Ship Breaking Industry: Key Trends and Credit Implications

SUMMARY OPINION

- The global shipping downturn and weak macro-economic headwinds since 2009 have facilitated the growth of the ship breaking industry with there being an increase in the supply of ships to be scrapped. India, with its natural geographical advantage of a high inter-tidal gradient, favourable weather conditions and low manpower costs, has emerged as a leader in terms of both volume and number of ships broken. Further, the relatively less stringent regulations related to environment and human health hazards has also aided the growth of the ship breaking business in India.

- With the outlook on international shipping freight rates being subdued over the near to medium term and large tonnage expected to come on stream post 2012, the ship breaking industry is expected to continue witnessing a steady supply of vessels for demolition over the medium term. Significant improvement in the global economic scenario resulting in a pick-up in freight rates could present a downside for the ship breaking industry. However the pace of any such positive development is likely to be moderate and to that extent the supply risk appears to be limited over the near to medium term. At the same time, any further deterioration in the macroeconomic scenario and shipping freight rates could provide additional boost to the volume of ships available for dismantling.

- The ship breaking industry is dominated by a few Asian countries namely India, Bangladesh, Pakistan and China owing to certain natural, regulatory and cost advantages. The competitive intensity in the business is high owing to low entry barriers with respect to capital and technical intensity. In ICRA’s view some of the key factors which determine the relative competitiveness of ship breaking activity in various countries include the government policies/regulations with respect to environment and human health hazards of ship breaking, import duty structure, currency movements and local steel demand.

- The Indian ship breakers have witnessed a healthy growth in operating income in recent years due to increased availability of ships for dismantling. Profitability margins in the business are inherently thin due to the low value additive and highly competitive nature of business and have come under further pressure in the recent past owing to steep rupee depreciation which has increased the cost of purchase of ships coupled with decline in realisations of the end product, i.e. steel melting scrap, due to slowdown in steel consuming sectors.

- Regulatory risk remains high for the ship breaking business. The Supreme Court of India has recently passed an order requiring stricter implementation of ship breaking norms in view of the environmental and health hazards. This as well as any other proposed regulation could entail event based risks for Indian ship breaking operators’ and may affect their competitiveness against players in other competing countries.
In ICRA’s view any further depreciation in INR, decline in steel prices or increase in interest costs would be some of the key downside sensitivities affecting the business and financial risk profile of the Indian ship breakers. ICRA also notes that Indian ship breakers have a high reliance on non-fund based facilities like import letter of credit (LC) which are used for funding the purchase of ships. In comparison, their fund based facilities are rather limited which exposes them to a risk of liquidity crisis in case of significant delays in the ship breaking process which may take place at the approval level, before beaching or during demolition. This coupled with the other risk factors as summarized above have resulted in a weak credit profile for ship breakers and ICRA expects this to continue going forward as well.

BACKGROUND

Ship dismantling (also referred to as ship breaking or ship recycling), is an activity which involves deriving value from the materials and equipments comprising end of life ships. The fundamental driver of the ship breaking activity is the fact that ships undergo a large amount of wear and tear during their lifespan which typically averages a few decades, and after the threshold levels are reached, ship dismantling makes more economical sense than repairing and refitting. The scrap metal obtained on dismantling is sold directly or is melted down and re-used for making steel rods/bars which find application in the construction industry while the equipments (engines, mechanical parts or furniture) are generally refurbished and reused.

Currently the ship breaking industry is dominated by South Asia particularly India, Bangladesh and Pakistan, which according to latest available statistics, together account for close to 67% (during CY11) of the global ship recycling market in terms of LDT\(^1\) broken. Apart from these, significant recycling activity also takes place in China (21% during CY11) while Turkey and other countries account for the balance 12% (during CY11) of the market. The dominance of the Asian countries in ship breaking activity has been driven by their lower manpower cost and relatively less stringent environmental and health regulations vis-à-vis western countries. Further, India, Bangladesh and Pakistan by virtue of their naturally favourable tidal conditions are able to use the beaching\(^2\) technique for ship breaking which is less capital intensive and hence more cost effective vis-à-vis the advanced dry dock method. This has further enabled these countries to become the preferred ship dismantling destinations.

