REVIEW OF MARITIME TRANSPORT
2005

Chapter 1
Chapter 1

DEVELOPMENT OF INTERNATIONAL SEABORNE TRADE

The first chapter 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

1. World output

Preliminary data available for 2004 indicate that growth in world output was 3.8 per cent. This result, which is 1.3 per cent above the 2.5 per cent recorded for 2003 (see table 1), reflected the fact that virtually all regions of the world experienced simultaneous positive economic growth, albeit at differing paces.

Economic recovery in developed countries led to 3 per cent growth, well over the 1.7 per cent of the previous year. The economic performance of the United States was good, particularly during the first half of the year, with sustained domestic demand and modest increases in real interest rates that kept these at relatively low levels and resulted in output growth of 4.4 per cent for the year. The Japanese economy continued its expansion, almost doubling its growth rate to 2.6 per cent. The European Union recorded the weakest growth rate among developed economies at 2.1 per cent, but this rate was remarkable compared with the dismal 0.9 per cent of the previous year, and was achieved in an environment of low interest rates. The best performer among large EU economies was the United Kingdom, which recorded 3.1 per cent output growth, followed by France at 2.1 per cent. Germany’s performance was good; while the economy grew by a modest 1 per cent, this result reflects a recovery from the economic contraction of the previous year. Less impressive was the economic recovery of Italy, which recovered from very modest positive growth to achieve 1 per cent growth for 2004.

Economic output for developing economies grew 6.4 per cent, well above the world average. The highest growth rate, 7.5 per cent, was recorded by countries in South-East Europe and the Commonwealth of Independent States. Developing countries in South America had output growth of 6 per cent, the highest since 1986. Brazil fared particularly well, with 5.2 per cent economic growth after a poor showing of 0.5 per cent growth in 2003. Mexico’s growth of 4.4 per cent was slightly above the world average. Developing countries in Africa and the Middle East reached output growth of about 4 per cent, just below the world average for the year, while sub-Saharan African countries recorded an impressive 5.1 per cent economic growth during 2004. The star performer was again China, whose output growth reached 9.5 per cent, fuelled by strong domestic demand and investment and continuing high levels of exports. India, pursuing economic liberalization policies, recorded output growth of 7.3 per cent.

Prospects

Forecasts of world economic output growth for 2005, while cautiously optimistic, have been contingent on the permanence of current oil prices, the sustainability of economic growth in the Far East and concern about ballooning public deficits in major developed economies. Forecasts are around 3 per cent.

2. Merchandise trades

Recent developments in international trade

During 2004 the volume of world exports expanded by 13 per cent (see table 2), more than double the
expansion of the previous year. The increase in exports was particularly strong during the first half of the year and slowed down afterwards, partly owing to the impact of high oil and commodity prices and doubts about the persistence of strong demand in market-economy countries. The annual expansion of exports confirmed the sustained pace of trade growth.

Among developed economies, export volumes expanded particularly in Japan, which recorded 13 per cent export growth. North America trebled its export rate of the previous year to 9 per cent, while EU countries fared even better, reaching 12 per cent. Export performance among these economies was better for countries further east, probably because of the boost provided by the enlargement of the Union to 25 members in May 2004. Export increases were, however, higher in developing economies of Asia and Latin America, which recorded rates of 22 and 10 per cent respectively. China led with 33 per cent export growth, and India also recorded export growth above the world average, with 18 per cent. Higher prices for oil and metals kept exports of CIS economies at the world average. African exports expanded at a rate of 7 per cent, about half that of the previous year.

Preliminary figures for growth in import volumes indicate double-digit growth for developing economies of West Asia, which recorded 35 per cent growth. The growth rate for China’s imports resembled that of developing economies of Africa at 26 per cent. Developing economies of East and South-East Asia, South-East Europe and the Commonwealth of Independent States recorded similar growth in import volumes – 18, 17 and 17 per cent respectively. Developing economies in Latin America had import expansion similar to the world average, 13 per cent.

The growth of import volumes among developed countries was below the world average. The increase in imports was higher in North America and Europe – 11 per cent, with that of the United States particularly strong. For EU countries, import growth was a modest 6 per cent; it was higher in countries located in the eastern and central parts of the continent.
Table 2  
Export and import volumes of goods, by region and economic grouping, 2002-2004  
(annual average percentage changes and percentage change over previous year)

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<tr>
<th></th>
<th>Exports</th>
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</tr>
<tr>
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<td>9</td>
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<tr>
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<td>3</td>
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<tr>
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<tr>
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<td>12</td>
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<tr>
<td>of which:</td>
<td></td>
<td></td>
</tr>
<tr>
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<td>11</td>
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<td>East and South Asia</td>
<td>12</td>
<td>17</td>
</tr>
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<td>of which:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>China</td>
<td>25</td>
<td>35</td>
</tr>
<tr>
<td>India</td>
<td>17</td>
<td>10</td>
</tr>
<tr>
<td>CIS and South-East Europe</td>
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<td>9</td>
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</table>

Source: UNCTAD secretariat calculations based on COMTRADE, United Nations Statistical Division (UNSD), US Bureau of Labour Statistics external trade prices indices, Japan Customs united value indices, UNCTAD Commodity Prices Bulletin and other national sources.

**Trends in imports and exports**

For 2005, prospects for export growth are moderate and expansion is forecast to reach 6.5 per cent. This forecast, however, assumes continuing strong performance by major trading countries in the Far East, the sustainability of US imports and the rebound of demand in EU countries.

3. OECD countries’ industrial output

The industrial production index (2000 = 100) for OECD countries, another fundamental indicator for the global maritime transport sector, averaged 102.9 in 2004 – a 3.9 per cent increase from the average of 99 for the previous year, when the index increased 1.1 per cent (see figure 1).

