Market Intelligence
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CRISIL
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Study on ports sector in India

JSW Infrastructure Ltd

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Consulting

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1. Overview of Indian Economy

India to remain a growth outperformer globally

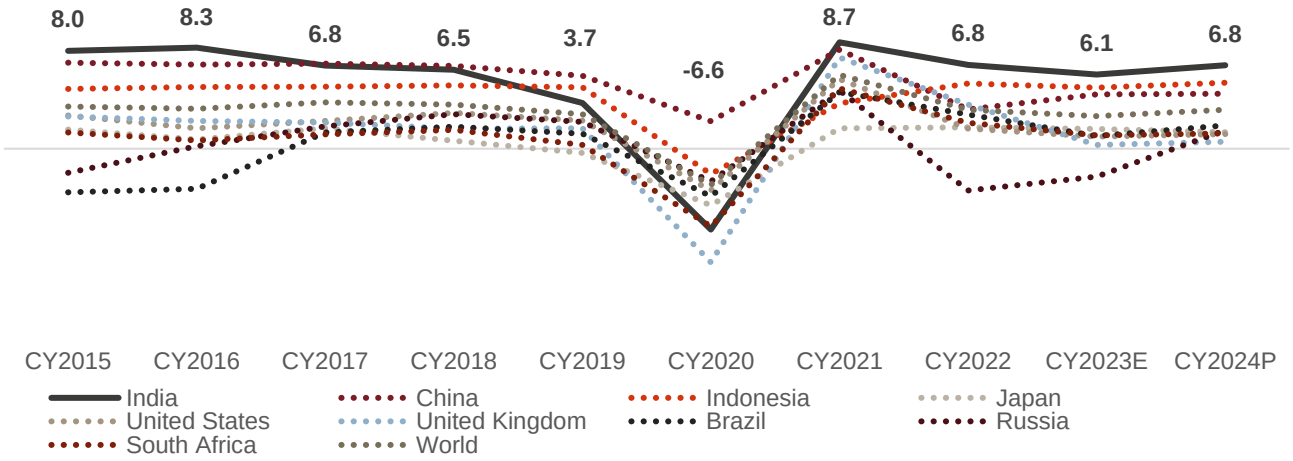
Despite the markdown in near-term growth, India is positioned to be one of the fastest growing major economies in terms of GDP between Fiscal 2024 and 2026. CRISIL expects India's GDP growth to average 6.6% between fiscals 2024 and 2026, compared with 2.9% globally — as estimated by the International Monetary Fund (IMF). India would also outgrow emerging market peers such as China (4.6%), Indonesia (5.3%), Turkey (3.0%) and Brazil (2.0%).

Drivers for Indian economic growth

- Stronger domestic demand is expected to drive India's growth premium over peers in the medium run
- Investment prospects are optimistic given the government's capex push, progress of Production-linked Incentive (PLI) scheme, healthier corporate balance sheets, and a well-capitalised banking sector with low non-performing assets (NPAs)
- India is also likely to benefit from China-plus-one policy as global supply chains get reconfigured with shifting focus from efficiency towards resilience and friend shoring
- Private consumption (~57% of GDP) will play a supportive role in increasing GDP growth over the medium term with further headroom for improvement

India is one of the fastest-growing major economies (GDP growth, % year-on-year)

Fig 1: Real GDP growth (% year-on-year)



E: Estimated; P: Projected

Note: GDP growth is based on constant prices; For India, data and forecasts are presented on a fiscal year basis

Source: IMF (World Economic Outlook – October 2022 update), CRISIL

India has been capturing share in global export of goods and services

The share of India in global export of goods and services has increased from 2.1% in the year 2016 to 2.4% in 2021. Historically, India has performed well in exporting IT services. Export of goods has also picked up in last few years. The government aims at making India an export hub. In that attempt, the government has been active in

creating a regulatory environment to facilitate business competitiveness globally. Several reforms have been introduced which are key to boosting the export potential of the Indian economy, including the introduction of the Production Linked Incentive (PLI) scheme, lower corporate tax rates, simplification labor legislation and a greater focus on human capital.

Fig 2: Exports of goods and services (current US$)

Source: World Bank, CRISIL MI&A

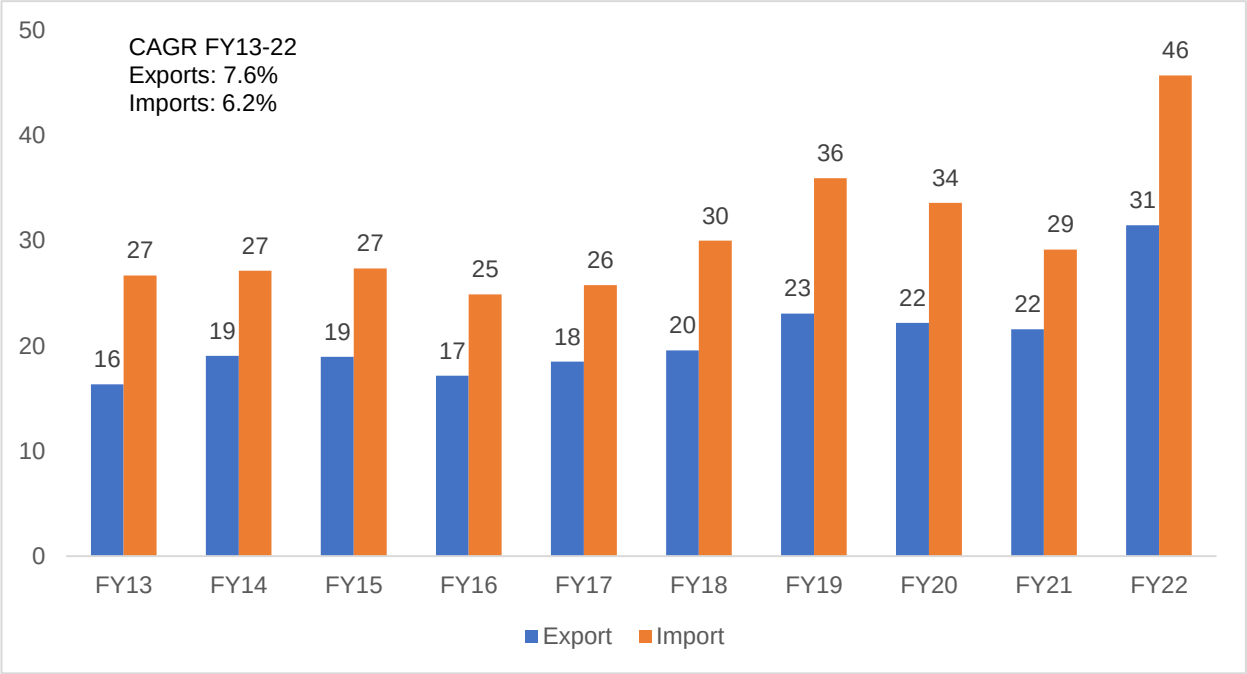
USA, UAE, China, Bangladesh, and Netherlands and the key export destinations accounting to around 1/3rd of total exports by India in value terms in fiscal 2022. For imports, China, UAE, USA, Saudi Arabia and Iraq are the key countries India has been importing from. Top five countries form roughly 40% of total import in value terms in fiscal 2022.

Advanced economies account for ~45% of India's merchandise exports. The United States (US) and the European Union (EU), which comprise 72% of advanced economies' GDP, are the two largest export destinations, with 18.0% and 15.4% share in total exports in fiscal 2022, respectively. Both economies are projected to slow down sharply in 2023 due to the ripple effect of geopolitical tension and the pandemic.

Share of merchandise trade as percentage of GDP increased in fiscal 2022

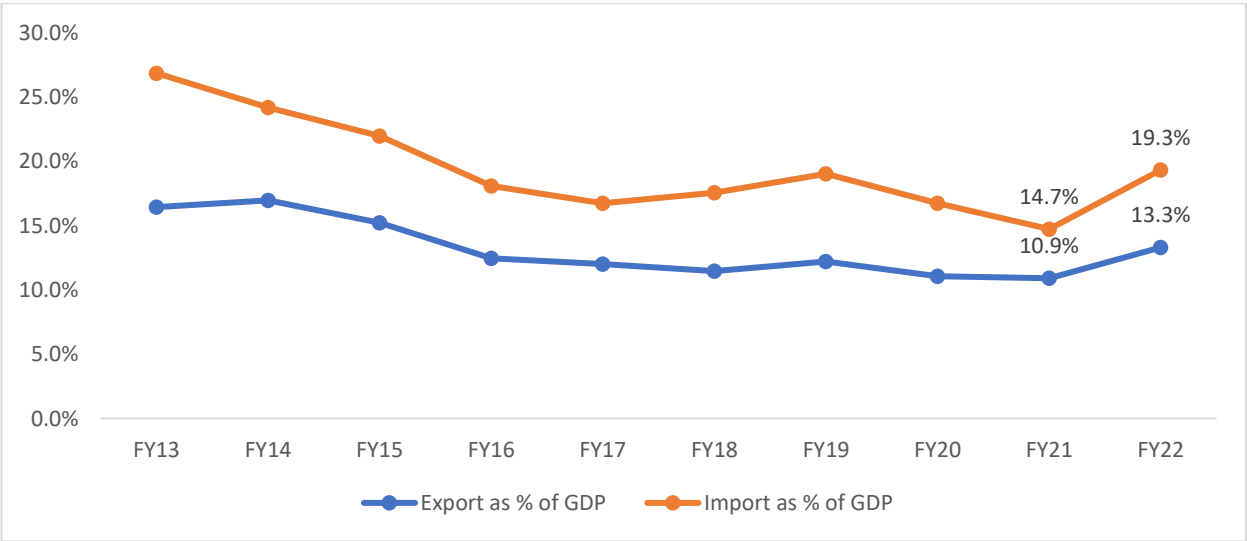
In last 9 fiscals, from FY13 till FY22, exports have grown with a CAGR of 7.6% and imports with a CAGR of 6.2% in value terms. 10 months of fiscal 2023, i.e., Apr-Jan FY23 have registered exports of Rs 29.7 trillion whereas imports have crossed fiscal 2022 level registering 10 months import value of Rs 48.1 trillion. In FY22 the total export was Rs 31.5 trillion whereas the total import was Rs 45.7 trillion. Exports are expected to face headwinds from anticipated slowdown in global growth, largely premised on lower growth in advanced economies, such as the US and the euro area — both key export markets for India. Exports from India (~2% of global trade) will be impacted in fiscal 2024, after an estimated growth of 5-7% in fiscal 2023. India's structural policy push may provide some respite, enabling growth to be in the range of 2-4% in fiscal 2024. Further, deceleration in domestic growth could lead to some softening in imports. CAD is projected to narrow to ~2.4% of GDP in fiscal 2024 from an estimated 3.0% this fiscal

Fig 3: Merchandise trade (in Rs trillion)



Source: Ministry of Commerce and Industry, CRISIL MI&A

Fig 4: Merchandise trade as % of GDP at current price

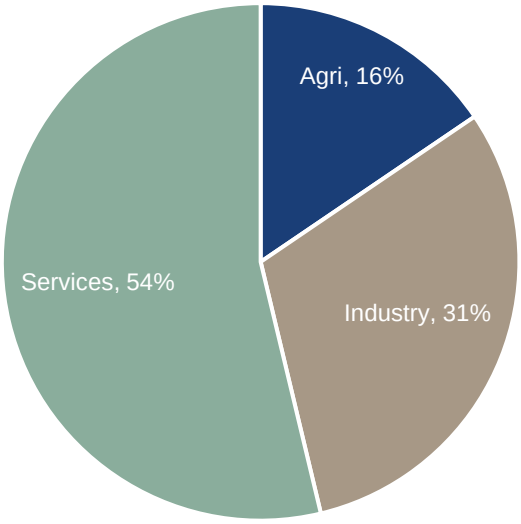


Source: Ministry of Commerce and Industry, NSO, CRISIL MI&A

Government policies to boost manufacturing in India

Indian economic output is majorly driven by the high productivity services sector which contributes 54% of the economic output. The share of industry sector is a distant second at 31% of which manufacturing sector accounts for nearly 60%. Manufacturing sector growth can not only increase jobs in the sector but also reduce forex outgo on imported goods. Hence the government has introduced several incentives in the past decade to boost the manufacturing sector in India.

Fig 5: Sectoral GDP share FY2022



Source: CRISIL MI&A

Make in India

The Make in India initiative was launched in September 2014, to give a push to manufacturing in India and encourage FDI in manufacturing and services. The objective of the initiative was to increase manufacturing share in GDP to 25% by 2020 by boosting investment, foster innovation, and intellectual property, and build best-in-class infrastructure for manufacturing across sectors including but not limited to automobile, auto components, aviation, biotechnology, chemicals, construction, defence manufacturing, electrical machinery, electronic systems, food processing, mining, oil and gas, pharmaceuticals, renewable energy, thermal power, hospitality and wellness.

To achieve this objective, a dedicated Investor Facilitation Cell (IFC) was setup to assist investors in seeking regulatory approvals, hand-holding services through the pre-investment phase, execution, and after-care support. Key facts and figures, policies and initiatives and relevant contact details were made available through print and online media. The Indian embassies and consulates proactively disseminate information on the potential for investment in the identified sectors in foreign countries while domestically, regulations and policies are modified to make it easier to invest in India.

FDI inflows have seen a sharp rise, as India jumped to the 8th position in the list of world's largest FDI recipients in 2020 compared to the 12th position in 2018, according to the World Investment Report 2022. FDI to India almost doubled to $83.6 billion in fiscal 2022 from $ 45.15 billion in fiscal 2015. India is on track to attract $100 billion FDI during fiscal 2023 according to Ministry of Commerce and Industry.

Atmanirbhar Bharat

Atmanirbhar Bharat Abhiyan or the self-reliant India campaign was launched in May 2020 amid the Covid-19 pandemic, with a special and comprehensive economic package of Rs 20 trillion, equivalent to 10% of the country's GDP.

The scheme was launched with the primary intent of fighting the pandemic and making the country self-reliant based on five pillars: economy, infrastructure, technology-driven system, demography and demand. The stimulus package announced by the government under the scheme consisted of five tranches, intended to boost businesses including Micro, Small and Medium Enterprises (MSMEs), help the poor (including farmers), boost agriculture, expand the horizons of industrial growth, and bring in governance reforms in business, health, and education sectors.

The mission emphasises the importance of encouraging local products and aims to reduce import dependence through substitution. It also aims to enhance compliance and quality requirements to meet international standards and gain global market share.

The government has also rolled out other reforms — namely, supply-chain reforms for agriculture, rational tax systems, simple and clear laws, capable human resource, and a strong financial system.

Production Linked Incentive (PLI) scheme

The PLI scheme's prime objective is to make manufacturing in India globally competitive by removing sectoral disabilities, creating economies of scale and ensuring efficiency. It is designed to create a complete component ecosystem in India and make India an integral part of the global supply chain. Furthermore, the government hopes to reduce India's dependence on raw material imported from China. The scheme is expected to boost economic growth over the medium term and create more employment opportunities, as many of the sectors covered under the scheme are labour-intensive. It will be implemented over fiscals 2022-29.

Construction spends across Industrial investments in fiscal 2023 are seen rising 6-10% due to high base in fiscal 2022 where the sector grew due to deferred investments from fiscal 2021 and capex investments from PLI scheme coming online. The PLI scheme is a time bound incentive scheme by the Government of India which rewards companies in the range on 5-15% of their annual revenues based on the companies meeting pre-decided targets for incremental production and/or exports and capex over a base year. The stronger than expected pickup in demand and larger companies gaining share from smaller companies has also led to revival of capex in fiscal 2022. The rise in fiscal 2023 is on account of the expansion plans underway by India Inc.

In fiscal 2024, exports of nearly Rs 2 lakh crore ($25 billion) are likely to be supported by commissioning of PLI-linked capacity. It is expected to account for almost 8% of India's pre-pandemic exports and drive 5% of its exports next fiscal. The impact, though, is likely to be partially negated by a decline in non-PLI exports following slowdown in GDP of the US and EU. An analysis of this and last fiscal reveals that PLI has provided support for nearly Rs 1.9 lakh crore of exports during the initial stages of capacity commissioning.