In India, ship breaking yards are present in Gujarat, Maharashtra and West Bengal. However, majority of the ship breaking activity is concentrated in the Alang and Sosiya yards in Gujarat with Alang alone accounting for more than 90% of the ships dismantled in India. The ship breaking industry in India was present only in a very limited form till the early 1990s with about 72 plots existing at Alang. However, post liberalization in 1991, the ship breaking industry started growing rapidly following the increased domestic steel requirements particularly from the large number of rolling mills that were set up at the same time. The Gujarat Maritime Board (GMB) issued a large number of licenses for plots and as per estimates there are currently close to 160 plots for use as ship recycling facilities having a maximum capacity of about 4.58 million tonnes per year of steel scrap production (Source: GMB). The volume and number of ships dismantled has been on an increasing trend and as per industry sources, more than 400 ships were dismantled in FY 2011-12 in India.

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\(^1\) Light displacement tonnage (LDT) is the weight of water that a ship displaces when it is floating with its fuel tanks full & all stores aboard. Gross Tonnage (GT) is a unit-less index which refers to a ship's overall internal volume.

\(^2\) Ships are brought ashore during high tide and dismantling is commenced as the tide recedes, thus using the beach and tide as natural dock.
KEY TRENDS & CREDIT IMPLICATIONS

Demand for ship dismantling inversely correlated to freight rates; Challenging market conditions for the ship-owners has resulted in significant increase in tonnage dismantled

The supply of old ships for recycling is inversely correlated to the freight rate of shipping vessels which in turn is a function of the global demand for seaborne transport and supply of new vessels. This is in contrast to the performance of the ship building industry which is directly correlated with the freight rates. Driven by increased demand for maritime transportation, the freight rates, as reflected by the Baltic Dry Index (BDI), reached a peak value of 11,793 in May 2008. In order to cater to this strong demand, even older ships were kept into operations resulting in higher average operating life and the orders for new ships also witnessed an increment. The result was a drop in the number of vessels scrapped globally to around 500 to 800 ships per annum from a historical average of 1000 to 1100 ships per annum.

However, post 2008, following the deterioration in the global economic situation; the demand for maritime transportation witnessed a decline resulting in a crashing of freight rates and significant pressure on the financial performance of shipping companies. The companies which had acquired large tonnage during the boom period were the worst affected and being barely able to recover the operating cost of vessels preferred to go in for dismantling of fleet. Accordingly the ship breaking industry, confirming the inverse relationship with the freight rates, peaked in 2009 with about 1,300 ships being scrapped globally during that year. Although the BDI has improved moderately after the trough witnessed in 2009, freight rates still continue to be low due to vessel supply glut and accordingly ship breaking activity continues to be sustained at robust levels.

Ship breaking yards should remain busy in the medium term as the shipping market fundamentals are unlikely to materially improve

During the boom period of the shipping industry (CY 2007 and H1 CY 2008), a large number of orders for new vessels were placed and most of these are now lined up for delivery in 2012 and 2013. However with a sharp correction in the freight market scenario the viability of shipping operations has been significantly impaired and the scenario is not expected to change significantly over the near to medium term. ICRA notes that currently more ships are available for dismantling annually than in the past 20 years and unless global market conditions change dramatically, a significant part of this fleet will go for scrapping. Thus the medium term demand for scrapping is not expected to fall to previous lows even if the global economy picks up.

3 The Baltic Dry Index (BDI) is a shipping and trade index created by the London-based Baltic Exchange that measures changes in the cost to transport raw materials by sea. DWT (Deadweight tonnage) refers to the maximum weight carrying capacity of a vessel.
India's leadership position threatened by increased activities of other Asian peers; China emerging as the major competitor

Over the past two decades, India, China, Bangladesh, and Pakistan have emerged as the hubs for shipbreaking, accounting for over 90 per cent of the global ship-breaking activity. As mentioned previously, India, Bangladesh and Pakistan enjoy favorable geographical conditions which enables them to use the more cost effective beaching technique. Further, India enjoys an edge amongst these countries owing to appropriate wind & tide conditions. In comparison, Gaddani in Pakistan and Chittagong in Bangladesh, the two main other ship breaking centres, are characterised by strong winds and strong tides respectively which make them more suitable for demolition of larger vessels; while in China, ship breaking activity is interrupted periodically during monsoon season due to the tycoons on the seacoast.

