

the **BALTIC**

What is the true cost of a ship?



Ports invest despite economic gloom

Evaluating the valuers

Basil M Karatzas, managing director for projects & finance with Compass Maritime Services, looks at vessel valuation assessment in a changing world

A well-noticed symptom of the recent market turmoil has been the illiquidity in the markets, the hesitancy of owners to sell and the reluctance of buyers to acquire assets (or more accurately, to part with their money). Although the most prominent illiquidity-induced topics were mainly observed in the world of structured finance and paraded in front page articles, the illiquidity in the shipping markets, especially for modern big-sized vessels that were traded at all time high prices a few short months earlier, was a market corollary that caught many market participants by surprise. Illiquid markets, on a temporary basis, can be the result of several dislocated variables such as lack of competitive financing, anaemic projected earnings, fear of parting with valuable assets (in a deflationary market) or with cash (in risk-heightened market conditions).

At times during the turmoil, when there were market inquiries on the value of shipping assets, there were sizeable discrepancies between the

prices at which sellers were willing to sell and at which buyers were willing to acquire shipping assets. Such spreads were most noticeable for big ticket items, most prominently for modern vessels less than five years old and resales of capesized dry-bulk vessels and VLCCs.

Valuation methods

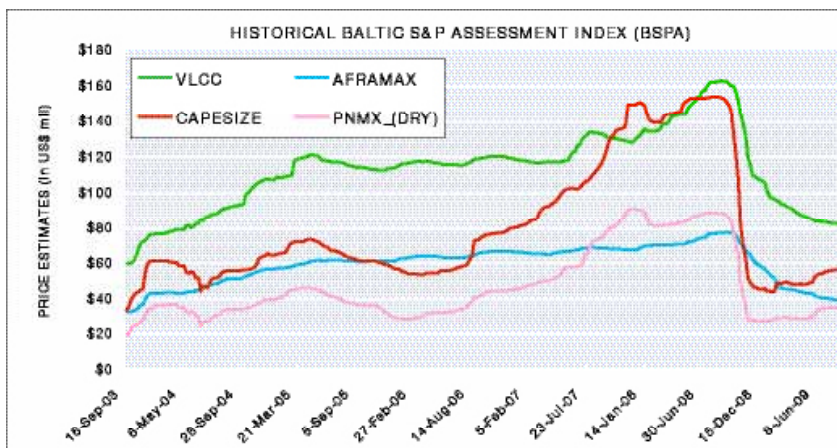
On an academic level, there are three well established methods for the valuation of commercial assets: a) the market approach b) replacement cost, and c) income approach. At times when markets are calm and players' assessment of future events the same (low volatility), all three valuation methods can produce similar results for mainstream assets. At times when the course of future events seems less predictable, these methods can provide a wide range of values and can be utilised as complementary methods of finding the value from different points of view.

Last done

In valuing vessels, especially by shipbrokers in the course of their daily business, the most widely used valuation method is the 'last done', literally the most recent transaction of a comparable asset. This is adjusted upwards or downwards based on the idiosyncrasies of each transaction (time lapse since last transaction and movement of freight market, promptness of vessel delivery, delivery port/trading route, commission structure etc) or the particular features of each vessel (survey position, premium machinery and equipment such as cranes, grabs, pump-room, deep-well pumps etc).

Replacement cost

Under the replacement cost method, vessels are valued on the assumption of how much it would cost to have a similar vessel built anew today in the same yard to the original condition and then depreciated to the present condition of the vessel. This method is better suited to less mainstream assets such as custom-built vessels fitted with unique features. These might be customised containership vessels to accommodate steel-reinforced containers for the transport of dynamite for the military, livestock vessels, floating museum vessels etc. The replacement cost method is obviously a historical method and subject to accounting assumptions, since it might not be practically feasible to build anew a similar asset (what is the value of a vintage passenger ship with steam engines, since such engines have only have museum value in the present market?).



Income Approach

The method most likely to produce a rationally deduced price that reflects the value of the vessel is the income approach method, the net present value of the sum of future cash flows that the vessel is expected to earn during its remaining economic life. Although this method would logically reflect the best 'estimate' of the intrinsic value of the vessel, the devil is in the details, as it has to include an estimate of future freight rates (over an extended period of time), the vessel's remaining life, estimate of operating and capital expenses, estimate of the financial costs and interest rates. Each of these variables depends on several complex factors. Estimating of freight rates, for example, depends on world gross product growth, trading routes and patterns, currency exchange rates, geopolitical factors, macro-economic factors, weather patterns etc. In lieu of detailed modeling and projections, the likely short-cut is to assume that history repeats itself, and utilise historical freight rates, with the general consensus being that the longer the period the sample of data covers, the more representative (a proxy for 'accurate') the average will be.

The BSPA

The Baltic Exchange has been producing the Baltic Exchange Sale & Purchase Assessment (BSPA) index since 2003 for certain standardised vessels in both the tanker and dry bulk markets (see Graph 1). Data is collected on a weekly basis from 12 panel brokers worldwide, an assessment of market information and value estimates at which these standardised vessels will be transacted. Such quantitative information is usually the result of discussions with other brokers, owners (as sellers or buyers), and sometimes charterers, yards and bankers.

Besides the official asset value index provided by the Baltic Exchange, several shipbrokers in their weekly sale and purchase reports provide estimates for the prices of most popular types of vessels, although not all assessments in weekly reports always set an example of scientific truth. On occasion an aberration in market reports might reflect a stronger/weaker interest in certain types of vessels in the local area.