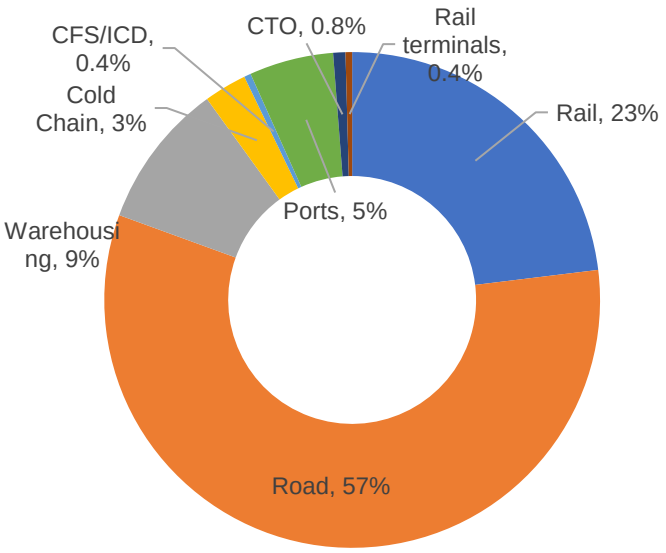
2. Indian port industry

Overview of logistics sector in India

As per a report by Niti Aayog in 2021, India's logistics cost as a % of GDP stood at around 14% compared to 10-11% for BRICS countries and 8-9% for developed countries. Going forward, the logistics cost as a % of GDP for India is expected to decline driven by initiatives such as implementation of GST, investments towards Road infrastructure, development of Inland waterways and Coastal shipping, thrust towards Dedicated Freight Corridors among others. The "Sagarmala" (port-led prosperity) initiative was rolled out in April 2016 by the GoI to reduce logistics costs for both domestic and export-import cargo with optimised infrastructure investment. The Sagarmala programme aims at enhancing India's port capacity to over 3,300 MTPA by 2025. According to the Ministry of Shipping, this would include 2,219 MTPA of capacity at Major Ports and 1,132 MTPA at Non-Major Ports by 2024 - 2025. While the Government has announced and implemented several initiatives such as Gati Shakti Scheme, National Logistics Policy and Bharatmala Pariyojana to improve the transportation infrastructure in the country, improvement in such infrastructure will involve major capital expenditure and policy and administrative focus

In logistics, the market size of key segments – road transport, rail transport, warehousing, cold chain logistics, and rail freight terminals is estimated to be about Rs ~13.0 trillion in fiscal 2022. The segmental contribution in market size is shown in the chart below:

Fig 6: Segmental breakup of logistics market in India, fiscal 2022



Source: CRISIL MI&A

Overview of ports in India

The Indian economy occupies a commercially enviable location on the global map, straddling Bay of Bengal, Indian Ocean, and Arabian Sea with a coastline of approximately 7,517 km. Ports in India handle 90% by volume and 70% by value of India's external trade. The maritime route is used to import crude petroleum, iron ore, coal, and other critical goods. India also has an extensive network of inland waterways in the form of rivers, canals, backwaters, and creeks. The total length of national waterways is 20,275 km spread across 24 States in the country.

The Indian Ocean encompasses about one-fifth of the world's sea area and supports ~80% of global maritime oil trade. India's central and strategic location in the Indian Ocean region provides an advantage to capitalize on the same as India's maritime trade increases. According to the Chief Economic Advisor, India is poised to become a 5 trillion-dollar economy and ports would play a significant role growth story.

The Indian government plays a key support role in the development of the port industry. It has opened up the automated route to 100% FDI for port and harbour building and maintenance projects. It has also made it easier for businesses that create, maintain, and operate ports, inland waterways, and inland ports to take advantage of a 10-year tax break.

The Indian port sector is divided into two segments: major ports and non-major ports. As on March 2021, the Indian coastline is dotted with 12 major and nearly 212 non-major ports. Major ports are administered directly by central government, whereas non-major ports fall under the jurisdiction of state governments.

Major ports vs non-major ports

Major ports are run by respective port authorities on a landlord model. Typically, port terminals are bid out to port operators through PPP model. On the other hand, for non-major ports, ports are awarded to port operators/PPP partners.

Non-major ports typically have lesser congestion levels vis-à-vis major ports, as for major ports the access channel is shared by multiple berths. The cargo ramp-up possibility at non-major ports is also higher as infrastructure can be created as per business planning and strategic partnerships.

However, development of greenfield non-major ports is fraught with risks due to long gestation period for marine side and connectivity infrastructure, while major port, through landlord model provide a fully operational port with supporting infrastructure available.

Overview of Major ports

The Major Port Authorities Act, 2021 provides for regulation, operation and planning of major Ports in India. The Act revises the provisions of earlier act and vests the administration, control and management of such ports to the boards of major port authorities.

The legislation empowers these ports to perform with greater efficiency on account of increased autonomy in decision making and by modernizing their institutional framework. These port authorities are empowered to fix scale of rates for port services and assets. PPP concessionaires are free to fix tariffs based on market conditions etc. This aspect was earlier governed by Tariff Authority for Major Ports (TAMP), which significantly impacted the autonomy of the concessionaires. The compact board with professional independent members also aids in decision-making and strategic planning.

Major ports derive almost entire revenues from Port related activities, which comprises of Port services as well as Royalty and revenue shares received from Terminal Operators.

Consumption patterns in the hinterland have a considerable bearing on the type of cargo handled at Ports. For instance, industrial hinterlands of Maharashtra, Goa, Karnataka, Tamil Nadu, Andhra Pradesh and Telangana and mineral rich belts of Chhattisgarh, Jharkhand and Odisha manage large volumes of cargo from coastal areas and the broader hinterland. Ports in vicinity of refineries such as Cochin, Kandla, Mumbai, and Mangalore have a significant chunk of POL (Petroleum Oil and Lubricants) traffic, whereas ports close to mines such as Paradip and Mormugao get a large chunk of their traffic from Coal and Iron Ore mines.

Table 1: Details of Major Indian ports

Port	State	Year of incorporation	Type
East Coast			
Kolkata/Haldia	West Bengal	1970	All weather- Riverine port
Paradip	Orissa	1966	All weather- Artificial lagoon port
Vizag	Andhra Pradesh	1933	All weather- Natural Harbour
Chennai	Tamil Nadu	1875	All weather- Artificial harbour with wet docks
Tuticorin	Tamil Nadu	1974	All weather- Artificial deep sea harbour
Ennore	Tamil Nadu	2001	All weather- Artificial harbour
West Coast			
Cochin	Kerala	1936	All weather- Natural Harbour
New Mangalore	Karnataka	1974	All weather- Artificial lagoon port
Mormugao	Goa	1963	All weather- Open protected harbour
Mumbai	Maharashtra	1873	All weather- Natural Harbour
JNPT	Maharashtra	1989	All weather- Tidal port
Kandla	Gujarat	1952	All weather- Natural Harbour

Source: IPA, CRISIL MI&A

Overview of Non-major ports

Non-major ports are all ports that are not classified as major ports under the Indian Ports Act, 1963. Non-major ports include both minor and intermediate ports. These ports come under the purview of the respective state governments and regulated by state departments, or the state maritime boards.

Table 2: Key non-major ports across states

State	No. of non-major ports	Cargo handling at non-major ports
Maharashtra	15	Dharmatar, Jaigad, Ulwa Belapur, Redi
Gujarat	19	Mundra, Sikka, Dahej, Magdalla, Pipavav, Bedi, Navlakhi, Hazira
Andaman and Nicobar Islands	11	Port Blair
Kerala	4	Kozikhode, Vizhinpim
Tamil Nadu	5	Nagapattinam, Tirrukadiyur, Cuddalore
Andhra Pradesh	5	Krishnapattinam, Gangavaram, Kakinada, Rawa
Odisha	2	Dhamra
Karnataka	7	Karwar, Mangalore (old)
Goa	1	Panjim
Pondicherry	2	Karailkal

Note: Out of 212, about 71 ports are key cargo handling ports

Source: Ministry of Shipping, CRISIL MI&A

Key entry barriers for a port

The maritime infrastructure industry is capital intensive with long gestation periods and significant regulatory requirements. Ports in India also require substantial investments in evacuation infrastructure and skilled resources to operate the port.

Capital requirement

Greenfield port development is highly capital intensive, with investments required for breakwater, capital dredging and connectivity projects. Even the brownfield development requires sizeable investment. As per CRISIL MI&A, Rs 10 – 15 billion is required for developing a container terminal with a one million TEU capacity.

Long gestation periods

The port projects have long gestation period, starting from project award, concession agreement, marine infrastructure development and connectivity infrastructure. The timelines are particularly longer for greenfield projects, running more than five years at least. Post development of port infrastructure also, hinterland connectivity is key for volume ramp-up.

Regulatory requirements

Regulatory requirements such as technical experience and financial circumstances and capabilities act as entry barriers for new players to enter this industry.

Limited players

Limited players dominate the port operator business, as port cargo handling requires expertise. High efficiency in cargo handling is essential for ensuring optimum utilisation of the infrastructure at the port. The sector has seen small number of new industry entrants in recent years.

Key success factors for a port

Infrastructure of the port

Sound infrastructure is fundamental to success of a port. Ports equipped with modern infrastructure facilities such as cranes, deeper draft etc attract higher traffic. Such facilities also ensure quicker loading/unloading of cargo thereby resulting in improved operational performance of a port. For instance, ports equipped with newer, technologically advanced cranes are able to do more moves per hour, thus reducing turnaround time. Further, ports with adequate draft will be able to receive larger vessels.

Allied/Support infrastructure

Ports with sound support infrastructure will ensure quicker evacuation of cargo, thereby easing congestion at the port. Less congestion at the port translates into improved operational performance. Conveyor connectivity to the industry such as in Mundra, Krishnapatnam, Gangavaram, Jaigarh etc. and coastal movement adds to the traffic at the port. Availability of CFS eases congestion at the port and enables it to handle higher traffic. Further, ports well connected by rail and roadways enjoy higher traffic. Poor rail and road connectivity leading to the port will result in traffic diversion to other ports, as it increases logistic costs of the customers.

Port-based industries/hinterland

A port will only be viable if it can get business from importers and exporters. Ports are dependent on the industries around the port, which form primary hinterland for cargo. Special Economic Zones (SEZ) and other port-based industries ensure throughput for a port. Besides, other industries reliant on the port for export/import form the secondary hinterland for a port. In other words, a port located close to an industrial belt or agricultural region will attract higher traffic.

Location of the port

Location is a major differentiator in the ports industry. Ports which are closer to major shipping routes enjoy competitive advantage because shipping from those ports translates into cost savings for the importers and exporters.

Productivity of port labour

Productivity of port labour is a key determinant of operational performance of a port. Increasing digitization and sophistication of ports demand skilled labour to achieve optimum port productivity. Higher port labour productivity leads to quicker turnaround time and higher output per ship-berth day. Skilled resources/personnel are also key success factors for a port.

Diversification

Ports that diversify by having facilities to handle more than one type of cargo can insure themselves against fall in shipments of a particular type of cargo. Ports that have a diversified cargo mix are better positioned to weather slowdown and would also help in attracting marquee large shipping lines due to cargo flexibility.

Key risks for a port

1) Slowdown in global economy (export/import)

The performance of a port is heavily dependent on the global economic scenario. Slowdown in the global economy would imply slowdown in business for a port.

2) Competition from other ports

With about 212 non-major ports and 12 major ports, the competition among ports has increased significantly. Major ports, which once handled majority of traffic, have seen their share in total traffic shrink considerably. Poor operational performance of major ports and aggressive expansion undertaken by non-major ports has resulted in traffic being diverted to non-major ports.

For instance, poor operational performance on account of increased congestion at JNPT port a few years ago led to incremental traffic being diverted to Mundra port and Pipavav port.

3) Changes in government regulations

Restrictions imposed by the government on export and import of goods can significantly hamper the operations of a port. Increase in export/import duties, constraints on import/export of a particular commodity etc. act as a deterrent for a port. For instance, ports in Karnataka, Goa and Orissa are currently at the receiving end since the government has imposed a ban on export of iron ore.

4) Environmental concerns

Environmental concerns such as harm to marine ecology, environment on account of port operations can put the port operations in jeopardy. This was seen in the case of Chennai port which was directed by the Chennai High Court to stop handling coal and iron ore cargoes due to the pollution it caused.

5) Natural forces

This is a risk outside the control of a port. For instance, cyclone Gaja and Titli which hit the ports on the eastern coast of India in 2018 not only stalled the operations at these ports but also inflicted a huge cost on these ports in terms of dredging costs, wreckage of machinery, etc.

6) Changes in vessel technology

Over the years, there has been a paradigm shift in vessels used for transportation of goods, especially in terms of technology, design and size. Ports which do not keep pace with changing times, are impacted by a loss in throughput. For instance, in order to achieve economies of scale, the size of the vessels used for shipment of cargo has increased over the years. However, most ports do not have the draft to accommodate vessels of such size.

Trends of privatization of terminals at major ports

The assets considered for privatization from FY2022 to 2025 are spread across 9 of the 12 major ports. Towards this, 31 projects have been identified for private sector participation for improved operational efficiency and capacity utilization of existing port assets.

The total estimated capex towards 31 identified projects considered for monetization is estimated at Rs 14,483 crore for FY 2022-25. Out of 31 projects, 13 projects with expected capex of Rs. 6,924 crores were approved by the government. As per public information bureau, 7 projects of Rs 5,278 crore have already been awarded and others are in various stages of bidding by end of FY22. According to the National Monetization Pipeline, another 10 projects with expected capex of Rs. 4,680 crores are envisaged to be tendered out in FY 2023. However, the actual investment towards the development of assets will be phased out over a defined time period as laid out under the contract. Since the same could not be determined, the actual investment has been assumed to be phased out over 3-year period from the target year of award. Hence, during the National Monetization Pipeline (NMP) period of FY22-25, monetization value of Rs. 12,828 crores has been considered on account of estimated capex towards identified 31 projects.

Table 3: Pipeline of Ports projects over FY22-25:

#	Port	Total No of Projects	FY22	FY23	FY24	FY25
1	Paradip Port	4	2			2
2	Deendayal Port (Kandla)	4	2	2		
3	JNPT(Mumbai)	3	1	2		
4	Mormugao Port	3	1	2		
5	Mumbai Port		2			
6	Shyama Prasad Mukerji Port Kolkata (Khidderpore)	4	1		1	2

#	Port	Total No of Projects	FY22	FY23	FY24	FY25
7	Shyama Prasad Mukerji Port Kolkata (Haldia)	3	1	1	1	
8	Visakhapatnam Port	4	1	2	1	
9	V. O. Chidambaram Port (formerly Tuticorin)	3	2	1		
10	New Mangalore Port	1				1
Total		**31**	**13**	**10**	**3**	**5**

Source: National Monetisation Pipeline, Industry

3. Cargo at Indian ports

Port traffic

As per CRISIL MI&A estimates, port traffic is expected to grow by 8-9% in fiscal 2023, after growing by 4.9% in fiscal 2022. The growth in fiscal 2022 was aided by the low base of fiscal 2021 when port traffic plummeted due to lockdowns on account of the coronavirus spread in India (and globally) and the subsequent economic slowdown. Furthermore, as there was a revival in economic activity, demand as well as consumption of major commodities went up which also boosted traffic growth.

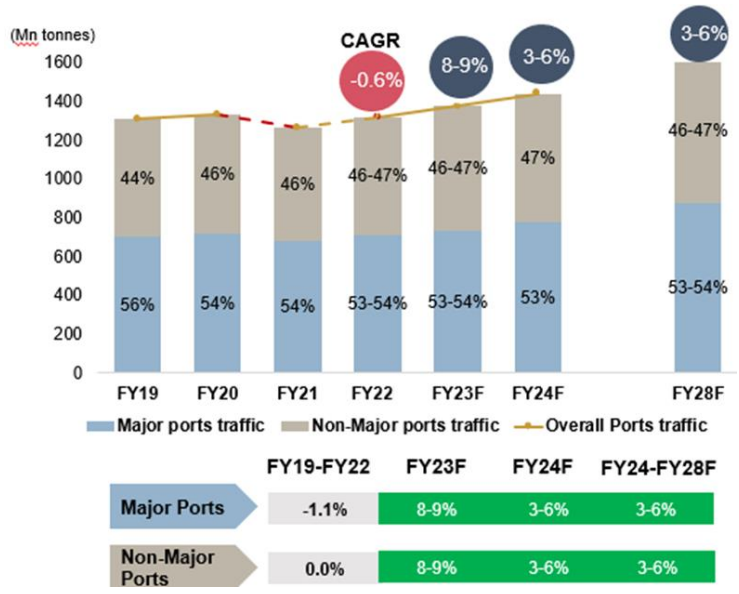
In fiscal 2023, coal and POL (petroleum, oil and lubricants) segments are expected to drive the growth in port traffic on the back of higher domestic demand for the commodities due to increased fuel requirements in the country. Coal traffic is expected to see a growth of 25-28% in fiscal 2023 while POL traffic is likely to be higher by 4-7%. On the other hand, container traffic is expected to be sluggish due to macroeconomic headwinds whereas iron ore traffic is likely to see a subdued growth on account of lower exports. Both container traffic and iron ore traffic both expected to grow at a sedate 2-5% in fiscal 2023.