While Bangladesh led the global ship breaking activities between 2004 and 2008, the uncertainties due to government interventions have impacted the business in recent years. In the middle of 2009, the Supreme Court of Bangladesh issued a ban on all ship breaking activities for a year on account of environment and health hazards. Though the ban was lifted conditionally in March 2011 after the ship breaking industry took adequate steps to reduce the level of environmental pollution and accidents, the ship breaking volumes in Bangladesh have remained low with India taking away a large part of the market and emerging as the alternative leading ship breaking destination. The uncertainty regarding the regulations for ship breaking still persists in Bangladesh as the final guidelines for the ship breakers remain to be fully implemented. Further, the import tax of 5 per cent imposed on ships imported for breaking has also contributed to loss of competitiveness for Bangladeshi ship breakers.

China, on the other hand, is emerging as a major ship breaking destination with increased focus of the government on the development of the ship breaking industry. The Chinese ship breaking volumes were constrained in the past mainly due to the premium that the breakers in the Indian subcontinent were able to pay to the ship owners. However, with depreciation in the INR as well as increased supply of vessels, the spread between ship purchase price for Indian and Chinese ship-breakers has narrowed significantly. Further, the quayside method employed by Chinese ship breaking yards is considered safer in terms of environment impact and health hazard for workers vis-à-vis the beaching method which is employed by Indian subcontinent players and translates to lower regulatory risk for operations.

The ship breaking industry in Pakistan has grown at a significant pace in the last few years supported by the availability of labour at cheap cost, weak safety & environmental standards, boom in the construction sector and lack of iron ore resources. With the demand for iron and steel from scrapped ships continuing to gain traction, Pakistan’s ship breaking industry is expected to further grow in scale thus intensifying global competition amongst ship breakers.

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4 A top-down method wherein the vessel is secured alongside the sheltered waters and the pieces are removed by crane

5 Scrap from ships dismantled is estimated to meet nearly 60% of Pakistan’s total steel demand
**Increased contribution from ship breaking activities to total scrap steel supply in India making the re-rolling mills increasingly dependant on them; contribution to total steel production however remains small**

The steel scrap generated from ship recycling contributes to around 1% to 2% of India’s domestic steel demand (Source: Annual report of Ministry of Steel) and is primarily a source of raw material for the re-rolling mills which convert this scrap to mainly produce rods and bars which find application in construction industry. On an average, at least 70% of the overall LDT of a ship comprises re-rollable scrap; melting scrap constitutes 6-10% while about 10% is formed by furniture, machineries, non-ferrous scrap and used diesel oil. The balance 10% is weight loss cause by wear and tear and rusting during the lifetime of the ship. The re-rollable scrap produced from ship dismantling is of a superior quality in comparison to other sources as ships are manufactured under strict specifications and continuous monitoring and with material having better yield strength, ductility and impact strength in order to withstand continuous strain, pressure and impact, and to that extent is preferred as a raw material by the rolling mills.

**Profitability of ship breaking players could be negatively impacted by the impending domestic overcapacity of steel in the medium term**

ICRA expects the Indian steel consumption to show some moderation going forward, given the continuing slowdown in demand from major consuming sectors like construction (accounts for ~65% of total consumption), capital goods (~15%), and automobiles (~8%). On the other hand, almost 25 million tonnes of new steel capacity, which is about 30% the country’s current production capacity, is expected to be commissioned in the next 18-24 months which is likely to outpace domestic demand growth in the medium term.

As a result the demand-supply equation in the domestic steel industry is expected to deteriorate resulting in a pressure on product prices which in turn would translate to subdued realizations for ship breakers. Besides, the ship breakers also remain exposed to the daily volatility in steel prices and any significant adverse movement can impact the realizations and profitability, especially in case of significant inventory holdings.

