

## EBITDA MULTIPLES

# Multiplying assets

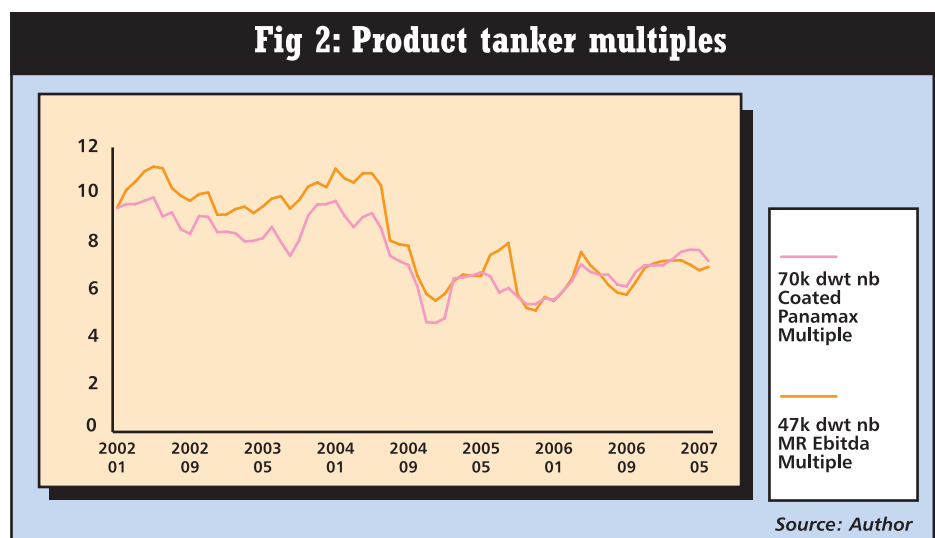
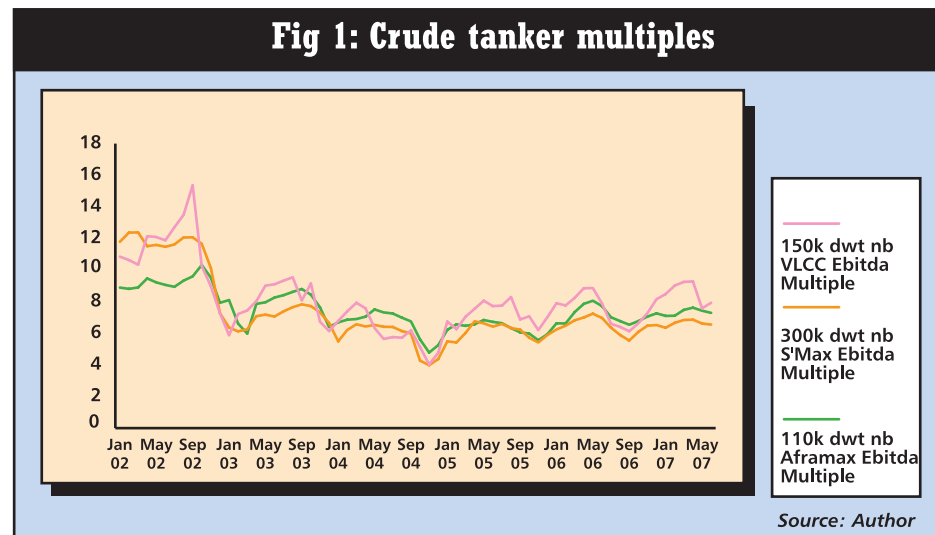
*As ship prices soar, assessing potential investments accurately becomes even more crucial. Basil M Karatzas\* uses one measure to assess the performance of different shipping sectors*

Asset prices for both new-building and secondhand commercial vessels in almost all shipping market segments have been on a considerable rising trend and recently recorded the highest levels in modern history (see p26). One of the drivers for such high asset prices is freight rates, which are also at historically high levels. Interestingly, the trend in both asset prices and freight rates is mostly accentuated in the last year, in some cases by a factor of two. This is particularly true in the dry bulk sector where for example, in July 2006, a one-year time charter for a capesize vessel was approximately \$43,000/day and \$99,000/day in May 2007.