In fiscal 2024, the growth in port traffic is expected to moderate to 3-6%. After a subdued fiscal 2023, iron ore traffic is expected to witness a sharp rise of 6-9% in fiscal 2024. Similarly, container traffic is also expected to be slightly higher at 3-6%. Contrastingly, the growth in POL traffic would be subdued at 2-5% while coal traffic is likely to remain flattish due to lesser imports.

Over fiscals 2024-2028, growth at Indian ports is expected to be at 3-6%. However factors such as tapering growth in coal due to import substitution along with plateauing of iron ore exports and muted growth in POL segment led by slower consumption in crude oil are expected to moderate cargo traffic over long term.

Share of Major ports has been reducing as non-major ports are able to provide better efficiencies and lower turnaround time (TAT) with competitive rates. Over the next 5 years, CRISIL MI&A expects non-Major ports to grow at a pace similar to Major ports due to a fall in imports & slight growth in coastal traffic.

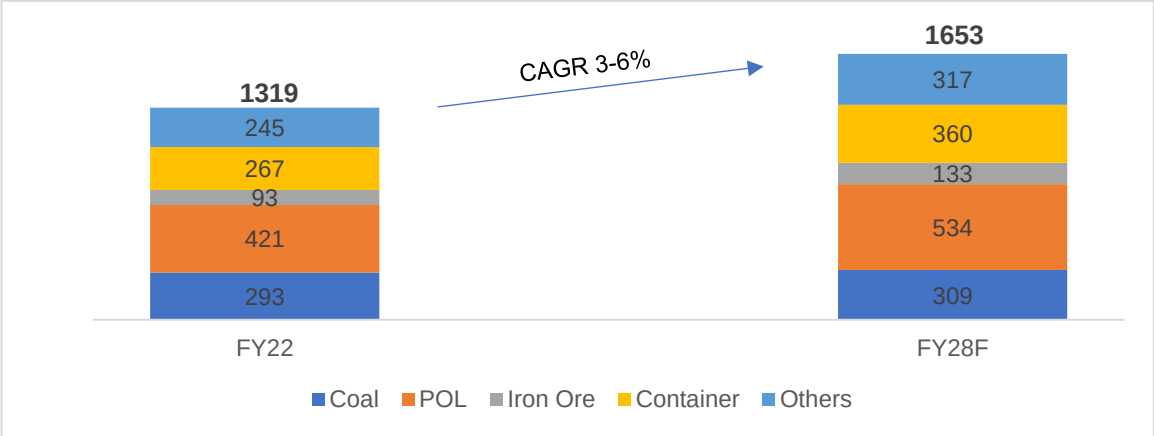
Fig 7: Overall traffic at Indian ports



F: Forecast

Source: IPA, *Ministry of Shipping, CRISIL MI&A*

Fig 8: Cargo handled at Indian ports in FY22 and FY28F (in million tonnes)



F: Forecast

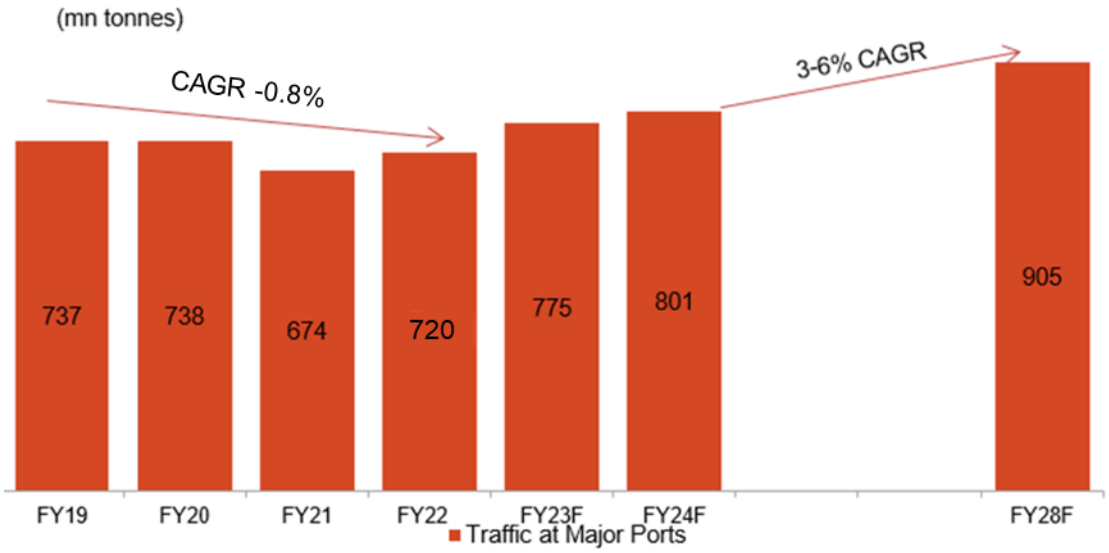
Source: IPA, *Ministry of Shipping, CRISIL MI&A*

Traffic at major ports

In fiscal 2022, cargo traffic at major ports in India saw a rise of 6.8%, strongly rebounding from the degrowth of 8.7% in fiscal 2021. This was attributable to the revival in economic activity in India, rising crude oil imports and a strong rebound in the container traffic. In fiscal 2023, CRISIL MI&A expects traffic at major ports to grow by 8-9%, led by growth in traffic in the coal & POL segments. Recovery in container traffic is expected to further drive-up traffic at major ports by 3-6% in fiscal 2024. Over fiscal 2024 to fiscal 2028, traffic at major ports is expected to be in the range of 3-6%, therefore maintaining a steady pace of growth.

Traffic at major ports to moderate over medium term

Fig 9: Traffic at major ports



Note: Numbers may not add up due to rounding

F: Forecast

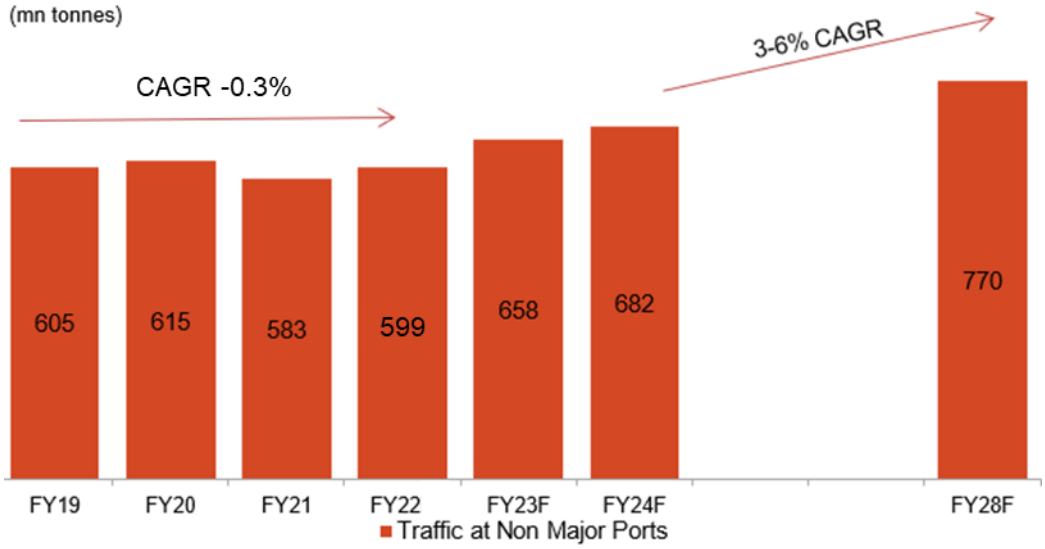
Source: IPA, CRISIL MI&A

Traffic at non-major ports

In fiscal 2022, cargo traffic at non-major ports in India saw a rise of 2.7%, rebounding from the degrowth of 5.2% in fiscal 2021. Traffic at non-major ports would witness an 8-9% growth in fiscal 2023 led by a strong rise in POL and coal traffic. In fiscal 2024, the traffic at non-major ports is expected to grow by 3-6% led by a recovery in container traffic. Over fiscals 2024-2028, we expect non-major ports to grow at 3-6%. This would be largely due to moderation in POL traffic and coal imports at non-major ports.

Coal traffic would gradually reduce and moderate over the medium term as thermal coal imports are expected to slow down with steady increase in Coal India production. POL consumption would also moderate due to alternative fuels and higher efficiencies of automobiles.

Fig 10: Traffic trend at non-major ports



Note: Numbers may not add up due to rounding

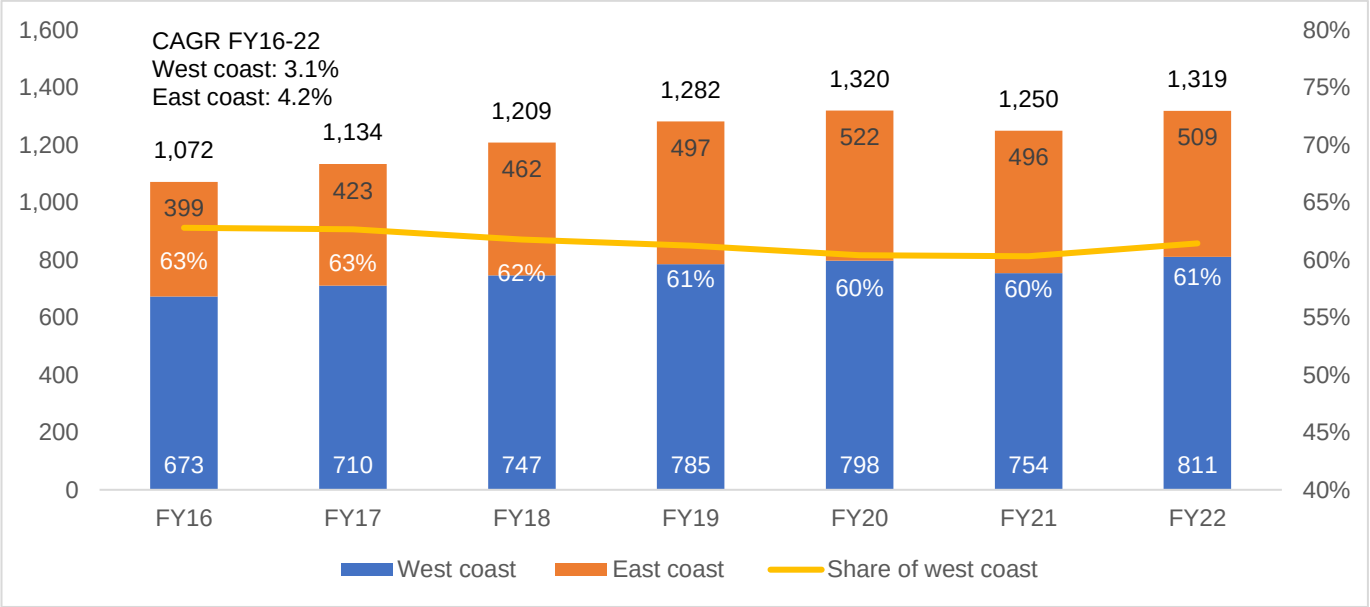
F: Forecast

Source: IPA, Ministry of Shipping, CRISIL MI&A

East coast vs west coast

For fiscal 2022, ports on west coasts accounted for 61% of the cargo, and east coast accounted for the rest. West coast has higher share of container traffic, while bulk traffic dominates east coast. Share of coastal cargo is also higher for ports on east coast. For fiscal 2016-22 period, cargo at east coast ports grew with a relatively higher CAGR at 4.2%, vis-à-vis 3.1% CAGR seen at west coast ports.

Fig 11: East coast vs. West coast ports (Million tonnes)



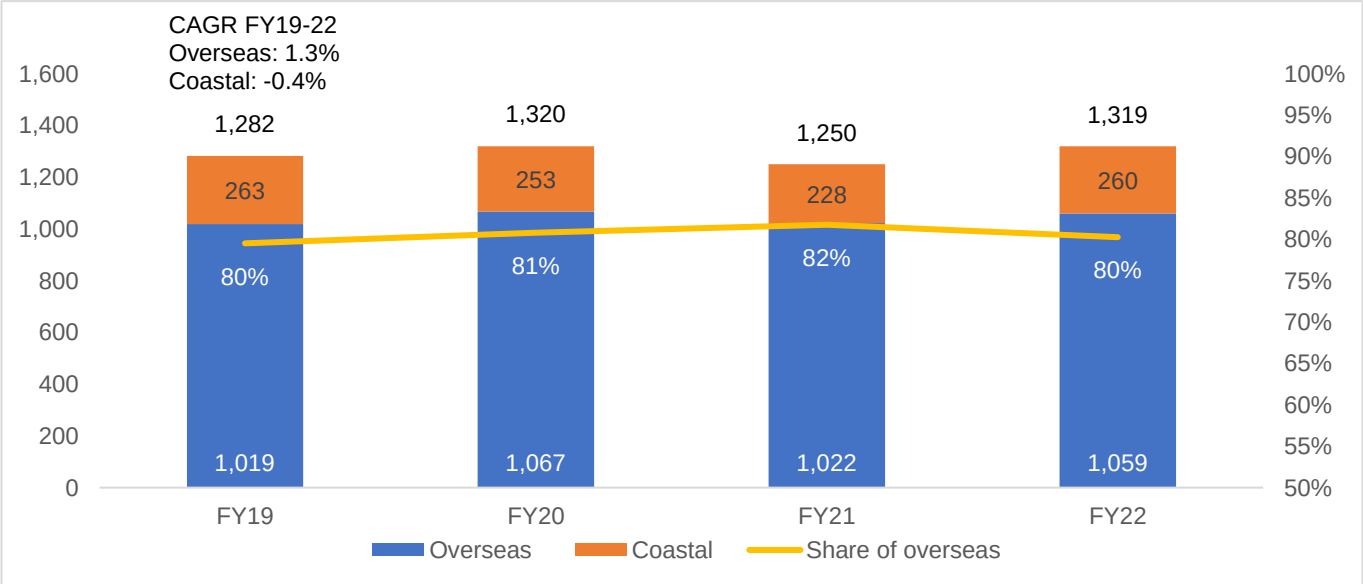
Note: Numbers may not add up due to rounding

Source: IPA, Ministry of Shipping, CRISIL MI&A

Coastal vs overseas cargo

For fiscal 2022, overseas cargo transportation accounted for 80% of the total cargo movement, coastal movement accounted for the rest. For fiscal 2019-22 period, overseas cargo movement grew with a relatively higher CAGR at 1.3%, vis-à-vis -0.4% CAGR for coastal cargo movement during the same period.

