2. CHANGES IN INTERNATIONAL CONTAINER SHIPPING AND PORT ENVIRONMENT

2.1 Changes in international container trade

2.1.1 Increasing role of international trade

To comprehend the changes that have occurred within liner shipping and ports over the previous two decades, it is necessary to understand the context in which these changes have taken place. The core factor has been an increased acceptance of international trade as the primary engine of economic growth and development. This has been an ideological shift, as many economies including the Asian giants of China and India have in the past pursued development strategies that have emphasized self-sufficiency and import substitution. Recently however, there has been a growing consensus that success will be achieved through global economic integration.

As a result of this globalization trend, world trade volume has continued to grow with the gradual removal of trade barriers under the World Trade Organization (WTO), and through Regional Trade Agreements (RTA). From 1950 through to 1990, the relationship between economic growth and growth in the value of international trade remained almost constant.

**Figure 2-1: Relationship between world trade growth and world economic growth over the post-war period**

As shown in Figure 2-1, the value of trade during this period grew at approximately 1.5 times that of the world economy. However, from 1990 to 1998 there was a significant upward shift, as the value of trade grew at a rate of over twice that of the world economy. In the following period from 2000 to 2005, the ratio returned to that of the previous 40 years, suggesting a moderation of the effect on the globalization on trade growth. However, 2006 saw strong growth in world trade, rising by approximately 8 per cent—in excess of twice the rate of global economic growth in the same year. IMF forecasts for 2007 and 2008 indicate that strong growth in world trade will continue, with the ratio of trade growth to economic growth remaining over two in both of these years.

Although world trade has, on average, grown more strongly than the global economy, trade growth has also been more volatile. Table 2-1 shows that, during the period 1998 to 2006, annual growth reached a high of 10.4 per cent in 2000, but this exceptional performance was followed immediately by negative growth of in 2001. Differences between regions in the rate of trade growth are also both high and variable.

### Table 2-1: Growth of world merchandise exports by selected region

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>World</td>
<td>4.7</td>
<td>4.7</td>
<td>10.4</td>
<td>-0.6</td>
<td>3.4</td>
<td>4.8</td>
<td>9.5</td>
<td>6.0</td>
<td>8.0</td>
</tr>
<tr>
<td>North America</td>
<td>4.6</td>
<td>6.9</td>
<td>9.6</td>
<td>-5.0</td>
<td>-2.7</td>
<td>1.1</td>
<td>8.0</td>
<td>6.0</td>
<td>8.5</td>
</tr>
<tr>
<td>South and Central America</td>
<td>9.0</td>
<td>-0.4</td>
<td>4.4</td>
<td>5.0</td>
<td>1.9</td>
<td>6.0</td>
<td>13.0</td>
<td>8.5</td>
<td>2.0</td>
</tr>
<tr>
<td>Europe</td>
<td>5.5</td>
<td>3.3</td>
<td>9.3</td>
<td>2.4</td>
<td>1.9</td>
<td>1.8</td>
<td>7.0</td>
<td>3.5</td>
<td>7.5</td>
</tr>
<tr>
<td>Commonwealth of Independent States</td>
<td>0.9</td>
<td>-8.8</td>
<td>11.8</td>
<td>4.5</td>
<td>8.7</td>
<td>12.8</td>
<td>13.0</td>
<td>4.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Asia</td>
<td>3.8</td>
<td>7.3</td>
<td>14.2</td>
<td>-3.4</td>
<td>11.2</td>
<td>11.4</td>
<td>14.5</td>
<td>10.0</td>
<td>13.5</td>
</tr>
</tbody>
</table>

(Source: WTO 2007)
2.1.2 Growth of container trades

During the 1980s, a large portion of growth in the container trade, recorded at an annual average rate of 7.8 per cent, could be attributed to an increase in the container penetration rate. In this period, much of the cargo that previously travelled in loose form was converted to containers; at the same time ports developed infrastructure, and acquired handling equipment to cater for the increasing number (and growing size) of container vessels. However, international container trade has continued to increase at a rate far exceeding that of maritime trade as a whole long after this effect has begun to wane.

Figure 2-2 shows worldwide growth in maritime and container trade volumes over the period 1987 through to 2006. Total international maritime trade volumes grew at an average of 4.1 per cent per annum over the period, with the result that by 2006 total seaborne trade was at almost double 1990 volumes. Containerized cargoes by contrast have grown at an annual average rate of 9.5 per cent over that same period, resulting in a five-fold increase in container movements.

Figure 2-2: Growth of world maritime trade (1987-2006) (Index: 1987 =100)

(Source: Drewry Shipping Consultants; Fearnleys; UNCTAD 2007)

Growth over the past few years has been exceptionally strong. Figure 2-3 shows that the average rate of growth in the number of containers handled in the world’s ports exceeded 10 per cent over 2000-2005 periods, with growth in 2006 again reaching double-digit levels.
Recent estimates by Drewry Shipping consultants are that container trade growth in 2007 has again been strong, with world container traffic expected to reach 142.9 million TEU\(^3\).

The period between 2004 and 2005 was a strong one for the liner shipping operators, with container volume in excess of ship capacity for the majority of the period. However, traditional winter lows, and a surge in capacity with the delivery of the large vessel ordered at the height of the boom, initiated a reduction in rates towards the end of 2005. This reduction in freight rates had a serious impact on the financial performance of ocean shipping companies, where almost all posted weaker profits for the last half of 2006, with some reporting losses.

To accommodate the drop in container rates, liner companies in late 2006 began to reduce capacity by removing strings on several trade lanes and/or slowing their vessels to absorb excess tonnage. This response by shipping lines was an effort to minimise the cost impact from the massive capital investment in super post-Panamax vessels. However, the low freight rates experienced in 2006 have persisted in the face of strong growth in volumes in 2007. Efforts at rate restoration appear to have had little effect on rates; attempts to balance supply/demand on the trans-Pacific route in the second quarter of 2007 produced little movement in freight rates.

