	8.01
United States	508	890	1 398	9 787 743	34 947 020	44 734 763	78.12	5.97
China	1 617	599	2 216	22 340 944	18 392 826	40 733 770	45.15	5.43
Hong Kong, China	166	385	551	9 075 158	26 626 413	35 701 571	74.58	4.76
Germany	467	1 640	2 107	7 436 308	25 436 338	32 872 646	77.38	4.39
Republic of Korea	473	430	903	7 605 469	18 059 750	25 665 219	70.37	3.42
Singapore	476	280	756	12 842 391	7 789 756	20 632 147	37.76	2.75
United Kingdom	407	432	839	8 342 983	10 973 052	19 316 035	56.81	2.58
Taiwan Province of China	162	359	521	7 205 099	11 662 034	18 867 133	61.81	2.52
Denmark	418	318	736	7 930 726	10 192 911	18 123 637	56.24	2.42
Russian Federation	2 190	349	2 539	8 566 133	7 499 800	16 065 933	46.68	2.14

Country of domicile <sup>b</sup>	Number of vessels			Deadweight tonnage			Foreign flag as a percentage of total	Total as a percentage of world total
	National flag <sup>c</sup>	Foreign flag	Total	National flag	Foreign flag	Total		
<b>Italy</b>	502	129	631	8 712 160	4 503 500	13 215 660	34.08	1.76
<b>India</b>	358	52	410	10 328 310	1 531 518	11 859 828	12.91	1.58
<b>Saudi Arabia</b>	59	69	128	1 050 298	9 447 723	10 498 021	90.00	1.40
<b>Sweden</b>	168	194	362	1 500 375	8 823 918	10 324 293	85.47	1.38
<b>Turkey</b>	452	103	555	7 767 491	1 062 064	8 829 555	12.03	1.18
<b>Brazil</b>	161	19	180	5 603 968	2 192 117	7 796 085	28.12	1.04
<b>Iran, Islamic Republic of</b>	166	2	168	7 078 901	82 087	7 160 988	1.15	0.96
<b>Switzerland</b>	13	233	246	720 514	6 193 870	6 914 384	89.58	0.92
<b>Malaysia</b>	240	55	295	5 405 019	1 074 541	6 479 560	16.58	0.86
<b>Belgium</b>	22	136	158	131 481	6 340 580	6 472 061	97.97	0.86
<b>Netherlands</b>	568	202	770	3 589 013	2 692 015	6 281 028	42.86	0.84
<b>France</b>	174	91	265	3 416 126	2 124 819	5 540 945	38.35	0.74
<b>Philippines</b>	328	27	355	4 290 044	607 627	4 897 671	12.41	0.65
<b>Indonesia</b>	494	98	592	3 110 603	1 253 390	4 363 993	28.72	0.58
<b>Canada</b>	162	87	249	1 006 381	3 033 877	4 040 258	75.09	0.54
<b>Spain</b>	100	223	323	223 088	3 608 942	3 832 030	94.18	0.51
<b>Kuwait</b>	32	3	35	3 407 022	275 446	3 682 468	7.48	0.49
<b>Australia</b>	56	36	92	1 726 688	1 551 017	3 277 705	47.32	0.44
<b>Ukraine</b>	361	90	451	1 253 445	1 561 572	2 815 017	55.47	0.38
<b>United Arab Emirates</b>	42	138	180	479 760	2 154 759	2 634 519	81.79	0.35
<b>Monaco</b>	0	107	107	0	2 619 934	2 619 934	100.0	0.35
<b>Thailand</b>	218	49	267	2 066 847	478 195	2 545 042	18.79	0.34
<b>Subtotal</b>	14 033	13 242	27 275	260 538 632	450 137 160	710 675 792	63.34	94.8
<b>World total</b>	16 306	14 202	30 508	282 107 729	467 491 617	749 599 346	62.36	100.0

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

<sup>a</sup> Vessels of 1,000 grt and above, excluding the United States Reserve Fleet and the United States and Canada Great Lakes fleets.

<sup>b</sup> The country of domicile indicates where the controlling interest of the fleet is located, in terms of the parent company. In several cases, this has required certain judgements to be made. Thus, for instance, Greece is shown as the country of domicile with respect to vessels owned by a Greek owner with representative offices in New York, London and Piraeus, although the owner may be domiciled in the United States.

<sup>c</sup> Including vessels flying the national flag but registered in territorial dependencies or associated self-governing territories. For the United Kingdom, British flag vessels are included under the national flag, except for Bermuda (listed in table 17 as an open-registry country).

54. Among these countries and territories the trend to register under a foreign flag continued in 2000. The total tonnage registered under foreign flags in 2000 increased to 450.1 million dwt representing 63.3 per cent of the 35 countries' total fleet, as compared with 431.2 million dwt or 62.5 per cent in 1999. It is a recent trend that developing countries and territories have continued to register their tonnage under foreign flags. In 2000, the 13 developing countries and territories listed in the table (including Hong Kong, China, but excluding Taiwan Province of China) had half of their total tonnage registered under foreign flags. In spite of the continuous trend for flagging out by developing countries, there are significant differences among these countries. The foreign registry of Saudi Arabia and Hong Kong, China amounted to 89 per cent and 74 per cent respectively, while the Islamic Republic of Iran, the Philippines and Kuwait made significantly less use of the benefits of foreign flag facilities, which represented 1.1, 12.4 and 7.5 per cent respectively of their fleets. For developed market-economy countries, the share of foreign-registered tonnage stood at 69.5 per cent in 2000.

#### *Major open registries*

55. The share of the world merchant fleet in foreign registers continued to expand at almost the same rate as in the previous year. Tonnage distribution of the seven major open-registry countries by principal types of vessel is shown in table 17. The total tonnage registered in 2000 increased moderately by 2.5 per cent to 371.3 million dwt from 362.1 million dwt in the previous year, which had expanded by 2.1 per cent. Panama continued to lead the list, enlarging its fleet in 2000 by 16.5 million dwt or 11.3 per cent. Liberia's fleet contracted by 19.2 per cent resulting from the change in the registration authority and subsequent litigation. The combined tonnage of these two countries amounts to 64.1 per cent of the total tonnage of the seven major open-registry countries. In 2000, Malta increased its fleet substantially by 10.3 per cent to 44.5 million dwt while the Bahamas' tonnage increased by 12.6 per cent to 44.9 million dwt. The analysis by type of vessel indicated that dry bulk stood at 39.2 per cent of the total deadweight in 2000 as compared with 39.4 per cent in 1999, followed by oil tankers, whose share fell to 37.2 per cent in 2000 from 37.6 per cent in the previous year. The combined tonnage of these two types of vessels accounts for 76.3 per cent of the total deadweight. General cargo ships (3,148 ships) accounted for 32.3 per cent of the total number of ships (33.5 per cent in 1999), reflecting the trend of the maritime industry to flag out in this sector, followed by dry bulk carriers of 2,644 ships or 27.1 per cent of the total.

#### *Nationality of vessels*

56. Table 18 indicates the participation of nationals in the registry of the most important open and international registers. The data compare the total tonnage registered in selected countries of registry with the tonnage owned by the nationals of, and registered in, the countries of registry. The share of tonnage owned by nationals of open-registry countries is minimal or zero, while ownership of nationals of the two international registries was nearly 85 and 99.2 per cent. These two countries (Norway and Denmark) were ranked third and twelfth of the 35 most important maritime countries in 2000.

57. The true nationality of the vessels registered in the seven major open-registries is analysed in table 19. In 2000, 22 countries or territories accounted for 92.3 per cent of the total tonnage of the seven major open-registry fleets. This percentage was slightly higher than in 1999. However, Finland, which had been listed as twenty-second in 1999, was replaced by Australia. Ownership is concentrated in 10 countries or territories, which control 80.6 per cent of the deadweight of vessels registered in the seven major open-registry countries, as compared with 78.5 per cent in the previous year. Similarly, the top five countries or territories control 63.1 per cent (60.6 per cent in 1999). Greece was ranked first in 2000 for the seventh consecutive year with the largest share (24.3 per cent) of the seven major open-registry fleets. In 2000, Greece also had the largest foreign-flag ownership, representing 99.5 million dwt or 19.7 per cent of the total world foreign-flag tonnage, followed by Japan with 83.5 million dwt or 16.5 per cent of the total tonnage. Both countries' combined foreign-flag tonnage accounted for 36.2 per cent of the total world tonnage under foreign flags.

Table 17

**Tonnage distribution of major open-registry fleets,<sup>a</sup> as at 1 January 2001**

Flag	Oil tankers		Bulk carriers		General cargo		Containerships		Others		Total		Total at 1.1.2000
	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Number	Thousand dwt	Thousand dwt
Panama	441	48 112	1 279	76 231	1 374	12 859	473	14 041	801	11 708	4 368	162 951	146 393
Liberia	290	34 072	332	20 560	254	4 453	237	7 308	326	8 725	1 439	75 118	92 988
Bahamas	166	24 895	140	8 335	481	6 892	50	1 454	281	3 295	1 118	44 871	39 841
Malta	288	20 003	425	17 636	503	4 796	48	912	87	1 150	1 351	44 497	40 343
Cyprus	127	6 894	420	18 137	488	4 658	113	2 544	91	1 079	1 239	33 312	32 697
Bermuda	19	4 083	28	3 699	26	316	16	459	29	564	118	9 121	7 860
Vanuatu	1	5	20	802	22	280	1	29	70	329	114	1 445	1 938
<b>Total</b>	<b>1 332</b>	<b>138 064</b>	<b>2 644</b>	<b>145 400</b>	<b>3 148</b>	<b>34 254</b>	<b>938</b>	<b>26 747</b>	<b>1 685</b>	<b>26 850</b>	<b>9 747</b>	<b>371 315</b>	<b>362 060</b>
<b>Total at 1.1.2000</b>	<b>1 407</b>	<b>136 285</b>	<b>2 678</b>	<b>142 574</b>	<b>3 333</b>	<b>35 715</b>	<b>872</b>	<b>23 559</b>	<b>1 668</b>	<b>23 927</b>	<b>9 958</b>	<b>362 060</b>	

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

<sup>a</sup> Ships of 1,000 grt and above: this table is not fully comparable with tables 13 and 15, which lists ships of 100 grt and above as the base.

Table 18

**Tonnage owned by the nationals of, and registered in, the country or territory of registry in the total fleet of the most important open and international registers, as at 1 January 2001**  
*(thousands of dwt)*

Country or territory of registry	Total tonnage registered in the country of registry	Tonnage owned by nationals of, and registered in, the country of registry	Share of tonnage owned by nationals in the total registered fleet (%)
Panama	162 321	0	0.0
Liberia	75 156	0	0.0
Bahamas	44 871	226	0.5
Malta	44 497	48	0.1
Cyprus	33 312	792	2.4
Norway (NIS)	28 062	23 842	85.0
Bermuda	9 122	0	0.0
Denmark (DIS)	7 617	7 559	99.2
Vanuatu	1 444	0	0.0

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

<sup>a</sup> Ships of 1,000 grt and above: this table is not fully comparable with tables 13 and 15, which lists ships of 100 grt and above as the base.

Table 19

## True nationality of major open-registry fleets, as at 1 January 2001

Country or territory of domicile	Panama			Liberia			Bahamas			Malta			Cyprus			Bermuda			Vanuatu			Subtotal		Total foreign flag fleet		
	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt	%	No. of vessels	000 dwt
Greece	545	19 076	11.7	154	10 928	14.5	174	8 549	19.1	638	27 800	62.5	656	23 753	71.3	1	95	1.0	1	70	4.8	2 169	90 271	24.3	2 476	99 527
Japan	1 705	69 311	42.5	126	5 274	7.0	32	664	1.5	3	435	1.0	22	294	0.9	0	0	0.0	26	640	44.3	1 914	76 618	20.6	2 150	83 509
Norway	100	4 536	2.8	124	6 136	8.2	236	9 838	21.9	70	3 989	9.0	35	313	0.9	3	41	0.4	0	0	0.0	568	24 853	6.7	1 361	56 150
United States	138	2 961	1.8	143	6 579	8.8	181	10 961	24.4	9	579	1.3	5	28	0.1	18	575	6.3	51	161	11.1	545	21 844	5.9	890	34 947
Hong Kong, China	207	16 405	10.1	42	2 358	3.1	8	792	1.8	9	649	1.5	2	37	0.1	6	635	7.0	1	49	3.4	275	20 925	5.6	385	26 627
Republic of Korea	344	16 092	9.9	10	1 304	1.7	0	0	0.0	3	25	0.1	4	115	0.3	0	0	0.0	0	0	0.0	361	17 536	4.7	430	18 060
Germany	27	572	0.4	391	11 787	15.7	15	105	0.2	45	681	1.5	214	3 672	11.0	2	76	0.8	0	0	0.0	694	16 893	4.5	1 640	25 437
China	254	9 008	5.5	60	2 988	4.0	0	0	0.0	14	336	0.8	16	216	0.6	0	0	0.0	0	0	0.0	344	12 548	3.4	599	18 393
Denmark	16	326	0.2	9	189	0.3	39	398	0.9	7	25	0.1	0	0	0.0	0	0	0.0	0	0	0.0	71	938	0.3	708	17 774
United Kingdom	55	601	0.4	28	894	1.2	126	1 685	3.8	2	74	0.2	6	42	0.1	40	3 689	40.4	0	0	0.0	257	6 985	1.9	521	16 550
Taiwan, Province of China	287	8 348	5.1	20	957	1.3	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	307	9 305	2.5	359	11 662
Saudi Arabia	8	167	0.1	22	6 631	8.8	10	2 215	4.9	0	0	0.0	0	0	0.0	4	47	0.5	0	0	0.0	44	9 060	2.4	69	9 448
Sweden	6	630	0.4	15	1 356	1.8	22	1 052	2.3	0	0	0.0	0	0	0.0	13	2 947	32.3	0	0	0.0	56	5 985	1.6	194	8 824
Singapore	83	2 041	1.3	30	2 944	3.9	10	642	1.4	0	0	0.0	1	30	0.1	0	0	0.0	0	0	0.0	124	5 657	1.5	280	7 790
Russian Federation	16	73	0.0	67	4 524	6.0	5	11	0.0	98	953	2.1	84	1 535	4.6	0	0	0.0	0	0	0.0	270	7 096	1.9	349	7 500
Belgium	4	545	0.3	6	1 043	1.4	15	685	1.5	2	53	0.1	4	65	0.2	0	0	0.0	0	0	0.0	31	2 391	0.6	136	6 341
Switzerland	92	2 626	1.6	17	723	1.0	6	414	0.9	62	1 549	3.5	4	53	0.2	0	0	0.0	0	0	0.0	181	5 365	1.4	233	6 194
France	4	401	0.2	0	0	0.0	22	401	0.9	0	0	0.0	0	0	0.0	0	0	0.0	0	0	0.0	26	802	0.2	168	5 095
Italy	11	252	0.2	10	712	0.9	13	649	1.4	48	1 480	3.3	0	0	0.0	0	0	0.0	0	0	0.0	82	3 093	0.8	129	4 504
Spain	50	347	0.2	1	94	0.1	8	827	1.8	0	0	0.0	9	142	0.4	0	0	0.0	0	0	0.0	68	1 410	0.4	223	3 609
Monaco	12	433	0.3	13	611	0.8	37	691	1.5	18	416	0.9	0	0	0.0	0	0	0.0	0	0	0.0	80	2 151	0.6	70	1 928
Australia	8	473	0.3	3	496	0.7	0	0	0.0	0	0	0.0	0	0	0.0	2	134	1.5	0	0	0.0	13	1 103	0.3	36	1 551
Subtotal	3 972	155 224	95.3	1 291	68 528	91.2	959	40 579	90.4	1 028	39 044	87.7	1 062	30 295	90.9	89	8 239	90.3	79	920	63.7	8 480	342 829	92.3	13 406	471 420
Others	396	7 727	4.7	148	6 590	8.8	159	4 292	9.6	323	5 453	12.3	177	3017	9.1	29	882	9.7	35	525	36.3	1 267	28 486	7.7	1 115	34 162
Total	4 368	162 951	100.0	1 439	75 118	100.0	1 118	44 871	100.0	1 351	44 497	100.0	1 239	33 312	100.0	118	9 121	100.0	114	1445	100.0	9 747	371 315	100.0	14 521	505 582

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

## D. SHIPBUILDING AND THE SECOND-HAND MARKET

### *Newbuilding orders*

58. In 2000, newbuilding contracts for the six major ship types, totalling 80.1 million dwt, were placed — an increase of 61.5 per cent in comparison with the contracts in 1999 (see table 20). In the tanker sector optimism prevailed with 447 units totalling 41.8 million dwt ordered in 2000, as compared with 206 units totalling 16.8 million dwt in 1999. The 2000 newbuilding orders for dry bulk carriers were almost steady at 355 units of 20.5 million dwt.

59. Newbuilding orders for containerships continued to rise substantially more than doubling to 375 units totalling 14.9 million dwt in 2000 as compared to 170 units and 7.2 million dwt in 1999. These newbuilding tonnages continued to reflect the recent trend for post-Panamax containerships. The newbuilding orders for general cargo ships almost doubled in 2000 to 255 units of 2.5 million dwt from 162 units totalling 1.3 million dwt in 1999. On the other hand, the orders for passenger ferries increased by 20 vessels to a total of 136 vessels, but tonnage decreased to 308,000 dwt in 2000 from 348,000 dwt in the previous year.

### *Tonnage on order*

60. World tonnage on order, by groups of countries of registry and by principal types of vessel are shown in table 21. World tonnage on order at the beginning of 2001 stood at 100.5 million dwt, representing a significant increase of 20.3 per cent over the previous year. Tonnage on order by developed market-economy countries amounted to 36.8 million dwt, accounting for 36.6 per cent of the world total tonnage on order, as compared with 26.6 million dwt or 31.8 per cent at the beginning of 2000. Major open-registry countries had 48.1 million dwt or 47.8 per cent of world tonnage on order, as compared with 41.4 million dwt or 49.5 per cent at the beginning of last year. The share of the countries of Central and Eastern Europe continued to decrease in 2000, to 0.5 million dwt or 0.5 per cent of the world total on order, whilst the share of the socialist countries of Asia more than doubled in 2000, ending the year with 5.4 million dwt or 5.4 per cent of the world total on order compared with 2.1 million dwt or 2.5 per cent at the end of 1999.

61. Developing countries' tonnage decreased significantly to 8.6 million dwt or 8.6 per cent of the world total tonnage on order at the beginning of 2001, as compared with 10.5 million dwt or 12.6 per cent in 2000. Tonnage on order by Asian developing countries decreased substantially by 1.8 million dwt to 7.6 million dwt at the beginning of 2001, which accounted for 88.1 per cent of the developing countries' total tonnage on order. There was also a decrease in the African newbuilding orders, to 97 thousand dwt on order at the beginning of 2001, while the Americas developing countries were almost steady at 916 thousand dwt.

62. In 2000, oil tanker orders rose by 9.1 per cent to 40.3 million dwt, accounting for 40.0 per cent of the world total on order. Developing countries had 5.2 million dwt on order, representing 12.9 per cent of the total, of which Asian developing countries represented 4.9 million dwt or 93.6 per cent of the developing countries' total. Dry bulk carriers on order at the beginning of 2001 increased substantially by 27.2 per cent to 31.2 million dwt accounting for 31.0 per cent of the world total on order. For this type of vessel, developed market-economy countries and major open-registry countries accounted for 22.6 per cent and 62.6 per cent, representing a combined share of more than 85 per cent. The volume of containerships on order also expanded substantially in 2000 by 62.0 per cent to 16.1 million dwt at year end, representing 16.0 per cent of the world total on order. For containerships on order, developed market-economy countries and major open-registry countries accounted for over 40 per cent each. Developing countries' containership orders increased from 1.0 million dwt at the beginning of 2000 to 1.3 million dwt at the beginning of 2001, which accounted for 8 per cent of the total. Asian developing countries had 1.2 million dwt or 95.1 per cent of the developing countries' total on order.

Table 20

**Newbuilding contracts placed for the main types of ship<sup>a</sup> during 1990–2000 and 2001**  
*(number of ships, thousands of dwt)*

Year	Tankers		Bulk carriers		Combined carriers		General cargo ships		Container vessels		Passenger ferries		Total <sup>b</sup>	
	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt	No.	Thousand dwt
<b>1990</b>	338	25 876	93	3 640	24	2 726	310	2 090	124	3 073	93	119	982	37 524
<b>1991</b>	308	19 871	148	11 836	4	322	167	877	66	1 796	84	90	777	34 793
<b>1992</b>	206	10 050	126	7 261	0	0	225	1 402	127	3 227	114	91	798	22 031
<b>1993</b>	267	17 327	299	18 303	1	83	261	2 102	182	5 057	122	163	1 132	43 035
<b>1994</b>	256	13 833	339	19 896	2	220	227	1 493	242	6 497	118	159	1 184	42 098
<b>1995</b>	243	9 143	381	22 418	4	440	345	2 449	345	8 562	144	224	1 462	43 236
<b>1996</b>	274	13 875	271	14 250	-	-	257	2 107	292	6 978	144	155	1 238	37 365
<b>1997</b>	428	32 516	282	17 983	2	220	299	2 701	166	3 618	96	149	1 273	57 187
<b>1998</b>	280	21 922	166	11 835	0	0	333	2 488	178	5 975	117	231	1 074	42 451
<b>1999</b>	206	16 822	346	23 934	-	-	162	1 323	170	7 183	116	348	1 000	49 610
<b>2000</b>														
<b>Jan</b>	17	1 337	33	2 095	-	-	16	84	18	964	20	20	104	4 440
<b>Feb</b>	12	786	36	2 983	-	-	17	130	35	2 128	7	18	107	6 167
<b>Mar</b>	33	2 366	29	1 110	-	-	10	64	19	930	6	7	97	4 477
<b>Apr</b>	36	2 746	28	1 320	-	-	8	164	14	748	7	27	93	5 005
<b>May</b>	33	4 031	26	1 229	-	-	3	40	27	1 168	3	25	92	6 493
<b>Jun</b>	56	6 047	34	1 891	-	-	22	301	46	1 892	10	22	168	10 120
<b>Jul</b>	43	4 081	45	2 647	-	-	25	198	36	1 582	15	22	164	8 707
<b>Aug</b>	43	3 992	21	1 349	-	-	11	128	26	685	6	35	107	6 291
<b>Sep</b>	31	2 983	10	587	-	-	15	195	42	1 260	13	33	111	5 058
<b>Oct</b>	34	3 863	37	2 577	-	-	39	325	28	1 126	20	17	158	7 908
<b>Nov</b>	49	3 171	13	529	-	-	20	175	19	832	2	12	103	4 719
<b>Dec</b>	59	6 462	32	1 764	-	-	69	730	63	1 710	27	70	250	10 736
<b>Total</b>	446	41 865	344	20 081	-	-	255	2 534	373	15 025	136	308	1 554	80 121
<b>2001</b>														
<b>Jan</b>	40	2 878	16	430	-	-	9	131	29	890	4	2	98	4 331
<b>Feb</b>	27	2 034	4	202	-	-	5	75	15	647	1	5	52	2 963
<b>Mar</b>	43	2 852	3	395	-	-	6	60	19	464	7	9	81	3 780
<b>Apr</b>	35	2 228	22	1 281	-	-	9	92	29	1 299	7	1	102	4 901
<b>May</b>	49	4 292	6	653	-	-	8	65	14	648	10	6	87	5 667
<b>Jun</b>	59	3 896	16	863	-	-	8	80	17	705	12	2	112	5 546
<b>Jul</b>	68	4 730	35	2 378	-	-	28	272	9	175	7	8	171	7 563

Source: UNCTAD secretariat on the basis of data from *Shipping Statistics and Market Review, 2001*, Institute of Shipping Economics and Logistics (Bremen), Nos. 1-2.

<sup>a</sup> Ships of 300 grt and over.

<sup>b</sup> Total does not include data on newbuilding contracts for other types of ship.

Table 21

**World tonnage on order, as at 1 January 2001**  
*(thousands of dwt)*

Country groups of registry	Total	Oil tankers	Bulk carriers	General cargo	Container ships	Other vessels
<b>World total</b>	100 513	40 328	31 208	3 966	16 140	8 870
<b>Developed market-economy countries</b>	36 782	16 341	7 064	1 751	6 840	4 785
<b>Major open-registry countries</b>	48 101	16 891	19 523	1 663	7 218	2 806
<b>Countries of Central and Eastern Europe</b>	554	207	63	183	-	102
<b>Socialist countries of Asia</b>	5 381	1 504	2 872	112	674	218
<b>Developing countries, total</b>	8 565	5 197	999	176	1 266	926
<i>of which in:</i>						
<b>Africa</b>	97	3	82	4	-	7
<b>Americas</b>	916	329	154	144	61	228
<b>Asia</b>	7 550	4 865	762	28	1 205	691
<b>Europe<sup>a</sup></b>	..	..	..	..	..	..
<b>Oceania</b>	1	-	-	1	-	-
<b>Unallocated</b>	1 129	188	687	80	141	33

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

<sup>a</sup> Not reported.

*Prices of newbuildings and second-hand tonnage*

63. Table 22 indicates newbuilding prices for the main types of vessel. In 2000, prices for almost all the main types and sizes of newbuildings increased significantly above those of the previous year. Price increases were more pronounced for tankers and bulk carriers and reflected the progressive saturation of shipyard capacity. By mid year, deliveries were scheduled up to 2003 in many yards. Shipbuilders in the Republic of Korea were able to offer attractive prices due to corporate and debt restructuring, reduced labour costs and advantageous exchange rates and thus secured almost half of world orders. Prices from Japanese shipyards were hampered by the overvalued currency and as a result the yards lost market share. Prices of Chinese yards continued to be competitive due to productivity enhancing measures although production times were still longer than with other shipbuilders. Higher prices in European yards did not discourage orders due to the saturation of Asian orderbooks and the end of the European Union's subsidies on 31 December 2000. Analysis shows that oil tanker newbuilding prices for all sizes went up by 10 to 14 per cent in 2000 from their 1999 level. Newbuilding prices for dry bulk carriers up to 74,000 dwt increased modestly in 2000 by about 2 to 3 per cent from the previous year's level, while for Capesizes prices increased by 17.6 per cent. Prices of 2,500 TEU cellular containerships declined by 1.4 per cent while those of general cargo vessels were stable. A modest increase of 3.4 per cent was observed for 75,000 LPG ships. In general the upward trend of shipbuilding prices continued for all types and sizes of vessel as demand remained strong.

64. As table 23 indicates, average second-hand prices for tankers were up. In particular higher prices were obtained for the vessels regarded as environmentally friendly. The number of tanker transactions was also up to 185 from the 1999 level of 120 with best price increases for Aframaxes. In the bulk sector, prices fluctuated widely during the year but with a clear downward correction from the strong prices that prevailed during 1999. In spite of lower prices, an increased number of transactions was reported for Capesizes, with twenty units changing hands during the year. Less activity was reported in the Panamax sector where only 70 vessels were sold (30 less than in 1999) and the Handysize sector with 180 transactions (45 less than in 1999).

Table 22

**Representative newbuilding prices in selected years<sup>a</sup>**  
(millions of dollars)

Type and size of vessels	1980	1985	1990	1995	1998	1999	2000	Percentage change 1999/2000
<b>30–50 000 dwt bulk carrier</b>	17	11	24	24.5	18	19.5	20	2.6
<b>32–45 000 dwt tanker</b>	19	18	29	33.5	25	25	28.5	14.0
<b>70–74 000 dwt bulk carrier</b>	24	14	32	29	20	22	22.5	2.3
<b>80–105 000 dwt tanker</b>	28	22	42	43	33	33	41	24.2
<b>120 000 dwt bulk carrier</b>	32	27	45	40	37	34	40	17.6
<b>250–280 000 dwt tanker</b>	75	47	90	85	70	68	76	11.8
<b>125–138 000 m3 LNG</b>	200	200	225	245	190	150	165	10.0
<b>75 000 m3 LPG</b>	77	44	78	68	58	58	60	3.4
<b>15 000 dwt general cargo</b>	14	12	24	21	21	19	19	0.0
<b>2 500 TEU full containership</b>	-	26	52	50	42	35	34.5	-1.4

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

<sup>a</sup> From 1995 prices correspond to the large vessel size.

Table 23

**Second-hand prices for five-year-old vessels, 1995–2000**  
(as at end of year, in millions of dollars)

Vessel	1995	1996	1997	1998	1999	2000	Percentage change 1999/2000
<b>40 000 dwt tankers<sup>a</sup></b>	24	26	28	20	20	26.5	32.5
<b>80–95 000 dwt tankers<sup>a</sup></b>	31	37	37.5	25	26	39	50.0
<b>130–150 000 dwt tankers<sup>a</sup></b>	35.5	40	47	37	36	49.5	37.5
<b>250–280 000 dwt tankers<sup>a</sup></b>	55	67	70	50	50	71	42.0
<b>45 000 dwt dry bulk carrier</b>	22	18.5	18	13	15.5	15	-3.2
<b>70 000 dwt dry bulk carrier</b>	23	20.5	21	14.5	17	15.5	-8.8
<b>150 000 dwt dry bulk carrier</b>	28	26.5	30	23.5	27.5	25	-9.1

Source: UNCTAD secretariat on the basis of data supplied by Fearnleys (Oslo), *Review 2000*.

<sup>a</sup> Since 1996 prices correspond to the larger vessels

## Chapter III

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

*This chapter provides information on the operational productivity of the world fleet and an analysis of the balance between supply and demand for tonnage. Key indicators are the comparison of cargo generation and fleet ownership, tons of cargo carried and ton-miles performed per dwt, and the analysis of tonnage oversupply in the main shipping market sectors.*

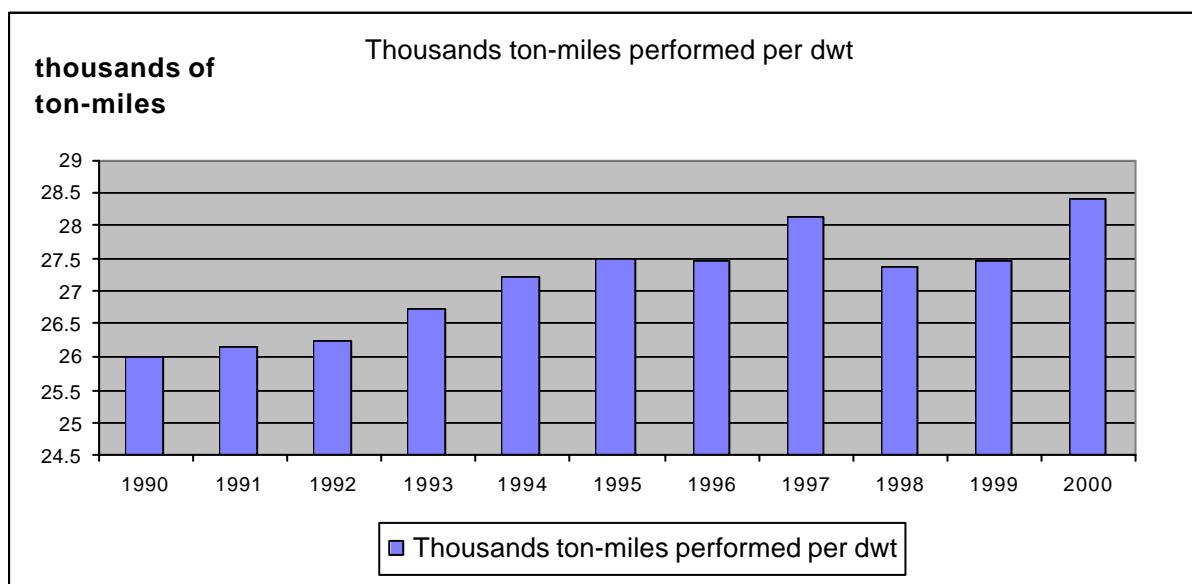
### A. OPERATIONAL PRODUCTIVITY

*Estimate of tons and ton-miles per dwt*

65. The main indicators of operational productivity for the world fleet are shown in graph 6 and table 24. Tons of cargo carried per deadweight ton (dwt) in 2000 maintained a similar level as in the previous two years at 7.19, whilst thousands of ton-miles performed per deadweight ton increased to 28.38. The slight increase in productivity measured in tons of cargo carried per deadweight ton (dwt) reflects the accelerated growth of cargo carried relative to the fleet expansion. The increase in productivity measured in ton-miles per deadweight ton results from the recovery of seaborne trade from the slowdown of the previous two years.