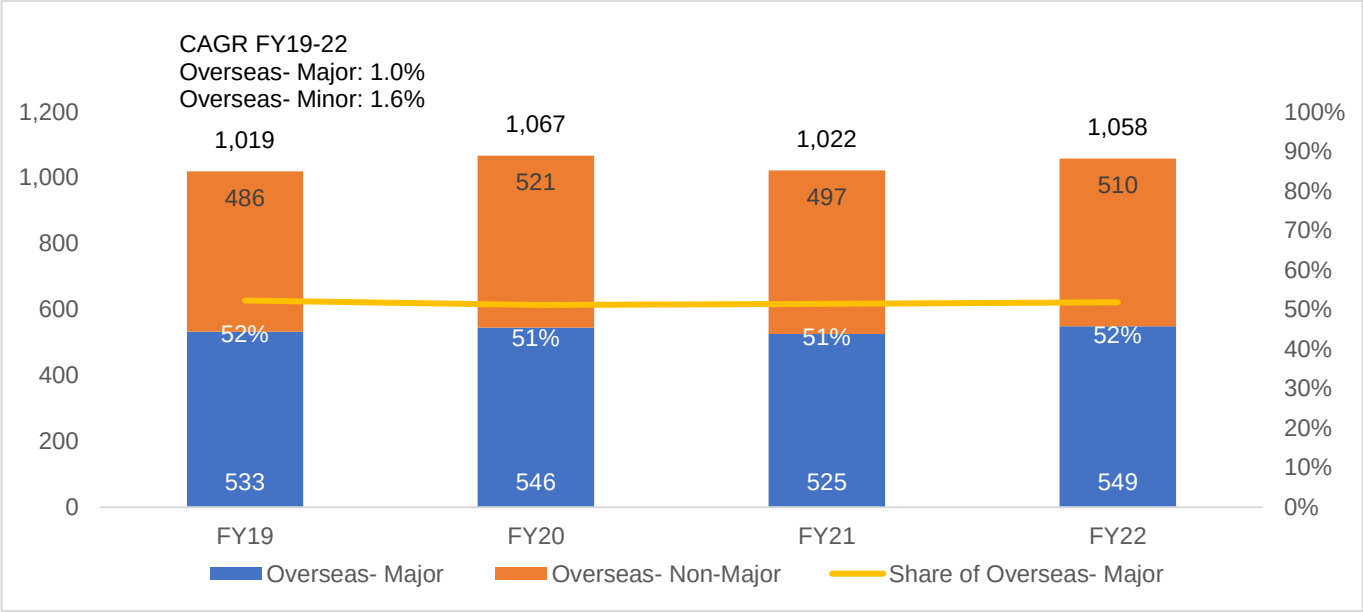
Fig 12: Overseas vs. Coastal cargo (Million tonnes)



Note: Numbers may not add up due to rounding

Source: IPA, Ministry of Shipping, CRISIL MI&A

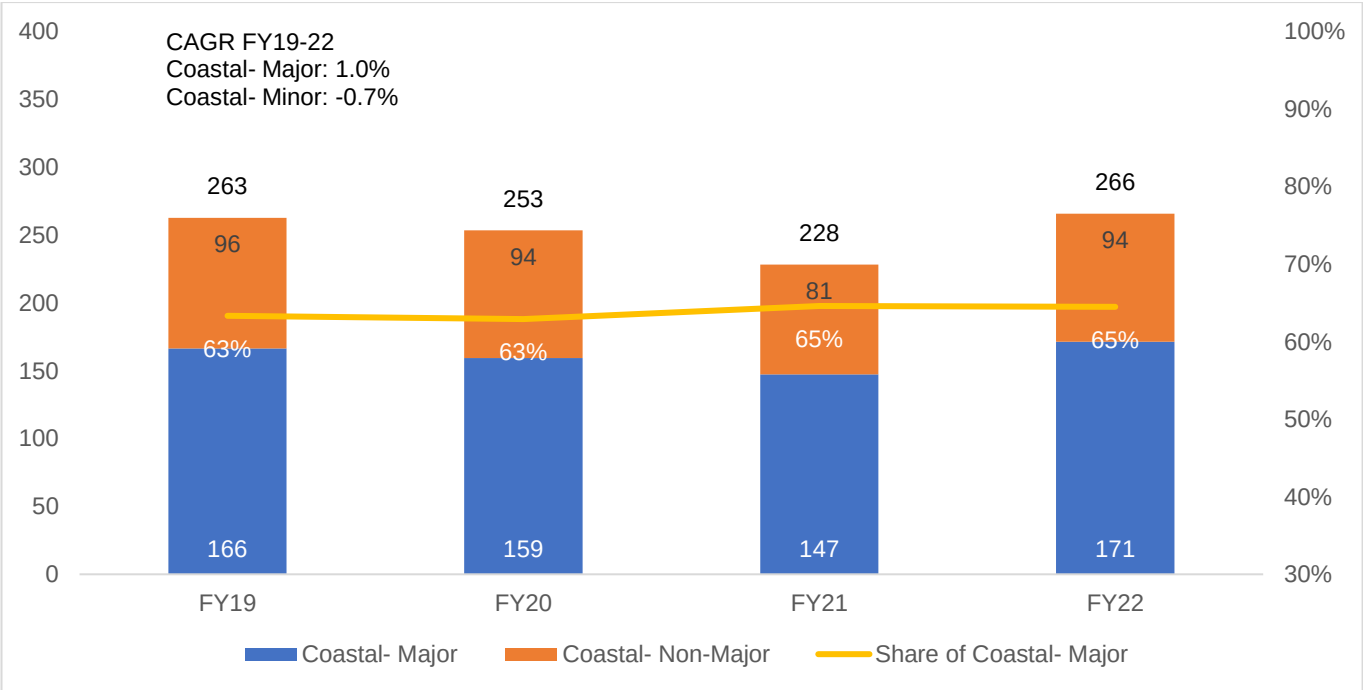
Fig 13: Overseas cargo at major ports vs. minor ports (Million tonnes)



Note: Numbers may not add up due to rounding

Source: IPA, Ministry of Shipping, CRISIL MI&A

Fig 14: Coastal cargo at major ports vs. minor ports (Million tonnes)



Note: Numbers may not add up due to rounding

Source: IPA, Ministry of Shipping, CRISIL MI&A

Coastal shipping is a cheaper and environment-friendly mode

As per a Press Information Bureau (PIB) release, pre-tax freight rates for road and rail are Rs 2.50 per tonne km and Rs 1.36 per tonne km, respectively. Moving raw materials and finished products using coastal shipping and inland waterways is 60-80% cheaper than road or rail transport. As a thumb rule, road is cost-competitive for 250-300 km, railways for 250-800 km, and ocean transportation is cheapest for distances greater than 800 km.

Besides being cheaper, sea-based transportation is the most environment-friendly among surface transportation modes. As per a 2013 National Transport Development Policy Committee (NTDPC) report, carbon dioxide emissions for road were 59 grams per tonne km, followed by rail at 21 grams per tonne km. Shipping contributes the lowest in carbon dioxide emissions at 10 grams per tonne km.

Assessment of key commodities

Coal: Sustained power demand led to higher coal traffic in fiscal 2023

With efforts of Coal India Limited to drive import-substitution in fiscal 2021, the coal traffic at the Indian ports took a downward hit of 14% in fiscal 2021. In fiscal 2022, the demand of power increased leading to increase in coal traffic by 5.8%. CRISIL MI&A expects coal traffic at Indian ports to witness a 25-28% growth in fiscal 2023 on the back of sustained power demand. In fiscal 2023, thermal coal consumption is expected to grow due to sustained power demand as well as support from the non-power sector since the industrial cycle continues to experience a strong recovery.

Heightened power demand, especially during the summer season, prompted the power sector to import large volumes of thermal coal since domestic supply was insufficient to meet the requirement. Consequently, the stock of imported coal available at power plants went up from 1.1 mt in January 2022 to 6.3 mt in October 2022, as per the data released by the Central Electricity Authority. However, coking coal consumption is expected to remain stable in fiscal 2023. Although there is rise in crude steel production by ~4%. It could be implied that crude steel production through other processes, which don't use coking coal, is on rise. To add, sponge iron production and steel scrap imports are on rise year-on-year.

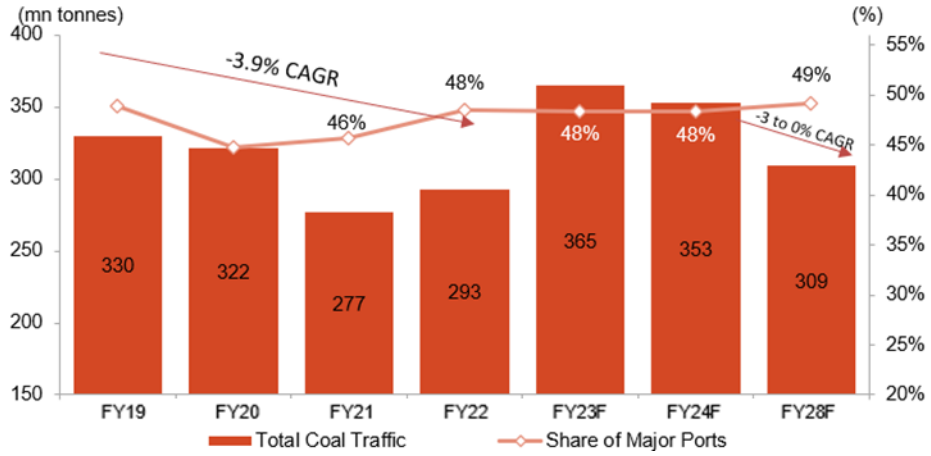
Simultaneously, Indian coal producers have also been ramping up their production this fiscal which has contributed to higher coastal traffic. The increase in Coal India production over the long term would improve coastal coal movement. Import substitution led by higher production by Coal India plus captive coal production would lead to a decline in thermal coal imports over the long-term starting from fiscal 2024.

The fall in imports and the consequent fall in EXIM traffic is expected to result in coal traffic declining by 0 to 3% in fiscal 2024.

CRISIL MI&A expects coal traffic at Indian ports to witness a 25-28% growth in fiscal 2023. However, due to the ongoing concerns around climate change, many countries including India are seeking to transition to low carbon economies, the growth of coal traffic is expected to remain flattish in next five fiscals.

Share of major ports to recover as coastal traffic is expected to increase

Fig 15: Share of major ports in total coal traffic



F: Forecast

Source: IPA, *Ministry of Shipping, CRISIL MI&A*

For Coal, almost equal amount of traffic is spread across Western and Eastern ports. Traffic at Western ports is largely import-linked for coastal power plants and is dominated by non-major ports especially Gujarat. APSEZ's Mundra port alone handles ~30% of the coal traffic on the western ports.

On the other hand, only 53-55% coal traffic on Eastern ports is import-linked, rest is coastal. Coastal traffic largely flows from coal mines in the eastern region via Paradip port to power plants in the south via the Ennore port.

Imports are expected to peak in fiscal 2023 before gradually reducing as Coal India's production is expected to rise. Commissioning of Dhamra port and expansion of Paradip port is expected reduce congestion boosting coastal movement from coal mines in the east to power plants in the south.

Table 4: Coal traffic movement

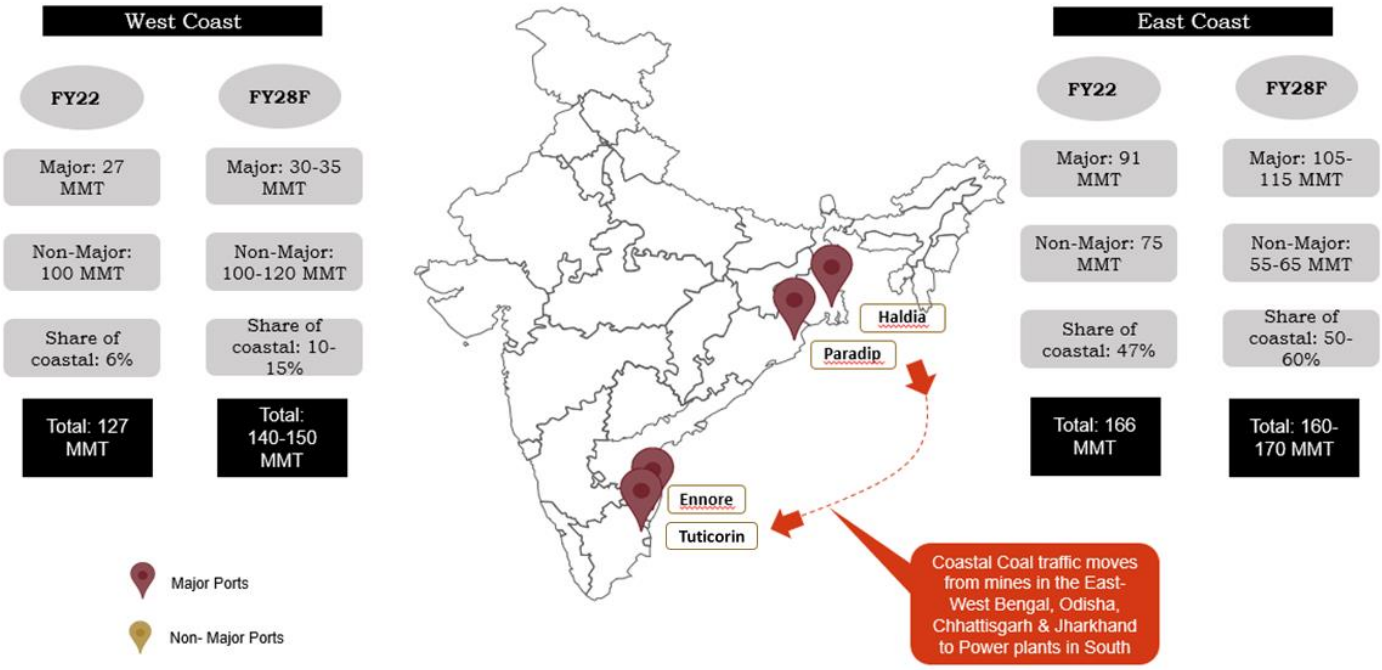
Commodity	Total		CAGR	Remarks
	FY22	FY28F	FY22-28F	
Coking Coal	71	92	4.3%	Steel demand is expected to remain healthy driven by infrastructure, building & construction, and automobiles. However coking coal imports will also depend upon use of Pulverised Coal Injection and scrap in steel production.
Non-Coking Coal	222	218	-0.3%	Non coking coal imports will be impacted by increased domestic coal availability, while coastal coal movement will drive the port traffic.
Total	293	309	0.9%	

Note: Numbers may not add up due to rounding

Source: Ministry of Shipping, IPA, CRISIL MI&A

Coal traffic at western coast expected to de-grow while that at eastern coast might remain largely flat

Fig 16: Coal traffic at west coast and east coast



Source: IPA, CRISIL MI&A

Table 5: Coast wise traffic of coal

Commodity	East coast		West coast		Total		CAGR
	FY22	FY28F	FY22	FY28F	FY22	FY28F	FY22-28F
Coastal	78	91	8	18	86	109	4.1%
Overseas	88	74	119	127	207	201	-0.5%
Total Coal	166	165	127	145	293	310	0.9%

Note: Numbers may not add up due to rounding

F: Forecast

Source: IPA, Ministry of Shipping, CRISIL MI&A

POL: Recovery in crude oil imports and products consumption to drive traffic growth

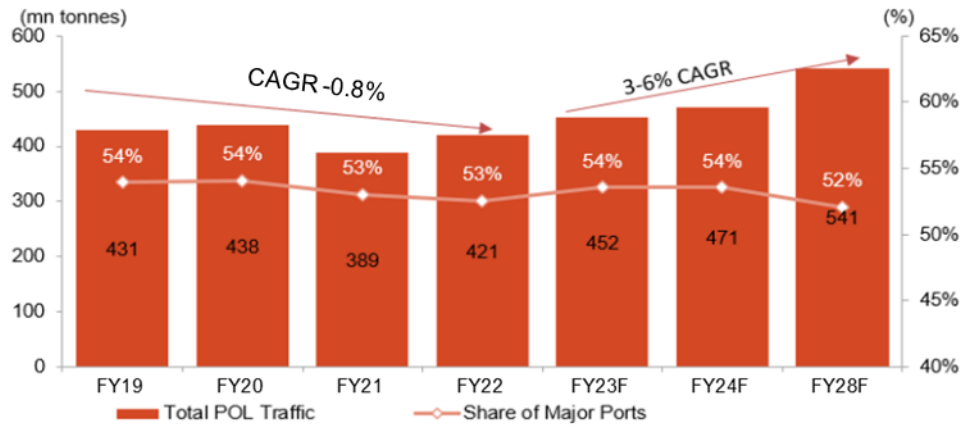
CRISIL MI&A expects POL traffic to grow by 4-7% in fiscal 2023, after an increase of 8.2% in fiscal 2022 due to revival of demand across all end-user industries and strong growth in India's GDP. The growth in fiscal 2023 would be attributable to a reviving economy as consumption returns to pre-COVID levels. The growth would be supported by an increase in the consumption of transportation fuels as well as industrial fuels. This is in contrast to a 11.2% decline in fiscal 2021 due to a sharp decline in crude oil imports and lower consumption of petroleum products on account of elevated prices. Coastal traffic is also expected to increase by 5-8% in fiscal 2023 on the back of high utilization levels at refineries.

In fiscal 2024, the growth in POL traffic is expected to moderate to 2-5% in line with the moderation expected in economic activity and fuel demand.

Over fiscal 2023-28, the POL traffic is expected to plateau at a 3-6% CAGR, due to moderation in consumption and slightly lower utilization of refineries. Crude oil and product demand growth is expected to moderate from 5.6% over last five years to 3-6% over next five years due to alternate fuels & increasing efficiencies of automobiles.