While the trend for asset prices has been steadily upwards, freight rates have moved with a high degree of volatility and uncertainty. The Baltic Cape Index was down by 24% in the first half of June 2007, up by 35% in the second half of June 2007 for an overall gain of 3% for the whole month; June 2006 to June 2007 up by 98.8%.

In such an environment, making management decisions on whether shipping projects offer compelling investment opportunities becomes challenging. Established methods of evaluating potential projects such as Return on Invested Capital ROIC, Return on Equity (ROE), Positive Net Present Value, Payback Period and so on, are still applicable in assessing the attractiveness of investment opportunities. This article focuses on one 'rule of thumb', the Asset Price-to-Ebitda multiple, for a brief overview of expensiveness of shipping assets.

The price of the asset versus the expected revenue stream in one year. In general, the Asset Price-to-Ebitda multiple is similar to the Price-to-Earnings multiple (P/E) a stock investor pays to buy equity. A higher number indicates a more expensive asset and by extrapolation the number



of years an investor needs to hold the stock or the asset in this case, to recoup the initial investment. If a stock trades at a P/E multiple of ten, a reasonable investor would expect to hold the stock for ten years to break even. Of course, a rational investor would not invest in a stock just because of a low P/E ratio. Similarly a low Asset Price-to-Ebitda ratio does not necessarily justify an investment.

## BACKGROUND

In defining the Asset Price on the numerator of the multiple, the price of a newbuilding contract in each asset class on a monthly basis since the beginning of 2002 was used. Clarkson Research Studies, the source of the time-series, assumes 'European spec' from 'first class competitive yards' with a heavily rear-ended payment

structure. Although in today's market yard payments tend to be more front loaded, the data series are fairly accurate. By definition, a newbuilding price implies a forward delivery. This is the price net of financing and supervision costs, so tends to be a conservative number. However, a newbuilding price is less volatile and more reflective of the actual cost in general, given that in today's markets, even five-year old vessels are often being sold at substantially higher prices than newbuilding contracts.

On the revenue side, one-year employment has been assumed in the form of Time-Charter (TC) rate, defined as the daily gross freight revenue a vessel will obtain when contracted for continuous employment of one year, adjusted for off-hire and downtime (maintenance, delays, re-positioning, etc) by multiplying with the utilisation rate. A universal and constant

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Utilisation Rate of 95% is assumed in all sectors. In general, a number higher than 92% (331 revenue days per annum) indicates a strong market. However, utilisation rate tends to be positively correlated with freight market levels and negatively correlated with the age of the vessel.