![Figure 2-3: World Container Trade Growth (1980-2006)](source: UNCTAD 2007)

\(^3\) This is the number of full containers shipped, not the number of handling movements in port. Drewry Shipping Consultants 2007, Annual Container Market Review and Forecasts 2007/8.
Drewry has indicated that given the continued strong growth, the outcome of 2008 shipper contract negotiations could change this (Drewry, 2007a) However, a great deal of new capacity is scheduled for delivery over the next few years, and this will keep downward pressure on rates. The effect of the delivery of this new capacity will be exacerbated by the fact that it will not be balanced by scrapping of old tonnage. The relatively rapid increase in the container fleet has meant that container ships are, on average, significantly younger than other major components of the world fleet. Whereas the average age of the world merchant fleet at the end of 2006 was 12 years, the average age of the cellular container fleet was 9.1 years. (UNCTAD, 2007)

2.1.3 Geographical diversification of container trade growth

Another shaping factor of the ESCAP ports and shipping scene has been the series of transformations that have occurred in the geographical distribution of container trade. In the 1970's, Asia's container trade was dominated by Japan, which was the focal point for both the Europe–Asia and trans-Pacific trade. However, by 1985 this had changed dramatically, as diversification of Asian container trade entered a more mature phase. Container volumes from Hong Kong, China; Taiwan Province of China and the Republic of Korea comprised over 40 per cent of the Asia total, while Japan's share declined to 31 per cent.

By 1995, another profound change had occurred. The decade 1985-1995 saw container volumes through the ports of ASEAN countries increase six-fold, and by the end of the decade they collectively handled approximately one-third of the Asian total.

During the 1995-2005, the principal change was emergence of the China market. The number of containers handled by the mainland ports of China increased from 1 million TEU in 1983 to 43.6 million TEU in 2005 — a remarkable sustained growth rate of approximately 31 per cent a year. As a result of this spectacular growth, the Chinese container market (excluding Hong Kong, China and Taiwan Province of China) has overtaken Japan and the United States of America (United States) as the world's largest container market.

The spotlight is now clearly on India, where progress towards market reform and an open economy continues. Productivity growth is strong and container volumes are expected to grow strongly. In a bid to ensure future growth, India is also looking to strengthen the overall logistics chain by improving port and landside infrastructure and integration. A number of major port projects are underway such as the new container port at Krishnapatnam Port, and the construction of a rail line linking India and Myanmar.

2.1.4 Relative container trade intensity

Figure 2-4 shows the container trade intensity (defined as containerised trade — including both imports and exports but excluding transhipment — generated per thousand head of
population) for various regions in 2005\textsuperscript{4}. The influence of the level of economic development on container trade intensity is clear; as shown in the figure, container trade intensity is highest in regions dominated by developed economies, such as North America and Europe and Central Asia, where over 100 containers of trade is generated for every 1,000 people. The lowest amount of container trade generated was in South Asia, where the combination of low levels of economic development and historically inward-looking approach to development in India has resulted in less than 2 containers per 1000 head of population in 2005.

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{figure2-4.png}
\caption{TEU trade per ‘000 population – World Bank region}
\label{fig:figure2-4}
\end{figure}

\textit{(Source: Study estimates based on IMF and other sources)}

\section*{2.2 Competition regulation of liner shipping}

International liner operators have been faced with a changing regulatory environment in many countries in the recent past. This has included new regulations enforced by the United States with the Ocean Shipping Reform Act (OSRA) in 1998, and recent rulings on Regulation 4056/86 by the European Commission. In addition to recent amendments to the two major

\textsuperscript{4} The regions used in this and similar figures and tables in this report are those used by the World Bank in its publications. Definitions of these regions can be found in a number of World Bank publications, such as \textit{World Development Indicators 2007}. 
anti-trust regimes, changes to an array of competition policies by other nations within the ESCAP region have clearly influenced the environment within which shippers and carriers operate.

2.2.1 EU/United States of America

The European Union competition regime consists of two block exemptions from anti-trust policy: an exemption that covers the activities of conferences; and an exemption that covers the activities of consortia. Regulation 4056/86 enables the Commission to apply Articles 81 and 82 of the EC Treaty directly to the maritime sector. This mechanism provides a block exemption for liner conferences; however price-fixing and supply (particularly across modes) are regulated within conferences. The consortium block exemption, Regulation 870/95, 823/2000, and most recently Regulation 611/2005 recognise improved productivity and quality of liner transport services by rationalising the activities of member companies.

Both of these have been subject to recent reviews. The Commission has extended the consortium block exemption (by Regulation 611/2005) but abolished the general conference exemption as of October 2008.

The United States regulatory regime differs from the European regime in a number of important respects. Historically, the United States has favoured ‘open’ conferences, ensuring easy entry and exit with conference arrangements, whereas European regulation has been built around closed conferences. The United States regime has been relatively interventionist, with high information disclosure requirements and strict filing obligations. Regulation of liner shipping in the United States is effected by specific industry regulation (the Shipping Act 1984 as amended by the Ocean Shipping Reform Act 1999), whereas in Europe it is affected by block exemption issued under general competition law. The United States regime is accepting of the extension of shipping line collaboration to intermodal movements; in contrast, the EU has been consistently hostile to such extension. Despite these differences, both jurisdictions have in recent years taken steps that have weakened conference influence, and there is a common view that the two major global regulatory regimes are converging (Fitzgerald, 1999).

2.2.2 Australia

Australia’s competition policy regime is embodied in the Trade Practices Act 1974. The Trade Practices Act outlaws various types of anti-competitive conduct, including misuse of market power and price fixing by competitors. The competition policy regime relating to liner shipping is specified in Part X of the Trade Practices Act, with shipping conferences receiving limited exemption. A recent review by the Productivity Commission recommended abolition of Part X, but the government decided instead to narrow its scope of application, excluding discussion agreements from the protections offered by it.

2.2.3 China

In China, international liner shipping is regulated by the Regulations on International Maritime Transportation. This set of laws regulates and governs international maritime
transport operation (including non-vessel-operating carriers). China, in August 2007, passed an anti-trust law which has no provision for exemption for the liner industry. This may affect the behaviour of liner conferences in China; however, collective agreements between vessel lines are still allowed under the current maritime regulation.

2.2.4 Indonesia

In principle, the activities of liner shipping conferences are subject to Law No. 5/1999 Prohibition of Monopolistic Practices and Unfair Business Competition. This law became effective in March 2000 and contains anti-competition provisions and establishes a Commission on Business Competition Supervision.

