Position now ahead of positive rate development

The BDI is one of the most widely tracked indices given its tight relationship with the strength of the global economy and real-time availability. In addition, dry bulk stocks are correlated strongly with the BDI. However, there is a general lack of knowledge on the BDI’s drivers, which can create investment opportunities. This note therefore deconstructs the BDI to assess its future direction with specific reference to the Capesize route 9 (C9, involved mainly in Brazil iron ore to the Far East). We expect the BDI to rebound strongly in the coming months and recommend investors position now. Buy CSD, our sector top pick, and China Cosco, which has the strongest historical BDI correlation.
BDI deconstruction & investment implications

Position now ahead of positive rate development
The BDI is one of the most widely tracked indices given its tight relationship with the strength of the global economy and real-time availability. In addition, dry bulk stocks are correlated strongly with the BDI. However, there is a general lack of knowledge on the BDI’s drivers, which can create investment opportunities. This note therefore deconstructs the BDI to assess its future direction with specific reference to the Capesize route 9 (C9, involved mainly in Brazil iron ore to the Far East). We expect the BDI to rebound strongly in the coming months and recommend investors position now. Buy CSD, our sector top pick, and China Cosco, which has the strongest historical BDI correlation.

Capesize route 9 (C9) appears to be the main BDI driver
The BDI is a weighted composite of time-charter (T/C) rates for 20 shipping routes across four vessel categories (Capesize, Panamax, Supramax, Handysize). While the vessel categories are equally weighted, 37% of the BDI’s daily movement since 2007 has been driven by Capesize, reflecting the greater variations in Capesize T/C rates. Within the four Capesize routes (C8-11), C9 is by far the most important, on both a standalone basis and in terms of the rate impact on the C8 (Europe-Atlantic) and C10 (Pacific round trip) routes. The importance of C9 reflects the longer distance (Brazil to Far East (C9) about 3x Australia-Far East (C10)/2x trans-Atlantic (C8)), which results in far more fleet capacity being involved than for other routes. Hence, C9 demand affects rates on other routes by determining available supply.

2H14 BDI strength expected, reflecting C9 seasonality and reduced supply
The BDI demonstrates strong 2H seasonality, in part on northern hemisphere coal demand and the US grain harvest season, but it is notable that C9 T/C rates have also shown 2H strength. Given C9’s importance, this seasonality is a key driver of Capesize rates, and hence overall BDI. As C9 is involved largely in transporting Brazil iron ore to the Far East, the T/C rate for C9 is highly correlated with Brazil iron ore exports to China. This seasonality is likely to be exaggerated in 2H14. While 45 new Capesize vessels will be delivered in 2H14, the supply schedule implies just 13 new vessels on an annualized basis and compares with our estimated demand requirement of 52 incremental Capesize vessels. This demand/supply mis-match points to strong 2H14 Capesize rates.

Focus on share price/BDI correlations when picking stocks
The correlation between dry bulk stocks and the BDI was as high as 95% pre-GFC. Although it has since weakened, it is still 80% and has tightened again in the past 12 months. China Cosco ranks top in terms of its correlation with the BDI. In general, we believe the market still treats this company as a dry bulker, and its dry bulk business is highly leveraged to the BDI. For CSD and Pacific Basin, as their earnings are affected less by the BDI, correlations have been relatively lower than for China Cosco. Although only 20% of NYK and K-Line’s revenues come from dry bulk, they have displayed a decent correlation with the BDI historically. CSD is our regional top pick, as we like its compelling valuation and promising outlook for the VLCC segment. It has also been strongly correlated with the BDI over the last five and 10 years (although, admittedly, this correlation has been lower over the past 12 months).
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<td>Supply also bodes well – Capesize deliveries to taper off</td>
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<td>Strong correlation exists – China Cosco ranks top</td>
</tr>
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<td>Different leverage to BDI components = different stock performance (China Cosco vs. Pacific Basin)</td>
</tr>
<tr>
<td>Individual company review</td>
</tr>
</tbody>
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## Key tables

### Correlations between dry bulk stocks and the BDI

**Figure 1: Correlations between listed dry bulkers and the BDI**

<table>
<thead>
<tr>
<th>Regional company</th>
<th>Ticker</th>
<th>Currency</th>
<th>Dry bulk rev as % of total rev</th>
<th>Pre GFC</th>
<th>Post GFC</th>
<th>10 years</th>
<th>5 years</th>
<th>3 years</th>
<th>1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Cosco</td>
<td>1919.HK</td>
<td>HKD</td>
<td>20%</td>
<td>90%</td>
<td>78%</td>
<td>90%</td>
<td>79%</td>
<td>15%</td>
<td>83%</td>
</tr>
<tr>
<td>CSD</td>
<td>1138.HK</td>
<td>HKD</td>
<td>52%</td>
<td>89%</td>
<td>82%</td>
<td>83%</td>
<td>80%</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>K-Line</td>
<td>9107.T</td>
<td>JPY</td>
<td>20%</td>
<td>76%</td>
<td>66%</td>
<td>84%</td>
<td>64%</td>
<td>28%</td>
<td>55%</td>
</tr>
<tr>
<td>NYK</td>
<td>9101.T</td>
<td>JPY</td>
<td>18%</td>
<td>73%</td>
<td>55%</td>
<td>81%</td>
<td>49%</td>
<td>28%</td>
<td>53%</td>
</tr>
<tr>
<td>Pacific Basin</td>
<td>2343.HK</td>
<td>HKD</td>
<td>94%</td>
<td>89%</td>
<td>67%</td>
<td>83%</td>
<td>67%</td>
<td>9%</td>
<td>76%</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td><strong>52%</strong></td>
<td><strong>83%</strong></td>
<td><strong>70%</strong></td>
<td><strong>84%</strong></td>
<td><strong>68%</strong></td>
<td><strong>23%</strong></td>
<td><strong>61%</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US company</th>
<th>Ticker</th>
<th>Currency</th>
<th>Dry bulk rev as % of total rev</th>
<th>Pre GFC</th>
<th>Post GFC</th>
<th>10 years</th>
<th>5 years</th>
<th>3 years</th>
<th>1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dryship</td>
<td>DRYS.OQ</td>
<td>USD</td>
<td>21%</td>
<td>93%</td>
<td>76%</td>
<td>93%</td>
<td>76%</td>
<td>52%</td>
<td>49%</td>
</tr>
<tr>
<td>Diana</td>
<td>DSX.N</td>
<td>USD</td>
<td>100%</td>
<td>93%</td>
<td>72%</td>
<td>93%</td>
<td>72%</td>
<td>53%</td>
<td>53%</td>
</tr>
<tr>
<td>Navios</td>
<td>NMM.N</td>
<td>USD</td>
<td>100%</td>
<td>89%</td>
<td>-0.1%</td>
<td>89%</td>
<td>-0.4%</td>
<td>13%</td>
<td>-31%</td>
</tr>
<tr>
<td>Scorpio</td>
<td>SALT.N</td>
<td>USD</td>
<td>100%</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
<td>na</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td><strong>92%</strong></td>
<td><strong>52%</strong></td>
<td><strong>84%</strong></td>
<td><strong>49%</strong></td>
<td><strong>32%</strong></td>
<td><strong>24%</strong></td>
<td></td>
</tr>
</tbody>
</table>

Source: Deutsche Bank, Bloomberg Finance LP, Clarkson.
Note: China Cosco has been listed since June 2005, Dryship since March 2005, Diana since March 2005, Navios since November 2007, and Scorpio since December 2013.