The results for 2004 reflected increasing industrial activity in the major economies. In the United States, the index increased steadily during the year, from 98.7 in the first quarter to 101.4 during the last quarter. The average index was 100.1, a 4.2 per cent increase for the year. The index for Japan peaked during the second quarter at 101.5 and then eased to 100.1 during the last quarter. Nevertheless, the average index for the year was 100.5 – a remarkable 5.3 per cent increase. The index for the 15 countries of the European Union followed a similar evolution: it started at 100.4 and, after reaching 101.3 during the second quarter, stayed at this level during the following quarter before declining to 100.8 during the last quarter. The average index for the year was 101, an increase of 1.7 per cent. The highest increases of the industrial production index during the year were recorded in the Czech Republic, which registered a 8.5 per cent increase to 138.8; Austria, with a 7.9 per cent increase to 115.5; the Republic of Korea, with a 7.1 per cent increase to 122.9; and Poland, with a 6.7 increase to 124.8. Industrial production contracted in Norway, Greece and Denmark by 3.9, 1.5 and 1.4 respectively.
The OECD outlook for the year 2005 foresees a steady level of production.

B. WORLD SEABORNE TRADE

1. Overall seaborne trade

World seaborne trade increased strongly in 2004, reaching 6.76 billion tons of loaded goods. The annual growth rate, calculated with the provisional data available for year 2004, reached 4.3 per cent, as is shown in table 3 and figure 2.

The breakdown of world seaborne loaded goods by continent was as follows: Africa’s share of world exports was 8.6 per cent, while that of America reached 21.4 per cent. Asia was by far the continent with the largest share of the world tonnage of seaborne loaded goods – 38.4 per cent. Europe’s share was the second largest at 22.7 per cent, while Oceania’s was 8.9 per cent. The breakdown for selected trading blocs was as follows: the European Union (EU) 15.3 per cent; the Gulf Cooperation Council (GCC) – 15.4 per cent; the North American Free Trade Association (NAFTA) – 10 per cent; the Association of South-East Asian Nations (ASEAN) – 6.8 per cent; the Southern Common Market (MERCOSUR) – 6.2 per cent; and the Common Market for Eastern and Southern Africa (COMESA) – 1.5 per cent.

Forecasts for 2005 indicate that annual growth rates will probably match those of 2004, while the distributions of world tonnage by continent and for selected trading blocs are expected to fluctuate marginally.

2. Seaborne trade in tankers

General developments

In 2004 total world shipments of tanker cargoes reached 2.32 billion tons, after increasing by 4.2 per cent during the year. About 76.4 per cent of this tanker trade was in crude oil, with the remainder in petroleum products. The share of tanker shipments in overall world seaborne trade decreased slightly to 34.3 per cent.

Crude oil production

In 2003 crude oil production\(^1\) averaged 76.8 million barrels per day (mbpd) — an increase of 3.8 per cent over the previous year’s figures and the first increase in annual output since 2000. Oil production in OECD countries, notably the United States, Mexico, Norway

\(^{1}\) The totals reported by BP 2004 Annual Report include crude oil, shale oil, oil sands and natural gas liquids (NGL) — the liquid content of natural gas when this is recovered separately.

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**Figure 1**

Annual change in OECD industrial production and world seaborne trade, 2001–2004

![Graph showing annual change in OECD industrial production and world seaborne trade, 2001–2004](image)

Source: OECD, Main Economic Indicators, April 2005.
Table 3
Development of international seaborne trade, selected years\(^a\)
(goods loaded)

<table>
<thead>
<tr>
<th>Year</th>
<th>Tanker cargo</th>
<th>Dry cargo</th>
<th>Total (all goods)</th>
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<tr>
<td></td>
<td>million tons</td>
<td>million tons</td>
<td>of which main bulk commodities(^b)</td>
</tr>
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</tr>
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<td>1 871</td>
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<td>2 163</td>
<td>3 821</td>
<td>1 288</td>
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<td>1 352</td>
</tr>
<tr>
<td>2003</td>
<td>2 223</td>
<td>4 257</td>
<td>1 475</td>
</tr>
<tr>
<td>2004(^c)</td>
<td>2 316</td>
<td>4 442</td>
<td>1 587</td>
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</table>

Source: Estimated by the UNCTAD secretariat on the basis of annex II and data supplied by specialized sources.
\(^a\) Includes international cargoes loaded at ports of the Great Lakes and St. Lawrence system for unloading at ports of the same system.
\(^b\) Iron ore, grain, coal, bauxite/alumina and phosphate.
\(^c\) Estimates.

Figure 2
International seaborne trade for selected years

and oil-producing countries within the European Union, decreased marginally by 0.7 per cent to 21.2 mbpd, so that this group’s market share fell to 27 per cent.

OPEC countries increased their production by 6.6 per cent to 30.4 mbpd, making up for the previous year’s steep drop in output. Accordingly, their market share rose from 38.2 per cent of world production in 2002 to 39.6 per cent in 2003. The remaining oil-producing countries, including the Russian Federation, China, Brazil and a number of small producers, raised their average production by 4.1 per cent to 25.2 mbpd. The market share of these countries therefore increased marginally to 32.8 per cent.

Among OECD major producers, US production decreased by 1.6 per cent to 7.5 mbpd (the corresponding market share was 9.2 per cent), while that of Mexico increased by 5.8 per cent to 3.8 mbpd (5.8 per cent). Norway’s production was 3.3 mbpd (4.3 per cent) larger than that of the EU countries, which decreased to 3 mbpd (3.9 per cent). Most of the decrease in output for these countries was attributable to falling production in the United Kingdom, which nevertheless maintained its lion’s share, 2.2 mbpd (2.9 per cent).

The oil output of two large OPEC producers, Iran and the United Arab Emirates, achieved double-digit expansion of 12.6 and 17.3 per cent to reach 3.9 mbpd and 2.5 mbpd respectively. The market shares were 5 and 3.3 per cent respectively. Venezuela, another large producer, decreased production by 7 per cent to just below 3 mbpd, recording a market share of 3.9 per cent. The output of the largest producer, Saudi Arabia, averaged 9.8 mbpd, an expansion of 13.8 per cent from the previous year’s level, and the country’s market share reached 12.8 per cent. Other OPEC countries mostly increased production: Kuwait’s production reached 2.2 mbpd after expanding 20 per cent; the output of Nigeria, Algeria and Libya reached 2.2, 1.9 and 1.5 mbpd respectively. Two other OPEC members recorded decreased outputs: Indonesia’s reached 1.2 mbpd (a 8.6 per cent reduction), and Iraq’s reached 1.3 mbpd, dropping by more than a third.

