

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT


REVIEW OF MARITIME TRANSPORT 2010

Report by the UNCTAD secretariat

Chapter 4



UNITED NATIONS
New York and Geneva, 2010



4

FREIGHT RATES

CHAPTER 4

2009 was a bleak year for freight rates in the tanker, major dry bulk and liner sectors. The deepening of the global financial crisis severely affected demand for commodities and goods. By the end of 2009, rates in all sectors had recovered from their earlier lows, despite remaining significantly beneath 2008 levels. Freight rates for 2010 and beyond remain uncertain, as recovery from the global economic crisis is surrounded by doubts. In the tanker and liner sectors, freight rates were boosted by means of a series of countermeasures adopted by shipowners in response to falling demand. In the bulk sector, much of the recovery was attributed to an increase in demand from China, whose importers took advantage of the low commodity prices and freight rates to increase their stockpiles of raw materials. The oversupply of vessels, combined with the weak operating results for 2009, could mean that shipowners in 2011 will consolidate through mergers and acquisitions.

This chapter covers freight rates in the tanker market, the major dry bulk cargo markets and the liner shipping market. Each section contains information on recent developments in that area, followed by an analysis of how freight rates have performed over the course of 2009 and into 2010.

Introduction to freight rates

The amount that the carrier (e.g. shipowner or charterer) charges for transporting cargo overseas is known as the freight rate. In addition to the freight rate, a carrier may levy other charges, such as BAF, CAF and THC,¹ war risk premiums, piracy surcharges, a container sealing fee, an electronic release of cargo fee, and late fees (e.g. for late collection of a bill of lading, or late issuance of shipping instructions).^{2, 3} Freight rates can be obtained through an agent or a shipbroker. In some cases, such as in the liner sector, notice of freight rates has traditionally been published in newspapers. Today, the internet is the preferred medium. Some shipbrokers also calculate, maintain and publish indices together with historical data to give an indication of how the market is performing. Each segment of the market (e.g. tanker, bulk, containers etc.) has its own characteristics and is influenced by different factors. In the bulk cargo market, vessels are usually chartered for a specific period of time or for a particular voyage. Rates for time charters will be different from voyage charters, with the former more focused on the long-term trend. In general, freight rates are affected by the supply of vessels and by the demand for the goods being carried. Thus, transport services are a derived demand (that is to say, it is not the transport service per se that is demanded, but the good that is being moved). The number of competitors, the availability of alternative transport modes, and short-term fluctuations in demand and supply will also have an effect on prices. Most manufactured goods are shipped by container vessels, and competition for transport is high. When there is no demand for manufactured goods, these vessels may sometimes carry alternative cargoes, such as scrap goods for recycling. However, oil can only be shipped in tankers (pipelines excepted), and therefore wild fluctuations in freight rates can occur. Other markets, such as the liquefied natural gas (LNG) market, are so specialized that freight rates are negotiated under contracts of affreightment⁴ or long-term time charters.

A. THE TANKER MARKET⁵

Introduction

The tanker market is mainly concerned with the transportation of crude oil and petroleum products, which, taken together, represent approximately one third of world seaborne trade by volume. Crude oil and petroleum products provide energy to the transport

mode and the manufacturing process. In addition, crude oil and petroleum products provide essential inputs for the production of manufactured goods. Declining refinery usage as a result of weak demand and overflowing stocks helped keep freight rates low in 2009. This situation was exacerbated by the supply of new tankers delivered in 2009. Oil tankers make up about 35 per cent of the world fleet in volume terms. During 2009, new tankers totalling 31.9 million dwt were delivered, while 8.4 million dwt were demolished.⁶ The tanker fleet experienced a net gain of 23.5 million dwt in 2009 – a 5.2 per cent expansion in the fleet. Shipowners attempted to absorb some of this extra supply by using tankers as floating storage tanks; in October 2009, there were some 143 million barrels of oil stored on 129 tankers.⁷

1. Tanker freight rates for all vessel sizes

2009 was a particularly bleak year for tanker freight rates. Rates started the year in a gentle decline which continued until the middle of the year, after which they began to curve upwards. By the end of the year, tanker freight rates were at much the same level as at the beginning of the year. For most other sectors, freight rates were more positive, and the end-of-year data showed signs of a possible recovery in the global economy. This sentiment was, however, built on shaky ground, and freight rates for 2010 have continued to fluctuate. In the first quarter of 2010, freight rates for all vessel types increased by around 50 per cent compared to the same period in 2009. When comparing average freight rates for the first quarter of 2010 with those of two years before (the year 2008 represented a peak year for tanker freight rates), a decline of only around 20 per cent is evident. See table 4.1 and figure 4.1 for monthly tanker freight indices in 2009.

Table 4.2 illustrates average freight rates measured in *Worldscale (WS)* – a unified measure for establishing spot rates on specific major tanker routes for various sizes of vessel. The table focuses on traditional benchmark routes, and is not intended to be exhaustive – for example, it does not cover the growing West Africa to China route. The main loading areas indicated in the table are the Persian Gulf, West Africa, the Mediterranean, the Caribbean and Singapore, while the main unloading areas are East Asia, Southern Africa, North-West Europe, the Mediterranean, the Caribbean, and the East Coast of North America. When regard to comparisons between monthly freight

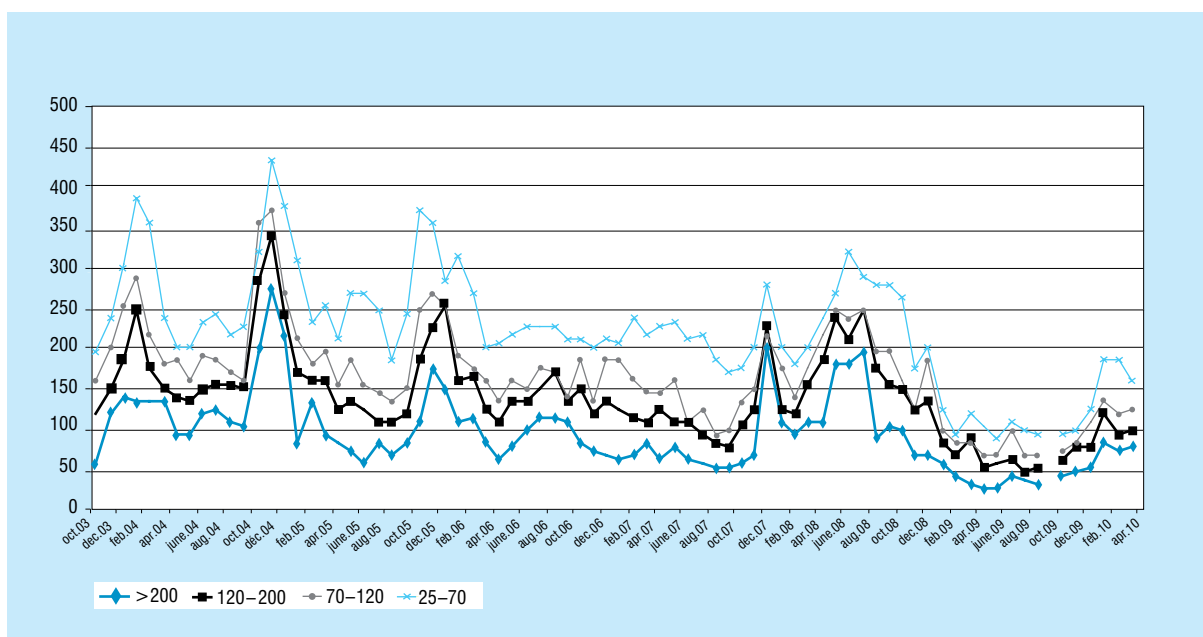
Table 4.1. Tanker freight indices, 2008–2010 (monthly figures)

2008	Lloyd's Shipping Economist				Baltic Tanker		
	>200	120–200	70–120	25–70	Clean	Dirty Index	Clean Index
October	99	149	165	263	239	1 508	1 367
November	67	121	124	175	198	1 246	1 039
December	71	139	191	206	182	1 124	880
Average	79	136	160	215	206	1 293	1 095
2009							
January	54	84	100	125	130	849	623
February	44	65	84	95	126	597	600
March	33	90	82	120	105	626	543
April	29	52	67	105	72	524	371
May	30	58	66	90	103	476	424
June	43	63	102	112	98	482	479
July	36	50	66	100	94	623	463
August	35	52	67	91	96	474	467
September	..	..	..	..	..	487	442
October	41	62	76	96	89	557	515
November	47	78	81	100	94	588	439
December	53	77	111	121	124	671	528
Average	40	66	82	105	103	580	491
2010							
January	82	120	133	185	189	1 024	817
February	75	94	117	187	175	1 047	884
March	77	100	128	159	159	889	761
April	83	105	122	168	151	949	703
May	74	118	150	169	144	995	730
June	84	105	115	150	138	938	669

Source: UNCTAD secretariat, based upon information in *Lloyd's Shipping Economist* (a trade journal that specializes in maritime-related market data and reports), several issues; and in *Baltic Tanker* (an index produced by the Baltic Exchange in London), in which indices are reported for the first working day of the month. Ship sizes are expressed in deadweight capacity.

Note: The numbers in the second row from the top refer to vessel size expressed in dwt.

Figure 4.1. Tanker freight market summary: various vessel sizes, 2003–2010
(X = monthly figures; Y = indices)



Source: UNCTAD secretariat, based on information in *Lloyd's Shipping Economist*, several issues. The *Baltic Tanker* indices are reported for the first working day of the month. Ship sizes are expressed in deadweight capacity.

Note: No data available for September 2009

indices for 2008 and those for 2009, table 4.2 confirms that freight rates on all routes declined. The following sections describe developments by tanker type, in greater detail.