2.2.5 Japan

The Marine Transportation Law provides that an agreement between shipping lines on freight rates, routes, sailing and/or loading, shall be exempted from the provisions of the Act Concerning Private Monopoly and Maintenance of Fair Trade. There have not been significant changes to the Japanese regulatory framework on international liner shipping since those made in 2000 through amendments to the Marine Transportation Law. The two principal changes made at that time were the establishment of a procedure to allow: 1) authorities to take certain actions against a party to a conference agreement if it is unduly restrictive of competition; 2) the Ministry to revise or abolish conference agreements if they do not meet certain requirements. However, according to Article 29 of the Marine Transportation Law, the Ministry will not grant the exemption approval if it can be proved that the shipowners substantively reduce competition, unduly increase freight rates or apply “unfair methods of transaction”

2.2.6 New Zealand

Outwards liner shipping is exempt from sections of the Commerce Act 1986 covering restrictive trade practices and price control. However, outward shipping is subjected to regulation under the Shipping Act 1987. The Shipping Act 1987 recognises that the commercial relations between shippers and carriers should be self-regulating providing that there is a satisfactory balance of advantage between the parties.

2.2.7 Republic of Korea

The Maritime Transport Act provides that an ocean-going cargo transportation business may enter into a contract concerning freight rates, vessel allocation, cargo transport and other transport conditions and engage in joint activities. The Republic of Korea exempts conferences and other forms of agreement practised in liner shipping from anti-trust prosecution, on the grounds that such agreements make a positive contribution in terms of freight rates, service stability and the maintenance of order in shipping markets.
2.2.8 Singapore

Until recently, the operation of shipping conferences had not been regulated in Singapore. However, the introduction of generally applicable anti-trust legislation created a situation in which traditional conference behaviours would have been illegal. A review undertaken by the Competition Commission of Singapore resulted in a wide-ranging block exemption that in practice means that any activities permitted by either the European or the United States legislation will be legal in Singapore.

2.2.9 Thailand

Significant changes were made to competition legislation in Thailand in 1999. Thailand enacted the Prices of Goods and Services Act B.E. 2542 (1999) and the Trade Competition Act B.E. 2542 (1999) with a view to ensuring free and fair competition in trade in goods and services.

The Thai Government has not pursued an active anti-trust policy in the maritime sector. The activities of conferences, consortia and stabilisation agreements, especially with respect to joint pricing and monopolisation, appear to come under the aegis of the Act. However, under s. 35(2) of the Act, enterprises must be declared ‘controlled businesses’ before action can be taken. The Maritime Sector has not been declared a controlled business.

2.3 Increasing ship size

Containerisation has witnessed a progressive increase in maximum vessel size. By the mid-1970's, the 1000 and 1500 TEU ships of the first and second generation were being replaced by ships of 2000+ TEU, signalling a trend of gradual increase that led eventually to the 4000+ TEU Panamax vessels which most major lines ordered in the early 1990's. However, as shown in Figure 2-4, the rate of increase in vessel size accelerated during the mid-1990s, as lines increasingly decided to focus their trans-Pacific services on the west coast of the United States, and as a result were able to deploy vessels too large to transit the Panama Canal (“post-Panamax” vessels). By 1996, vessels of around 6,000 TEU had appeared on the scene. This rapid increase in containership size has continued unabated, and vessel size has continued to grow to the point where vessels exceeding 11,000 TEU are now in service.

The containership order book is now dominated by large vessels: container ships of over 7000 TEU accounting for 39 per cent of the capacity currently on order (see Table 2-2). Planned investment seems to be particularly strong for ships with a capacity of 10 000 TEU and above. Over the next 3 years, the world container ship fleet greater than 4000 TEU is expected to grow by 19 per cent per annum, opposed to 7 per cent per year for ships under 4000 TEU. According to Containerisation International the largest vessels on order at the end of 2007 were 13,300 TEU ships for CSCL, with the first due for completion from the Samsung Heavy Industries yard in December 2010 (Containerisation International website, accessed 12 Dec 2007). In recent reports Samsung Heavy Industries is believed to building a 400 metre floating dock on which to construct the first of the 16,000 TEU ships, and is likely to be operating early in 2009.

(Source: Historical series compiled from Containerisation International, various years)

TABLE 2-2: GLOBAL CONTAINER SHIP FLEET AND EXISTING ORDERS – AT JULY 2007

<table>
<thead>
<tr>
<th>Size Class (TEU)</th>
<th>Existing Fleet</th>
<th>Ordered</th>
<th>Orders/Fleet (TEU)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No of Ships</td>
<td>’000 TEU</td>
<td>No of Ships</td>
</tr>
<tr>
<td>&lt; 500</td>
<td>438</td>
<td>136</td>
<td>13</td>
</tr>
<tr>
<td>500-999</td>
<td>752</td>
<td>549</td>
<td>155</td>
</tr>
<tr>
<td>1000-1499</td>
<td>611</td>
<td>722</td>
<td>170</td>
</tr>
<tr>
<td>1500-1999</td>
<td>486</td>
<td>826</td>
<td>120</td>
</tr>
<tr>
<td>2000-2499</td>
<td>302</td>
<td>692</td>
<td>21</td>
</tr>
<tr>
<td>2500-2999</td>
<td>348</td>
<td>947</td>
<td>137</td>
</tr>
<tr>
<td>3000-3999</td>
<td>317</td>
<td>1082</td>
<td>80</td>
</tr>
<tr>
<td>4000-4999</td>
<td>354</td>
<td>1553</td>
<td>217</td>
</tr>
<tr>
<td>5000-5999</td>
<td>239</td>
<td>1300</td>
<td>59</td>
</tr>
<tr>
<td>6000-6999</td>
<td>114</td>
<td>740</td>
<td>121</td>
</tr>
<tr>
<td>7000-7999</td>
<td>49</td>
<td>360</td>
<td>6</td>
</tr>
<tr>
<td>8000-8999</td>
<td>93</td>
<td>767</td>
<td>95</td>
</tr>
<tr>
<td>9000-9999</td>
<td>36</td>
<td>336</td>
<td>38</td>
</tr>
<tr>
<td>10000+</td>
<td>5</td>
<td>68</td>
<td>77</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4144</strong></td>
<td><strong>10077</strong></td>
<td><strong>1309</strong></td>
</tr>
</tbody>
</table>

Source: Drewry Shipping Consultants 2007
The average size of new vessels entering the fleet in 2006 grew by 3.6 per cent to 3732 TEU. There are divided opinions on where vessel size will go from here. A review by LSE suggests that the limit using a single engine, given the marine propulsion technology currently available, would be for a 12,500 TEU vessel with installed power of 81,000 KW and a speed of 23.5 knots (Payer, 2002). Beyond that, it appears likely that twin engines and propellers will be needed: this will reduce the ability to lower unit costs by increasing vessel size.