Graph 6

#### Index of ton-miles performed per deadweight ton of total world fleet, 1990–2000



Source: UNCTAD calculations.

Table 24

**Cargo carried and ton-miles performed per deadweight ton (dwt) of the total world fleet,  
1990–2000**

Year	World fleet (millions of dwt)	Total cargo (millions of tons)	Total ton miles performed (thousands of millions of ton-miles)	Tons carried per dwt	Thousands of ton- miles performed per dwt
<b>1990</b>	658.4	4 008	17 121	6.09	26.00
<b>1991</b>	683.5	4 120	17 873	6.03	26.15
<b>1992</b>	694.7	4 220	18 235	6.07	26.25
<b>1993</b>	710.6	4 330	18 854	6.09	26.53
<b>1994</b>	719.8	4 485	19 461	6.23	27.04
<b>1995</b>	734.9	4 651	20 188	6.33	27.47
<b>1996</b>	758.2	4 758	20 810	6.28	27.45
<b>1997</b>	775.9	4 953	21 825	6.38	28.13
<b>1998</b>	788.7	5 648	21 588	7.16	27.37
<b>1999</b>	799.0	5 688	21 928	7.12	27.44
<b>2000</b>	808.4	5 811	22 940	7.19	28.38

Sources: World fleet: Lloyd's Maritime Information Services (London) (mid-year data for 1990, year-end data for 1991–1999); total cargo carried: UNCTAD secretariat; ton-miles: Fearnleys (Oslo), *Review*, various issues. Data compiled by the UNCTAD secretariat.

66. Table 25 provides supplementary data on operational productivity in terms of cargo carried per deadweight ton. Cargo volumes in tons carried per deadweight ton of oil tankers increased by 3.0 per cent in 2000 over the previous year to reach 7.25 tons per dwt. Those cargo volumes carried per deadweight ton of dry bulk carriers, combined carriers and the residual fleet increased by 4.2, 14.1 and 1.7 per cent respectively compared with those in 1999.

67. Indicative data on ton-miles performed by oil tankers, dry bulk carriers, combined carriers and the residual fleet are provided in table 26. Ton-miles per deadweight ton of oil tankers continued to increase in 2000 by 4.3 per cent to 35.41, while ton-miles per deadweight ton of dry bulk carriers, combined carriers and the residual fleet increased by 2.9, 7.6 and 3.1 per cent to reach 24.00, 34.91 and 24.97 respectively.

Table 25

**Estimated productivity of tankers, bulk carriers, combined carriers<sup>a</sup> and the residual fleet,<sup>b</sup> selected years  
(tons carried per dwt)**

Year	Tons of oil carried by tankers of over 50,000 dwt (millions)	Tons carried per dwt of tankers	Tons of dry cargo carried by bulk carriers of over 18,000 dwt (millions)	Tons carried per dwt of bulk carriers	Tons of oil and dry bulk cargo carried by combined carriers of over 18,000 dwt (millions)	Tons carried per dwt of combined carriers	Tons carried by the residual fleet <sup>a</sup> (millions)	Tons carried per dwt of the residual fleet
<b>1970</b>	1 182	8.58	403	8.40	97	6.83	800	6.34
<b>1980</b>	1 564	4.79	396	2.85	282	5.83	1 406	8.33
<b>1990</b>	1 427	5.96	667	3.29	203	6.28	1 680	9.13
<b>1998</b>	1 985	7.10	1 137	4.41	130	7.34	2 379	10.18
<b>1999</b>	1 988	7.04	1 162	4.48	131	7.83	2 402	9.99
<b>2000</b>	2 070	7.25	1 262	4.67	102	8.94	2 451	10.16

Sources: UNCTAD secretariat on the basis of data from Fearnleys (Oslo), *Review, World Bulk Trades and World Bulk Fleet*, various issues, and other specialized sources.

<sup>a</sup> Tankers, bulk carriers and combined carriers indicated in table 6.

<sup>b</sup> The residual fleet refers to general cargo, container and other vessels included in table 6.

Table 26

**Estimated productivity of tankers, bulk carriers, combined carriers and the residual fleet,<sup>a</sup> selected years  
(thousands of ton-miles performed per dwt)**

Year	Ton-miles of oil by tankers (thousands of millions)	Ton-miles per dwt of tankers	Ton-miles of dry bulk cargo by dry bulk carriers (thousands of millions)	Ton-miles per dwt of bulk carriers	Ton-miles of oil and dry bulk cargo by combined carriers (thousands of millions)	Ton-miles per dwt of combined carriers	Ton-miles of the residual fleet (thousands of millions)	Ton-miles per dwt of the residual fleet
<b>1970</b>	6 039	43.82	1 891	39.40	745	52.46	1 979	15.69
<b>1980</b>	9 007	27.56	2 009	14.47	1 569	32.43	4 192	24.83
<b>1990</b>	7 376	30.81	3 804	18.77	1 164	36.04	4 777	25.96
<b>1998</b>	9 465	33.86	5 988	23.23	535	30.24	5 600	23.97
<b>1999</b>	9 586	33.94	6 048	23.31	542	32.44	5 753	23.93
<b>2000</b>	10 107	35.41	6 484	24.00	398	34.91	5 951	24.67

Source: UNCTAD secretariat on the basis of data from Fearnleys (Oslo), *Review, World Bulk Trades and World Bulk Fleet*, various issues, and other specialized sources.

<sup>a</sup> See footnotes from table 25.

## B. SUPPLY AND DEMAND IN WORLD SHIPPING

### *Surplus tonnage*

68. An indicative summary of the balance of tonnage supply and demand for the period 1995–2000 is provided in table 27. The total surplus tonnage in 2000 continued to decrease by 5.3 million dwt to a new record of 18.4 million dwt or 2.3 per cent of the world merchant fleet from 3.0 per cent in 1999. This improved balance was largely attributable to the continuously increasing cargo volumes, specifically since 1998, (see table 24) which reached 5.6 billion tons, when surplus tonnage was 3.1 per cent.

Table 27

### **Tonnage oversupply in the world merchant fleet, 1990 and 1995–2000 (end-year figures)**

	1995	1996	1997	1998	1999	2000
<b>Million dwt</b>						
<b>World merchant fleet</b>	734.9	758.2	775.9	788.7	799.0	808.4
<b>Surplus tonnage<sup>a</sup></b>	50.8	48.8	29.0	24.7	23.7	18.4
<b>Active fleet<sup>b</sup></b>	684.1	709.4	746.9	764.0	775.3	790.0
<b>Percentages</b>						
<b>Surplus tonnage as a percentage of the world merchant fleet</b>	6.9	6.4	3.7	3.1	3.0	2.3

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

<sup>a</sup> Estimates of average year figures. Surplus tonnage is defined as tonnage that is not fully utilized owing to slow steaming or lay-up status, or because it is lying idle for other reasons.

<sup>b</sup> World fleet minus surplus tonnage.

### *The supply and demand mechanism by type of vessel*

69. Tonnage supply in the oil tanker sector decreased in 2000 by 4.3 million dwt to 279.4 million dwt as newbuildings delivered were less than tonnage scrapped or lost (see table 28 and graph 7). This combined with increased shipments reduced overcapacity to 13.5 million dwt or 4.8 per cent of the total world tanker fleet. In 2000, the total dry bulk fleet supply increased marginally by 2.0 million dwt to 247.7 million dwt. The considerable increase in shipments of the main dry cargoes mentioned in chapter I helped to reduce overtonnage to only 3.8 million dwt, about half the level of the year before and equivalent to 1.5 per cent of the dry bulk fleet. For the conventional general cargo fleet, overcapacity was reduced in 2000 with supply exceeding demand by only 1.1 million dwt or 1.8 per cent for the world fleet of this sector. The surplus tonnage of general cargo vessels has continued to follow a downward trend since the early 1990s. In the unitized fleet sector, 7.5 million dwt of containerships were added in 2000 with this fleet reaching 83.6 million dwt. As in previous years, expanding trades for liner shipping have been able to absorb these tonnages, thus resulting in full employment of the world unitized fleet.

Table 28

**Analysis of tonnage surplus by main type of vessel, 1995–2000<sup>a</sup>**  
*(average annual figures in millions of dwt)*

	1995	1996	1997	1998	1999	2000 <sup>d</sup>
<b>World tanker fleet</b>	277.0	285.1	290.6	291.0	281.8	279.4
<b>Total tanker fleet surplus<sup>b</sup></b>	28.8	28.8	17.0	17.3	14.0	13.5
<b>Share of surplus fleet in the world tanker fleet (per cent)</b>	10.4	10.1	5.8	5.9	5.0	4.8
<b>World dry bulk fleet</b>	252.9	257.2	260.9	257.1	245.7	247.7
<b>Dry bulk fleet surplus<sup>b</sup></b>	17.9	17.2	10.3	5.8	7.9	3.8
<b>Share of surplus in the world dry bulk fleet (per cent)</b>	7.1	6.7	3.9	2.3	3.2	1.5
<b>World conventional general cargo fleet</b>	62.0	62.7	62.0	60.5	59.9	59.3
<b>Conventional general cargo fleet surplus</b>	2.0	1.4	1.7	1.6	1.8	1.1
<b>Share of surplus in the world conventional general cargo fleet (per cent)</b>	3.2	2.2	2.7	2.6	3.0	1.8
<b>World unitized fleet<sup>c</sup></b>	53.4	59.3	65.7	73.1	76.1	83.6
<b>Surplus of unitized fleet</b>	0.7	0	0	0	0	0
<b>Share of surplus in the world unitized fleet (per cent)</b>	1.3	0.0	0.0	0.0	0.0	0.0

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

<sup>a</sup> Aggregates for all sectors shown in this table are averages for the years indicated and therefore differ from the world figures in table 28. This table excludes tankers and dry bulk carriers of less than 10,000 dwt and conventional general cargo/unitized vessels of less than 5,000 dwt.

<sup>b</sup> Including 50 per cent of combined ore/bulk/oil carriers.

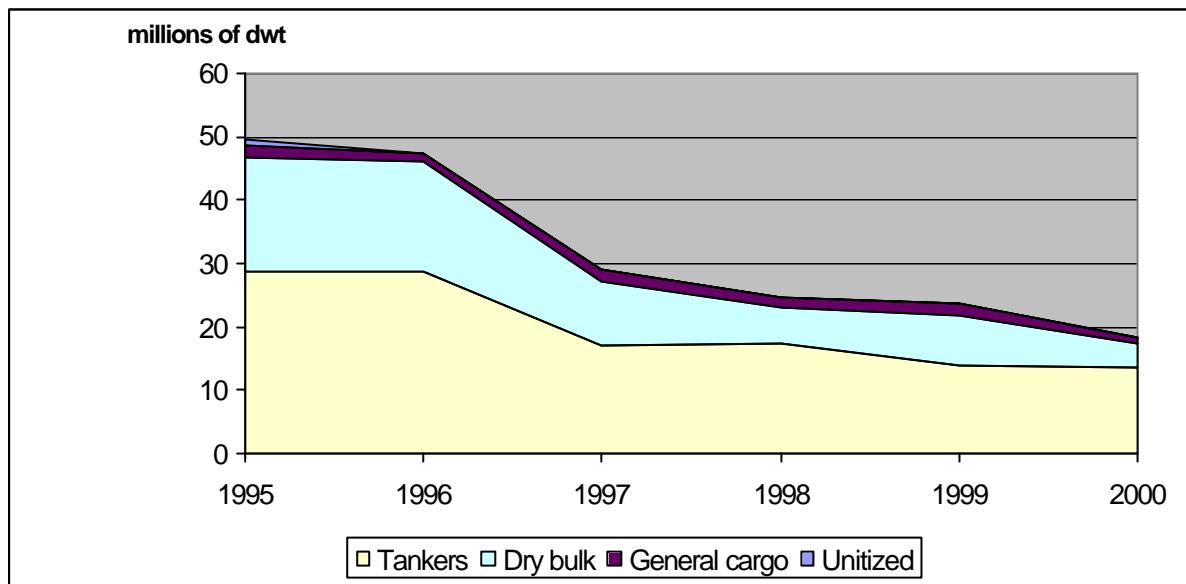
<sup>c</sup> Unitized fleet includes here fully cellular containerships, partly cellular containerships, ro-ro ships and barge carriers.

<sup>d</sup> Data for 2000 corresponds to figures up to October 2000 as compiled in December 2000.

### C. COMPARISON OF CARGO TURNOVER AND FLEET OWNERSHIP

70. The correlation between cargo volume generated by different country groups and their fleet ownership is summarized in table 29. Developed market-economy countries generated nearly 53 per cent of world seaborne trade in 2000 compared with about 54 per cent in 1980. The tonnage share of the fleet of developed market-economy countries has been halved from about 51 per cent in 1980 to 25 per cent in 2000. However, to the tonnage under national flags must be added the tonnage of vessels owned but registered under foreign flags. The share of developing countries in world cargo turnover has remained at about 40 per cent. Their tonnage owned and registered under national flags had increased from 10 per cent of the world fleet in 1980 to nearly 20 per cent at the beginning of 2001. Tonnage beneficially owned by developing countries has expanded to nearly one third of the total beneficially-registered tonnage thus placing the total tonnage owned by developing countries at about 36 per cent of the world fleet. The share of world cargo turnover generated by the countries of Central and Eastern Europe remained at about 3.0 per cent in 2000, unchanged from the levels of previous years, but significantly less than 4.7 per cent

Graph 7

**Trends in surplus capacity by main vessel type in selected years**

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

in 1980. Their fleet position also declined from 5.5 per cent to 2.1 per cent in 2000. The socialist countries of Asia increased their share in world trade to 4.6 per cent in 2000, while they improved their share in world tonnage from 1.6 per cent in 1980 to 3.3 per cent in 2000. In addition these countries have a small share of their fleet registered in the open registries.

71. Information on fleet ownership of the major trading nations is provided in table 30. It may be noted that the major trading nations are also major owners of tonnage. This reflects an aspect of trade-supporting policies for exploiting maritime transport as a trade complement. It is generally considered that maritime capabilities, specifically the ownership of substantial tonnage, are essential for the country's trade support and promotion. The table also shows many similarities as well as differences in the shipping services of the leading trading nations. Major trading countries such as Japan, China (including Hong Kong), Republic of Korea, Denmark, Sweden and Norway are outstanding among the nations with maritime services for cross trades. Other major trading nations are major importers or users of shipping services, while they maintain a relevant ownership position and, to a lesser extent, national flag position. The United States and France come into this group. In 2000 the United States generated more than 15.7 per cent of world trade while it owned 7.87 per cent of world tonnage with only 3.55 per cent of such tonnage flying the national flag. Similarly, France generated 4.6 per cent of world trade as compared to a tonnage ownership position of 1.48 per cent, and a national flag share of 0.85 per cent.

Table 29

**Comparison between total cargo turnover and fleet ownership by groups of countries in 1970, 1980,  
1990 and 1998–2000**

Country grouping	Year	Total of goods loaded and unloaded (millions of tons)	Percentage of world total	Merchant fleet (millions of dwt)	Percentage of world total
<b>Developed market- economy countries</b>	1970	2 832.0	55.1	211.9	65.0
	1980	3 965.0	53.7	350.1	51.3
	1990	4 574.7	56.2	219.0	33.3
	1998	6 140.3	53.2	202.6	25.7
	1999	6 103.6	52.2	203.2	25.4
	2000	6 398.9	52.7	203.9	25.2
<b>Major open-registry countries</b>	1970	b	b	70.3	21.6
	1980	b	b	212.6	31.1
	1990	b	b	224.6	34.1
	1998	b	b	376.8	47.8
	1999	b	b	384.7	48.1
	2000	b	b	390.5	48.3
<b>Developing countries</b>	1970	2 056.0	40.0	20.5	6.3
	1980	2 926.0	39.6	68.4	10.0
	1990	3 095.0	38.0	139.7	21.2
	1998	4 625.5	40.0	150.8	19.1
	1999	4 748.2	40.6	153.6	19.2
	2000	4 824.9	39.8	157.5	19.5
<b>Countries of Central and Eastern Europe (including former USSR)</b>	1970	204.0	4.0	20.5	6.2
	1980	346.0	4.7	37.8	5.5
	1990	275.9	3.4	44.3	6.7
	1998	292.7	2.5	20.7	2.6
	1999	334.0	2.9	18.3	2.3
	2000	348.2	2.9	16.8	2.1
	1970	43.0	0.8	1.2	0.4
<b>Socialist countries of Asia</b>	1980	146.0	2.0	10.9	1.6
	1990	187.7	2.4	22.1	3.4
	1998	490.1	4.2	26.0	3.3
	1999	504.2	4.3	25.8	3.2
	2000	554.6	4.6	26.3	3.3
	1970	5 135.0	100.0	326.1	100.0
<b>World total <sup>a</sup></b>	1980	7 383.0	100.0	682.8	100.0
	1990	8 133.3	100.0	658.4	100.0
	1998	11 548.7	100.0	788.7	100.0
	1999	11 689.9	100.0	799.0	100.0
	2000	12 126.7	100.0	808.4	100.0

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

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

<sup>b</sup> All goods loaded and unloaded are included in the volume of developing countries.

Table 30

**Maritime engagement of 25 major trading nations**  
*(as at the end of 2000)*

Country/territory	Percentage share of world trade generated, in terms of value	Percentage share of world fleet in terms of dwt
<b>United States</b>	15.7	7.87
<b>Germany</b>	8.1	4.11
<b>Japan</b>	6.6	12.74
<b>United Kingdom</b>	4.7	3.76
<b>France</b>	4.6	1.48
<b>Italy</b>	3.6	1.84
<b>Canada</b>	4.0	0.37
<b>Hong Kong, China</b>	3.2	5.49
<b>Netherlands</b>	3.1	0.85
<b>Belgium-Luxembourg</b>	2.9	0.99
<b>China</b>	3.6	5.22
<b>Republic of Korea</b>	2.6	3.35
<b>Singapore</b>	2.1	5.14
<b>Spain</b>	2.0	0.71
<b>Taiwan Province of China</b>	2.2	2.47
<b>Malaysia</b>	1.4	0.95
<b>Sweden</b>	1.2	1.32
<b>Switzerland</b>	1.2	0.87
<b>Thailand</b>	1.0	0.38
<b>Australia</b>	1.0	0.48
<b>Brazil</b>	0.9	0.76
<b>Russian Federation</b>	1.1	2.09
<b>Saudi Arabia</b>	0.9	1.36
<b>Denmark</b>	0.7	3.24
<b>Norway</b>	0.7	10.90
<b>Total</b>	79.1	78.74

Source: UNCTAD secretariat on the basis of data supplied by the World Trade Organization.

## **Chapter IV**

### **TRADE AND FREIGHT MARKETS**

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

#### **A. CRUDE OIL AND PETROLEUM PRODUCTS SEABORNE FREIGHT MARKET**

##### **(a) Seaborne trade in crude oil and petroleum products**

72. The expansion of OPEC crude oil production quotas in March, June and September 2000 followed several years of depressed tanker freight rates. These rates encouraged record-level demolition for 1999 (see table 11) and during the first half of 2000, when about two-thirds of the demolition activity for the year took place. The expansion of crude oil production fuelled prospects of increased shipments of crude oil which, coupled with the steady growth of shipment of petroleum products, aligned supply and demand for the different types and sizes of tankers deployed on the several routes outlined in Chapter I.

##### **(b) Tanker freight rates**

73. Therefore, 2000 was a good year for tanker owners. In addition to demolition activity other factors also contributed to this result. First, the slow and modest consolidation process that affected the larger sized vessels of the world tanker fleet — about 45 per cent of the total in terms of dwt. It is estimated that the Tanker Pool controls about 11 per cent of VLCC tonnage while the Alliance Suezmax controls about 19 per cent. Moreover, the Erika disaster off the French Coast (see Box 2) encouraged charterers to seek environmentally friendly tonnage to comply with the upgraded MARPOL regulations that were finally agreed in April 2001.

74. The effect is apparent in the increased freight indices for the five groups of vessels engaged in transporting crude oil and petroleum products (see table 31).

##### *Very large crude carriers (VLCC)*

75. Spot rates from the Middle East to Japan that starting the year at WS 55 and those heading west at WS 48 doubled by July. By August there was no tonnage available and freight rates to the east remained steady at WS 138, while bookings to the West stood at WS 116. In routes across the Mediterranean, rate levels were reported to be at WS 145 corresponding to owners' potential earnings in excess of \$60,000 per day. The booking of the Iran Nesa by Stasco for loading at Ceyhan (Turkey) and discharging on the United Kingdom-Continent was made at that level. Similar levels were witnessed in routes from West African as illustrated by the fixture for the 1999-built Christina booked by Koch at WS 134 for discharging in the United States Gulf.

76. Rates continued to rise to WS 170 and WS 132 in November for the main routes heading east and west out of the Middle East Gulf. They eased somewhat by the end of the year to WS 155 and WS 129. There was a lack of modern vessels and thus Euronav/Luxembourg was able to demand WS 195, approximately \$100,517 per day, for its 2000-built Limburgh.

Table 31

Tanker freight indices,<sup>a</sup> 1998–2001

Period	VLCC/ULCC					Medium-size crude carriers			Small crude and product carriers				Handy-size dirty carriers				All-size clean carriers			
	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001	1998	1999	2000	2001
January	55	62	48	152	105	92	93	217	142	114	126	346	171	159	146	277	155	164	148	371
February	69	49	54	117	97	94	108	206	133	137	141	230	176	144	154	323	147	168	170	400
March	72	38	58	87	106	89	116	158	146	128	164	239	162	158	167	295	161	177	189	348
April	70	41	70	95	92	86	135	171	122	121	196	272	155	157	186	299	157	210	197	264
May	75	49	81	81	98	76	127	160	120	124	177	190	152	165	187	296	171	196	205	263
June	74	42	96	61	105	74	136	132	136	113	174	183	161	159	194	242	167	160	210	264
July	75	41	101	52	100	73	153	112	129	108	245	141	160	148	261	230	168	162	218	224
August	60	47	106	53	89	71	197	114	120	110	266	130	152	151	243	224	165	154	234	214
September	47	50	129	51	79	83	191	111	107	111	269	148	151	150	230	204	158	142	255	218
October	54	45	136		82	91	165		117	106	194		161	144	217		147	147	265	
November	49	48	134		88	93	205		120	126	267		182	148	241		133	146	258	
December	59	53	138		96	108	209		138	141	273		166	170	244		161	154	262	
Annual average	63	47	96		95	86	153		127	120	208		162	154	207		157	165	218	

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

<sup>a</sup> Compiled and published by Lloyd's Ship Manager. Worldscale = 100, as effective in each year. For tankers vessel size groups are as follows: VLCC/ULCC: 150,000 dwt and upwards; medium-sized crude carriers: 70,000–150,000 dwt; small crude and product carriers: 30,000–70,000 dwt; handy-size dirty carriers below 35,000 dwt and all sizes clean carriers.

77. Over the year the rates for shipment from the Middle East Gulf to Japan and Europe had increased by 280 per cent. The time-charter equivalents at the end of the year were \$81,100 and \$74,400 per day. The rates also reflected increased shipments from West Africa to Asia, a trend that had started in the previous year when VLCC tonnage became unemployed due to reduced OPEC output and displaced Suezmax vessels from this route.

78. The strong market is expected to continue for the time being, on the back of optimistic forecasts. The vast majority of crude oil output capacity is still found in the Middle East while expansion of other producing regions, such as West Africa, could take some time to fully develop. As production from mature regions such as the North Sea declines, long transport distances and a higher market share for these vessels could result. Current low world oil inventories will also keep pressure on demand.

#### *Medium-size crude carriers*

79. During the year the increases in freight rates for Suezmax and Aframax tonnage were also important, albeit they did not increase as much as the VLCC tonnage. The monthly average for spot rates for Suezmax vessels trading from West Africa to North America Gulf and East Coasts were WS 96 in January, and WS 158 in June — an increase of 60 per cent for the half year. During the second half of the year there was a further 40 per cent increase and the monthly average of spot rates closed the year at WS 225 — an increase of 220 per cent over the level at the beginning of the year. For a new 140,000 dwt Suezmax average time-charter equivalents of spot rates were \$20,800 per day in January and \$63,700 in December.

80. The firm growth in West Africa rates affected other regions. Suezmax tonnage obtained rates between WS 110 to WS 125 or even higher for voyages from the North Sea, Black Sea or Mediterranean. The market became very buoyant at the end of the year with rates reaching more than WS 200 for certain cross-Mediterranean journeys. In the Middle East Gulf Suezmax vessels reached levels of WS 185 for trips to India.

81. Three factors explain the reason for the high rates. The first one stems from the Erika disaster and the decision by the French charterer TotalFina-Elf and others not to engage tankers over 20 years old and to ban entry of older vessels to their terminals (see Box 2 on the Erika disaster). West African loading ports, critical to the Suezmax market, as well as French discharge ports were affected. The second factor was the tight supply of Suezmax vessels and their concentration in a single pool. Out of 300 vessels, there are only 90 available for spot trading that are less than 20 years old with the Alliance Suezmax controlling roughly half of them. The third factor is that only 17 vessels are expected for delivery in 2001.

82. Average monthly spot rates for Aframax tonnage followed similar pattern. Vessels trading across the Mediterranean Sea and within North West Europe saw rates increase from WS 116 to WS 120 range in January and from WS 210 to WS 234 range in December. This end of year range was equivalent to \$41,700 to \$50,400 per day. In October, the 1987-built Ragnhild Knutsen was booked by Karran to travel from Butinge to the United Kingdom-Continent for WS 257.5. In the Mediterranean, modern vessels were quoted from around WS 225 to WS 240 range with older ships taking a cut of 20 points and double-hull ones gaining a bonus of up to 10 points. Overall, rates along these routes increased 220 per cent. Across the Atlantic in the routes from the Caribbean to North America Gulf and East Coast 80,000 dwt vessels were better off. The average WS increased from 125 in January to 355 in December, an increase of 260 per cent. However, rates were volatile and peaked four times during the year. The dirty spot price for liftings in the 70,000 to 100,000 tons range from Curaçao to Houston moved up from \$4.70 to \$13.20 per ton — 280 per cent higher.

*Small crude and product carriers*

83. These vessels also had a good year. In the Caribbean dirty spot rates for vessels in the 40,000–60,000 dwt range trading to North America East Coast went up from WS 137 in January to WS 306 in December. Increases in clean spot rates were similar — 45,000 dwt vessels trading along the same route went up from WS 150 to WS 334 over the year. The increase was also pronounced in the Far East routes — clean spot rates for a 39,000 dwt carrier trading from Singapore to Japan went up from WS 203 to WS 438. Also clean spot rates for a 55,000 dwt from the Middle East Gulf to Japan went up from WS 166 to WS 370.

**Box 2**

**The impact of Erika**

The Maltese-flagged tanker Erika broke up in stormy seas at 07:20 GMT on 12 December 1999 off the French coast. The ship had left Dunkirk (France) loaded with about 30,000 tons of viscous fuel oil and was bound to Leghorn (Italy). It was owned by Tevere Shipping of Italy and after recent approval by a Italian surveying society had been found fit for service and chartered by TotalFinaElf, a major French oil group. The vessel was the second of a series of eight build in the period 1974–1978 by a Japanese shipyard. The oil spill contaminated large sections of the French coast causing heavy environmental damage and losses to economic activities along the coast.

The investigation carried out indicated that the likely reason for the disaster was an initial crack in the lower part of the hull. The seriousness of the crack was misjudged and subsequently developed due to several contributing factors, to the point where it caused progressive structural failure and loss of the vessel.

Soon after the disaster there was increased chartering activity by independent oil traders, and fixtures where charterers were not reported also increased. Oil companies tightened their procedures for chartering vessels and charters of less than 10-year old tankers increased.

The European Union stated its intention to legislate the accelerated phasing out of single hull tankers. The International Maritime Organization also acted by drafting plans to amend Annex I Regulation 13G of the MARPOL Convention for accelerated phasing out of such tankers. Discussion started in the October meeting of the Marine Environment Protection Committee. An increase of 50 per cent in the limits of compensation payable to victims of pollution under the International Convention on Civil Liability for Oil Pollution Damage (CLC Convention) and the International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (IOPC Fund) was agreed.

Final measures were agreed in the 46<sup>th</sup> meeting held in London in April 2001 whereby the three categories of tankers identified will mostly be phased-out by 2015. Power was given to member States to ban entry of single hull tankers over 25-year old to ports and to implement Condition Assessment Schemes (CAS) with the objective to tighten structural inspection of vessels of category one after 2005 and of vessels of category two after 2010.

*Source:* UNCTAD secretariat from *Lloyd's List* articles 1999 and 2000 and IMO Press Release, 30 April 2001.

*Handy-size dirty and clean carriers*

84. The rates for clean handysize tonnage were impressive in spite of a large number of old vessels — 40 per cent of the fleet was built in the 1970s. In the route Caribbean to East Coast of North

America the rates went up from WS 189 to WS 425 over the year, reaching a time charter equivalent of \$31,000 per day. Similar increases were found in routes from Singapore to East Asia — from WS 200 to WS 436 over the year. In the Mediterranean trades large rate increases were experienced — rates for 28,000 dwt tanker increased from WS 133 to WS 358.

85. Demand for handy-sized product tankers trading out of the Middle East into Europe is expected to more than double by 2003 due to two factors. Firstly, there will be increased European demand for environmentally friendly petroleum products. This means that the high production cost European refineries would need to invest about \$35 billion to meet low sulphur emission standards and some small ones will likely be decommissioned. Secondly, existing low cost refineries in the Middle East Gulf will have spare capacity as newly built refineries in India and the Far East move into full production, the Gulf refineries will upgrade their facilities to supply environmentally friendly products. Thus product imports into Europe, which have fallen from 50 million tons a year in the 1980s to around 10 million tons in 2000, are expected to rise again.

86. Early signs of this trade increase are evident. In the Middle East-Europe route many owners have found it necessary to ballast back. This partly explains the high rate differential seen recently between United Kingdom/Continent-Mediterranean and the United Kingdom/Middle East.

#### *Tanker-period charter market*

87. The market was severely restricted by the high levels reached by spot rates. Ship owners were simply not interested in fixing tonnage even for a few months as rates continued to rise. The high level of spot rates started to trigger revision clauses of charter parties. Three modern Suezmax tankers chartered in 1997 by a major company for seven years were affected. The agreed minimum daily base time charter rate of \$22,000 was revised quarterly by a broker panel that recommended an additional daily hire of \$4,079, \$11,701, and \$26,153 for the first three quarters of the year. In fact, the third quarter increase exceeded the base hire of \$22,000.

## **B. DRY BULK SHIPPING MARKET**

### **(a) Dry bulk trade**

88. The main activity in this market was along the iron ore routes from Australia to the Far East and from Brazil to the Far East and Europe, over which Capesize tonnage was mostly deployed. The coal routes from Australia to the Far East and from South Africa to the Far East and Europe also attracted the same size tonnage. Panamax tonnage was also deployed in several routes: the Transatlantic coal and iron ore routes from East Coast of North America and Canada respectively; ore exports from West Africa to Europe; iron ore and coal routes within Asia, with origins in India, China and Indonesia; and within Europe with origin in Sweden.