Very large and ultra-large crude carriers

Very large crude carriers (VLCCs) and ultra-large crude carriers (ULCCs), at sizes of over 200,000 and 350,000 dwt, represent some of the world's largest ships, and offer the best economies of scale for the transportation of oil where pipelines are non-existent. Consequently, they form the backbone to international trade, as they feed industrial centres with the energy that is vital for them to produce goods which other vessels can then export. By March 2010, the world fleet of VLCCs stood at 543 vessels, accounting for 162.9 million dwt. An additional 18 million dwt is expected to be delivered over the next few years. Of the present tanker fleet, approximately 22.6 million dwt relates to single-hulled tankers. The bulk of these are expected to be scrapped, due to ever-increasing trade restrictions related to environmental protection. A few, however, will be upgraded to double-hull, or will be converted to other uses.⁸ The size of the VLCC fleet over the next few years is not expected to increase significantly.

Earnings for VLCCs declined by around 60 per cent in the first quarter of 2009 compared with the same period in 2008. The decline, which began in July 2008, continued virtually unabated until May 2009, when it reached its lowest point. Freight rates then embarked on a gradual recovery, ending 2009 marginally higher than they were at the beginning of the year. VLCCs in the first quarter of 2010 experienced an 80 per cent improvement in freight rates, compared to 2009 levels. Yet, despite this improvement, freight rates were still around 25 per cent down compared to the same period in 2008. The improvement was partly due to an increase in the price of crude oil, which doubled over the course of 2009 (to reach around \$85 per barrel by year's end) on the back of strong demand from Asia. Part of this increased demand for oil, and the corresponding derived demand for transport, was due to the spate of cold weather in northern Europe and China in March 2010, as well as increased optimism about the recovery of the global economy. The rising oil price also tempted many shipowners with VLCCs, who had been using their vessels as floating storage tanks, to bring them back onto the market. Unfortunately, there was not enough demand, and freight rates fell back. Average freight rates for VLCCs

Table 4.2. Tanker market summary: clean and dirty spot rates, 2008–2010 (Worldscale)

Vessel type	Route	2008												% change 2008/2009	2010											
		Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov		Dec	Jan	Feb	Mar	Apr	May	Jun					
VLCC/ULCC (200,000 dwt+)																										
	Persian Gulf–Japan	66	51	44	41	27	27	46	42	40	33	43	44	56	-15.2%	104	71	84	90	72	95					
	Persian Gulf–Republic of Korea	61	53	42	36	27	27	41	33	35	34	40	43	53	-13.1%	88	76	76	91	68	81					
	Persian Gulf–Europe	..	..	35	30	..	..	28	27	27	..	29	31	34	..	70	..	57	66	52	58	
	Persian Gulf–Caribbean/East Coast of North America	54	44	34	30	21	20	32	25	26	25	27	28	35	-35.2%	65	52	56	58	53	63					
	Persian Gulf–South Africa	..	..	55	..	35	..	38	..	..	..	..	..	..	..	..	..	..	..	..	..
Suezmax (100,000–160,000 dwt)																										
	West Africa–North–West Europe	140	84	68	68	53	52	64	50	45	55	63	79	77	-45.0%	127	100	104	114	125	110					
	West Africa–Caribbean/East Coast of North America	139	86	71	77	53	50	61	46	49	55	58	75	73	-47.5%	114	97	98	112	118	103					
	Mediterranean–Mediterranean	121	90	70	73	58	62	78	63	54	64	76	84	83	-31.4%	127	103	115	110	129	102					
Aframax (70,000–100,000 dwt)																										
	North West Europe–North West Europe	165	99	80	81	72	66	80	73	69	69	76	96	115	-30.3%	137	113	126	116	141	100					
	North West Europe–Caribbean/East Coast of North America	185	105	92	97	82	85	79	56	..	50	68	..	100	-45.9%	135	117	110	..	153	104					
	Caribbean–Caribbean/East Coast of North America	258	105	78	112	59	73	77	67	67	71	70	94	112	-56.6%	173	146	127	123	167	131					
	Mediterranean–Mediterranean	212	107	86	74	62	68	103	66	68	73	85	91	117	-44.8%	124	95	135	114	160	110					
	Mediterranean–North West Europe	173	106	90	71	59	69	90	70	61	67	85	82	108	-37.6%	121	92	119	110	151	102					
	Indonesia–East Asia	153	81	69	67	58	54	54	61	61	63	64	71	95	-37.9%	136	118	116	99	127	114					
Handysize (less than 50,000 dwt)																										
	Mediterranean–Mediterranean	200	118	100	109	87	80	109	108	87	81	..	102	120	-40.0%	..	164	130	158	173	..					
	Mediterranean–Caribbean/East Coast of North America	175	110	96	112	72	80	101	75	70	78	86	90	111	-36.6%	171	183	139	145	161	145					
	Caribbean–East Coast of North America/Gulf of Mexico	243	131	80	108	70	83	106	72	74	85	89	87	116	-52.3%	176	181	151	146	163	129					
All clean tankers																										
	70,000–80,000 dwt	145	84	106	62	55	56	78	79	81	103	..	95	111	-23.4%	140	123	118	106	124	112					
	50,000–60,000 dwt	156	85	118	79	52	63	85	87	94	104	131	100	121	-22.4%	151	139	124	126	143	123					
	35,000–50,000 dwt	166	130	116	93	72	106	96	81	84	85	83	76	99	-40.4%	149	139	159	137	119	127					
	25,000–35,000 dwt	236	105	131	98	82	77	..	110	127	120	163	..	158	-33.1%	145	155	144	143	215	240					

Source: UNCTAD secretariat, based upon *Shipping Insight* from Drewry Publishing, various issues.

Note: Two dots (..) means that no rate was reported. The classification of ship size in this table reflects the source used, and may vary when compared to other parts of this publication.

in 2009 equated to approximately \$38,533 per day, down from \$74,663 in 2008. Correspondingly, the price of a five-year-old VLCC in February 2010 declined to around \$79 million, compared to annual average prices of \$84.2 million in 2009 and \$144.7 million in 2008.

Suezmax tankers

Suezmax ships are the maximum-sized tankers able to transit the Suez Canal, and, in general, are between 125,000 and 200,000 dwt. However, just as ships have grown in size and capacity over the years, so has the Suez Canal. Recent dredging works have seen the depth of the canal increase to 20 metres, allowing it to cater for vessels of up to 240,000 dwt, which, technically, is a "small" VLCC. Suezmax ships, however, are still generally considered to be around the 125,000 to 200,000 dwt size, and are obviously capable of operating on many other routes. For example, Suezmax vessels play an important role in trade from West Africa to North-West Europe, and to the Caribbean/East Coast of North America, as well as across the Mediterranean. When comparing year-on-year figures for all tanker sectors, the Suezmax sector fared worse than any other sector, with rates in December 2009 down by around one third over December 2008. While rates in 2009 generally followed the trend mentioned earlier for VLCC vessels, namely a gentle downward slope followed by a gentle rise, the main exception was on the Mediterranean route, which spiked in June, only to fall back again and then rose again. Freight rates on West African routes slumped to a 10-year low of WS46 in July 2009, down approximately 80 per cent from the highs of mid-2008, as a dearth of cargoes limited activity.

As far as income was concerned, average daily revenues received by Suezmax shipowners decreased from \$46,917 in 2008 to \$27,825 in 2009. However, on some routes, the decline proved to be more dramatic – for example, the West Africa to the Caribbean/East Coast of North America route declined from \$42,300 per day (at WS86) in January 2009 to \$6,800 per day (at WS46) in July 2009. A major cause for this decline was low demand, which helped to increase the United States' reserve stocks of gasoline and distillates. In July 2009, United States stocks of gasoline and distillates reached a record high of 376 million barrels. As a consequence of low demand and high stocks, the price of oil dropped to below \$60 per barrel. The introduction of favourable tax regimes in some former Soviet countries helped increase demand for Suezmax vessels in that region.⁹ Coupled with declining freight rates, vessel prices also

decreased. A five-year-old Suezmax vessel, which cost on average \$95.3 million in 2008, declined by 38 per cent in 2009 to \$59.3 million.

Aframax tankers

Aframax¹⁰ tankers – of around 80,000 to 125,000 dwt – combine a large carrying capacity with flexibility and lower overheads than those of VLCCs or Suezmax vessels. They are often deployed for trading within and between the following regions: North-West Europe, the Caribbean, the East Coast of North America, the Mediterranean, Indonesia and East Asia. In 2009, around 10.6 million dwt of new tonnage (or 13 per cent of the existing fleet) were added to this sector, pushing the total fleet capacity to 88.7 million dwt by March 2010. The total number of vessels in this category was 845 on 1 March 2010. The fleet is expected to grow by a further 5 per cent in 2010 and 6.7 per cent in 2011 to reach 98.4 million dwt. These additions to the fleet are expected to dampen freight rates on what has already been a quiet year. However, future demand for oil is likely to have the biggest impact on how this market performs in the coming years. The global economic crisis and the use of alternative energy sources, coupled with falling North Sea oil production, could help push rates lower. However, other sources of oil production – for example, from Central Asian countries – could take up much of the slack in capacity.

In general, freight rates for all Aframax vessels declined in 2009, before regaining some lost ground towards the end of the year. The Caribbean to the East Coast of North America route fared better than other routes in this sector, despite freight rates falling from WS258 in January 2009 to WS59 in April 2009, recovering to WS173 in January 2010. While January 2010 witnessed significant growth in freight rates, the December 2009 rate was less than half the January 2009 rate – signally a rollercoaster ride for shipowners. This volatility was also reflected in the second-hand values of ships, with the price of a five-year-old Aframax in October 2009 valued at \$39 million, compared to an annual average of \$41.9 million in 2009 and \$71.4 million in 2008.

In January 2010, average shipowners' earnings stood at around \$29,750 per day, compared with \$5,500 in August 2009. Extensive maintenance schedules at refineries in the Mediterranean towards the end of the year, as well as weak refining margins, dampened demand for Aframax in the region. However, increased OPEC production from North Africa in the last quarter of 2009 helped provide alternative uses and increased freight rates for Aframax vessels.