There has been a lot of soul-searching recently as to the accuracy of the vessel valuation data. The discussion is not strictly academic. In the present post-Lehman Brothers collapse market, we live in times of increased volatility and market participants, including shipowners, shipbrokers and financial institutions (ie mortgage banks), have a vested interest in the accuracy of such valuations. There are examples of shipbrokers opting out of the BSPA panel or shipbrokers that have, at least temporarily, stopped issuing valuation certificates.

Evaluating accuracy

For the first seven months of 2009, Compass Marine collected and analysed all vessel sales reported by Compass Maritime Services and Clarksons Research Services. Since BSPA refers to five-year-old vessels only, we focused only on five-year-old VLCCs, aframax and panamax tankers, and capesize, panamax and supramax drybulk vessels. There were only nine such transactions in 2009 (Table 1), two in the tanker market and seven in the dry-bulk market, with zero data points from the VLCC and aframax tanker markets. One transaction in the dry bulk market was rejected as an outlier (the panamax dry bulk vessel *MV Bellflower* was initially sold in April 2008 at \$77 million with a forward delivery a year later; the sale was renegotiated in February 2009 at \$50 million when BSPA was predicting

a value of \$29.5 million). From the remaining eight sales, the correspondence between the BSPA and the sales price was reviewed. One tanker vessel was sold about \$3.25 million below the predicted value; however, the vessel was immediately due for special survey and dry-dock payable by the new owner. Two more transactions have a variation of less than 8% as predicted by BSPA, which we suspect was due to the commission structure (BSPA is based on a typical 2% brokerage commission). All in all, over the total amount of \$262.30 million in vessel transactions, the cumulative aberration was \$370,000 for all transactions, or an aberration of 0.14%.

In order to gauge the sensitivity of the analysis, vessel sale and purchase data were collected for 2008 for five-year old vessels that have been tracked by the BSPA (Table 2). Despite the fact that 2008 has been considered the top of the shipping markets, there are only seven such data points for the whole calendar 2008, albeit with most of the transactions clustered in the earlier part of the year prior to the market's 'abrupt stop'. Of the seven sales with a cumulative value of approximately \$446 million, six transactions took place in the tanker sector. The greatest aberration occurred in the en bloc sale of two sistership vessels, of which each was sold at about \$5 million above the predicted value of the index. To hazard an explanation on such differential (about 7% above the BSPA) might be attributed to shrewd asset play by the sellers or additional motivation by the buyers. However, the cumulative differential for all transactions was \$6.13 million or 1% cumulative error.

It should be noted that the brief review of sale and purchase transactions in 2008 and year-to-day in 2009 vis-à-vis the values of the BSPA is not a thorough statistical treatment of error, but a concise, back-of-the-envelope assessment that the BSPA (and the information of the 12 panel brokers) **on average** has provided, being a fairly accurate view of the vessel values within the timeframe examined. In order for our observations to pass a more strenuous statistical stress-test a bigger sample of data will be required and the absolute (not arithmetic) values in difference should have been considered.

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Compass Maritime Services is a panel member of the BSPA.

Vessel Type	Vessel Name	Yr Built	DWT	Yard Build	Date Sold	Price Sold (US\$ mil)	BSPA (US\$ mil)	Difference (US\$ mil)
Tanker	Fairway Express	2004	45,737	Minami Nippon	13-Jul-09	\$25.50	\$28.72	-\$3.22
Tanker	Pro Giant	2004	46,732	Hyundai Mipo	24-Apr-09	\$33.00	\$32.66	\$0.34
Bulk	Nord Whale	2004	50,354	Kawasaki H.I.	30-Apr-09	\$25.00	\$25.08	-\$0.08
Bulk	Tenshu Maru	2004	52,454	Tsuneishi Zosen	6-Apr-09	\$25.50	\$25.19	\$0.31
Bulk	Boomerang	2004	76,390	Sumitomo H.I.	9-Jun-09	\$35.80	\$33.24	\$2.56
Bulk	Maritime Christine	2004	76,423	Tsuneishi Zosen	20-May-09	\$30.90	\$30.34	\$0.56
Bulk	Bellflower	2004	76,423	Tsuneishi Zosen	13-Feb-09	REJECTED INFUT / ONE-YEAR FWD DELV / RE-NEGOS / SOLD @ US\$ 50 mil		
Bulk	Queen Lily	2004	76,629	Imabari S.B.	27-May-09	\$30.60	\$28.72	\$1.88
Bulk	Jin Tai	2004	173,880	Waigaoqiao S/Y	26-Jun-09	\$56.00	\$32.66	\$23.34
Total						\$262.30	\$236.60	\$25.70

Table 1: Sale & Purchase Transactions in 2009

Vessel Type	Vessel Name	Yr Built	DWT	Yard Build	Date Sold	Price Sold (US\$ mil)	BSPA (US\$ mil)	Difference (US\$ mil)
Bulk	Snow Falcon	2003	50,246	Mitsui SB	5-Mar-08	\$67.00	\$68.57	-\$1.57
Tanker	Pro Diamond	2003	46,757	Hyundai Mipo	31-Oct-08	\$47.50	\$47.58	-\$0.08
Tanker	St. Marco	2003	47,047	Onomichi Dockyod	21-Apr-08	\$51.00	\$52.61	-\$1.61
Tanker	White Point	2003	49,511	STX Shipbuild.	30-Jun-08	\$52.50	\$53.00	-\$0.50
Tanker	Champion	2003	105,250	Sumitomo H.I.	9-Jul-08	\$78.00	\$73.06	\$4.94
Tanker	Harmony	2003	105,387	Sumitomo H.I.	9-Jul-08	\$78.00	\$73.06	\$4.94
Tanker	Stena Confidence	2003	107,215	Imabari S.B.	19-May-08	\$71.90	\$71.90	\$0.00
Total						\$445.90	\$439.77	\$6.13

Table 2: Sale & Purchase Transactions in 2008