The future of the global shipbuilding industry and its overcapacity

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The global shipbuilding market has escaped the US-led financial crisis, but has not yet fully recovered.

From 2000, South Korea had the world’s number one shipbuilding industry until China surpassed Korea in new orders and order book in 2009, and in completions in 2010. Korea’s shipbuilding industry had a hard time with the financial crunch and decreased orders. Meanwhile, the Chinese shipbuilding industry, which had been expected to suffer significantly due to their large new investments, was financially supported by the Chinese government.

The fact that Korea was overtaken by China in completions means that China outpaced Korea in shipbuilding capacity. China’s shipbuilding capacity increased 15.8 times from 2000 to 2010. The increase is attributed to the fact that, in addition to private shipyards, three major state-run shipbuilding bases, built by China State Shipbuilding Corporation (CSSC)
and China Shipbuilding Industry Corporation (CSIC), were completed and began operation.

Global demand for new shipbuilding orders plummeted, but has nearly recovered to normal levels. Current demand is much smaller than facility capacity, which had expanded to meet surging demand during the shipbuilding boom. This means that overcapacity will become a major issue in the near future.

**Backlogged orders from the shipbuilding boom still under construction**

After 2000, the global shipbuilding market had ups and downs before reaching its peak in 2007, and then plunging in the aftermath of the global financial crisis. The global shipbuilding order book increased, partially due to speculation. Financially distressed shipowners postponed delivery of the ships they had ordered in the boom years because they were unable to secure time charters. Therefore, shipbuilding periods were prolonged. For
this reason, ships ordered in the boom years are still under construction. Because of the large backlog, the global shipbuilding industry has yet to sense the coming crisis.

Due to recent postponements of deliveries, there have been significant discrepancies between contracted delivery times and actual delivery times for every ship type. “Just-in-time” delivery had been an important factor in determining shipyard competitiveness. In 2009, bulk carriers, which had a high rate of speculative orders, had a 31.8% difference between planned delivery time and actual delivery time. Container ships, which were last to recover from the decrease in global shipping volume, had a 41.6% difference.

Worsening overcapacity

Until the first half of 2008, excess demand in the global shipbuilding market drove up marine freight rates. At one point, second-hand vessels were more expensive than new vessels under construction. In a heated competition, major shipbuilding countries rushed to expand their facilities. Construction of some of these facilities has been suspended, but most has continued. As a result, shipbuilding capacity has increased. This expansion is expected to spur high overcapacity rates in the future.

Completions in the global shipbuilding market peaked in 2010, when the volume of orders from the shipbuilding boom years were most concentrated. Since then, completions have decreased and will continue to dwindle. This is another reason for overcapacity. Shipbuilding tonnage is expected to decrease until the shrinking order volume returns to normal rates and becomes stable.

The overcapacity rate is expected to rapidly increase from 7.7% in 2010 to 24.3% in 2015, according to Clarkson Research. On the other hand, Clarkson estimates that effective capacity will dwindle. This can be explained by the phasing out of obsolete facilities.
Competitive expansion of facilities since 2000

Global shipbuilding capacity has been changing with market conditions. In the mid-1970s, when the global shipbuilding industry went through a long recession after a peak in the market, the shipbuilding capacity of Japan and Europe, then the world’s shipbuilding leaders, plunged. Europe, which had lost its competitive edge in the market, saw both shipbuilding capacity and market share fall, while the more competitive Japan increased or at least maintained its market share in the face of shrinking shipbuilding capacity. In other words, Japan still led the market.

South Korea entered the international shipbuilding industry right before the mid 1970’s peak. South Korea needed to adjust its system to cope with changing market conditions, but not to the extent required of Japan and Europe. As the shipbuilding market started to recover in the 1990s, South Korean shipyards expanded facilities on a large scale, targeting the replacement of old vessels made during the 1970’s peak (the first expansion). Europe and Japan, which had suffered from overcapacity, harshly criticized South Korea, and Europe even brought a case against Korea to the WTO in early 2000.