Handysize tankers

Handysize tankers are those of less than 50,000 dwt that have a draft of around 10 metres. These vessels are most suitable for calling at destinations with depth and length constraints. Table 4.2 shows the freight rates for these types of ships deployed intra-Mediterranean and from the Mediterranean to the Caribbean and the East Coast of North America, plus trades from the Caribbean to the Gulf of Mexico and the East Coast of North America. Freight rates on all three routes declined by between 37 and 52 per cent in 2009, with the Caribbean–East Coast of North America/Gulf of Mexico route declining the most. The lowest point in the year occurred in April on the Caribbean to the East Coast of North America/Gulf of Mexico route, and in August on the Mediterranean–Caribbean and East Coast of North America route. A five-year-old 45,000 dwt Handysize vessel cost on average \$51 million in 2008; by 2009, the corresponding price had declined by 40 per cent to \$30.2 million. In early 2010, the same type of vessel was valued at \$25.5 million.

All clean tankers

Product tankers are specialized cargo-carrying vessels which can carry – for example – naphtha, clean condensate, jet fuel, kerosene, gasoline, gas oil, diesel, cycle oil and fuel oil. Unlike the other tanker markets listed above, which primarily transport cargo from its origin to the point of refinery, this sector handles the processed cargo that leaves the refinery destined for its point of consumption. The chemical tanker fleet is divided into three classifications, known as IMO type specifications. The largest sector, with some two thirds of the fleet, trades primarily in pure chemical cargoes such as styrene, xylene and easychems, and is known as IMO 2. Around one third of chemical tankers are classified as IMO 3, or double-hull product tankers, trading only in chemicals and vegetable oils. Less than 3 per cent of vessels have the IMO 1 specification, to trade in the most hazardous cargoes such as chlorosulphonic acid and trichlorobenzene.¹¹

Freight rates on all four routes shown in table 4.2 declined by between 22 and 40 per cent in 2009, with the Caribbean to the East Coast of North America/Gulf of Mexico route declining the most. The lowest point in the year occurred in April for both tanker sizes on the Persian Gulf to Japan route. Thereafter, on the Persian Gulf to Japan route, freight rates increased exponentially from May 2009 until January 2010.

In 2009, average earnings for product tankers continued their downward slide. Whereas average time charter equivalent earnings on the Caribbean–East Coast of North America/Gulf of Mexico route had been \$17,567 per day in 2008, in 2009 the rate was \$9,467 per day. The low point was reached in October 2009, when the rate on this route declined to a mere \$5,800 per day. However, by February 2010, rates had recovered to \$11,000, which offered some respite to concerned shipowners.

Liquefied natural gas tankers

Liquefying natural gas reduces its volume by around 600 times when it is cooled to -162°C , making it easier to transport large volumes by vessel. The typical LNG tanker carries 145,000–155,000 cubic metres of natural gas on a single voyage. When vaporized, this expands to between 89 million and 95 million cubic metres.¹² The liquefaction and regasification processes are the most expensive elements in the LNG train,¹³ and costing upwards of \$2 billion, represent the highest portion of costs for any LNG project. Given the high costs and long build times, LNG projects often fall behind their building schedules, as the economic conditions (e.g. energy prices) that brought about the need for the project change. New developments on the LNG regasification side have addressed some of the problems associated with cost and building time at the delivery end. Floating storage and regasification units anchored offshore can receive LNG cargoes, regasify and pump ashore the gas in a national network. LNG regasification vessels have been developed, which transport and offload the cargo in gas form at the receiving end. The costs involved are the price of the vessel, plus \$90 million for conversion costs and \$160 million for mooring, gas pipeline and shore facilities.¹⁴

The LNG fleet at the beginning of 2010 numbered around 337 vessels with a cubic metre (cbm) capacity of 48,352. This compared to around 302 vessels and a cbm capacity of 42,028 a year earlier. The order book for new vessels to be delivered in 2010 equates to 23 vessels with a joint capacity of 4,036 cbm. The order book for 2011 is around half this, at 11 vessels with a cbm of 1,797, and for 2012, the figures are 3 and 507 respectively. LNG carriers are mainly produced by shipyards located in the Republic of Korea, and to a lesser extent in China and Japan. The largest LNG carriers – Q-Max vessels with a capacity of 266,000 cbm – operate mainly from Qatar. Qatar is the single largest LNG

exporter, with an expected market share of 27 per cent by 2011.¹⁵ The scheduled increase in the supply of new LNG vessels over the next few years, combined with delays in the building of new shoreside facilities, is expected to dampen freight rates in the medium term. The average price of a new 160,000 cbm LNG carrier was \$226 million in 2009, up from \$222 million in 2008. Spare capacity in shipyards, and the difficulties of raising finance as a result of the global economic crisis, had helped push the price of a similar newbuilding down to \$210 million by early 2010.

A reduction in the demand for gas in the major consumer countries such as Japan and the Republic of Korea, combined with increased capacity from the Middle East and the Russian Federation, has led to a global oversupply in LNG vessels. Freight rates for LNG tankers are not widely published, and the rates that are published tend to focus on niche markets.¹⁶ Most LNG vessels are in stable long-term contracts and thus do not suffer from the widely varying spot market prices that affect other sectors.¹⁷ Because LNG vessels are among the most expensive vessels to build, they tend to be built to order for specific projects. This is where the long-term contacts come into play; they are both the reason for the build and the means by which finance can be secured. Daily charter rates towards the end of 2009 were around \$50,000, and by the end of the first quarter of 2010 they had declined to \$33,000.¹⁸ In an attempt to rectify the dearth of data on the market for LNG, an investor relations advisory firm called Capital Link launched a series of indices in 2009 to follow the performance of certain maritime companies. The Capital Link LNG/LPG Index (CLLG) tracks the performance of major United States-listed shipping companies (e.g. Golar LNG, StealthGas Inc. and Teekay LNG) involved in the LNG/LPG sector. The CLLG increased from 1,190.75 points at the start of 2009 to 2,028.74 points at the end of 2009. In June 2010, the index stood at 2,247.27 points, showing that companies in this sector were performing well.

In Qatar in early 2010, the RasGas Train-7 became operational. RasGas, jointly owned by Qatar Petroleum (70 per cent) and by United States oil and gas company Exxon Mobil (30 per cent) has a capacity of 7.8 million tons per year. Also in 2010, Japanese shipping company Mitsui OSK Lines announced that it had signed long-term charters for two of its 177,000 cubic metre capacity LNG carriers for the PNG LNG project in Papua New Guinea, and will build a further

four LNG vessels at Chinese shipyards under separate deals with PNG LNG and the Gorgon processing plant on Barrow Island, Western Australia.¹⁹ The \$15 billion PNG LNG project is expected to produce up to 6.3 million tons per year from two trains, the first of which is expected on stream in 2013 or 2014. The Gorgon project is expected to have three trains producing 15 million tons per year and to commence in 2014. At the end of 2009, in Yemen, a second train at the Balhaf LNG plant began production, pushing total LNG production capacity to 6.7 million tons per year. The three main buyers include the project operator Total, GDF Suez, and Kogas, under separate twenty-year supply agreements. Since the start-up of the first train, 18 cargos have already been delivered – to the Republic of Korea, the United States, China, Spain and Mexico. The \$4.5 billion project is jointly owned by Yemen LNG (39.62 per cent), alongside the state-owned Yemen Gas Company (16.73 per cent), Hunt Oil Company (17.22 per cent), SK Energy (9.55 per cent), the Korea Gas Corporation (6 per cent), Hyundai Corporation (5.88 per cent), and Yemen's General Authority for Social Security and Pensions (5 per cent).²⁰

Tanker period charter

The tanker period charter gives a good indication of how cargo owners and shipowners are perceiving the market for over the next few years. When rates are low, charterers prefer long charters, and shipowners the opposite. When rates are high, shipowners prefer long charters, and charterers the opposite. In 2009, total chartering activity increased by just over a million dwt, to 28.064 million dwt. March 2009 was the month of least activity, with less than 1 million dwt being chartered, while June was the most active chartering period, with 4.864 million dwt chartered. About 34 per cent of total chartering activity in 2009 was made up of long-term charters of 24 months or more, down from 36 per cent in 2008 and 46 per cent in 2007. This shows that charterers and shipowners are less inclined to engaging in longer contracts, a sign that the market is at a low point. The next most active sector for time chartering was for the period of less than six months (27 per cent), and then for the period of between one and two years (25 per cent). Estimated tanker one-year time charter rates for a five-year-old ship of 280,000 dwt went from \$55,000 per day in January 2009 to \$29,300 per day by November 2009. There was little change at the beginning of 2010, with February's rate standing at \$31,700 per day.

In summary, the global financial crisis has brought severe disruption to the tanker market, as reduced demand for transport services has combined with the increased supply of newly built vessels and pushed freight rates even lower. In June 2010, one tanker owner signalled its intention to reduce the speed of its vessels from 16.5 knots to 11 knots.²¹ Slow steaming avoids the need to enter ships into a more permanent lay-up position which can be costly to position and maintain, and to restart when conditions improve.

B. THE MAJOR DRY BULK SHIPPING MARKET²²

Introduction

The major dry bulk shipping market consists principally of the five cargo types: iron ore, grain, coal, bauxite/alumina and phosphate. These commodities are primary raw ingredients that form manufactured goods. The dry bulk sector accounts for just over one quarter of the total volume of cargo transported by sea.