Among the other oil-producing countries, the Russian Federation saw its output increase by 11 per cent to 8.5 mbpd, equivalent to a market share of 11 per cent of world production. Brazil’s production increased by 3.3 per cent to 1.6 mbpd, and China’s expanded more slowly – 1.5 per cent to reach 3.4 mbpd. The countries’ market shares were 2 and 4.4 per cent.

During 2004 the crude oil production level fluctuated in line with the quota decisions made by OPEC members in response to price levels, major events and quota compliance by members. In February OPEC decided to cut production by 1 mbpd from April to reach 23.5 mbpd, but this decision was reversed when in July production was set at 25.5 mbpd and, one month later, at 26 mbpd. Production increases were agreed on so that production by members reached 27 mbpd in November. In early 2005 it was decided to cut overproduction by 1 mbpd to compensate for weak quota compliance.

Prices moved up for most of the year, even in the face of production increases, and apparently in response to uncertainty over continuing supplies. By May, US crude oil inventories were about 5 per cent below the medium term average, and UK production from the North Sea was slowing down faster than expected. In the same month, terrorists attacked a petrochemical facility in Yambu (Saudi Arabia) without interrupting exports. Three months later, sabotage of Iraqi pipelines cut exports to about 0.9 mbpd for about a week. At the same time there was uncertainty about the fate of a major Russian oil producer (owing to unpaid taxes) and concerns about Caribbean supplies being affected by weak Venezuelan exports and a strong hurricane season.

Against this backdrop, spot prices flared up during the summer and stood at over $40 per barrel for some weeks. The OPEC basket price of seven crude oil prices averaged for the year reached $36 per barrel, about 28 per cent above the price for the previous year. It was also one of the highest prices since the introduction of the basket price in 1987, and well above the price band of $22–$28 per barrel. In early 2005, OPEC decided to temporarily suspend its price band mechanism whereby automatic production levels were triggered by prices falling outside the band. Soon after spot prices surpassed $50 per barrel.

The increasing role of offshore production was reinforced by high prices. Subsea oil contractors reported increased activity in West Africa, the Gulf of Mexico and Brazil. In the latter, Petrobras and its foreign partners announced a series of oil discoveries off Espirito Santo state.

**Refinery developments**

World refineries’ throughput reached 71.1 mbpd in 2003, an increase of 2.4 per cent from the previous year. Refineries in the United States increased throughput just by the world average, while those
of Mexico fared better at 3.5 per cent and those in Canada worse at only 1.2 per cent. Europe and Russia recorded increases below the world average at 2.2 per cent. Countries in these two regions accounted for 54.4 per cent of world throughput. The highest increase in output was recorded for Chinese refineries, whose output reached 4.9 mbpd after growing 10.8 per cent. This amount is equivalent to 6.9 per cent of world output. Output from refineries in Latin America was steady and reached 4.9 mbpd. Output from refineries in the Middle East, Africa and Australia contracted during 2003, with Australia seeing the sharpest reduction — 4.7 per cent. These regions accounted for 12.9 per cent of world output.

By the end of the year there were reports of expansion of refining capacity in Europe and in Saudi Arabia in anticipation of increased demand.

**Natural gas production**

In 2003 production of natural gas reached 2,618.5 billion cubic metres\(^2\) (bcm), an increase of 3.4 per cent from 2002, and almost equivalent to the 2000 figure. This production is equivalent to 2,356.6 million tons of oil or 49 mbpd. Major producers are the Russian Federation with 578.6 bcm and the United States with 549.5 bcm; these countries together account for 43.1 per cent of total production. Lesser producers are Canada with 180.5 bcm, the United Kingdom with 102.7 bcm, Algeria with 82.8 bcm, Iran with 70 bcm and Indonesia with 72.6 bcm. Other producers are scattered in the Middle East, Latin America and Asia, often obtaining natural gas as a result of oil production. About a fifth of natural gas production is exported, mainly by pipelines, which carry around three quarters of all exports.

Prospects for increasing natural gas production are good because of growing demand in the United States, Europe, Japan and China. In June, the latter awarded a $240 million contract to build its first liquefied natural gas (LNG) import terminal near Shenzhen to supply Guangdong Province through a 370-kilometre pipeline with gas shipped from Western Australia. Diversifying suppliers is deemed important in some countries: for example, Singapore conducted studies to assess the feasibility of importing LNG by sea to complement that imported by pipeline.

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\(^2\) Measured at 15° Celsius and 1013 millibars.
Table 4
by types of cargo and country groups \(b\)

<table>
<thead>
<tr>
<th>Country group</th>
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<th>Goods unloaded</th>
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Trade in millions of tons

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<th>Products(^c)</th>
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Percentage share of trade by country groups