**Approvals from related entities critical before ship breaking activity can be commenced; any delay in approvals or slower rate of demolition can result in stretched liquidity profile**

The ship breaking process involves the ship owners selling the vessel to international ship recycler who in-turn invite bids from various agents (cash buyers) in major ship scrapping countries. These cash buyers purchase the vessels and subsequently either directly or through brokers contact ship breakers with all relevant details of the ship to be scrapped. The pricing for the ship is then decided based on the type of vessel, country of origin, manufacturing year, manufacturer of ship, current owner, trading history of ship, and the nature of scrap that can be recovered – steel content, machinery, non-ferrous content, etc.

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6 The other major sources of re-rollable scrap include that from railways, pencil ingots from induction furnaces, semis from the integrated plants and imported re-rollable scrap.
The ship breaker has to first pay the earnest money of about 10% of the ship’s value in order to bring the ship to the national anchorage point/high seas. The ship breaking activity in India is regulated at various levels and beaching can be undertaken only after clearances from customs authorities (Customs authorities and Safety Directorate), pollution control authorities (like Gujarat Pollution Control Board), the department of explosives or the Atomic Energy and Radiation Board and the maritime regulator (like Gujarat Maritime Board) have been obtained. Further, regulatory authorities like GMB conduct regular monitoring activity to oversee the compliance of ship breaking rules and regulations during demolition and disposal. On an average it takes around a month to get the regulatory approvals and subsequently the average time to break a 5,000 LDT ship is around three to four months.

A majority of Indian ship breakers establish 90-180 days letter of credit (L/C) from their banks for the purchase price payable and repay the same as the ship breaking is undertaken and the resulting scrap is sold. In most cases the fund based limits, which are mainly used to cater to the daily requirements like administration expenses, labour charges and fuel expenses, are significantly lower than the non-fund based limits. Hence, any delays in the approvals for beaching as well as delay in the ship breaking activity after beaching can result in substantial funding mismatches with respect to the obligations related to the non-fund based limits and can have an adverse impact on the liquidity profile of the concerned ship breaker.

*Increase in purchase prices as a result of decline in INR expected to impact both profitability as well as volumes; gain in INR necessary for sustainability of the ship breaking business*

As steel content forms the majority of the value of the ship, the international steel prices play an important role in determining the prices of the ships to be scrapped. The vessel purchase transaction is typically denominated in USD and is generally backed by 90-180 days of letter of credit. On the other hand the sale of scrap is typically in the domestic market with realizations being denominated in INR. Consequently, Indian ship breaking players remain exposed to any adverse forex movements more so as only a limited number out of these engage in foreign exchange hedging.

The significant depreciation in INR (vis-a-vis USD) in the recent months has adversely affected the ship breakers having purchase payments due during this period. The problem has been further compounded by the fact that the prices of steel in the Indian market have not moved in synchronisation with INR depreciation resulting in an inability of the ship breakers to pass on their increased procurement costs to their customers thereby resulting in a squeeze on profitability. The high volatility in USD-INR has also resulted in a cautious approach by the ship breakers with many of them deferring new purchases. In ICRA’s view the sustenance of INR at present weak levels or further deterioration and volatility, will create significant stress on the credit profiles of ship breaking players due to its adverse impact on both volume of business as well as profitability.

*Regulatory scenario to continue playing a critical role in the sustainability and competence of Indian ship breakers vis-à-vis other countries*

The ship breaking process is regulated at various levels as discussed previously. Further, The Supreme Court of India in its ruling dated July 30, 2012 has banned import of ships carrying hazardous and toxic wastes and...
has ordered the strict implementation of the UN’s Basel Convention on the Control of Trans boundary Movements of Hazardous Wastes and their Disposal. Under the Basel Convention, a ship has to be fully decontaminated before being allowed to be anchored at a ship breaking port. A stricter implementation of the Basel convention in India can result in the end-of-life ships being sent to other competitor countries that may not follow the convention strictly and negatively impact the business volumes for the ship breaking industry in India.