89. Panamax tonnage together with other smaller vessels, such as Handymax, were deployed in the grain routes from North America Gulf and East Coast of South America. Handysize tonnage was employed for several grain destinations notably for ports with restricted drafts. This tonnage was also used in bauxite, alumina and rock phosphate routes.

### **(b) Dry bulk freight rates**

90. In 2000, the freight rates for all sectors and sizes of dry bulk carriers finished at levels above those prevailing at the beginning of the year. The Baltic Dry Index increased 23 per cent after reaching a peak of 30 per cent in November 2000. As shown in table 32, the dry cargo tramp time-charter and trip charter indices increased during the year to 108 and 199, corresponding to percentage increases of 25.5 and 4.8 respectively.

Table 32

**Dry cargo freight indices (1998–2001)**  
*(monthly figures)*

<b>Period</b>	<b>Dry cargo tramp time -charter<sup>a</sup> (1995 = 100)</b>				<b>Dry cargo tramp trip-charter<sup>b</sup> (July 1965 to June 1966 = 100)</b>			
	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>January</b>	71	46	86	105	189	166	190	193
<b>February</b>	62	49	89	103	186	170	191	198
<b>March</b>	68	60	101	108	171	169	190	195
<b>April</b>	68	59	107	108	173	172	191	200
<b>May</b>	64	68	108	109	173	173	193	206
<b>June</b>	60	64	106	106	177	176	202	205
<b>July</b>	55	63	108	93	167	179	202	205
<b>August</b>	53	66	113	72	165	178	203	192
<b>September</b>	52	70	122		164	185	206	
<b>October</b>	57	79	121		165	185	207	
<b>November</b>	56	80	122		170	195	206	
<b>December</b>	50	82	107		168	192	208	
<b>Annual average</b>	60	66	108		172	178	199	

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

<sup>a</sup> Compiled by the German Ministry of Transport.

<sup>b</sup> Compiled and published by Lloyd's Ship Manager.

91. The increase in time-charter rates was pronounced during the third and early fourth quarters when the index was 40 per cent above January's, but it then fell back to the July levels by the end of the year. The rate for trip-charters increased progressively during the year.

92. The increase of cargo volumes for the five main bulk commodities and particularly for iron ore and coal goes a long way to explain the increase in freight rates. The pooling of tonnage, such as that done by Bocimar and A.P. Moller for Capesize vessels, also contributed to this. Other factors affecting freight rates included increases in the price of bunkers. By the third quarter the average posted prices at nine ports collected by Lloyd's Ship Manager stood at \$174.7 per ton for intermediate fuel oil (IFO) 180. Delays in some ports due to congestion also contributed in maintaining higher rates.

93. Increases of freight rates were more apparent for Capesize tonnage to the extent that by late in the year some contract fixtures were reported that protected charterers from further increases. Rates for Panamax tonnage weakened earlier than Capesize and Handimax. Chartering activity was concentrated in the Far East with about 40 per cent of contracts being in that region and 20 per cent in Europe.

#### *Dry bulk time-charter (trips)*

94. Rates improved during the course of the year for vessels of different sizes. At the beginning of the year Capesize tonnage was chartered for round trips over the transatlantic and Singapore-Japan to Australia routes at rates of \$16,500 and \$16,900 per day. By the end of the year the corresponding rates were \$20,800 and \$21,100 per day respectively. Again, Panamax tonnage chartered at the beginning of the year for round trips Northern Europe to East Coast of South America and Far East to East Coast of

Australia had rates of \$8,750 and \$9,600 per day. In December, rates were \$10,150 and \$11,515 per day respectively. The market for smaller vessels, Handymax and Handysize, was similar. Over the route Far East to Australia, a Handymax rate for a round trip increased from \$7,000 per day in January to \$8,350 per day in December. For a round trip Continent to West Africa, the rate for a Handysize increased from \$5,850 per day in August to \$6,500 per day in December.

#### *Dry bulk time-charter (periods)*

95. Rates increased only for Capesize tonnage, based on a 12-month charter period and prompt delivery. For instance, vessels less than 5-years old and in the range of 150,000–160,000 dwt were fixed at \$18,500 per day in December 2000, a 23.3 per cent increase from the January level. There was no increase in freight rates for Panamax tonnage — staying at \$10,000 per day. For smaller tonnage, rates actually decreased. Rates for Handimax tonnage between 10 to 15 years old were estimated at \$8,000 per day, 3.0 per cent lower than the beginning of the year estimate.

#### *Dry bulk trip-charter*

96. For Capesize tonnage, freight rates increased over the year in the iron ore and coal trades. For the transport of iron ore from Brazil and Australia to Europe, rates increased from \$6.15 to \$7.95 per ton and from \$8.50 to \$10.70 respectively. For coal from South Africa and East Coast of North America to Antwerp/ Rotterdam/Amsterdam range the rates increased from \$7.60 to \$10.10 and from \$5.90 to 7.70 respectively. Grain rates, for cargo typically carried in Panamax or smaller vessels also showed improvements. For United States Gulf to Continent, rates for Panamax tonnage increased from \$12.25 to \$14.10 per ton during the year. From the same origin to other destinations carried in handy-sized vessels the rates also increased. For instance, to Algeria from \$20.50 to \$22.70 per ton and to Venezuela from \$10.50 to \$12.95 per ton.

## C. LINER SHIPPING MARKET

### (a) Developments in liner markets

#### *General developments*

97. The impact of containerization on liner trades is greater than that implied by the size and growth of the containership fleet analysed in Chapter III. Containerships make up about 70.0 per cent of total seaborne container carrying capacity of the world, which is estimated at 6.8 million TEU at the end of 2000. The balance is accounted for by other vessels. Single-deck and multi-deck general cargo ships make up about 20.0 per cent of the world container carrying capacity. Another 5.0 per cent is supplied by ro-ro ships and ro-ro and cargo passenger ships with the remainder being provided by bulk carriers and special and reefer vessels.

98. Moreover, the accelerated growth of the fully cellular containership fleet mentioned in Chapter II showed an expanding share of larger vessels. During the first half of 2000, 53 containerships were delivered, while only three ships were retired from operations. The additional 50 ships included 14 post-Panamax ships and 9 over 2,500 TEU. As indicated in table 33, since 1996 the segment of larger vessels, those over 4,000 TEU has been growing faster than any other segment. Apparently the trend will continue unabated: the 12,000 TEU ship designed by Samsung Heavy Industries has attracted considerable interest as well as smaller versions ranging from 8,000 to 10,000 TEU. High occupancy level of slots are required to make these large vessels profitable. To achieve high load factors, liner operators work within alliances to ensure enough cargo volumes on a continuous basis.

99. Owners providing services on the major routes are the main users of the large vessels and gradually are phasing out their smaller ships. Fleets dominated by ships of 4,000 TEU or more will restrict the options of these carriers. This will leave openings for enterprising smaller operators to

pioneer different routes using smaller tonnage displaced by the new deliveries, and serve regional ports bypassed by the big ships.

100. The complex operation and management of container systems encompassing different types and sizes of ships and their containers, sea and inland terminals and inland transport networks require considerable skill and flexibility. The constant adaptation of transport activities to serve the large number of customers making use of liner shipping services with different and changing trading needs is transforming sea carriers and transport operators into logistics operators better tuned to the needs of the trade.

Table 33

**Average growth of container fleet by TEU size class, 1996–2000**

Vessel size	Average percentage growth from 1996 to 2000
<b>Up to 999 TEU</b>	+6.1
<b>1,000–1,999 TEU</b>	+7.2
<b>2,000–3,999 TEU</b>	+10.5
<b>Over 4,000 TEU</b>	+30.3

Source: UNCTAD secretariat, compiled from *Shipping Statistics and Market Review*, (Bremen), June 2000.

*Concentration in liner shipping*

101. The concentration process of recent years is resulting in increased carrying capacity being deployed by the biggest liner operators. Over the last quarter of 2000, the top 10 liner operators increased their carrying capacity by 3.5 per cent to 2.8 million TEU, which amounted to almost 42 per cent of the world total container carrying capacity (see table 34). Similarly, the share of the top 20 liner operators increased by 3.4 per cent to 3.9 million TEU — almost 60 per cent of the world total container carrying capacity. Moreover, for the first time in several years there were no new entrants to the top 20 operators. This is a clear reflection of the momentum of the industry consolidation.

Table 34

**Leading 20 container service operators (January 2001) on the basis of number of ships and total shipboard capacity (TEUs)**

Ranking Operator	Country/Territory	No. of ships in 2001	TEU capacity in 2001	TEU capacity in 2000 <sup>a</sup>
<b>1</b> Maersk-SeaLand	Denmark	297	694 054	682 411
<b>2</b> P&O Nedlloyd	United Kingdom/Netherlands	138	343 554	301 686
<b>3</b> Evergreen Group	Taiwan Province of China	129	325 385	317 940
<b>4</b> Hanjin/DSR-Senator	Republic of Korea/Germany	82	258 023	246 397
<b>5</b> Mediterranean Shipping	Switzerland	138	246 708	229 074
<b>6</b> NOL/APL	Singapore	81	224 344	213 790
<b>7</b> COSCO	China	113	206 120	210 289
<b>8</b> NYK	Japan	86	170 608	170 907

<b>Ranking Operator</b>	<b>Country/Territory</b>	<b>No. of ships in 2001</b>	<b>TEU capacity in 2001</b>	<b>TEU capacity in 2000<sup>a</sup></b>
<b>9</b> CP Ships Group	Canada	80	147 995	148 745
<b>10</b> CMA-CGM Group	France	81	141 842	141 652
<b>Total 1-10</b>		1 225	2 758 633	2 662 891
<b>11</b> MOL	Japan	65	138 573	137 379
<b>12</b> K line	Japan	62	136 460	124 655
<b>13</b> Zim	Israel	75	131 776	135 199
<b>14</b> OOCL	Hong Kong, China	48	129 121	120 096
<b>15</b> Hapag-Lloyd Group	Germany	32	116 112	108 156
<b>16</b> Yang Ming	Taiwan Province of China	45	112 649	103 358
<b>17</b> China Shipping	China	92	110 159	103 876
<b>18</b> Hyundai	Republic of Korea	32	106 150	109 303
<b>19</b> CSAV	Chile	54	96 932	105 035
<b>20</b> Hamburg-Süd	Germany	45	79 989	76 614
<b>Total 1-20</b>		1 775	3 916 734	3 786 562
<b>World fleet</b>		7 009	6 661 963	6 411 947

Source: UNCTAD secretariat, compiled from *Containerisation International* and [www.bprparis.com/newsletters/liners/liner\\_nl/index.html](http://www.bprparis.com/newsletters/liners/liner_nl/index.html).

Note: All subsidiaries are consolidated

<sup>a</sup> As of September 2000

## (b) Freight level of main liner services

### *Containership market development*

102. Global liner shipping market developments are best reflected in the movements of containership charter market. This market is largely dominated by German owners, and more particularly by members of the Hamburg Shipbrokers' Association (VHSS), who control some 75 per cent of all container ship charter tonnage available in the free market. Since 1998, the association has published the "Hamburg Index" providing a market analysis of containership time charter rates.<sup>2</sup> Rates on 14-ton slot (TEU) per day are published on a monthly basis for three gearless and six geared size group and compared to those obtained on average in 1997. The year 1997 was chosen as the reference year because it was the last year when a remunerative rate level was achieved. The development of time charter rates is reflected in table 35.

103. For 2000 the average time charter rates for nearly all groups of containership were higher than the corresponding averages for 1999 and some as much as 44 per cent, the exception being the group of gearless containerships with capacity 200–299 TEU. For these gearless vessels rates actually decreased by 6 per cent. However, most of these rates are still below the 1997 levels with the gap being less

<sup>2</sup> See website [www.vhss.de/englisch/hax.html](http://www.vhss.de/englisch/hax.html).

pronounced for groups including larger vessels. Interestingly, rates for geared containerships in the range 1,600–1,999 TEU are similar to those applied to gearless ships with capacity over 2,000 TEU.

104. The boost for improved rates for 500 TEU plus vessels has come from the intra-Asian routes, with a notable upturn in the cross-Asian route to India and Pakistan, and from increasing North-South trades, with the South American trades making the major contribution. The emergence of Asia/Americas operators covering both the North and South American markets has also boosted demand for these ships. The strong prices available for 2,000 TEU plus vessels were due to temporary needs of sea carriers wanting to add new loops before new ships were delivered.

Table 35

**Containership average time charter rates**  
(US dollars per 14-ton slot/day)

<b>Ship type</b>	<b>1997</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>							
				<b>January</b>	<b>February</b>	<b>March</b>	<b>April</b>	<b>May</b>	<b>June</b>	<b>July</b>	<b>August</b>
<b>Gearless</b>											
<b>200–299 TEU</b>	21.80	16.70	15.71	16.03	15.59	15.95	15.85	15.20	14.82	15.36	15.81
<b>300–500 TEU</b>	16.79	13.96	14.52	14.46	15.44	15.68	15.67	14.47	13.49	13.58	15.02
<b>2 000 plus TEU</b>	9.31	7.56	10.02	9.63	9.18	11.37	9.99	9.40	9.61	8.85	7.73
<b>Geared</b>											
<b>200–299 TEU</b>	22.00	17.23	17.77	18.01	18.00	17.90	18.17	18.33	18.00	18.64	17.74
<b>300–500TEU</b>	17.24	12.76	14.60	15.11	16.21	16.21	14.22	14.87	16.17	04.05	14.93
<b>600–799 TEU<sup>a</sup></b>	13.87	9.32	12.21	13.00	12.43	12.33	12.01	12.01	12.64	11.98	10.99
<b>600–799 TEU<sup>b</sup></b>	14.08	9.63	11.90	12.22	13.25	12.43	12.23	14.43	12.16	11.59	10.60
<b>1 000–1 299 TEU</b>	12.47	8.24	11.87	10.47	10.23	9.87	10.21	10.04	10.10	9.39	8.49
<b>1 600–1 999 TEU</b>	10.50	7.54	10.35	9.13	9.26	9.69	9.57	9.70	9.29	7.92	8.31

Source: Vereinigung Hamburger Schiffsmakler und Schiffsagenten (VHSS), Hamburg, Germany.

<sup>a</sup> 16–18 knots.

<sup>b</sup> Over 18 knots.

105. For the first quarter of 2001, the downward trend of the time charter rates for gearless vessels stopped. For geared vessels the picture was mixed with rates recovering for small size vessels and remaining depressed for larger ones.

106. Time charter rates for containerships larger than 2,000 TEU have moved downward as a result of the attractive newbuilding prices quoted by shipyards over the last years. Evidence indicates that rates could be up to 30 per cent lower than the rates quoted in table 35 for the largest gearless vessels. Thus Maersk- SeaLand is reported to have paid \$26,300 a day to retain the Hansa Pacific (4,322 TEU capacity) for three years. Brokers also report that APL has chartered three 3,100 TEU new buildings for two years at a rate of almost \$23,000 a day, which is considered a good price. Another five geared 2,500 TEU units are reported to have been fixed at \$18,250, with two taken for 18 months and the other three for two years. During the first months of 2001 the time charter rates for gearless larger vessels, has continued to drop, improving in March and thereafter declining.

107. By the end of 2000 the level of freight rates in the main containerized routes — transpacific, transatlantic and Asia-Europe — were mostly above the levels that prevailed at the end of 1999 (see table 36). The eastbound legs connecting Asia with North America and North America with Europe were the only ones showing a deterioration in rates: 11.7 per cent over the Pacific and 4.3 per cent decrease over the Atlantic. The westbound legs showed healthy rate improvements of 11.7 per cent

across the Pacific and of 11.3 per cent over the Atlantic. The westbound leg linking Asia to Europe showed a marginal increase of 0.3 per cent, considerably less than the 2.7 per cent increase in rates along the eastbound one.

108. In the transpacific route, the freight rates of westbound leg improved during most of the year reaching a ceiling during the third quarter of \$939 per TEU. The fourth quarter saw a deterioration of 7.7 per cent. The opposite was true in the eastbound leg where rates came down during the year, except the third quarter when they increased by 5.0 per cent to reach \$2,041 per TEU. Rate restoration measures were announced in August and probably helped to achieve the rate levels of the third quarter and were fuelled by the lasting recovery in Asia and the persistent expansion of the United States economy. However, the results of the fourth quarter showed that rates recovery was ephemeral, in spite of the effects of increased bunker surcharges, rate restoration and peak season surcharges recommended by the Transpacific Stabilization Agreement (TSA).

109. Similar results were found in the transatlantic trade. In the more dominant westbound direction, rates improved during the year to a ceiling of \$1264 per TEU in the third quarter with only a marginal drop of 0.1 per cent in the last quarter. In the weaker eastbound direction a 9.0 per cent drop in the first quarter was followed by increases with a peak of \$1,022 per TEU during the third quarter. At year end, rates dropped by 3.4 per cent. The difference between the average rates in each direction is much less pronounced than in other trades, thus reflecting a more balanced trade situation. During the year the Trans Atlantic Conference Agreement (TACA) announced freight rate increases. Rate levels also appear to reflect increased carrier concentration. In July, the three largest groupings of carriers (Grand Alliance, Maersk-SeaLand and Canada Maritime/Cast/OOCL) controlled 44 per cent of the total trade capacity. By October and after a reshuffle the three new groups (Grand Alliance/Lykes/TMM, Maersk-SeaLand/New World Alliance and Canada Maritime/Cast/OOCL) controlled more than 58 per cent of trade capacity. Thus, in spite of consolidation and restoration measures, rates still weakened.

110. In the Asia-Europe trade, volatility was less pronounced in the more dominant westbound leg where freight rates were stable during the first half of the year with up and down fluctuations being observed in the third and fourth quarter respectively. The upward movement reflected expanded shipments from China. The reduced volatility was a result of the use of long-term service contracts by major shippers. In the eastbound leg, a growing segment of cargo also moved under long-term contracts. After an initial drop of 14 per cent, the eastbound rates from Europe to Asia increased by 7 and 12 per cent for two consecutive quarters. There was strong improvement in traffic with very high levels of slot utilization and further increases appeared to be underway following the Far Eastern Freight Conference's announcement of rate restoration measure of October. During the last quarter there was a marginal increase of 0.5 per cent that seemed to indicate the end of sudden shifts in demand following currency fluctuation.

111. During the year, rate restoration programmes were applied by agreements or conferences to recover eroded rates or to realize rate increases that were not implemented. These programmes attempt to counter excess supply or weakened demand by an across-the-board increase in freight rates or by reasserting former tariffs.

Table 36

**Freight rates (market averages) on the three major liner trade routes 1999–2000**  
*(US dollars per TEU)*

	Transpacific		Europe -Asia		Transatlantic	
	Asia-United States	United States-Asia	Europe -Asia	Asia-Europe	United States-Europe	Europe -United States
<b>1999</b>						
<b>First quarter</b>	1 619	832	716	1 512	1 165	1 100
<b>Change (%)</b>	0.3	-1.2	-11.3	3.2	-11.0	-7.4
<b>Second quarter</b>	2 018	871	723	1 525	1 111	1 045
<b>Change (%)</b>	24.6	4.7	1.0	0.9	-6.2	-5.0
<b>Third quarter</b>	2 203	818	730	1 568	1 040	1 054
<b>Change (%)</b>	9.2	-6.1	1.0	2.8	-6.4	0.9
<b>Fourth quarter</b>	2 188	736	776	1 612	1 031	1 127
<b>Change (%)</b>	-1.0	-10.0	6.0	3.0	-1.0	6.9
<b>2000</b>						
<b>First quarter</b>	2 125	751	664	1 594	939	1 148
<b>Change (%)</b>	-3.0	2.0	-14	-1.0	-9.0	2.0
<b>Second quarter</b>	1 953	852	710	1 597	958	1 148
<b>Change (%)</b>	-8.0	13.0	7.0	0.0	2.0	4.0
<b>Third quarter</b>	2 041	939	793	1 673	1 022	1 264
<b>Change (%)</b>	5.0	10.0	12.0	5.0	7.0	6.0
<b>Fourth quarter</b>	1 932	867	797	1 618	987	1 255
<b>Change (%)</b>	-5.3	-7.7	-0.5	-3.3	-3.4	-0.1
<b>2001</b>						
<b>First quarter</b>	1 874	877	826	1 566	938	1 290
<b>Change (%)</b>	-3.0	1.1	3.6	-3.2	-5.0	2-8
<b>Second quarter</b>	1 765	869	760	1 468	943	1 236
<b>Change (%)</b>	-5.8	-1.0	-7.9	-6.2	0.5	-4.2

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

*Notes:* Information from six of the trades' major liner companies. All rates are all-in, including the inland intermodal portion, if relevant. All rates are average rates of all commodities carried by major carriers. Rates to and from the United States refer to the average for all three coasts. Rates to and from Europe refer to the average for North and Mediterranean Europe. Rates to and from Asia refer to the whole of Southeast Asia, East Asia and Japan/Republic of Korea.

**(c) Supply and demand in respect of main liner services**

112. Supply and demand for each of the major routes on the dominant leg were well balanced in 2000. However, there are some indications that the short-term alignment of demand and supply in certain routes and directions may be altered in two or three years due to volume of ship ordering and the increased size of newbuildings.

113. In 2000, the transpacific trade saw a growth of 14 per cent for eastbound cargo volumes to 6.9 million TEU with a number of carriers reporting average space utilization levels of almost 95 per cent. However, carriers face difficulties in handling the current two-to-one imbalance in favour of eastbound cargoes. A recent report of the Pacific Maritime Association valued the transpacific trade at \$53.7 billion for 2000 with more than three quarters of that being attributed to eastbound cargo, mostly toys, cosmetics and other seasonal gift items. In the future, eastbound cargo growth is expected to expand at 5 to 6 per cent which is lower than earlier predictions of 10 per cent. However there is no end in sight to the structural trade imbalance. The largest westbound commodity group measured in value-term are machinery, appliances, computers and "related items" with farm, agricultural and forest products rounding off the list.

114. The high slot utilization indicated a tight balance between supply and demand. Since early 2000 ship capacity deployed eastbound across the Pacific increased by 10 per cent to an estimated 10.2 million TEU — equivalent to 49 vessels of 4,000 TEU sailing each week from Asia to North America. The market share in 2000 of each of the three major alliances decreased (see table 37).

Table 37

**Capacity share for the transpacific trade**

<b>Operator</b>	<b>Percentage share</b>	
	<b>2000</b>	<b>1999</b>
<b>New World Alliance</b>	19.9	23.7
<b>Cosco/K Line/Yangming</b>	14.7	16.2
<b>Grand Alliance</b>	14.4	15.1
<b>United Alliance (Hanjin, Senator Lines, Cho Yang)</b>	12.5	15.0
<b>Maersk-Sealand</b>	11.5	12.6
<b>Hanjin/Yangming (US east coast all-water service)</b>	2.3	2.9
<b>Total</b>	75.3	85.5

*Source:* Compiled by the UNCTAD secretariat.

115. In the transatlantic routes, trade is estimated to have grown 8 per cent in 2000 with vessels improving slot-utilization levels more in the westbound direction than in the eastbound one. Total carrier capacity is believed to have grown by 7 per cent during the second half of the year to reach 41,500 TEU a week — equivalent to 2.2 million TEU per year. For 2001 cargo growth is expected to be about 6 per cent with capacity only expanding by 3 per cent.

116. On the Europe-Asia trade routes carrying capacity increased by 4.6 per cent on the eastbound route (Europe to Asia) and by 4.5 per cent on the westbound (Asia to Europe) route, for 2000. The demand supply balance could be upset and future profitability reduced if cargo does not grow at the same pace.

**(d) Liner freight index**

117. Table 38 indicates the developments of liner freight rates on cargoes loaded or discharged by liners at ports in the Antwerp/Hamburg range for the period 1998–2000. The overall index for the year 2000 went up by 31 points from the 1999 level to reach 117 points (1995 base year 100), reflecting the strong growth situation in both the homebound and outbound trade. In the homebound trade, the average level in 2000 increased by 20 points to reach 115 points. The increases were almost continuous peaking at 128 points and declining during the final two months of the year. This upward trend is mainly attributable to the numerous rate restoration programmes in place on all liner trading routes. The outbound index also increased dramatically by 42 points from the average level in 1999. The index went up by 24 points until May, then dropped to 118 in July and rebounded to 133 in October/November.

Table 38

**Liner freight indices, 1998–2001**  
*(monthly figures: 1995 = 100)*

<b>Month</b>	<b>Overall index</b>				<b>Homebound index</b>				<b>Outbound index</b>			
	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>2001</b>
<b>January</b>	97	77	104	119	91	86	106	113	103	69	101	125
<b>February</b>	96	79	103	121	91	88	102	115	101	70	104	126
<b>March</b>	97	80	105	121	92	90	104	116	102	71	105	127
<b>April</b>	96	83	113	122	91	91	110	118	100	74	116	126
<b>May</b>	92	83	119	121	90	92	114	116	94	74	125	126
<b>June</b>	92	84	116	119	90	94	110	112	93	76	121	125
<b>July</b>	90	86	115	117	90	94	111	111	89	78	118	123
<b>August</b>	88	87	122	112	89	98	122	107	87	77	122	117
<b>September</b>	83	90	127		86	99	125		81	82	128	
<b>October</b>	81	92	130		85	99	128		77	86	133	
<b>November</b>	82	96	130		87	102	126		77	89	133	
<b>December</b>	80	98	125		86	105	122		75	92	129	
<b>Annual average</b>	89	86	117		9	95	115		90	78	120	

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

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

118. Table 39 provides data on freight rates of liner services as a percentage of market prices for selected commodities and trade routes over the period 1970 and 2000. The average f.o.b. price for rubber sheet increased by 7.9 per cent in 2000 while freight rates were affected only by BAF surcharges. The f.o.b. price for jute, lower than that of other commodities, rose by 3.6 per cent while freight rates increased by 12.3 per cent. This explains the relatively high freight ratio of 37 per cent for the year 2000. The ratio of liner freight rate to f.o.b. price for tea increased from 5.0 to 5.9 per cent. The c.i.f. price of coconut oil decreased in 2000 by 46 per cent resulting in a substantial increase in the freight ratio to 25.9 per cent. The freight rate ratio for coffee from Brazil to Europe increased dramatically by 47.7 per

cent when the ratio increased from 2.8 per cent to 4.4 per cent due to the slump in coffee prices. During the year 2000 no cocoa beans were shipped by container from Brazil and no freight rate was filed in the conference tariff. Export of cocoa beans from Ghana maintained the same ratio as in 1999 at 4.8 per cent. Freight ratio for coffee export from Columbia to Europe decreased to 3.3 per cent for Atlantic and 3.5 per cent for Pacific.

Table 39

### Ratio of liner freight rates to prices of selected commodities

<b>Commodity</b>	<b>Route</b>	<b>Freight rate as percentage of price <sup>a</sup></b>						
		<b>1970</b>	<b>1975</b>	<b>1980</b>	<b>1985</b>	<b>1990</b>	<b>1999</b>	<b>2000</b>
<b>Rubber</b>	Singapore/Malaysia-Europe	10.5	18.5	8.9	n.a.	15.5	16.3	15
<b>Jute</b>	Bangladesh-Europe	12.1	19.5	19.8	6.4	21.2	33.9	37
<b>Cocoa beans</b>	Ghana-Europe	2.4	3.4	2.7	1.9	6.7	4.8	4.8
<b>Coconut oil</b>	Sri Lanka-Europe	8.9	9.1	12.6	12.6	n.a.	15.6	25.9
<b>Tea</b>	Sri Lanka-Europe	9.5	10.4	9.9	6.9	10.0	5.0	5.9
<b>Coffee</b>	Brazil-Europe	5.2	9.7	6.0	5.0	10.0	2.8	4.4
<b>Coffee</b>	Columbia (Atlantic)-Europe	4.2	4.7	3.3	6.7	6.8	3.7	3.3
<b>Cocoa beans</b>	Brazil-Europe	7.4	8.2	8.6	6.9	11.0	6.0	n.a.
<b>Coffee</b>	Columbia (Pacific)-Europe	4.5	6.3	4.4	6.1	7.4	3.9	3.5

*Sources:* UNCTAD secretariat on the basis of data supplied by the Royal Netherlands Shipowners' Association (data for 1970–1989) and conferences engaged in the respective trades (data for 1990–2000).

<sup>a</sup> C.i.f. (cost, insurance and freight) prices are quoted for coffee (Brazil-Europe and Colombia-Europe) and coconut oil. For cocoa beans (Ghana-Europe and Brazil-Europe) and tea, the average daily prices in London is quoted. Prices of the remaining commodities are quoted f.o.b. terms. The freight rates include, where applicable, bunker surcharges and currency adjustment factors, and a tank cleaning surcharge (for coconut oil only). Conversion of rates to other currencies is based on parities given in International Financial Statistics, published by the International Monetary Fund (IMF). Annual freight rates were calculated by taking a weighted average of various freight quotes during the year, weighted by their period of duration. For the period 1990–2000, the prices of the commodities were taken from UNCTAD, Monthly Commodity Price Bulletin, October 2000 and March 2001.

## D. ESTIMATES OF TOTAL FREIGHT COSTS IN WORLD TRADE

### *Trends in global import value and freight costs*

119. International trade involves various services such as sourcing, production, marketing, transaction and transport and the related flow of information. In the transport sector, graph 8 and table 40 provide estimates of total freight payments for imports and the percentage of freight payments of total import value by country groups. In 1999, the world total value of import (c.i.f) increased by 5.0 per cent, while total freight paid for transport services declined by 0.4 per cent. The share of global freight payments as a percentage of import value decreased to 5.4 per cent from 5.7 per cent in 1998. In 1980, the share of freight costs in import value stood at 6.6 per cent or nearly 30 per cent higher than the average ratio in the 1990s. The regional comparison indicates that freight costs incurred for the imports of developing countries continued to be almost double that of developed market-economy countries,

with the difference between the two groups tending to widen slightly. For 1999, the total value of imports by developed market-economy countries increased by 5.3 per cent while total freight costs decreased by a 1.9 per cent, thus standing at 4.5 per cent (4.8 per cent in 1998) as compared to 8.2 per cent (8.3 per cent in 1998) in developing countries. This difference is mainly attributable to global trade structures, regional infrastructure facilities, logistics systems, and the more effective distribution strategies of shippers of developed market-economy countries.