1. Developments in the dry bulk trade

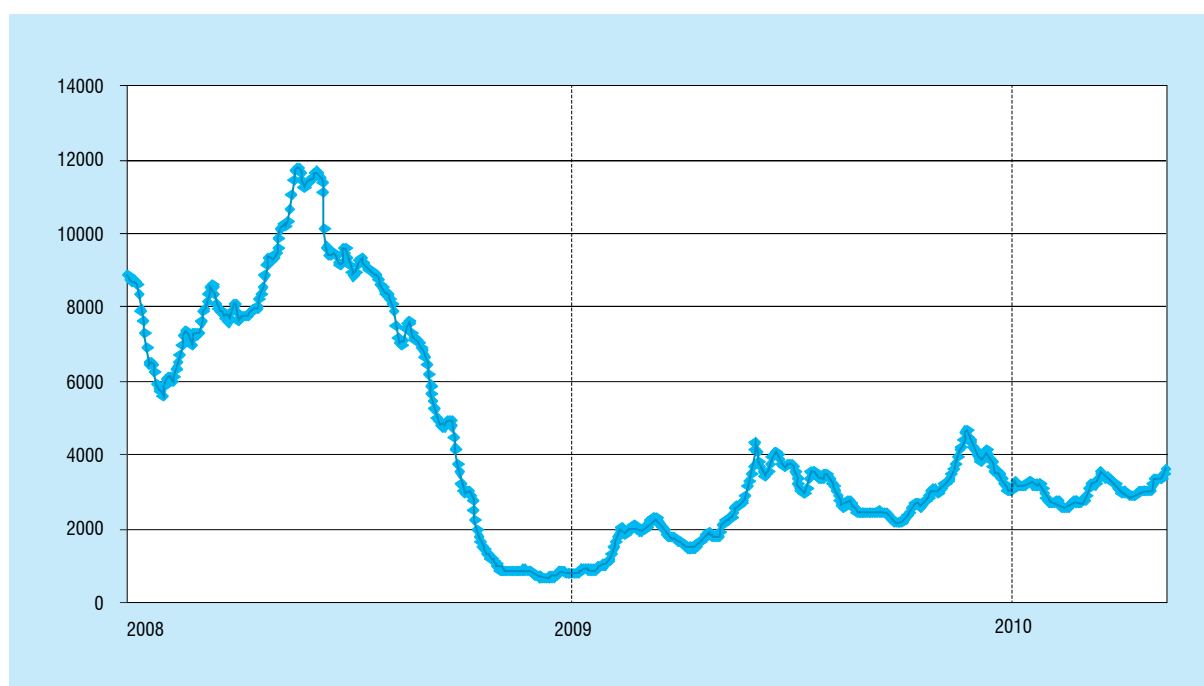
The dry bulk market, which collapsed spectacularly at the end of 2008, improved in 2009 (see fig. 4.2).

The Baltic Exchange Dry Index (BDI), which measures freight rates for dry bulk transported by sea, started 2009 at 773 points and ended the year at 3,005 points. In 2008, the peak of 11,771 points was reached on 21 May, and the low of 663 points occurred on 5 December. In 2009, the high point of the year was in November, with the BDI reaching 4,661 points. Rates maintained most of their 2009 gains, fluctuating in the 2,500 to 4,500 point range for the first half of 2010. The current world fleet of dry bulk carriers amounts to approximately 457 million dwt, with a further 258.3 million, or 54 per cent of the fleet, on order. The following sections describe some of the recent developments in each of the five main bulk trades.

Iron ore²³

Iron ore is an important commodity, as it forms the basic ingredient for the production of steel, which in itself is a major component of heavy industrial production.²⁴ Australia and Brazil account for two thirds of the world's exports of iron ore. The two biggest iron ore companies are the Brazilian company Vale, and the British/Australian Rio Tinto (see chapter 1 for more details on iron ore). China accounts for almost half of the world's imports, followed by Japan with almost one fifth. It was the demand by China for iron ore imports that helped bring about a revival in the fortunes of dry bulk shipowners in 2009. Such imports

Figure 4.2. Baltic Exchange Dry Bulk Index, 2008–2010 (index base year 1985, 1000 points)



Source: Baltic Exchange.

amounted to 32,594,000 tons in January 2009, and doubled to 64,546,000 tons in September 2009. This helped push the daily earnings of Capesize vessels from \$16,000 and Panamax vessels from \$7,000 at the start of 2009 to \$80,000 and \$27,000 respectively by November 2009.²⁵

Iron ore imports by the European Union,²⁶ Japan, the Republic of Korea, and Taiwan Province of China rose on average by 14 per cent in 2009. However, this figure masks the fact that the total iron ore imported by China almost doubled in 2009, to 628 million tons, while, also in 2009, imports of iron ore by the EU²⁷ halved, to 79 million tons.

Coal

In addition to being an important ingredient in steel production, coal (coking) is used to make many products, and is also used to create energy (thermal coal) to fuel industry. The demand for coal imports in Europe²⁸ continued its downward trend in 2009, decreasing to 116 million tons (down from 141 million tons in 2008). In 2009, global coal imports declined in most other major importing countries, with the exception of the Republic of Korea where they increased modestly from 93.5 million in 2008 to 95.7 million in 2009, and in China, where coal imports rose by 40 million tons to 127 million tons.²⁹

Grain

The single largest exporter of grain in the world is the United States, followed by Argentina, Canada, the European Union, and Australia. Grain exports from the United States decreased in 2009 to 73.7 million tons – down from 90.4 million tons in 2008 and 98.2 million tons in 2007. Similarly, Argentinean exports declined from 26.4 million tons in 2008 to 16.1 million tons in 2009, whereas exports from Australia increased from 13.1 million tons to 20 million tons following the decision by the Australian Government to scrap its monopoly export system and open up the market.³⁰ The outlook for 2010 and 2011 remains depressed, with excess supplies of wheat on the market and global stockpiles at an eight-year high of 195.8 million tons – about 30 percent of total demand – and the highest stockpile since 2004. One estimate puts the f.o.b. price of wheat from Black Sea countries at \$160 per ton, compared to \$205 for Australian wheat. With increasing competition for market share in Asia, Australia's proximity and consequent lower transport costs may not be enough to overcome its 20 per cent price premium.

Bauxite/alumina

Maritime transport is often used (particularly dry bulk carriers) to ship raw bauxite material from the mine to the refinery where alumina is produced. Alumina, in powdered form, can then be transported by dry bulk carrier from the refinery to the primary aluminium smelter to produce aluminium metal. The aluminium metal in ingot or slab form is then transported to the point of manufacture (e.g. a car factory) to be converted into its commercial product (e.g. a car's bonnet).³¹ A healthy scrap market also exists, which sees that the majority of aluminium is recycled back into the production process. Aluminium metal itself is used mainly in the transportation (e.g. car body parts), construction (e.g. window frames) and packaging (e.g. perishable foodstuffs) industries.³² World mine production of bauxite decreased by an estimated 2 per cent in 2009, to approximately 201 million tons. China accounts for about one third of both world production and world consumption of primary aluminium. After China, the most important producing countries are the Russian Federation (home to UC Rusal – the world's largest alumina and aluminium producer), Canada, the United States, Australia, Brazil, Norway and India, which account for about three quarters of the world output of primary aluminium. The leading bauxite-producing countries, which together account for three quarters of total world production, in decreasing order of tonnage mined, are: Australia, Brazil, China, Guinea and Jamaica.

The London Metal Exchange (LME) average cash price for high-grade aluminium fell from a record high of \$3,070 per ton in July 2008 to \$1,329 per ton in February 2009, before recovering to \$2,103 per ton in May 2010.

Phosphates³³

Phosphorus is an essential element for plant nutrition (e.g. liquid and solid fertilizers) and for animal nutrition (e.g. livestock and poultry feed). Phosphate rock minerals are the only significant global resources of phosphorus. With more than 95 per cent of world phosphate rock consumption going to the agricultural industry, the remainder is used in industrial applications such as anti-corrosion agents, cosmetics, fungicides, ceramics, water treatment and metallurgy. Maritime transport – using dry bulk carriers – transports the raw phosphate rock and the refined phosphorus.

The world's largest complexes for phosphate rock are located in the Khibiny (Russian Federation) and the

Kara Tau (Kazakhstan), although Morocco remains the world's major exporter, and the United States is the world's major importer. Morocco's exports accounted for nearly half of world shipments, totalling 32 million tons, the bulk of which was exported to Europe and the Americas. Shipments by smaller-scale exporters in other African countries and the Middle East accounted for 40 per cent of world exports. Large phosphate resources have been identified on the continental shelves, and on seamounts in the Atlantic Ocean and the Pacific Ocean.

2. Dry bulk freight rates

Freight rates for dry bulk vessels doubled over the course of 2009 (see fig. 4.3 and table 4.3). Despite this, rates ended the year at about 40 per cent below the peak reached in 2008. The first half of the year showed the most gains in freight rates, much to the relief of shipowners. While freight rates in the third quarter of 2009 slackened, the last quarter witnessed the year's highs. In January 2009, the average earnings for a modern Capesize were \$22,000 per day, and by December 2009, the monthly average had risen to \$42,000 per day. Comparing year on year, the average daily hire rate in 2009 equated to \$35,300 per

day, as opposed to \$116,175 per day in 2008. While 2009 may have been a disappointment for shipowners when compared to 2008, it was, however, a more stable year that did not offer the exceptional highs and lows that some vessels experienced in 2008 with rates surpassing \$300,000 per day only to later dip well below \$10,000 per day. The declining earnings market naturally affected the price of vessels. A five-year-old Capesize vessel cost, on average, \$123.2 million in 2008, and \$47.3 million in 2009. By February 2010, the price had lifted slightly, to \$52 million.

In 2009, freight rates for Capesize tonnage chartered for transatlantic round trips recovered from their rollercoaster ride in 2008. Whereas rates for 2008 were at \$220,385 per day in May and then dropped to \$3,070 in November, the rates in 2009 started out at \$14,280 and then climbed to \$76,843 by November. The rollercoaster ride continued, and then in February 2010 rates fell back to \$33,810.