However, there are no insurmountable technical barriers: concept designs already exist for ships over 18,000 TEU (see Table 2-3). Certainly there does not appear to be any clear indication that the trend to even-larger container ships has as yet run its course. The limits to growth, if there are any, will be market-determined.

**Table 2-3: Specification of Very Large Container Ships**

<table>
<thead>
<tr>
<th>Ship</th>
<th>Malacca-max (project)</th>
<th>Emma Maersk (in operation)</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEU capacity</td>
<td>18,154</td>
<td>11,000</td>
</tr>
<tr>
<td>Length (m/feet)</td>
<td>400 / 1,312</td>
<td>397 / 1302</td>
</tr>
<tr>
<td>Breadth (m/feet)</td>
<td>60 / 197</td>
<td>56 / 184</td>
</tr>
<tr>
<td>Draft (m/feet)</td>
<td>21 / 69</td>
<td>15.5 / 51</td>
</tr>
<tr>
<td>Depth (m/feet)</td>
<td>35 / 115</td>
<td>30 / 98</td>
</tr>
<tr>
<td>Deadweight (tonnes)</td>
<td>243,600</td>
<td>156,907</td>
</tr>
<tr>
<td>Vessel speed (knots)</td>
<td>25</td>
<td>25.5</td>
</tr>
</tbody>
</table>

(Source: American Shipper, Lloyds - Fairplay)

It has been argued by some analysts that the search for economies of scale is inexorable, and will continue to drive vessel size increases. Larger ships typically have a lower cost per TEU-mile than smaller units with the same load factor:

- Samsung demonstrated that a vessel of 12,000 TEU on the Europe-Far East route would generate an 11 per cent cost saving per container slot compared to an 8,000 TEU vessel, and 23 per cent when compared to a 4,000 TEU unit.

- Drewry Shipping Consultants (2001) also made similar calculations to point to potential cost differences of around 50 per cent between a Panamax unit of 4,000 TEU and a mega post-Panamax unit of 10,000 TEU (Notteboom, 2004).
One source estimates that savings of up to 16 per cent could be made on the Asia-
Europe route through the deployment of vessels of up to 18,000 TEU (the so-called
Malacca-max vessels). (Containerisation International, 2002)

Adding post-Panamax capacity can give a short term competitive edge to pioneer
implementers putting pressure on the followers in the market to upgrade their container fleet
and avoid unit cost disadvantage.

But some commentators have pointed to other considerations which may serve to set limits to
this seemingly inexorable increase in container ship size. They point out ultra-large container
ships can be deployed efficiently on the major trade lanes, provided they are full. However,
many carriers have not been able to realize a continuous high utilization of available slot
capacity on their bigger vessels. Drewry warns however that over investing in vessels of 10
000+ TEU for simple fear of being left behind on the Asia—Europe trade lane is a level of
risk that should perhaps be reviewed. By the time vessels are delivered, trade boom would
have to have lasted for at least five to six years to sustain trade.

Moreover, shipping lines have made a significant investment in establishing competitive
networks to satisfy the service requirements of global shippers, such as a weekly departure at
each port of call. Upgrading the vessel size on a specific route takes considerable time and
demands massive investments.

It is clear that the largest ships will be deployed only on the Asia-Europe and, to a lesser
extent, the trans-Pacific route. However, as the existing fleet in the major East-West trades is
replaced by larger ships, many vessels of 3,000-4,000 TEU on East-West routes are expected
to migrate to north-south trades – a phenomenon which has already been witnessed at the end
of 2005 (BRS, 2006).

The view taken in this study is that vessel size on trans-Pacific and Europe-Asia routes will
continue to increase, and that by 2015 super-post-Panamax vessels will be dominant on these
major east-west routes. It is expected that on the Asia Pacific route more vessels of greater
than 8,000 TEU will be the norm. This has been supported by introducing the Emma Maersk,
and her recently constructed sister ship Estelle Maersk, to the Asia-Europe trade lane. Some
indication of the way the market is reading developments can be gleaned from the fact that
major port operators have been trying to upgrade port facilities to accommodate super-post-
Panamax vessels, aiming to become hub ports even though the cost of such development is
very high. Others feel constrained to match these efforts just to keep in touch.

2.4 Financial performance

The financial performance of the container shipping industry is chronically weak when
compared to other industries. This has been related to a combination of the capital-intensive
nature of operations, and high risk regarding revenue. Shipping remains a very capital-
intensive industry where some assets are owned, and others are leased. As a result, there
exists a wide variability in cost base which contributes to the short-term instability in this
industry (Brooks, 2000).
The 1990s and early 2000s in particular saw severe price competition affect the profitability of the entire liner shipping industry, and container carriers significantly under-perform financially.

Despite the efforts by shipping conferences\(^5\) to achieve rate stability, a significant decline in rates has been observed since the mid 1990s on most major trade routes. This was due to a combination of different factors. These have included the introduction of large ships, increasing competition from non-conference carriers, the imbalance of container volume in trade routes, and difficulties in securing continual cargo volumes. For example, imbalance in trade, together with other factors, caused a significant decline in the freight rate of 42.2 per cent between 1995 and 2000 in westbound freight on the trans-Pacific route (North America to Asia).

After a further decline in the period of 2001-2002, liner shipping companies enjoyed some respite during 2003 and 2004, when rates increased by nearly 25 per cent during a cargo boom reflecting world economic recovery. As a result liner shipping companies performed relatively well financially in those years. However, rates have since softened: rate increase came to a halt in late 2005, and suffered a sharp decline in 2006. Moreover, the order book for new container vessels is at a record high. There is a widespread expectation in the industry that the next few years will be more difficult.

Howe Robinson and Company indicated at the 2006 Container Summit that current low charter rates for container vessels are expected to continue through to 2009, due to the excess supply of tonnage (3 per cent greater than demand) in 2006. While north-south and feeder trades have experienced an undersupply in new vessels, the East-West trades- with the deployment of new very large container ships (VLCS), are seeing supply outstrip demand significantly. Rates have in fact continued to decline in the first two quarters of 2007, although at a slower rate than in 2006.