Further, the plots for ship breaking at Alang were allotted under a 10-year lease arrangement in 2006. The present lease rentals charged by GMB at the Alang yard are close to Rs. 200 per square meter per year. However, GMB e-auctioned four plots at Alang during 2011, for a five year lease with the same being given at significantly high premium of about ten times over the prevailing prices. Any revision of the rental rates by GMB in future will result in significant increase in the rental costs for Alang ship breaking yards and will have a considerable impact on the profitability of the players.

At a diplomatic conference held in Hong Kong, China in May 2009, The Hong Kong International Convention for the Safe and Environmentally Sound Recycling of Ships was adopted. The convention, the text of which was developed with inputs from IMO Member States and in co-operation with the International Labour Organization and the Parties to the Basel Convention, was attended by the delegates from 63 countries and aimed at ensuring that the ships being recycled do not pose any unnecessary risks to human health, safety and to the environment. The implementation of the aforementioned convention in future can impact the volumes for the concerned ship breaking country, including India, though the same is expected to improve the operating conditions as well as the reduce the current adverse impact of ship breaking activity on the environment.

Also, implementation of directives like the steel ministry’s directive which mandates that all steel produced in the country should confirm to the Bureau of Indian Standards, can negatively impact the operations of the Alang Ship breakers as the source of steel in various components of the ship is generally different and difficult to trace.

**Financial profile of ICRA rated companies**

*Healthy growth in operating revenues in the last few years for ICRA rated entities*

The growth in operating income (OI) for ICRA rated entities (25 companies) has been healthy on account of reasons stated previously. The growth in cumulative operating income for ICRA rated entities has been more than 100% from FY09 to FY11, with combined revenues of these entities growing to more than Rs. 900 crore in FY11 from about Rs. 400 crore in FY09.

**Operating margins have been at moderate levels and have come under pressure from high fragmentation and competition; PAT margins are further subdued on account of high interest costs**

The major costs include purchase of ship while the rest is on account of investment costs (including for equipment and civil works such as cranes, forklifts, storage, etc.), financial costs, labor costs, consumption of utilities (oxygen, LPG, diesel, electricity), taxes, tariffs & import duty, rent for land use and costs for handling hazardous wastes generated in the process of recycling.

The operating margins (OPBDIT level) of the ship breakers have been low given the limited value addition in the business and are largely dependent on the spread between the actual...
ship purchase price (based on USD-INR levels at time of payments) and the local scrap steel price at time of selling the scrap. The operating margins for ICRA rated entities have mostly been in a range of around 2-3% while the median figure stands at 2.95% during FY11.

The margins have also come under pressure due to high local competition given the low entry barriers such as low capital and low technical requirements of the business as well as competition from other nations (like Bangladesh, Pakistan and China) engaged in ship breaking activities. The net margins (PAT level) are further subdued on account of high interest and LC charges in the light of a continued high interest scenario during the last 18 months with median net margin figures at 1.72% for FY11.

**RoCE of ship breaking players remains healthy on account of low level of capital employed**

Most of the ships purchased for ship breaking in India are backed by LCs and are reflected as creditors in the balance sheet of ship breaking companies, thereby resulting in low capital employed and capital structure for most of these companies. Given the low capital intensity of the business, the return on capital employed for ship recyclers has remained in an adequate range despite moderate to thin profitability. For the last two year period FY10- FY11, the median RoCE levels have remained in the range of 21-23%.

**Comfortable capital structure although debt coverage indicators remain weak**

As mentioned earlier, the capital structure for most of the ship breaking companies has remained comfortable on account of purchases being made against LCs and moderate utilization of working capital facilities. The debt coverage indicators for most of these companies have however been weak owing to low profitability and cash accruals and high interest costs. Moreover, liquidity remains an issue because of large LC exposure and dependence on timely completion of ship breaking process for cash generation to settle liabilities.

**Credit outlook subdued:** Going forward, ICRA expects the credit profile of the ship breaking players to remain weak on account of the combined effect of 1) pressure on steel scrap realisations due to demand supply mismatches in domestic steel industry 2) lower yields due to high competitive pressures 3) steep rupee depreciation and 4) increased interest costs.
Annexure- ICRA’s Ratings in the Ship Breaking Industry (September, 2012)

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