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OCEAN FREIGHT, SHIPBUILDING COSTS AND CHARTER RATES: RECENT TREND

This issue of the Bulletin provides a brief overview of the maritime transport industry in Latin America and the Caribbean, with a focus on the behaviour of freight rates and the costs associated with chartering and shipbuilding, all of which increased sharply in 2003. Three separate markets will be analysed: 1) the containerized general cargo market; 2) the dry bulk cargo market and 3) the liquid bulk (crude oil and oil products) market.

This study has incorporated contributions made by professional experts in the field and institutions associated with ports and maritime transport in the region, received subsequent to the study prepared and disseminated in January 2004.

We urge professionals and organizations linked to ports and maritime transport to contact us with their comments and suggestions to ensure that this type of analysis can be perfected and be of increasing use to interested parties. For further information, please contact: Ricardo J. Sánchez, rsanchez@eclac.cl or trans@eclac.cl.

TRENDS IN CORE PRICES

Broadly speaking, international ocean freight had been on the decline in past years or had plateaued with respect to some of the common east-west and north-south routes. In 2003, freight rates for liner services jumped significantly, but the jump was even higher in the case of dry bulk cargo, in addition to the prices associated with building new ships and chartering vessels.

Although there are differences among various locations around the world, types of merchandise and market segments, trends seen in fluctuations in freight rates, ship prices and charter fees can be analysed using general indices that describe such patterns without aiming to explain the exact position of each country or product bought and sold internationally.

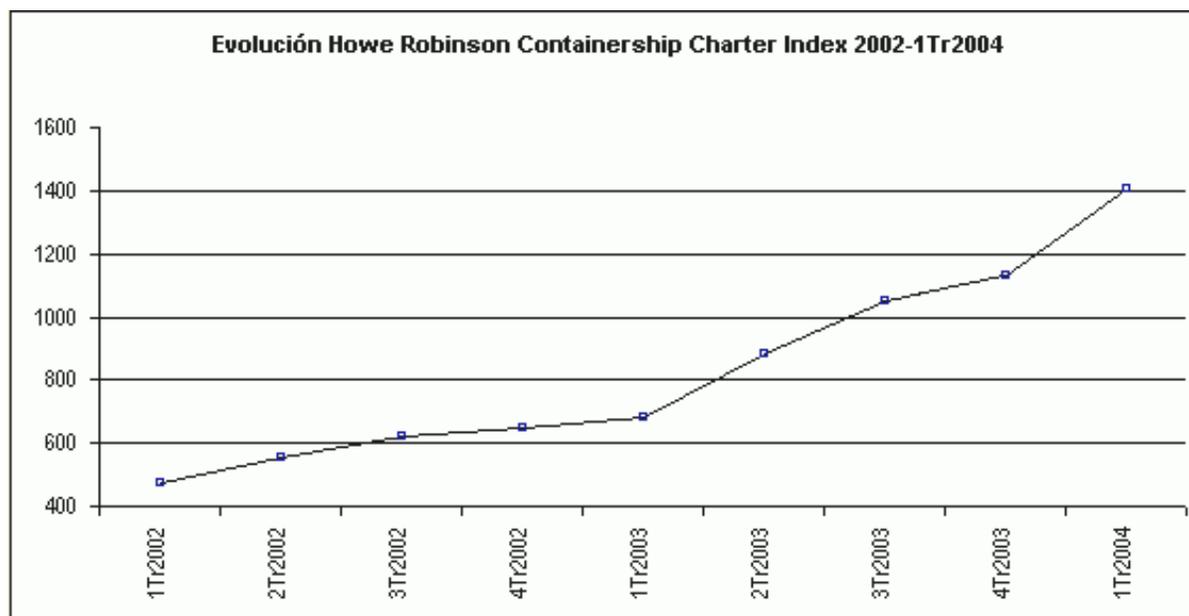
Regular shipping for general cargo. For liner freight, that is, that which is transported by shipping companies on fixed routes in Latin America –mainly general cargo– freight rates displayed the following increases in late 2003, compared to the previous year:

- Atlantic Coast: increases between 20% and 30%
- Pacific Coast: increases between 18 and 25%.

In both instances, rates climbed again between January and March 2004, reaching averages of between 35% to 45%.

The fees to charter container vessels also rose in 2003, compared to previous years. The HRCI (*Howe Robinson Containership Index*) can be used to analyse such rate fluctuations. A notable rise in the HRCI, which is calculated on the basis of a vessel’s TEU capacity (Twenty-foot Equivalent Unit = 20-foot container) and is depicted in figure 1, was recorded during the second quarter of 2003. By the end of 2003, the value of the index had increased 73% compared to 2002.