Year to date and third quarter figures for 2007 have produced healthier financial results for most ocean carriers, up from end of year 2006 results. However, high oil prices, the devaluation of the United States currency, flattening freight rates and new ship supply coming

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\(^5\) Shipping conferences agree on and set freight rates different regions of the world. Shipping conferences, besides setting rates, adopt a wide number of policies such as allocation of customers, loyalty contracts, and open pricing contracts amongst others. In many jurisdictions, shipping conferences are exempt from the application of competition laws; however this position is changing to promote greater competition and choice for exporters (OECD 2003).
onto the market could impact future profitability. Capacity is expected to grow by roughly 13 per cent next year, while demand is expected to be around 10 per cent (Finance Asia Top 100 Index, 2007).

However, Drewry forecasts that the modest recovery in rates in the third and fourth quarters, due mainly to higher rates on the Far East/Europe trade lane (Drewry, 2007a), followed by a period of rate stability in 2008. This view appears to be broadly consistent with that of Containerisation International (2007). The general view appears to be that the main short-term threat to profitability will come from cost pressures rather than rate declines: “Analysts seem to agree that container lines are likely to see strong revenue growth in 2007 but they are equally in agreement that, ‘uncontrollable costs’ are the main obstacle preventing satisfying profitability.” (Containerisation International website, accessed 13 Dec 2007).

Longer term forecasts through to 2013 are for a slight softening of rates in nominal terms, implying a decline in real terms of between 3 per cent and 5 per cent per annum (Drewry, 2007a). Carriers will therefore face a real challenge in increasing productivity rapidly enough to hold profitability at present levels.

2.5 Changes in global liner shipping operations

2.5.1 Increasing consolidation

The combination of competitive, economic and operational forces has created new and expanded challenges for liner shipping companies, while advances in global communications and logistics management have increased performance expectations of all transport enterprises. Part of the response to changes in the competitive environment, and changes in customer expectations, has been new forms of collaboration, some broader and more diffused than traditional conference arrangements, others narrower and deeper.

Discussion agreements — broad but loose arrangements covering most operators in a trade — and global alliances dominated the scene during the 1990s. However, as was pointed out in section 2.2 above, they have come under increasingly under pressure from regulators, first in Europe and recently in Australia.

A more significant development has been the formation of global alliances. Cooperation between liner companies in different forms of partnership, such as slot purchase and exchange, vessel-sharing agreements, and joint services have been an essential feature of the industry for a long time. These arrangements have served as a means to secure economies of scale, to broaden the range of services that a shipping line can offer and to spread risk associated with investment.

However, these forms of carrier cooperation tend to be on a trade-specific basis. In recent years there has been a growing trend towards carrier alliances on a global basis, with carriers entering into partnerships that cover their operations worldwide, offering significant additional advantages in container logistics, while allowing shipping lines to retain their distinctive marketing identities and ownership. Alliances have also provided members with easier access to more loops or services with relative low cost implications.
But despite these advantages of alliance formation, they have not become a stabilizing factor in liner shipping, due primarily to the organizational complexity and perceived intra-alliance competition which undermines trust between carriers involved. At the same, competition policy enforced under a variety of regulatory regimes has reduced the effectiveness of conference and alliance operations, as discussed in section 2.2.

Another more radical approach to securing the benefits of cooperation is through mergers and acquisitions. Merger and acquisition have been prominent in the container shipping industry since the 1990s, and there has recently been a new wave of activity.

FIGURE 2-6: SHARE OF TOP 20 LINERS IN TOTAL GLOBAL CELLULAR CAPACITY (1988-2007)

![Graph showing share of top 20 liners in total global cellular capacity from 1988 to 2007.]

Source: Containerisation International


<table>
<thead>
<tr>
<th>Rank</th>
<th>Carrier</th>
<th>TEU 2007</th>
<th>TEU 1991</th>
<th>Growth Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Maersk</td>
<td>1,638,898</td>
<td>220,000</td>
<td>7.4</td>
</tr>
<tr>
<td>2</td>
<td>MSC</td>
<td>1,200,668</td>
<td>30,000</td>
<td>40.0</td>
</tr>
<tr>
<td>3</td>
<td>CMA CGM SA</td>
<td>694,239</td>
<td>66,000</td>
<td>10.5</td>
</tr>
<tr>
<td>4</td>
<td>Evergreen</td>
<td>620,610</td>
<td>131,000</td>
<td>4.7</td>
</tr>
<tr>
<td>5</td>
<td>Hapag-Lloyd AG</td>
<td>491,954</td>
<td>57,000</td>
<td>8.6</td>
</tr>
<tr>
<td>6</td>
<td>Cosco</td>
<td>426,814</td>
<td>97,000</td>
<td>4.4</td>
</tr>
<tr>
<td>7</td>
<td>CSCL</td>
<td>418,858</td>
<td>0</td>
<td>na</td>
</tr>
<tr>
<td>8</td>
<td>APL</td>
<td>399,896</td>
<td>100,000</td>
<td>4.0</td>
</tr>
<tr>
<td>9</td>
<td>OOCL</td>
<td>351,542</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td>10</td>
<td>NYK</td>
<td>331,083</td>
<td>107,000</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>657,456</td>
<td>80,800</td>
<td>10.4</td>
</tr>
</tbody>
</table>

Source: American Shipper; Containerisation International
Although the majority of the carriers acquired have been second- or third-tier operators, some significant carriers, including APL and DSR-Senator, were taken over by NOL and Hanjin respectively. P&O Containers and Nedlloyd Lines merged in 1997 to create P&O Nedlloyd Container Line, which later took over Blue Star Line and Tasman Express Line. Evergreen became the second largest carrier in the world, in terms of TEU slots under its control, through the takeover of Lloyd Triestino in 1998. In 1999, Maersk Line acquired the international shipping operations of Sea-Land to form a company controlling 9.2 per cent of the world container shipping fleet. After a decrease in merger and acquisition in early 2000’s, a renewed interest was led by US$ 2.8 billion takeover of P&O Nedlloyd by AP Moeller-Maersk in 2005. After full integration, the enlarged Maersk and its associate companies has a fleet of approximately 1.8 million TEU (Drewry, 2005). More recently, the parent company of Hapag Lloyd has taken over the container shipping interests of CP Ships. Eimskip purchased Kursiu Linija and 65 per cent of Containerships in 2006. CMA_CGM — itself the product of the merger of two major lines — has grown to the position of the world’s third largest container line partly through a string of purchases, including ANL, Delmas, MacAndrews and Cheng Lie Navigation Co; CMA CGM has is reported to have agreed to buy ANL’s Californian-based transpacfic partner, the United States Lines reported to be operating at a loss and in financial difficulty (Lloyds List DCN, 2007).