Moderate growth in POL traffic over long term

Fig 17: Share of major ports in total POL traffic



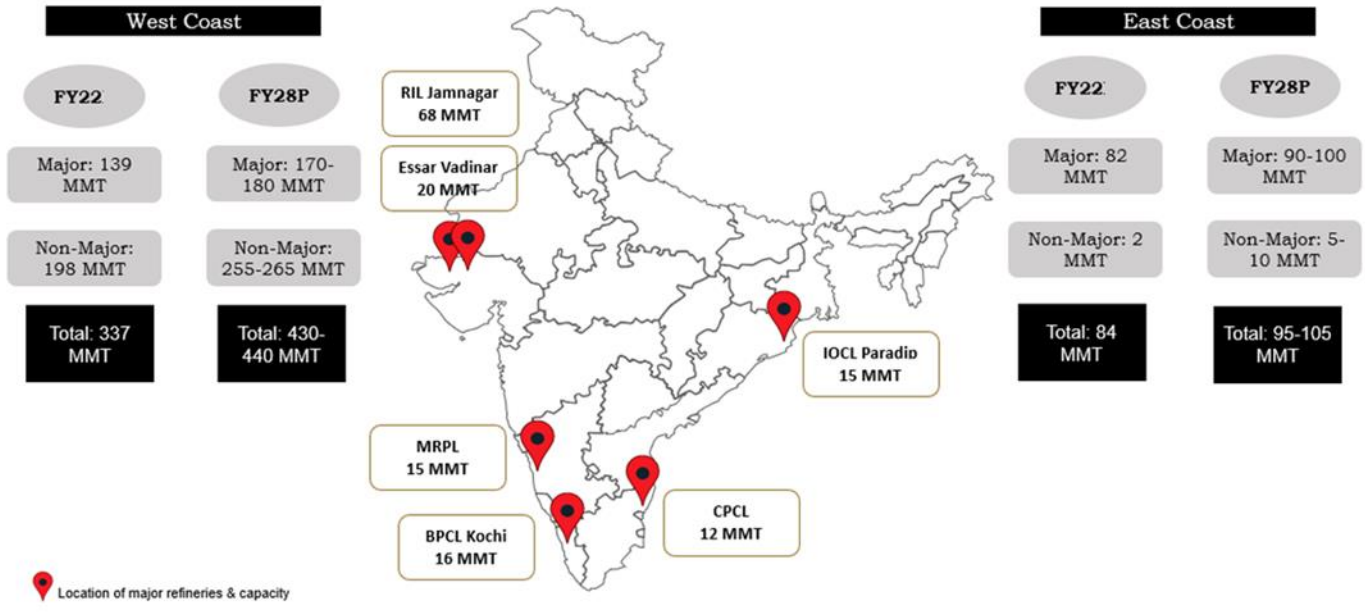
F: Forecast

Source: IPA, *Ministry of Shipping, CRISIL MI&A*

For POL, western ports dominate the traffic with more than 80% of total POL traffic at the Indian ports. The high dependence of POL for western ports is mainly because of connectivity of these ports with 78% of the refining capacity in the country. Moreover, significant exports of petroleum products from these refineries compared to that of eastern ports also contributes to their domination in traffic.

POL traffic largely at western ports

Fig 18: POL traffic at west coast and east coast



Source: IPA, CRISIL MI&A

Iron ore: Exports to fall sharply in fiscal 2023, coastal traffic to remain firm

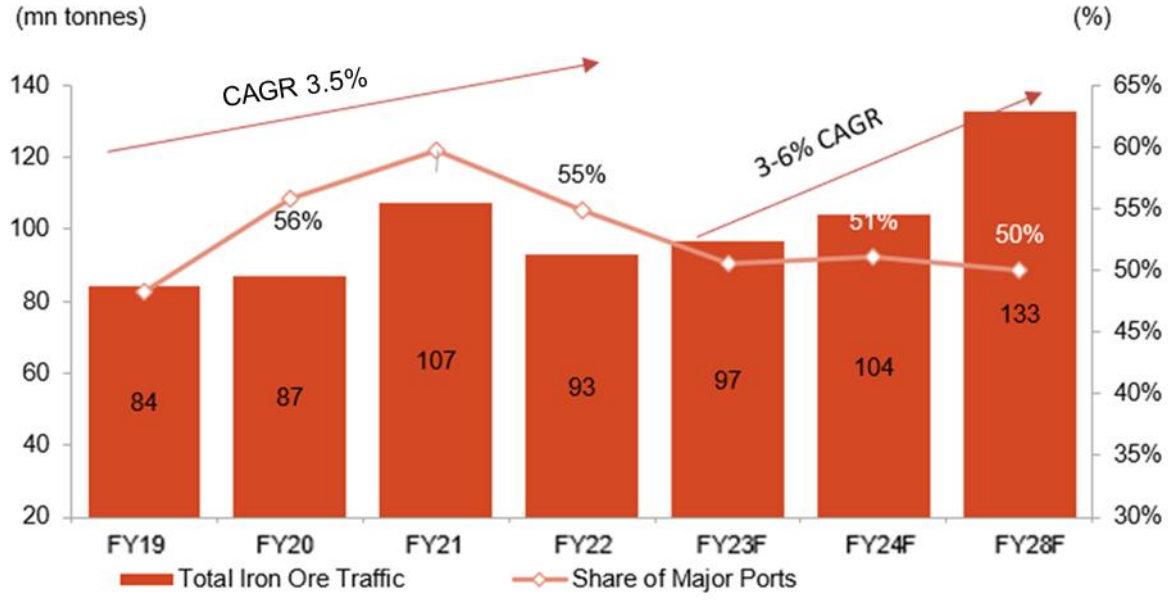
Owing to global supply shortages, higher export of iron ore to China, and price rise, the iron ore port related traffic witnessed double-digit growth in fiscal 2021. Iron ore traffic at Indian ports declined by 13.1% in fiscal 2022 as exports declined sharply due to imposition of export duty. Iron ore traffic is expected to grow by 2-5% in fiscal 2023. This subdued growth in traffic can be attributed to a decrease of 15-20% in the export volumes due to the 50% & 45% duties that were levied on the export of iron ore and iron pellets respectively during the fiscal. These duties rendered exports unviable leading to the drop in export volumes. While the duties were lifted in November, the export volumes for the fiscal would still be sharply lower since even the increased exports in the remaining part of the fiscal would be unable to compensate for the decline in the first 8-9 months of the fiscal. On the other hand, coastal traffic is also expected to grow by 10-15% during fiscal 2023 thereby negating the impact.

On the low base of fiscal 2023, iron ore traffic is expected to witness a growth of 8-10% in fiscal 2024 as export volumes recover to an extent and coastal traffic also improves marginally due to higher production of steel in the country's steel plants.

Between FY23 & FY28, iron-ore traffic at ports is expected to grow at CAGR 3-6% compared with CAGR 3.5% over fiscals 2019-2022. Growth is expected to be driven primarily by coastal traffic since growth in exports is expected to be tepid.

Iron ore traffic to slowdown

Fig 19: Share of major ports in total iron ore traffic



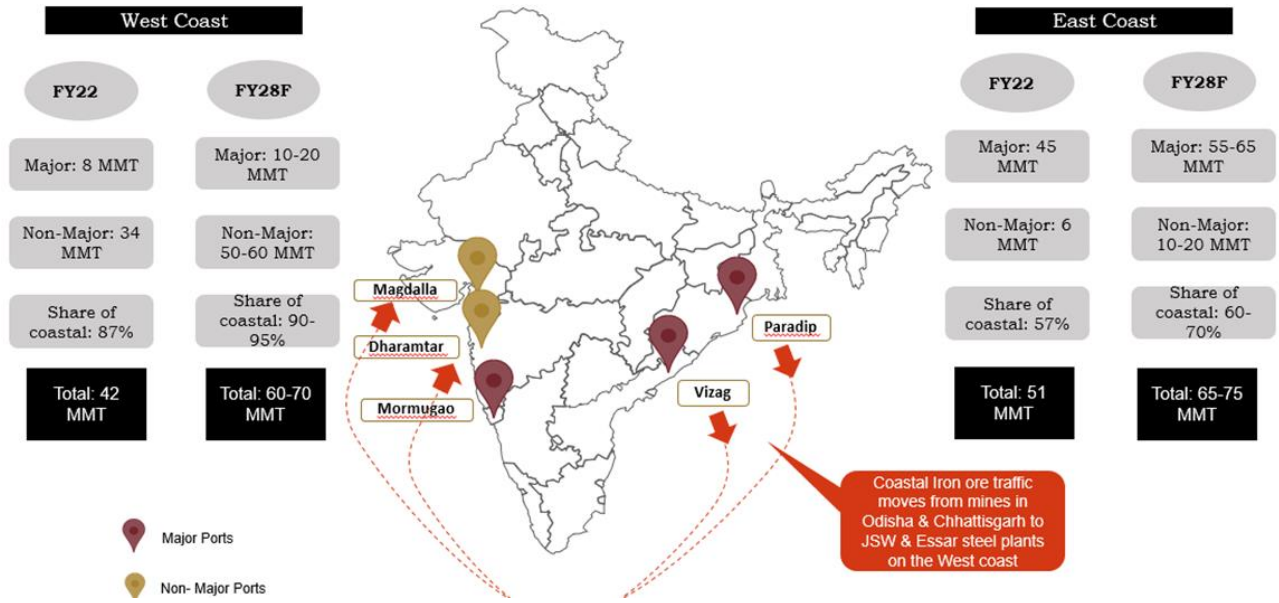
F: Forecast

Source: IPA, *Ministry of Shipping, CRISIL MI&A*

Coastal traffic of iron ore mainly moves from mines in Odisha and Chhattisgarh on the East coast via the Paradip and Vizag ports to the JSW and Essar steel plants on the West Coast at their captive jetties. Share of coastal traffic on both the east and west coasts of the country is expected to remain at similar levels.

Coastal movement of iron ore from major ports on East coast to non-major ports on West coast to increase

Fig 20: Iron ore traffic at west coast and east coast



F: Forecast

Source: IPA, CRISIL MI&A

Table 6: Coast wise traffic of iron ore

Commodity	East coast		West coast		Total		CAGR
	FY22	FY28F	FY22	FY28F	FY22	FY28F	FY22-28F
Coastal	*29*	*46*	*37*	*60*	*66*	*106*	*8.3%*
Overseas	*22*	*25*	*5*	*5*	*27*	*29*	*1.2%*
Total Iron Ore	*51*	*70*	*42*	*65*	*93*	*135*	*6.4%*

Note: Numbers may not add up due to rounding

F: Forecast

Source: IPA, Ministry of Shipping, CRISIL MI&A

Containers: Volumes expected to be moderate due to macroeconomic headwinds

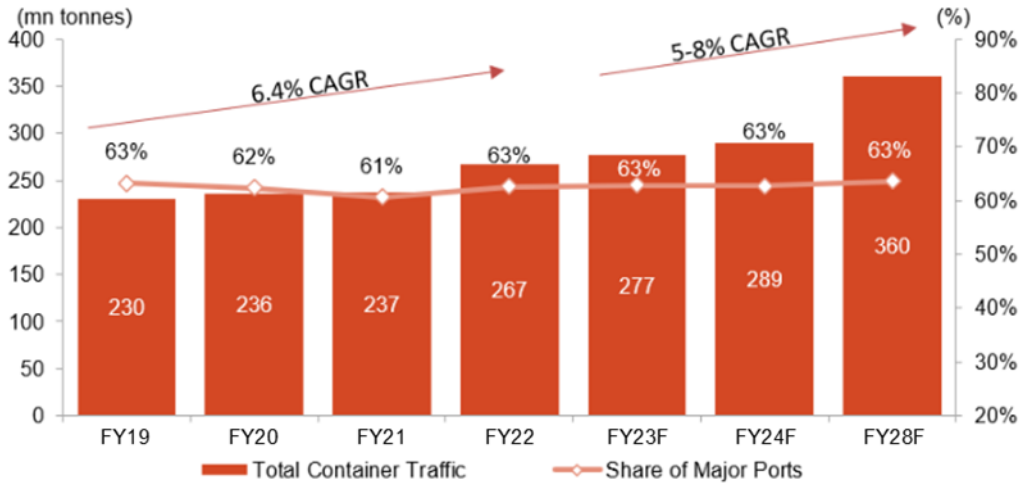
In fiscal 2023, the growth in container traffic is expected to witness a muted growth of 2-5% after a robust increase of 12.7% in fiscal 2022. The muted growth is due to emergence of unfavourable macroeconomic factors such as economic slowdown, inflationary pressures, and high freight costs during the fiscal. Furthermore, reduced stress levels on global supply chains due to the absence of COVID-induced restrictions is likely to result in the easing of acute shortage in container availability and faster turnaround times in ports. As a result, lesser number of containers would be needed for transportation. However, in the medium term, low container traffic per capita in India and containerization's inherent benefits like cost-effectiveness would act as key levers for growth in container traffic.

In fiscal 2022, Q1 witnessed the highest year-on-year traffic growth of 53%. However, in fiscal 2023, the container traffic in Q1 was sluggish registering a year-on-year growth of 3.6% owing to the base effect and geopolitical tensions. Similarly, container traffic had logged year-on-year growth of 24% between April-November in fiscal 2022. However, in the same period of fiscal 2023 the growth in container traffic was a paltry 1.7% due to the aforementioned reasons.

In fiscal 2024, container traffic is expected to grow at 3-6% benefitting from the low base of fiscal 2023. Furthermore, the container segment is expected to see a growth of 5-8% over fiscals 2023-2028.

The share of Major ports in container traffic to remain at similar levels over the next five years

Fig 21: Share of major ports in total container traffic



F: Forecast

Source: IPA, *Ministry of Shipping, CRISIL MI&A*

Outlook of key commodities

Table 7: Outlook of key commodities

Commodity	Outlook
Coal	In fiscal 2023, thermal coal consumption is expected to grow due to sustained power demand as well as support from the non-power sector since the industrial cycle continues to experience a strong recovery. CRISIL MI&A expects coal traffic at Indian ports to witness a 25-28% growth in fiscal 2023 and remain flattish in next five fiscals.
POL	Due to revival of demand across all end-user industries and strong growth in India's GDP, CRISIL MI&A expects POL traffic to grow by 4-7% in fiscal 2023. In the next five fiscals demand is expected to moderate due to alternate fuels & increasing efficiencies of automobiles.
Iron Ore	As export volumes recover to an extent and coastal traffic also improves marginally due to higher production of steel in the country's steel plants, CRISIL MI&A expects iron ore traffic to grow at a pace of 3-6% in next five fiscals. The growth is expected to be driven primarily by the coastal traffic since the growth in exports are expected to be tepid.
Containers	In FY23, the growth in container traffic is expected to witness a muted growth of 2-5%. The sedate growth is due to emergence of unfavourable macroeconomic factors such as economic slowdown, inflationary pressures, and high freight costs during the fiscal. CRISIL MI&A expects the container segment is expected to see a growth of 5-8% over next five fiscals.
Cement	Demand is estimated to witness growth rate of 7-9% in fiscal 2024, led by rural housing and infra push after registering a healthy 11-12% growth in fiscal 2023. Thrust on infrastructure spending and traction from housing to remain the key demand drivers. CRISIL MI&A expects cement demand to register a CAGR of 4.5-5.5% over the next five years
Steel	Steel demand in India is poised to grow 12-13% in fiscal 2023 after recovering 11.4% in fiscal 2022 on the low base of COVID-impacted fiscal 2021. While growth is moderating, demand is already higher than pre-pandemic levels. Moving forward, demand is expected to grow 7-9% in fiscal 2024 with a push from infrastructure and the auto sector. Demand is expected to be spearheaded by infrastructure projects, and housing and construction demand. In next five years, CRISIL MI&A expects steel products demand to grow by 7-9% subject to government spending.
Power	Power demand grew 8.2% in fiscal 2022 on the back of strong economic recovery and is likely to post a decadal high growth of 9.5-10% in fiscal 2023. Power demand is projected to clock a compound annual growth rate (CAGR) of 5.0-5.5% between fiscals 2023 and 2028, supported by economic growth recovery and improved reach and quality of power supply. Central and state sectors are likely to drive conventional capacity additions as private capacity addition shifts towards renewable sources, with a large share of the investments geared towards increasing clean-energy supply.