#### *Regional trends*

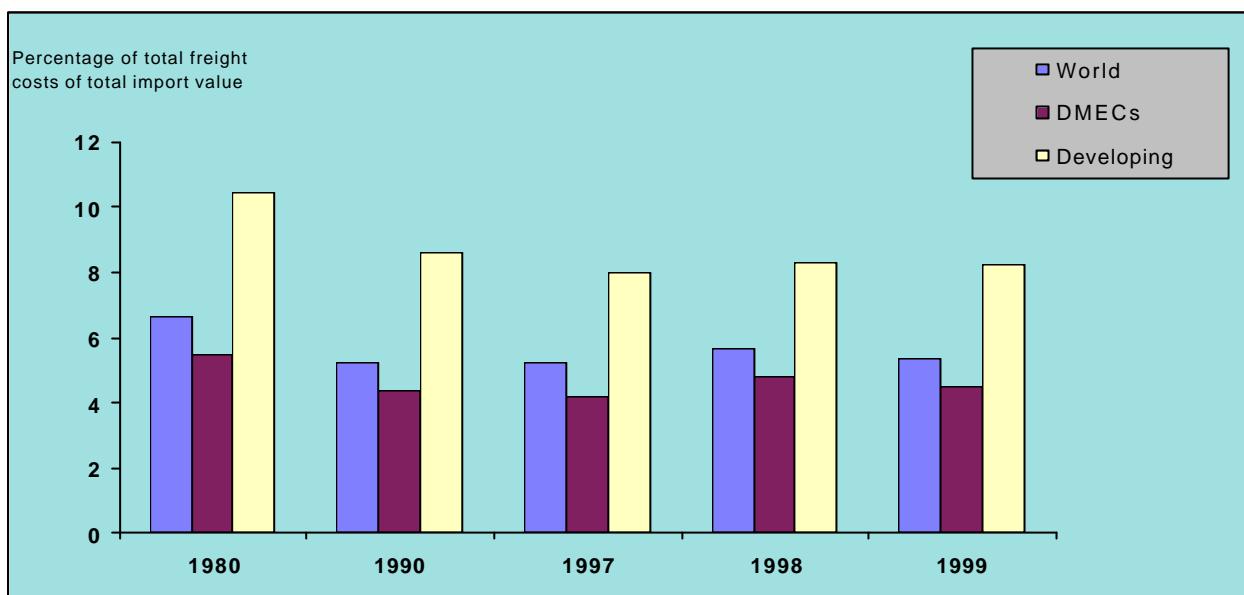
120. Freight costs of developing countries decreased slightly from 8.3 per cent in 1998 to 8.2 in 1999. Within this group, freight costs in African developing countries, however, continued slowly but steadily on an upward trend from 11.5 per cent in 1998 to 12.0 per cent in 1999. This trend toward higher ratios reflects insufficient infrastructure facilities and inadequate management practices, specifically for transit transport, and low productivity of inland transport and terminal equipment. The subregional breakdown shows that the freight costs of West Africa slightly increased to 13.8 per cent in 1999 while those of Eastern and Southern Africa including Indian Ocean remained constant at 13.4 per cent. The ratio of Northern Africa is calculated at 10.3 per cent, reflecting a relatively more efficient transport system compared to those of other African subregions. The imports to African landlocked countries continued to suffer from high freight costs, which primarily reflects inefficient transport organization and facilities, poor utilization of assets and weak managerial, procedural, regulatory and institutional systems, plus inadequate transport infrastructure. Freight ratios for Burkina Faso, Burundi, Chad, Ethiopia, Malawi and Mali were all greater than 20 per cent.

121. Developing countries in Asia accounted for 61.4 per cent of import value and also of freight payments of all developing countries as compared to 59.3 per cent in 1998. The freight factor of this region has fluctuated around 8 per cent since 1990 and was at 7.8 per cent in 1999, as compared with 8.3 per cent in 1998. The freight factor in the Middle East was 8.7 per cent in 1999 (9.2 per cent in 1998). The remainder of Asia saw the ratio drop from 8.1 per cent in 1998 to 7.6 per cent in 1999.

122. Developing countries in the Americas had their freight cost ratio increase to 7.9 per cent in 1999 compared to 7.4 per cent in 1998. This freight ratio is largely attributable to Mexico, the biggest trading nation in the region, which had a freight factor of 6.2 per cent in 1999. Mexico accounted for 85.8 per cent of the total c.i.f. value of imports of the subregion (43.7 per cent of developing countries of the Americas). The countries of the South American western seaboard paid relatively high freight costs of 10.2 per cent in 1999 as compared to 10.0 per cent in 1998. The countries of the South America eastern seaboard registered a rate of 8.6 per cent. For the landlocked countries of the Americas, Paraguay continued to pay high freight rates at 11.3 per cent while Bolivia's rate was 12.1 per cent.

123. Developing countries in Europe for the year 1999 had a slight decrease in freight rates to 8.4 per cent while small island developing countries in Oceania paid slightly higher freight rates at 12.2 per cent. The long distance from major trading partners, low cargo volumes, transhipment and feeder costs also contribute to the high levels of freight costs for island developing countries.

Graph 8

**Estimates of total freight costs for imports in world trade by groups**

Source: Table 40.

Table 40

**Estimates of total freight costs for imports in world trade<sup>a</sup> by country groups**  
*(millions of dollars)*

<b>Year</b>	<b>Country group</b>	<b>Estimate of total freight costs imports</b>	<b>Value of imports (c.i.f)</b>	<b>Freight costs as a percentage of import value</b>	
<b>1980</b>	World total	123	264	1 856 834	6.64
	Developed market-economy countries	78	286	1 425 979	5.49
	Developing countries — total		44 978	430 855	10.44
	<i>of which in:</i>				
	Africa		10 432	77 757	13.42
	Americas		10 929	123 495	8.85
	Asia		21 979	211 089	10.41
	Europe		1 320	16 037	8.23
	Oceania		318	2 477	12.84
<b>1990</b>	World total	173 102		3 314 298	5.22
	Developed market-economy countries	117 004		2 661 650	4.40
	Developing countries — total		56 098	652 648	8.60
	<i>of which in:</i>				
	Africa		9 048	81 890	11.05
	Americas		9 626	117 769	8.17
	Asia		35 054	427 926	8.19
	Europe		1 909	21 303	8.96
	Oceania		461	3 760	12.26
<b>1998</b>	World total	285 888		5 028 629	5.69
	Developed market-economy countries	184 060		3 807 351	4.83
	Developing countries — total		101 828	1 221 278	8.34
	<i>of which in:</i>				
	Africa		12 073	104 868	11.51
	Americas		26 874	361 696	7.43
	Asia		60 073	724 548	8.29
	Europe		2 192	25 128	8.72
	Oceania		616	5 038	12.23
<b>1999</b>	World total	284 869		5 280 577	5.39
	Developed market-economy countries	180 528		4 010 305	4.50
	Developing countries — total		104 341	1 270 272	8.21
	<i>of which in:</i>				
	Africa		12 625	105 178	12.00
	Americas		28 411	357 671	7.94
	Asia		60 782	779 686	7.80
	Europe		1 894	22 605	8.38
	Oceania		628	5 133	12.24

*Source:* UNCTAD secretariat estimates based on data supplied by IMF.

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

## Chapter V

# PORT DEVELOPMENT

*This chapter covers container port throughput for developing countries, improving port performance, institutional changes in ports and special needs of small ports.*

### A. CONTAINER PORT TRAFFIC

124. Table 41 gives the latest available figures on reported world container port traffic in developing countries and territories for the period 1997 to 1999. The world growth rate for container port throughput (number of movements measured in TEUs) increased by 7.3 per cent in 1999 following a substantial increase of 10.1 per cent in 1998. This reflects the trade slowdown due to the 1998 financial crisis in South-East Asia. The world throughput for 1999 reached 195.3 million TEU, an annual increase of 13.3 million TEU, from the level reached in 1998 of 182.0 million TEU.

Table 41

**Container port traffic of 48 developing countries and territories in 1999, 1998 and 1997  
(in TEUs)**

Country or territory	TEUs 1999	TEUs 1998	TEUs 1997	% change 1999/1998	% change 1998/1997
<b>Hong Kong, China</b>	16 210 792	14 582 000	14 567 231	11.2	0.1
<b>Singapore</b>	15 944 793	15 135 557	14 135 300	5.3	7.1
<b>Republic of Korea</b>	7 014 245	6 460 461	5 636 876	8.6	14.6
<b>United Arab Emirates</b>	4 930 299	4 531 625	4 191 421	8.8	8.1
<b>Malaysia</b>	3 941 777	3 026 447	2 841 003	30.2	6.5
<b>Thailand</b>	2 892 216	2 638 906	2 204 500	9.6	19.7
<b>Philippines</b>	2 813 099	2 442 158	2 510 849	15.2	-2.7
<b>Indonesia</b>	2 660 439	2 203 274	2 402 207	20.7	-8.3
<b>Brazil</b>	2 022 842	1 743 639	1 419 950	16.0	22.8
<b>India</b>	1 954 025	1 745 669	1 460 871	11.9	19.5
<b>Sri Lanka</b>	1 704 389	1 714 077	1 687 184	-0.6	1.6
<b>Panama</b>	1 649 512	1 425 788	1 269 270	15.7	12.3
<b>Egypt</b>	1 473 149	1 095 549	1 409 248	34.5	-22.3
<b>Saudi Arabia</b>	1 448 338	1 366 746	1 296 941	6.0	5.4
<b>Malta</b>	1 091 364	1 118 741	704 427	-2.4	58.8
<b>Mexico</b>	1 083 887	945 087	832 475	14.7	13.5
<b>Argentina</b>	1 021 973	806 674	720 247	26.7	12.0
<b>Oman</b>	773 806	139 090	109 187	456.3	27.4
<b>Chile</b>	743 364	758 992	711 112	-2.1	6.7
<b>Pakistan</b>	696 649	701 213	608 065	-0.6	15.3
<b>Jamaica</b>	689 677	671 130	496 682	2.8	35.1

<b>Country or territory</b>	<b>TEUs 1999</b>	<b>TEUs 1998</b>	<b>TEUs 1997</b>	<b>% change 1999/1998</b>	<b>% change 1998/1997</b>
<b>Venezuela</b>	654 148	830 109	606 035	-21.2	37.0
<b>Costa Rica</b>	590 000	450 000	226 960	31.1	98.3
<b>Bahamas</b>	543 993	470 047	n.a.	15.7	-
<b>Colombia</b>	413 935	88 130	75 169	369.7	17.2
<b>Bangladesh</b>	392 137	345 327	300 476	13.6	14.9
<b>Ecuador</b>	378 000	407 434	375 894	-7.2	8.4
<b>Peru</b>	376 045	378 013	321 568	-0.5	17.5
<b>Côte d'Ivoire</b>	354 389	468 727	416 111	-24.4	12.6
<b>Iran, Islamic Republic of</b>	320 622	325 904	254 454	-1.6	28.1
<b>Trinidad and Tobago</b>	298 553	270 204	239 952	10.5	12.6
<b>Morocco</b>	296 223	260 513	210 687	13.7	23.6
<b>Lebanon</b>	271 409	290 409	309 719	-6.5	-6.2
<b>Uruguay</b>	250 227	265 892	201 964	-5.9	31.6
<b>Cyprus</b>	239 077	214 030	402 700	11.7	-46.8
<b>Kuwait</b>	174 383	n.a.	n.a.	-	-
<b>Guatemala</b>	151 493	144 085	n.a.	5.1	-
<b>Senegal</b>	148 740	115 039	110 836	29.3	3.8
<b>Reunion</b>	146 172	n.a.	123 734	-	-
<b>Guam</b>	145 191	163 855	164 469	-11.4	-0.4
<b>Mauritius</b>	144 269	136 417	116 956	5.8	16.6
<b>Martinique</b>	141 700	135 700	141 650	4.4	-4.2
<b>Papua New Guinea</b>	138 110	144 630	149 869	-4.5	-3.5
<b>Bahrain</b>	122 000	76 431	109 840	59.6	-30.4
<b>Cameroon</b>	121 563	118 238	116 578	2.8	1.4
<b>Yemen</b>	121 563	57 537	13 456	111.3	327.6
<b>United Republic of Tanzania</b>	106 304	108 362	103 432	-1.9	4.8
<b>Guadeloupe</b>	104 000	103 473	99 643	0.5	3.8
<b>Total</b>	79 904 881	71 621 329	66 407 198	11.6	7.8
<b>Other reported<sup>a</sup></b>	962 004	1 259 355	1 387 549	-23.6	-9.2
<b>Total reported<sup>b</sup></b>	80 866 885	72 880 684	67 794 747	11.0	7.5
<b>World total</b>	195 261 458	181 982 976	165 234 028	7.3	10.1

Sources: Derived from information contained in *Containerisation International Yearbook, 2001*, and from information obtained by the UNCTAD secretariat directly from terminal operators or port authorities.

<sup>a</sup> Comprising developing countries and territories where less than 95,000 TEU per year were reported or where a substantial lack of data was noted.

<sup>b</sup> Certain ports did not respond to the background survey. While they were not amongst the largest ports, total omissions may be estimated at 5 to 10 per cent.

125. The rate of growth for developing countries and territories was 11.0 per cent with a throughput of 80.9 million TEU, which accounts for about 41.0 per cent of world total throughput. Again there was a slowdown from the 7.5 per cent growth rate reached in 1998 where throughput of developing countries reached 72.9 million TEU. Countries with double-digit growth in 1998 and 1999 were Hong Kong (China), Malaysia, the Philippines, India, Brazil, Indonesia, India, Egypt, Panama, Mexico, Argentina, Oman, Costa Rica, the Bahamas, Colombia, Bangladesh, Trinidad and Tobago, Morocco, Cyprus,

Senegal, Bahrain and Yemen. The growth rate in developing countries is uneven from year to year, owing sometimes to strong fluctuations in trade and sometimes to improved reporting of data or lack of data for some years.

126. Initial figures for 2000 are available for the leading 20 ports of the world handling containers and the results are indicated in table 42. There were 8 ports of developing countries and territories and socialist countries of Asia in the list with the remaining 12 located in developed market-economy countries. Of the latter there were 6 in Europe, 4 in the United States and 2 in Japan. Hong Kong, China maintained its leadership by reporting another double-digit growth rate. Most of the 10 leading ports maintained their position with the exception of Busan and Shanghai, which jumped ahead of Kaohsiung and Los Angeles respectively. Among the rest, the most remarkable change was that of Port Klang that jumped from the 15th to the 11th position. Almost half of the ports reported double-digit growth rates in 2000 and 1999.

Table 42

**Top 20 container terminals and their throughput, 2000 and 1999  
(in TEUs)**

<b>Ranking 2000</b>	<b>Ranking 1999</b>	<b>Port</b>	<b>2000 TEU</b>	<b>1999 TEU</b>	<b>Change 2000</b>	<b>Change 1999</b>
<b>1</b>	<b>1</b>	Hong Kong, China	18 100 000	16 210 792	11.7	11.2
<b>2</b>	<b>2</b>	Singapore	17 040 000	15 944 793	6.9	5.4
<b>3</b>	<b>4</b>	Busan	7 540 387	6 439 589	17.1	22.7
<b>4</b>	<b>3</b>	Kaohsiung	7 425 832	6 985 361	6.3	23.0
<b>5</b>	<b>5</b>	Rotterdam	6 275 000	6 343 242	-1.1	15.4
<b>6</b>	<b>7</b>	Shanghai	5 613 000	4 210 000	33.3	25.8
<b>7</b>	<b>8</b>	Los Angeles	4 879 429	3 828 852	27.4	67.1
<b>8</b>	<b>6</b>	Long Beach	4 600 787	4 408 480	4.4	29.4
<b>9</b>	<b>9</b>	Hamburg	4 248 000	3 738 307	13.6	12.0
<b>10</b>	<b>10</b>	Antwerp	4 082 334	3 614 246	13.0	21.7
<b>11</b>	<b>15</b>	Port Klang	3 206 428	2 550 419	25.7	16.5
<b>12</b>	<b>12</b>	Dubai	3 058 886	2 844 634	7.5	9.4
<b>13</b>	<b>11</b>	New York	3 006 493	2 863 342	5.0	21.3
<b>14</b>	<b>14</b>	Tokyo	2 960 000	2 695 589	9.8	16.1
<b>15</b>	<b>13</b>	Felixstowe	2 800 000	2 696 659	3.8	51.4
<b>16</b>	<b>18</b>	Bremerhaven	2 712 420	2 180 955	24.4	8.7
<b>17</b>	<b>17</b>	Gioia Tauro	2 652 701	2 253 401	17.7	55.6
<b>18</b>	<b>16</b>	Tanjung Priok	2 476 152	2 273 300	8.9	27.8
<b>19</b>	<b>22</b>	San Juan	2 392 749	2 084 711	14.8	11.9
<b>20</b>	<b>20</b>	Yokohama	2 317 393	2 172 919	6.6	-7.4

Source: *Containerisation International*, March 2001 and *Port Development International*, April 2001.

## B. IMPROVING PORT PERFORMANCE

127. During the year, the port of Singapore twice announced ship handling rates of over 200 container per hour working vessels at Brani terminal. In March, the terminal achieved 210 containers per hour, then in October realized a turnover of 2,129 container in just over 10 hours. A terminal operator from Hong Kong, China claimed a record after handling 15,660 containers (28,623 TEUs) in a 7-day period or 168 hours. These outputs represent annual throughputs of over 1 million TEU per berth. While these are remarkable achievements, productivity level in other ports must also reach satisfactory levels to assure the smooth functioning of the worldwide transport network. This is true for all ports whether they are located in developing countries or in other groupings.

128. Poor port performance results in weak nodes in the international transport network and, sometimes, calls for remedial actions by the highest decision-makers. The President of the Russian Federation quoted losses of \$1.5 billion per year due to poor port services<sup>3</sup> and noted that 70 million tons of national cargo are now being transited via Finnish and Baltic ports.

129. Labour unrest hampered performance in a few ports notably where the aim was to further the privatization process and to overcome restrictive practices. Earlier in the year there were strikes in several Indian ports and the armed forces were called in to handle some consignments. The port of Chittagong (Bangladesh) was also affected by strikes. In South America there were disruptions of service in some Chilean ports and in Santos (Brazil). The participation of trade unions in the reform and privatization process is being advocated by the ITF<sup>4</sup> as a means to avoid conflict and to share the benefits of productivity gains.

130. Fresh investment to cope with increased traffic or to upgrade services is another way to improve performance. During the year a number of ports announced plans to this end. The port of Shanghai, China plans to invest about \$220 million to build five 15-metre draft berths able to serve 6,000 TEU vessels from 2005. In this scheme over 38 square kilometres of port land would be added. Mexican ports announced an investment budget for 2001 of \$129 million.

131. In most ports, however, investment was a combined effort of the public and private sectors and was an important component of the privatization process. In February 2000, South Asia Gateway, an international investor with P&O Ports as a shareholder, started the \$240 million scheme in Colombo, Sri Lanka that will multiply terminal capacity fourfold to 1 million TEU by 2002. The \$10 million oil tanker development for the port of Sihanoukville, Cambodia was made jointly with the Government and Marubeni, Japan. Private sector development agencies are also involved. For example, the International Finance Corporation, part of the World Bank, participated in the \$50 million investment by the local port operator Wilson & Sons in Rio Grande, Brazil.

132. Pooling of resources was also common to undertake these investments. The \$130 million development in Port Said involved A.P. Moller (Denmark) and ECT (The Netherlands) in addition to local participation. The Port Development Consortium in charge of expanding the port of Maputo, Mozambique, with the exception of the container terminal, was composed of a construction company (Skanska - Sweden), a port operator (Liscont - Portugal), and local investors (Mozambique Gestores). The Consortium entered into a joint venture with the port authority whereby the latter supplied 49 per cent of the capital.

<sup>3</sup> [www.informare.it/news/review/2000/b070800.asp](http://www.informare.it/news/review/2000/b070800.asp) quoting Journal of Commerce, edition 7 August 2000.

<sup>4</sup> Presentation of K. Marges, ITF Dockers' Section Secretary in Conference on Privatization (Lisbon, Portugal, 22–23 February 2000).

133. The involvement of international cargo handling operators is deemed crucial for strengthening existing ports in the worldwide transport network. Two agreements reached during the first half of 2000 illustrate this point. ICTSI International Holdings Corporation from Philippines is one of the partners in the company winning the concession for the container terminal of Dar es Salaam, United Republic of Tanzania. Dubai Port International was awarded the concession of the port of Djibouti with the aim of developing it as a regional hub.

134. The participation of these international cargo-handling operators or shipping lines in these investments can result in totally new ports that add new nodes to the worldwide transport network and may challenge existing ports. During the year the green light was given to proceed with the \$300 million container terminal of Tangiers, Morocco in which Hessenatie, the largest Belgian container port operator, is involved. This development may challenge the transhipment business of Algeciras, Spain and brings to mind examples of recent years — Freeport, Bahamas undertaken by Hutchison Port Holdings and Salalah (Oman) with the backing of Maersk Sealand, one of the largest container carriers.

135. Investments in facilities linked to ports may bring considerable benefits to port performance. During the year construction of the 32-kilometre Alameda Corridor linking the ports of Los Angeles and Long Beach, on the West Coast of the United States, with the transcontinental rail networks of Union Pacific Railroad and Burlington Northern Santa Fe Railway continued as planned. This complex project segregates and upgrades road and rail transport by eliminating over 200 street-level crossings, consolidating four railway lines and widening road expressways which will reduce pollution, noise and accidents. Port authorities financing, a federal loan and transportation grants are funding the project with loans being repaid through user fees. When completed, delays to and from the port will be greatly reduced.

136. Poor port performance may stem from problems external to the port. Stoppages by truck drivers due to increases in petrol prices, increased insurance costs and slow turnaround time while within port premises disrupted container operations in some ports in Florida, United States during the first quarter of 2000. During the second half of the year customs clearance procedures in Spanish ports started to speed up following enactment of a law restricting cargo clearance on behalf of third parties to licensed customs agents.

137. Finally, complaints about high port charges indicate the need to take steps to improve port performance. In Santos, Brazil the average \$350 handling charge per container was excessive compared to neighbouring ports and is helping to implement port reforms. In Durban, South Africa, the port authority agreed, under certain conditions, to compensate container shipping lines for berthing delays in excess of 16 hours and simultaneously brought in ad-hoc expertise to address the problems faced in operating the container terminal.

## C. INSTITUTIONAL CHANGE

138. The role of international cargo-handling operators is now a well-established feature of container trades. These firms have substantial container throughputs and aim to provide standard services to global liner shipping companies. In 2000, the operators handling more than 5million TEUs were: PSA Corporation, Hutchison Port Holdings (HPH), P&O Ports and Stevedoring Services of America (SSA).

139. HPH handled around 22 million TEU through 136 berths located in 18 ports. These are Hong Kong, Shanghai, Yantian, Guanzhou, Shenzhen, Pearl River Delta, Shauntou and Xiamen in China; Yangon, Myanmar; Port Klang, Malaysia; Tanjung Priok, Indonesia; Felixstowe, Thameport and Harwich in the United Kingdom; Rotterdam, the Netherlands; Freeport, Bahamas; and Cristobal and Balboa in Panama. PSA Corporation handled about 20 million TEU through its facilities in Singapore; Dalian and Fuzhou in China; Tuticorin and Pipavav in India; Inchon, Republic of Korea; Genoa and Venice in Italy; Aden, Yemen; Sines, Portugal and Muara, Brunei. P&O Ports handled 8.3 million TEU through terminals located in 24 ports. These are: Sydney, Melbourne, Brisbane and Freemantle in

Australia; Buenos Aires, Argentina; Antwerp, Belgium; Shekou, Tianjin and Qingdao in China; Nhava Sheva, Kandla, Chennai and Cochin in India; Tanjung Perak, Indonesia; Cagliari, Italy; Maputo, Mozambique; Port Qasim, Pakistan; Manila, the Philippines; Vostochny, Russian Federation; Colombo, Sri Lanka; Laem Chabang, Thailand; Southampton and Tilbury in the United Kingdom and Newark, United States. Finally, SSA reached 5 million TEU in 60 facilities concentrated in the United States and 12 international locations such as Colon, Panama and Manzanillo, Mexico.

140. Lesser international cargo-handling operators such as ICTSI from Philippines, which handled 2.7 million TEU in 2000 can have sizable turnovers — more than \$300 million. There are a number of national operators that are progressively expanding activities or merging with other operators across borders. Ceres and Holt from the United States were expanding into Europe and Caribbean respectively. Eurokai of Hamburg merged with BSL from Bremen to establish Eurogate. A domestic operator, Urbaser, with annual revenues of \$86 million came into being with activities in several Spanish ports.

141. Maersk-Sealand, a major sea carrier in container shipping, is also an international cargo-handling operator that runs dedicated terminals to support its worldwide shipping network. This line pursues a policy of dedicated terminals and after protracted negotiations with PSA Corp. failed to obtain dedicated facilities in Singapore. By the end of the year, it had moved operations to a new neighbouring Malaysian port, Tanjung Pelepas, where it took a 30 per cent share.

142. The acquisition and merger activities of international port operators have started to come to the attention of regulators. Late in the year, Directorate IV of the European Commission in charge of enforcing competition rules gave notice to ECT of Rotterdam to report on its current shareholders in three weeks. ECT was originally to be sold in 1999 to HPH and a Dutch consortium, each having 50 per cent of shares. The Directorate had considered that the purchase gave dominance to HPH of the North European container market and, subsequently, both shareholders reduced their stakes to 35 per cent. As the remaining 30 per cent was deemed to be owned only temporarily by a third party, the Directorate sought clarification on this point and has now approved the arrangement.

143. Concerns for vertical and horizontal integration were also voiced at the time of tendering for Chilean terminals, in August 1999. The regulators decided that the concessionaire of a terminal could not own more than 15 per cent in a neighbouring terminal or port. Furthermore over 40 per cent of a terminal could not be owned by a relevant party. This was defined as an individual, shipping line or shipper, who was responsible for more than 25 per cent of the throughput in the terminal or 15 per cent of throughput in neighbouring ports during the past year.

144. During 2000, the Government of Argentina allowed merging of operators in the port of Buenos Aires and concerns were voiced by shippers about this concentration of services in a few hands. TRP, partially owned by P&O Ports, purchased TPA thus enlarging the group's capacity fourfold to almost 2 million TEU. Maersk-Sealand took majority shareholding in T4, owned by a group of local operators, and is said to be planning to invest \$40 million to expand capacity. As a result the five operators in the port have now been reduced to three. However, there are also operators available outside the port: Exolgan continued operations in Dock Sud and a new terminal was being developed at Zárate.

145. The considerable financial clout of international cargo-handling operators allows them to tap the financial markets for port development. By the end of the year PSA successfully raised close to \$900 million through two bond issues. ICTSI sold about 30 per cent of its shares to American institutional investors.

146. The establishment of port authorities closely modeled along commercial lines continued. The State of Bremen, Germany decided to establish its port authority as a limited company with shares fully-owned by the State. This follows similar moves in Antwerp and Ghent in recent years. Moreover, to gain full flexibility to act commercially, the port authority for Rotterdam, RMPM, was authorized to set up a holding company Mainport Holding Rotterdam (MHR). MHR will be able to participate in logistics and

industrial businesses that support the port and its region without having to ask for approval from the Municipal Council.

147. However, the full exposure to the financial markets could be a mixed blessing. In the first quarter of 2000 the performance of ABP, the port authority for 23 British ports (listed in the London Stock Exchange), was deemed unsatisfactory for financial analysts relevant to the results achieved by smaller and more dynamic companies. For example, Mersey, the authority for the port of Liverpool, achieved returns on assets of 17 per cent. ABP, after writing off losses of about \$120 million for an ill-fated purchase in the United States, had only an 11 per cent return on assets.

148. Nevertheless, public finance is needed for major development schemes. About a 50-50 split is planned for the \$444 million Euromax Terminal being proposed by ECT and Nedlloyd in Rotterdam. The terminal will cover 125 hectares with a 2.3-kilometre quay length and be ready by 2004. Also the proposed deepwater container port to be built in Wilhelmshaven will probably receive grants from the Government of Germany.

149. The involvement of the public sector requires a balanced approach, notably during the privatization process. The Government of India published a model concession document for allowing a smooth bidding process. The process would be divided in two stages. The first stage would qualify bidders based on their experience and financial strength. Bidders must have experience in managing terminals with at least 50 per cent of the capacity of the terminal being tendered for and 20 per cent of bidder's net worth must be equal to at least 50 per cent of project cost. In the second stage the bidders will present the technical proposal and the financial conditions. The Institut des Sciences et des Techniques de l'Équipement et de l'Environnement pour le Développement (ISTED)<sup>5</sup> proposes a risk management approach to reach a balanced mix of public and private funds devoted to ports concessions. The identified risks for construction and operation of port concessions should be distributed with the help of the financial agencies participating in the scheme.

150. In undeveloped areas port investments could bring substantial increases in living standards. During the year South Africa unveiled plans with European capital for a 6000 ha deepwater industrial port initially containing a zinc refinery. The construction phase would create about 10,000 jobs.

#### **D. SPECIAL NEEDS OF SMALL PORTS**

151. There are a number of ports along the shores of the Indian Ocean that cater for modern and traditional trades. The latter is based on dhows, small sailing and motor vessels, transporting small consignments of merchandise for retailers and individuals, including goods for construction or small manufacturing ventures.

152. Large dhows carry about 200–300 tons and call at ports of the Gulf and Aden, along the Horn and the East Coast of Africa to Pakistan and India — Gujarat and along the Coasts of Malabar and Coromandel. It is seasonal traffic peaking in the Horn and East Coast of Africa between December and June. Smaller dhows such as those found in East Africa<sup>6</sup> may have capacity of 30 tons (sailing dhows) and 100 tons (motor dhows).

<sup>5</sup> Report "Public-private port partnerships in developing countries: analysis, sharing and management of risks". Available in English and French from ISTD. See website: [www.isted.com](http://www.isted.com).

<sup>6</sup> Preliminary Study of the East African Informal Maritime Sector by Geoffrey Boerne, Seafarers International Research Centre, Department of Maritime Studies and International Transport, Cardiff University, Wales, United Kingdom, (January 1999).

153. The major source of cargo is Dubai, United Arab Emirates, a cargo entrepot in the Gulf and where dhows are also built. This trade requires modest port facilities: a shallow-draft quay wall with, preferably, a wide apron to accommodate vehicles for direct discharge of cargo for onward delivery. The port authority responsible for the facilities is always of the landlord type. All cargo-handling operations are arranged for and carried-out for cargo owners or their agents who normally take delivery of their goods in person. In many cases an old, shallow-draft section of the port, is assigned to this trade. This is the case in the two modern container ports of Aden and Salalah.

154. The dhow trade often maintains a minimum of economic activity in areas affected by man-made disasters. For example, the economic activity in the port of Bosaso, Somalia is flourishing with imports from the dhow trade and has attracted people from the surrounding area resulting in a quadrupling of the population. Even livestock (e.g. camels and goats) are occasionally exported in dhows. During 2000, a total of 567 vessels called at this port and throughput reached 0.27 million tons. Enforcing international economic sanctions to countries may be difficult when dhows are involved in trade. Also the trade is prone to illegal activities such as smuggling.

155. Ports serving this trade often neglect providing the facilities and services required by it. Better sanitary facilities and increased security measures for the large numbers involved in the handling and clearance of cargo would improve operations and reduce losses to cargo. Some degree of port state control could also improve working conditions of seamen serving on the dhows.

## **Chapter VI**

# **TRADE AND TRANSPORT EFFICIENCY**

*This chapter provides an update of the latest developments in the field of multimodal transport, including cargo rail services, information on the status of the main maritime Conventions, reports on the transport segment of the Least Developed Countries Conference in Brussels and on UNCTAD training activities.*

### **A. DEVELOPMENTS IN MULTIMODAL TRANSPORT**

#### *Regulation of multimodal transport*

156. In the last quarter of the twentieth century, transport of goods experienced fundamental changes as a result of the development of new and improved means of transport and communication. One of the most important steps forward was the invention and utilization of containers. Another major advance was the development of multimodal transport where goods are carried under a single contract by different modes of transport, for example by road and sea. At the beginning of the twenty-first century, transport of goods continues to undergo substantial change. An increasing number of movements are multimodal or warehouse-to-warehouse, which can be tailor-made for transport customers and are more efficient and cost-effective than segmented unimodal transports. More transport is now combined with various value-adding logistics services, such as warehousing, consolidation and deconsolidation of different consignments, packing and unpacking of goods, customs clearance and other forwarding services. Moreover, information technology is beginning to play a major role in the creation of more efficient and multi-functional transport. Electronic data communication systems are used to exchange information, make transport contracts and “track and trace” goods during transit, and will probably also be employed to provide the functions of traditional transport documents in the near future.

157. A significant number of contemporary shipments are door-to-door transport, performed as a multimodal transport under a single transport contract and a single transport document. However, they are generally not regulated and supported by an international convention or national legislation on carriage of goods.

158. In spite of various attempts to establish a uniform legal framework governing multimodal transport no such international regime is in force. The United Nations Convention on International Multimodal Transport of Goods 1980 failed to attract sufficient ratifications to enter into force. The UNCTAD/ICC Rules for Multimodal Transport Documents, which came into force in January 1992, do not have the force of law. The Rules, being contractual in nature, will have no effect in the event of conflict with mandatory law.