Figure 1: *Howe Robinson Containership Charter Index, 2002 - Q1 2004*



Source: Howe Robinson

Tramp shipping of dry cargo. The fees charged to charter freight vessels increased considerably in late 2003. The fleet of vessels that participate in this market are divided into three groups (see table 2), which are commonly used in Latin America to transport coal, minerals and grain. *The Baltic Exchange* (see www.balticexchange.com) indices are used to analyse the trend in prices.

Table 2: Composition of the fleet of charter vessels

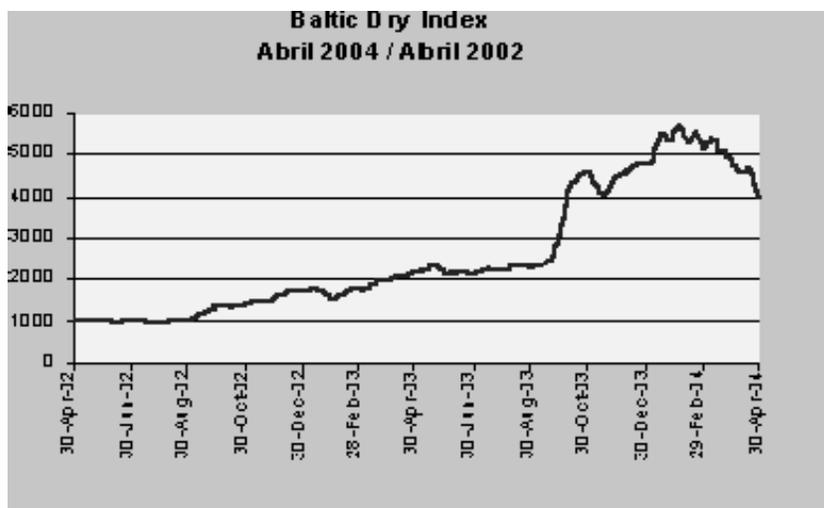
| Vessel | Carrying capacity in dwt | World fleet | Use compared to other vessels listed (capacity) | Typical cargo |
|------------------------|--------------------------|-------------|---|---|
| Handymax/ Handysize | 10,000 to 49,999 | 3,753 | 39.4% | Various, including grains and subproducts |
| Panamax | 50,000 to 79,999 | 1,215 | 28.9% | Minerals, grains and subproducts |
| Capesize | 80.000 + | 565 | 31.7% | Minerals |

Source: ECLAC Maritime Profile (www.eclac.cl/transporte) Notes: dwt=deadweight tonnes, world fleet recorded in second quarter of 2003.

The *Baltic Dry Index* (BDI) is calculated by *The Baltic Exchange* based on information taken from charter-parties for major shipping routes on the basis of three vessel types that transport dry cargo, which are very important in Latin American maritime trade. A separate index is calculated for each vessel type, using a weighted average of rates, which are then combined to produce the BDI. This composite index, as well as each of the three that form it, is therefore considered a good indicator of international maritime transport prices for dry cargo:

- The Baltic Capesize Index (BCI) is calculated from the weighted, average rates on eleven routes worldwide, three of which originate in South America, accounting for 25% of the BCI.
- The Baltic Panamax Index (BPI) is currently based on 7 international routes, at least one of which originates in South America, and contributes at least 20% to the index.
- With respect to Handy vessels, the *Baltic Handymax Index (BHMI)* is based on a vessel that can carry 45,496 mt dwt, on six international routes.

Figure 3 depicts the trend seen in the Baltic Dry Index (BDI) between April 2002 and April 2004.



Between 1985 and 2002, the BDI average was recorded at 1289 points, compared to 2739 points in 2003. Early that year, the index was recorded at 1530, which increased to 2142 in April and continued to grow incrementally until late August. Thereafter, the rise was even sharper, reaching record highs in October, and closed at 4765 at the end of the year. The index then reached 5681 points in February 2004, only to drop to 3958 points by 30 April.

Charter rates and shipbuilding costs for bulk vessels also increased in 2003, as seen in table 4.

Table 4: Prices for bulk vessels and charter rates 1999-2003

Prices for bulk vessels and timecharter rates

| Shipbuilding prices | 1999 | 2000 | 2001 | 2002 | 2003 | Difference |
|---------------------|------|------|------|------|------|------------|
|---------------------|------|------|------|------|------|------------|

| | (1) | (2) | (3) | (4) | (5) | (5) / (4) |
|-----------|-------|-------|-------|-------|-------|-----------|
| Handysize | 14.60 | 16.60 | 15.70 | 14.30 | 15.80 | 10.5% |
| Handymax | 18.20 | 20.10 | 19.80 | 18.50 | 19.30 | 4.3% |
| Panamax | 20.80 | 23.60 | 22.70 | 20.50 | 23.00 | 12.2% |
| Capesize | 33.20 | 36.80 | 38.40 | 35.10 | 38.10 | 8.5% |

Note: Prices in millions of current United States dollars, per vessel.