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<th>Crude</th>
<th>Products(^c)</th>
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Central and Eastern Europe \(^d\)
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Table 4 (continued)

| Country group | Year | Goods loaded | | | | Goods unloaded | | |
|---------------|------|--------------|----------------|-----------------|-----------------|-----------------|-----------------|
|               |      | Crude Products<sup>c</sup> | Dry | Total all | Crude Products<sup>c</sup> | Dry | Total all |
|               |      |              | cargo | goods |              | cargo | goods |
| Asia          | 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 |
|               | 2000 | 54.9          | 41.6 | 16.2 | 29.1          | 18.1 | 29.0 | 21.5 | 21.2 |
|               | 2001 | 55.0          | 42.3 | 17.1 | 29.7          | 18.4 | 29.2 | 21.9 | 21.6 |
|               | 2002 | 53.8          | 40.8 | 17.7 | 29.3          | 18.6 | 29.3 | 22.6 | 22.1 |
|               | 2003 | 53.9          | 40.4 | 17.9 | 29.1          | 17.7 | 29.3 | 22.0 | 21.5 |
|               | 2004 | 54.3          | 40.0 | 17.9 | 29.2          | 17.4 | 28.8 | 22.0 | 21.3 |
| Europe        | 1970 | -             | -    | -    | -             | -    | 0.1  | 0.1  | -   |
|               | 1980 | -             | -    | -    | -             | -    | 0.2  | -    | -   |
|               | 1990 | -             | 0.2  | 0.3  | 0.2           | 0.7  | 0.5  | 0.8  | 0.7 |
|               | 2000 | 0.0           | 0.4  | 0.4  | 0.3           | 0.4  | 0.4  | 0.3  | 0.3 |
|               | 2001 | 0.0           | 0.4  | 0.4  | 0.3           | 0.4  | 0.4  | 0.3  | 0.3 |
|               | 2002 | 0.0           | 0.4  | 0.4  | 0.3           | 0.4  | 0.4  | 0.3  | 0.3 |
|               | 2003 | 0.0           | 0.4  | 0.4  | 0.3           | 0.4  | 0.4  | 0.3  | 0.3 |
|               | 2004 | 0.0           | 0.4  | 0.4  | 0.3           | 0.4  | 0.4  | 0.2  | 0.3 |
| Oceania       | 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 |
|               | 2000 | 0.2           | 0.0  | 0.1  | 0.1           | 0.0  | 1.1  | 0.1  | 0.2 |
|               | 2001 | 0.2           | 0.0  | 0.1  | 0.1           | 0.0  | 1.1  | 0.1  | 0.2 |
|               | 2002 | 0.2           | 0.0  | 0.1  | 0.1           | 0.0  | 1.1  | 0.1  | 0.2 |
|               | 2003 | 0.2           | 0.0  | 0.0  | 0.1           | 0.0  | 1.1  | 0.1  | 0.2 |
|               | 2004 | 0.2           | 0.0  | 0.0  | 0.1           | 0.0  | 1.1  | 0.1  | 0.2 |

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

<sup>a</sup> Includes 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 d thereto regarding the recording of trade of landlocked countries. Since 1986, Yugoslavia, previously included among the “developed market-economy countries”, has been included in the group of “developing countries in Europe”.

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

<sup>d</sup> Includes the former Soviet Union in data for 1970 and 1980.

<sup>e</sup> Estimates.
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51.9 million tons – an increase of 7.8 per cent. Also during 2004, an agreement was reached with Ukraine to reaktivate a pipeline for exporting Russian crude oil through Odessa. The boost to crude oil exports through northern outlets in the Baltic and Barents Seas faced some difficulties. Delays in unloading railcars were reported in St. Petersburg and Vitosk by the end of the year, and further investments in pipelines and icebreakers were deemed necessary. The long-term development of ice-free Murmansk as a major oil port in the Barents Sea was hindered when Transnet, a major pipeline owner, explained that investment required to reach Murmansk would be almost double the $5 billion required to reach Indiga, another port located 700 kilometres further east on the Pechora Sea and close to the new oilfields. Nevertheless, the increased shipping activity in the Baltic now almost matches export volumes from the Black Sea, with Aframax tankers transshipping their cargoes to VLCCs and ULCCs in the high seas north of the Jutland peninsula. This has led some EU countries to express environmental concerns regarding the increased risk of accidental pollution. Early in 2005, a proposal to regulate ship-to-ship crude oil transfers on the high seas by amending Annex I of the Marpol Convention was proposed to the Marine Environment Protection Committee of the International Maritime Organization. Also in early 2005, the commissioning of the 1,770-kilometre pipeline from Baku (Azerbaijan) to Ceyhan (Turkey) on the Mediterranean Sea will reduce the transit of tankers through the Dardanelles Straits and thus diminish the environmental risks.

Elsewhere, the largest Chinese facility to unload VLCC vessels in Dalian was commissioned in mid-2004. This facility will serve six refineries having a total capacity of 46 million tons. Most of them are owned by PetroChina, which is set to double its imports.

**Petroleum product shipments**

The global trade in petroleum products increased significantly in 2004 to 546 million tons. The pattern and volume of shipments were similar to those of past years, but the shipments of Russian petroleum products from Baltic ports in small tankers are having an impact in other countries. For instance, trans-shipment of Russian oil products into 80,000-dwt tankers led to the expansion of storage and transfer facilities and widening of channels by Copenhagen Malmö Port, the company managing these two ports located across the Oresund Strait.

**LNG shipments**

LNG shipments grew by 12.5 per cent during 2003 to reach 168.8 bcm of natural gas. This is about 6.4 per cent of the world production. The largest importing area is the Far East, where major importers continued to be Japan with 79.8 bcm and the Republic of Korea with 26.2 bcm. Supplies came from Indonesia (with 35.6 bcm), Malaysia (with 23.4 bcm), Qatar (with 19.2 bcm) and Australia (with 10.5 bcm). The share of Persian Gulf supplies is poised to grow as Saudi Arabia and Qatar develop new export capacity for consumers in the Far East and North America.

Across the Mediterranean, a large share of Algeria’s total exports of 28 bcm went to France (9.2 bcm) and Spain (7.5 bcm). Nigeria supplied the European market with 9.2 bcm and the United States with 1.4 bcm. The largest share of Trinidad’s exports of 11.9 bcm went to the US market, which also took almost 0.7 bcm from the Middle East (Qatar and Oman).

The spread of LNG shipping facilities reached the Baltic Sea. In October, Gasprom and PetroCanada agreed to build a $1.3 billion liquefaction plant in Ust-Luga to export up to 5 million tons of gas per year to North America. An innovative discharging solution was proposed for a terminal in Massachusetts Bay: special vessels would deliver re-gasified gas from Trinidad to the offshore Neptune terminal.