159. The lack of a widely acceptable international legal framework on the subject has resulted in individual Governments and regional/subregional intergovernmental bodies taking the initiative of enacting legislation in order to overcome the uncertainties and problems which presently exist. Concerns have been expressed regarding the proliferation of individual and possibly divergent legal approaches which would add to already existing confusion and uncertainties pertaining to the legal regime of multimodal transport.

160. The proliferation of diverse national approaches has prompted a number of organizations to initiate investigations into the subject with the aim of establishing possible solutions. The document prepared by the UNCTAD secretariat entitled: “Implementation of Multimodal Transport Rules”

(UNCTAD/SDTE/TLB/2, 27 June 2001) provides an analysis of the rules and regulations on multimodal transport adopted at the national, regional and subregional level in recent years. The document concludes that the long desired uniformity of law governing the international multimodal transport of goods has not yet been achieved. The subject still occupies the attention of various international and intergovernmental organizations as well as individual Governments. The search for uniformity of law in this important area continues and clearly requires treatment in a global forum on a priority basis. The following is an extract from the document reflecting its summary and conclusions:

“... As it appears from the study, some jurisdictions have adopted the network liability system making the liability of the MTO, in case of localized damage, subject to the provisions of mandatory international convention or national law applicable to the particular stage of transport during which the loss or damage occurred. Thus, the liability of the MTO changes depending on where the loss or damage takes place. In case of non-localized damage the MTO’s liability is often made subject to general provisions of the law, which may not be easily determined in every case.

A number of legislations, following the approach of the MT Convention, adopt modified network liability system based on presumed fault or neglect. These laws derive extensively from the provisions of the MT Convention and of the UNCTAD/ICC Rules for Multimodal Transport Documents.<sup>7</sup>

In general, these laws and regulations apply to multimodal transport contracts when the place of taking in charge, or delivery, of the goods is located in the country enacting the law. That is to say that such laws and regulations have a much wider scope of application and are not confined to the particular country or the region.

The enacted laws and regulations are in general of mandatory nature and often specifically provide that any contractual stipulations to the contrary are null and void. Thus, standard terms and conditions may not be used to derogate from these laws

Regional and subregional organizations within Latin America have overlapping memberships. Some countries are members of more than one organization. These organizations have produced multimodal transport laws and legislation for their member countries, which are not entirely uniform but vary in approach to certain essential issues. Some countries, while being members of more than one organization, have also enacted legislation differing from those enacted by member organizations. Thus, the question of which law applies in a particular case becomes an important issue.

Clearly the desire to reach uniformity of the law governing multimodal transport is far from being achieved. The present situation may be characterized by uncertainty as to the law applicable to multimodal transport operations. The lack of a uniform liability regime in force, diverse national laws and regulations including varying approaches on central issues such as the liability system, limits of liability, time-bar, etc., make it difficult for the parties to assess in advance the risks involved.

<sup>7</sup> It should be noted that UNCTAD/ICC Rules were prepared with a view to their incorporation into contracts for carriage of goods and were not meant to be used as a model law in enacting mandatory national laws. Particular attention would need to be given in incorporating contractual provisions such as UNCTAD/ICC Rules into mandatory national laws to ensure, that in conjunction with provisions derived from the MT Convention, they do not produce unintended consequences.

The problem also arises if the loss is not localized and the stage of transport where the loss or damage occurred is not identified. In practice, standard terms documents which include varying liability provisions are normally used, but since these are contractual, they are usually subject to mandatory and divergent national laws and regulations. The situation is even more complicated where the damage has occurred gradually and during the entire process of transportation.

The present disunified and highly unsatisfactory situation regarding cargo liability regimes in general and multimodal transport in particular, has prompted a number of organizations to initiate investigations into possible measures to improve the situation. The solutions proposed vary from the preparation of a new set of model laws, to a mandatory international convention or a non-mandatory international convention, similar to the UN Convention on the International Sale of Goods 1980, to apply by default. It is recognized that model laws applicable by parties' contractual agreement or a non-mandatory international regime would be more widely acceptable but they would not be effective in promoting uniformity. While a mandatory international convention would, in principle, be the best means of creating international uniformity, experience has shown that international conventions are difficult to negotiate and very slow to enter into force. After twenty years, the UN Convention on International Multimodal Transport of Goods has not entered into force and is unlikely to do so in the near future, although a significant proportion of its provisions have been used in the preparation of a number of national and regional/subregional legislation.

However, the nature and scope of any possible course of action would need to be decided at a global level and with the involvement and participation of all interested parties. The adoption of individual national or regional solutions would contribute to already existing uncertainty and lack of uniformity and thus work to the detriment of the international community. International coordination and cooperation are essential in order to arrive at a widely acceptable solution". (paragraphs 246–254)

#### *Trade facilitation*

161. During 2000 the International Trade Procedures Working Group of the United Nations Centre for Trade Facilitation and Electronic Business (UN/CEFACT) conducted an update of the Compendium of Trade Facilitation Recommendations. The original version of the Compendium was prepared in 1994 by UN/ECE and UNCTAD for helping those engaged in trade facilitation — the systematic rationalization of procedures and documentation for international trade.

162. The Compendium is comprehensive and analytical — recommendations are grouped under headings pertaining to trade in general, official procedures and control (e.g. customs), transport and transport equipment, movement of persons, conveyance of hazardous goods, payment procedures, use of information technology and commercial practices and international standards. The revised Compendium was approved in March 2001 and the final version has been available since June 2001, on the website <http://www.uncefact.org>.

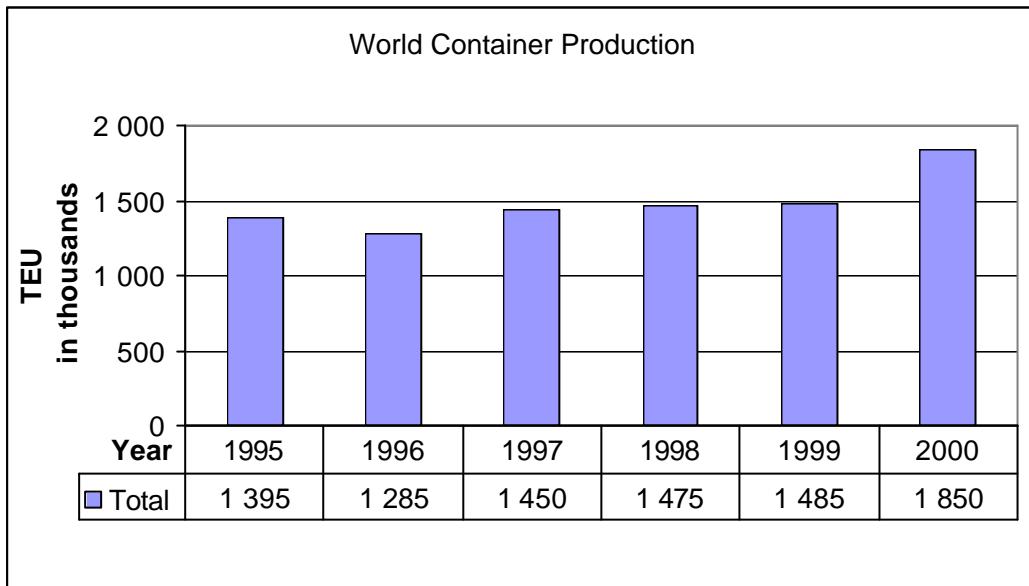
#### *Container leasing industry*

163. World container production in 2000 reached an equivalent of 1.85 million TEU, an increase of 24.6 per cent from production levels of 1999 (see graph 9). The weakening of container demand in 1998 due to the slow down in international trade had a minor effect on the level of box production in China. By 1999, many of producers in Republic of Korea, Taiwan province of China, India, and elsewhere went bankrupt because they were unable to match Chinese prices. At European ports, for example, containers

from China were priced at \$1,700–\$1,800 per 20 ft container. The main drive behind the downward trend of box prices since 1995 and 1999 was low production costs, especially labour, in China. The lowest price reached in 1999 was \$1,350 for ex-works 20 ft in China.

Graph 9

**World container production**



Source: *Containerisation International*, February 2001

Note: Totals include maritime containers and other types of units.

164. As table 43 indicates world container production is overwhelmingly dominated by the standard dry freight container, which expanded by 29.3 per cent in 2000. Producers outside China have now started to diversify or shift completely into other more specialized sectors, such as ISO specials, swap-bodies, or other domestic containers. European companies concentrate on the production of swaps and reefers while output has decreased almost 50 per cent since 1996. The output of reefer containers expanded by 11.1 per cent in 2000. Swap body output for 1999 more than doubled that of 1995 and increased a further 4.4 per cent in 2000.

165. The leasing industry was affected by the slow down of world trade, its subsequent recovery and uncertain prospects of late 2000. The fleet of leased boxes increased by 8.6 percent in 1998, by a healthy 21.3 per cent in 1999 and by a modest 6.0 per cent during 2000 (see graph 10). The increase in shipboard slots (see table 7 of Chapter II) and the need for repositioning boxes on unbalanced trade routes fuelled the demand for leased boxes.

Table 43

**Global container production by main type for 1999 and 2000**

<b>Container type</b>	<b>1999</b>	<b>2000</b>
<b>Dry freight standard and high</b>	1 230 000	1 590 000
<b>Dry freight special</b>	65 000	64 000
<b>Reefer</b>	90 000	100 000
<b>Tank</b>	12 000	12 000
<b>European (swapbody)</b>	45 000	47 000
<b>United States domestic</b>	43 000	37 000
<b>Total</b>	1 485 000	1 850 000

*Source: Containerisation International, February 2001*

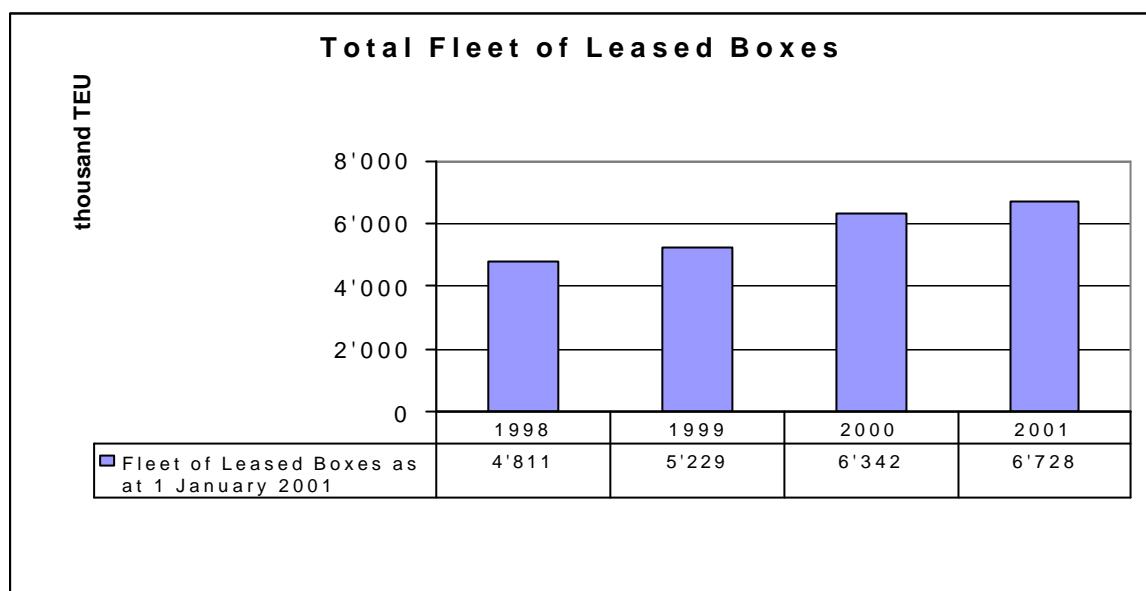
Note: Some of 2000 totals are estimated.

166. Container lessors purchased large numbers of new containers during 1997 and 1998. It is estimated that about 1.5 million TEU were stocked in early 1999 in anticipation of new box prices. This resulted in over-supply of new boxes in the leasing fleet, worsened by the accumulation of idle older containers in low demand areas around the world, especially in Europe and North America. The rate of utilization fell below 81 per cent at the beginning of 1999 and further decreased to 79 per cent as of 1 January 2000.

167. At the start of 2000, about 45 per cent of the leased container fleet was on long-term rental and the remainder on master lease or off-hired. In spite of reduced purchases and lowered operating costs through the use of IT, lessors continue to operate with marginal profit because of low utilization and lease rates.

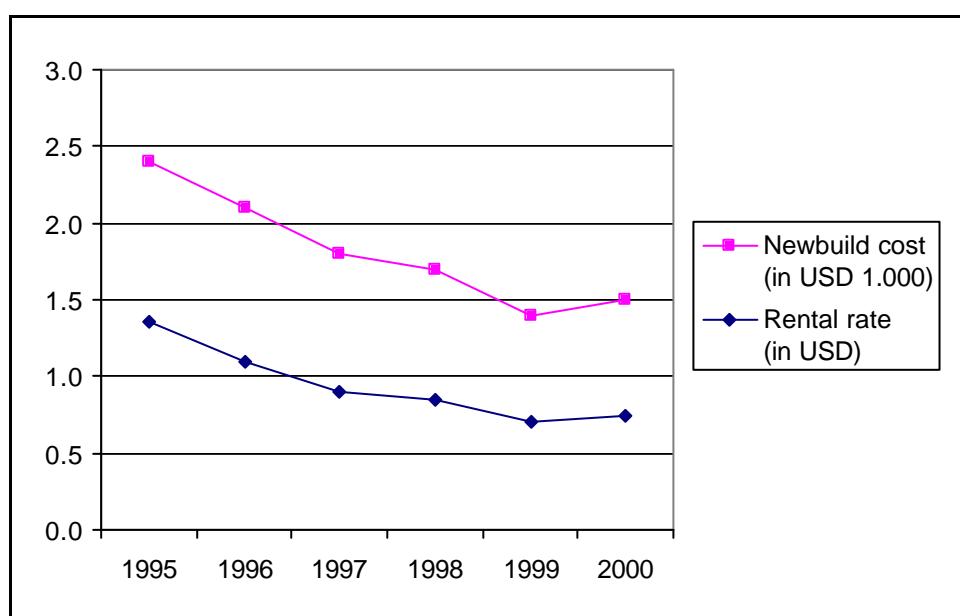
168. Graph 11 shows that both rental rates and prices of new boxes move in tandem and reached their lowest level in 1999. The daily rate of long-term leased boxes, generally new boxes, bottomed at \$0.70 per day, making them a more attractive option than the master leased boxes whose rates had only dipped down to slightly more than \$1.20 per day because of high fixed service costs. Both rental rates and prices of new boxes recovered slightly in 2000.

Graph 10

**Total fleet of leased boxes**

Source: IICL Annual Leased Container Fleet Survey, 1998 to 2001.

Graph 11

**Trend in price of new boxes and rental rates**

Source: Containerisation International, July 2000

169. The upward trend of prices for new boxes commenced in mid-2000 as price differentials started to narrow across China. The strength of this trend was still unclear, as it was caused by the increase in the cost of raw material, increased demand for new boxes fuelled by the recovery of South East Asia and consolidation of several Chinese producers.

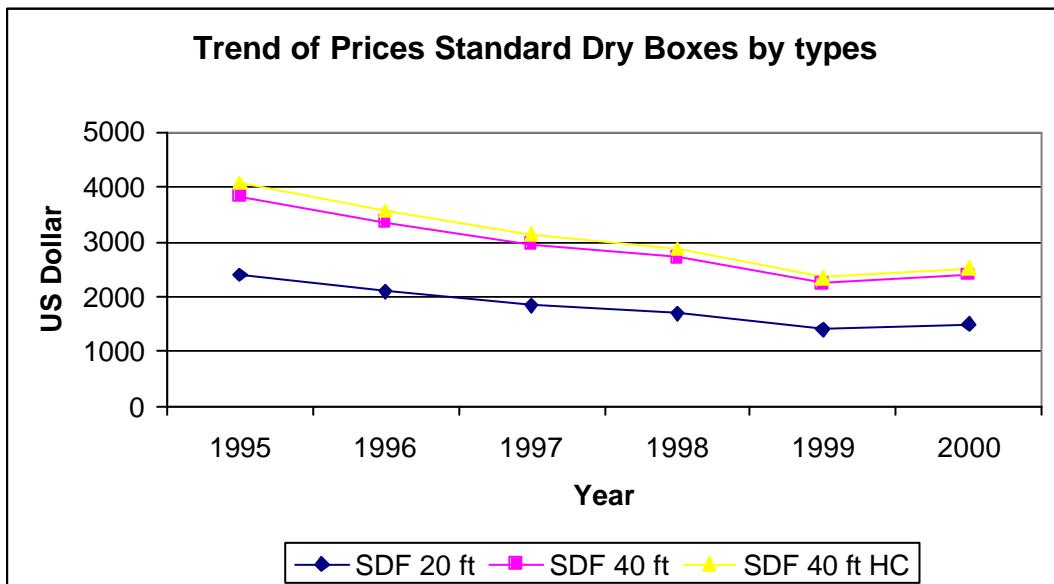
170. The turnaround trend in prices for different container types is shown in graph 12. The price of a new standard dry freight 20 foot container was around \$1,500 in 2000, an increase of \$100 from the 1999 price. The prices of ex-works 40 foot and high-cube 40 foot have moved closer together and in the same direction since 1995. By mid-2000 the prices of ex-work 40 foot and high-cube 40 foot have further increased — roughly \$160 higher from the prevailing prices a year before.

171. The short-term prospect for demand of leased equipment is encouraging. The average utilization rate reached 84.4 per cent at the end of 2000, a similar percentage to that at the end of 1997, but better than rates achieved in 1998 and 1999 of 79 and 81 per cent respectively. Also, the increase of prices of new containers may encourage operators to lease boxes rather than to purchase.

172. At present, China is the dominating producer of containers with nearly 70 per cent of the world output of standard 20 foot units. Estimates for 1999 indicate that Chinese companies met about 85 per cent of global demand for dry freight containers, equivalent to more than 1.05 million TEU. Reductions in production capacity by 10 to 15 per cent in 1999 and 2000 and this year's high demand for new standard boxes forced Chinese factories to work overtime and took over production lines originally dedicated to manufacturing special boxes.

Graph 12

**Trend of prices standard dry boxes by types**



Source: Containerisation International, September 2000

*Impact of information technology in transport and trade facilitation*

173. The most visible impact of information technology in transport and trade facilitation is the extent in which Internet sites and portals are being used for daily activities of service providers and for commercial transactions between different parties. For example, new technology-led companies have entered the transport and shipping field to provide brokering services but had difficulty in establishing themselves as viable alternatives to existing firms. In other cases, existing companies created information technology subsidiaries to boost their own businesses.

174. In March 2000, HPH commissioned its Internet portal for complementing the port activities of the company. The portal was redesigned in early 2001 to provide logistics solutions to enable companies to move goods around the world in the simplest and most efficient way ([www.line.net](http://www.line.net)). Currently the portal aims to serve the community of freight forwarders, transportation buyers and suppliers, banks, insurance companies and government agencies, across all modes of transport and all types of cargo. Planning, loading and routing of transport activities, electronic documentation and online booking, track and trace features and procuring parts, supplies and provisions for vessels and ports are some of the tasks to be performed by users.

175. There are presently three major shipping portals that plan to offer on-line services for sailing schedules, tariffs, bookings requests for shippers, bills of lading, tracking and tracing and payments. INTTRA ([www.inttra.com](http://www.inttra.com)), an e-commerce system, has the backing of P&O Nedlloyd, Hamburg Süd, CMA-CGM, Maersk-Sealand, Mediterranean Shipping Company and Hapag-Lloyd. A pilot programme for tracking and tracing was launched in February 2001. Other on-line container booking ventures are GTNexus and CargoSmart.

176. GTNexus ([www.gtnexus.com](http://www.gtnexus.com)) was formed by a partnership with an internet company for managing container shipments (Trariant) and shipping lines (APL, ANZDL, Canada Maritime, Cast, Contship Containerlines, Lykes Lines, TMM Lines, Hanjin, Hyundai K-Line, Mitsui OSK Lines, Senator Lines, Yang Ming and Zim). The company has integrated its e-logistics applications to the back-office systems of its ocean carrier partners. In May 2001, Hewlett Packard, the third largest United States electronics importer agreed to manage all of its global transport over GTNexus.

177. CargoSmart ([www.cargosmart.com](http://www.cargosmart.com)) is the e-commerce system developed by OOCL and offers all of the above services. CargoSmart has been recently joined by COSCO Container Lines and MISC. All these portals seek to offer the shipper better and continuous information as a means of attracting and retaining their business.

## **B. CARGO TRANSPORT SERVICES IN THE RAIL INDUSTRY**

178. The transport of goods overland is a natural extension of maritime transport. In the bulk trades for crude oil and dry bulks, pipelines, rail and long distance belt conveyors are used. In the liner trades road transport is predominant, especially for short and medium distances. The use of rail services for long distance conveyance of liner goods was pioneered in the 1980s by double-stack container trains from the West Coast of North America to Chicago and other inland destinations. In addition to cost savings, the environmental benefits of using rail instead of road transport for these goods is becoming apparent.

179. Improving rail services continues to be a challenge for both industry and Government. Mergers of rail companies, privatization of services and new investments are some the avenues pursued by countries to reach better services.

*Merger of rail companies in the United States*

180. Earlier mergers in the United States aimed to form a relatively smooth end-to-end network with few overlaps and to make rail companies profitable. This was still the case with recent mergers such as the one undertaken in 1999 between Canadian National Railway Company (CN) and US Illinois Central, which resulted in a 120 per cent increase in traffic in one year of operation. Also the merger, in February 2000, between the Florida Branch of Rail America and RailTex of San Antonio (Texas, United States) resulted in one of the largest operators of short-line and regional railroads and was widely supported by users.

181. In contrast, the takeover of Conrail by Norfolk Southern and CSX Corporations in 1999 and the merger of Southern Pacific Rail and Union Pacific Corporations in 1996 did not go smoothly. Services were disrupted and led to massive delays with relatively high unexpected costs to shippers. Therefore, the merger proposal between Canadian National Railway and Burlington Northern Santa Fe (BNSF) submitted in February 2000 for making the largest railroad in North America received a cautious welcome.

182. Shippers strongly reacted to the unsatisfactory outcome of these large mergers to the United States Surface Transportation Board (STB). As a result STB examined rail merger policies and procedures in light of current conditions in the rail industry and decided, in March 2001, to implement a 15-month moratorium on mergers. This was later upheld by the United States Court of Appeals for the District of Columbia Circuit. Shortly thereafter CN and BNSF decided to abandon their merger deal.

183. STB viewed that the guiding principle of its merger policy should be whether the proposed merger would be in the public interest and had provisions for enhancing competition. The latter was important as the number of Class 1 railroads passed from 30 in 1976 to only 7 in 2000. Shippers considered that lack of rail competitiveness had therefore become a barrier for users to remain competitive.

*Privatization for better services*

184. Australia has implemented a privatization programme in its rail industry. The start of transforming the heavily regulated Government-owned rail environment into a flexible, open-access, competitive and privately-owned system took place during 1997–1999, involving the buying of V/Line Freight and Australian National by private owners. The result of such an initiative was reflected through the birth of various competing rail companies with distinct specialities, the establishment of a group of scheduled service operators, such as Lachlan Valley, Northern Rivers, and Anstrac, and the forming of supporting group of service providers in the areas of locomotives, wagons, maintenance, and crewing. The year 2000 plan was to sell three more Government run rail companies, namely FrightCorp, Westrail Freight, and National Rail to further the benefits of privatization.

185. As regards to allowing foreign players in the privatization process, the United Kingdom is considering this option. Some United Kingdom transport groups supported the move but other parties considered that national operators would be unable at this time to match the higher bids likely to be offered by the foreign companies.

*Investments and expanding services*

186. At the beginning of 2000, the Government of Australia allocated about \$150 million for its four-year plan to upgrade and improve the rail infrastructure of the country. More than 60 per cent of the fund was allocated for New South Wales, about 20 per cent for Victoria, and less than 10 per cent each for Western and South Australia. The investment and allocation was expected to bring improvements in

scheduling and service reliability in a number of corridors. In the Melbourne and Adelaide corridor a reduction in transit time to 10 hours was expected, along the Perth/Adelaide corridor a three-and-a-half hours reduction in transit time and in the Melbourne/Brisbane (via Sydney) corridor a five hours reduction.

187. Rail investments were often made to allow national ports to reach a wider hinterland. The regional Flemish Government (Belgium) is pursuing plans to add a second rail access to the port of Antwerp. Furthermore, a new shorter northern route is envisaged to enable the port to serve inland East European destinations.

188. Investments in rail infrastructure and ancillary services are also viewed as promoting environmentally friendly transport, as an alternative to road transport across densely populated areas. In 2000, the European Commission agreed to a Dutch subsidy for the construction and expansion of two intermodal rail terminals in Rotterdam (RSC Rotterdam and European Container Terminal). The subsidy, not exceeding 20 per cent of total investments, will allow terminal operators to offer their customers lower handling prices and progressively reduce demand for road transport.

189. Also, rail traffic has increased over the existing networks, in particular intermodal services from German seaports. The first semester of year 2000, resulted in an increase of block-train services by Intercontainer-Interfrigo (ICF) which serves destinations to Hungary from Bremenhaven and Hamburg. The throughput was 19,800 TEU, an increase of 25 per cent over the same period in 1999.

190. Moreover, some countries are drafting ambitious plans to foster rail transport over wider regions. A recent study carried out for the Brazilian Minister of Transport indicated that increased rail activity in South America was inevitable. Although the increase would be highest in containerized cargo moving through Santos and Rio de Janeiro, it has implications for the trading partners of Mercosur. Similarly, China has placed the development of the Eurasian Continental Land-Bridge, highest on its priority list. This is a 12,500 kilometre route linking the ports of Lianyungang (China) and Rotterdam (the Netherlands).

## C. STATUS OF CONVENTIONS

191. There are a number of international Conventions affecting the commercial and technical activities of maritime transport. Box 3 gives the status of international maritime conventions adopted under the auspices of UNCTAD as at end-June 2001. Comprehensive and updated information about these and other relevant conventions is available on the Internet. For instance the International Maritime Organization (IMO) maintains a website with the status of its Conventions on <http://www.imo.org/home.html>. Similarly, the labour-related conventions are available on the website of the International Labour Organisation (ILO) <http://ilo.org> and more specifically on <http://iloex.ilo.ch:1567/public/english/docs/convdisp.htm>. Transport-related Conventions are found in the website of the United Nations Commission on International Trade Law (UNCITRAL) <http://www.uncitral.org/english/texts/transport/transportindex.htm>.

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Box 3

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**Contracting States of selected conventions on maritime transport as at 1 August 2001**

<b>Title of Convention</b>	<b>Date of entry into force or conditions for entry into force</b>	<b>Contracting States</b>
<b>United Nations Convention on a Code of Conduct for Liner Conferences, 1974</b>	Entered into force 6 October 1983	Algeria, Bangladesh, Barbados, Belgium, Benin, Bulgaria, Burkina Faso, Cameroon, Cape Verde, Central African Republic, Chile, China, Congo, Costa Rica, Côte d'Ivoire, Cuba, Czech Republic, Democratic Republic of the Congo, Denmark, Egypt, Ethiopia, Finland, France, Gabon, Gambia, Germany, Ghana, Guatemala, Guinea, Guyana, Honduras, India, Indonesia, Iraq, Italy, Jamaica, Jordan, Kenya, Kuwait, Lebanon, Madagascar, Malaysia, Mali, Mauritania, Mauritius, Mexico, Morocco, Mozambique, the Netherlands, Niger, Nigeria, Norway, Pakistan, Peru, the Philippines, Portugal, Qatar, Republic of Korea, Romania, Russian Federation, Saudi Arabia, Senegal, Sierra Leone, Slovakia, Somalia, Spain, Sri Lanka, Sudan, Sweden, Togo, Trinidad and Tobago, Tunisia, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, Uruguay, Venezuela, Yugoslavia, Zambia (78)
<b>United Nations Convention on the Carriage of Goods by Sea, 1978 (Hamburg Rules)</b>	Entered into force 1 November 1992	Austria, Barbados, Botswana, Burkina Faso, Burundi, Cameroon, Chile, Czech Republic, Egypt, Gambia, Georgia, Guinea, Hungary, Jordan, Kenya, Lebanon, Lesotho, Malawi, Morocco, Nigeria, Romania, Senegal, Sierra Leone, St. Vincent and the Grenadines, Tunisia, Uganda, United Republic of Tanzania, Zambia (28)
<b>United Nations Convention on International Multimodal Transport of Goods, 1980</b>	Not yet in force — 30 contracting parties	Burundi, Chile, Georgia, Lebanon, Malawi, Mexico, Morocco, Rwanda, Senegal, Zambia (10)
<b>United Nations Convention on Conditions for Registration of Ships, 1986</b>	Not yet in force — 40 contracting parties with at least 25 per cent of the world's tonnage as per annex III to the Convention	Bulgaria, Côte d'Ivoire, Egypt, Georgia, Ghana, Haiti, Hungary, Iraq, Libyan Arab Jamahiriya, Mexico, Oman (11)
<b>International Convention on Maritime Liens and Mortgages, 1993</b>	Not yet in force — 10 contracting parties	Monaco, Russian Federation, St. Vincent and the Grenadines, Tunisia, Vanuatu (5)
<b>International Convention on Arrest of Ships, 1999</b>	Not yet in force — 10 contracting parties	Bulgaria, Estonia (2)

Source: For official status, see [www.un.org/law/](http://www.un.org/law/)

## **D. TRANSPORT AND DEVELOPMENT IN LEAST DEVELOPED COUNTRIES**

192. The Third United Nations Conference on the Least Developed Countries (LDC III) took place in Brussels (Belgium) in May 2001 and included a session on transport and development. The development of a coherent national and international transport network is necessary to facilitate commercial relations between surplus and shortage areas. Transport services are essential elements to integrate different regions within a country and with neighbouring countries as well as to provide access to marketplaces.

193. Limited transport availability and high costs hamper the international trade of the 49 LDCs, which export low-value goods with limited potential for differentiation. In 1999, total freight payments for LDC imports were estimated at \$5.0 billion for a total c.i.f. import volume of \$27.5 billion. The existence of a functioning transport system is also a prerequisite for foreign direct investment to be channelled to a country. For LDCs, inward flows stood at only 0.3 per cent of world flows in 1998.

194. The creation of public-private sector partnerships in a number of LDCs has improved the efficiency of transport and provided funding for transport infrastructure development. For example, recent private sector involvement in the management of a container terminal in an east African LDC has resulted in the doubling of cargo handling productivity. Government should encourage the establishment of these partnerships and promote regular public-private dialogue and consultations as a means of improving transport efficiency.

195. Transport is particularly important for the trade-based development process of landlocked LDCs. The establishment of regional transit corridors and the adoption of common rules and standards are important to improve transit systems. Landlocked and transit developing countries have concluded a number of bilateral and regional agreements designed to provide a legal framework for transit operations, although much work and attention is needed to implement these agreements.

196. Governments must coordinate the provision of ports, terminals, roads and other infrastructure for international trade and refrain from levying excessive taxes or charges on transit movements. Upgrading port and transport management standards and practices will improve the quality and reliability of transport services. The application of information technology and management training are relatively low cost means to improve efficiency. Presently, transport operators in nine LDCs have benefited from UNCTAD's Advance Cargo Information System (ACIS) to improve cargo and transport resource management.

197. In addition to the above and in parallel with international support, LDC Governments will need to focus on transport efficiency and take steps to streamline administrative procedures and strengthen the commercial capabilities of national providers of transport services. This will make the best use of existing infrastructure and thus reduce infrastructure-funding requirements and trigger the economic development of LDCs through increased transport efficiency.