Timecharter rates

| | | | | | | |
|-----------|-----|-------|-------|-------|-------|--------|
| Handysize | N/A | 7790 | 6500 | 5580 | 9300 | 66.7% |
| Handymax | N/A | 9435 | 7070 | 7440 | 13735 | 84.6% |
| Panamax | N/A | 11065 | 9550 | 9100 | 17780 | 95.4% |
| Capesize | N/A | 18020 | 14430 | 13600 | 30020 | 120.7% |

Note: Rates in current United States dollars, per day. N/A: Not available.

Source: *The Drewry Monthly* - March 2004

As shown above, charter rates have increased significantly, on average by 98%, while shipbuilding prices increased an average of 9%. In both instances, the values seen in 2003 are the highest ever recorded, demonstrating a jumpstart in a sector that was previously experiencing a slowdown. It has also been observed that the increases positively correlate with vessel carrying capacity; hence, the larger price increases among Capesize vessels and less so among Handysize vessels.

The trends seen in prices in recent years have led to the assumption that a phenomenon similar to the cattle cycle is at work, in which production activities do not react in a timely fashion to price incentives, which causes scant supply in dynamic times, and later, supply then exceeds demand, driving down prices. When the shipping industry experiences low rates, less ships are built and a large number of ships are broken, thus decreasing supply. When there is demand for vessels, few ships are available, rates rise and shipbuilding is resumed, later prompting oversupply and drops in rates, etc.

Liquid bulk transport. The liquid bulk transport market, particularly that of crude oil and oil products, increased on several occasions in 2003, as shown in shipbuilding prices and charter rates. The increases seen in tanker prices, both shipbuilding costs and timecharter rates, are displayed in table 5.

Table 5: Prices and charter rates for tankers 1999-2003

Prices for tankers and timecharter rates

| Shipbuilding prices | 1999 | 2000 | 2001 | 2002 | 2003 | Difference |
|---------------------|-------|-------|-------|-------|-------|------------|
| | (1) | (2) | (3) | (4) | (5) | (5) / (4) |
| Products | 25.30 | 28.40 | 29.80 | 26.30 | 28.30 | 7.6% |
| Panamax | 28.80 | 33.20 | 35.80 | 31.10 | 32.30 | 3.9% |
| Aframax | 36.80 | 38.10 | 40.00 | 36.20 | 37.00 | 2.2% |
| Suezmax | 44.70 | 46.00 | 48.80 | 44.80 | 46.90 | 4.7% |
| VLCC | 68.70 | 72.30 | 75.00 | 67.50 | 67.10 | -0.6% |

Note: Prices in millions of current United States dollars, per vessel.

Timecharter rate

| | | | | | | |
|----------|-----|-------|-------|-------|-------|--------|
| Products | N/A | 13960 | 17565 | 13285 | 14845 | 111.7% |
|----------|-----|-------|-------|-------|-------|--------|

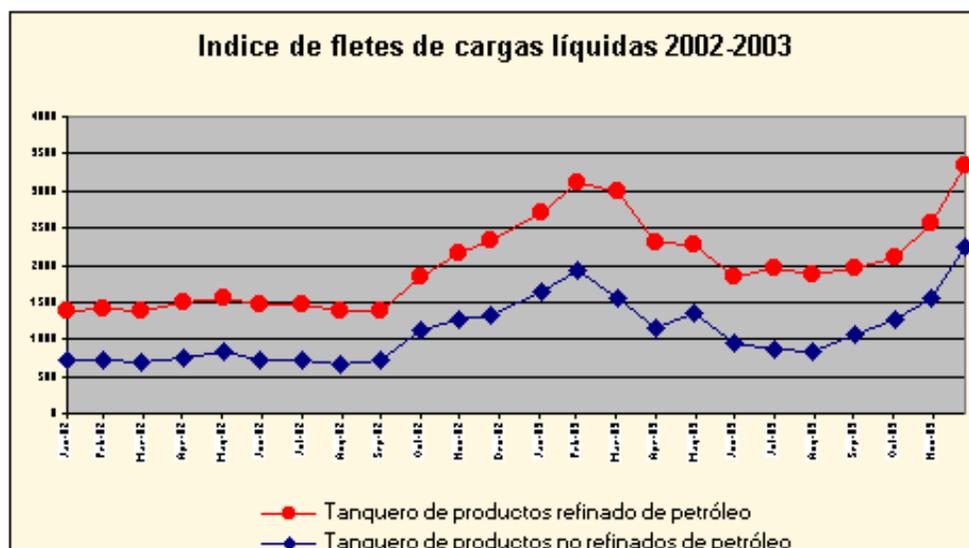
| | | | | | |
|---------|-----|-------|-------|-------|------------|
| Panamax | N/A | 14855 | 19700 | 15300 | 14160-7.5% |
| Aframax | N/A | 18855 | 23125 | 16900 | 1915013.3% |
| Suezmax | N/A | 27040 | 30500 | 17750 | 2610047.0% |
| VLCC | N/A | 35250 | 37950 | 23460 | 3360043.2% |