### Global dry bulk comp sheet

**Figure 2: Global dry bulk comps**

<table>
<thead>
<tr>
<th>Regional company</th>
<th>Ticker</th>
<th>Curr</th>
<th>Rec</th>
<th>Mcap</th>
<th>Current price</th>
<th>Target price</th>
<th>P/BV(x)</th>
<th>ROE</th>
<th>Net D/E %</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Cosco</td>
<td>1919.HK</td>
<td>HKD</td>
<td>Buy</td>
<td>4257</td>
<td>3.36</td>
<td>3.6</td>
<td>1.2</td>
<td>1.1</td>
<td>1.0</td>
</tr>
<tr>
<td>CSD</td>
<td>1138.HK</td>
<td>HKD</td>
<td>Buy</td>
<td>2236</td>
<td>5.16</td>
<td>8.0</td>
<td>0.6</td>
<td>0.6</td>
<td>0.6</td>
</tr>
<tr>
<td>K-Line</td>
<td>9107.T</td>
<td>JPY</td>
<td>Buy</td>
<td>2155</td>
<td>222</td>
<td>310</td>
<td>0.5</td>
<td>0.5</td>
<td>0.5</td>
</tr>
<tr>
<td>NYK</td>
<td>9101.T</td>
<td>JPY</td>
<td>Buy</td>
<td>5003</td>
<td>297</td>
<td>360</td>
<td>0.7</td>
<td>0.7</td>
<td>0.6</td>
</tr>
<tr>
<td>Pacific Basin</td>
<td>2343.HK</td>
<td>HKD</td>
<td>Buy</td>
<td>1146</td>
<td>4.71</td>
<td>5.5</td>
<td>0.9</td>
<td>0.9</td>
<td>0.8</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>0.8</strong></td>
<td><strong>0.7</strong></td>
<td><strong>1.8</strong></td>
<td><strong>7.8</strong></td>
<td><strong>10.6</strong></td>
<td><strong>111.5</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>US company</th>
<th>Ticker</th>
<th>Curr</th>
<th>Rec</th>
<th>Mcap</th>
<th>Current price</th>
<th>Target price</th>
<th>P/BV(x)</th>
<th>ROE</th>
<th>Net D/E %</th>
</tr>
</thead>
<tbody>
<tr>
<td>DryShips</td>
<td>DRYS.OQ</td>
<td>USD</td>
<td>Hold</td>
<td>1262</td>
<td>2.92</td>
<td>3.0</td>
<td>0.3</td>
<td>NA</td>
<td>-0.2</td>
</tr>
<tr>
<td>Diana Shipping</td>
<td>DSX.N</td>
<td>USD</td>
<td>Buy</td>
<td>819</td>
<td>9.77</td>
<td>16.0</td>
<td>0.6</td>
<td>0.6</td>
<td>-1.8</td>
</tr>
<tr>
<td>Navios Partners</td>
<td>NMM.N</td>
<td>USD</td>
<td>Buy</td>
<td>1511</td>
<td>19.75</td>
<td>20.0</td>
<td>2.1</td>
<td>2.3</td>
<td>NA</td>
</tr>
<tr>
<td>Scorpio Bulkers</td>
<td>SALT.N</td>
<td>USD</td>
<td>Buy</td>
<td>1107</td>
<td>8.00</td>
<td>18.0</td>
<td>1.0</td>
<td>1.0</td>
<td>NA</td>
</tr>
<tr>
<td><strong>Average</strong></td>
<td></td>
<td></td>
<td></td>
<td><strong>1.0</strong></td>
<td><strong>1.1</strong></td>
<td><strong>0.8</strong></td>
<td><strong>4.0</strong></td>
<td><strong>46.4</strong></td>
<td><strong>76.3</strong></td>
</tr>
</tbody>
</table>

Source: Deutsche Bank estimates, Bloomberg Finance LP. Prices as at 31 July 2014.
BDI deconstruction – identifying ultimate driver

BDI – a quick look at its composition

A strong link with the global economy, its ease of availability and timely release have made the BDI (Baltic Dry Index) one of the most widely tracked indices by the investment community. While almost all investors are familiar with the BDI and many follow it regularly, not many understand how this index is constructed.

Figure 3 shows the composition of the BDI. The index is constructed based on the time-charter (T/C) rates for 20 individual shipping routes across four major vessel categories, including four Capesize routes, four Panamax routes, six Supramax routes and six Handysize routes.

The T/C rates for each vessel category are averaged first according to their individual weights. The four average T/C numbers for the four vessel categories are then equally weighted to construct the BDI. Figure 3 includes an actual example of BDI calculations as of 18 July 2014.

<table>
<thead>
<tr>
<th>Route</th>
<th>Description</th>
<th>Weightings</th>
<th>18 July 2014 (US$/day)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capesize routes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C8</td>
<td>172k DWT Capesize vessel from Gibraltar/Hamburg to Atlantic round trip</td>
<td>25%</td>
<td>5,090</td>
</tr>
<tr>
<td>C9</td>
<td>172k DWT Capesize vessel from Continent Europe/Mediterranean to Far East</td>
<td>25%</td>
<td>24,040</td>
</tr>
<tr>
<td>C10</td>
<td>172k DWT Capesize vessel Pacific round trip</td>
<td>25%</td>
<td>8,327</td>
</tr>
<tr>
<td>C11</td>
<td>172k DWT Capesize vessel from China/Japan to Mediterranean/Continent Europe</td>
<td>25%</td>
<td>(2,864)</td>
</tr>
<tr>
<td>Panamax routes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1A</td>
<td>74k DWT Panamax vessel Trans-Atlantic round trip</td>
<td>25%</td>
<td>3,888</td>
</tr>
<tr>
<td>P2A</td>
<td>74k DWT Panamax vessel from Skaw/Gibraltar to Far East</td>
<td>25%</td>
<td>10,350</td>
</tr>
<tr>
<td>P3A</td>
<td>74k DWT Panamax vessel from Japan/ S. Korea to Pacific round trip</td>
<td>25%</td>
<td>4,444</td>
</tr>
<tr>
<td>P4A</td>
<td>74k DWT Panamax vessel from Far East to North Pacific</td>
<td>25%</td>
<td>42</td>
</tr>
<tr>
<td>Supramax routes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>S1A</td>
<td>54k DWT Supramax vessel from Antwerp/Skaw to Far East</td>
<td>12.5%</td>
<td>10,050</td>
</tr>
<tr>
<td>S1B</td>
<td>54k DWT Supramax vessel from Canakkale to Far East</td>
<td>12.5%</td>
<td>8,394</td>
</tr>
<tr>
<td>S2</td>
<td>54k DWT Supramax vessel from Japan/S. Korea to North Pacific or Australia round trip</td>
<td>25%</td>
<td>7,413</td>
</tr>
<tr>
<td>S3</td>
<td>54k DWT Supramax vessel from Japan /S. Korea to Gibraltar/Skaw range</td>
<td>25%</td>
<td>5,850</td>
</tr>
<tr>
<td>S4A</td>
<td>54k DWT Supramax vessel from US Gulf to Skaw/Passero</td>
<td>12.50%</td>
<td>8,233</td>
</tr>
<tr>
<td>S4B</td>
<td>54k DWT Supramax vessel from Skaw/Passero to US Gulf</td>
<td>12.50%</td>
<td>1,886</td>
</tr>
<tr>
<td>Handysize routes</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HS1</td>
<td>28k DWT Handysize vessel from Skaw/Passero to Recalada/Rio de Janeiro</td>
<td>12.50%</td>
<td>2,892</td>
</tr>
<tr>
<td>HS2</td>
<td>28k DWT Handysize vessel from Skaw/Passero to Boston/Galveston range</td>
<td>12.50%</td>
<td>2,917</td>
</tr>
<tr>
<td>HS3</td>
<td>28k DWT Handysize vessel from Recalada/Rio de Janeiro to Skaw/Passero</td>
<td>12.50%</td>
<td>8,181</td>
</tr>
<tr>
<td>HS4</td>
<td>28k DWT Handysize vessel from US Gulf/S. America to Skaw/Passero</td>
<td>12.50%</td>
<td>6,636</td>
</tr>
<tr>
<td>HS5</td>
<td>28k DWT Handysize vessel from S.E. Asia via Australia to Singapore/Japan</td>
<td>25%</td>
<td>5,506</td>
</tr>
<tr>
<td>HS6</td>
<td>28k DWT Handysize vessel from S. Korea/Japan to Singapore/Japan range incl. China</td>
<td>25%</td>
<td>6,575</td>
</tr>
</tbody>
</table>

BDI calculation formula

BDI = ((Capesize 4 T/C avg + Panamax 4 T/C avg + Supramax 6 T/C avg + Handysize 6 T/C avg)/ 4)*0.1134

Source: Deutsche Bank, Clarksons, Baltic Exchange.
BDI – Capesize drives volatility

While the four average T/C rates from the four vessel categories are equally weighted to calculate the BDI, their impact on the overall BDI is very different. Our regression analysis suggests that the Capesize category explains 37% of the daily movement in the BDI, followed by Handysize (30%) and Supramax (25%). Surprisingly, the Panamax category explains only 8% of the BDI’s overall movement (Figure 4).

![Figure 4: Capesize category drives BDI’s volatility](image)

Source: Deutsche Bank, Clarksons. Note: regression based on data since 2007.

There are two main reasons why Capesize T/C rates have been more volatile historically and therefore contributed more to the BDI’s movement than the other three vessel categories, in our view.

Firstly, over the past few years, deliveries of dry bulk vessels have concentrated largely on Capesize, and hence the supply side has displayed a stronger volatility in Capesize than other categories.

Secondly, there are fewer varieties of cargo being carried on Capesize vessels than on smaller vessels (Figure 5). According to industry participants, more than 70% of the cargo being carried by Capesize vessels is iron ore, with the rest coming mainly from coal and, to a much lesser extent, grains.

![Figure 5: Dry bulk vessel types vs. cargo carried](image)

<table>
<thead>
<tr>
<th>Vessel types</th>
<th>DWT</th>
<th>Cargo type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capesize *</td>
<td>110-199k</td>
<td>Used primarily to transport iron ore or coal and, to a much lesser extent, grains</td>
</tr>
<tr>
<td>Panamax</td>
<td>60-110k</td>
<td>Used mostly to transport coal, grains and, to a lesser extent, minor bulks, including steel, cement and fertilizers</td>
</tr>
<tr>
<td>Handymax/Supramax</td>
<td>40-60k</td>
<td>Used primarily to transport coal, grains and minor bulks, including bauxite, alumina, fertilizer, etc</td>
</tr>
<tr>
<td>Handysize</td>
<td>&lt; 40k</td>
<td>Involved primarily in carrying minor bulks, such as logs and forest products, grains, etc, within regional trading routes</td>
</tr>
</tbody>
</table>

Source: Deutsche Bank, Clarksons. * Capesize vessels above 199k DWT are classified as VLOC, carrying largely iron ore.
Capesize routes – C9 remains the key

Figure 6 shows details of the four Capesize routes included in the BDI.