## **E. OTHER DEVELOPMENTS**

198. The availability of local training capacity to allow organizational change that contributes to efficient trade supporting services continues to be a main UNCTAD objective. The TRAINMAR programme was established in the 1980s to set up and strengthen local training institutions that provide quality training in maritime transport well adapted to local conditions. The use of modern technology and cooperation between countries were also features of the programme. Currently, activities of the programme are carried out at two levels: those of the local institutes that form the global TRAINMAR network and those that are produced specifically by the UNCTAD secretariat dedicated to supporting the network.

199. The network members are responsible for the provision of training services responding to local requirements and, in particular, the development and delivery of training courses. About 50 individual training institutes benefit from association with the TRAINMAR programme and, every year, provide some 10,000 training places on courses made available and exchanged through the network. Some institutes train up to 1,000 persons across the full range of courses they offer.

200. TRAINMAR has been active in Africa since 1980 and the programme entered a new phase with the development of the Port Certificate Package (see box 4). In the Asia/Pacific region, there are centres in the following countries: Egypt, Sri Lanka, India, Nepal, Thailand, Malaysia, the Philippines and Papua New Guinea. A regional electronic information exchange system has been created and is being maintained through the contribution of Campion College in Kathmandu (Nepal) ([www.geocities.com/trainmar](http://www.geocities.com/trainmar)). Funding is being sought for upgrading local training capacity, focusing especially on freight forwarding. In 2000, 61 courses focusing mainly on port management training and transport logistics were delivered in the region for 859 participants. In early 2001, it was agreed to integrate into the region a series of courses available from the South American centres. Training of trainers will enable training sustainability.

201. In South America the centres are organized in the regional network ATAS which has developed a Specialization Programme in International Transport and Port Management that is now part of regular university specialization programme in Argentina and Uruguay. During 2000, more than 25 course deliveries for 800 professionals were organized. The six centres of the Central America network organized 105 courses for 1,552 participants, mostly coming from the public port sector of Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and Panama. Courses dealing with Information and Communication Technologies in ports were also recently delivered as part of implementing trade facilitation recommendations in Central America. In the Caribbean Basin network a total of 200 seminars were offered for around 2,500 professionals, mainly from the private sector. A large volume of the activities of the Caribbean Basin network concentrates on its diploma programme on "Logistics of International Transport of Goods" (TRANSLOG) now part of the regular university programme in Panama, Mexico and Colombia. Two new centres have joined this network, in Manzanillo (Mexico) and Santo Domingo (Dominican Republic).

202. The ILO's Portworker Development Programme (PDP) has started to be delivered on a regular basis. It was translated into Spanish by ATAS in 1999 and a core of professionals has been trained as potential instructors for each of the 30 modules of PDP. In Central America, a team of PDP instructors was trained in each country and training need analysis was conducted to develop training relevant to the port modernization in the subregion.

203. In the Black Sea region activities concentrated in Romania and Georgia. A total of 19 courses for 343 professionals were carried out as part of the project for the Modernization of the Port of Constanza (Romania) funded by the Government of Germany. Ten courses on port management techniques and the role of ports in international trade were delivered in English by foreign instructors and the remaining nine courses were delivered in Romanian by local instructors after having been adapted and translated from Spanish or English. In Georgia training activities concentrated on production and translation of training materials covering basic port functions and management techniques into Russian, as defined in the training need analysis undertaken in 1999. In a joint effort with UN/ECLAC, a workshop on Port Modernization was organized in November 2000 for 35 Georgian officials at the Batumi State Maritime University (BSMA). This event officially launched training deliveries for the Georgian port community.

204. The secretariat continued its support to member centres to maintain, improve and extend their training services, often through cooperation. A course on flexible training methods has been developed to ensure that centres can respond effectively to business needs for up-to-date training. Course materials are

available on the Internet, CD-ROM and printed. Phase One of the delivery was through distance learning, and Phase Two brought the trainers together for a week-long workshop at the APEC Antwerp/Flanders Port Training Center. Other network training programmes of the United Nations have requested authority to use this course. Collaboration between the Multimedia Center of the Arab Academy for Science and Technology and Maritime Transport in Alexandria (Egypt) and ATAS for CD-ROM-based course on Environmental Management in Ports was also fostered by the secretariat. Finally, contacts with Government representatives in Geneva were conducted by the secretariat to provide Governments with information on training services available and to encourage them to use those services as part of their plans for improving trade. In October, a Global Strategic Action Plan was prepared through Internet consultation and a workshop for participants from all regions was held in Frankfurt, Germany.

#### Box 4

##### **UNCTAD Port Certificate**

In 1993 an UNCTAD Intergovernmental Group of Experts on Ports proposed the creation of a Port Management diploma for managers of the port community. Following these recommendations, the UNCTAD secretariat explored ways of implementing a training course on port management aimed at enhancing capacities of developing countries to better master the new challenges their ports would have to face.

With the financial support of Belgium, the training package of the "Port Certificate" was produced along with its relative audio-visual supports. The 210-hour course, based on the TRAIN X methodology, has been prepared in French and comprises eight modules which cover all issues that a port manager is required to master to efficiently perform his tasks and respond to future challenges.

As a result of the pilot phase that was organized with three African ports (Dakar, Libreville and Cotonou), two deliveries were conducted — 93 trainees successfully completed the course. In fact, managers generally follow the modules over a period of one year to obtain the Certificate, which is awarded only to those participants having successfully presented an individual dissertation following completion of their training.

An evaluation of the impact of this pilot experience was carried out recently by a team of three consultants whose report was submitted in May 2001. This evaluation acknowledged that the pedagogical material is of high quality and that it matches current needs of the port community in terms of requirements in the field of international trade and transport. In fact, the implementation of this acquired knowledge in the human resources policies of the enterprises involved, has lead to a visible improvement of their daily activities. Nowadays, training sessions are being delivered for African trainers, thus facilitating the sustainability of the scheme. Globally, this is a new approach based on a real partnership among all the parties involved. Also, the cost-sharing arrangement between the three ports involved and the European counterpart (Belgium) is an example of the shift in the traditional donor/beneficiary relationship.

The UNCTAD Port Certificate material has been translated into English and Portuguese, and a pilot phase using distance-learning tools will soon be implemented with the participation of Comoros, Tunisia and Senegal. An extension of the traditional form of training is also scheduled for other developing and least developed countries in the near future, on the basis of requests from ports and communities interested in the implementation of this programme.

Complete updated information is available through the relevant website: [www.unctad.org/trainfortrade](http://www.unctad.org/trainfortrade).

## Chapter VII

# REVIEW OF REGIONAL DEVELOPMENTS: EAST ASIA

*This chapter focuses on developments in developing and socialist countries of East Asia, in particular global and intraregional trades, transport network development and performance and transport problems of landlocked LDCs*

### A. SHIPPING MARKETS

*Economic growth and trends in imports and exports*

205. The economic performance of countries in East Asia during 2000 showed that the recovery from the financial crisis has endured. As shown in table 44 the growth of output for all countries exceeded that of the previous year. The recovery was based on greater export performance helped by strong demand from the United States but also by solid domestic demand and investment in most of these countries.

Table 44

#### Growth of output of East Asian countries (percentage change)

Countries and groups of countries	Growth rate		
	1998	1999	2000
Republic of Korea	-6.7	10.7	9.3
China	7.8	7.1	8.0
Hong Kong, China	-5.1	3.1	10.4
Taiwan Province of China	4.7	5.7	6.0
Singapore	0.4	5.4	10.1
ASEAN 4 <i>of which:</i>	-9.4	2.8	5.3
- Indonesia	-13.0	0.3	5.2
- Malaysia	-7.4	5.4	8.7
- Philippines	-0.6	3.2	3.5
- Thailand	-10.2	4.2	4.2
Japan	-2.5	0.2	1.3
Developing Asia and China	1.1	4.9	6.6
South Asia <sup>a</sup>	5.6	5.7	5.5
West Asia <sup>b</sup>	3.3	-0.5	4.3

Source: *Trade and Development Reports, 2001*. UNCTAD secretariat calculations, based on data in 1995 dollars.

Percentages for 2000 are estimates.

<sup>a</sup> Bangladesh, India, Nepal, Pakistan and Sri Lanka.

<sup>b</sup> Oil exporting countries.

206. East Asian trade experienced an unprecedented boom in 2000 as demand in America continued to grow. Furniture from China, kitchen appliances from the Republic of Korea, motor parts from Japan and computers from Thailand are examples of export cargoes that contributed to another bumper year for ocean carriers. Recovery of South-East Asian developing countries was underway in 1999 and gathered speed during 2000. Of the other two trading regions, China and North East Asia (Japan and Republic of Korea), the former maintained its high export rate, and optimistic expectations for the future due to the forthcoming accession to WTO. Japan rebounded during the first half of 2000, but prospects became less encouraging by the end of the year. Consolidation of the Republic of Korea's recovery was pending the completion of the restructuring of national conglomerates (*chaebols*).

207. The growth of volume of imports and exports for selected countries of East Africa is given in table 45. The highest growth of imports was in Indonesia, followed by China and Malaysia while the highest growth of exports were in China, Indonesia and Thailand. These results confirm the recovery of South East Asia and the sustainability of the trade performance in China. The performance in North East Asia (Japan and Republic of Korea) was also remarkable, reaching double digits on imports.

Table 45

**Growth in the volume of merchandise trade by selected countries, 1998–2000**  
*(annual percentage change)*

<b>Exports</b>			<b>Country</b>	<b>Imports</b>		
<b>1998</b>	<b>1999</b>	<b>2000</b>		<b>1998</b>	<b>1999</b>	<b>2000</b>
-1.3	2.1	9.2	Japan	-5.3	9.5	10.9
16.9	12.0	18.7	Republic of Korea	-21.0	26.1	18.5
4.5	9.6	28.3	China	2.5	15.2	33.1
-4.3	3.6	17.1	Hong Kong, China	-7.1	0.2	18.1
1.1	4.9	12.4	Taiwan Province of China	4.1	1.4	11.2
-0.3	5.4	16.8	Singapore	-12.9	9.5	14.8
17.2	-1.4	24.0	Indonesia	-30.8	-11.3	37.1
3.9	19.9	19.5	Malaysia	-21.2	13.5	24.6
24.8	24.2	13.8	Philippines	-13.9	3.3	2.0
7.8	12.0	21.0	Thailand	-27.2	23.6	14.9

Source: WTO Merchandise Section, Statistics Division, May 2001.

208. Total fleets of East Asian countries (Japan, Democratic People's Republic of Korea and the Republic of Korea in North East Asia; China, Hong Kong, China and Taiwan Province of China; and the 10 ASEAN countries), including vessels beneficially owned in open registries, reached 298.9 million dwt at the beginning of 2001. This was 37.0 per cent of the total world fleet. The average age of the fleet owned by developing countries of East Asia is 12.22 years which is younger than the average age of the world fleet (13.9 years) (see table 46). With the exception of the category of general cargo vessels, the average ages of the fleets of these countries are younger than the world average.

Table 46

**Average distribution of the merchant fleet of countries in East Asia by types of vessel,  
as at 1 January 2001  
(percentage of total dwt)**

<b>Country grouping</b>	<b>Types of vessel</b>	<b>0–4 years</b>	<b>5–9 years</b>	<b>10–14 years</b>	<b>15–19 years</b>	<b>20 years and over</b>	<b>Average age (years) 2001 <sup>a</sup></b>
<b>World total</b>	All ships	18.8	18.4	12.7	16.3	33.8	13.9
	Tankers	16.6	23.5	12.1	8.8	39.0	14.1
	Bulk carriers	20.4	16.7	14.3	23.9	24.7	13.2
	General cargo	11.1	10.0	10.4	19.8	48.7	17.0
	Container ships	33.4	22.9	12.2	11.0	20.5	10.4
	All others	18.1	12.7	12.4	16.1	40.7	15.0
<b>Developing countries in East Asia</b>	All ships	24.8	20.9	13.8	14.0	26.5	12.2
	Tankers	23.0	22.4	19.2	5.6	29.8	12.3
	Bulk carriers	30.1	24.5	14.1	15.7	15.6	10.3
	General cargo	6.1	7.8	8.5	21.4	56.3	18.5
	Container ships	37.3	24.8	7.2	10.9	19.9	9.9
	All others	20.3	13.3	10.4	23.7	32.3	14.2

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

<sup>a</sup> To calculate the average age, it has been assumed that the ages of vessels are distributed evenly between the lower and the upper limit of each age group. For the 20-years-and-over age group, the mid-point has been assumed to be 23.5 years.

#### *Tanker trades*

209. Developments in tanker trades are influenced by the expansion of refineries across Asia. The steady commissioning of major refineries in the region continued: in 1999 India expanded its refining capacity by 19.2 per cent. The refining capacity in the region reached 19.9 million barrels per day (mbpd) in 1999, about 24.3 per cent of world capacity. This is 2.8 mbpd more than in 1995 when refining capacity of the region was 22.2 per cent of that of the world. In terms of countrywide refining capacity the two major countries are Japan and China with more than 5.0 mbpd of capacity each.

210. Long haul demand for VLCCs and Suezmax tankers could increase substantially in the coming years as Asian refineries import more low sulphur crude oil from West Africa. There is an environmental reason for these trades. Some Asian Governments have decreased tolerance levels for sulphur and other pollutants in refined products — India and Thailand have lowered sulphur pollution limits from 0.25 per cent to 0.05 per cent. The Republic of Korea has already implemented the 0.05 per cent limit, which is still high compared with the European Union level of 0.035 per cent.

211. The Asian crisis of 1997 forced many Asian refineries to shelve plans for secondary refining capacity (e.g. adding catalytic cracking and hydrogen treating), that would have produced low-sulphur petroleum products. Installing such capacity would take a number of years and refineries without secondary refining capacity have to deal with the problem by including a higher proportion of West African, low-sulphur light crude, in their crude oil mix.

212. The quantity of West African crude moving eastward has approximately doubled over the past four years to the present level of 0.7–0.8 million barrels per day in 2000. Nearly half of West Africa's

incremental production of 0.8 million barrels per day through to 2003 could go to Asia. The Middle East Gulf exports to Asia are also expected to increase by 2003 to a massive 2.5 million barrels per day. Therefore, increased demand for VLCC and Suezmax is foreseeable due to increased shipments from West Africa and the Middle East Gulf.

213. Five of the top ten petroleum product routes in the world involve shipments to or within Asia. Among these, the inter-Southeast Asia accounts for spot movements of about 14 million tons per annum. With strong economies, limited oil reserves and long voyage distances, Asia now accounts for the biggest share of the world petroleum product tanker fleet. Tanker operators are now recovering from the two difficult years of 1998 and 1999. Seaborne movements will continue to grow in the years ahead as oil consumption expands throughout the region. However, important changes taking place in terms of national oil refining and product import policies, which are already having an impact on regional flows of petroleum products throughout the region.

214. An import ban on gasoline and gas oil over the past 22 months has helped to transform China from being a net importer of petroleum products to become a net exporter. Greater refinery productivity and upgrades will result in increased crude oil imports into China and reduced demand from refineries of Singapore, Republic of Korea and Japan. At present fuel oil accounts for 75 per cent of China's petroleum products imports, with most of these shipments arriving at southern ports. The ban on gasoline and gas oil imports may have to be lifted when China joins WTO but China may control petroleum product trade through import licenses.

215. During the year the massive 2.3 mbpd refining capacity of Republic of Korea, the third largest refiner in the region, led to an expansion of trade in petroleum products and heralded the country as a main distribution centre in the future.

216. The export-oriented oil refining business in Singapore is being challenged. Throughput of crude oil and petroleum products declined by 4 per cent in 1999, and the downward trend continued in 2000. During the first half of 2000 trade of petroleum products reached an average of just over 1.6 million barrels per day with diesel and fuel oil registering the heaviest declines. However, business was helped in August 2000 by the Indonesian decision to temporarily process 0.1 million barrels per day of crude oil in Singapore to meet domestic demand as a result of a fire that badly damaged the largest refinery of the country in West Java.

217. After a dismal spell of three years, the seaborne transport of chemical products from Asia rebounded in 2000 due to the shutdown for maintenance of the ethylene cracker at Stenungsund (Sweden) in December 1999. Competitively priced shipments of ethylene and propylene from East Asia to Europe partially covered the shortfall. The crisis of 1997 hit the market badly: Asian chemical imports slumped from over 1 million tons in 1996 to less than 100,000 tons in 1999. The recovery of demand would probably be reflected in an expansion of intra-Asian trade, perhaps not as buoyant as before, as new refineries may limit the need for imports from outside the region. Japan and the Republic of Korea, the primary exporters, could tap the Chinese market that is a major buyer of ethylene.

#### *Bulk trades*

218. The decline in freight rates in the bulk trades at the end of 2000 mentioned in Chapter IV may have a smaller impact for East Asian owners. This results from the stronger trade flows within Asia fuelled by China, which has its own momentum fed by strong domestic demand. Time charter rates for Capesize vessels that are favoured by the majority of Hong Kong, China bulk vessel owners, are expected to fall from the \$18,500 level to about \$14,000 a day by the end of 2001. Daily rates for Handymax tonnage have remained flat at \$8,000 a day. However, Asian owners may also face the prospect of shorter time charters, a common occurrence in falling markets.

### *Liner trades*

219. In the liner trades, in addition to the intra-Asian trades, East Asia is at the centre of two of the three main East-West routes namely transpacific and Asia-Europe. The transpacific route has greater traffic than the Asia-Europe or transatlantic routes and accounts for nearly 60 per cent of carrier income on these routes. Drewry estimated total income generated across the Pacific last year at close to \$15 billion, up from just over \$11 billion in each of the previous three years. This compares with the \$6.7 billion generated on the Europe-Asia route and just under \$4 billion on the transatlantic route. It is the transpacific eastbound leg that is powering the boom, with income from ocean freight and ancillary charges put at \$11.7 billion, compared with \$7.0 billion in 1999 and less than \$8.4 billion in 1998.

220. During 2000, cargo flows across the Pacific increased impressively in both directions. Table 47 gives for an estimate of deployed capacity. Shipments from two loading ranges, China (including Hong Kong, China and Taiwan Province of China) and North East Asia (Japan and Republic of Korea) to the United States were expected to reach almost 5.5 million TEU, with this figure expected to climb further to 5.8 million TEU in 2001. Shipments from South East Asia, including the ASEAN-4 and Singapore, to the same destination grew by some 6 per cent to almost 1.1 million TEU, with further growth to 1.15 million TEU expected in 2001.

221. China is one of the main trading partners of the United States, accounting for about 2.6 million TEU of eastbound shipments in 2000. Westbound shipments from United States are very much smaller at 0.5 million TEU. But as China's huge domestic market is further opened to foreign goods as a result of the future membership to the WTO, this figure is poised to soar.

Table 47

#### **Estimated annualized slot capacity in million of TEU <sup>a</sup> for transpacific trades**

<b>Operators/services</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
	<b>Eastbound</b>	<b>Eastbound</b>	<b>Eastbound</b>	<b>Westbound</b>	<b>Westbound</b>	<b>Westbound</b>
<b>Global Alliance</b>	1.38	-	-	1.25	-	-
<b>Hyundai</b>	0.60	-	-	0.60	-	-
<b>New World</b>	-	1.68	1.73	-	1.60	1.65
<b>Former Grand Alliance</b>	0.80	-	-	0.78	-	-
<b>Grand Alliance</b>	-	1.05	1.23	-	1.05	1.23
<b>Maersk-Sealand</b>	1.04	0.92	1.02	0.94	0.82	0.93
<b>Tricon</b>	0.13	-	-	0.12	-	-
<b>Hanjin/Senator/ Cho Yang</b>	0.89	1.05	1.05	0.90	1.04	1.05
<b>Hanjin/Yangming</b>	0.20	0.20	0.20	0.20	0.20	0.20
<b>K Line</b>	0.45	0.44	0.48	0.45	0.44	0.48
<b>Yangming</b>	0.17	0.17	0.17	0.17	0.17	0.17
<b>Cosco</b>	0.48	0.50	0.59	0.52	0.52	0.62
<b>Evergreen</b>	0.53	0.54	0.99	0.56	0.55	0.99

<b>Operators/services</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>
	<b>Eastbound</b>	<b>Eastbound</b>	<b>Eastbound</b>	<b>Westbound</b>	<b>Westbound</b>	<b>Westbound</b>
<b>Evergreen/ Lloyd Triestino</b>	0.15	0.15	-	0.13	0.15	-
<b>Zim</b>	0.15	0.15	0.24	0.15	0.15	0.24
<b>Westwood</b>	0.10	0.10	0.10	0.10	0.10	0.10
<b>MSC</b>	-	-	0.15	-	-	0.15
<b>Norasia</b>	-	-	0.13	-	-	0.13
<b>China Shipping</b>	-	-	0.12	-	-	0.12
<b>CMA-CGM</b>	-	-	0.09	-	-	0.10
<b>Fesco</b>	0.01	0.01	0.07	0.01	0.01	0.07
<b>Others</b>	0.07	0.07	0.23	0.02	0.01	0.16
<b>Total</b>	7.15	7.03	8.59	6.90	6.81	8.39

*Source:* Compiled by the UNCTAD secretariat from the LSE/Boxfile Containership Database.

<sup>a</sup> As at 1 January 2000. The figures, which are rounded, give estimated physical slot capacity between North American and East Asian ports adjusted for slots utilized for intermediate legs, whether directly or by transhipment. They are not adjusted for temporary gaps or vessel substitutions. The figures are for the respective operations, and do not take into account slot charters between groupings.

222. The regulation of liner shipping in the trades to/from the United States according to the Ocean Shipping Reform Act (OSRA) of 1998 took effect on 1 May 1999. The Act enables carriers and shippers to negotiate individual and confidential service contracts rather than through the published terms and conditions of conferences. It hastened the demise of the two long established transpacific conferences, the Asia North America Eastbound Rate Agreement and the Transpacific Westbound Rate Agreement. However, two carrier syndicates, the 13-member TSA and 12-member WTSA, provide important forums for intelligence gathering and legal requirement monitoring, which are essential for carrier profitability.

223. Imbalance of cargo flows across the Pacific required repositioning of empties. In 1999, up to 21 per cent of container throughput of Hong Kong, China was empty containers while a slightly lower percentage, 17.7 per cent, was found in Port Klang. The problem spilled over to intra-regional routes and repositioning surcharges were applied by some carriers. Equipment repositioning is still the big issue for carriers and with most trade lanes picking up empties, their availability was a major factor in accepting cargo, even on weaker legs.

224. Cargo imbalances were not so pronounced in the Asia-Europe trade, two thirds of which is dominated by the Far Eastern Freight Conference (FEFC). The reason for this was a low exchange rate for the Euro and the possibility of lifting cargoes along the route from South Asia, Middle East and Mediterranean. Trade grew about 8.6 per cent but conference members added more than 11 per cent capacity on this route on the basis of increased trade with China. Although individual contracts were arranged between shippers and carriers there were common elements such as THC, and CAF and BAF surcharges.

225. New shipping services from Europe of existing carriers and newcomers to the Asian trade have focused on China. Republic of Korea and Southeast Asia also enjoyed better coverage as existing service loops were adjusted to provide more slots for these booming areas. Increased calls at Chinese ports took

place in two waves. During the first half of 2000 new services were started while late in the year carriers adjusted existing services to cover peak seasonal traffic.

226. The strength and good prospects for intra-Asian trades triggered expansion of East Asian carriers. APL, part of NOL,<sup>8</sup> plans to double the size of its intra-Asian business by expanding dedicated intra-Asian services and feeder ones, linking into main services to Europe and North America. Accordingly, in January 2000 five new services were started: the Gulf Asia Line Express between the Gulf and Singapore; the West Asia Express linking the Middle East to West Asia; the Nhava Sheva Express; the Red Sea Express from Red Sea ports to Singapore; and the Jeddah Feeder Service. The West Asia Express was upgraded later in the year with the delivery of three newbuildings from Republic of Korea — 4,000 TEU ships on long term charter. Additional newbuilding, ten 5,500 TEU vessels, will be deployed in a new Asia-Europe service in 2001 as part of the New World Alliance with Mitsui OSK and Hyundai Merchant Marine. Moreover, as the Singapore-China trade boomed in 2000, Samudera Shipping Line, a partner with APL in other intra-Asia regional trades, started a new Singapore-Shanghai service.

227. The three main Japanese container carriers also enjoyed a good year and realised profits in their container businesses for the first time in 15 years. Optimistic cargo prospects encouraged them to invest about \$1.5 billion, not counting containers, in new vessels. K Line, having the smallest container fleet of the three, leads the way with an order for 12 post-Panamax containerships. Next is Mitsui OSK with 8 ships, followed by Nippon Yusen, the largest one, with 5. These carriers pursue aggressive rationalization of their businesses, including ordering new vessels from foreign shipyards and expanding services to other regions instead of the traditional reliance on East Asia trades.

228. The large containership order of K Line is its first since 1993 and signals a departure from planned expansion in the bulk sector, which was derailed by the Asian financial crisis. The vessels will replace smaller ones and container carrying capacity will be raised by at least 50 per cent. K Line's strategy is also to strengthen the loose alliance with Yangming and Cosco to increase transpacific and Asia-Europe presence and to decentralize management to overseas locations in London and Richmond. Mitsui OSK has likewise shifted responsibility for decision-making on liner matters to Hong Kong, China. This carrier is the only one to have placed all orders for its 6,000 TEU capacity ships in Japan for delivery during the first and third quarters of 2002. These vessels will replace ships of about 3,000 TEU and thus the line's capacity will be increased by around 24,000 TEU.

## B. DEVELOPMENT OF TRANSPORT NETWORK

229. The development of the transport network in East Asia is the basis for efficient, rapid, and reliable transport and logistics services. The transport network embraces all transport modes and its functioning implies streamlined procedures and enabling legislation to accompany the efficient physical movement of goods. Providers of transport and logistics services operating over the network constantly re-evaluate their strategies as different combinations of modes and routes can give competitive advantage. Transit time, cost, as well as frequency, are some of the factors considered by users when judging the combined efficiency of the network and its transport and logistics services.

230. In South East Asia, the transport network is anchored by hub-centres of varying capacity such as Singapore; Port Klang, Malaysia; or Bangkok, Thailand. Destinations are reached through maritime links

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<sup>8</sup>

Neptune Orient Line listed in the Singapore Stock Exchange.

with road, rail and inland waterways. These inland links are being progressively developed and are loosely coordinated through ASEAN.<sup>9</sup>

231. In China, the transport network is anchored by the largest container port in the world – Hong Kong — and a host of mainland and modernizing ports, notably Shanghai. Maritime and extensive inland waterway links are complemented by road links.

#### *South East Asia*

232. Singapore is considered the central location of the transport network of this area. The port is a major hub in the region<sup>10</sup> with most container carriers making it the only direct call in the region. Non-stop vessels from Europe, North America and elsewhere tranship their cargoes at Singapore to feeder ships capable of getting into the physically restricted ports in other Asian countries (see table 48). It also acts as a logistics centre for South East Asia.

Table 48

#### **Major sailing destinations at PSA**

<b>Country/region</b>	<b>No. of shipping lines</b>	<b>Average no. of daily sailings</b>
<b>Europe</b>	59	5
<b>West Asia</b>	45	3
<b>South Asia</b>	66	5
<b>Africa</b>	58	3
<b>Central and South America</b>	27	2
<b>Australasia</b>	62	2
<b>United States</b>	42	3
<b>China</b>	62	4
<b>Hong Kong, China</b>	67	8
<b>Japan</b>	55	4
<b>Republic of Korea</b>	56	4
<b>Taiwan Province of China</b>	57	6
<b>Indonesia</b>	146	8
<b>Malaysia</b>	99	10
<b>Philippines</b>	31	1
<b>Thailand</b>	62	3

Source: Compiled by the UNCTAD secretariat from [www.psa.com.sg](http://www.psa.com.sg).

233. The national load-centre policy favoured by Malaysia is leading to the establishment of another important anchor of the transport network — Port Klang. Under this policy containers are brought in from other local ports, especially Penang, Johor and Kuching. In 2000, about 30 per cent of the growth in transhipment traffic was generated in this way. Fostering the start of feeder carriers to ports of neighbouring countries, such as Belawan, Indonesia also generated additional traffic. Moreover, the

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<sup>9</sup> Member States are: Brunei Darussalam, Cambodia, Indonesia, Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore and Thailand.

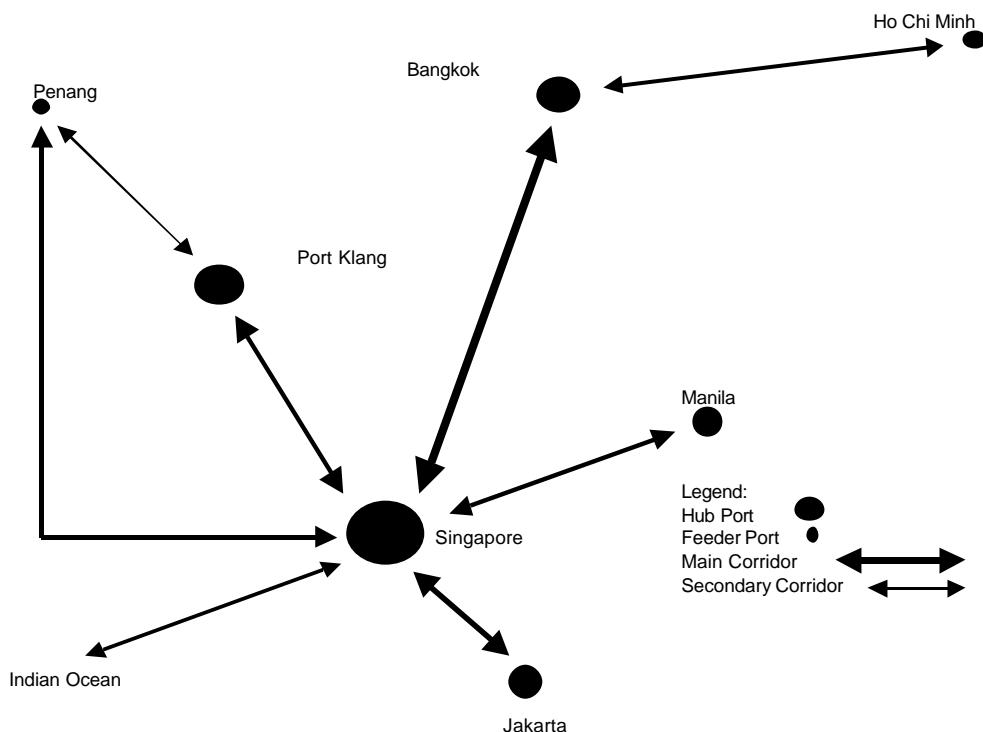
<sup>10</sup> Singapore is a major port of call for 320 shipping lines from more than 738 ports worldwide.

merger of three terminal operators into two, North and West, have provided economies of scale while still maintaining competition within the port.

234. The following figure provides a schematic representation of the transport network in the region and table 49 illustrates containerised intra-ASEAN trade.

Figure 1

### Transport network in South-East Asia



Source: UNCTAD secretariat

Table 49

### Intra-ASEAN containerized traffic (1996–2000)

Year	Intra-ASEAN Trade (in thousand TEU)	Percentage change
1996	989	8.8
1997	1 096	10.82
1998 <sup>a</sup>	1 103	0.64
1999 <sup>a</sup>	1 126	2.09
2000 <sup>a</sup>	1 191	5.77

Source: Compiled by the UNCTAD secretariat from Containerisation International, various issues.

<sup>a</sup> Estimate.