Mergers and acquisitions has been a major contributing factor to the increase in market share of the leading container lines, as shown in Table 2-4. In 1988, the top twenty container lines controlled approximately 35 per cent of the total global capacity. (This and subsequent similar statistics are based on the shares of cellular container ship capacity only). This figure slowly increased, until by 1996 it had reached around 50 per cent of total global shipping capacity. Additionally, between 1996 and 1998 the share of the top twenty lines increased to 70 per cent as the merger wave began in earnest. Since then there has been a further increase, and more than 82 per cent of total global capacity is now controlled by the top twenty lines (Figure 2-6).

However, not all growth and consolidation has been due to mergers and acquisitions. The most notable TEU growth in the 1991 to 2006 period has been from CMA CGM, Hapag-Lloyd, A.P. Moeller-Maersk and MSC. While acquisitions have played a major role in the growth of the first three of these, MSC has managed to increase its capacity largely by organic growth.

By any standard, the liner shipping industry is far more concentrated than it was a decade ago, and it is likely to become more so in the future. But it is important to retain a sense of perspective. By comparison with other capital intensive industries operating in a global market — for instance, oil production or the manufacturing of aluminium— the container shipping industry is still very fragmented. In these industries, the focus is typically on the market share of the top four operators, rather that the top twenty, and concerns about concentration typically emerge when this ratio exceeds 70 per cent. In the liner shipping industry, the share of the top four lines — Maersk, MSC, CMA CGM SA and Evergreen, stood at around 38.5 per cent in December 2007 (Containerisation International website, accessed 12 Dec2007).
2.5.2 Structural change in shipping service

During the last decades, successive waves of Asian economic development have brought with them progressive changes in structure of container shipping networks in the inter-continental trades to and from Asia as well as in the intra-Asian trades. In the early 1970s, inter-continental shipping networks serving Asia concentrated largely on the Japan; Hong Kong, China; and Singapore. Trans-Pacific services terminated in Japan, and the Far East/Asia services hubbed over the ports of Hong Kong, China and Singapore en route to Japan. As the economies of the Republic of Korea and Taiwan Province of China grew, an increasing number of lines began providing shipping services to these locations, initially in conjunction with services to Japan, and later with additional dedicated services. Kaohsiung and Busan were later developed as regional hubs and significant volumes of regional cargoes began to emerge on short-sea routes linking these new centres to Japanese main hubs. The spread of intermodal services in the United States then led to a decline in service transiting the Panama in favour of land bridging from West coast ports to the Midwest and even to East Coast destinations.

With rapid economic development in South-East Asia during the 1980s and early to mid 1990s, increasingly complex feeder services were introduced to link the regional ports to key hub ports of Hong Kong, China, Singapore and Kaohsiung. Shipping lines also began to experiment with additional calls at South-East Asian ports including Port Klang and Laem Chabang. Additionally, local routes were also developed linking Japan and East Asia initially to Singapore, then to other South-East Asian ports. With further growth in South-East Asia, a new strategy for serving the East Coast of the United States was introduced, with vessels proceeding from Asia via the Suez Canal. This route proved to be attractive for cargoes from Taiwan Province of China and Hong Kong, China.

In the latter half of the 1990s, with the rapid growth of Chinese container trades, Chinese ports were included into new feeder shipping networks, adding further complexity to the Asian shipping system. Intense networks were developed between Pearl River delta ports and Hong Kong port. Busan and Japanese ports increased feeder links with Shanghai, and the central and the northern regions of China. Chinese cargoes bound for Japan, the Republic of Korea and Hong Kong, China mixed with feeder cargoes destined for transhipment at these locations. A number of shipping services between South-East Asian ports and Chinese ports were also developed.

Continuing pace and rapid growth in Chinese cargoes, improved handling facilities at the ports of China and congestion in the port of Hong Kong, China led major lines to trial direct calls at Chinese ports, collecting cargoes previously transhipped over Hong Kong, China port or Japanese ports. This trend subsequently consolidated, with mainline services making direct calls at an increasing range of mainland ports. As shown in Figure 2- , the overwhelming majority of services on both the trans-Pacific and the Asia-Europe routes now make direct calls at ports on the mainland of China.
**Figure 2-7: Mainland China calls on the major East-West routes**

*Source: Meyrick and Associates, 2007*
2.6 Rising fuel prices

Fuel management for containerships is a concern given that fuel costs make up a high proportion of fixed operating costs. Figures from Germanischer Lloyd show that fuel accounts for 63 per cent of operating costs for an 8000 TEU ship opposed to just three years ago where it accounted a third of the annual operating expenses (Lloyd’s List DCN, 2007).

The price of bunker fuel is closely linked to the price of crude oil, so recent record crude oil prices have inevitably been reflected in increased fuel costs to shipowners. Current bunker prices are close to $500 a tonne. This compares to $295 at the beginning of 2007 and around $150 per tonne in the period between 2000 and 2005. The result is that the rising cost of fuel has prompted carriers to react by slowing vessel speeds in order to burn less fuel which in turn has created the need for additional vessels to maintain schedules. Maersk for example has announced that it will add four vessels to the Asia Europe service in 2008 to allow vessels to reduce their operating speeds while maintaining a weekly call frequency.

As operating costs climb relative to the fixed costs of vessel acquisition, shipowner decisions on the deployment of capacity, especially on long haul routes, are also occurring. In the face of an unprecedented rise in operating costs – particularly fuel — MOL has elected to reduce capacity on the trans-Pacific earlier than in previous years (MOL Website, accessed 13 Dec 2007). Future signs do not indicate a reduction in oil prices anytime soon. UNCTAD reports that

*It is interesting to note that the US National Petroleum Council in a report entitled “Facing the Hard Truths about Energy”, warns that there will be a shortage of oil and gas by 2015. (UNCTAD, 2007).*

Given the expectation is that high fuel prices are here to stay, the focus for the shipping industry in the short terms is for new ship design to improve fuel efficiency.

2.7 Reducing emissions

Emissions from shipping operations have become a focus of attention, both within the shipping industry and at a global level. Specifically targeted for reduction have been sulphur dioxide and carbon dioxide (because of its contribution to global warming and climate change).