<table>
<thead>
<tr>
<th>Route</th>
<th>Vessel type</th>
<th>Trip involved</th>
<th>Vessel delivery area</th>
<th>Vessel return area</th>
<th>Duration</th>
</tr>
</thead>
<tbody>
<tr>
<td>C8</td>
<td>172k DWT, age&lt;10 years</td>
<td>Atlantic round trip</td>
<td>Gibraltar or Hamburg surrounding area</td>
<td>Gibraltar or Hamburg surrounding area</td>
<td>30-45 days</td>
</tr>
<tr>
<td>C9</td>
<td>172k DWT, age&lt;10 years</td>
<td>Europe/Med to Far East</td>
<td>Amsterdam, Rotterdam, Antwerp or Cape Passero surrounding area</td>
<td>China or Japan surrounding area</td>
<td>65 days</td>
</tr>
<tr>
<td>C10</td>
<td>172k DWT, age&lt;10 years</td>
<td>Pacific round trip</td>
<td>China or Japan surrounding area</td>
<td>China or Japan surrounding area</td>
<td>30-40 days</td>
</tr>
<tr>
<td>C11</td>
<td>172k DWT, age&lt;10 years</td>
<td>Far East to Europe</td>
<td>China or Japan surrounding area</td>
<td>Amsterdam, Rotterdam, Antwerp or Cape Passero surrounding area</td>
<td>65 days</td>
</tr>
</tbody>
</table>

Source: Deutsche Bank, Clarksons, Baltic Exchange

In terms of T/C rates, the C9 route has been far more volatile than the other three routes. C9 itself explains 44% of the overall movement in the Capesize category, followed by C8 and C10 (both 28%). As C11 is related largely to the repositioning of empty vessels from the Far East to Europe, this route has little impact on the overall volatility of the Capesize category.

As the C9 route travels from continental Europe/the Mediterranean to the Fast East, the major cargo involved is largely Brazilian iron ore to the Fast East. As most of the iron ore cargo is discharged in the Far East, vessels need to be deployed from the Pacific Basin to the Atlantic Basin when Brazilian iron ore shipments pop up. The time lag, together with the longer distance, probably explains why the T/C rate for the C9 has had a higher volatility historically than the other three routes. Figure 8 lists the possible routes/cargos for each Capesize route. Figure 9 shows the major sailing routes.
Moreover, while the four Capesize routes have equal weightings within the Capsize category, the C9 route appears to be far more important than the other routes in terms of explaining movement in the BDI.

The distance from Brazil to the Fast East is about 3x and 2x times, respectively, that of Australia to the Far East and a trans-Atlantic trip. Translating into actual iron ore, a Capesize vessel can ship 2.1mt iron ore from Brazil to Europe and 2.6mt from Australia to China but can transport only 0.9mt from Brazil to China on an annual basis (Figure 10).

As the C9 route is involved largely in shipping iron ore from Brazil to the Far East, the longer distance travelled gives this route a much higher capability of absorbing fleet capacity than the other Capesize routes. As a result, the C9 route, to some extent, appears to also drive the rate movements for both the C8 and C10 routes, since fleets can move around easily. Historically, the T/C rate for the C9 route has been highly correlated with T/C rates for both the C8 and C10 routes (Figure 11 and Figure 12).
The recent BDI moves also confirm that C9 has a far more profound impact on the BDI than other Capesize routes.

Taking 1H13 as an example, despite strong Australian iron ore exports to China (+16.1% YoY), the T/C rate for C10 essentially remained muted. This was mainly because Brazilian iron ore exports to China declined over the period (-8.5% YoY). As a result, although China’s overall iron ore imports from these two countries rose 8.3% YoY in 1H13, the ton-mile demand remained flattish YoY. Along with the strong deliveries of the new Capesize vessels, Capesize rates failed to rise, and the BDI continued to hover below the 1,000 level.

Heading into 2H13, the situation changed completely. As Brazil iron ore exports to China picked up, T/C rates for C9 had a fantastic run. As this route is able to tie up more fleet capacity, given the longer distance, the rebound in C9 in turn drove up C8 and C10 rates and, eventually, the overall BDI.

As for 1H14, although China’s iron ore imports remained extremely strong (+19% YoY), the BDI remained under pressure, as most imports once again came from Australia, rather than Brazil (Figure 13 and 14).
BDI outlook – strong rebound seems under way

Historically, C9 has tended to move up strongly in 4Q

Historically, the BDI has tended to pick up from August (Figure 15). In the past 14 years, there have been nine years when the yearly high of the BDI has occurred in 4Q (Figure 16).

While coal demand for the winter season in the Northern Hemisphere and the grain harvest season in North America contributed partly to this seasonality, the strong performance of the C9 route appeared to be an even more important driver, in our view. Historically, the T/C rate for this route has shown a strong tendency to move up in 4Q, which, in fact, gels nicely with Brazilian iron ore exports to China (Figure 17). As the rainy season in Brazil is in 1Q and early 2Q (Figure 18), production has tended to be lower in 1H than 2H. This, along with the voyage time from Brazil to China, explains why Brazil’s iron ore exports have consistently troughed in June and then picked up in 2H.
Brazil iron ore exports should rebound strongly in 2H

Looking at this year, we expect a similar pattern. After declining for two years in a row (i.e. -1.7% YoY in 2012 and -3.8% YoY in 2013), Brazilian Vale has guided for 5.2% YoY growth in output, to 321mt, in 2014. Production appears to be on target, with 1Q14 output reaching 71mt, or 5.2% YoY growth. Based on the full-year target and recent production data, we estimate that Vale’s output in 2H will rise 15% HoH and 5% YoY (Figure 19).

Of the 305mt iron ore produced by Vale in 2013, 269mt, or nearly 90% of the total output, was for exports. Vale itself accounted for 85% of Brazil’s total seaborne iron ore exports of 319mt in 2013 (Figure 20).

In terms of countries importing from Vale, China accounted for more than half (Figure 21), or 146mt, in 2013, which made up more than 90% of China’s overall iron ore imports from Brazil.

In light of the expected rebound of iron ore output by Vale in 2H, China’s imports of iron ore from Brazil should, accordingly, capture strong growth.
The 2015 outlook seems even brighter, with our commodity team forecasting nearly 20% growth in Brazil’s seaborne iron ore exports, driven by rising output by Vale and new capacity coming on stream (Figure 22). As 70%-plus of Brazil’s iron ore goes to Asia, eventually, the longer distance should help greatly to absorb fleet capacity, which, in turn, should lift the dry bulk market, in our view.

**Figure 22: Brazil’s iron ore exports set to accelerate ahead**

![Graph showing iron ore exports from Brazil](source: Deutsche Bank estimates, Company data)

In terms of iron ore demand, some investors are concerned about the slowdown of the property sector in China and elevated iron ore inventories at the Chinese ports. However, improving steel margins, and hence a stronger incentive to produce, along with rising steel exports, should drive strong iron ore consumption ahead.

**Figure 23: Steel margins improving as iron ore price falls**

![Graph showing steel margins](source: Deutsche Bank)

Moreover, as iron ore prices move down, given the huge production cost gap between overseas and China producers (Figure 25), we expect more domestic iron ore to be replaced by imported ore ahead (Figure 26).
Our commodity team is currently expecting China’s iron ore imports to grow 7% in 2014, which looks conservative. In 1H14, China’s iron ore imports rose 18% YoY.

