



Rating Methodology for Ports

Overview

India has an extensive coastline of 7,517 kilometers, excluding the Andaman and Nicobar Islands. Ports handle approximately 95% of India's total trade in terms of volume and 70% in terms of value. Indian ports are divided primarily into major ports ("Major Ports¹") and minor ports ("Minor" or "Non-Major"). As of March 31, 2009, there were 12 major and 200 minor ports spread across nine coastal states. Of the minor ports, only 60 are operational currently. All major ports except Ennore (a corporate entity) are managed by Port Trusts, headed by a chairman appointed by Government of India. The Minor Ports are regulated by the respective state governments and many of these ports are private ports or captive ports. Indian ports had a capacity to handle 786 million tonnes (mt) as on March 31, 2009, which is expected to double by 2011-12. The total cargo traffic carried in 2008-09 was around 738.13 mt, out of which 530.35 mt (72%) was handled by major ports while the remaining 208 mt (28%) was handled by non-major ports. Over the last five years, cargo traffic at major and minor ports has grown at a compounded annual growth rate (CAGR) of 8.4% and 10.8% respectively.

In order to augment Major ports capacity and modernisation, GoI has launched National Maritime Development Programme (NMDP), which involves 253 projects at an outlay of Rs. 565.33 billion. In addition, several private sector entities are either in the process of setting up new ports or in advanced planning stage.

ICRA's rating methodology for Greenfield ports encompasses the various risks that a port could be exposed to. For the sake of analytical convenience, the same are grouped under the following heads:

Each of these is discussed in detail below, alongwith possible risk mitigant:

- PERMITTING RISK
- FUNDING RISK
- MANAGEMENT QUALITY
- CONSTRUCTION RISK
- OPERATING RISK
- DEMAND RISK
- CONTRACTUAL STRUCTURE
- FORCE-MAJEURE RISK AND
- REGULATORY RISK

¹ The 12 Major Ports are at Chennai, Cochin, Ennore, JNPT, Kandla, Kolkata, Mormugao, Mumbai, New Mangalore, Paradip, Tuticorin and Visakhapatnam, which function under the Major Port Trust Act of 1963. Of the above, Ennore is a Corporatised Port, while the others function as Port Trusts.

Permitting Risk

Permitting risk refers to a company's ability to secure all statutory clearances required for constructing and operating a port as well as comply with environmental norms. ICRA would need to evaluate issues related to land acquisition, rehabilitation and resettlement and also examine the status of various environmental clearances required as per the laws of the land. These clearances are typically required from a variety of agencies like Ministry of Environment and Forest, Pollution Control Board. Since clearances in the Indian context still has the potential of resulting in inordinate delays which cannot be budgeted for, this area, while appearing to be relatively uncomplicated, could have a major influence on the credit rating assigned. Normally, ICRA expects that any project approaching us for rating would have most, if not all, of these critical clearances in place. This, however, is no guarantee that the project will not face problems with environmental clearances or public opposition in the future.

Funding Risk

A project company's ability to tie up the requisite finances, as well as the capital structure planned, is the focus of our analysis here. Normally, most projects have a high leverage, and while equity is arranged privately from the sponsors, the port would be dependent on Financial Institutions and Banks for arranging the debt component. ICRA analysis looks at the extent to which the funding is already in place and the likelihood of the balance funding being available in time, so that the project progress is not delayed in any way. Clearly, the strength of the sponsors is an important risk mitigant even though project finance is expected to be a 'non-recourse'. This is based on our assumption that in the Indian context, most credit-worthy sponsors would have an obligation towards the project that extends beyond making available the initial equity component alone, even if the Project is technically "non-recourse". The strength of the promoter would also impart financial flexibility in funding cost overruns or other contingencies. .

The capital structure is evaluated to assess whether the debt-equity ratio is in conformity with port projects of similar size and complexity. The average cost of debt and the foreign exchange component in both equity and debt is also looked at.

Management Quality

Given the highly competitive and capital intensive nature of the port industry, and its exposure to risks such as market changes, economic and trade fluctuations, the success of its participants depends to a significant degree on management's ability to evaluate long term trends and act on them. Management's competitive strategy, its financial and debt policies, and its ability to align and manage effective relationships with port stakeholders to solve the challenges it faces, are driving factors in ICRA's evaluation of a port rating.