The global shipbuilding market began to flourish in 2000. Eventually the market became short on supply, and global shipbuilding nations rushed to expand their facilities. In particular, China, which had designated shipbuilding a strategic industry and had finished restructuring the industry for efficiency by 2000, expanded shipbuilding facilities extensively. Several privately-owned shipyards built large-scale shipbuilding bases at the Bohai
Gulf Basin, lower Chang Jiang River, and Pearl River in Guangzhou. China’s shipbuilding capacity increased 15.8 times, from 1.2 million compensated gross tons (CGT) in 2000 to 19 million CGT in 2010. Korea’s capacity rose nearly three-fold over the same period, thanks to expansion of existing shipyard facilities and an increase in the number of new shipyards.

Estimates of global delivery tonnage and overcapacity

<table>
<thead>
<tr>
<th>Year</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
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<tr>
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<td>38.6</td>
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<td>31.8</td>
<td>35.9</td>
<td>36.4</td>
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<td>Completions</td>
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<td>43.7</td>
<td>51.7</td>
<td>45</td>
<td>41.7</td>
<td>41.6</td>
<td>38.9</td>
<td>33.7</td>
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<tr>
<td>Shipbuilding capacity</td>
<td>46</td>
<td>50</td>
<td>56</td>
<td>51.3</td>
<td>49.5</td>
<td>49.5</td>
<td>47.8</td>
<td>44.5</td>
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<tr>
<td>Overcapacity</td>
<td>5</td>
<td>6.3</td>
<td>4.3</td>
<td>6.3</td>
<td>7.8</td>
<td>7.9</td>
<td>8.9</td>
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</tr>
<tr>
<td>Overcapacity rate</td>
<td>10.9</td>
<td>12.6</td>
<td>7.7</td>
<td>12.3</td>
<td>15.8</td>
<td>16</td>
<td>18.6</td>
<td>24.3</td>
</tr>
</tbody>
</table>

Note: Statistics (2008, 2010) from Lloyd’s, estimates (after 2011) from Clarkson
Lloyd’s World Shipbuilding Statistics

Restructuring in Korea, facility expansion in China

It is imperative for shipyards to balance capacity with global demand. Achieving appropriate shipbuilding capacity will require that many uncompetitive shipyards be eliminated from the market.

In the case of Korea, some shipyards which had expanded facilities lagged behind the competition in the aftermath of the global financial crisis. Witnessing abundant demand for new ships, shipyards accepted orders without having facilities in place, and borrowed money from financial institutions to invest in facilities. Financial institutions provided shipyards with refund guarantees without taking into account the changing market or
carefully examining the financial position of the shipyards, thereby incurring losses. The shipyards being eliminated are mainly small and medium-sized shipyards under financial distress, or those lacking the capability to diversify. If these shipyards are eliminated from the market, the decrease in global shipbuilding capacity will be minor.

In Korea, the restructuring of the shipbuilding industry is underway by creditor financial institutions. In China, on the other hand, the government authorities control the market with active and unprecedented financial support and various demand-boosting policy measures. China made large investments in new facilities during the recent boom; now it limits additional investment but continues to support ongoing investment. Therefore, there seems to be little possibility that the supply capacity of the global shipbuilding industry will be adjusted elastically.

In the future, the countries with the largest number of shipyards that can survive the dwindling demand for new vessels will become the world’s leading shipbuilding nations. To survive means being competitive; to be
competitive means being able to build a vessel at a lower price. General-purpose vessels, such as tankers, bulk carriers, and container ships, make up the majority of ships in the global shipbuilding market.

At first glance, China, with its low labor costs, seems poised to become the next number one shipbuilding nation. Still, cost is influenced not only by labor costs, but also by production efficiency. China’s labor costs rise exponentially each year, but its productivity is much lower than that of Korea. China also has little experience with liquid natural gas (LNG) carriers and very large crude carriers (VLCC). Based solely on credentials, China is in a less favorable position than Korea to win foreign shipbuilding orders. However, Chinese shipyards enjoy great advantages from their industrial environment. Will Korean and Chinese shipyards run toward cut-throat competition?