**Figure 27: Deutsche Bank seaborne iron ore supply/demand model**

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Brazil exports Mt</td>
<td>266</td>
<td>311</td>
<td>308</td>
<td>335</td>
<td>319</td>
<td>341</td>
<td>406</td>
</tr>
<tr>
<td>growth</td>
<td>-6%</td>
<td>17%</td>
<td>-1%</td>
<td>9%</td>
<td>-5%</td>
<td>7%</td>
<td>19%</td>
</tr>
<tr>
<td>Australian exports Mt</td>
<td>369</td>
<td>412</td>
<td>454</td>
<td>510</td>
<td>597</td>
<td>688</td>
<td>750</td>
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<tr>
<td>growth</td>
<td>15%</td>
<td>12%</td>
<td>10%</td>
<td>12%</td>
<td>17%</td>
<td>15%</td>
<td>9%</td>
</tr>
<tr>
<td>South African exports Mt</td>
<td>43</td>
<td>47</td>
<td>50</td>
<td>53</td>
<td>55</td>
<td>58</td>
<td>60</td>
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<tr>
<td>growth</td>
<td>34%</td>
<td>9%</td>
<td>8%</td>
<td>4%</td>
<td>5%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>India exports Mt</td>
<td>99</td>
<td>110</td>
<td>91</td>
<td>53</td>
<td>15</td>
<td>20</td>
<td>20</td>
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<tr>
<td>growth</td>
<td>12%</td>
<td>11%</td>
<td>-17%</td>
<td>-42%</td>
<td>-72%</td>
<td>34%</td>
<td>0%</td>
</tr>
<tr>
<td>Other exports Mt</td>
<td>159</td>
<td>176</td>
<td>201</td>
<td>209</td>
<td>269</td>
<td>292</td>
<td>327</td>
</tr>
<tr>
<td>Total seaborne iron ore supply Mt</td>
<td>936</td>
<td>1,058</td>
<td>1,104</td>
<td>1,159</td>
<td>1,255</td>
<td>1,398</td>
<td>1,562</td>
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<tr>
<td>growth</td>
<td>8%</td>
<td>13%</td>
<td>5%</td>
<td>5%</td>
<td>8%</td>
<td>11%</td>
<td>12%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>China steel output (crude steel) Mt</td>
<td>577</td>
<td>639</td>
<td>702</td>
<td>717</td>
<td>779</td>
<td>808</td>
<td>842</td>
</tr>
<tr>
<td>China steel production (BOF) Mt</td>
<td>521</td>
<td>572</td>
<td>631</td>
<td>644</td>
<td>700</td>
<td>725</td>
<td>755</td>
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<tr>
<td>growth</td>
<td>16%</td>
<td>10%</td>
<td>10%</td>
<td>2%</td>
<td>9%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td>China iron ore imports Mt</td>
<td>628</td>
<td>608</td>
<td>687</td>
<td>744</td>
<td>820</td>
<td>873</td>
<td>968</td>
</tr>
<tr>
<td>growth</td>
<td>41%</td>
<td>-3%</td>
<td>13%</td>
<td>8%</td>
<td>10%</td>
<td>7%</td>
<td>11%</td>
</tr>
<tr>
<td>Japan imports Mt</td>
<td>109</td>
<td>129</td>
<td>130</td>
<td>131</td>
<td>137</td>
<td>138</td>
<td>139</td>
</tr>
<tr>
<td>growth</td>
<td>-22%</td>
<td>18%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>S. Korea &amp; Taiwan imports Mt</td>
<td>53</td>
<td>71</td>
<td>87</td>
<td>84</td>
<td>84</td>
<td>90</td>
<td>94</td>
</tr>
<tr>
<td>growth</td>
<td>-19%</td>
<td>34%</td>
<td>23%</td>
<td>-3%</td>
<td>0%</td>
<td>7%</td>
<td>5%</td>
</tr>
<tr>
<td>European imports Mt</td>
<td>87</td>
<td>117</td>
<td>119</td>
<td>117</td>
<td>119</td>
<td>118</td>
<td>117</td>
</tr>
<tr>
<td>growth</td>
<td>-35%</td>
<td>34%</td>
<td>2%</td>
<td>-2%</td>
<td>2%</td>
<td>-1%</td>
<td>-1%</td>
</tr>
<tr>
<td>Other imports Mt</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>90</td>
<td>99</td>
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<tr>
<td>Total seaborne iron ore imports Mt</td>
<td>967</td>
<td>1,014</td>
<td>1,113</td>
<td>1,166</td>
<td>1,250</td>
<td>1,309</td>
<td>1,417</td>
</tr>
<tr>
<td>growth</td>
<td>11%</td>
<td>5%</td>
<td>10%</td>
<td>5%</td>
<td>7%</td>
<td>5%</td>
<td>8%</td>
</tr>
</tbody>
</table>
Supply also bodes well – Capesize deliveries to taper off

A total of 40 Capesize vessels were delivered in 2H13, much lower than the 63 that hit the water during 1H13. As demand was much stronger in 2H than in 1H, the S/D dynamic was, in fact, much better in 2H13 than in 1H13, which explains the strong move of Capesize rates, and hence the BDI, in 2H last year.

The situation for this year is rather similar to that of 2013. A total of 57 Capesize vessels were delivered in 1H14. The number will fall to 45 in 2H14. As dry bulk shipping demand should seasonally strengthen in 2H, S/D is poised to tighten again in 2H, which, in turn, should lift up rates, in our view.

Figure 28: Capesize deliveries should taper off again in 2H14

Source: Deutsche Bank, Clarksons

Figure 29 shows our S/D analysis for the Capesize category for 2H14. Based on the delivery schedule, a total of 45 Capesize vessels should come on stream in 2H, which effectively translates into 13 vessels on an annual basis. Looking at the demand side, based on an incremental increase of iron ore in 2H, we estimate that a total 52 Capesize vessels will be needed. The substantial undersupply of the Capesize category in 2H should lift Capesize rates significantly and hence the BDI, in our view.

Figure 29: 2H14 S/D analysis for Capesize category

<table>
<thead>
<tr>
<th>Date</th>
<th># of Capes delivery</th>
<th>Effective sailing days</th>
<th># of Capes adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-14</td>
<td>7</td>
<td>183</td>
<td>4</td>
</tr>
<tr>
<td>Aug-14</td>
<td>7</td>
<td>152</td>
<td>3</td>
</tr>
<tr>
<td>Sep-14</td>
<td>9</td>
<td>122</td>
<td>3</td>
</tr>
<tr>
<td>Oct-14</td>
<td>8</td>
<td>91</td>
<td>2</td>
</tr>
<tr>
<td>Nov-14</td>
<td>5</td>
<td>61</td>
<td>1</td>
</tr>
<tr>
<td>Dec-14</td>
<td>9</td>
<td>30</td>
<td>1</td>
</tr>
<tr>
<td>Total Capesize vessel supply</td>
<td>45</td>
<td>639</td>
<td>13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Origin and destination</th>
<th>Vol per Cape (mt p.a)</th>
<th>Incremental iron ore</th>
<th># of Capes needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil export to FE (75%)</td>
<td>0.9</td>
<td>24</td>
<td>26</td>
</tr>
<tr>
<td>Brazil export to EU (20%)</td>
<td>2.1</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>Brazil export to America (5%)</td>
<td>2.1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Australia export to FE (90%)</td>
<td>2.6</td>
<td>48</td>
<td>18</td>
</tr>
<tr>
<td>Australia export to rest (10%)</td>
<td>1.5</td>
<td>5</td>
<td>4</td>
</tr>
<tr>
<td>Total Capesize vessel needed</td>
<td>85</td>
<td>52</td>
<td></td>
</tr>
</tbody>
</table>

Source: Deutsche Bank estimates, Clarksons
Both forward rates and longer-term time-charter rates point to the strength of the dry bulk rates going forward. As Figure 30 shows, although current Capesize spot rates remain below US$10k/day, the forward rates for the front quarter (i.e. three months later) are more than 2x of the spot rates.

As for the time-charter rates, although the one-year rates retreated recently, along with soft spot market, they remain around US$20k/day, well above the spot rates. Three-year time-charter rates have held up firmly above US$20k/day (Figure 31).

We noticed that dry bulk new orders rebounded sharply late last year and early this year, along with the strength in dry bulk rates, raising concerns among investors about how long this recovery could last. Fortunately, as dry bulk rates have softened again, newbuild orders have dried up in the past few months (Figure 32), which should lead to better S/D in the future.

While future supply, particularly from 2016 onwards, is still subject to change and depends, to a high extent, on how the market performs going forward, 2015 supply, given the vessel construction period, looks relatively certain.
Although new deliveries of the Capesize vessels in 2015 could exceed those of this year (2015E nominal deliveries of 122 Capes vs. 2014E of 102), Brazilian iron ore exports are also set to accelerate in 2015 (+19% YoY, vs. +7% in 2014). As a result, the total Capesize vessels needed in the coming 18 months should still outpace supplies (Figure 33), pointing to a solid market outlook in the coming 18 months.