Construction Risk

Construction risks refer to a project getting delayed leading to time and cost overruns. Fixed-price, fixed time contracts with adequate clauses for liquidated damages are usually the mitigants against construction risk, as the risk essentially gets transferred to the EPC contractor. The cushion that is available in the scheduled completion of the project vis-à-vis the provisions of the Concession Agreement also serve as a risk mitigant to some extent. However, in all project ratings, ICRA would need to carry out sensitivity analysis to evaluate the impact of delay in commissioning on the projected cash flows and debt servicing ability.

Operating Risk

One of the key determinants for a port's rating is the adequacy of its facilities for effectively handling the various types of cargo it intends to handle. Also important is the port's ability to expand these facilities as necessary, as well as the railroad and road infrastructure connecting the port. The important areas analysed are elaborated below:

- ◆ Site conditions: Ability of a port to operate in all weather conditions will be a key positive from the rating perspective, as handling could otherwise be restricted during monsoon periods. While some ports are naturally endowed with such weather conditions, other ports achieve the same by investing in construction of breakwaters which protect a restricted area against strong tidal/waves/wind conditions. Certain ports are also vulnerable to cyclones, which would also form part of ICRA's evaluation as the damage caused to the port infrastructure can be enormous in an extreme scenario.
- ◆ Ability to receive larger sized vessels: This is usually a function of the draught available at the port and the onshore facilities available for handling larger cargoes. In case adequate natural draught is not available, the port may need to dredge the sea surface. The economics of dredging is usually a function of the dredging cost, which depends on the nature of the sea surface (rocky surfaces are difficult to dredge), and the frequency of ships which call on at the port. Channels, which are dredged, also need to carry out maintenance dredging periodically to ensure that adequate draught is maintained at all points of time. The ability to receive larger sized vessels (Capesize/Aframax/ Suezmax vessels) is also a function of the back up storage facilities available and the cargo handling infrastructure available (such as cranes, tractor-trailers and stacker-reclaimers), as the ships need to discharge their cargoes quickly so as to reduce their voyage times. This assumes considerable importance in situations where ships are contracted on a time charter basis, where the voyage duration becomes important. However, although discharge rates and ship size are important, it must be remembered that the configuration of the port should take into consideration the requirements of the end consumer, as large shipments may reduce the average freight costs but could considerably increase inventory holding costs. High level of mechanization in material handling also enables a port to manage discharge rates, which determines the type of logistics solutions it is able to offer to its end consumers, as compared to other competing ports in the country. Also evaluated is the adequacy of back up storage facilities (open, covered & tank farms) to handle the level of cargo desired.

- ◆ Location and inter-modal connectivity: Proximity to consuming/ exporting centers and the availability of adequate rail and road connectivity for evacuating/ carrying cargoes are absolutely essential for a good port. Successful ports operate for decades, and such infrastructure needs to be adequate, not only for meeting existing demand but also the likely growth in demand over extended periods of time. Port authorities therefore need to invest considerable amount of money, either individually or in partnerships with rail/ road development authorities for creating the necessary infrastructure for connecting the port to the hinterland. In the absence of such infrastructure, a port may not be able to attract traffic necessary to justify the capital expenditure, which is necessary to develop and grow it.

Location also assumes considerable importance in the container business, as most shipping lines operate their container vessels along selected maritime corridors and unless the port is suitably located along such corridors, it may not be able to attract container traffic. Besides, availability of well developed container freight stations (CFS) and Inland Container Depots (ICDs) will be important so that seamless movement of containers take place between the port and the end customers.

- ◆ Labour relations and productivity: Port reliability and labor productivity have become important competitive factors in the port industry. Successful ports can gain an advantage based on a track record of well-managed labor relations and above-average productivity as measured by, for example, containers handled per hour. While labour relation is less of an issue in private ports, it is a key issue in the case of major ports because of several legacy issues afflicting them.
- ◆ Ability to handle different types of cargo: : Global trade largely takes place in crude oil, dry and bulk commodities such as coal, steel products, fertilisers, food grains, liquids, and containerized cargo. Global trade patterns change as demand-supply patterns within the country change, although such fluctuations are usually seen in dry bulk and liquid (non-crude) cargoes. In such a scenario, flexibility in handling different kinds of cargo, ability to handle both exports and imports are necessary for countering the risks associated with a sudden and sharp change in trade flows in individual commodities. This risk also needs to be viewed in the context that the port business is highly capital intensive, with a continuous requirement for investments as cargo levels increase. Such investments are usually needed for increasing and upgrading facilities for handling higher number of ships, increasing storage facilities and in expanding capacity of inter-modal linkages such as railways. Hence, despite the risk of trade patterns changing, most ports depend on an anchor, either in the form of a customer or a commodity for ensuring certain stability in cash flows, although this, in many cases exposes the port to concentration risks.