3. **Dry cargo shipments**

**General developments**

In 2004, overall dry cargo shipments increased by 4.4 per cent, reaching 4.44 billion tons (see table 3). The five dry-bulk trades – iron ore, coal, grains, bauxite/alumina and rock phosphate – recorded 7.6 per cent, reaching 1.59 billion tons. The remaining dry cargo trades, minor bulks and liner cargoes, increased at a slower rate of 2.65 per cent to 2.86 billion tons. The share of dry cargo shipments in world seaborne trade was 65.7 per cent of total goods loaded during the year.

**World crude steel production**

World crude steel production in 2004 increased by a record 8.8 per cent to reach 1,054.6 million tons, compared with 969.3 million tons in 2003. This was the first year ever that steel production surpassed the 1 billion ton mark. Undoubtedly the major event of the year was...
the continuing remarkable expansion of Chinese steel production, up by 23.2 per cent to 272.5 million tons. This was the third year in which production expanded by more than 20 per cent, and China today accounts for more than a quarter of world crude steel production. Production of crude steel in Asia increased by 13.2 per cent to 499.4 million tons, reflecting the modest pace of Japan’s production increase – only 2 per cent to reach 112.7 million tons. Other important Asian producers recorded similar output increases: India’s production increased by 2.7 per cent and that of the Republic of Korea by 2.6 per cent to reach 32.6 and 47.5 million tons respectively. One small producer, Thailand, recorded an impressive 26 per cent production increase to 4.5 million tons.

In other regions and countries, production increases were mostly positive. In North America production increased by 5.4 per cent to 133 million tons, with US production increasing by 5.2 per cent to 98.5 million tons and Mexico’s production increasing by 10 per cent to 16.7 million tons. Production increased by 4.8 per cent in 15 EU countries to reach a collective 168.3 million tons. Italy was the best performer, with production increasing by 5.6 per cent to 28.3 million tons. CIS countries raised their production by 4 per cent to reach 111.8 million tons in 2004. Among these, production increased by 9.9 per cent in Kazakhstan to 5.4 million tons, by 4.9 per cent in Ukraine to 38.7 million tons, and by only 2.5 per cent in the largest producer, Russia, to 64.3 million tons. Among other European countries, Turkey recorded an impressive 11.9 per cent output increase to 20.5 million tons. In the Middle East, crude steel production increased by 5.7 per cent to 14.2 million tons, with the largest producer, the Islamic Republic of Iran, recording a 10.3 per cent increase to 8.7 million tons. In South America, production increased 6.9 per cent to reach 46 million tons, with the largest producer, Brazil, increasing production by 5.7 per cent to 32.9 million tons.

Elsewhere, crude steel production increased modestly (Africa had a 2.2 per cent increase to 16.7 million tons) or decreased marginally (by 1.4 per cent in Australia and New Zealand to 8.3 million tons).

World pig iron production, another useful indicator for predicting dry bulk trades, increased by a healthy 10.8 per cent to 753.9 million tons in 2004.

**World steel consumption**

Forecast apparent steel consumption for 2004 was 918 million tons, 6.1 per cent above the 2003 level. The main increase was expected in China, by 13.3 per cent to 263 million tons – a deceleration in the rate of increase, which for the previous two years exceeded 20 per cent. Expected reduction of government spending on construction projects and decreasing inventories in the face of price increases could explain this trend. A double-digit increase of 10.7 per cent in apparent steel consumption was also expected in South America as some economies recovered from a slump, notably Argentina. NAFTA countries were poised to achieve a 6.1 per cent increase in apparent steel consumption as the US economy recovered. A slightly lower increase of 5.8 per cent was expected in Africa, mainly from northern countries. Other regions were expecting to record modest increases in consumption: 2.1 per cent was expected in the EU-15 countries and 2.6 per cent in CIS countries.

During 2004, consumers faced steep price increases and delivery delays. For instance, spot prices for hot-rolled coil exported from the European Union rose from $300 per ton during most of 2003 to the range of $605–$580 by mid-October 2004. During this year Nippon Steel, the world’s third largest steelmaker, announced that deliveries of steel plate for shipbuilding would take 150 days rather than the previous 60 days, and by early 2005 Japanese shipyards reported average 20-day delays for steel plates. This situation reflected problems in the supply of raw materials as mines and ports reached saturation capacity. In Australia a senior government officer called for an inquiry into coking coal congestion in East Coast terminals. Problems were compounded in early January 2005 when terminals were closed owing to the proximity of tropical cyclone Kerry. For manufactured products, steelmakers restructured production, often in conjunction with others: Corus, the largest British steelmaker, reached an agreement with a consortium of steel traders and producers in Italy, Switzerland, Mexico and the Republic of Korea to increase output in its Teesside plant. Overall the industry remains highly fragmented; the 10 largest producers accounted for slightly more than a quarter of world output in 2003. Consolidation-seeking mergers and acquisitions have generally spanned many countries; only two of the 10 largest producers, Baosteel in China and Nucor in the United States, have main facilities in only one country.

**Iron ore shipments**

The boom in steel production was reflected in the 12.6 per cent increase in iron ore shipments during 2004, to a total of 590 million tons. Australia and Brazil, which account for almost 70 per cent of world exports, recorded growth of 8.5 and 10 per cent, to 205 and 203 million
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tons respectively. India recorded an impressive export increase of 27.3 per cent to 70 million tons. Exports from South Africa were steady at 26 million tons. Lesser exporters such as Canada, Sweden, Mauritania and Peru recorded single-digit export increases. The largest importer by far was China with 208.1 million tons – an increase of almost 50 million tons from the previous year. Japan and 15 EU countries imported 133.4 and 120.5 million tons respectively – around the same volumes as the previous year. These countries accounted for more than three quarters of world shipments. Imports by the Republic of Korea increased by 4.9 per cent to 45.2 million tons. Imports into the Americas, the Middle East and Africa reached 15.5, 13.6 and 5.9 million tons respectively.