**Figure 33: S/D analysis for Capesize category in coming 18 months**

<table>
<thead>
<tr>
<th>Date</th>
<th># of Capes delivery</th>
<th>Effective sailing days</th>
<th># of Capes adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-14</td>
<td>7</td>
<td>548</td>
<td>11</td>
</tr>
<tr>
<td>Aug-14</td>
<td>7</td>
<td>517</td>
<td>10</td>
</tr>
<tr>
<td>Sep-14</td>
<td>9</td>
<td>487</td>
<td>12</td>
</tr>
<tr>
<td>Oct-14</td>
<td>8</td>
<td>466</td>
<td>10</td>
</tr>
<tr>
<td>Nov-14</td>
<td>5</td>
<td>426</td>
<td>6</td>
</tr>
<tr>
<td>Dec-14</td>
<td>9</td>
<td>395</td>
<td>10</td>
</tr>
<tr>
<td>Jan-15</td>
<td>9</td>
<td>365</td>
<td>9</td>
</tr>
<tr>
<td>Feb-15</td>
<td>10</td>
<td>335</td>
<td>9</td>
</tr>
<tr>
<td>Mar-15</td>
<td>10</td>
<td>304</td>
<td>8</td>
</tr>
<tr>
<td>Apr-15</td>
<td>10</td>
<td>274</td>
<td>8</td>
</tr>
<tr>
<td>May-15</td>
<td>9</td>
<td>243</td>
<td>6</td>
</tr>
<tr>
<td>Jun-15</td>
<td>10</td>
<td>213</td>
<td>6</td>
</tr>
<tr>
<td>Jul-15</td>
<td>11</td>
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</tr>
<tr>
<td>Aug-15</td>
<td>6</td>
<td>152</td>
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</tr>
<tr>
<td>Sep-15</td>
<td>8</td>
<td>122</td>
<td>3</td>
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<td>Oct-15</td>
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</tr>
<tr>
<td>Nov-15</td>
<td>12</td>
<td>61</td>
<td>2</td>
</tr>
<tr>
<td>Dec-15</td>
<td>14</td>
<td>30</td>
<td>1</td>
</tr>
</tbody>
</table>

**Total Capesize vessel supply**

<table>
<thead>
<tr>
<th>Origin and destination</th>
<th>Vol per Cape (mt p.a)</th>
<th>Incremental iron ore</th>
<th># of Capes needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil export to FE (75%)</td>
<td>0.9</td>
<td>73</td>
<td>81</td>
</tr>
<tr>
<td>Brazil export to EU (20%)</td>
<td>2.1</td>
<td>19</td>
<td>9</td>
</tr>
<tr>
<td>Brazil export to America (5%)</td>
<td>2.1</td>
<td>5</td>
<td>2</td>
</tr>
<tr>
<td>Australia export to FE (90%)</td>
<td>2.6</td>
<td>104</td>
<td>40</td>
</tr>
<tr>
<td>Australia export to rest (10%)</td>
<td>1.5</td>
<td>12</td>
<td>8</td>
</tr>
<tr>
<td>Other region export</td>
<td>1.7</td>
<td>37</td>
<td>22</td>
</tr>
</tbody>
</table>

**Total Capesize vessel needed**

|                      | 249                   | 162                  |

Source: Deutsche Bank estimates, Clarksons
Stock picks – correlation between stocks and BDI

Strong correlation exists – China Cosco ranks top

A strong link with the global economy, its ease of access and timely release have made the BDI one of the most widely tracked indices by investors. As a result, although earnings are not highly correlated with the BDI for some dry bulkers, their share prices do show a strong correlation with this index, especially on a longer-term (e.g. 10 years) basis.

Figure 34 shows the historical correlation between stock prices and the BDI. While the correlation dropped post-GFC, a strong connection between the stocks and the BDI continued to exist (average correlation of 80% since 2009).

We note that the correlation has loosened in the last three years. However, this period can be considered exceptional, as sector-specific drivers have been overwhelmed by broader macro risks (especially those relating to China). Apart from these periods, the historical correlation looks very decent. In the past 12 months, the correlation between dry bulk stocks and the BDI has, in fact, tightened again (Figure 35).

In terms of individual stocks, China Cosco’s share price has displayed the strongest correlation with the BDI among all the dry bulk names. While 73% of its revenue comes from container shipping, investors still treat it largely as a dry bulker. Plus, its dry bulk business is highly leveraged to the spot BDI (due to a relatively lower-than-peer exposure to long-term contracts). This probably explains its higher share price correlation than its peers’.
For CSD, half of its revenue comes from tankers, and a big chunk of its dry bulk revenue is under long-term contracts; hence its earnings are not so affected by the BDI. However, its stock price has also been strongly correlated with the BDI over the last five and 10 years (although, admittedly this correlation has been lower over the past 12 months). The stock is our regional top pick as, in addition, we like its compelling valuation and promising VLCC outlook.

For Pacific Basin, as the company concentrates on the Handysize category, with about half of its capacity locked into contracts (i.e. not on spot), its correlation with the BDI is lower than that of China Cosco. For the Japanese stocks, around 20% of their revenue comes from dry bulk, and most of them are under long-term contracts. However, both NYK and K-Line have shown a decent correlation with the BDI historically.

<table>
<thead>
<tr>
<th>Regional company</th>
<th>Ticker</th>
<th>Currency</th>
<th>Dry bulk rev as % of total rev</th>
<th>Pre GFC</th>
<th>Post GFC</th>
<th>10 years</th>
<th>5 years</th>
<th>3 years</th>
<th>1 year</th>
</tr>
</thead>
<tbody>
<tr>
<td>China Cosco</td>
<td>1919.HK</td>
<td>HKD</td>
<td>20%</td>
<td>90%</td>
<td>78%</td>
<td>90%</td>
<td>79%</td>
<td>15%</td>
<td>83%</td>
</tr>
<tr>
<td>CSD</td>
<td>1138.HK</td>
<td>HKD</td>
<td>52%</td>
<td>89%</td>
<td>82%</td>
<td>83%</td>
<td>80%</td>
<td>33%</td>
<td>37%</td>
</tr>
<tr>
<td>K-Line</td>
<td>9107.T</td>
<td>JPY</td>
<td>20%</td>
<td>76%</td>
<td>66%</td>
<td>84%</td>
<td>64%</td>
<td>28%</td>
<td>55%</td>
</tr>
<tr>
<td>NYK</td>
<td>9101.T</td>
<td>JPY</td>
<td>18%</td>
<td>73%</td>
<td>55%</td>
<td>81%</td>
<td>49%</td>
<td>28%</td>
<td>53%</td>
</tr>
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<td>2343.HK</td>
<td>HKD</td>
<td>94%</td>
<td>89%</td>
<td>67%</td>
<td>83%</td>
<td>67%</td>
<td>9%</td>
<td>76%</td>
</tr>
<tr>
<td>Average</td>
<td></td>
<td></td>
<td>52%</td>
<td>83%</td>
<td>70%</td>
<td>84%</td>
<td>68%</td>
<td>23%</td>
<td>61%</td>
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<th>Ticker</th>
<th>Currency</th>
<th>Dry bulk rev as % of total rev</th>
<th>Pre GFC</th>
<th>Post GFC</th>
<th>10 years</th>
<th>5 years</th>
<th>3 years</th>
<th>1 year</th>
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<td>DRYS.OQ</td>
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<td>93%</td>
<td>76%</td>
<td>93%</td>
<td>76%</td>
<td>52%</td>
<td>49%</td>
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<tr>
<td>Diana</td>
<td>DSX.N</td>
<td>USD</td>
<td>100%</td>
<td>93%</td>
<td>72%</td>
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<td>72%</td>
<td>30%</td>
<td>53%</td>
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<tr>
<td>Navios</td>
<td>NMM.N</td>
<td>USD</td>
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<td>89%</td>
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<td>Scorpio</td>
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<td>100%</td>
<td>na</td>
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<td>Average</td>
<td></td>
<td></td>
<td>92%</td>
<td>52%</td>
<td>84%</td>
<td>49%</td>
<td>32%</td>
<td>24%</td>
<td></td>
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</tbody>
</table>

Source: Deutsche Bank, Bloomberg Finance LP, Clarkson. Note: China Cosco has been listed since June 2005, Dryship since March 2005, Diana since March 2005, Navios since November 2007, and Scorpio since December 2013.

Different leverage to BDI components = different stock performance (China Cosco vs. Pacific Basin)

While dry bulk stocks have been well correlated with the BDI, their earnings leverage to the components of the BDI can be substantially different. For example, Pacific Basin’s earnings are more relevant to Handysize than the overall BDI. This is simply because of the company’s vessel portfolio, which is skewed to Handysize. In contrast, China Cosco’s earnings are more leveraged to Capesize rates, as its vessel portfolio is skewed to Capesize fleets.

Therefore, one would expect that China Cosco’s share price would react more to movements in the Capesize T/C rates than the Handysize T/C rates. This is indeed the case. Figure 36 shows our backward testing of the share price movements between China Cosco and Pacific Basin against the ratio of Capesize vs. Handysize rates.

Historically, changes in the ratio have been driven largely by the rally of Capesize, and vice versa. When the ratio has picked up, historically, China Cosco’s share price has tended to outperform Pacific Basin, and vice versa. As we expect the BDI to rebound strongly in 2H on a pick-up in Capesize rates, it looks as if the ratio should expand again going forward.
Individual company review

- **China Cosco (1919.HK, Buy, HK$3.36):** While container shipping accounted for 73% of its total revenue in 2013 (vs. dry bulk of around 20%), we think investors overall are still treating this company as a dry bulker. As its stock price has been highly correlated with the BDI, the pick-up of the BDI ahead bodes well for the stock’s performance. The stock is trading at 0.9x forward P/B, largely its lowest level since the GFC. Compared with its peers, its P/B is still at a premium, however. Historically, the stock has long...
traded at a premium, due to its larger market cap and leading position in the global dry bulk space. We expect this premium to continue, and our valuation takes this into account. Our target price of HK$3.6 is based on 1.2x 12-month forward P/B. A key risk lies in weaker-than-expected global growth. As the company is also exposed to dry bulk shipping, a weaker-than-expected dry bulk rate is a downside risk at the company level.