Source: CRISIL MI&A

Key growth drivers

Key drivers for EXIM cargo:

- Manufacturing activity – Thrust on manufacturing through Make in India, Atmanirbhar Bharat and PLI bodes well for merchandise trade and augurs well for container trade
- Robust POL trade, including the LNG demand led by climate change concerns and LPG demand from improved household penetration

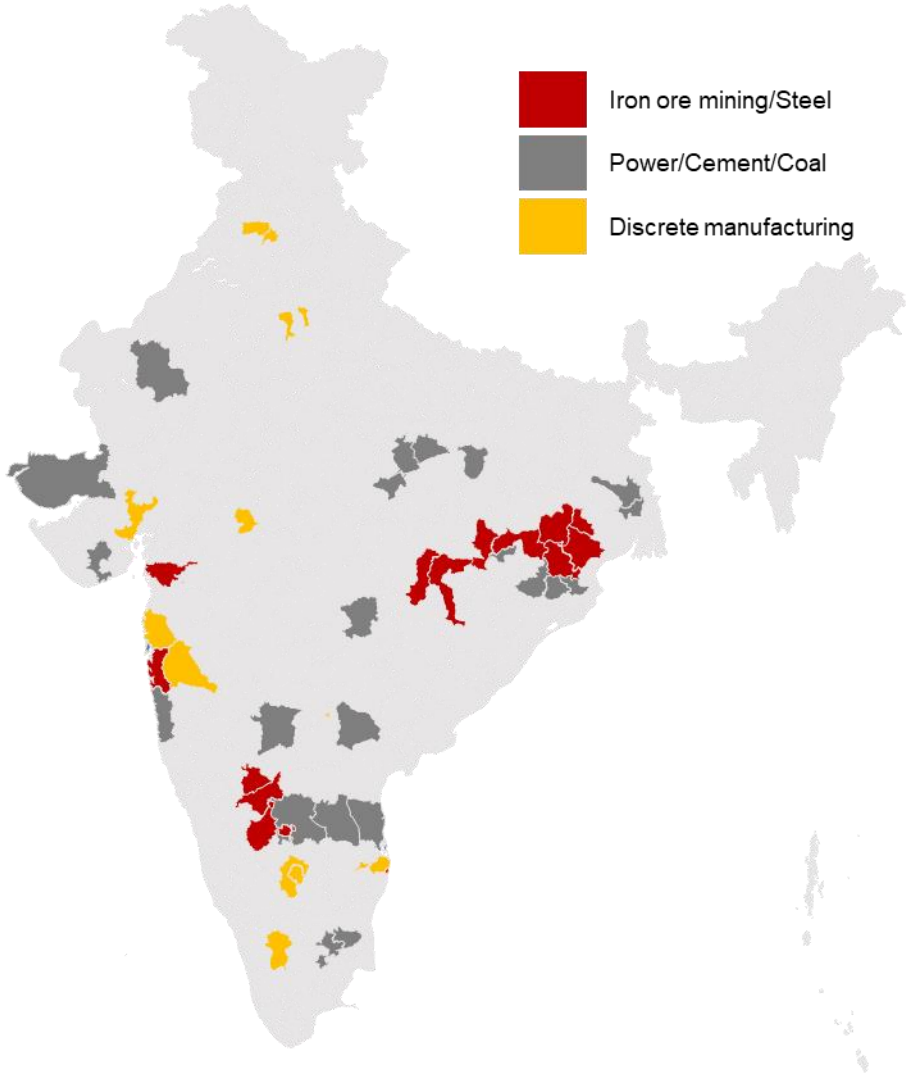
- Bulk cargo: Thermal coal demand from power sector will remain strained. However, coal demand from steel and captive power will support volumes
- Others: Steel, fertilsers, chemicals etc will keep the over EXIM cargo growth strong

Key drivers for coastal cargo are cost competitiveness and environmental friendliness of the mode. Coal movement for power and iron ore movement for steel will continue to remain major contributors. Expanded capacities of JSW and AMNS bode well for iron ore movement particularly. Container cargo, fertilisers, cement, and steel are also expected to contribute to growth in coastal cargo.

Key industrial clusters

Port traffic is driven by mineral, steel, cement, power and discrete manufacturing clusters. Key mineral clusters are located in Odisha, Jharkhand, Chhattisgarh and Karnataka. Major steel capacities are located near the key mineral clusters or end user markets. Location of cement and power capacities also hinges upon limestone and coal availability. Few coal import based power plants are located near ports, such as Mundra, Krishnapatnam, Jaigarh, among others. The discrete manufacturing clusters are located in Northern and Western India.

Fig 22: Key mineral and manufacturing clusters in India



Source: Industry, CRISIL MI&A

4. Capacity additions and utilisation for ports in India

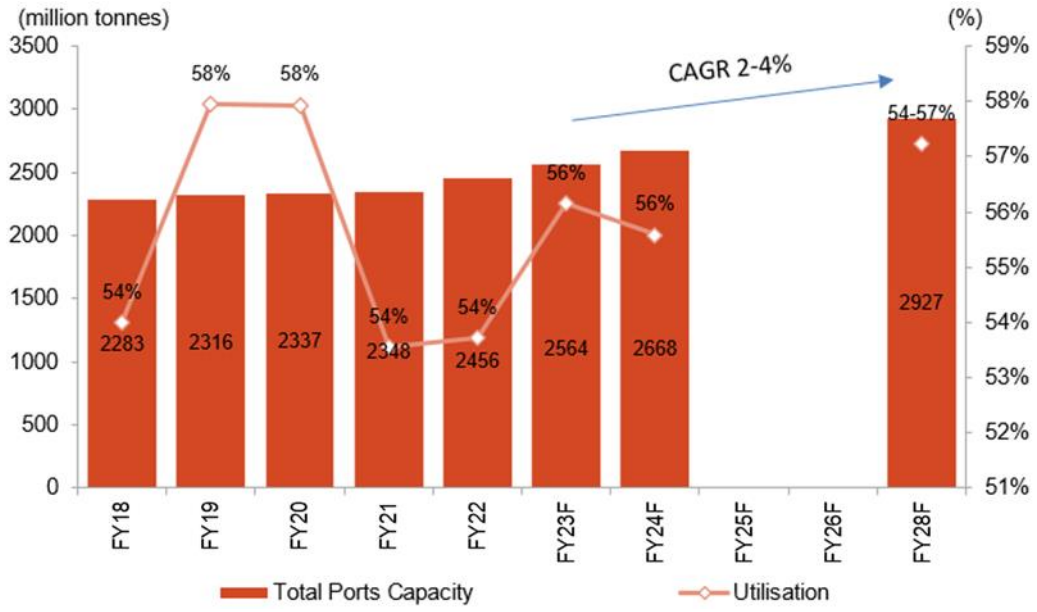
Utilisation rate to remain range-bound

CRISIL MI&A expects utilization levels to be stable at ~56% levels in fiscal 2023 following a growth of 8-9% in overall port traffic. Port capacity and capex which was deferred in fiscal 2021 due to the COVID-19 pandemic would also recover and we expect to witness a capacity addition to the extent of 2-4% over the next 5 years.

Over the next 5 years, we anticipate utilisation to remain range-bound at ~54-56% as capacity additions would be similar to traffic growth. CRISIL MI&A expects ports to add capacity of 500-550 million tonne at a CAGR of 2-4% over the next 5 years. Capacity additions are expected to be driven by the POL (incl. LNG, LPG) followed by the coal and container segments.

Utilisation rate to rebound in fiscal 2023, remain under pressure over medium term

Fig 23: Utilisation rate of Indian ports

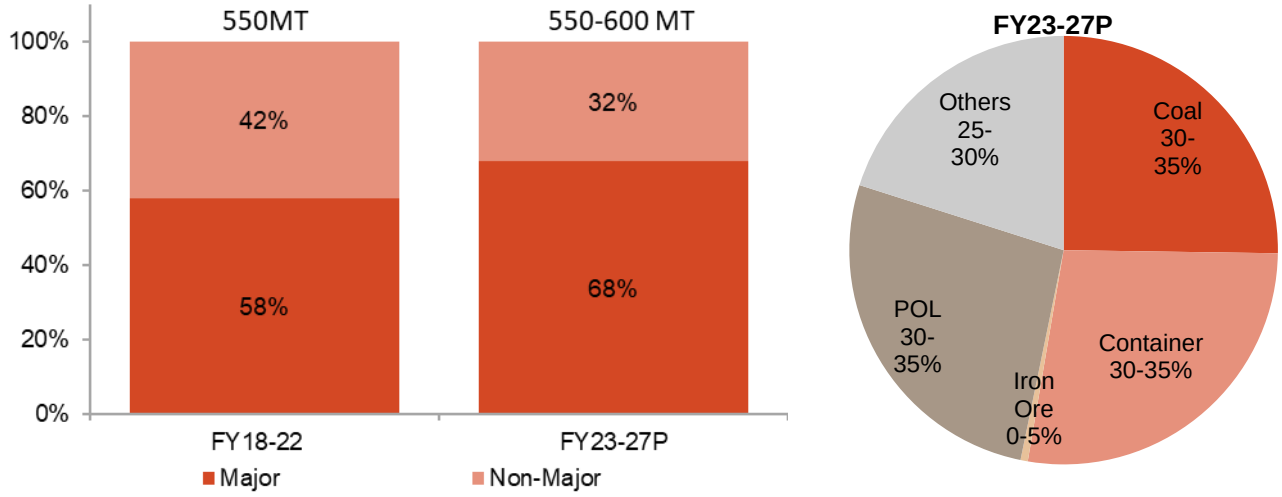


F: Forecast

Source: IPA, CRISIL MI&A

Over fiscals 2023 to 2027, 65-70% of capacity addition is expected to come from major ports, especially Visakhapatnam, Paradip, Kandla, Ennore, Mumbai, Tuticorin and JNPT. The rest would be contributed by non-major ports in Odisha, Karnataka, Andhra Pradesh, and Kerala.

Fig 24: Mix in capacity additions



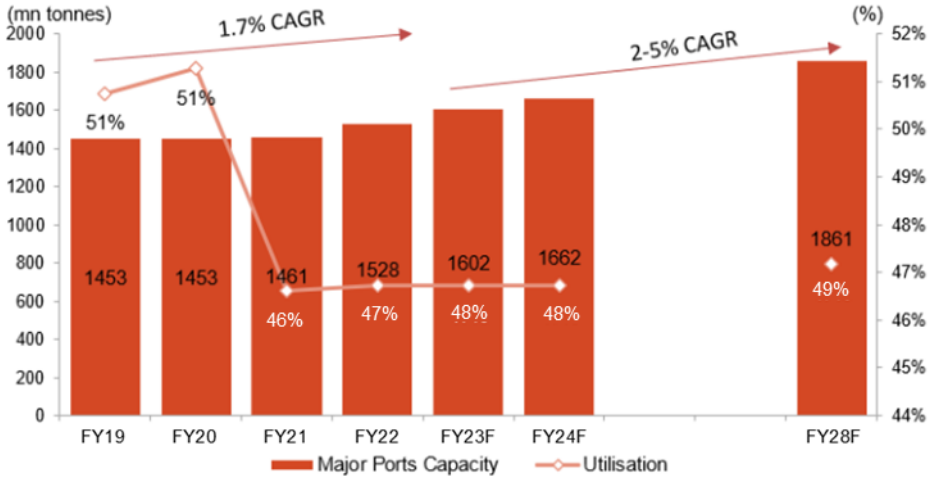
Source: CRISIL MI&A

Major ports: Capacity additions and utilisation

CRISIL MI&A expects capacity addition at major ports to increase at CAGR 2-5% between fiscals 2023 and 2028, expanding by 300-350 MT. This is lower than ~450 MT capacity added between fiscals 2018 and 2022, without considering the re-rating of capacities.

The utilisation levels are expected to remain at similar levels going forward.

Fig 25: Utilisation rate at major ports



In fiscal 2018, the Ministry of Shipping revised the berthing policy of all major ports, and accordingly capacity at these ports was re-rated. Considering these standards, in fiscal 2017 capacity was 1,359 MTPA, translating into utilisation of 47.7%.

F: Forecast

Source: IPA, Ministry of Shipping, CRISIL MI&A

Table 8: Capacity utilisation for Major ports (FY2022)

Major Port	Capacity (Million tonnes)	Traffic (Million tonnes)	Utilisation (%)
Deendayal (Kandla)	267	127	48
Paradip	249	116	47
JNPT	139	76	55
Chennai	135	49	36
Vizag	134	69	51
VOC	111	34	31
New Mangalore	105	39	38
Kamrajar	91	39	43
Kolkata/Haldia	83	58	71
Cochin	79	35	44
Mumbai	79	60	76
Mormugao	63	18	29
Total	1,535	720	47

Source: Shipmin.gov.in, Industry, CRISIL MI&A

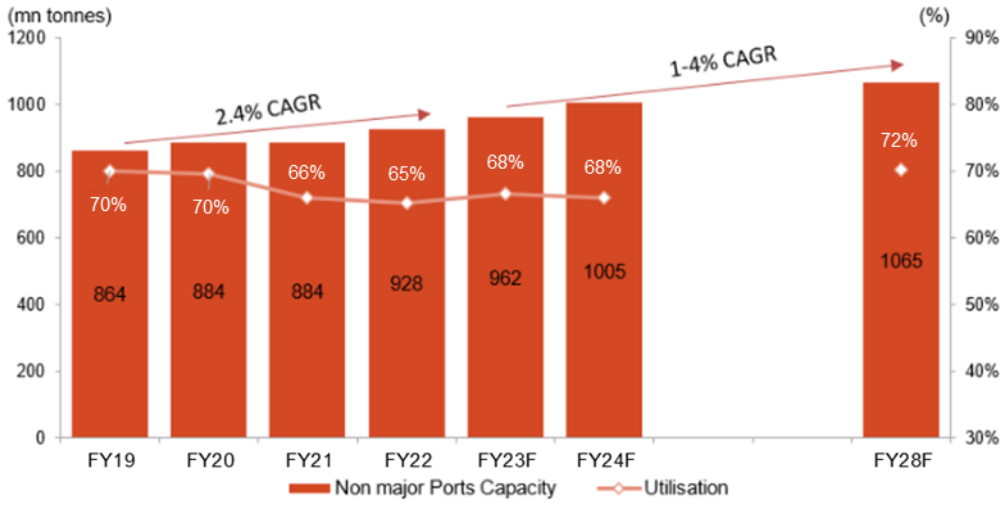
Non-major ports: Capacity additions and utilisation

Utilisation at non-major ports to be steady

Increasing capacity additions in the container and coal segments are expected to drive supply at non-major ports at a CAGR of 1-4% over the next five years. On the other hand, investment in iron ore terminals is expected to remain minimal due to low utilisation.

Utilisation at non-major ports to slightly increase

Fig 26: Utilisation rate at non-major ports



F: Forecast

Source: IPA, Ministry of Shipping, CRISIL MI&A

Capacity addition to be dominated by container and coal facilities

Non-major ports are expected to add 100-130 million tonnes of capacity between fiscals 2023 and 2027, led by Vizhinjam, Mundra, Krishnapatnam, Dhamra, Dahej, Gangavaram and Hazira ports. The container segment is expected to dominate in terms of tonnage led by terminals at Vizhinjam, Mundra and Dhamra.

Table 9: Capacity utilisation for non-major ports (FY2022)

Maritime states	Capacity (Million tonnes)	Traffic (Million tonnes)	Utilisation (%)
Gujarat	552	405	73
Andhra Pradesh	193	88	46
Maharashtra	125	52	42
Odisha	70	42	60
Tamil Nadu	25	7.8	31
Puducherry	17	5.8	34
Goa	9	0.03	0.3
Karnataka	5	0.8	16
Andaman & Nicobar Islands	4	1.5	38
Kerala	1	0.3	32
Lakshadweep	6	0.2	3
Total	1,007	603	60

Source: Shipmin.gov.in, Industry, CRISIL MI&A

Investments

POL segment to contribute a significant share of investments at ports

Post deferment of capex plans (to the extent of 50-60%) by players due to the COVID-19 pandemic and uncertainty in future traffic growth, investments bounced back in fiscal 2022. We expect this momentum to continue over the medium term.

CRISIL MI&A expects investments worth Rs 600 billion in the port sector from fiscal 2023-27. Of these investments, we expect Maharashtra, Gujarat, Odisha, Andhra Pradesh, and Tamil Nadu to contribute 75-80%.