Increased shipments of iron ore pushed up commodity prices and congested export terminals. During the first nine months of 2004, spot prices for iron ore exported from CVRD (Brazil) to Europe increased $6 per ton to reach $38 per ton, with prices increasing 18.6 per cent during the year. By the end of the year, an average of 30 vessels were waiting off Brazilian ports, which were working around the clock. Early in 2005 Nippon Steel agreed to a significant 71.5 per cent price increase for CVRD supplies, with other steel makers being reluctant to see that as a reference for other contracts, and at the time China was introducing iron ore import licenses for statistical and monitoring purposes.

Coal shipments

Coal shipments increased by 5 per cent in 2004 and reached an all-time record of 650 million tons. As in previous years, thermal coal made up 70 per cent of world coal trade, and in 2004 shipments grew at a rate of 4.8 per cent to reach 462 million tons. Shipments of coking coal increased at a higher rate of about 9.3 per cent.

Australia, by far the largest exporter of both thermal and coking coal in almost equal amounts, again accounted for slightly more than one third of world shipments. Total exports for the year are estimated at 223 million tons after increasing by 3.7 per cent. Other exporters of thermal coal, such as China and South Africa, were steady at about 80 and 70 million tons respectively. Exports of thermal coal expanded impressively in Indonesia, Colombia and Russia, which recorded increases of 16, 18.2 and 12.7 per cent respectively. Exports from these countries reached 106.5, 51.9 and 33.7 million tons respectively.

Leading importers are EU countries, with about 30 per cent of world imports, and Japan, which accounts for about a quarter of world imports. The share of thermal coal in their coal imports varies from three quarters of the total for EU countries to about 60 per cent for Japan. Other importers are the Republic of Korea and Taiwan Province of China, with 10 per cent each. Elsewhere, the novelty was the remarkable increase of thermal coal imports into Chile – from 1.8 million tons in 2003 to 3.8 million tons in 2004.

Prospects for trade in steam coal are good. The high spot prices of the beginning of 2004 continued to increase during the year, reaching $78 per ton by December. Contract prices from Southwest Australia to Japan rose to $45 per ton, more than 70 per cent higher than those of the previous year. Increased shipments boosted mine production and put pressure on transport services connecting to export terminals: there were rail bottlenecks in South Africa during the first semester of 2004, and investments in barges were made to supply Indonesian terminals.

Grain shipments

World grain shipments are believed to have reached 250 million tons in 2004, an increase of 4.2 per cent from the previous year’s 240 million tons. Shipments were almost equally split between wheat and coarse grains such as maize, barley, soybeans, sorghum, oats and rye. In 2003 the main loading areas were North America and the east coast of South America, which accounted for 47.6 and 21.7 per cent of world exports respectively. Exports from these regions reached 114.1 and 52.2 million tons respectively. In this year the largest exporter, the United States, decreased shipments by almost 2 per cent. Traditional importers such as Japan and EU countries kept imports steady, but a number of other countries, including exporting countries, recorded substantial import increases. Russia’s imports doubled to 1.9 million tons, while countries in Eastern Europe increased imports by 28.9 per cent to 5.8 million tons. In Asia, China more than doubled imports to 5.1 million tons, and those from the Republic of Korea increased by more than 10 per cent to 13.7 million tons. Imports also increased in the Middle East, with a 25 per cent increase reported by Iraq and a 10 per cent increase by Israel.

Bumper crops in several countries during 2004 exercised downward pressure on the high grain prices recorded during the first quarter as a result of the European drought of 2003. Allegations of contaminated seeds...
found in Brazilian soybean exports to China led to the refusal of some shipments and also helped dampen prices for this commodity during the first semester. The matter was settled after Brazil enforced stringent standards of a maximum of one seed per kilo for soybean exports. By the end of the year, the Australian Wheat Board dispelled allegations of lead contamination of wheat and barley exported from Pirie due to a nearby smelting plant. Grain prices continued to slide in the wake of good harvests in several countries. During the last quarter of the year, the price of US corn f.o.b. Gulf of Mexico went below the $100-per-ton level. In early 2005 the European Union reinstated its first wheat export subsidy in 18 months, equivalent to 4 per ton. In South America the soybean harvest reached 100 million tons for the first time.

Other bulk shipments

During 2004 shipments of bauxite and alumina, the primary inputs for the aluminium industry, are estimated to have increased by 6.3 per cent to reach 67 million tons. Final figures for 2003 indicate that bauxite shipments from West Africa, almost half of the world total, reached 15.8 million tons, while bauxite and alumina exports from Jamaica increased by 10.5 per cent to reach 9.5 million tons, with all bauxite shipments going to the United States market. EU countries and some Eastern European countries are the largest importers of bauxite and alumina shipments. In 2003 they imported 26.9 million tons, which represented 40.1 per cent of world exports. Exports of bauxite and alumina from Australia, the world’s largest, were steady at 18.1 million tons during 2003, about half of them destined for Asian countries.

During 2004, consolidated primary aluminium production increased by 6.2 per cent to 29.2 million tons. The expansion in production was impressive in Africa, which recorded an increase of 19.8 per cent to 1.7 million tons, and in China. The latter increased production by 18.8 per cent to 6.6 million tons; this rate of increase, however, was low in comparison to the ones achieved in the past three years, when production expanded at rates well above 20 per cent. Other countries in East and South Asia expanded production by 10.5 per cent to 2.7 million tons. Western Europe expanded production by 5.6 per cent to 4.3 million tons, while Eastern Europe and Latin America reported similar rates of increase — 3.5 per cent to 4.1 and 2.4 million tons respectively. Australian smelters recorded a modest 2.2 per cent increase in production, and those in North America reduced output by 7 per cent to 5.1 million tons.

Shipments of rock phosphate increased by 3.4 per cent to 30 million tons in 2004. Final figures for 2003 indicate that the major exporter accounting for about one third of world exports continued to be Morocco, which shipped about 12 million tons. Exports from other countries in Africa (i.e. Togo) were about 4 million tons, while those from the Middle East (i.e. Jordan) reached about 6.5 million tons. Countries in the Far East (i.e. China) were major importers, reaching more than 11 million tons in 2003.