235. Shipping services provide crucial links of the transport network in this area since three of the five major trading partners in ASEAN are island countries (Indonesia, the Philippines and Singapore) while the other two have extensive coastlines. The crisis of 1997 and the still weak freight rates that prevailed in 2000 have tested the ability of several regional carriers to meet financial obligations and creditors' consent has been crucial to continue operations. Any delay in capital restructuring initiatives would affect credit quality adversely. Of 10 carriers<sup>11</sup> only 2 are deemed to have a fair overall credit profile. The key factors, which have resulted in deterioration in credit quality, are:

- ?? Limited geographic diversity. This has exposed several companies concentrating primarily on Asian trade routes to the adverse effect of the region's economic crisis;
- ?? Intense price-based competition. Led by lower cargo traffic in certain trade routes and excess capacity within several shipping segments, this has caused freight rates to drop significantly, and particularly has heightened the risk of single-segment operations for many Southeast Asian shipping companies;
- ?? Credit availability has worsened significantly. This has resulted from weaker earning, rising operating costs, large foreign exchange losses as a result of the depreciation of regional currencies against the dollar, and a heavy reliance on debt to finance aggressive capital expenditure programmes;
- ?? A further limiting of financial flexibility. This reflects acute systemic problems plaguing regional domestic banking sectors, a lack of diversity in funding sources, weak asset values and depressed vessel resale conditions.

236. These carriers set-up shipping services to link individual ports in intricate patterns of dependency: hub/feeder or direct calls. Accordingly, individual ports aiming to become permanent and important anchors of the transport network rely on cargo volumes to attract these services (e.g. Jakarta, Manila, Bangkok) or modern facilities with enough spare capacity to become a purely transhipment port (e.g. Tanjung Pelepas).

237. Improved rail and inland waterway connections can also provide needed links to individual ports. At Penang about 13 per cent of its total throughput came from rail-bound trade generated from southern Thailand. A rail link for containerised cargo between Bangkok, Thailand and Port Klang, Malaysia has been operating since mid-1999. Twenty services per week with capacity of 50 to 60 TEU each are covering 1,323 kilometres in 50–55 hours. There is no customs examination nor reloading at the border. The six operators currently in business expect to have transported 36,000 TEUs by the end of 2000.<sup>12</sup>

238. Inland waterways in the region largely serve domestic traffic and several industrial areas have emerged or are emerging along major rivers, such as the Chao Phaya, Thailand and the Mekong. Transport services along the latter is still subject to navigational constraints (e.g. rapids, shoals, sharp bends in certain places, insufficient navigation aids, lack of recent hydrographic surveys), limited port facilities and operations, and finally an ageing river transport fleet. Improvements are underway with the Mekong River Commission<sup>13</sup> creating awareness of the waterway's potential for international sea

<sup>11</sup> Neptune Orient Lines (NOL); Malaysia International Shipping Corp. (MISC); Regional Container Lines; Osprey Maritime; Samudera Shipping; William, Gothong & Aboitiz; Precious Shipping; PT Berlian Laju Tanker; Thoresen Thai agencies; and Negros Navigation.

<sup>12</sup> "Two more rail landbridge operators", *The Star Maritime*, 23 March 2000, Internet Edition.

<sup>13</sup> Created in 1995 by Cambodia, Lao People's Democratic Republic, Thailand and Viet Nam to promote sustainable development of the Basin.

transport and conducting engineering studies for improving navigation. Investments of \$22 million with Japanese finance have been made at the port of Phnom Penh, Cambodia. Moreover, the transport ministers of China, Lao People's Democratic Republic, Myanmar and Thailand signed a navigation agreement in April 2000 for the opening of the Upper Mekong River to trading ships. This will largely benefit traders from Thailand and Yunnan, China, the two largest markets in the Upper Mekong.

*The ASEAN framework for trade facilitation*

239. The economic integration of ASEAN countries includes a package of commitments to progressively eliminate restrictions to trade in services. With the signing of the Protocol of 1998 in Hanoi, Viet Nam, a new round of negotiations covering air and sea transport, business services, telecommunications and tourism industry is expected to take place soon.

240. Moreover, the key objectives of the Framework Agreement on the Facilitation of Goods in Transit also agreed within ASEAN are:

1. To facilitate transportation of goods in transit, to support the implementation of the ASEAN Free Trade Area (AFTA), and to further integrate the region's economies;
2. To simplify and harmonize transport, trade and customs regulations and requirements for the purpose of facilitation of goods in transit;
3. To establish an effective, efficient, integrated and harmonized transit transport system in ASEAN.

241. Multimodal transport within ASEAN will also be made more effective through the Framework Agreement on Multimodal Transport, which will lay down the broad principles on minimum standards of registration and liability limits for ASEAN multimodal transport operators. The Agreement was to be adopted at the end of 2000 but some issues are still being negotiated and agreement may come in a ministerial meeting scheduled for October 2001.

*China*

242. In 2000, Hong Kong, China re-staked its claim to the title of being the busiest container port in the world. Container throughput grew by 11.7 per cent to reach 18.1 million TEU, compared with 16.2 million TEU in 1999. Hong Kong, China prosperity is based on continuing economic growth in southern China, which was mildly affected by the 1997 financial crisis. The permanence of Hong Kong, China as a major shipping hub and anchor of the transport network serving China seems to be assured by the positive results achieved on a number of initiatives.

243. Lower ship registration and mortgage fees for ship owners has resulted in the Hong Kong, China Register being close to the 10 million grt mark in 2000. Mutual recognition of arbitration awards with the mainland judiciary has now been agreed. An association of container operators was set up during the year to address the persistent problem of high handling costs. Moreover, the Port and Maritime Board set up a Logistics Committee in charge of drafting measures to assure that the port is a preferred regional and international logistics hub at the forefront of applied IT technology in distribution parks and logistics services.

244. Also during the year financing was secured for the expansion of the port. Container terminal 9 (CT9) will add over 2.6 million TEU of annual capacity through six berths (2 kilometres of quay), to the existing 18-berth Kwai Chung port. Some 80 hectares of the 150-hectare site will be given over to logistics and other port services. The new terminal will open in 2002 and be fully operational by 2004.

The project will also include dredging the entire Kwai Chung port to 15.5 metres to accommodate the latest generation of container vessels.

245. In 2000, container box throughput of port in mainland China rose by 37 per cent to a record 22.68 million TEU. Of that total, 20.5 million TEU was handled at sea ports, and 2.1 million TEU at river ports — an increase of 35 per cent and 87.8 per cent, respectively. Table 50 lists China's top five container ports, with Shanghai, Shenzhen and Qingdao accounting for about 78 per cent of the total throughput.

Table 50

**China top five container ports, 2000**  
(millions of TEU)

Port	TEU throughput	TEU increase over 1999 (in per cent)
Shanghai	5.61	+33
Shenzhen	3.96	+55
Qingdao	2.12	+45
Tianjin	1.71	+40
Guangzhou	1.43	+26

Source: UNCTAD secretariat compiled from information from the Ministry of Communication of the People's Republic of China.

246. The total cargo throughput of Chinese ports exceeded 1,150 million tons in 1998 of which 890 million tons were handled in the top 20 ports (see table 51). International traffic reached 360.0 million tons of which 330 million tons were moved through the main coastal ports, 20 million tons through ports along the Yangtze River and 10 million tons through other ports. The policy of encouraging direct calls of mainline containerships with the aim to reduce transhipment in foreign ports<sup>14</sup> started to show results in 1998. Transhipment of containers in foreign ports was reduced by 9.7 per cent while the volume of those transhipped in China went up by 60 per cent reaching 0.16 million TEU.

247. International cargoes move to and from the ports primarily by road. In Shanghai, road transport accounts for 84 per cent of imports and 74 per cent of exports with the balance being taken care of by river and coastal transport. Shanghai is without doubt the leading port and the investment plans mentioned in chapter IV aims to reinforce that role. The Techno-Super-Liner<sup>15</sup> made sailing trials to this port in February 2000. This Japanese ship can carry 1,000 tons at 50 knots and will reduce the trip time between Shanghai and Japan from 60 to 22 hours. It is estimated that up to 40 per cent of priority cargo (e.g. perishables) may be amenable to use it.

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<sup>14</sup> A surcharge of 20 per cent of port charges was applied to vessels engaged in short-sea services.

<sup>15</sup> The Challenge for Maritime Transport at the Dawn of the 21<sup>st</sup> Century. Ports and Harbors, December 2000, pages 12 to 15.

Table 51

**Top 20 ports in handling capacity in China**  
*(million tons)*

Serial number	Port	Cargo throughput in 1998 (in million tons)	Growth rate on 1997 (in per cent)
1	Shanghai	163.5	0.3
2	Ningbo	87.0	5.9
3	Guangzhou	78.6	4.6
4	Qinhuangdao	77.9	-0.9
5	Dalian	75.1	6.6
6	Qingdao	70.2	1.5
7	Tianjin	68.2	0.4
8	Nanjing	52.8	-3.9
9	Shenzhen	33.7	0.5
10	Nantong	20.2	6.3
11	Zhanjiang	18.4	-10.6
12	Lianyungang	17.8	7.5
13	Yingkou	17.7	10.6
14	Rizhaogang	17.2	4.4
15	Zhenjiang	16.8	-1.8
16	Xiamen	16.4	-8.9
17	Zhoushan	15.6	9.8
18	Yantai	15.1	-3.1
19	Zhangjianggang	13.9	22.9
20	Wuhan	13.8	-16.6

Source: *China Shipping Development Annual Report, 1998*, Department of Water Transport, Ministry of Communications of the People's Republic of China.

248. Shenzhen port is complementary to Hong Kong, China with the advantage of considerably lower handling costs: handling a container is estimated to cost \$30–\$40 in this port while in Hong Kong, China it can cost up to \$200. Cargo volumes along the Pearl River Delta are expected to continue to grow at a high rate and be handled through river ports, notably Guangzhou. Chinese ports need to address some productivity challenges if they are to cope with an anticipated flood of imported goods once China joins the WTO. In terms of crane moves per hour most mainland China wharves average between 22 and 25 compared with about 30 to 35 in Hong Kong, China. Some berths in Shanghai, Shenzhen and Yantian operated at near capacity during 2000, and could not handle the larger containerships. Most ports in China were also hampered by rigid pricing and payment systems.

Figure 2

**Major ports in China**

249. Maritime links with China are provided mainly by COSCO, which is the third largest shipping company in the world, after NYK and MOL of Japan. COSCO own and operates 23 million dwt in over 540 vessels of different types: tankers, dry bulk carriers, containerships, multipurpose and passenger vessels. It moved over 150 million tons of cargoes in 1999. Current policy aims to continue the expansion of the shipping business and tankers and dry bulk carriers were ordered during the first quarter of 2001. Also COSCO fostered the development of logistics businesses to undertake warehousing, processing, distribution and even basic elements of manufacturing. The starting of shore-based businesses to counteract the cycles of the shipping business is also being considered.

250. A major container carrier, Evergreen Marine Corporation from Taiwan Province of China, is also based in this trading region. Evergreen is an independent carrier with 134 ships moving containerized cargo in more than 80 countries and its success is based on adherence to a strict quality control system that assures cargo owners reliable and on-time delivery and smooth service.

### C. TRANSPORT PROBLEMS IN ASIAN LANDLOCKED COUNTRIES

251. Table 52 provides estimates of total freight payments for imports and freight costs as a percentage of total import value by Asian developing country groups. South Asia recorded a substantially higher freight costs ratio at 11.07 per cent. This is mainly attributable to Nepal, one of the landlocked countries in the subregion registering freight cost at 15.03 per cent. The ASEAN countries have benefited from lower freight cost at 6.94 per cent for 1999 while the Republic of Korea was subject to the lowest freight costs ratios of 5.22 per cent.

Table 52

**Estimates of total freight costs on imports of Asian developing countries, 1999<sup>a</sup>**  
*(millions of US dollars)*

Country group	Estimate of total freight costs imports	Value of imports (c.i.f.)	Freight costs as a percentage of import value
<b>Asia</b>	60 782	779 686	7.80
<b>South Asia</b>	7 812	70 566	11.07
<b>ASEAN</b>	20 515	295 472	6.94
<b>Republic of Korea</b>	6 255	119 740	5.22

Source: UNCTAD secretariat on the basis of data supplied by IMF

<sup>a</sup> The estimates are not complete, since data for countries that are not members of the IMF, are not included for lack of information or other reasons.

252. Landlocked countries in Asia continue to suffer from excessive transport costs. High import transport costs inflate consumer prices of imported goods, and high transport costs for exports undermine their competitiveness in foreign markets. International transport costs are defined as the direct and indirect costs which are incidental to the transportation of goods from their point of origin to their point of destination. The major elements accounting for the high freight costs for landlocked developing countries include inadequate infrastructure, poor management of transport facilities, imbalance of trade, and cumbersome administrative procedures (see table 53).

Table 53

**Estimates of total freight costs of total import value in world trade by selected Asian landlocked countries, 1999**  
*(millions of US dollars)*

	<b>Estimate of total freight costs of imports</b>	<b>Total import value</b>	<b>Freight costs as a percentage of import value</b>
<b>Nepal</b>	225	1 499	15.03
<b>Lao PDR</b>	78	626	12.47

Source: UNCTAD secretariat on the basis of data supplied by the IMF.

253. The competitiveness of internationally traded products is greatly influenced by various factors, one of which is overall transportation costs. The cost associated with the physical transfer of goods is an essential piece of information in the negotiation of a contract. Transit time is also an important element as goods are required at a specific time and goods-in-transit tie up capital. Uncertainty in quantifying both direct as well as indirect costs is another issue that can disadvantage local traders.

*Transit and ocean freight costs for Lao People's Democratic Republic exports*

254. Establishing door-to-door container-load costs on any given trade can be a potential nightmare for exporters. Invariably the process is highly time consuming, confusing and complex to calculate. Table 54 illustrates the differences in transit and ocean freight costs for Lao People's Democratic Republic exports to Rotterdam of alternative routes. Freight rates quoted are for the shipment of one TEU based on Freight All Kind (FAK) tariff. Of all the possible alternative routes between Vientiane (Lao People's Democratic Republic) and Rotterdam, the option via Port Klang in Malaysia in terms of cost was the best. The transit time for this route was also shorter, between 27–28 days, instead of 30–32 days for the other routes. It should be recalled that freight charges are not constant and are adjusted for seasonal peaks, or other types of surcharges which increases the freight rates compared to those obtained in this table.

255. When comparing the costs involved, sea transport was, as expected, the cheapest per kilometre, rail was intermediate, and road transport was the most expensive. Road transport averaged \$0.55–0.70 per kilometre depending on the routes, rail freight was between \$0.20–0.30 per kilometre, and sea transport was around \$0.11–0.14 per kilometre. For Laotian exporters, on average, the total transport costs to Rotterdam was shared by road transport (16.2 per cent), rail transport (3.2 per cent), sea transport (55.2 per cent), and other charges (25.4 per cent). On certain routes, such as via Bangkok, Thailand, transit and local charges represented up to 10 per cent of the total transport costs. Thus Laotian exporters' transport costs are roughly 30 per cent higher than those for Thai or Malaysian exporters.

256. Lao People's Democratic Republic infrastructure limitations is a major constraint to the economic development of the country, and as a bottleneck for trade expansion and transport facilitation. Road quality is poor as only 43 per cent of roads are paved. The "wet season" renders some roads unusable thus diverting traffic to poorly developed inland waterways. The country is also dependent on the quality of infrastructure available in neighbouring countries. The road infrastructure of Viet Nam is considered poor, while Thailand's infrastructure is deemed adequate, though transport is affected by traffic congestion and poorly maintained sections of road.

Table 54

**Comparison of transit and freight costs for export from Lao PDR to Rotterdam (Netherlands), 2000**  
*(US dollars per TEU)*

From	Mode	Freight rates	Km	To	Mode	Freight rates	Km	To	Mode	Freight rates	Other charges	Total Costs
Vientiane	Road	750	1 060	Danang Port (Viet Nam)	Sea	1 670	17 269	Rotterdam	-	-	1 000	3 420
Vientiane	Road	362	650	Bangkok Port (Thailand)	Sea	1 500	16 899	Rotterdam	-	-	622	2 484
Vientiane	Road	1 572	2 190	Singapore Port	Sea	1 270	15 359	Rotterdam	-	-	867	3 709
Vientiane	Road	409	731	Laem Chabang Port (Thailand)	Sea	1 500	16 850	Rotterdam	-	-	602	2 511
Vientiane	Road	362	612	Lad Krabang ICD (Thailand)	Rail	23	113	Laem Chabang Port to Rotterdam	Sea	1 500	641	2 526
Vientiane	Road	362	612	Lad Krabang ICD (Thailand)	Rail	380	1 323	Port Klang, Malaysia to Rotterdam (14 970 km)	Sea	1 200	533	2 475
Vientiane	Road	47	17	Nongkhai (Thailand)	Rail	800	2 168	Singapore Port to Rotterdam (15 359 km)	Sea	1 270	943	3 060

Source: UNCTAD secretariat compiled from specialised sources

Note: Other charges represents handling charges, THC, document charges, port charges, customs charges and miscellaneous charges paid for transit process.

257. As well, transit procedures are cumbersome. For Laotian imports, the Vietnamese Ministry of Trade must issue transit documents upon the request of the Lao People's Democratic Republic Ministry of Commerce, which may take up to 15 days. For shipments through Thailand, transit documents and certificates of final destination issued by the Laotian Embassy in Bangkok are sufficient to release transit cargo from Thai customs and to allow them to continue their journey into Lao People's Democratic Republic. Also Laotian importers face difficulties when opening letters of credit as many Government agencies are involved (e.g. Ministry of Finance, Ministry of Commerce, Ministry of Justice, Bank of Lao People's Democratic Republic, local councils, etc.). The import procedures are also very complicated and an import license is needed from the Ministry of Commerce each time goods are imported.

258. Cumbersome Laotian rules and regulations are partly due to the overlapping authority of the various ministries and partly to the discrepancy between practical interpretation of policies. This has resulted in increased paperwork and complicated procedures for import, export and transit of goods to and from the Lao People's Democratic Republic.

259. Another issue related with Laotian transit cargo is the transit of other countries' cargo through Lao People's Democratic Republic. Lao People's Democratic Republic provinces have set up "transit fees" depending on the commodity.<sup>16</sup> The fee is set at 10 per cent, 7 per cent and 5 per cent of the c.i.f. price. Savannakhet, one of the four largest cities in the country managed to collect over \$2.5 million in 1999. Goods transiting through Laos People's Democratic Republic are significant: from Thailand to Viet Nam the value of transit goods was over \$76 million while in the opposite direction it was only about \$8.5 million. Savannakhet Province is now financially self-sufficient.

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<sup>16</sup> "Savannakhet's success in transit goods service", *Vientiane Times*, 7 July 2000, Internet Edition.

## Annex I

**Classification of countries and territories**

<b>Code 1</b>	Canada	United States
<b>Code 2</b>	Austria Belgium Denmark Faeroe Islands Finland France Germany Gibraltar Greece Iceland Ireland Israel	Italy Luxembourg Monaco Netherlands Norway Portugal Spain Sweden Switzerland Turkey United Kingdom of Great Britain and Northern Ireland
<b>Code 3</b>	Japan	
<b>Code 4</b>	Australia	New Zealand
<b>Code 5</b>	South Africa	
<b>Code 6</b>	Albania Armenia Azerbaijan Belarus Bulgaria Czech Republic Estonia Georgia Hungary Kazakhstan Kyrgyzstan	Latvia Lithuania Moldova Poland Romania Russian Federation Slovakia Tajikistan Turkmenistan Ukraine Uzbekistan
<b>Code 7</b>	China Democratic People's Republic of Korea	Viet Nam
<b>Code 8 – 8.1</b>	<i>Northern Africa</i> Algeria Egypt Libyan Arab Jamahiriya	Morocco Tunisia
<b>Code 8.2</b>	<i>Western Africa</i> Angola Benin Burkina Faso Cameroon Cape Verde Congo Côte d'Ivoire Democratic Republic of the Congo Equatorial Guinea	Guinea Guinea-Bissau Liberia Mali Mauritania Nigeria St. Helena Sao Tome and Principe Senegal

	Gabon Gambia Ghana	Sierra Leone Togo
<b>Code 8.3</b>	<i>Eastern Africa</i>	
	Burundi Comoros Djibouti Eritrea Ethiopia Kenya Madagascar Malawi Mauritius	Mozambique Reunion Seychelles Somalia Sudan Uganda United Republic of Tanzania Zambia
<b>Code 9 – 9.1</b>	<i>Caribbean and North America</i>	
	Anguilla Antigua and Barbuda Aruba Bahamas Barbados Bermuda British Virgin Islands Cayman Islands Cuba Dominica Dominican Republic Greenland Grenada	Guadeloupe Haiti Jamaica Martinique Montserrat St. Pierre and Miquelon Saint Kitts and Nevis Saint Lucia Saint Vincent and the Grenadines Trinidad and Tobago Turks and Caicos Islands United States Virgin Islands
<b>Code 9.2</b>	<i>Central America</i>	
	Belize Costa Rica El Salvador Guatemala	Honduras Mexico Nicaragua Panama
<b>Code 9.3</b>	<i>South America – Northern Seaboard</i>	
	Guyana French Guyana Netherlands Antilles	Suriname Venezuela
<b>Code 9.4</b>	<i>South America – Western Seaboard</i>	
	Chile Colombia	Ecuador Peru
<b>Code 9.5</b>	<i>South America – Eastern Seaboard</i>	
	Argentina Bolivia Brazil	Falkland Islands (Malvinas) <sup>a</sup> Paraguay Uruguay
<b>Code 10 – 10.1</b>	<i>Western Asia</i>	
	Bahrain Cyprus Iran, Islamic Republic of Iraq	Oman Qatar Saudi Arabia Syrian Arab Republic

	Jordan Kuwait Lebanon	United Arab Emirates Yemen
<b>Code 10.2</b>	<i>Southern and Eastern Asia</i>	
	Bangladesh Bhutan Brunei Darussalam Cambodia Hong Kong, China India Indonesia Macau, China Malaysia	Maldives Myanmar Pakistan Philippines Republic of Korea Singapore Sri Lanka Thailand
<b>Code 11</b>	Bosnia and Herzegovina Croatia Malta	Slovenia Yugoslavia
<b>Code 12</b>	American Samoa Christmas Island (Australia) Fiji French Polynesia Guam Kiribati Nauru New Caledonia	Papua New Guinea Samoa Solomon Islands Tonga Tuvalu Vanuatu Wake Island

<sup>a</sup> A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning sovereignty over the Falkland Islands (Malvinas).

*Notes to Annex I*

(1) This classification is for statistical purposes only and does not imply any judgement regarding the stage of development and the political situation of any country or territory.

(2) The groups of countries or territories used for presenting statistics in this *Review* are made up as follows:

Developed market-economy countries: Codes 1, 2, 3, 4 and 5.

Countries of Central and Eastern Europe and Republics of the former Soviet Union: Code 6.

Socialist countries of Asia: Code 7.

Developing countries and territories: Codes 8, 9, 10, 11 and 12.

*Of which:*

In Africa: Codes 8.1, 8.2 and 8.3

In America: Codes 9.1, 9.2, 9.3, 9.4 and 9.5

In Asia: Codes 10.1 and 10.2

In Europe: Code 11

In Oceania: Code 12.

(3) In certain tables, where appropriate, open-registry countries are recorded in a separate group. The group comprises Bahamas, Bermuda, Cyprus, Liberia, Malta, Panama and Vanuatu.

(4) Trade statistics are based on data recorded at the ports of loading and unloading. Trade originating in or destined for neighbouring countries is attributed to the country in which the ports are situated; for this reason, landlocked countries do not figure in these tabulations. On the other hand, statistical tabulations on merchant fleets include data for landlocked countries that possess fleets.

## Annex II

**World seaborne trade<sup>a</sup> by country groups, 1970, 1980, 1990 and 1998–2000**  
*(millions of tons)*

Area <sup>b</sup>	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products <sup>c</sup>			Crude	Products <sup>c</sup>		
<b>Developed market-economy countries</b>									
<b>North America</b>	1970	0.7	5.3	308.0	314.0	73.4	103.6	170.0	347.0
	1980	0.5	6.9	498.0	505.3	274.3	71.4	170.1	515.7
	1990	1.4	25.8	515.1	542.3	274.9	100.8	227.6	603.3
	1998	2.9	62.1	494.2	559.2	393.2	128.7	330.5	852.4
	1999	6.6	56.4	496.4	559.4	427.6	101.7	340.8	870.1
	2000	7.1	59.8	524.4	591.3	449.0	106.5	370.8	926.3
<b>Europe</b>	1970	28.6	82.3	244.8	355.7	621.0	100.4	469.0	1 190.4
	1980	95.7	79.3	387.4	562.3	585.5	145.1	680.5	1 411.1
	1990	162.1	124.2	482.2	768.5	446.8	172.7	763.2	1 382.7
	1998	59.7	44.7	1 093.5	1 197.9	432.1	109.7	1 519.7	2 061.5
	1999	78.8	56.4	1 051.0	1 186.2	411.2	98.5	1 506.8	2 016.5
	2000	79.6	56.9	1 102.1	1 238.6	415.1	99.4	1 587.5	2 102.1
<b>Japan</b>	1970	-	0.3	41.6	41.9	170.4	30.4	235.1	435.9
	1980	-	..	83.6	83.6	216.3	35.0	361.5	612.8
	1990	-	1.2	81.9	83.1	201.2	82.0	440.7	723.9
	1998	0.0	6.6	111.6	118.2	220.3	48.4	494.6	763.2
	1999	0.0	4.6	119.9	124.5	214.9	49.3	490.3	754.5
	2000	0.0	4.6	129.9	134.5	218.0	47.9	524.9	790.7
<b>Australia and New Zealand</b>	1970	-	1.3	92.3	93.6	18.8	2.9	15.4	37.1
	1980	-	1.5	148.4	150.0	9.8	6.6	13.5	29.9
	1990	9.2	1.5	266.3	277.0	8.6	7.2	18.1	33.9
	1998	12.4	6.1	366.0	384.5	23.0	3.1	17.3	43.4
	1999	12.7	6.2	366.0	384.9	25.0	3.4	17.2	45.6
	2000	12.8	6.3	384.5	403.6	25.7	3.5	18.0	47.1
<b>South Africa</b>	1970	-	-	13.2	13.2	8.8	2.6	6.2	17.6
	1980	-	0.1	68.9	69.0	15.0	1.0	9.7	25.7
	1990	-	-	82.5	82.5	21.9	0.3	9.6	31.8
	1998	0.0	0.0	129.1	129.1	11.2	0.0	19.7	30.9
	1999	0.0	0.0	130.6	130.6	11.3	0.0	19.9	31.3
	2000	0.0	0.0	133.3	133.3	11.4	0.0	20.1	31.6
<b>Subtotal : DMECs</b>	1970	29.3	89.2	699.9	818.4	892.4	239.9	895.7	2 028.0
	1980	96.2	87.8	1 186.3	1 370.3	1 100.9	259.1	1 235.3	2 595.2
	1990	172.7	152.7	1 428.0	1 753.4	953.4	363.0	1 459.2	2 775.6
	1998	75.0	119.5	2 194.4	2 388.9	1 079.8	289.9	2 381.7	3 751.4
	1999	98.1	123.6	2 163.9	2 385.6	1 090.0	252.9	2 375.0	3 718.0
	2000	99.5	127.5	2 274.1	2 501.2	1 119.2	257.2	2 521.3	3 897.7

Area <sup>b</sup>	Year	Goods loaded			Goods unloaded		
		Oil		Dry cargo	Total all goods	Oil	
		Crude	Products <sup>c</sup>			Crude	Products <sup>c</sup>
<b>Countries of Central and Eastern Europe</b>							
<b>Countries of Central and Eastern Europe <sup>d</sup></b>	1970	38.2	26.3	80.8	145.3	13.3	3.0
	1980	55.0	50.2	95.6	200.8	35.5	1.3
	1990	58.6	55.3	85.2	199.1	34.2	1.3
	1998	43.0	21.5	152.0	216.5	20.0	2.0
	1999	57.0	28.5	174.0	259.5	24.3	2.2
	2000	58.1	29.1	186.2	273.4	24.3	2.2
<b>Socialist countries of Asia</b>							
<b>Socialist countries of Asia <sup>e</sup></b>	1970	-	0.1	13.3	13.4	5.4	0.4
	1980	22.1	5.7	18.3	46.1	21.6	5.1
	1990	32.0	4.0	46.1	82.1	3.9	1.3
	1998	25.6	6.7	131.4	163.7	28.8	34.8
	1999	18.0	6.0	139.3	163.3	36.6	25.8
	2000	17.9	5.5	145.1	168.5	70.0	25.8
<b>Developing countries and territories</b>							
<b>Northern Africa</b>	1970	221.4	5.6	28.3	255.3	9.9	5.9
	1980	187.7	2.5	30.0	220.2	50.0	2.0
	1990	182.7	31.5	32.0	246.2	63.4	4.3
	1998	113.0	36.9	51.4	201.3	8.7	6.0
	1999	105.9	37.3	52.4	195.6	10.5	8.0
	2000	105.6	38.1	52.6	196.3	10.1	7.8
<b>Western Africa</b>	1970	60.5	1.0	61.5	123.0	3.6	4.0
	1980	102.6	1.9	66.8	171.3	4.3	5.5
	1990	127.1	3.4	55.2	185.7	4.0	3.2
	1998	147.4	1.3	21.2	169.9	4.0	4.9
	1999	145.4	1.3	22.2	168.9	4.0	4.6
	2000	145.4	1.2	21.8	168.4	3.7	4.7
<b>Eastern Africa</b>	1970	-	1.2	16.1	17.3	5.5	2.6
	1980	-	0.9	6.3	7.2	6.2	2.0
	1990	-	0.6	9.3	9.9	6.4	2.6
	1998	0.0	0.0	6.0	6.0	0.7	4.3
	1999	0.0	0.0	6.0	6.0	0.7	4.7
	2000	0.0	0.0	6.0	6.0	0.7	4.7
<b>Subtotal : Developing countries in Africa</b>	1970	281.9	7.8	105.9	395.6	19.0	12.5
	1980	290.3	5.3	103.1	398.7	60.5	9.5
	1990	309.8	35.5	96.5	441.8	73.8	10.1
	1998	260.4	38.2	78.6	377.2	13.4	15.2
	1999	251.3	38.6	80.6	370.5	15.2	17.3
	2000	251.0	39.3	80.4	370.7	14.5	17.2