Investments in the below-mentioned ports to account for 65-70%

Table 10: List of planned investments in the port sector

Port	Commodity	State
Dhamra	Container, POL, Multipurpose	Odisha
Ennore	POL	Tamil Nadu
JNPT	Container, POL	Maharashtra
Vizhinjam	Container	Kerala
Paradip	Coal, Outer harbour	Odisha
Haldia	Bulk, Outer harbour	West Bengal
Tuticorin	Coal, Container, Inner harbour	Tamil Nadu
Kandla	Container, Bulk, POL, General	Gujarat
Mumbai	POL, Container	Maharashtra
Mundra	Container	Gujarat
Karaikal	POL	Pondicherry

Source: IPA, CRISIL MI&A

Containers and LNG among the most investment-intensive across commodities

Among commodities, LNG (liquefied natural gas) terminals are highly capital-intensive owing to associated infrastructure such as the floating storage regassification unit to handle the commodity. As a result, despite the small share in overall capacity in terms of tonnage, POL (petroleum, oil and lubricants) occupies a higher share in terms of investment. In case of POL, investments in LNG, especially by Mumbai Port Trust and Dhamra, are expected to drive investments.

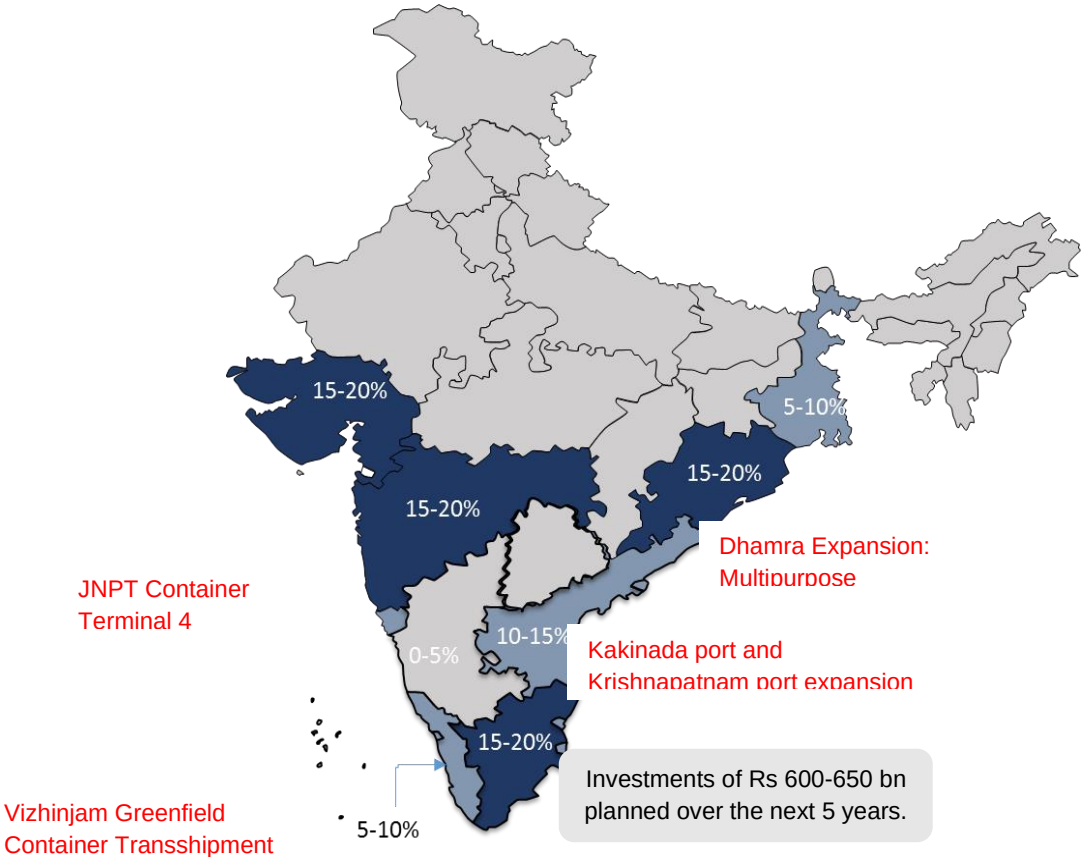
After LNG, the investment intensity is higher for container terminals owing to the level of mechanization required to handle the boxes.

Table 11: Typical capital cost required per terminal

Type of terminal (based on commodity)	Indicative capital costs/terminal	Capacity
Coal	Rs 6 – 8 billion	10 MTPA
Container	Rs 10 – 15 billion	1 million TEU
LNG	Rs 40 – 50 billion	5 MTPA

Source: IPA, Planning Commission, CRISIL MI&A

Fig 27: State-wise break-up of investments from fiscal 2023 to fiscal 2027 (percentage of total investments)



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Source: IPA, CRISIL MI&A

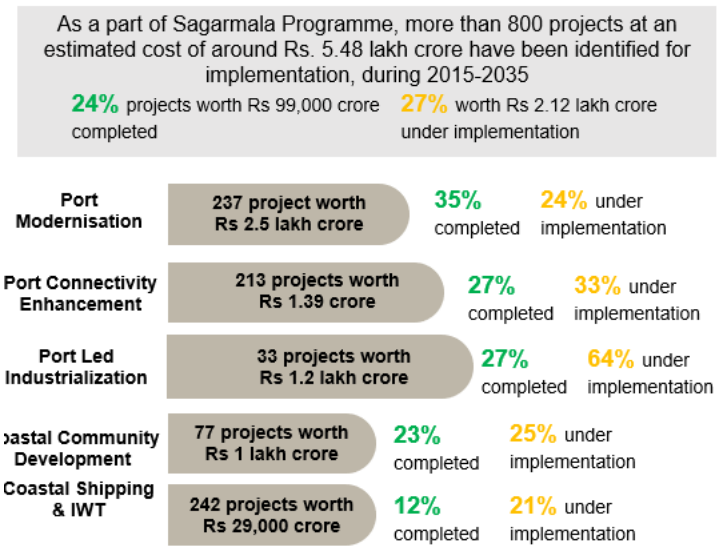
Majority of the projects under Sagarmala reach implementation stage

As a part of Sagarmala Programme, more than 800 projects at an estimated cost of around Rs. 5.48 lakh crore have been identified for implementation. Sagarmala projects include projects from various categories such as modernization of existing ports and terminals, new ports, terminals, RoRo & tourism jetties, enhancement of port connectivity, inland waterways, lighthouse tourism, industrialization around port, skill development, technology centers, etc.

Special Economic Zone at Jawaharlal Nehru Port, Smart Industrial Port City at Deendayal Port & Paradip Port and Coastal Employment Unit at V. O. Chidambaranar Port are a part of Sagarmala Programme.

14 projects related to development of new ports with estimated investment of Rs. 1,25,776 Cr are part of Sagarmala Programme. These projects are spread across coastal states/ union territories including Andhra Pradesh, Maharashtra, Gujarat, Karnataka, Andaman & Nicobar Islands and Tamil Nadu. Implementation of the projects is to be done by the State Maritime Boards and Major Ports etc. In Gujarat, 2 projects related to development of new ports including Bulk terminal / Greenfield Port at Chhara and CNG Terminal at Bhavnagar Port are part of Sagarmala Programme and being implemented by Gujarat Maritime Board.

Fig 28: Status of investments under Sagarmala (% of total investments)



Latest update as of March 2022

Source: Ministry of Shipping, CRISIL MI&A

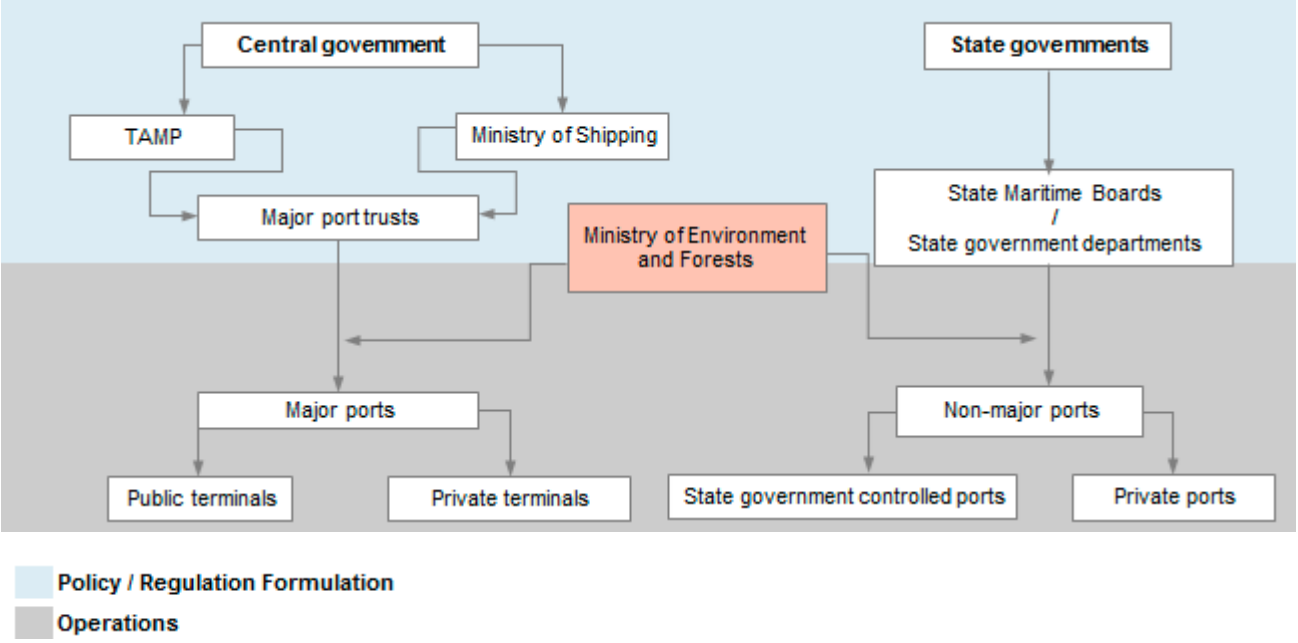
5. Evolution of regulatory framework in Port sector

Institutional framework and key policies for the sector

Government has set up institutions to develop, monitor and regulate the operations of these Indian ports. In addition, there are institutions which implement the policies related to the sector.

Following are the bodies through which the ports are monitored by central or state government.

Fig 29: Indian ports sector – Institutional framework



Source: Industry, CRISIL MI&A

Major Port Authorities Act, 2021 was passed in FY22. It replaces the earlier Major Ports Trust Act, 1963. The Act vest following provisions under the board of Port Authorities

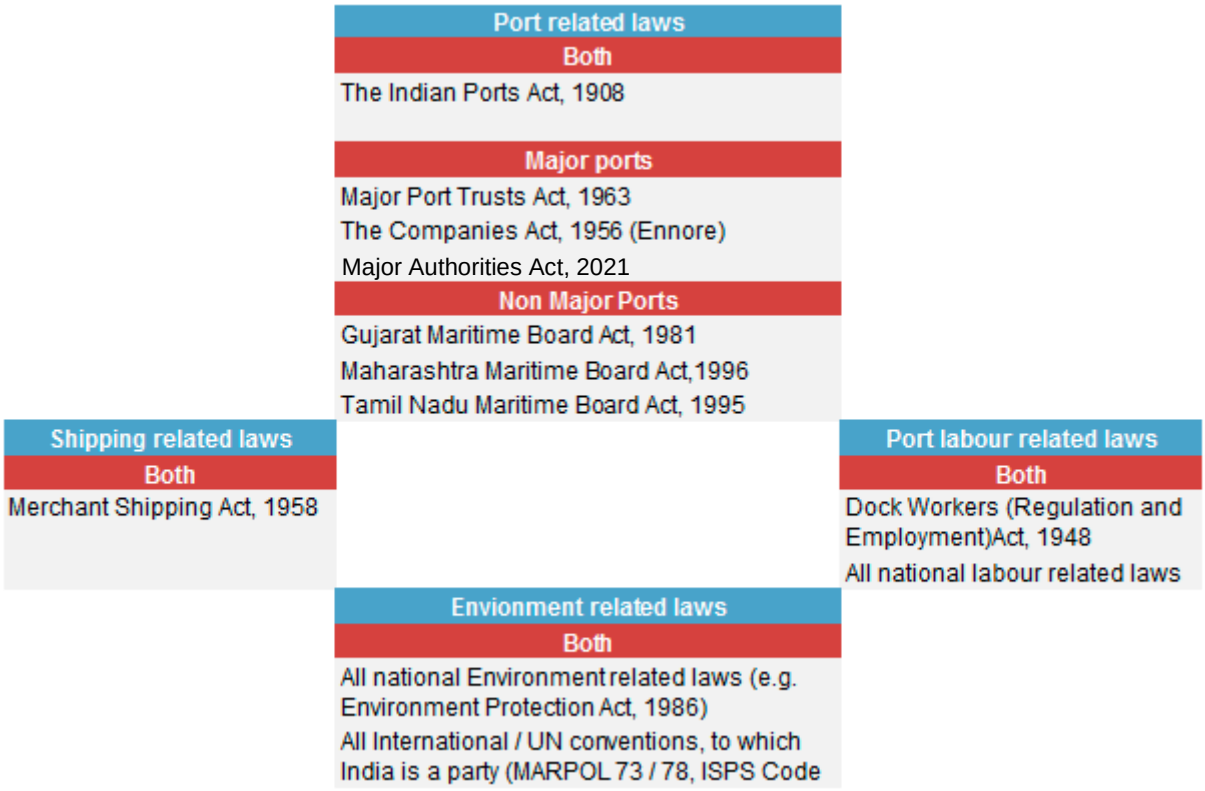
- Constitution and composition of board of major port authority, the list needs to be submitted to central government after every five years
- Board is deemed as successor of Board of Trustees of Major Port.
- The board must constitute an Adjudicatory Board to carry out the residual function of the erstwhile TAMP (Tariff Authority for Major Ports), to address into disputes between ports and PPP concessionaires.
- The Board is also empowered to use its property, assets and funds as deemed fit for the development of the port. The Board is empowered to make rules on
    - declaring availability of port assets for port related activities and services
    - developing infrastructure facilities such as setting up new ports, jetties, and
    - providing exemption or remission from payment of any charges on any goods or vessels

Repeal of TAMP post implementation of Major Port Authorities Act, gives port authorities power to set tariffs as per market conditions. This improves the competitive positioning of terminals located at major ports vis-à-vis the non-major ports. The non-major ports are typically free to tweak the tariffs as per market dynamics, which was not the

case with terminals located at major ports in erstwhile TAMP led era. The concessionaires had to send proposals to TAMP, which used to provide approvals on case-by-case basis.

Repeal of TAMP, along with the monetisation pipeline of the government, has increased the overall attractiveness of the port sector.

Fig 30: Indian ports sector – Legislative framework



Both = Major and Non-major Ports

Source: Industry, CRISIL MI&A

Overview of business models adopted by port operators in India

There are four important port management and administrative models:

- Service port model: Under this model, port authority (which is under state or central jurisdiction) owns the land and all available assets (fixed and mobile). It also performs all regulatory functions at the port. It also employs all the labour for cargo handling at the port.
- Tool port model: This model divides operational responsibilities between port authority and private operators. The port authority owns, develops and maintains the port infrastructure and superstructure (cargo-handling equipment such as quay cranes, forklift trucks etc). These equipment are usually operated by the labor employed directly by the port authority. Other operations like stevedoring, are performed by private cargo-handling firms/private operators.

- Landlord port model: The landlord port is characterized by its mixed public-private participation (PPP). Under this model, the port authority acts as regulatory body and as a landlord, while port operations (especially cargo handling) are carried out by private companies. The landlord port is the dominant port model in larger and medium sized ports. The model is expected to create significant opportunities for private players.

- Private Service port: In this model, central or state government does not have any direct involvement in port activities. Port land is owned by the private sector. All regulatory functions and operational activities are performed by private companies.

Most Indian ports are increasingly adopting landlord port model, where the private terminal/port operator is allotted the concession to operate the port for an agreed period, generally 30 years.

6. Competitive landscape

Overview of key port/terminal operators in India

Key port/terminal operators in India are Adani Ports and Special Economic Zone (APSEZ), JSW Infrastructure, JM Baxi, DP World, PSA International and APM Terminals, among others. APSEZ operates non major ports at Mundra, Hazira, Dahej, Kattupalli and Krishnapatnam. It has also acquired Gangavaram port in fiscal 2022. Besides, these ports, it also operates port terminals at major ports of Kandla, Mormugao, Ennore and Vizag.