During 2004, low prices and other factors delayed attempts to increase export volumes and start new export-led mines. Early in the year, the Farim project in Guinea Bissau, which had been in the pipeline for four years, was postponed following the merger of the lessee. A technical assistance project was started with the aim of privatizing the railway company carrying rock phosphate from Jordan Phosphate Mines to Aqaba after the failure of an earlier attempt. In Peru a tender for the Bayovar mine attracted opposition by nearby inhabitants and led to a new bidding process in early 2005.

Shipments of minor dry bulks, a heterogeneous mix of merchandise, were believed to have reached 916 million tons in 2004, almost 9 per cent above the recent estimates released for the previous year. Shipments of steel and forest products are estimated to be slightly above 373 million tons, with trade of the former increasing more rapidly than that of the latter. The volume and direction of steel trade might be contingent on the application of the WTO rulings. In November, this body ruled in favour of the European Union and six other countries, including Japan and the Republic of Korea, and authorized them to impose retaliatory tariffs on US products if this country did not repeal the Byrd amendment whereby dumping and anti-subsidy duties are levied on foreign companies exporting to the US market. Agriculture-related trades, including sugar, rice, tapioca and meals (oilseeds and soy) and fertilizers (phosphates, potash, sulphur and urea), accounted for more than 250 million tons. Again, the volume and direction of sugar trade might be contingent on the final resolution of the dispute under consideration in the WTO. In September, a panel of this body ruled in favour of sugar producers such as Brazil, Thailand and Australia. These countries had complained that EU sugar import quotas favoured some countries in Africa, the Pacific and the Caribbean and that EU sugar producers were receiving aid to export harvest surplus. One month later, the European Union stated its intention to appeal
the decision. Shipments of a number of minerals (cokes, non-ferrous ores, metals, salt, cement, etc.) are estimated at about 250 million tons. Overall forecasts for these minor bulk cargoes indicate a similar volume of shipments for 2005, with agricultural trades fluctuating in the short term and industrial goods being affected by long-term investment decisions.

4. Liner shipments of containerized cargoes

The balance of 1.94 billion tons of dry cargoes is increasingly being carried in containers along the liner trade routes. In some regions, specialized unitized services such as ro-ro, reefer and cars coexist with traditional stand-alone general cargo services, with some of the latter backing up the main container trades. Although most container routes are mature, during 2004 there was scope for growth, and traffic expanded at double-digit rates on several routes, with the total estimated at more than 100 million TEUs. Shipments of containerized cargoes differ from the other dry bulk cargoes in the increased use of trans-shipment to reach destinations, which complements the direct calls of larger vessels. Containers flow along east–west (trans-Pacific, Europe–Far East and transatlantic), north–south and regional routes.

On the largest east–west route, the trans-Pacific, total flow is estimated to have reached 16.1 million TEUs in 2004. Container flows on the dominant leg, Asia to North America, reached 10.8 million TEUs, while in the opposite westbound direction the flow was less than half, 4.3 million TEUs. As a result, the past imbalance of container flows continued and the repositioning of empty containers remained a major concern for carriers. The Asia–Europe route carried an estimated 14 million TEUs during 2004. Again there was a gap between westward flows originating in Asia, which reached 8.4 million TEUs, and flows eastward, which were estimated at 5.6 million TEUs. However, flow imbalance was less pronounced than that existing across the Pacific. On the transatlantic route, the smallest of the east–west ones, container flow reached an estimated 4.8 million TEUs. With flows on the dominant leg from Europe to North America reaching 3 million TEUs and those in the opposite direction reaching 1.8 million TEUs, the flow imbalance was less acute. Overall traffic flows on these three east–west routes almost reached 35 million TEUs, with empty container repositioning being an important feature for all of them.

North–south routes are articulated around the major production and consumption centres of Europe, the Far East and North America and link these centres with developing countries. In 2004, north–south routes are believed to have carried up to 15 million TEUs, and flows expanded and contracted in line with economic conditions prevailing at both ends. Container flows along the routes linking Europe to Africa and Oceania are believed to have reached 0.8 and 0.5 million TEUs respectively. Flows were almost evenly distributed between southward and northward directions. Container flows between Europe and Central and South America were about four times larger, 2.9 million TEUs, and also more imbalanced, as flows heading southward reached almost 0.8 million TEUs. Container flows between North America and Central and South America were larger still, about 3.8 million TEUs, and similarly imbalanced, with southward flows estimated at 1.4 million TEUs. Container flows between Asia and Oceania are believed to have reached 1.5 million TEUs but were well balanced. Data for regional routes are difficult to come by. For the largest regional route — intra-Asia — container flows are believed to have reached 17 million TEUs in 2004.

During 2004, negotiations were conducted between Australia and live animal importers in the Middle East to improve the quality of transport. In December, Australia and the United Arab Emirates signed a Memorandum of Understanding (MOU) to enhance standards covering livestock exports. The MOU provides for operational quarantine holding facilities so that animals can be offloaded prior to a final decision regarding import clearance, as well as for minimum onboard standards for sheep carriers (veterinary staff and stockmen on board to provide food and water on demand, space for sheep to lie down, change of air in enclosed holds, special places for sick animals, etc.). In March 2005, a second MOU was signed with Kuwait, which imported 1.1 million head in 2004.