**China Shipping Development (1138.HK, Buy, HK$5.16):** Dry bulk accounts for roughly half of its total revenue, with the other half coming from tankers. Within dry bulk, the international iron ore segment (65% of dry bulk revenue) has been locked into long-term contracts, and hence it is not affected by the spot BDI. For its domestic coal shipping segment, although this is a closed market (i.e. only vessels with a Chinese flag can operate), rates have been moving in line with the BDI, as fleet capacity can switch easily between domestic and international markets. Overall, we estimate that around one-third of CSD’s revenue is relevant to spot BDI. Although CSD’s earnings are not affected so much by the BDI, its stock price has also been correlated strongly with the BDI over the last five and 10 years (although, admittedly, this correlation has been lower over the past 12 months). The stock is our regional top pick as, in addition, we like its compelling valuation and promising VLCC outlook. In terms of its earnings outlook, we expect 1H earnings to surprise the market on the upside. While rates have been trending down in 2Q, the company has been actively cutting its costs (such as staff and bunker fuel costs). As a result, we see a good chance that the company may be able to break even in 2Q for its core operations (net profit of RMB52m in 1Q). Consensus is looking for a loss-making 2Q currently. As 2H, particularly 4Q, should be the strong season for both dry bulk and tanker shipping, we expect 2H earnings to be a lot better than those of 1H. Along with an RMB200m subsidy from the government, which we expect to be booked in 3Q, we expect 2014 earnings to reach RMB721m, substantially surprising the Street on the upside. In the longer term, we remain positive. Its VLCC operations should recover strongly on the back of the implementation of ballast water treatment, and its LNG should be another earnings driver in the coming three to five years. The stock is trading at 0.6x forward P/B, which looks extremely cheap, as we estimate its ROE to rise to 8.1% in 2015 and 9.5% in 2016, from 3.3% in 2014 and -10.0% in 2013. Our target price of HK$8 is based on 0.9x of the average BVPS over 2014-15E. Softer-than-expected shipping demand is a macro risk. As LNG is a new business for CSD, there might be operational risk at the initial stage.
Pacific Basin (2343.HK, Buy, HK$4.71): In 2013, 94% of Pacific Basin’s revenue was derived from the dry bulk business. In the dry bulk business, its vessels are mainly the smaller Handysize and Handymax vessels, which carry a wide variety of goods to geographically diverse locations. About 80% of its dry bulk operating profit last year came from the Handysize business. While we believe management has not had a good track record in the non-dry bulk businesses (e.g. RoRo), we rate the company highly in the dry bulk business. It has timed asset disposals well in the past, and it continued to register profits during the downcycle, when others lost money. We have a Buy rating on the stock, and think that any weakness in the share price post its expected weak 1H 2014 results would represent a particularly attractive accumulation opportunity. (The company announced in June that it would record a net loss in 1H because of provisions at its towage business.) Our target price of HK$5.5 is based on 1.1x 2014E P/B. The key macro risk is lower-than-expected minor bulk shipping demand. At the company level, the risk is that the company may have to take further provision in its towage business.

NYK (9101.t, Buy, JPY297): As a diversified carrier, dry bulk accounted for only around 20% of its total revenue in FY3/14. Moreover, most of its dry bulk business is under contracts, and hence its earnings are not leveraged to the spot dry bulk market. Having said that, historically, the stock price has displayed a reasonable correlation with the BDI, according to our analysis. In this sense, we see a good chance that the stock could perform strongly in 2H when the BDI picks up seasonally. Our target price is JPY360, based on 0.8x
forward P/B. Historically, the stock has traded at a mean P/B of 1.4x, vs. an average ROE of 8%. With ROE rising to 10% over FY3/15-16E, we expect the stock to move towards 1x P/B in the coming 12 months. The key macro risk is weaker-than-expected global growth, leading to softer-than-expected shipping demand. At the company level, a reversal of the JPY depreciation trend would hurt its operations.

**Figure 44: NYK correlation chart with BDI**

![NYK share price correlation chart with BDI](source)

Source: Deutsche Bank, Clarksons, Bloomberg Finance LP

**Figure 45: NYK 12-month forward P/B vs. ROE**

![NYK forward P/B vs. ROE chart](source)

Source: Deutsche Bank, Bloomberg Finance LP

**K-Line (9107.t, Buy, JPY222):** Dry bulk shipping accounted for 20% of its total revenue in FY3/14. As most of its dry bulk revenue comes from contract-based operations, its earnings are not sensitive to changes in the BDI. Nevertheless, from a sentiment perspective, we think a pick-up in the BDI would still bode well for the stock’s performance. Indeed, K-Line’s share price has shown a decent correlation with the BDI historically. We set our target price at JPY310, based on 0.7x forward P/B. Historically, the stock has traded at an average of 1.3x P/B, vs. a mean ROE of 13%. During the 2010 industry upcycle, the stock traded up to 1.1x, vs. an ROE of around 10%. With ROE rising to more than 10% ahead, on our estimates, we think our valuation looks conservative. We maintain our Buy rating on the stock. The key macro risk is weaker-than-expected global growth, leading to softer-than-expected shipping demand. At the company level, a reversal of the JPY depreciation trend would hurt its operations.

**Figure 45: K-line correlation chart with BDI**

![K-line share price correlation chart with BDI](source)

Source: Deutsche Bank, Clarksons, Bloomberg Finance LP

**Figure 47: K-line 12-month forward P/B vs. ROE**

![K-line forward P/B vs. ROE chart](source)

Source: Deutsche Bank, Bloomberg Finance LP
1 August 2014
Marine
Dry Bulk Shipping

Model updated: 01 July 2014

Running the numbers
Asia
China
Marine

China Cosco Hldgs
Reuters: 1919.HK Bloomberg: 1919 HK

Buy
Price (31 Jul 14) HKD 3.36
Target Price HKD 3.60
52 Week range HKD 2.99 - 4.16
Market Cap (m) HKDm 34,326 USDm 4,429

Company Profile
China COSCO Holdings Co. Ltd is the second-largest integrated shipping company in the world. The company, together with its subsidiaries, provides a wide range of container shipping, terminal, container leasing and logistics services across the container shipping value chain for both international and domestic customers.

Price Performance

Margin Trends

Growth & Profitability

Solvency

Fiscal year and 31-Dec

Financial Summary

DB EPS (CNY) -1.03 -0.94 0.02 -0.07 0.18 0.31
Reported EPS (CNY) -1.03 -0.94 0.02 0.07 0.18 0.31
EPS (CNY) 0.00 0.00 0.00 0.00 0.00 0.00
B/VPS (CNY) 3.4 2.5 2.4 2.3 2.5 2.8
Weighted average shares (m) 10,216 10,216 10,216 10,216 10,216 10,216
Average market cap (CNYm) 50,463 32,519 30,112 27,364 27,364 27,364
Enterprise value (CNYm) 78,870 78,427 84,181 85,774 85,591 83,398

Valuation Metrics

P/E (DB) (x) nm nm 127.9 nm 14.9 8.6
P/E (Reported) (x) nm nm 127.9 nm 14.9 8.6
P/BV (x) 0.93 1.26 1.26 1.16 1.08 0.96
FCF Yield (%) nm nm nm nm nm 5.6
Dividend Yield (%) 0.0 0.0 0.0 0.0 0.0 0.0
EV/Sales (x) 0.9 0.9 1.2 1.2 1.1 1.0
EV/EBITDA (x) nm nm 26.8 21.4 10.3 7.8

Income Statement (CNYm)

Sales revenue 84,639 88,329 67,384 72,560 79,483 85,773
Gross profit -2,010 936 3,553 8,389 12,915 15,493
EBITDA -7,358 -4,367 3,142 4,004 8,311 10,659
Depreciation 2,938 3,154 3,655 3,701 3,887 4,014
EBIT -10,296 -7,521 -513 303 4,424 6,645
Net interest income/expense 382 -1,587 -2,103 -2,532 -2,707 -2,875
Associates/affiliates 2,060 1,711 1,102 1,102 1,157 1,215
Exceptionals/extraordinaries 0 0 0 0 0 0
Other pre-tax income/(expense) 0 0 4,692 0 0 0
Profit before tax -7,854 -7,397 3,179 -1,127 2,875 4,985
Income tax expense 1,031 740 299 -282 719 1,246
Minorities 1,610 1,422 2,644 -127 323 561
Other post-tax income/(expense) 0 0 0 0 0 0
Net profit -10,495 -9,559 235 -719 1,833 3,178
DB adjustments (including dilution) 0 0 0 0 0 0
DB Net profit -10,495 -9,559 235 -719 1,833 3,178

Cash Flow (CNYm)

Cash flow from operations -4,876 -5,206 -2,317 1,271 5,349 7,539
Net Capex -6,988 -10,947 -10,629 -6,000 -6,000 -6,000
Free cash flow -11,864 -16,154 -12,946 -4,729 -651 1,539
Dividends paid -919 0 0 0 0 0
Net inc/(dec) in borrowings 14,643 10,238 8,241 0 0 0
Other investing/financing cash flows -1,581 5,290 6,575 0 0 0
Net cash flow 280 -626 1,870 -4,729 -651 1,539
Change in working capital -151 -2,896 -3,276 -1,458 -559 -72