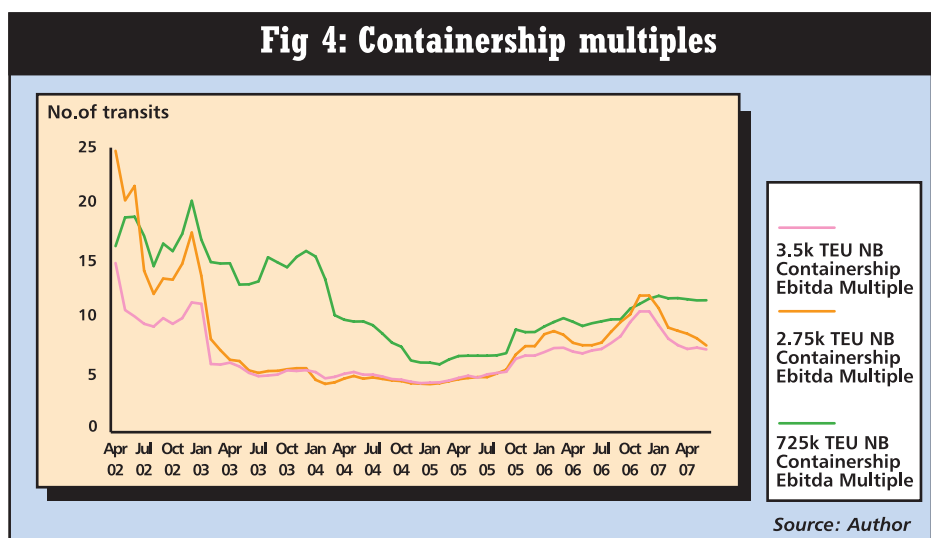
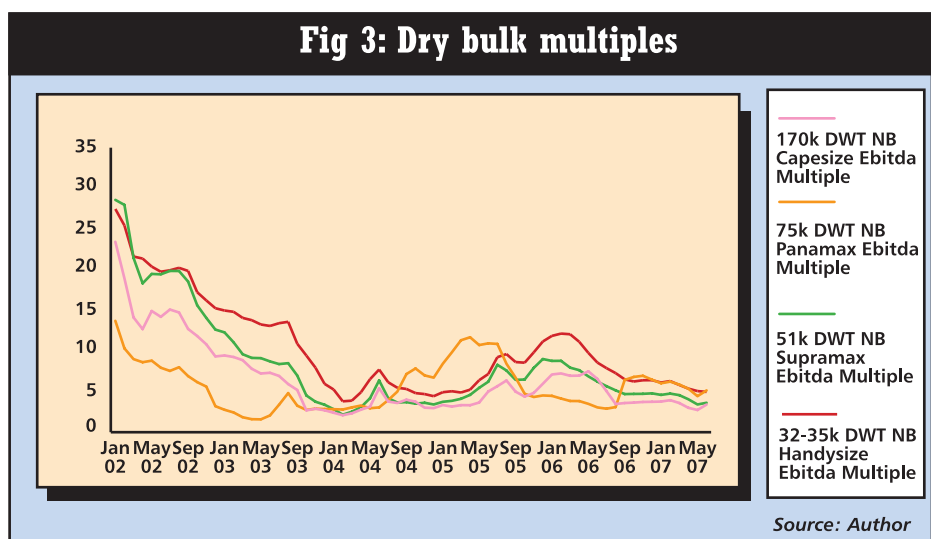
These calculations assume a constant level, which brings a positive bias during strong times and negative bias during weak markets, where vessels have minimal off-hire in the former and spending more time looking for employment in the latter. From the gross freight revenue daily operating expenses (crew, insurance, maintenance etc), including dry-dock provision, general and administrative expenses were subtracted. Opex data were obtained from shipping companies' annual reports, market sources and equity research reports. It is assumed that vessel operating expenses grew by 2% annually since the beginning of the study, in line with market estimates (but see p23).

The Asset Price-to-Ebitda implies an unlevered structure of the asset and it is cost-of-capital indifferent. In a levered structure, the actual earnings will be lower to compensate for interest expense, and therefore Asset Price-to-Earnings multiple will be higher than the Asset Price-to-Ebitda multiple and in cases of high leverage a much higher multiple. However, since the capital structure is a company- and market-specific decision [amount of leverage (debt to equity), terms of leverage (non-amortizing loan), available choices (company-specific, such as credit rating), market conditions (credit, liquidity and capital markets) etc], findings are presented in terms of Asset Price-to-Ebitda. Additionally, depreciation is an accounting decision and subject to company preference, while for most foreign flagged vessels operated under offshore jurisdictions the tax liability is minimal, and thus the Ebitda multiple is more appropriate when comparing different sectors of the industry.

### SECTOR ANALYSIS

This analysis includes tankers (both crude oil and product tankers), dry bulk (Capesize, Panamax, Supramax and Handysize), containerships and Liquefied Petroleum Gas (LPG) vessels. These sectors are representative of the overall shipping market, liquidity – having an active market of newbuilding transactions – transparency (confirmed time-series of data) and open markets (minimal government subsidies or special regulatory environment).

The crude oil tanker sector (Figure 1) depicts an overall downtrend of the Ebitda multiple, moving on average from a multiple of ten in



January 2002 to approximately seven by June 2007. The second half of 2002 was described by weak freight rates and accordingly the multiple moved higher during that period, as high as 15 for the VLCC sector. The VLCC multiple has been the most volatile in the crude sector, registering both the highest and lowest multiple in this time interval. A possible explanation for VLCC volatility could be that this sector is heavily concentrated in certain trades. Multiples for each of the three sectors at present are between six and eight, offering an overall reasonable level of expensiveness.