The IMO has played a role in assisting industry to manage their responsibility by enacting legislation which aims to prevent and control pollution caused by ships, universally know as MARPOL. Annex VI of MARPOL, limits Sulphur oxide and Nitrogen Oxide from ship exhausts and caps sulphur content of fuel oil. It has been reported that *legislation has prompted carriers to issue European shippers ‘low sulphur fuel surcharge’ (LSFS), in addition to normal bunker surcharges in order counter act some of the bunker fuel cost. (Lloyds List DCN, 2007)*

The IMO have also enforced Sulphur Oxide Emission Control Areas (SECA). This legislation requires special mandatory measures be taken for the prevention of pollution in areas needing higher levels of protection due to their ecological or socio economic significance.
No mandatory instrument covering greenhouse gas emissions has yet been enforced by the IMO. A study was conducted in 2000 and is currently undergoing an update in preparation for the Marine Environment Protection Committee’s next meeting in March of 2008. However the EU is becoming impatient and has threatened to act unilaterally if the IMO does not move quickly.

Maritime emissions is not yet covered by the Kyoto protocol and the EU is currently drafting legislation to include shipping emissions as part of its Trading Emissions scheme to go through as early as January 2008.

Recent advances in technology offer the potential to deliver a reduction in the level of emissions through reduced energy consumption, the use of innovative fuel products, and engine and ship design improvements to maintain efficiency and reduce drag. Ocean carriers have been working to improve ship design, and to switch to the use of low sulphur bunker fuels despite the cost.

- Several carriers — including Evergreen, APL, NYK and Wallenius Wilhelmsen Line — have moved to reduce the environmental impact of their operations by using fuels that are lower in sulphur than that currently mandated by IMO, subsequently providing a reduced impact on the environment.
- NYK and APL are experimenting cold-ironing techniques on their vessels, where ships in port plug into a shore side power supply to remove the need for auxiliary engines while at berth. The cost of converting an existing ship is believed to be up to USD 1,000,000 per ship.
- Other initiative involves technology known as sea water scrubbing to remove sulphur and particulates. Krystallon sea water scrubbers have been recognised by the International Maritime Organisation (IMO) and EU as a solution to reducing emissions and are an accepted method for compliance.
- K-Line retrofitted five vessels to curb a high proportion of pollution normally generated from the ships in an effort to comply with the United States west coast clean air rules. K-Line have also agreed to a ‘green lease’ agreement transforming the ITS facility at Long Beach to an environmentally friendly facility.
- The Wallenius Wilhelmsen Line vessel E/S Orcelle (Green Flagship) is designed to produce no emissions into the air or sea by using renewable energy sources, including the sun, wind and waves.
- Maersk recently launched Quality and Energy Efficiency in Storage and Transport (Quest) technology, to halve the energy used to cool refrigerated boxes.

2.8 Port development

Globally, container ports are struggling to expand capacity fast enough to keep pace with trade requirements. Drewry estimates that there may be a serious terminal capacity shortage if additional plans are not confirmed soon and warns that utilisation rates could raise from 72 per cent in 2006 to 97.5 per cent by 2012. The imbalance between supply and demand in the
container terminal sector could have devastating consequences if new capacity projects are not developed quickly. (Drewry, 2007)

2.8.1 Private investment

Increased private sector participation in ports has been one of the most widespread, and in some areas controversial, areas of change. The form which this increase has taken has varied greatly from port to port. The most extreme form was pioneered in the United Kingdom of Great Britain and Northern Ireland, where whole ports, including land, were sold on freehold to private sector interest. Few other countries have chosen to follow the British model. However, some ESCAP countries, for example Malaysia, have adopted models that closely resemble it with the sale of the port business at Johor. The main difference however, is that government retains a golden share, and the arrangement is through a long term lease rather than a freehold sale.

The more common activities are concessions for parts of ports, such as individual terminals or clusters of terminals. As many commentators have indicated, this is not novel, and has long been a popular form of port development in many parts of the world. However, for ESCAP countries, particularly those in Asia, that have historically funded port works solely from public funds, this is a new development.

Other countries (China provides the most conspicuous example) have chosen the joint venture route, maintaining a continuous involvement in the port facility whilst accessing private sector funds and expertise. In still other instances, ports have retained responsibility for, and revenues from, basic infrastructure, while contracting out the management of the facility, usually for a period much shorter than that of a typical concession. As a result of this liberalisation for entry into selected port service sectors, private firms have begun, in some instances, to operate in competition with and alongside port authority operations.

In other developments an increasing number of port investments are being made by organisations such as financial institutions, investment groups, infrastructure funds and other private equity type investors. In the past two years such investors have included AIG, Goldman Sachs and Macquarie, perhaps the attracted by the strong and sustained growth of the container trade and the potential to gain additional revenue from transhipment cargoes (UNCTAD, 2007).

Given the expected growth of trade, most ESCAP countries have terminal expansion and development projects that are either planned or currently underway within the ESCAP region. Many of these involve private sector investment. Some of these which have been driven by demand and high GDP growth in developing countries are highlighted below.

2.8.2 India

The Indian Government has proposed a 12.4 billion ports upgrade plan to enable India to keep pace with growth in traffic (Port Strategy, 2007). Examples of plans in the pipeline include:

- the deepening and widening of the main harbour for Jawaharlal Nehru Ports to cater to larger vessels entering the port
- 24 -

- a greenfields port to be developed as an all-weather, deepwater, multipurpose port for handling vessels with a draught of 18 to 20m at Gangavaram.
- the south eastern Indian port of Chennai, managed by the Chennai Port Trust (CPT), is planning a mega-container terminal capable of handling super post-Panamax container vessels of 13,000 to 15,000 TEU. The estimated cost of construction is INR3,050 crore (USD748 million) and if approved it will take about five years to build.

The performance of Indian ports does not compare favourably with that of efficient international ports on three important parameters- capacity, productivity and efficiency. This has led the governments at both national and state level to consider privatisation as an option (IndiaCore website, accessed 12 Dec 2007). A recent demonstration of this is the announcement by the Kerala government that it will use private sector participation to develop five more ports in Kerala in addition to the proposed Vizhinjam container transhipment terminal (Kerala Ports, 2007).

2.8.3 China

Shanghai, Qingdao, Shenzhen and a number of other Chinese ports are now among the busiest in the world.