Dry bulk time charter (periods)

Estimates of rates for 12-month period charters (prompt delivery) rose steadily during 2009, albeit on the back of the significant declines experienced towards the end of 2008. Capesize ships of 200,000 dwt aged five years fetched \$19,700 per day at the start of 2009

Figure 4.3. Dry cargo freight indices, 2004–2010

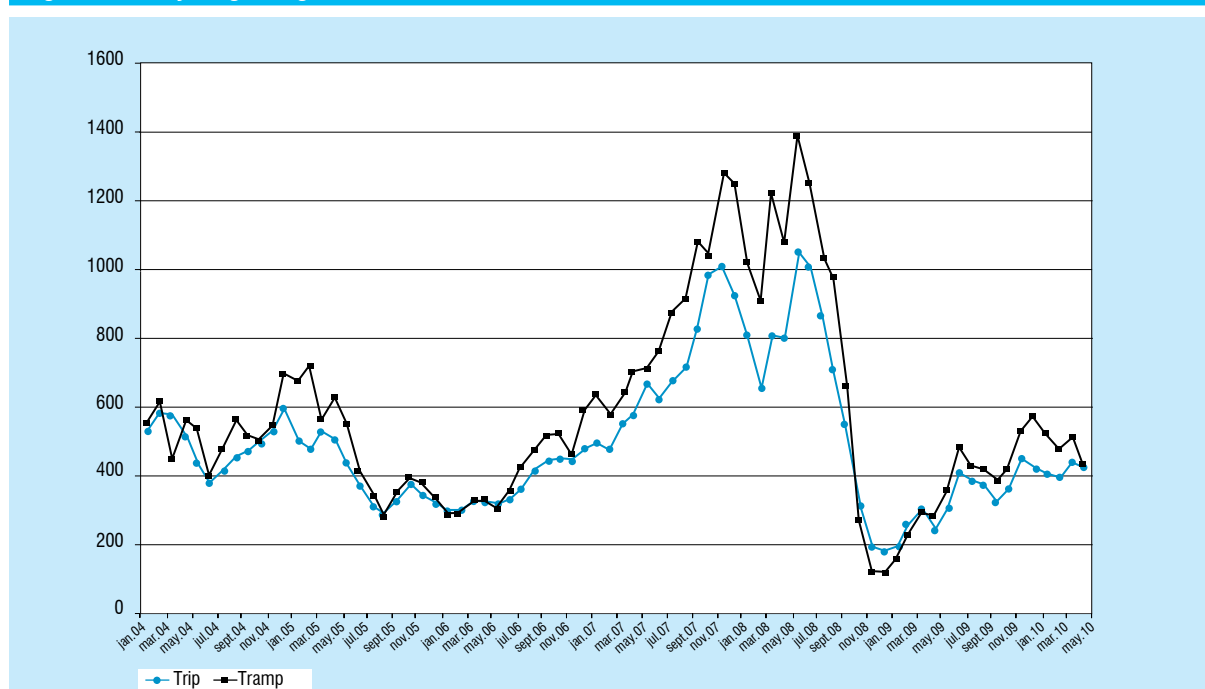


Table 4.3. Dry cargo freight indices, 2007–2010

Period	Dry cargo tramp time charter (1972 = 100)				Dry cargo tramp trip charter (1985 = 100)			
	2007	2008	2009	2010	2007	2008	2009	2010
January	491	812	193	408	632	1 018	154	523
February	480	657	259	398	577	908	227	476
March	550	810	305	447	644	1 221	296	514
April	576	795	254	430	707	1 080	277	430
May	671	1 055	306	463	712	1 544	358	568
June	626	1 009	410	415	759	1 250	479	503
July	673	868	388		875	1 036	426	
August	718	716	377		920	976	413	
September	828	550	325		1 078	657	385	
October	985	313	357		1 044	267	416	
November	1 013	192	457		1 280	117	529	
December	926	181	423		1 251	121	575	
Annual average	711	663	338	427	873	850	378	502

Source: UNCTAD secretariat, based on various issues of *Shipping Statistics and Market Review* produced by the Institute of Shipping Economics and Logistics.

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

(against \$125,000 for the same period in 2008) and had doubled by the end of the year. Freight rates for Capesize ships of 170,000 dwt aged five years started at \$18,500 per day in January 2009, down from \$57,000 in January 2008, and ended 2009 at \$34,500 per day. The best-performing sector, however, was Panamax vessels of 75,000 dwt aged between one and five years, which experienced a 143 per cent increase in rates for the period from December 2008 to December 2009. Freight rates for Handymax ships of 28,000 dwt aged 10 years increased from \$6,500 per day in January 2009 to \$13,500 per day by December 2009.

Dry bulk trip charter

Iron ore freight rates from Brazil to China started 2009 at \$13.90 per ton – a significant decline from the \$64.05 per ton the previous year. The turmoil in prices can be seen by comparing the rate for May 2008, which was \$101.80 per ton, with the rate for December 2008, when it was a mere \$8.35 per ton. The year 2009 revealed some recovery in prices, with June witnessing a rate of \$43.45 per ton. By early 2010, the rate had slipped back to the mid twenties, as concern grew about the ability of the world economy to bounce

back from the global economic downturn, and about the increasing stockpile of iron ore in Chinese ports and refineries.

C. LINER SHIPPING MARKET³⁴

Introduction

Liner services operate between fixed ports on a strict timetable. Liner services can be operated by one company, or by a group of companies in what is known as an alliance or consortium. Costs and revenues are shared in accordance with each company's contribution. Liner shipping companies primarily operate container ships, which carry containerized cargo. Most items can be transported in containers, including cargoes previously transported in bulk, and also components of products, although containers mostly carry finished products ready for consumption. The share of containerized trade, as part of the world's total dry cargo, increased from 5.1 per cent in 1980 to 24.3 per cent in 2009 (chapter 1). In 2009, total world containerized trade was estimated at 1.19 billion tons – a decrease of around 9 per cent over the previous year.

Measured in twenty-foot equivalent units (TEUs), container trade volumes amounted to an estimated 124 million TEUs in 2009, down from 137 million TEUs recorded in 2008. Approximately 15 per cent of world seaborne trade in volume terms (tons) is transported in containers. The following sections examine developments in the liner shipping market and freight rates.

The rapid growth in containerisation over the last 20 years is the result of a combination of factors that includes dedicated purpose-built container vessels, larger vessels capable of achieving increased economies of scale, improved handling facilities in ports, and also the increasing amount of raw materials being carried in containers. In 2009, the French liner company CMA CGM added to its fleet the 13,300 TEU Christophe Colomb, which was delivered in November from the DSME shipyard in the Republic of Korea.³⁵ Although shorter and narrower than the Emma Maersk and her sister ships, this vessel is one of the world's largest container ships currently afloat. The world fleet of container ships increased by 7.1 million dwt in 2009, by just over 4 per cent, to reach 169 million dwt, which is approximately 13.3 per cent of the total world fleet. At the beginning of 2010, there were 4,677 container ships, with a total capacity of 12.8 million TEUs.

1. Developments in the liner trade

General developments

There has been an increase in the number of container ships delivered over the last few years, in the expectation that world trade would also grow. However, the amount of cargo needing to be transported has dropped, owing to the global economic crisis. Over the course of 2009, several shipping lines cut the size of their fleet by returning unwanted chartered tonnage to shipowners, sending some ships to demolition, and laying up others. In June 2009, Evergreen Line was reported to have planned the scrapping of 31 vessels with a capacity of between 2,728 and 3,428 TEUs. By November 2009, the total number of vessels lying idle for more than 20 days was reported at 551, with a combined capacity of 1.18 million TEUs. Those vessels that carriers could not get rid of were added to existing liner services, and all ships were made to sail at lower speeds to absorb capacity. All of these measures together helped to stabilize freight rates.

2. Container freight rates

German shipowners dominate global liner capacity, with Hamburg brokers controlling about 75 per cent of the container ship charter tonnage. Their ships, in many cases, are chartered by the large liner companies, which, together with their own fleets of vessels, operate an extended service (see chapter two for more details on liner shipping companies). For example, CMA CGM's fleet consisted of about 67 per cent chartered-in tonnage in 2009, and APL's percentage was 71 per cent, while the average for the top 20 liner companies in 2009 was around 48.5 per cent.³⁶ Since 1998, the Hamburg Shipbrokers' Association (VHSS) has published the Hamburg Index, which provides a market analysis of container ship time charter rates of a minimum duration of three months. Table 4.4 shows the average yearly rates since the year 2000, as well as monthly charter rates for container ships for 2009, as published by VHSS. More recently, VHSS has launched a new index called the New ConTex, which is a daily charter rate index of fixtures compiled by a panel of international brokers.³⁷ The index consists of six different container vessel types, and is depicted in figure 4.4 as a combined rate. The index shows the dramatic decline in container charter rates from the middle of 2008 to April 2009, when it levelled

off, before embarking on an upward trajectory at the start of 2010. While charter rates for 2010 have rebounded from the 75 per cent declines seen in 2009, rates are at only around half their 2008 levels. The signs of recovery mentioned in chapter 1 can be seen in this index. Given this rise in the index, and the increased supply of new container vessels delivered in 2009 (see chapter 2), the outlook for liner shipping in 2010 and 2011 looks positive. The real test is whether the increased freight rates are a result of increased demand, or are a consequence of the tightening of supply by carriers.

Average yearly charter rates for all of the 10 vessel types shown in table 4.4 fell in 2009; prices for vessels of between 2,000 and 2,299 TEUs declined by 72.9 per cent compared to 2008, and vessels of between 1,600 and 1,999 TEUs declined by 71.3 per cent. Geared/gearless vessels of between 200 and 299 TEUs proved to be the most resilient container vessel type, although average charter rates for 2009 were at only half of their 2008 average. One possible explanation may be that these vessels tend to be employed in areas where competition for container traffic is weak.