In Figure 2, product tankers also show a downward trend from a multiple slightly below ten to a multiple of about seven at present. Overall, MR tankers seem to maintain a higher multiple than coated Panamaxes, probably due to their higher versatility and marketability, and as in the crude oil sector, the second halves of 2004 (freight rate spike) and 2005 (Hurricanes Katrina and Rita) recorded the lowest levels, at approximately 4.5 for a coated Panamax at the

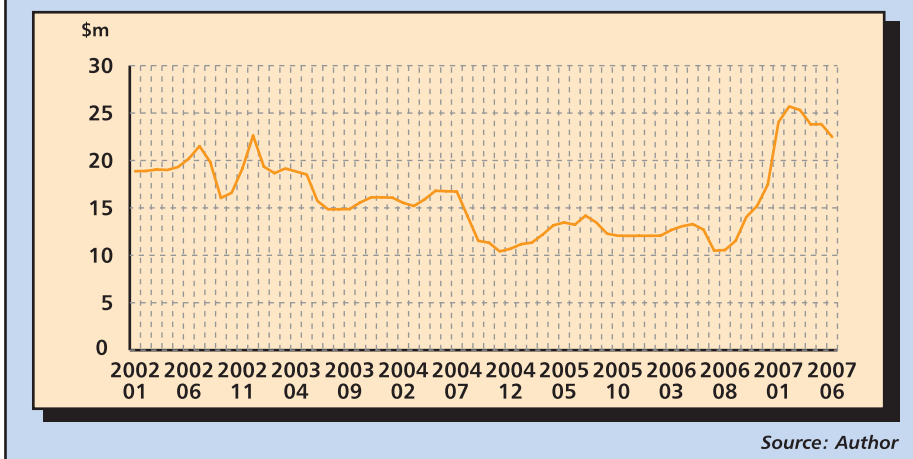
end of 2004.

The dry bulk sector (Figure 3) illustrates the rapid drop of the overall multiple for the sector from the beginning of 2002 until the first half of 2004, which was primarily driven by dramatic improvement of the freight market rather than a decrease of asset prices (in fact the increase in freight rates was higher than increase in asset prices). From the beginning of 2005 until the middle of 2006, freight rates remained at relatively subdued levels while asset prices kept increasing based on optimism and momentum, and thus, the Ebitda multiple ticked higher than ten for Panamax and Handysize vessels. Thereafter, the multiple follows a steadily lower trend and at present hovers at five or below for all sectors, especially so for Capesize and Supramax vessels. It is interesting that asset prices for each of these sectors are at their highest historical levels, while freight rates are also at never seen levels.

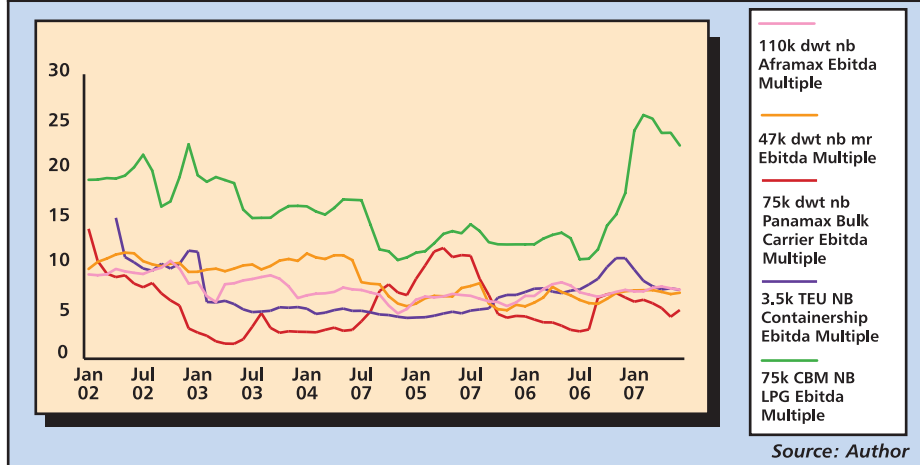
For the containership sector (Figure 4) data is from April 2002 until the first half of 2007. The