- DP World signed agreement with Qingdao Government to develop a new container terminal at green field site at Qingdao, China. The terminal, to be 100 per cent owned by DP World, is expected to commence operations by 2008/09.
- Phase II of the Port of Shanghai Upgrade is now underway and by 2010 is planned to provide the river mouth with a navigable depth of 12.5 m with Phase III of the Waigaoqiao Container Terminal project aiming to boost the cargo capacity of the terminal.
- In the port of Tianjin, 385 million will be invested in the development of a fourth berth. The new facility is to be commissioned by 2012 and will be built in the ports Dongjiang area as a free trade zone (UNCTAD, 2007).
- HPH and PSA have also committed to a number of expansion plans in the region with the joint venture as investment of choice in order to expand. HPH has signed 2 joint venture agreements to construct 2 new container berths in Huizhou port in southern China while PSA is developing a new terminal in Donguan, which is expected to be operational by 2008. (Drewry, 2007)
- CMA CGM has also recently signed an agreement to invest in the construction and development of a USD307 million container terminal at the port of Haicang, Xiamen. CMA CGM will take a 30 per cent stake in a development consortium together with, Hong Kong-based New World Services Holding Ltd and Xiamen Haicang Investment General Company. CMA CGM expects the facility – which it intends to establish as a transhipment hub for southern China – to be operational by 2009 (Containerisation International website, accessed 29 Nov 2007).
- Cosco is highly focused in domestic investment and has also announced a number of further investment projects in Hainan, Fuzhou and Yangzhou.
2.8.4 Vietnam

DP World has commenced construction of a terminal in Saigon, with APM also planning to develop a terminal in port Cai Mep, Saigon scheduled to open mid 2009.

HPH and PSA have once again chosen to use joint ventures in the region. HPH entered into an agreement with Saigon Investment Construction & Commerce Company Limited (SICC), to build, develop and operate a container terminal in Ba Ria Vung Tau Province. PSA entered into a joint venture with Saigon Port in Vung Tau to create a major hub for Indochina. The first phase should be operational by 2009 (Drewry, 2007b).

2.8.5 Middle East and and Central Asia

Russian Federation is also expanding capacity in a number of ports. Construction work began on a container terminal in the port of Ust Luga in early 2007 to relieve congestion at St Petersburg. Two berths are expected to be complete by the end of 2007 and operations to begin in 2009. Eurogate will have a 26 per cent share in the project, which will make it one of the very limited foreign investment interests involved in The Russian Federation. Other expansion plans are also in train for Novorossiysk, with a new port to be built a Nakhodka.

Turkey continues to expand capacity via privatisation. HPH as part of a consortium has agreed to develop and operate the Port of Izmir (Drewry, 2007b).

2.9 Terminal operations

2.9.1 Changing balance of power

One of the major implications for port operators resulting from the developments of the last decade or so has been the shift in balance of power between shipping lines and ports. This shift has been in favour of shipping lines.

Greater volumes that are now controlled by a single line or alliance mean that the capacity of an individual line can seriously affect the business of even a major port. One of the most dramatic examples was Maersk’s Lines transfer of business to the port of Tanjung Pelepas. This decision of a single shipping line cost Singapore, the world’s premier hub port, approximately 15 per cent of its total business. Similarly, Hapag-Lloyd’s takeover of CP Ships has seen redirection of container cargo from Fraser River Port to the Port of Vancouver. According to CI-Online this saw a 70 per cent decrease in the first half of 2006 for Fraser River Port and a 21 per cent gain for Vancouver.

One of the main considerations in this, and a number of other recent shifts, is control. An increasing number of lines are seeking dedicated terminal facilities and direct control over landside operations. As a result, a change in the basic paradigm of port-carrier relations has been observed. The traditional paradigm that ports serve local trade, and shipping lines come to the cargo is no longer the case. Under the emerging paradigm, shipping lines serve regional, largely non-local trade, where the cargo is moved, by feeder or intermodal services to the ship.
2.9.2 The emergence of global terminal operators

Private investment in the port sector has given rise to what has been termed the 'global terminal operator'. Historically, national firms of the country in which the port was located provided the port service. The emergence of major global players has changed this radically.

In its recent detailed analysis of global container terminal operators, on which this section draws heavily, Drewry defines the global terminal operator as an organisation with container terminal interests in more than one geographical region (Drewry, 2007b).

In 2006 the global terminal operator share of world container throughput was just over 61 per cent. In same year, the top five companies handled 50.7 percent of total world throughput. These companies were: Hutchison Port Holdings (HPH); AP Moeller Terminals (APMT); PSA Corporation (PSA); Dubai Ports World (DPW); and Cosco. In terms of geographical spread, global operators accounted for the larger share of container traffic in the Northern Europe and South East Asia regions in 2006 (Drewry, 2007b).

Mergers and acquisitions are playing an important role in driving further concentration at the global level. DPW acquired P&O Ports in 2006, placing DP World in the top three global port operators. After being out-bid by DPW for P&O Ports, PSA decided to invest in HPH, securing a 20 per cent stake in 2006 (Drewry, 2007b). Purchasing the stake allowed PSA to expand operations outside of Singapore and Europe, by acquiring access to port facilities in Asia, particularly in the key growth markets of China and India.

2.9.3 Container volumes handled by global terminal operators

Drewry divides global terminal operators into two main groups:

- Global stevedores, whose primary business is in the operation of container terminals
- Global carriers, whose terminal operations are derived from and to some extent, remain ancillary to their liner shipping operations.

Figure 2-8, the volume handled by each global terminal operator in 2006 is shown, and the operator is classified into one of these two groups. Classification is not always a simple matter. APMT, for instance, is classified by Drewry as a ‘hybrid’ operator, as the AP Moeller group has gone to considerable effort to separate its terminal operations from those of its container carrier, Maersk Line), led this group, followed by Cosco and Evergreen. More generally, the stance of carrier-controlled operators with respect to third-party business is varied. Some carriers such as Evergreen seem focused on controlling stevedoring for their own vessels, while others have developed facilities intended to serve a range of shipping lines, be they allies or competitors, such as Contship’s Gioia Tauro Terminal. Still others lines that have had extensive involvement in terminals, such as OOCL and Hanjin, have recently sold some of their terminal interests.

Most of the global stevedoring operators have expanded internationally from a clearly identifiable historical base in one port. For the global stevedores, Figure 2-8 therefore also shows the share of total volume contributed by operations in this original home port.
Figure 2-8: Global Terminal Operators – 2006

(Source: Drewry Shipping Consultants, 2007)