Freight rates on main routes

Table 4.5 and figure 4.5 show the all-inclusive freight rates on the three main containerized routes (Pacific, Asia–Europe, and transatlantic). In 2009, freight rates continued a downward path that had begun in the fourth quarter of 2008. In early 2009, some container shipping lines lowered their Asia–Europe freight rates to zero and shippers paid only surcharges as a contribution to the carriers' operating costs. An improvement was first seen on the Asia–Europe route in the third quarter of 2009, and then on the other routes in the last quarter. Figures published by the European Liner Affairs Association show that container volumes on the Asia–Europe trade fell by around 14.8 per cent over the course of 2009. A year-on-year comparison between 2009 and 2008 shows that for each quarter rates were lower, except for United States–Asia in the first quarter and United States–Europe in the first half. In fact, the United States–Europe route proved to be the sturdiest over 2009, while rates from Asia to the United States suffered the biggest falls. Liner shippers attempted to push freight rates up, by slow steaming and by laying up vessels. The sailing time from some northern European ports to Asia increased to a record high of over 40 days.³⁸ This helped push base freight rates from Asia to Europe from \$600 in October 2009 to \$900–\$1000 by the end of the year.³⁹

Table 4.4. Container ship time charter rates (dollars per 14-ton slot/day)

Ship type (TEUs)	Yearly averages										
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Gearless											
200–299	15.7	15.7	16.9	19.6	25.0	31.7	26.7	27.2	26.0	12.5	11.5
300–500	14.5	14.7	15.1	17.5	21.7	28.3	21.7	22.3	20.0	8.8	9.0
Gearless/Gearless											
2 000–2 299	10.7	8.0	4.9	9.8	13.8	16.4	10.5	11.7	10.0	2.7	3.6
2 300–3 400 ^a			6.0	9.3	13.2	13.0	10.2	10.7	10.7	4.9	4.7
Gearless/Gearless											
200–299	17.8	17.8	17.0	18.9	27.0	35.4	28.0	29.8	32.1	16.7	16.9
300–500	14.6	14.9	13.4	15.6	22.2	28.8	22.0	21.3	21.4	9.8	10.2
600–799 ^b			9.3	12.3	19.6	23.7	16.6	16.1	15.6	6.6	7.7
700–999 ^c			9.1	12.1	18.4	22.0	16.7	16.9	15.4	6.0	7.2
800–999 ^d										4.9	6.3
1 000–1 260	11.9	8.8	6.9	11.6	19.1	22.6	14.3	13.7	12.2	4.0	4.8
1 261–1 350 ^e										3.7	4.3
1 600–1 999	10.4	8.0	5.7	10.0	16.1	15.8	11.8	12.8	10.8	3.1	4.0

Ship type (TEUs)	Monthly averages for 2009											
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Gearless												
200–299	15.5	12.5	13.2	11.8	10.6	13.5	13.5	10.7	12.0	11.8	10.9	13.5
300–500	10.9	9.6	9.1	8.5	8.9	8.8	8.8	8.1	8.9	8.1	7.8	8.6
Gearless/Gearless												
2 000–2 299	4.6	3.2	3.2	2.4	2.4	2.5	2.5	2.5	2.5	2.3	2.1	2.1
2 300–3 400 ^a	9.5	9.5	2.8	2.6	2.5	2.3						
Gearless/Gearless												
200–299	20.8	18.2	17.2	17.2	15.7	15.3	16.9	15.6	16.8	14.0	15.6	16.6
300–500	12.5	10.7	9.4	9.5	8.7	11.0	10.0	9.8	10.0	8.8	8.9	8.6
600–799 ^b	12.1	7.2	6.2	6.3	6.2	6.4	5.6	6.0	5.7	5.6	6.0	5.8
700–799 ^c	7.5	6.9	5.9	6.0	6.0	5.9	5.7	6.0	5.8	5.7	5.5	5.5
800–999 ^d												
1 000–1 260	5.0	4.9	4.5	4.1	3.8	3.8	3.7	3.7	3.7	3.7	3.8	3.6
1 261–1 350 ^e												
1 600–1 999	4.7	3.7	3.5	3.2	2.8	2.8	2.7	2.6	2.7	2.6	2.6	3.1

Table 4.4. Container ship time charter rates (dollars per 14-ton slot/day) (concluded)

Ship type (TEUs)	Monthly averages for 2010					
	Jan	Feb	Mar	Apr	May	Jun
Gearless						
200–299	10.44	11.72	12.95	10.39	12.68	11.90
300–500	9.07	8.13	8.30	8.45	9.25	9.63
Gearless/Gearless						
2 000–2 299	2.63	2.42	2.50	2.79	3.15	5.17
2 300–3 400 ^a	2.08	2.57	2.95	5.19	5.49	7.16
Gearless/Gearless						
200–299	16.61	15.24	15.63	15.63	17.38	20.23
300–500	8.78	9.42	9.69	11.58	9.65	9.84
600–799 ^b	6.07	5.91	7.41	6.23	7.22	8.54
700–999 ^c	6.66	6.21	6.26	6.64	6.91	8.24
800–999 ^d	6.38	6.05	5.22	5.30	6.10	6.99
1 000–1 260	3.97	3.78	4.03	4.27	4.84	6.19
1 261–1 350 ^e	3.32	3.43	3.57	3.76	4.16	5.30
1 600–1 999	2.96	3.31	3.02	4.49	3.40	4.99

Source: Compiled by the UNCTAD secretariat, from the Hamburg Index produced by the Hamburg Shipbrokers' Association, available at <http://www.vhss.de>; and from *Shipping Statistics and Market Review*, vol. 52, no. 1/2 2010: 54–55, produced by the Institute of Shipping Economics and Logistics.

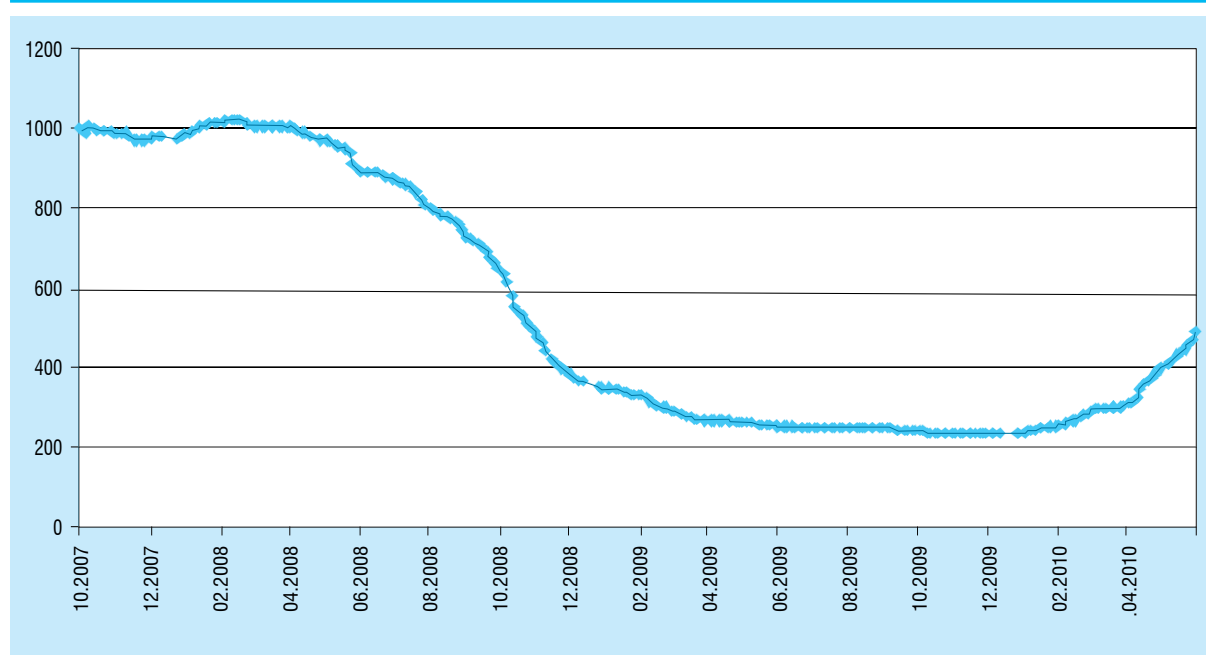
^a This category was created in 2002. The data for the first half of the year correspond to cellular ships in the 2,300–3,900 TEU range, sailing at 22 knots minimum.

^b Sailings at 17–17.9 knots.

^c Sailings at 18 knots minimum.

^d This category was created in 2009 by splitting the 700–999 category.

^e This category was created in 2009 by splitting the 1,000–1,350 category.

Figure 4.4. New ConTex 2007–2010 (indices base: 1,000–October 2007)

Source: Compiled by the UNCTAD secretariat, using the ConTex Index produced by the Hamburg Shipbrokers' Association which is available at <http://www.vhss.de>.