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**Fig 5: 75k CBM NB LPG EBITDA MULTIPLE**



**Fig 6: Multiples comparison by ship type**



first three months of 2002 was excluded because all containership sectors, especially the sub-Panamax sector, were trading at multiples well in excess of 100 from the beginning of 2001 on fears that the US economy was entering a recession, and subsequently the aftermath of terrorist attacks in 2001. The overall trend is downwards with the multiple ranging from eight to 12. The Feeder-max sector (725teu) seems to be the most expensive for the longest part of the timeframe.

Finally, 75,000cbm LPG vessels were analysed (Fig 5). Here, the overall Ebitda multiple is the highest of any shipping sector considered. The multiple has remained above ten for the whole timeframe with certain periods above 20 and as recently as earlier this year at levels briefly above 25. LPG vessels are relatively expensive assets, due to their sophistication, and their prices tend to follow a smoother long-term trend, as due to their sophistication few shipyards are capable of building them and thus fail to reflect the sentiment of the freight market.

With present values for newbuildings at slightly above \$90m, a decline in freight rates significantly impacts the Ebitda multiple.

### COMPARISON

From each of the five shipping sectors, one asset class has been chosen as most representative in each segment, usually the type with the highest number of vessels trading or considered the 'work-horse' from each sector. These are Aframax and MR tankers from crude and product tankers respectively, Panamax bulk carriers, Panamax containerships (3,500teu) and the 75,000cbm LPG carrier.

The asset class with the highest Ebitda multiple (Figure 6) by far is the LPG ship, trading at a band distinctively higher than the rest of the market. Indeed, it is the only multiple that is higher today than at the study's inception. The tanker, dry and containership sectors moved in tandem at a lower band. With the exception of the Panamax containership Ebitda that were

rejected in the first period of 2002, Panamax dry bulk vessels were the most expensive (highest multiple) and the Aframax tanker the least expensive (lowest multiple).

The overall slope tended downwards for the overall market, and presently the multiple is close to the lower end of the band than any other time. The market segment with the farthest extremes has been the Panamax dry sector which fluctuated from a low of 1.58 (May 2003) to a high of 11.7 (April 2005). The asset class with the smallest fluctuation has been the Aframax tanker segment. It has traded between five and ten during the period under consideration. Further investigation is required to explain the 'stability' of the Aframax multiple, but one possible explanation is that Aframax vessels can be built by numerous yards worldwide and thus maintain a fairly stable asset price. As the workhorse of the sector it provides versatility that can compete for cargoes from both the Panamax and Suezmax sectors.

The Ebitda multiple provides solely a metric of 'expensiveness' of an asset and by inversion the amount of time it takes to recoup an investment. The lowest multiple presently is offered by a Panamax dry bulk vessel at approximately 5.15. To put the Asset Price-to-Ebitda multiple of the shipping assets into perspective, the US equity markets presently trade at 18x earnings and the European market 15x.

A Panamax dry bulk carrier at the end of June this year could have been ordered at approximately \$46m. Assuming immediate delivery and employment for five consecutive one-year periods at \$31,800/day on TC terms, it would take about 61 months for the owner to recoup the investment and keep profiting by operating the vessel for the remainder of its economic life (21-22 years). The fact that the newbuilding price of a Panamax is the highest ever at \$46m, it may still present an inexpensive asset to purchase. Yet, financing a vessel at such price and with typical terms requires a payment of \$7,500/day (principal plus interest) for the whole useful life of the vessel. A brief analysis of the one-year time-charter rates since the beginning of 1976 reveals that 36% of the time rates were below that level, but only 5% of the time since 2001. If charter rates were to revert to the mean, operating vessels acquired at today's prices could easily turn unprofitable, their present enticing low Ebitda multiple notwithstanding.

*\*Basil M Karatzas is Vice President for Projects & Finance with Compass Maritime Services in New York.*