Balance Sheet (CNYm)

Cash and other liquid assets 47,443 46,765 49,057 43,477 42,826 44,365
Tangible fixed assets 73,030 80,643 81,404 83,579 84,669 85,582
Goodwill/intangible assets 196 202 114 114 114 114
Associates/investments 16,622 17,092 11,161 12,263 13,420 14,635
Other assets 20,138 20,505 20,126 21,680 22,921 24,049
Total assets 157,459 165,208 161,862 161,113 163,951 168,745
Interest bearing debt 77,026 93,204 96,395 96,395 96,395 96,395
Other liabilities 15,288 15,463 15,463 15,463 15,463 15,463
Total liabilities 107,288 123,510 119,748 119,845 120,527 121,582
Shareholders’ equity 40,171 41,698 42,114 41,268 43,424 47,163
Other post-tax income/(expense) 0 0 0 0 0 0
Net debt 29,553 46,439 47,339 52,918 53,589 57,030

Key Company Metrics

DB EPS growth (%) nm 4.4 -23.7 7.7 9.5 7.9
EBITDA Margin (%) -8.7 -4.9 4.7 5.9 10.5 12.4
EBIT Margin (%) -12.2 -8.5 -0.8 0.4 5.6 7.7
Payout ratio (%) nm nm 0.0 nm 0.0 0.0
ROE (%) 8.7 8.5 3.8 4.7 10.5 11.8
Capex/sales (%) 10.1 12.9 15.8 8.3 7.5 7.0
Capex/depreciation (%) 2.9 3.6 2.8 1.6 1.5 1.5
Net debt/equity (%) 56.9 111.4 124.8 28.2 23.4 11.0
Net interest cover (x) nm nm 0.1 1.6 2.3

Source: Company data, Deutsche Bank estimates

Sky Hong, CFA +852 2203 6131 sky.hong@db.com

Page 22 Deutsche Bank AG/Hong Kong
Running the numbers
Asia
China
Marine

China Shipping Dvlpmt
Reuters: 1138.HK Bloomberg: 1138 HK

Buy
Price (31 Jul 14) HKD 5.16
Target Price HKD 8.00
52 Week range HKD 3.45 - 6.23
Market Cap (m) HKDm 17,567 USDm 2,267

Company Profile
The company is the dominating player in China’s coastal energy shipping market. It also participates in the international oil and dry bulk markets.

Price Performance

Margin Trends

Growth & Profitability

Solvency

Financial Summary

|-----------------------|-------|-------|-------|-------|-------|-------|

Valuation Metrics

|----------------|-------|-------|-------|-------|-------|-------|

Income Statement (CNYm)

Cash Flow (CNYm)

Balance Sheet (CNYm)

Key Company Metrics

Sky Hong, CFA
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Deutsche Bank AG/Hong Kong
Running the numbers

Asia

Hong Kong

Marine

Pacific Basin Shipping Ltd

Reuters: 2343.HK  Bloomberg: 2343 HK

Buy

Price (31 Jul 14)  HKD 4.71
Target Price  HKD 5.50
52 Week range  HKD 4.27 - 5.60
Market Cap (m)  HKDm 9,053  USDm 1,168

Company Profile

Pacific Basin Shipping Limited is an investment holding company. The Company, through its subsidiaries is engaged in the provision of dry bulk shipping services through the operation of a fleet of vessels.

Price Performance

Aug 12Nov 12Dec 12Dec 13Dec 13Dec 14Dec 14
Pacific Basin Shipping Ltd
HANG SENG INDEX (Rebased)

Margin Trends

Growth & Profitability

Solvency

1 August 2014
Marine
Dry Bulk Shipping

Model updated: 26 June 2014

Financial Summary

Fiscal year end 31-Dec

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<td>DB EPS (USD)</td>
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<td>0.03</td>
<td>0.01</td>
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<td>Reported EPS (USD)</td>
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<td>DPS (USD)</td>
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<td>0.01</td>
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<td>Weighted average shares (m)</td>
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<td>Average market cap (USDm)</td>
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<td>Enterprise value (USDm)</td>
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<td>1,696</td>
<td>1,725</td>
<td>1,730</td>
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</table>

Valuation Metrics

| P/E (DB) (x) | 18.0 | 18.1 | 119.4 | nm | 11.6 | 8.9 |
| P/E (Reported) (x) | 32.5 | nm | 77.2 | nm | 11.6 | 8.9 |
| P/BV (x) | 0.52 | 0.81 | 1.06 | 0.93 | 0.89 | 0.85 |
| FCF Yield (%) | nm | nm | 2.2 | 6.7 | 9.3 |
| Dividend Yield (%) | 2.4 | 1.3 | 1.0 | 2.1 | 4.3 | 5.6 |
| EV/S (x) | 0.9 | 0.8 | 1.0 | 0.9 | 0.7 | 0.7 |
| EV/EBITDA (x) | 7.7 | 8.8 | 13.9 | 9.7 | 7.5 | 6.5 |
| EV/EBIT (x) | 12.9 | 16.8 | 41.6 | 20.3 | 12.7 | 10.3 |

(Company data, Deutsche Bank estimates)

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Deutsche Bank AG/Hong Kong
1 August 2014
Marine
Dry Bulk Shipping

Running the numbers
Japan
Japan
Transportation

Nippon Yusen
Reuters: 9101.T Bloomberg: 9101 JT

Buy
Price (31 Jul 14) JPY 297
Target Price JPY 360
52 Week range JPY 274 - 336
Market Cap (bn) JPYbn 505
USDm 4,913

Company Profile
Nippon Yusen Kabushiki Kaisha (NYK) is one of the leading transportation companies in Japan. Its main business consists of container shipping, bulk shipping (including dry bulk, wet bulk, and car carriers), and logistics. It also operates terminal business and conducts air cargo transportation. The company is the biggest car carrier in the world, in terms of operating capacity.

Price Performance

Margin Trends

Growth & Profitability

Solvency

Valuation Metrics

Income Statement (JPYbn)
Sales revenue 1,808 1,897 2,237 2,467 2,719 2,998
Gross profit 248 290 342 410 463 505
Depreciation 101 98 106 112 117 122
Amortisation 0 0 0 0 0 0
EBIT -24 17 -45 62 124 145
Not interest income/(expense) -13 -16 -16 -16 -13 -14
Interest bearing debt -13 -8 -8 -8 -11 -17
Net profit -31 33 53 75 113 135
Income tax expense 39 11 16 19 28 34
Minorities 3 3 4 5 4 5
Other post-tax income/(expense) 0 0 0 0 0 0
Net debt -73 19 33 52 79 96
DB adjustments (including dilution) 2 15 -5 0 0 0
DB Net profit -71 34 28 52 79 96

Cash Flow (JPYbn)
Cash flow from operations 30 94 137 166 188 216
Net Capex -136 -149 13 -100 -100 -100
Free cash flow -106 -55 149 66 88 116
Equity raised/(bought back) 0 0 0 0 0 0
Dividends paid -13 -8 -8 -8 -11 -17
Net infl/(dec) in borrowings 98 187 85 -50 -50 -50
Other investing/financing cash flows -5 -22 -9 -3 -3 -3
Net change in working capital -39 147 47 8 24 47
Change in working capital 55 113 162 194 225 258

Balance Sheet (JPYbn)
Cash and other liquid assets 151 298 218 357 381 428
Tangible fixed assets 1,299 1,229 1,154 1,277 1,329 1,449
Goodwill/intangible assets 38 39 63 63 63 63
Associates/investments 257 263 523 465 418 381
Other assets 489 543 518 503 581 578
Total assets 2,122 2,430 2,551 2,727 2,842 2,909
Interest bearing debt 1,067 1,292 1,226 1,276 1,226 1,176
Interest bearing debt 1,067 1,292 1,226 1,276 1,226 1,176
Other liabilities 433 420 551 626 716 748
Total liabilities 1,500 1,732 1,777 1,902 1,943 1,924
Shareholders’ equity 579 651 720 767 836 916
Minorities 43 48 54 52 63 69
Total shareholders’ equity 622 699 774 825 899 985
Net debt 916 994 1,009 919 845 748

Key Company Metrics
Sales growth (%) nm 4.9 17.9 10.3 10.2 10.3
DB EPS growth (%) na na -17.8 87.5 52.7 20.8
EBITDA Margin (%) 4.2 6.1 6.7 8.1 8.9 8.9
EBIT Margin (%) -1.3 0.9 2.0 3.5 4.6 4.8
Payout ratio (%) nm 18.0 15.4 20.0 20.0 20.0
ROE (%) -11.5 3.1 4.8 7.0 9.9 10.9
Capex/sales (%) 17.1 16.6 10.5 4.1 3.7 3.3
Capex/depreciation (x) 3.1 3.1 2.2 0.9 0.9 0.8
Net debt/equity (%) 147.1 142.2 100.3 114.8 94.0 76.0
Net interest cover (x) nm 1.2 2.7 5.4 7.8 10.1

Source: Company data, Deutsche Bank estimates

Fiscal year end: 31-Mar


Financial Summary
DB EPS (JPY) -41.57 19.90 16.35 30.66 46.81 56.54
Reported EPS (JPY) -42.92 11.14 19.48 30.66 46.81 56.54
DPS (JPY) 4.00 2.00 3.00 6.12 9.34 11.28
BvPS (JPY) 340.7 382.8 423.6 451.1 491.7 538.8
Weighted average shares (m) 1,701 1,701 1,701 1,701 1,701 1,701
Average market cap (JPYbn) 396 325 501 506 505 505
Enterprise value (JPYbn) 1,089 1,103 1,155 1,132 1,110 1,056

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sky.hong@db.com

Deutsche Bank AG/Hong Kong Page 25
Running the numbers

Kawasaki Kisen

Reuters: 9107.T Bloomberg: 9107 JT

Buy

Price (31 Jul 14) JPY 222

Target Price JPY 310

52 Week range JPY 203 - 276

Market Cap (bn) JPYbn 208 USDm 2,025

Company Profile

Kawasaki Kisen Kaisha (K-Line) is the third largest shipping company in Japan. With container shipping being its core business, the company also offers integrated marine transportation services including car carrier, dry bulk shipping, and energy transportation businesses. As of March 2013, it operates a fleet of 566 ships with 252 bulk ships, 75 container ships and 95 PCTCs.