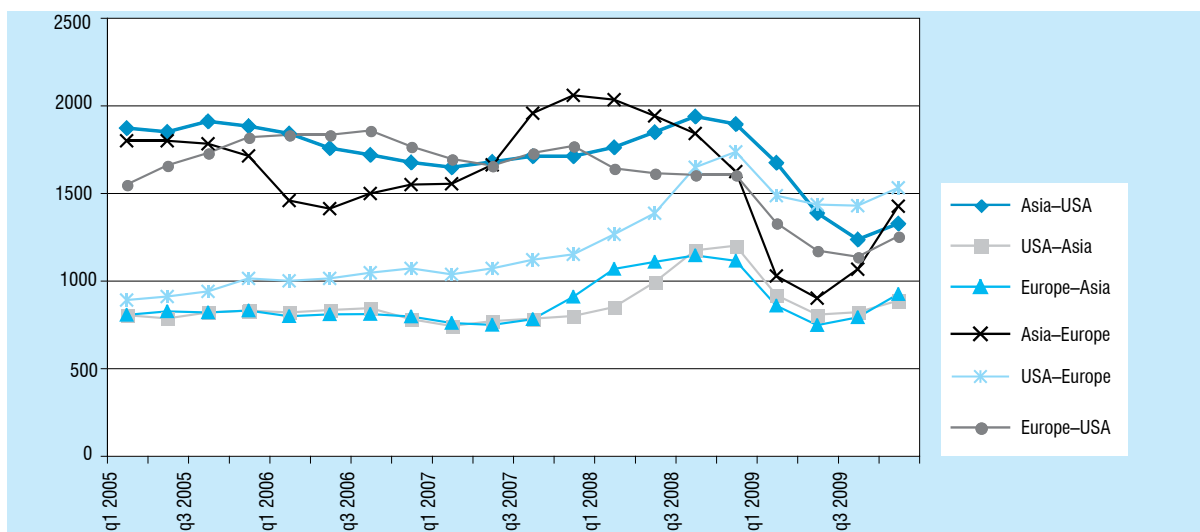
Table 4.5. Freight rates (market averages) per TEU on the three major liner trade routes (in dollars per TEU and percentage change)

	Trans-Pacific		Europe-Asia		Transatlantic	
	Asia-United States	United States-Asia	Europe-Asia	Asia-Europe	United States-Europe	Europe-United States
2008						
First quarter	1 757	845	1 064	2 030	1 261	1 637
Percentage Change	3	6	18	- 1	10	- 7
Second quarter	1 844	987	1 104	1 937	1 381	1 610
Percentage Change	5	17	4	- 5	10	- 2
Third quarter	1 934	1 170	1 141	1 837	1 644	1 600
Percentage Change	5	19	3	- 5	19	- 1
Fourth quarter	1 890	1 196	1 109	1 619	1 731	1 600
Percentage Change	- 2	2	- 3	- 12	5	0
2009						
First quarter	1 670	913	853	1 023	1 481	1 325
Percentage Change	- 12	- 24	- 23	- 37	- 14	- 17
Second quarter	1 383	802	742	897	1 431	1 168
Percentage Change	- 21	- 12	- 13	- 12	- 3	- 12
Third quarter	1 232	817	787	1 061	1 424	1 133
Percentage Change	- 11	2	6	18	- 0	- 3
Fourth quarter	1 322	883	920	1 422	1 527	1 250
Percentage Change	7	8	17	34	7	10

Source: UNCTAD secretariat, based upon *Containerisation International Online* which is available at <http://www.ci-online.co.uk>.

Notes: The freight rates shown are "all in", that is to say, they include currency adjustment factors and bunker adjustment factors, plus terminal handling charges where gate/gate rates have been agreed, and inland haulage where container yard/container yard rates have been agreed. 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.

Figure 4.5. Freight rates (market averages) per TEU on the three major liner trade routes (both directions) (in dollars per TEU)



Source: UNCTAD secretariat, based upon *Containerisation International Online*, available at <http://www.ci-online.co.uk>.

2009 proved to be an extremely difficult year for container freight rates. Individual carriers attempted to “talk up” freight rates by publishing in the press numerous notices of rate increases. Once a notice had been issued by one carrier, other carriers followed suit. These notices did not prevent shippers from bargaining hard, and the average freight rates received by APL and OOCL in the second quarter of 2009 were down by 29 per cent compared to the same period in 2008.

Table 4.6 shows the development of liner freight rates on cargoes loaded or discharged by German-owned container vessels for the period 2007–2009. The average overall index for 2009 decreased by 26 points from the 2008 level, to reach 64 points (the base year of 100 points is 1995). The monthly figures indicate a depressed start to 2009, following by a gradual decline before some ground is gained in the second half of the year. In the outbound trade, the average level in 2008 declined to 54 points – a reduction of 23 points – with the low of 48 recorded in June 2009 signifying a sharp drop in trade from Europe to Asia. The average homebound index decreased by 30 points to 76 over the year, with the month of May 2009 representing the low point.

Maritime transport is not the only transport mode available to shippers on the Asia–Europe route. Increasingly, the Trans-Siberian Railroad (TSR) has

become a viable alternative, with journey times that are typically one third to one half of journey times by sea. In line with the decreasing maritime freight rates, towards the end of 2009 the TSR announced a 20 per cent reduction in rates for transit cargo. Freight rates for moving a forty-foot equivalent unit (FEU) from Asia to the Polish border in late 2009 using the TSR were \$2,820 from Yokohama, \$2,474 from Shanghai and \$2,154 from Busan.⁴⁰ Maritime freight rates from East Asian ports to Northern Europe were around \$1,400, and journey times were around 40 days. The complaints from shippers using the TSR route are that despite the freight rate reductions, the route is still too expensive and the reductions made in 2009 came too late.

Container leasing

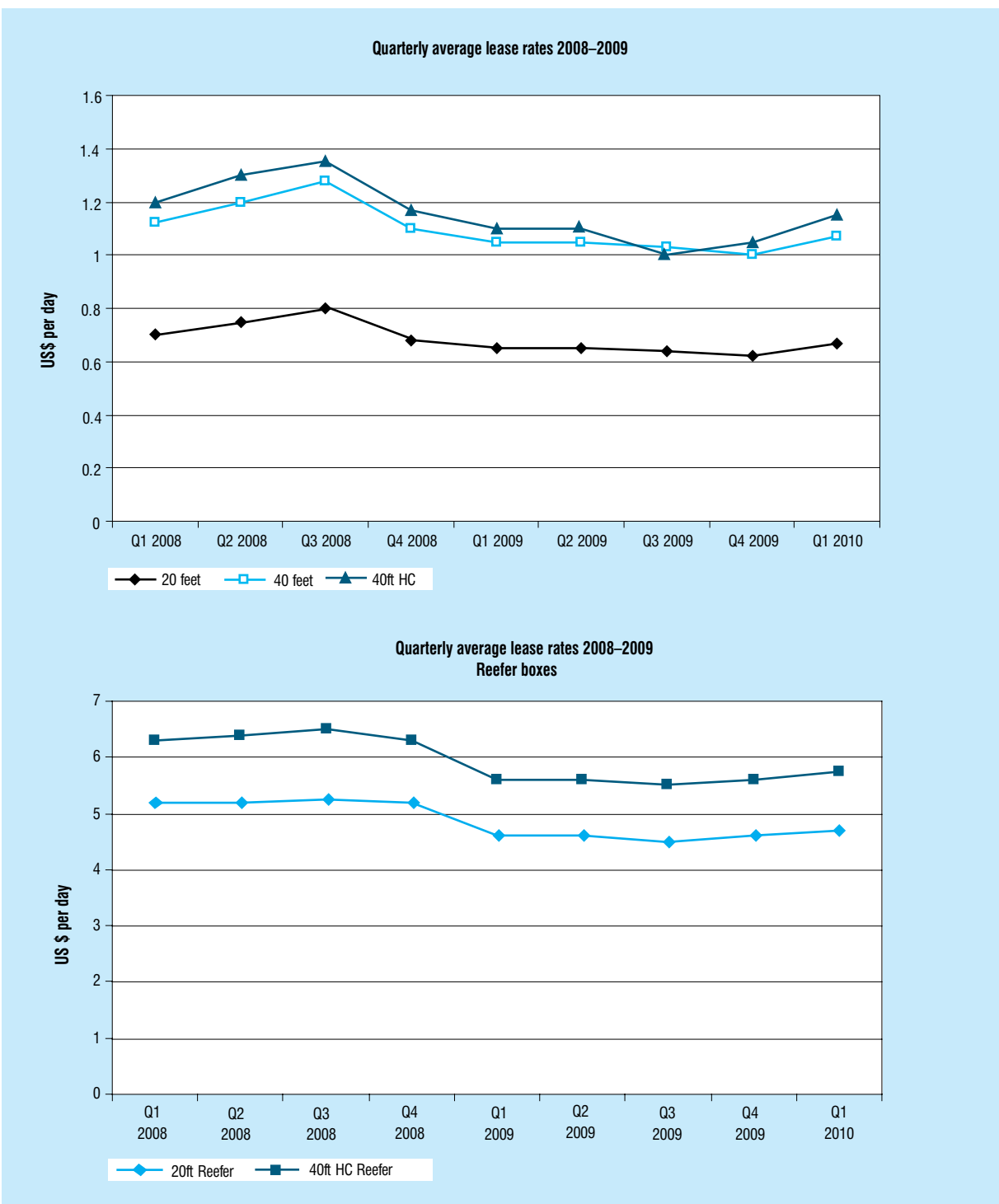
Unlike other maritime transport sectors, where the unit of carriage is included in the packaged product (e.g. a pallet of rice), container cargo also creates a derived demand for containers, about 40 per cent of which are leased from dedicated container leasing companies (lessors). Container leasing rates fell sharply at the end of 2008, and continued to decline throughout 2009. At the start of 2009, the daily hire rate for a five-year option on a standard TEU was \$0.65 and by the end of the year this had declined to \$0.62. The daily rate for a forty-foot equivalent unit (FEU) high-cube unit experienced a similar decline, starting the year at \$1.10 and falling to \$1.05 by the fourth quarter (see fig. 4.6).

Table 4.6. Liner freight indices, 2007–2010 (monthly figures: 1995 = 100)

Month	Overall index				Homebound index				Outbound index			
	2007	2008	2009	2010	2007	2008	2009	2010	2007	2008	2009	2010
January	89	98	62	98	98	116	68	138	81	83	58	65
February	88	95	59	104	98	114	64	149	80	80	55	67
March	86	92	57	111	96	110	60	163	78	77	55	68
April	87	88	56	115	100	106	61	161	77	74	52	77
May	88	89	53	119	101	107	58	166	76	75	49	82
June	92	89	53	124	105	106	59	170	81	75	48	88
July	94	89	60		114	104	71		80	76	51	
August	95	93	65		118	107	80		81	81	53	
September	98	97	69		121	113	87		84	85	54	
October	97	90	75		119	105	98		84	77	57	
November	97	86	75		115	101	97		86	74	56	
December	100	73	84		118	83	111		88	65	63	
Annual average	93	90	64	112	109	106	76	158	81	77	54	75

Source: Compiled by the UNCTAD secretariat, on the basis of information in *Shipping Statistics and Market Review*, vol. 53, no. 3, March 2010: 61–62, published by the Institute of Shipping Economics and Logistics.