Note: Rates in current United States dollars, per day. N/A: Not available.

Source: *The Drewry Monthly* - March 2004

In turn, figure 6 depicts the trends seen in liquid bulk rates during the 2002-2003 biennium. As noted, values for crude oil tankers, after being on the decline almost incessantly since February 2003 and reaching 822 in August of the same year, increased rapidly to 2,242 points by year end. The trend seen in tankers transporting refined products of oil was similar.

Figure 6: Baltic Tanker Indices, 2002-2003



Note: Values at the end of each month. Source: *The Baltic Exchange*

POSSIBLE CAUSES FOR THE PRICE INCREASES

Although the shipping market differs for each route and type of service, it is possible to find various reasons behind such increases, among which figure:

1. Characteristics of the maritime transport market: Little elasticity in supply vis-à-vis volatile demand, which remained high since the fourth quarter of 2002.

2. Increased demand:

- High positioning of vessels in view of transport demand in the Far East, particularly China.
- Growth in the demand for *commodities*; and for shipping vessels for the war in Iraq.

3. Lack of vessels:

- For the reasons previously mentioned.

- Due to an increase in shipbreaking previously and the drop/delay in new ships being built, phenomena relating to the behaviour of prices in recent years and the nature of shipbuilding (lengthy duration, the delivery of a vessel increased from 14 months to 29 months due to the rush of orders received in 2003).

4. Cost increases:

- Increases in several core costs for maritime transport such as shipbuilding prices and/or charter rates, insurance, new costs associated with implementing additional security measures, delays in the delivery of oil, increases in fuel prices, etc.
- Due to using older vessels as newer ships are scant, with higher costs as a result of larger crews, greater consumption of fuel and lubricants, increased maintenance, etc.

5. Behaviour: Expectations generated by the trend in price increases.

Among the various causes mentioned to explain the increase in prices, of particular note is the increase in the demand worldwide for *commodities*, and vessels in general, especially in China.

Between 1998–2003, the volume of soybean traded internationally increased by 71%, while demand in China surged 425%. During the same period, iron trade worldwide increased 15%, while China increased its iron imports by 185%. Moreover, the quantity of coal sold internationally between 1996-2003 rose 48%, while coal imports to China shot up by 162%.

Similarly, between 1999 and 2003 containerized general cargo shipped to Chinese ports increased 186%, excluding Hong Kong (HK), and 98.6% including HK. In 2003, 10.7 million TEUs were added compared to the previous year.

As such, on the basis of an estimate that includes changes in soy, coal, iron and containerized general cargo, it can be concluded that ocean cargo shipped to China increased –at least– by 167 million tonnes between 2002 and 2003, which coincides with the idea that demand increases prompted the hike in freight rates seen in 2003. As an example the impact of such growth, note that the incremental quantity of container activity seen in Chinese ports between 2001 and 2003 totalled 20 million TEUs, which is equivalent to **all** container activity in Latin America and the Caribbean, from Mexico to Tierra del Fuego.

The lack of vessels, mentioned in each market analysed, contributed -due to the inelasticity of the sector itself- to the price increases among vessels and freight, in addition to the demand increases stated previously. Requests for new ships had notably declined after 2000, thus leaving only a limited fleet to attend to the sharp increases that followed in the demand for transport. According to several studies, the growth in demand for maritime services was three times larger than the increase recorded for the world fleet in 2003.

Lastly, the largest hikes experienced by the maritime industry have been those tied to shipbuilding, vessel chartering (previously mentioned), fuel prices and insurance costs. Oil and fuel prices increased on several occasions in 2003, while insurance costs increased between 8% and 50% during the same time period, depending on the type of coverage and the terms of each

company.