Demand Risk:

The typical revenue sources for a port can be depicted in the following table:

Source	Particulars
Vessel related charges	Paid by the shipping company, can be considered an entry tax. Has to be seen in conjunction with berthing, turnaround and waiting times
Cargo related charges	Port usage charge paid by the importer/shipping line.
Terminal royalty	Paid by the terminal operator for use of water-front, infrastructure available at the port as the available back up infrastructure, draught, hinterland connectivity are what attract users to the port and provide revenue opportunities for the terminal operators.
Railway Income	Payable by the importer for use of the railway corridor set up , if any
Land Related income	In case a Port Operator has access to land, which it can sub lease to third parties for setting up their own storage, processing facilities. for importing crude for their respective refinery projects.

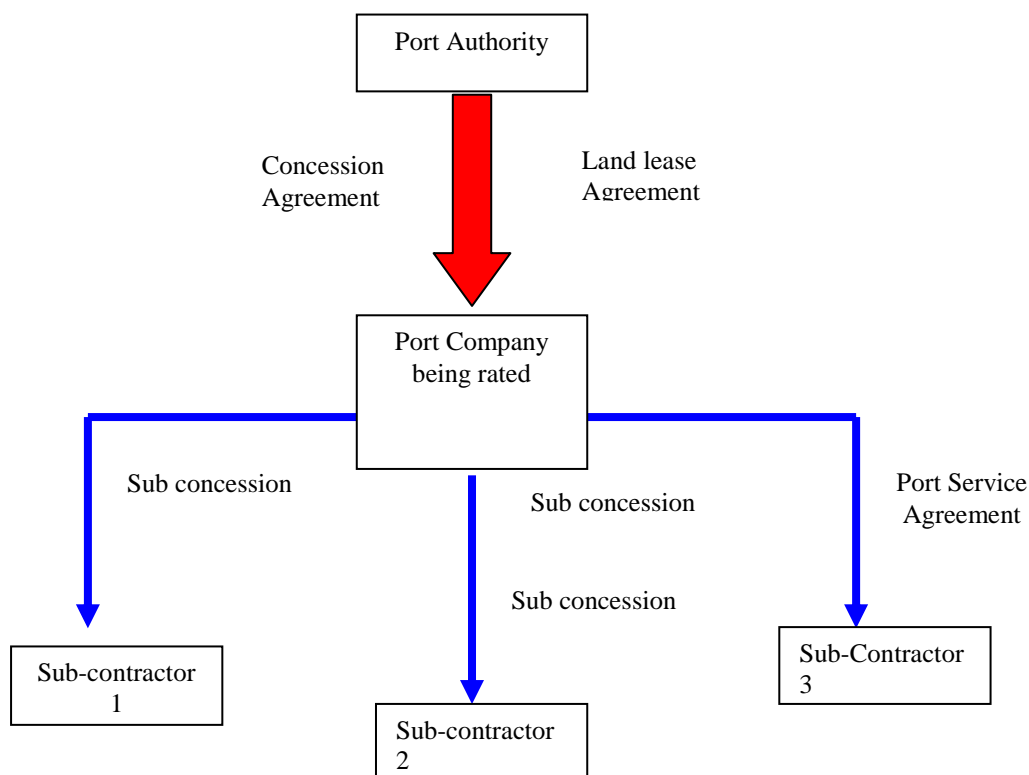
As can be seen from the above table, revenues for any port are purely a function of the traffic it can attract to the port, and the ability to build up and sustain volumes is therefore a key credit determinant. A typical port cargo business portfolio basically has three components; the dry bulk and liquid business, the crude oil business and the container business. The ability of these businesses to attract and grow traffic is impacted by the advantages that may be available to the port, and the sustainability of the same. A key metric that could capture the potential of any port to attract traffic is the integrated logistics cost, which comprises oceanic freight, port charges and inland freight. ICRA analysis indicates port charges constitute less than 10% of integrated logistics cost for most customers, with the latter impacted mainly by the oceanic freight and inland freight. Hence a port, which has the ability to handle larger vessels, ensure high discharge rates and is well connected to the hinterland by both rail & road, would be better placed vis a vis other ports.