5. World shipments by country groups

Breakdowns of the 6.76 billion tons of world seaborne trade by major cargo segments and country groups appear in table 4 and figure 3. The shares of developed market-economy countries in goods loaded and unloaded in 2004 were 38.9 per cent and 59 per cent respectively of the world total. For these countries, crude oil and petroleum products accounted for 5.1 and 22.7 per cent of total world exports, while imports accounted for 67.9 per cent for crude oil and 50.9 per cent for petroleum products. Further breakdowns in terms of regional groupings can be found in annex II. Among market
Table 5

**World seaborne trade in ton-miles, selected years**

*billions of ton-miles*

<table>
<thead>
<tr>
<th>Year</th>
<th>Crude (billions)</th>
<th>Oil Products (billions)</th>
<th>Crude plus products (billions)</th>
<th>Iron ore (billions)</th>
<th>Coal (billions)</th>
<th>Grain* (billions)</th>
<th>Five main dry bulks (billions)</th>
<th>Other dry cargoes (billions)</th>
<th>World total (billions)</th>
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</thead>
<tbody>
<tr>
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<td>5 597</td>
<td>890</td>
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<td>9 727</td>
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<td>3 720</td>
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<td>5 157</td>
<td>1 675</td>
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<tr>
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<td>1 560</td>
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<td>1 978</td>
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<td>1 073</td>
<td>5 259</td>
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<tr>
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<td>2 731</td>
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<td>1 241</td>
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<td>1 273</td>
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<td>1 325</td>
<td>8 065</td>
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</tbody>
</table>

*Source: Fearnleys, Review 2004.*

*Includes wheat, maize, barley, oats, rye, sorghum and soya beans.*
economy countries, Europe remains the most important exporter of crude oil and petroleum products, with a total of 104.8 million tons (4.5 per cent of the world total). North America is the largest importer of crude oil and petroleum products, with 634.1 million tons (27.5 per cent), followed closely by Europe, with 537.6 million tons (23.3 per cent), and Japan, with 247.5 million tons (10.7 per cent).

In the dry bulk segment, developed market-economy countries’ share of global shipments decreased to 54.4 per cent for exports and 56.4 per cent for imports. Again, annex II gives insight into the regional distribution of these shipments. Europe remains the largest dry cargo market for exports and imports with 1,059.9 million tons (23.9 per cent of world exports) and 1,476.5 million tons (33 per cent of world imports) respectively. Two countries in North America (the United States and Canada) and two in Oceania (Australia and New Zealand) were also large exporters of dry shipments, with shares of 10 per cent and 13.1 per cent respectively. This underlines their important shares in shipping the three major dry bulk commodities, iron ore, coal and grain.

During 2004 developing countries’ share of total seaborne exports was 49.3 per cent, while their share of seaborne imports was 30.4 per cent. Over the last few years these percentages seem to have remained fairly stable. The trade structure of developing countries contrasts sharply with that of developed market-economy countries. The developing countries’ combined share in crude oil and petroleum products exports represented 86.7 per cent and 66.6 per cent respectively. For imports, the shares were 25.7 per cent for crude oil and 42.5 per cent for petroleum products. In the dry cargo sector, the share of developing countries’ exports reached 32.2 per cent of world exports, while their share of world imports decreased marginally to 30.7 per cent.

Regional variations among groups of developing countries were related to their GDP. Developing countries of Asia claimed the largest shares of exports and imports, 29.2 per cent and 21.3 per cent of world exports and imports respectively. The shares of developing countries in America were 13.5 per cent of world exports and 5.6 of world imports. The shares of African countries were about half those of America: 6.2 per cent of world exports and 3.1 of world imports. The shares for developing countries of Europe (0.3 per cent of world exports and imports) and Oceania (0.1 per cent of world exports and 0.2 per cent of imports) were considerably smaller.

In specific trades there were also considerable variations. The shares of Asian developing countries in world exports of crude oil were 54.3 per cent and in petroleum products 40 per cent. This reflects the importance of Middle East oil producers and refining activity in the Far East. The share of African developing countries in exports of crude oil (17.7 per cent) was higher than that of developing countries in America (14.5 per cent). For exports of petroleum products, however, the opposite was true; the figures were 6.8 per cent for developing countries in Africa and 19.3 per cent for those in America. For exports of dry cargoes, Asian developing countries claimed the largest share (17.9 per cent), followed by American developing countries (12.4 per cent) and African developing countries (1.5 per cent).

For imports of crude oil, the share of developing countries in Asia was 17.4 percent of the world total. The shares of developing countries in America and Africa were 5.5 per cent and 2.9 per cent respectively. For imports of petroleum products, the corresponding shares for developing countries in Asia, America and Africa were 28.8 per cent, 8.9 per cent and 3.2 per cent. Imports of crude oil into developing countries in Europe reached 0.4 per cent of world imports, on a par with the percentage for imports of petroleum products. Developing countries in Oceania showed negligible imports of crude oil, in line with the scant refining capacity in the region, while their share of world petroleum product imports was 1.1 per cent.

In 2004 the shares of socialist countries in Asia were 6.7 per cent for world exports and 9.4 per cent for world imports. These percentages reflect the important role of trade in the economic development of China and its rapid economic growth. The trade of countries of Central and Eastern Europe (including the former Soviet Union) owed its largest share for exports, 5.1 per cent, to shipments of crude oil and petroleum products from the Black and Baltic Seas. Seaborne imports for these countries reached 1.2 per cent of the world total, and these imports were complemented by imports carried overland from other European countries.

6. Demand for shipping services

Table 5 provides data on total demand for shipping services in terms of ton-miles. World seaborne trade for 2004 reached 27,635 billion ton-miles after increasing 6.9 per cent. As cargo transported increased by 4.3 per cent, the average transport distance also increased during the year.
Increased demand for haulage of crude oil and oil products resulted in ton-mileage for these commodities increasing by 6.2 per cent, somewhat less than the 6.9 per cent increase of the previous year. This indicates that crude oil supplies are moving longer distances – for instance, from sources in the Barents, Baltic and Black Seas to destinations in Europe and, more important, North America. For all dry cargoes the ton-mileage also increased by 7.4 per cent, while tonnage transported increased by 4.4 per cent.

For the five main dry bulks, ton-miles increased by 8.2 per cent, compared to a 7.6 per cent increase in cargo volume, which indicates increased haulage to reach Chinese destinations. For the remaining dry cargoes, minor bulks and liner cargo, supply lines were also extended, as their ton-miles increased by 6.7 per cent to 8,335 billion ton-miles while cargo increased by 2.6 per cent. This reflects longer distances between cargo origins and destinations and the lasting effect of relocated industries in the Far East.