Price Performance

Margin Trends

Growth & Profitability

Solvency

Financial Summary

DB EPS (JPY) -54.38 16.90 12.19 31.75 53.88 75.70
Reported EPS (JPY) -54.14 12.00 17.75 31.75 53.88 75.70
DPS (JPY) 0.00 2.50 4.50 6.35 10.78 15.14
B/PS (JPY) 316.9 362.5 414.7 441.9 489.4 564.4

Weighted average shares (m) 764 884 938 938 938 938
Average market cap (JPYbn) 151 211 211 208 208 208
Enterprise value (JPYbn) 485 423 402 408 408 402

Valuation Metrics

PIE (DB) (x) nm 8.1 18.5 7.0 4.1 2.9
PIE (Reported) (x) nm 11.4 12.7 7.0 4.1 2.9
P/BV (x) 0.57 0.55 0.54 0.50 0.45 0.40
FCF Yield (%) nm 20.3 40.2 nm 1.7 8.0
Dividend Yield (%) 0.0 1.8 2.0 2.9 4.9 6.8
EV/Sales (x) 0.5 0.4 0.3 0.3 0.3 0.3
EV/EBITDA (x) 15.1 5.7 5.0 3.7 2.8 2.2
EV/EBIT (x) nm 28.4 13.9 7.8 4.8 3.4

Income Statement (JPYbn)

Sales revenue 972 1,135 1,224 1,285 1,350 1,417
Gross profit 75 155 153 192 242 295
EBITDA 9 75 81 109 147 185
Depreciation 50 60 52 57 62 68
Amortisation 0 0 0 0 0 0
EBIT -41 15 29 53 85 117
Net interest income/(expense) -8 -11 -10 -8 -7 -7
Associates/affiliates 1 2 3 0 0 0
Exceptional items 0 4 -5 0 0 0
Profit before tax -49 33 27 48 81 113
Income tax expense -9 19 9 14 24 34
Minorities 2 2 2 3 3 3
Profit/(loss) 0 0 0 0 0 0
DB Net profit -42 15 11 17 30 51

Cash Flow (JPYbn)

Cash flow from operations -3 60 88 123 115 137
Net Capex -74 -35 -3 -130 -111 -121
Free cash flow -77 25 85 -7 4 17
Equity raised/(bought back) 0 21 0 0 0 0
Dividends paid -5 -1 -3 -5 -7 -11
Net inc/(dec) in borrowings 91 6 -73 -30 -30 -30
Other investing/financing cash flows -11 15 55 7 10 8
Net cash flow -3 66 64 -36 -24 -16

Balance Sheet (JPYbn)

Cash and other liquid assets 97 162 186 151 127 111
Tangible fixed assets 618 663 661 749 843 903
Goodwill/intangible assets 10 6 5 5 5 5
Associates/investments 158 157 191 141 141 141
Other assets 184 192 211 190 218
Total assets 1,067 1,180 1,255 1,245 1,311 1,377
Interest bearing debt 570 600 496 466 438 406
Total liabilities 807 818 844 805 820 818
Shareholders’ equity 243 341 389 414 459 520
Total shareholders’ equity 260 362 411 440 490 560
Net debt 473 438 310 315 309 295

Key Company Metrics

Sales growth (%) nm 16.7 7.9 5.0 5.0 5.0
DB EPS growth (%) na na -27.9 160.5 69.7 40.5
EBITDA Margin (%) 1.0 6.6 6.6 8.5 10.9 13.1
EBIT Margin (%) 4.2 1.3 2.4 4.1 6.3 8.3
Payout ratio (%) nm 20.7 25.4 20.0 20.0 20.0
ROE (%) 1.0 6.6 6.6 8.5 10.9 13.1
Capex/sales (%) 24.4 11.7 7.5 10.1 8.2 8.5
Capex/EBIT (x) 4.7 2.2 1.8 2.3 1.8 1.8
Net debt/equity (%) 182.1 121.0 75.4 71.7 63.0 52.7
Net interest cover (x) nm 1.3 3.0 6.5 11.6 17.3

Source: Company data, Deutsche Bank estimates

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sky.hong@db.com
Appendix 1

Important Disclosures
Additional information available upon request

<table>
<thead>
<tr>
<th>Disclosure checklist</th>
<th>Company</th>
<th>Ticker</th>
<th>Recent price*</th>
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*Prices are sourced from local exchanges via Reuters, Bloomberg and other vendors. Data is sourced from Deutsche Bank and subject companies

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Historical recommendations and target price: China Shipping Dvlpmt (1138.HK)
(as of 7/31/2014)

Previous Recommendations
- Strong Buy
- Buy
- Market Perform
- Underperform
- Not Rated
- Suspended Rating

Current Recommendations
- Buy
- Hold
- Sell
- Not Rated
- Suspended Rating

*New Recommendation Structure as of September 9, 2002

1. 07/09/2012: Buy, Target Price Change HKD5.00
2. 10/01/2013: Buy, Target Price Change HKD7.00
3. 14/06/2013: Buy, Target Price Change HKD6.30
4. 09/12/2013: Buy, Target Price Change HKD8.30
5. 04/06/2014: Buy, Target Price Change HKD6.00

Historical recommendations and target price: Hanjin Shipping (117930.KS)
(as of 7/31/2014)

Previous Recommendations
- Strong Buy
- Buy
- Market Perform
- Underperform
- Not Rated
- Suspended Rating

Current Recommendations
- Buy
- Hold
- Sell
- Not Rated
- Suspended Rating

*New Recommendation Structure as of September 9, 2002

1. 10/01/2013: Buy, Target Price Change KRW17,700.00
2. 14/06/2013: Downgrade to Hold, Target Price Change KRW7,300.00
3. 12/09/2013: Downgrade to Sell, Target Price Change KRW6,200.00
4. 27/01/2014: Sell, Target Price Change KRW4,000.00
5. 01/07/2014: Sell, Target Price Change KRW2,260.00
Historical recommendations and target price: China Cosco Hldgs (1919.HK)
(as of 7/31/2014)

Previous Recommendations
Strong Buy
Buy
Market Perform
Underperform
Not Rated
Suspended Rating

Current Recommendations
Buy
Hold
Sell
Not Rated
Suspended Rating

*New Recommendation Structure as of September 9, 2002

1. 07/09/2012: Buy, Target Price Change HKD3.90
2. 10/01/2013: Downgrade to Hold, Target Price Change HKD4.50
3. 14/06/2013: Hold, Target Price Change HKD3.46
4. 12/09/2013: Hold, Target Price Change HKD4.00
5. 25/10/2013: Upgrade to Buy, Target Price Change HKD4.40
6. 01/07/2014: Buy, Target Price Change HKD3.60

Historical recommendations and target price: Nippon Yusen (9101.T)
(as of 7/31/2014)

Previous Recommendations
Strong Buy
Buy
Market Perform
Underperform
Not Rated
Suspended Rating

Current Recommendations
Buy
Hold
Sell
Not Rated
Suspended Rating

*New Recommendation Structure as of September 9, 2002

1. 29/08/2012: Buy, Target Price Change JPY244
2. 06/09/2012: No Recommendation, Target Price Change JPY0
3. 14/06/2013: Upgrade to Buy, Target Price Change JPY360
4. 12/09/2013: Buy, Target Price Change JPY375
5. 27/01/2014: Buy, Target Price Change JPY390
6. 01/07/2014: Buy, Target Price Change JPY360
Historical recommendations and target price: Kawasaki Kisen (9107.T)
(as of 7/31/2014)

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Sell: Based on a current 12-month view of total share-holder return, we recommend that investors sell the stock.
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   Hold: Expected total return (including dividends) between -10% and 10% over a 12-month period
   Sell: Expected total return (including dividends) of -10% or worse over a 12-month period
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