Figure 4.6. Quarterly average lease rates 2008–2009



Source: UNCTAD secretariat, based upon *Containerisation International*, various issues.

The average cash investment return in 2009 remained at 11.5 per cent for standard twenty-foot containers and 12.5 per cent for forty-foot high-cube units. Demand for rental equipment gradually improved over 2009, perhaps helped by the credit crisis as bank lending constraints placed a greater emphasis on the need for companies to curtail spending.

The world container fleet, comprising 10.2 million TEUs owned by lessors and 16.9 million TEUs owned by sea carriers (table 4.7), contracted in 2009 by more than 5 per cent compared to its 2008 level, registering 27.1 million TEUs in 2009.

In summary, 2009 was a bleak year for freight rates in the tanker, major dry bulk and liner sectors. The deepening

of the global financial crisis severely affected demand for all types of commodities and goods. All sectors experienced a tumultuous year, with freight rates for many ships at around one quarter of the previous year's rates. Although some signs of recovery were seen towards the end of 2009, freight rates for 2010 and beyond remain uncertain as doubts surround the ability of industry and governments to sustain a recovery on the back of excess tonnage ordered at the peak of the market. Shipowners adopted a number of measures that included slow steaming, vessel lay-ups and ship demolition to combat the decline in demand and to turn their fortunes around. The ship demolition market also collapsed in 2009. The sum offered to shipowners for demolishing ships remained low, with the price of steel in the Far East at around \$185 per light displacement ton (ldt) in March 2009, compared to more than \$700 in the previous year. However, rates gently climbed to \$400 in early 2010. Demolition rates in South Asia (Pakistan and India) tended to hover at approximately \$20–\$60 more per ldt than those in the Far East. Reduced demand, increased supply and unfavourable demolition prices, coupled with the operational losses incurred in 2009 and 2010 by many shipowners, may mean that consolidation in the shipping industry could be forthcoming in 2011.

Table 4.7. World Container fleet (in thousands of TEUs)

	Global	Lessor	Sea carrier fleet
2005	21 415	9 380	12 035
2006	23 335	9 850	13 485
2007	26 235	10 680	15 555
2008	28 685	11 525	17 160
2009	27 100	10 200	16 900

Source: *Containerisation International Online*, "Key Numbers", 1 May 2010 edition.

ENDNOTES

- ¹ BAF = Bunker Adjustment Factor; CAF = Currency Adjustment Factor; THC = Terminal Handling Charges.
- ² In February 2009, the United Arab Shipping Company introduced a \$22 piracy surcharge for containers moving through the port of Aden, Yemen. See <http://www.seatradeasia-online.com/News/3728.html> (accessed 14 June 2010).
- ³ As freight rates are rarely all-inclusive, it is often difficult for shippers to estimate the final transport cost, and therefore there is growing pressure to change the billing process. In 2008, the European Union repealed the block exemption previously given to liner conferences to collectively set freight rates; this meant that from then on, liner companies had to set prices independently. A study of the cost of THCs in some 44 ports across Europe showed that level of THC increased after the ending of liner conferences, and that there was a high degree of averaging of charges applied. This has led to complaints from shippers that THC are (a) not a reflection of the actual costs incurred by terminal operators; and (b) used as a mechanism to compensate for lower freight rates. See: European Commission Competition (2009). *Terminal Handling Charges During and After the Liner Conference Era*. ISBN 978-92-79-14547-6. October.
- ⁴ A contract of affreightment is an agreement to carry a certain quantity of cargo over a specific period.
- ⁵ UNCTAD secretariat, based on *Shipping Insight* by Drewry Shipping Consultants, various issues; and on *Shipping Review and Outlook* by Clarkson Research Services, 2009 and 2010.
- ⁶ 604 according to *Tanker Shipping and Trade*, February/March 2010.
- ⁷ <http://www.audicapital.com/HomepageNews/Documents/NSCSA%20-%2019%20March%202010.pdf>.
- ⁸ Lloyd's Shipping Economist (2009). May: 17.
- ⁹ Clarkson Research Services (2010). *Shipping Review and Outlook*. Spring: 32.
- ¹⁰ An archaic term derived from the maximum-sized vessel permitted under the Average Freight Rate Assessment procedure for adjusting long-term oil freight contract rates.
- ¹¹ *Lloyd's List*. About the fleet. 1 April 2009.
- ¹² *Lloyd's List*. About the fleet. 1 April 2009.
- ¹³ An LNG train is the term used to describe the liquefaction and purification facilities in a liquefied natural gas plant.
- ¹⁴ International Association of Ports and Harbours (2010). Down the pipeline. *Ports and Harbours*. Vol. 55, no. 3: 16–17.

- ¹⁵ Lloyd's List (2010). LNG spot market rates linger at rock bottom. 22 June. Available at <http://www.lloydslist.com/ll/sector/tankers/article171778.ece> (accessed 22 June 2010).
- ¹⁶ In early 2010, a company called Platts (<http://www.platts.com>) launched a subscription-based daily index of LNG freight rates.
- ¹⁷ Approximately 15 per cent of LNG vessels are on the spot market. Source: Lloyd's List (2010). LNG spot market rates linger at rock bottom. 22 June. Available at <http://www.lloydslist.com/ll/sector/tankers/article171778.ece> (accessed 22 June 2010).
- ¹⁸ http://www.hellenicshippingnews.com/index.php?option=com_content&task=view&id=92719&Itemid=79 (accessed 31 May 2010). Also: Platts (2010). LNG Daily. 31 March.
- ¹⁹ <http://www.upstreamonline.com/live/article207798.ece>
- ²⁰ <http://www.zawya.com/Story.cfm/sidv53n15-3NC28/Yemen%20LNG%20s%20Second%20Train%20Goes%20On%20Stream>
- ²¹ <http://www.lloydslist.com/ll/sector/tankers/article43391.ece>
- ²² UNCTAD secretariat, based on *Shipping Insight* by Drewry Shipping Consultants, various issues; *Fearnleys Review* (2006); *Shipping Review and Outlook* by Clarkson Research Services (2006 and 2007); and *Dry Bulk Trade Outlook* by Clarkson Research Services (May and June 2007).
- ²³ UNCTAD produces annually a report entitled *The Iron Ore Market*, which can be purchased at <http://www.unctad.org/infocomm/Iron/covmar08.htm>.
- ²⁴ Around 98 per cent of iron ore goes into iron and steel production, with the remainder used in applications such as coal washeries and cement manufacturing.
- ²⁵ In the first five-and-a-half months of 2010, BHP Billiton, Rio Tinto and Vale (the world's three largest iron ore producers) accounted for 33 per cent of Capesize spot fixtures, or 180 out of 540 fixtures, according to data from Clarksons. This is down from 55 per cent in the same period in 2009, when the "big three" accounted for 345 out of 625 spot fixtures. See: *Lloyd's List* (2010). 21 June. Major iron ore producers lose bulk carrier spot market share. Available at <http://www.lloydslist.com/ll/sector/dry-cargo/article171688.ece> (accessed 22 June 2010).
- ²⁶ The European Union's membership has grown over time, and this reference relates to when its membership consisted of 15 countries.
- ²⁷ *ibid.*
- ²⁸ *ibid.*
- ²⁹ Clarkson Research Services (2010). *Shipping Review and Outlook*. Spring.
- ³⁰ The bulk of Australian wheat exports come from Western Australian ports, including Fremantle, Albany, Geraldton and Esperance, and the increased export of wheat has put pressure on port efficiency.
- ³¹ In order to keep costs down, distances between the mine, the refinery, the smelter and the consumer are best kept to a minimum. In general, the more a product is refined, the shorter the distance to market should be, as by this stage, greater capital is tied up in the goods. However, the electrolysis process (Hall-Héroult) of converting alumina in a primary metal uses a large amount of electricity (between 100,000 and 320,000 amps), and therefore a dedicated, uninterrupted and cheap source of electricity is often the most important factor in choosing the location for an alumina refinery. Consequently, aluminium refineries tend to be located close to hydro, nuclear or coal-fired power stations, and more often than not they are located in developed countries. On average, it takes 4 tons of dried bauxite to produce 2 tons of alumina, which, in turn, provides 1 ton of primary aluminium metal.
- ³² http://us-cdn.creamermedia.co.za/assets/articles/attachments/21659_roskill.pdf
- ³³ Phosphate rock is a non-renewable natural resource that can be found in both sedimentary and igneous deposits. The largest sedimentary deposits, which account for around 80 per cent of phosphate production, are found in North Africa, China, the Middle East and the United States. Igneous deposits, which tend to be of a lower grade than sedimentary deposits, are found in Brazil, Canada, the Russian Federation and South Africa.
- ³⁴ UNCTAD secretariat, based on *Drewry Shipping Insight*, various issues; *Containerisation International*, various issues; *Containerisation International Online* (<http://www.ci-online.co.uk>); *Container Intelligence Monthly*, various issues; *Shipping Review and Outlook* (2009 and 2010); *Dynaliners Trades Review* (2010); *Lloyd's Shipping Economist*, various issues; and *Fairplay*, various issues.
- ³⁵ Established in 1973, Daewoo Shipbuilding and Marine Engineering Ltd. is located at Okpo Bay, Geoje Island, at the south-eastern tip of the Republic of Korea.
- ³⁶ *Containerisation International* (2009): 41. November.
- ³⁷ While other container indices exist, for example the New Shanghai Containerized Freight Index and the Howe Robinson Container Index, obtaining current and/or historical data is arduous.
- ³⁸ *Fairplay* (2009). The rise and rise of box freight. 17 December.
- ³⁹ *Containerisation International* (2009). November. Page 41.
- ⁴⁰ *Containerisation International* (2009). December. Page 27.