Area <sup>b</sup>	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products <sup>c</sup>			Crude	Products <sup>c</sup>		
<b>Developing countries in America</b>									
<b>Caribbean, Central and North America</b>	1970	-	5.1	40.3	45.4	29.5	10.0	17.7	57.2
	1980	53.5	29.6	53.5	136.6	62.8	8.9	30.2	102.0
	1990	95.3	18.8	47.5	161.6	33.7	11.2	35.4	81.1
	1998	94.2	29.0	55.3	178.5	33.1	36.0	62.8	131.9
	1999	89.7	29.3	55.9	174.9	32.2	36.2	65.4	133.8
	2000	95.3	29.0	58.1	182.4	32.2	35.5	59.0	126.7
<b>South America: Northern and Eastern Seaboard</b>	1970	131.2	12.9	90.3	234.4	81.9	4.0	26.5	112.4
	1980	127.8	64.5	162.3	354.6	136.2	5.8	54.5	196.5
	1990	58.4	28.5	214.8	302.0	37.8	4.3	45.7	87.8
	1998	118.9	60.8	220.2	399.9	43.9	19.9	141.4	205.2
	1999	121.6	60.7	217.7	400.0	43.3	19.6	138.1	201.1
	2000	122.8	61.3	219.8	403.9	43.7	19.8	139.5	203.1
<b>South America: Western Seaboard</b>	1970	4.6	1.6	29.8	36.0	4.1	1.5	5.9	11.5
	1980	7.6	3.4	26.7	37.7	4.9	1.4	13.7	20.1
	1990	17.4	8.2	36.0	61.6	3.5	1.3	14.4	19.2
	1998	38.6	2.8	73.5	114.9	13.5	7.9	34.2	55.6
	1999	42.7	3.4	76.8	122.9	15.0	7.1	36.9	59.0
	2000	37.4	3.4	77.8	118.6	15.1	6.8	38.1	60.0
<b>Subtotal: Developing countries in America</b>	1970	135.8	19.6	160.4	315.8	115.5	15.5	50.1	181.1
	1980	188.9	97.5	242.5	528.9	203.9	16.1	98.4	318.6
	1990	171.1	55.5	298.3	524.9	75.0	16.8	95.5	187.5
	1998	251.7	92.6	349.1	693.4	90.5	63.8	238.3	392.6
	1999	254.0	93.4	350.4	697.8	90.5	62.9	240.5	394.0
	2000	255.5	93.7	355.6	704.9	91.1	62.1	236.5	389.8
<b>Developing countries in Asia</b>									
<b>Western Asia</b>	1970	588.7	65.6	3.3	657.6	0.1	1.0	13.1	14.2
	1980	800.6	54.5	12.3	867.4	8.6	50.0	54.9	68.4
	1990	463.9	74.8	30.5	569.2	15.6	7.1	107.0	129.7
	1998	824.8	129.6	51.2	1 005.6	5.2	6.7	92.6	104.5
	1999	805.3	114.5	66.8	986.6	7.0	7.1	105.8	119.9
	2000	852.0	122.3	66.6	1 040.9	7.1	7.2	112.1	126.5
<b>Southern and Eastern Asia (n.e.s.)</b>	1970	35.0	23.7	89.3	148.0	54.7	23.3	61.9	139.9
	1980	74.3	42.2	165.9	282.4	97.4	26.9	163.5	287.8
	1990	78.6	88.4	253.0	420.0	150.4	41.6	362.9	554.9
	1998	63.7	123.5	576.0	763.2	271.0	127.4	678.2	1 076.6
	1999	65.2	125.3	606.0	796.5	272.7	133.6	750.6	1 156.9
	2000	66.9	124.2	610.3	801.5	299.7	132.9	727.7	1 160.3

Area <sup>b</sup>	Year	Goods loaded				Goods unloaded			
		Oil		Dry cargo	Total all goods	Oil		Dry cargo	Total all goods
		Crude	Products <sup>c</sup>			Crude	Products <sup>c</sup>		
<b>Subtotal:</b>	1970	623.7	89.3	92.6	805.6	54.8	24.3	75.0	154.1
<b>Developing countries in Asia</b>	1980	874.9	96.7	178.2	1 149.8	106.0	31.9	218.5	356.2
	1990	542.5	163.2	283.5	989.2	166.0	48.7	469.9	684.6
	1998	888.5	253.1	627.2	1 768.8	276.2	134.1	770.8	1 181.1
	1999	870.5	239.8	672.8	1 783.1	279.7	140.7	856.4	1 276.8
	2000	918.9	246.5	676.9	1 842.3	306.9	140.2	839.8	1 286.9
	1970 <sup>d</sup>	..	-	-	..	-	0.3	0.7	1.0
<b>Developing countries in Europe</b>	1980 <sup>f</sup>	-	-	0.1	0.1	-	0.5	0.6	1.1
	1990	0.3	1.1	7.4	8.8	8.7	2.4	17.7	28.8
	1998	0.0	2.1	14.6	16.7	6.3	2.0	9.8	18.1
	1999	0.0	2.1	15.0	17.2	6.4	2.0	10.1	18.6
	2000	0.0	2.2	15.5	17.7	6.6	2.1	10.4	19.0
	1970	-	0.2	9.5	9.7	0.6	1.6	2.9	5.1
<b>Developing countries in Oceania (n.e.s.)</b>	1980	-	0.7	8.4	9.1	1.6	2.3	3.5	7.4
	1990	-	0.3	8.0	8.3	-	2.3	3.6	5.9
	1998	3.9	0.1	1.8	5.8	0.0	5.8	5.4	11.2
	1999	3.9	0.1	1.9	5.9	0.0	5.9	5.2	11.1
	2000	4.0	0.1	2.0	6.1	0.0	5.9	5.2	11.1
	1970	1 041.4	116.9	368.4	1 526.7	184.9	54.2	169.7	413.8
<b>Developing countries</b>	1980	1 354.1	200.2	532.3	2 086.6	372.0	60.3	406.6	838.9
	1990	1 023.9	255.6	693.7	1 973.0	323.5	80.3	688.2	1 092.0
	1998	1 404.5	386.1	1 071.3	2 861.9	386.4	220.9	1 156.3	1 763.6
	1999	1 379.7	374.0	1 120.8	2 874.5	391.9	228.8	1 253.0	1 873.7
	2000	1 429.4	381.9	1 130.4	2 941.6	419.1	227.6	1 236.7	1 883.3
	1970	1 108.9	232.5	1 162.4	2 503.8	1 101.0	297.5	1 130.9	2 529.4
<b>WORLD TOTAL</b>	1980	1 527.4	343.9	1 832.5	3 703.8	1 530.0	325.8	1 823.3	3 679.1
	1990	1 287.2	467.6	2 253.0	4 007.4	1 315.0	445.9	2 365.0	4 125.9
	1998	1 548.1	533.8	3 549.1	5 631.0	1 515.0	547.6	3 855.1	5 917.6
	1999	1 552.8	532.1	3 598.0	5 682.9	1 542.8	509.7	3 954.5	6 007.1
	2000	1 604.9	544.0	3 735.8	5 884.7	1 632.6	512.8	4 096.5	6 241.9

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

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

b See annex I for the composition of groups.

c Including LNG, LPG, naphtha, gasoline, jet fuel, kerosene, light oil, heavy fuel oil and others.

d Estimates

e Including the former USSR.

f Yugoslavia was classified as a developing country in Europe from 1986 onwards. Data for 1970 and 1980 for this country were recorded under "Developed market-economy countries: Europe."

## Annex III (a)

**Merchant fleets of the world by flag of registration,<sup>a</sup> groups of countries/territories and types of ship<sup>b</sup> as at 31 December 2000**  
*(in thousands of grt)*

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>World total</b>	561 585	156 485	161 661	93 627	60 326	89 485
<b>Developed market-economy countries</b>						
<b>Australia</b>	1 939	247	627	79	37	948
<b>Austria</b>	90	..	..	90	..	..
<b>Belgium</b>	154	4	..	0	..	150
<b>Canada</b>	2 661	330	1 307	134	2	889
<b>Denmark</b>	6 903	1 171	356	745	3 168	1 463
<b>Finland</b>	1 620	304	90	456	..	770
<b>France</b>	4 817	2 159	538	283	402	1 435
<b>Germany</b>	6 562	29	2	718	5 121	691
<b>Gibraltar</b>	605	343	16	86	53	107
<b>Greece</b>	26 580	13 720	8 117	640	1 900	2 203
<b>Iceland</b>	187	2	0	3	..	182
<b>Ireland</b>	250	0	26	61	5	159
<b>Israel</b>	612	1	..	8	593	10
<b>Italy</b>	9 052	1 639	2 049	1 400	744	3 219
<b>Japan</b>	5 266	3 742	3 239	2 047	695	5 543
<b>Luxembourg</b>	1 079	311	6	103	23	635
<b>Netherlands</b>	6 447	164	11	2 535	1 685	2 052
<b>New Zealand</b>	194	57	12	15	..	110
<b>Norway</b>	22 746	8 006	3 931	4 075	83	6 651
<b>Portugal</b>	1 203	361	261	308	30	243
<b>South Africa</b>	422	4	..	0	269	149
<b>Spain</b>	2 030	600	42	389	94	906
<b>Sweden</b>	2 920	103	29	1 742	..	1 045
<b>Switzerland</b>	464	..	422	29	..	14
<b>Turkey</b>	5 836	625	3 303	1 272	169	468
<b>United Kingdom</b>	11 198	3 559	848	922	2 140	3 729
<b>United States</b>	21 843	8 827	3 479	1 987	3 717	3 833
<b>Subtotal</b>	153 679	46 309	28 713	20 127	20 928	37 603

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Open-registry countries</b>						
<b>Bahamas</b>	31 565	13 585	4 833	6 545	1 490	5 112
<b>Bermuda</b>	5 752	2 152	1 911	325	437	927
<b>Cyprus</b>	23 208	4 165	11 383	4 147	2 376	1 137
<b>Liberia</b>	51 604	19 759	12 595	4 826	6 427	7 997
<b>Malta</b>	28 219	11 615	10 562	4 241	799	1 001
<b>Panama</b>	114 931	27 748	45 768	17 022	13 180	11 214
<b>Vanuatu</b>	1 379	11	506	423	31	408
<b>Subtotal</b>	256 657	79 035	87 557	37 528	24 741	27 795
<b>Central and Eastern Europe</b>						
<b>Albania</b>	24	..	..	22	..	2
<b>Armenia</b>	..	..	..	..	..	..
<b>Azerbaijan</b>	653	176	..	94	..	384
<b>Belarus</b>	..	..	..	..	..	..
<b>Bulgaria</b>	990	143	518	220	56	52
<b>Czech Republic</b>	..	..	..	..	..	..
<b>Estonia</b>	382	6	33	159	..	184
<b>Georgia</b>	123	8	0	88	..	27
<b>Hungary</b>	..	..	..	..	..	..
<b>Kazakhstan</b>	11	..	..	2	..	10
<b>Kyrgyzstan</b>	..	..	..	..	..	..
<b>Latvia</b>	105	7	..	32	..	65
<b>Lithuania</b>	436	4	100	210	..	122
<b>Moldova</b>	..	..	..	..	..	..
<b>Poland</b>	1 126	6	851	37	..	233
<b>Romania</b>	768	67	138	367	8	188
<b>Russian Federation</b>	10 599	1 402	864	3 866	271	4 196
<b>Slovakia</b>	15	..	..	15	..	..
<b>Tajikistan</b>	..	..	..	..	..	..
<b>Turkmenistan</b>	43	2	3	17	..	21
<b>Ukraine</b>	1 592	56	100	718	27	690
<b>Former USSR</b>	..	..	..	..	..	..
<b>Uzbekistan</b>	..	..	..	..	..	..
<b>Subtotal</b>	16 867	1 879	2 606	5 845	363	6 173

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Socialist countries of Asia</b>						
<b>China</b>	16 501	2 250	6 618	4 771	1 456	1 405
<b>Democratic People's Republic of Korea</b>	653	6	63	498	..	86
<b>Viet Nam</b>	1 002	136	122	529	36	179
<b>Subtotal</b>	18 156	2 392	6 803	5 799	1 492	1 670
<b>Developing countries in Africa</b>						
<b>Algeria</b>	961	19	173	214	..	555
<b>Angola</b>	66	3	..	30	..	33
<b>Benin</b>	1	..	..	..	..	1
<b>Cameroon</b>	14	..	..	0	..	13
<b>Cape Verde</b>	21	1	..	13	..	6
<b>Comoros</b>	20	..	..	20	..	0
<b>Congo</b>	3	..	..	..	..	3
<b>Côte d'Ivoire</b>	9	1	..	..	..	8
<b>Djibouti</b>	4	..	..	2	..	2
<b>Egypt</b>	1 402	209	546	410	48	190
<b>Equatorial Guinea</b>	46	..	..	13	..	33
<b>Ethiopia</b>	92	2	..	90	..	..
<b>Gabon</b>	13	1	..	4	..	8
<b>Gambia</b>	2	..	..	..	..	2
<b>Ghana</b>	119	6	0	14	..	99
<b>Guinea</b>	11	..	..	1	..	11
<b>Guinea-Bissau</b>	7	..	..	2	..	5
<b>Kenya</b>	21	5	..	3	..	13
<b>Libyan Arab Jamahiriya</b>	439	267	..	77	..	94
<b>Madagascar</b>	44	11	..	19	..	14
<b>Malawi</b>	..	..	..	..	..	..
<b>Mauritania</b>	49	..	..	0	..	49
<b>Mauritius</b>	92	..	4	12	48	28
<b>Morocco</b>	467	12	..	119	26	309
<b>Mozambique</b>	37	..	..	6	..	32
<b>Nigeria</b>	440	265	..	92	..	84
<b>Saint Helena</b>	1	..	..	..	..	1
<b>Sao Tome and Principe</b>	173	7	10	141	3	13
<b>Senegal</b>	50	..	..	2	..	49

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Seychelles</b>	22	..	..	10	..	12
<b>Sierra Leone</b>	17	..	..	3	..	14
<b>Somalia</b>	7	1	..	4	..	2
<b>Sudan</b>	43	1	..	40	..	2
<b>Togo</b>	5	..	..	3	..	2
<b>Tunisia</b>	208	20	17	30	..	142
<b>Uganda</b>	3	..	..	3	..	..
<b>United Republic of Tanzania</b>	39	4	..	20	..	15
<b>Zaire</b>	..	..	..	..	..	..
<b>Subtotal</b>	4 948	835	749	1 395	124	1 844
<b>Developing countries in America</b>						
<b>Anguilla</b>	1	..	..	1	..	0
<b>Antigua and Barbuda</b>	4 227	5	194	1 721	2 256	51
<b>Argentina</b>	490	83	34	102	..	271
<b>Barbados</b>	733	350	162	104	26	92
<b>Belize</b>	2 252	348	178	1 032	82	611
<b>Bolivia</b>	178	25	28	103	3	18
<b>Brazil</b>	3 826	1 648	1 437	342	158	241
<b>Cayman Islands</b>	1 798	304	634	302	34	525
<b>Chile</b>	847	100	217	125	70	336
<b>Colombia</b>	81	6	..	47	..	28
<b>Costa Rica</b>	6	..	..	..	..	6
<b>Cuba</b>	120	3	2	55	..	60
<b>Dominica</b>	2	..	..	2	..	1
<b>Dominican Republic</b>	10	..	..	6	..	5
<b>El Salvador</b>	2	..	..	..	..	2
<b>Ecuador</b>	301	219	..	2	..	80
<b>Falkland Islands</b>	53	..	..	1	..	52
<b>Grenada</b>	1	..	..	1	..	0
<b>Guatemala</b>	5	..	..	..	..	5
<b>Guyana</b>	16	0	..	7	..	8
<b>Haiti</b>	1	..	..	1	..	0
<b>Honduras</b>	1 113	143	101	520	5	343
<b>Jamaica</b>	4	2	..	..	..	2
<b>Mexico</b>	885	460	..	19	..	406

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Montserrat</b>	..	..	..	..	..	..
<b>Nicaragua</b>	4	..	..	0	..	4
<b>Paraguay</b>	45	4	..	34	1	5
<b>Peru</b>	272	34	..	52	..	186
<b>Saint Kitts and Nevis</b>	0	..	..	0	..	..
<b>Saint Lucia</b>	..	..	..	..	..	..
<b>Saint Vincent and the Grenadines</b>	7 030	450	2 649	2 989	158	784
<b>Suriname</b>	5	2	..	3	..	1
<b>Trinidad and Tobago</b>	22	1	..	1	..	19
<b>Turks and Caicos Islands</b>	1	..	..	0	..	1
<b>Uruguay</b>	69	6	..	7	..	57
<b>Venezuela</b>	667	212	126	55	1	272
<b>British Virgin Islands</b>	74	..	..	1	..	73
<b>Subtotal</b>	25 141	4 405	5 761	7 636	2 794	4 545
<b>Developing countries in Asia</b>						
<b>Bahrain</b>	336	81	43	64	96	52
<b>Bangladesh</b>	370	62	6	264	6	32
<b>Brunei Darussalam</b>	362	0	..	2	..	360
<b>Cambodia</b>	..	..	..	..	..	..
<b>Hong Kong, China</b>	10 595	920	7 113	947	1 492	123
<b>India</b>	6 692	2 553	2 663	463	116	898
<b>Indonesia</b>	3 394	812	335	1 433	92	722
<b>Iran, Islamic Republic of</b>	4 236	2 101	1 148	655	154	178
<b>Iraq</b>	511	361	..	77	..	73
<b>Jordan</b>	42	..	11	25	5	1
<b>Kuwait</b>	2 415	1 628	17	214	214	342
<b>Lebanon</b>	363	1	191	163	..	8
<b>Malaysia</b>	5 330	869	1 568	627	696	1 571
<b>Maldives</b>	78	3	..	70	..	5
<b>Myanmar</b>	446	3	231	185	..	26
<b>Oman</b>	24	0	..	4	..	19
<b>Pakistan</b>	261	50	..	163	32	17
<b>Philippines</b>	7 003	154	4 366	1 684	68	732
<b>Qatar</b>	715	214	142	139	191	31

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Republic of Korea</b>	6 200	607	2 915	974	700	1 005
<b>Saudi Arabia</b>	1 267	220	..	518	208	321
<b>Singapore</b>	21 531	9 118	4 781	2 760	3 422	1 449
<b>Sri Lanka</b>	150	2	77	57	..	15
<b>Syria</b>	465	1	26	434	..	4
<b>Thailand</b>	1 945	364	443	859	134	144
<b>United Arab Emirates</b>	983	240	0	160	439	143
<b>Yemen</b>	28	5	..	3	..	21
<b>Subtotal</b>	75 742	20 368	26 075	12 943	8 065	8 291
<b>Developing countries in Europe</b>						
<b>Croatia</b>	735	9	438	162	22	105
<b>Slovenia</b>	2	..	..	0	..	1
<b>Yugoslavia</b>	4	..	..	1	..	3
<b>Subtotal</b>	741	9	438	163	22	110
<b>Developing countries in Oceania</b>						
<b>Fiji</b>	29	3	..	6	..	21
<b>Kiribati</b>	4	..	..	4	..	0
<b>Nauru</b>	..	..	..	..	..	..
<b>Papua New Guinea</b>	73	2	..	51	..	20
<b>Samoa</b>	..	..	..	..	..	..
<b>Solomon Islands</b>	9	..	..	3	..	6
<b>Tonga</b>	25	..	..	16	..	9
<b>Tuvalu</b>	59	..	..	35	..	24
<b>Subtotal</b>	200	5	..	114	..	81
<b>Developing total</b>	106 772	25 622	33 024	22 251	11 005	14 870
<b>Unallocated</b>	9 455	1 247	2 959	2 078	1 798	1 374

## Annex III (b)

**Merchant fleets of the world by flag of registration,<sup>a</sup> groups of countries/territories and types of ship<sup>b</sup> as at 31 December 2000**  
*(in thousands of dwt)*

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>World total</b>	808 377	285 442	281 655	102 653	69 216	69 412
<b>Developed market-economy countries</b>						
<b>Australia</b>	2 356	408	998	60	47	843
<b>Austria</b>	121	..	..	121	..	..
<b>Belgium</b>	171	7	..	1	..	163
<b>Canada</b>	1 168	538	163	122	2	343
<b>Denmark</b>	8 455	2 078	666	812	3 616	1 283
<b>Finland</b>	1 215	510	134	367	..	204
<b>France</b>	6 883	4 149	1 019	337	458	920
<b>Germany</b>	7 773	43	5	903	6 447	375
<b>Gibraltar</b>	922	650	27	95	70	80
<b>Greece</b>	44 668	25 846	14 615	829	2 061	1 267
<b>Iceland</b>	15	3	1	3	..	8
<b>Ireland</b>	176	..	36	87	7	46
<b>Israel</b>	712	3	..	7	699	3
<b>Italy</b>	10 366	2 821	3 849	991	803	1 902
<b>Japan</b>	19 451	6 811	5 928	2 567	696	3 449
<b>Luxembourg</b>	1 427	555	9	57	29	777
<b>Netherlands</b>	6 911	274	17	3 173	1 879	1 568
<b>New Zealand</b>	167	91	17	15	..	44
<b>Norway</b>	31 994	14 994	7 097	3 799	102	6 002
<b>Portugal</b>	1 718	646	472	365	36	199
<b>South Africa</b>	368	5	..	..	262	101
<b>Spain</b>	2 142	1 110	70	323	136	503
<b>Sweden</b>	1 822	163	40	981	..	638
<b>Switzerland</b>	834	..	765	46	..	23
<b>Turkey</b>	9 159	1 133	5 691	1 763	213	359
<b>United Kingdom</b>	13 838	6 468	1 551	803	2 365	2 651
<b>United States</b>	28 665	16 424	4 470	1 524	3 907	2 340
<b>Subtotal</b>	203 497	85 730	47 640	20 151	23 835	26 091

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Open-registry countries and territories</b>						
<b>Bahamas</b>	46 453	25 594	8 528	7 331	1 606	3 394
<b>Bermuda</b>	9 398	4 351	3 699	316	459	573
<b>Cyprus</b>	36 165	7 133	19 787	5 214	2 809	1 222
<b>Liberia</b>	80 062	36 617	22 175	4 621	7 583	9 066
<b>Malta</b>	46 330	20 844	18 237	5 195	940	1 114
<b>Panama</b>	172 355	50 444	81 721	14 552	14 676	10 962
<b>Vanuatu</b>	1 392	17	839	286	35	215
<b>Subtotal</b>	392 155	145 000	154 986	37 515	28 108	26 546
<b>Central and Eastern Europe and former USSR</b>						
<b>Albania</b>	24	..	..	23	..	1
<b>Armenia</b>	0	..	..	..	..	0
<b>Azerbaijan</b>	503	233	..	103	..	167
<b>Belarus</b>	0	..	..	..	..	..
<b>Bulgaria</b>	1 445	267	812	260	67	39
<b>Czech Republic</b>	0	..	..	..	..	..
<b>Estonia</b>	281	11	48	163	..	59
<b>Georgia</b>	142	12	..	110	..	20
<b>Hungary</b>	0	..	..	..	..	..
<b>Kazakhstan</b>	6	..	..	1	..	5
<b>Kyrgyzstan</b>	0	..	..	..	..	..
<b>Latvia</b>	81	12	..	33	..	36
<b>Lithuania</b>	420	7	146	217	..	50
<b>Moldova</b>	0	..	..	..	..	..
<b>Poland</b>	1 561	9	1 414	30	..	108
<b>Romania</b>	956	102	222	474	8	150
<b>Russian Federation</b>	9 393	2 020	1 235	4 237	310	1 591
<b>Slovakia</b>	19	..	..	19	..	..
<b>Tajikistan</b>	0	..	..	..	..	..
<b>Turkmenistan</b>	33	3	3	15	..	12
<b>Ukraine</b>	1 440	90	160	805	30	355
<b>Former USSR</b>	0	..	..	..	..	..
<b>Uzbekistan</b>	0	..	..	..	..	..
<b>Subtotal</b>	16 304	2 766	4 040	6 490	415	2 593

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Socialist countries of Asia</b>						
<b>China</b>	23 808	3 658	11 061	6 342	1 760	987
<b>Democratic People's Republic of Korea</b>	843	12	104	669	0	58
<b>Viet Nam</b>	1 456	219	195	776	32	234
<b>Subtotal</b>	26 107	3 889	11 360	7 787	1 792	1 279
<b>Developing countries of Africa</b>						
<b>Algeria</b>	1 063	30	288	278	..	467
<b>Angola</b>	70	5	..	48	..	17
<b>Benin</b>	0	..	..	..	..	..
<b>Cameroon</b>	5.3	..	..	0.3	..	5
<b>Cape Verde</b>	24	1	..	19	..	4
<b>Comoros</b>	31	..	..	31	..	..
<b>Congo</b>	0	..	..	..	..	..
<b>Côte d'Ivoire</b>	5	1	..	..	..	4
<b>Djibouti</b>	4	..	..	4	..	..
<b>Egypt</b>	2 010	362	922	541	58	127
<b>Equatorial Guinea</b>	25	..	..	17	..	8
<b>Ethiopia</b>	110	4	..	106	..	..
<b>Gabon</b>	8	1	..	4	..	3
<b>Gambia</b>	2	..	..	..	..	2
<b>Ghana</b>	94	9	..	18	..	67
<b>Guinea</b>	5	..	..	..	..	5
<b>Guinea-Bissau</b>	3	..	..	1	..	2
<b>Kenya</b>	19	8	..	2	..	9
<b>Libyan Arab Jamahiriya</b>	661	537	..	85	..	39
<b>Madagascar</b>	48	17	..	24	..	7
<b>Malawi</b>	0	..	..	..	..	..
<b>Mauritania</b>	23	..	..	1	..	22
<b>Mauritius</b>	106	..	5	14	69	18
<b>Morocco</b>	398	20	..	120	34	224
<b>Mozambique</b>	24	..	..	11	..	13
<b>Nigeria</b>	685	518	..	116	..	51
<b>Saint Helena</b>	0	..	..	..	..	..
<b>Sao Tome and Principe</b>	197	11	16	153	5	12

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Senegal</b>	25	..	..	2	..	23
<b>Seychelles</b>	21	..	..	12	..	9
<b>Sierra Leone</b>	8	..	..	4	..	4
<b>Somalia</b>	8	2	..	5	..	1
<b>Sudan</b>	52	1	..	51	..	..
<b>Togo</b>	3	..	..	3	..	..
<b>Tunisia</b>	177	32	26	38	..	81
<b>Uganda</b>	3	..	..	3	..	..
<b>United Republic of Tanzania</b>	36	8	..	24	..	4
<b>Zaire</b>	0	..	..	..	..	..
<b>Subtotal</b>	5 954	1 567	1 257	1 735	166	1 228
<b>Developing countries of America</b>						
<b>Anguilla</b>	1.3	..	..	1.3	..	..
<b>Antigua and Barbuda</b>	5 462	8	307	2 175	2 912	60
<b>Argentina</b>	384	150	52	132	..	50
<b>Barbados</b>	1 172	640	264	141	35	92
<b>Belize</b>	2 589	621	295	1 456	83	134
<b>Bolivia</b>	259	41	50	141	4	23
<b>Brazil</b>	6 152	2 831	2 523	369	190	239
<b>Cayman Islands</b>	2 805	542	1 120	333	38	772
<b>Chile</b>	881	166	370	89	77	179
<b>Colombia</b>	103	10	..	62	..	31
<b>Costa Rica</b>	4	..	3	..	..	1
<b>Cuba</b>	80	5	..	69	..	6
<b>Dominica</b>	2	..	..	2	..	..
<b>Dominican Republic</b>	8	..	..	7	..	1
<b>El Salvador</b>	0	..	..	..	..	..
<b>Ecuador</b>	440	380	..	4	..	56
<b>Falkland Islands</b>	36	..	..	1	..	35
<b>Grenada</b>	1	..	..	1	..	..
<b>Guatemala</b>	4	..	..	..	..	4
<b>Guyana</b>	15	..	..	9	..	6
<b>Haiti</b>	1	..	..	1	..	..
<b>Honduras</b>	1 317	259	167	754	5	132

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Jamaica</b>	3	3	..	..	..	..
<b>Mexico</b>	1 180	755	..	23	..	402
<b>Montserrat</b>	0	..	..	..	..	..
<b>Nicaragua</b>	1	..	..	1	..	..
<b>Paraguay</b>	52	9	..	40	2	1
<b>Peru</b>	222	59	..	81	..	82
<b>Saint Kitts and Nevis</b>	1	..	..	1	..	..
<b>Saint Lucia</b>	0	..	..	..	..	..
<b>Saint Vincent and the Grenadines</b>	9 866	785	4 574	3 859	193	455
<b>Suriname</b>	6	3	..	3	..	..
<b>Trinidad and Tobago</b>	6	1	..	..	..	5
<b>Turks and Caicos Islands</b>	..	..	..	..	..	..
<b>Uruguay</b>	40	8	..	4	..	28
<b>Venezuela</b>	950	369	209	77	1	294
<b>British Virgin Islands</b>	8	..	..	1	..	7
<b>Subtotal</b>	34 051	7 645	9 934	9 837	3 540	3 095
<b>Developing countries of Asia</b>						
<b>Bahrain</b>	450	153	60	98	100	39
<b>Bangladesh</b>	505	106	9	362	8	20
<b>Brunei Darussalam</b>	349	..	..	3	..	346
<b>Cambodia</b>	0	..	..	..	..	..
<b>Hong Kong, China</b>	17 778	1 658	13 103	1 252	1 656	109
<b>India</b>	10 570	4 498	4 486	563	152	871
<b>Indonesia</b>	4 262	1 287	533	1 971	118	353
<b>Iran, Islamic Republic of</b>	7 207	4 005	1 953	910	179	160
<b>Iraq</b>	835	660	..	105	..	70
<b>Jordan</b>	59	..	18	34	7	0
<b>Kuwait</b>	3 813	2 933	27	260	227	366
<b>Lebanon</b>	546	1	312	223	..	10
<b>Malaysia</b>	7 692	1 537	2 780	830	855	1 690
<b>Maldives</b>	112	7	..	101	..	4
<b>Myanmar</b>	656	5	394	244	..	13
<b>Oman</b>	13	..	..	6	..	7
<b>Pakistan</b>	381	91	..	235	42	13

	Total fleet	Oil tankers	Bulk carriers	General cargo	Container ships	Other types
<b>Philippines</b>	9 956	219	7 402	1 878	76	381
<b>Qatar</b>	1 079	375	270	206	204	24
<b>Republic of Korea</b>	9 058	1 147	5 270	1 235	814	592
<b>Saudi Arabia</b>	1 523	421	..	567	201	334
<b>Singapore</b>	33 742	16 480	8 845	2 536	4 030	1 851
<b>Sri Lanka</b>	238	3	150	77	..	8
<b>Syrian Arab Republic</b>	697	2	40	654	..	1
<b>Thailand</b>	3 034	693	731	1 296	184	130
<b>United Arab Emirates</b>	1 102	398	1	216	349	138
<b>Yemen</b>	31	8	..	3	..	20
<b>Subtotal</b>	115 688	36 688	46 384	15 865	9 202	7 550
<b>Developing countries of Europe</b>						
<b>Croatia</b>	1 036	12	761	204	28	31
<b>Slovenia</b>	0	0	0	0	0	0
<b>Yugoslavia</b>	2	0	0	1	0	1
<b>Subtotal</b>	1 038	12	761	205	28	32
<b>Developing countries of Oceania</b>						
<b>Fiji</b>	25	4	..	6	..	15
<b>Kiribati</b>	3	..	..	3	..	0
<b>Nauru</b>	0	..	..	..	..	0
<b>Papua New Guinea</b>	80	3	..	64	..	13
<b>Samoa</b>	0	..	..	..	..	0
<b>Solomon Islands</b>	6	..	..	2	..	4
<b>Tonga</b>	30	..	..	19	..	11
<b>Tuvalu</b>	78	..	..	35	..	43
<b>Subtotal</b>	222	7	0	129	0	86
<b>Developing total</b>	156 954	45 919	58 336	27 772	12 936	11 991
<b>Unallocated</b>	13 409	2 137	5 292	2 938	2 130	912

## Notes to Annex III

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

- <sup>a</sup> The designations employed and the presentation of material in this table refer to flags of registration and do not imply the expression of any opinion by the Secretariat of the United Nations concerning the legal status of any country or territory, or of its authorities, or concerning the delimitation of its frontiers.
- <sup>b</sup> Ships of 100 grt and over, excluding the Great Lakes fleets of the United States and Canada and the United States Reserve Fleet.
- <sup>c</sup> Including passenger/cargo.
- <sup>d</sup> Excluding estimates of the United States Reserve Fleet and the United States and Canadian Great Lakes fleets, which amounted to respectively 3.1 million grt (3.7 million dwt), 1.0 million grt (1.9 million dwt) and 1.2 million grt (1.9 million dwt).
- <sup>e</sup> All republics of the former USSR that have not established new shipping registers (see box 1).
- <sup>f</sup> A dispute exists between the Governments of Argentina and the United Kingdom of Great Britain and Northern Ireland concerning the sovereignty over the Falkland Islands (Malvinas).