Analysis of market potential in the primary, secondary and tertiary hinterland of the port would be important from the rating perspective to form a view on the likely cargo growth in future. A high share of cargo from the primary hinterland, where competition from the nearby ports will be limited because of logistical & other barriers, would be a key source of competitive advantage for the port.

A balanced mix of cargo between imports and exports could also be a source of advantage for a port, as the shipping lines as well as the rail/road operators would be benefited on both ways, which would indirectly benefit the end consumer through competitive logistics cost.

Assessment of Contractual Structure

A typical contractual structure for a Port could be as follows



ICRA evaluates the features of the various contracts to study their reasonableness and appropriateness and whether the risks have been allocated to the party which is in the best position to bear the same. The ability of the sub-contractors that is sought to be appointed is also evaluated.

Other important parameters evaluated with regard to the concession agreement include tenure, project schedule, performance standards, and restrictions on the development of competing ports/terminals and lock in period for the equity holders, as they could impinge on the performance of a Greenfield port.

Structure of tenant lease agreements

An important rating factor relating to the scope of a port's operations is the role of the port operator - whether the port is a landlord port or an operator port. In the landlord port model, specific port facilities are usually privately operated under the terms of long term lease agreements. These leases usually contain minimum annual guaranteed payments or MAGs, which are an important financial consideration in ICRA's analysis, especially as they relate to debt service. In the operator port model, the port facilities are used on a common carrier basis with the port controlling use of the facilities. A strong management may be able to maximally use a port's capacity in this model - on the other hand, the increasing desire of shipping companies and alliances to control their own terminal operations may lead to a more hybrid operating model, where shippers operate dedicated terminals under short to medium term leases.

Force-Majeure Risk

Projects are usually not able to cope with Force Majeure events as well as large corporations with diversified portfolio of assets. The force-majeure risks are therefore mitigated through insurance contracts and, to an extent, the specific provisions in the concession agreement that guard against such eventualities. The type of insurance cover w.r.t the risk covered and its adequacy in the event of catastrophic losses as well as disruption of normal business need to be evaluated. Also assessed would be

- the provisions in the Concession Agreement w.r.t Force Majeure events
- the legal structure of the project and the whether it is 'bankruptcy remote' from the insolvency risks, if any, posed by its sponsors, affiliates or its principal purchaser.
- the termination clauses in the Concession Agreement
- compensation payable in the event of termination because of events of default of both the concessionaire and the operator; and its sufficiency to cover the outstanding debt

Regulatory Risks

As in any infrastructure sector, the port sector too carries a fair exposure to regulatory risks. Pricing for the major ports, is presently regulated by the Tariff Authority for Major Ports (TAMP), which defines the maximum charges, which a port can levy on its users. The private sector ports, unlike the major ports, are free to devise their own tariff structures; however private terminal operators functioning within a major port under BOT contract are subject to TAMP regulations on tariff fixation. Key parameters evaluated include the extent of pass through of the royalty or the revenue share and periodicity of tariff revision and its sufficiency.

Over the long term, private ports may also be regulated or the entire port sector including major ports, could be freed of pricing regulations, once sufficient intra-port and inter-port competition are established. There is no mitigant against regulatory risks. What ICRA seeks to understand is to the protective factors that the company has which would allow it to bear these regulatory risks.

Summing up

As in case of all other debt ratings, the qualitative analyses as outlined above is complemented with financial projections over the life of the instrument that seek to evaluate the adequacy of cash flows in comparison with the debt servicing requirements. In this context, amortization profile of the project debt is a critical variable because of long gestation period associated with port projects. A back ended amortization, coupled with reasonable moratorium period, will be a positive, because of challenges associated with ramping up cargo in the initial years.

Sensitivities also need to be drawn up to project the company's performance under a range of variables, the most commonly used variables for sensitivity analysis being time and cost overrun and traffic volumes

The financial projections enable ICRA to understand the robustness of cash flows and debt servicing ability. However, even the most rigorous sensitivity analysis may not be able to factor in many of the risks as mentioned earlier and the final rating assigned primarily reflects the competitive profile of the project as also the strength of the sponsors



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