JSW Infrastructure, operates ports/jetties at Dharamtar, and Jaigarh, in Maharashtra. Company also operates port terminals at major ports of Mormugao (South-West Port), New Mangalore, Ennore, and Paradip. JSW Infrastructure has also entered into a Concession Agreement (CA) with New Mangalore Port Trust (NMPT) on January 27, 2020, for modernization and operations of existing container berth on public private partnership basis for 30 years[1].

JM Baxi, DP World, PSA International and APM Terminals are other key port operators in India. These players pre-dominantly operate container terminals across ports.

Other key players with non-commercial cargo handling infrastructure are Arcelor Mittal Nippon Steel (In FY23, the company is in process of acquiring port assets at Hazira, Paradip and Vizag) and Sikka Ports and Terminals Ltd, having port capacity at Sikka, near Jamnagar refinery. Port assets with Arcelor Mittal Nippon Steel at Hazira, Paradip and Vizag, handled ~40 million tonnes in fiscal 2022, while Sikka port handled ~127 million tonnes in fiscal 2022.

[1] Source: Rating rationale dated 20th September 2022 (https://www.careratings.com/upload/CompanyFiles/PR/20092022074146_JSW_Mangalore_Container_Terminal_Private_Limited.pdf)

Brief profile of commercial port terminal players is provided below:

Table 12: Profile of key port/terminal operators in India

Company	Capacity (FY22)	Revenue from operations (FY22)	Traffic (FY22)	Ports/Terminals	Key commodity groups (FY22)
APSEZ[2]	560 MT	Rs 15,934 Cr	312 MT	Ports: Mundra, Hazira, Dahej, Kattupalli, Krishnapatnam, Gangavaram (Acquired in FY22), Dhamra Terminals: Kandla, Mormugao, Ennore, Vizag	Containers (38%), Dry Bulk (44%) and Liquid and gas cargo (12%)
JSWIL[3]	153 MT	Rs 2,273 Cr	62 MT	Ports/Jetties: Dharamtar, and Jaigarh Terminals: Mormugao, New Mangalore, Ennore, Paradip	Coal (54%), Iron Ore (32%), Others (14%)
JM Baxi[4]	42 MT (as on 28 Feb 2022)	Rs 2,316 Cr	21.3 MT	Terminals: Kandla, Vizag, Paradip, Haldia and Rozi Jetty (Jamnagar)	Containers (98%) and Dry Bulk (2%)
Gujarat Pipavav Port Limited (GPPL)	~1.35 MTEU ~5 MT (Bulk) ~2 MT (Liquid)	Rs 744 Cr	10.3 MT	Ports: Gujarat Pipavav (Container, Dry/Liquid Bulk)	Containers (52%), Dry bulk (41%), Liquid cargo (8%)
DP World	~5.7 MTEU	NA	~3.6 MTEU (~54.0 MT#)	Terminals: Mundra, JNPT, Cochin, Chennai	Containers
PSA International*	~4.2 MTEU	Rs 968 Cr	~ 2.5 MTEU (~37.5 MT#)	Terminals: JNPT, Chennai, Tuticorin (PSA and SICAL), Kolkata (PSA International provides O&M services)	Containers

#- Calculated by considering ratio of 1TEU=15 tonnes

** For PSA International, Net Sales number is presented in the above table*

Note: MT: Million tonnes, MTEU: Million TEU; NA- Not available

Source: Annual reports, Investor presentations, CRISIL MI&A

[2] *APSEZ Q4 FY22 Investor Presentation*

[3] *JSWIL FY22 Annual Report*

[4] *Rating Rationale (Dated – April 6, 2022) - J M Baxi Ports & Logistics Limited (Formerly known as International Cargo Terminal and Infrastructure Private Limited)*

Table 13: Profile of key ports

Company	Profile of key ports
APSEZ	**Mundra** • Mundra Port, developed by Adani Port, is located 60 km west of Gandhidham in Kutch district and strategically located to handle traffic from the northern and northwestern regions of India • The port has facilities to handle container, liquid, dry bulk, and other general/break bulk cargo, and has dedicated berths for various commodities, including coal, fertilizer, and chemicals. The key commodities handled at the port include coal, POL, LNG, LPG, container, agri commodities, steel cargo, fertilizers, minerals and other general/break cargo • Mundra Port has a well-developed rail and road network for connectivity **Dahej** • Dahej, located in Bharuch district, is a key location for cargo handling in Gujarat, with ports operated by major companies such as Adani Ports, Birla Copper, and Reliance Industries • The port is well-connected to its hinterland through a network of roads and railways, and handles various commodities like fertilizers, LNG, LPG, coal, and chemicals **Kattupalli** • Kattupalli Port is a deep-water port located near Chennai, capable of handling vessels of draft up to 15.0 meters. The port presently has three berths, Berth-1 of length 353 meters, and Berth-2 & 3 having a combined length total 654 meters in a line. • The port is operated by Adani Ports and handles a diverse range of cargo, including containers, automobiles, and bulk commodities, as well as offering facilities for ship repair and maintenance **Gangavaram** • Gangavaram Port in Andhra Pradesh is a multi-purpose port with a deep draft, capable of handling large vessels of up to 200,000 DWT. It has five berths for handling coal, iron ore, and other bulk and general cargo • The port is well-connected through rail and road networks, with key commodities including coal, iron ore, and fertilizers **Krishnapatnam** • Located in Nellore district, the hinterland for Krishnapatnam port encompasses southern and western Andhra Pradesh, northern Tamil Nadu, and eastern regions of Karnataka. • The port has facilities to handle dry bulk, liquid bulk, and containerized cargo, and has railway and highway connectivity. It handles commodities such as iron ore, coal, containers, fertilizers, and other liquid bulk cargo **Hazira** • Hazira port is located in the state of Gujarat, India and is operated by APSEZ • Hazira port handles all types of cargo including bulk, break-bulk, bulk liquid chemicals, petroleum products & edible oil, containers, automotive and crude • The port provides multimodal connectivity to the northern, north-western, and central parts of India

Company	Profile of key ports
	Dhamra • Dhamra port is a deep draft port that can accommodate super cape-size vessels up to 180,000 DWT, and has a potential to handle over 100 MMTPA of cargo • It is an all-weather, multi-user, multi-cargo port handling coal, iron ore, limestone, other dry bulk cargo, containers, LNG, LPG and crude oil • The port is strategically located near mineral-rich belts of Orissa, Jharkhand, and West Bengal, and is connected to Chennai-Howrah main line through Bhadrak and via road to Bhadrak APSEZ also operates terminals at Kandla, Mormugao, Ennore, Vizag ports.
JSWIL	**Dharamtar** • JSW Dharamtar Port is located in Raigad district of Maharashtra and primarily caters to the import and export needs of the nearby JSW Steel Plant and handles various cargoes such as limestone, dolomite, iron ore, coal, and scrap • The port is situated 80 km from Mumbai and 135 km from Pune and is well-connected by roads and railways to its hinterland. It is situated near the Mumbai-Goa National Highway and the Mumbai-Goa Konkan railway line **Jaigarh** • Jaigarh Port serves a large hinterland covering parts of northern Goa, southern and western Maharashtra, and Northern and central Karnataka. Jaigarh Port is connected to NH-66 (Mumbai-Goa) at Nivali through SH 106. The Jaigarh Port is at a distance of about 55 kilometres from Ratnagiri on the Konkan railway network • Jaigarh Port on the west coast has a draft of 17.5 meters, which is one of the deepest draft ports in India • As per news articles, JSW Jaigarh Port contains India's first Floating Storage and Regasification Unit -based LNG terminal commissioned in May 2018 JSWIL also operates terminals at Mormugao, New Mangalore, Ennore, Paradip ports.
JM Baxi	**Rozi jetty** • Rozi Jetty is located in the Gulf of Kutch, in the Jamnagar district of Gujarat, India and is operated by JM Baxi • The 100 m jetty primarily handles bulk cargo and fertilisers JM Baxi also operates terminals at Kandla, Vizag, Paradip, Haldia and Rozi Jetty (Jamnagar).
Gujarat Pipavav Port Limited (GPPL)	**Gujarat Pipavav** • Pipavav port, an all-weather port, is located in the Saurashtra region of Gujarat and is promoted and operated by APM terminals. • Port is well-connected by road and rail, and it lies on the important maritime trade routes which connect India with international destinations such as the Middle East, Africa, Europe, etc. • Pipavav Port initially began operations for handling containerized cargo. However, the port now handles liquid cargo and bulk cargo such as coal, steel, and fertilisers.

Source: Annual reports, Investor presentations, CRISIL MI&A

Trend in capacity addition and traffic handled by key players

APSEZ and JSWIL, key diversified port operators, added capacity to the tune of 31% and 49%, during fiscal 2020-2022 period. JSWIL is the second largest commercial port operator in the country, in terms of cargo handling. JSWIL's capacity has increased with a CAGR of 21.9% during FY20-22 period, vis-à-vis 14.7% CAGR growth of APSEZ (largest player, in terms of capacity).

Among commercial port operators, JSWIL's traffic growth stood highest at 35.0% CAGR during fiscal 2020-22 period, followed by APSEZ at 18.3% CAGR making JSWIL as the fastest growing port-related infrastructure company in terms of installed cargo handling capacity and cargo volumes handled during fiscal 2020 to fiscal 2022

As per investor call transcript of APSEZ, sticky cargo constituted to ~49% of total cargo handled by APSEZ in FY22. For JSWIL, third-party cargo constituted ~17.1 million tonnes translating to share of ~28%, out of 62 million tonnes cargo handled in FY22.

Table 14: Key diversified commercial port operators – Capacity in million tonnes

Port name	FY20	FY21	FY22	CAGR FY20-22
APSEZ	426.0	498.0	560.0	14.7%
JSWIL	103.0	119.0	153.0	21.9%
JM Baxi	37.0	37.0	42.0	6.5%
GPPL[#]	27.0	27.0	27.0	-

#Capacity calculated by considering ratio of 1TEU=15 tonnes

Source: Annual reports, Investor presentations, CRISIL MI&A

Table 15: Key diversified commercial port operators – Traffic handled in million tonnes

Port name	FY20	FY21	FY22	CAGR FY20-22
APSEZ	223.0	247.0	312.0	18.3%
JSWIL	34.0	46.0	62.0	35.0%
JM Baxi	18.9	19.7	20.8	4.9%
GPPL	10.6	10.3	10.3	-1.4%

Source: Annual reports, Investor presentations, CRISIL MI&A

Financials for key port operator companies

Table 16: Financials for key port operator companies

Adani Ports and Special Economic Zone Limited (Consolidated)					
Parameter	**Unit**	**Mar-2020**	**Mar-2021**	**Mar-2022**	**CAGR FY20-22**
Revenue from operations	Rs Crore	11,438.8	12,549.6	15,934.0	18.0%
Total income	Rs Crore	13,734.4	14,519.8	18,088.8	14.8%
Net Profit	Rs Crore	3,784.5	5,048.7	4,795.2	12.6%

OPM	%	51.1	69.7	56.4	-
NPM	%	31.5	39.9	29.7	-
Total Debt	Rs Crore	30,075.8	36,901.9	47,858.8	26.1%
Interest Coverage	Times	4.3	4.7	4.4	-

J M Baxi Ports and Logistics Limited (Consolidated)					
Parameter	**Unit**	**Mar-2020**	**Mar-2021**	**Mar-2022**	**CAGR FY20-22**
Revenue from operations	Rs Crore	1,542.0	1,560.5	2,316.2	22.6%
Total income	Rs Crore	1,594.8	1,598.0	2,341.3	21.2%
Net Profit	Rs Crore	-46.1	32.3	104.1	NM
OPM	%	21.1	25.3	17.3	-
NPM	%	-3.0	2.1	4.5	-
Total Debt	Rs Crore	1,888.7	1,192.0	1,844.2	-1.2%
Interest Coverage	Times	1.4	1.7	3.1	-

JSW Infrastructure Limited (Consolidated)					
Parameter	**Unit**	**Mar-2020**	**Mar-2021**	**Mar-2022**	**CAGR FY20-22**
Revenue from operations	Rs Crore	1,143.1	1,603.6	2,273.1	41.0%
Total income	Rs Crore	1,237.4	1,678.3	2,378.7	38.7%
Net Profit	Rs Crore	196.5	284.6	320.9	27.8%
OPM	%	55.5	51.1	49.3	-
NPM	%	16.7	17.7	14.0	-
Total Debt	Rs Crore	3,102.6	3,945.8	4,408.7	19.2%
Interest Coverage	Times	2.6	3.9	2.9	-

Gujarat Pipavav Port Limited (Consolidated)					
Parameter	**Unit**	**Mar-2020**	**Mar-2021**	**Mar-2022**	**CAGR FY20-22**
Revenue from operations	Rs Crore	735.4	733.5	743.5	0.6%
Total income	Rs Crore	782.4	773.9	772.1	-0.7%
Net Profit	Rs Crore	319.4	222.0	197.3	-21.4%
OPM	%	60.9	57.6	55.6	-
NPM	%	42.3	29.2	25.5	-
Total Debt	Rs Crore	0.0	0.0	0.0	-
Interest Coverage	Times	70.1	72.7	91.9	-

Note: Financial data of the companies has been reclassified according to workings of CRISIL MI&A

NM- Not meaningful

Operating profit margin (OPM) = Operating Profit Before Depreciation Interest & Taxes Margin / Operating income

Net profit margin (NPM) = Profit after tax / Operating income

Interest coverage ratio = Profit before depreciation, interest, and tax (PBDIT)/ Interest and finance charges

Source: Company documents, CRISIL MI&A

7. Overview of allied sectors

Container freight station/ inland container depot

Distinction between CFS and ICD

Container freight station (CFS) and inland container depot (ICD) are common user facilities with public authority status, equipped with fixed installations. These offer a wide range of services, including custom clearance, handling and temporary storage of import/export laden and empty containers.

These comprise customs bonded area, warehousing space, and container yard area; and are equipped with IT infrastructure and adequate equipment, thereby making it an integrated platform for activities custom clearance, handling, transporting, loading/unloading and stuffing/de-stuffing of containers. CFS and ICD also provide services such as less-than-container-load (LCL) consolidation, reefer services, hub-and-spoke services, etc. In essence, the CFS/ICD industry forms a link between multi-modal transport operators (MTOs) and shipping lines in the logistics value chain.

As the share of direct port delivery[5] (DPD) is increasing at major ports, post custom clearance the CFS facility is being used for storage and transportation as well as value-added services such as warehousing, labelling, and palletisation after de-stuffing the containers.

While the functional aspects are similar for CFS and ICD facilities, there are two differences. First, a CFS is located near the gateway port (off-dock facility near service ports), whereas an ICD, also known as a dry port, is located in the hinterland. Second, a CFS is merely an appendage to a parent customs station at a port, whereas an ICD is a customs station in its own right, with independent existence on par with any customs station. Hence, the movement of goods from port to an ICD is in the nature of movement from one customs station to another customs station and is covered by Goods Imported (Condition of Transshipment) Regulations, 1995.

In contrast, movement of goods from a customs station at port to a CFS is akin to local movement from a customs area of a customs station to another customs area of the same station, and such movement is covered by local procedure evolved by the Commissioner of Customs and covered by bonds, bank guarantees, etc.

CFS/ICD market

CFS/ICD market size

CFS/ICD players derive majority of their revenues from container handling and transportation, and the remaining from ground rent and auctions. The CFS/ICD industry is valued at Rs 54-57 billion as of fiscal 2022. The industry grew at 8% in fiscal 2022, in line with increase in container traffic. Realisation rose 1-2% year-on-year due to lower container throughput and higher realisations due to uptick in ground rent thanks to longer dwell time.

The CFS market was on a declining trend due to the government's focus on DPD. However, the share of DPD is expected to stabilise at 55-60% of imports vis-à-vis the government's set target of 70%, as more than half of the

[5] Government-mandated DPD allows importers to clear cargo directly from the port within two days of arrival. This is an alternate clearance through the CFS model, where import cargo is routed to CFS located near ports and the actual delivery takes longer.

DPD containers are resent to CFS either because of non-clearance within 48 hours or voluntarily by importers for storage and onward transportation to the hinterland.

The ICD market has been relatively upbeat. Against a declining trend observed across the CFS market, the ICD market recorded average growth of 3-6% in the past few fiscals. Most ICDs are located in the hinterland and generally have a rail connectivity. Thus, improvements in rail infrastructure bode well for ICDs. Growth of the ICD market remained positive during the pandemic in fiscal 2021 also since the rail-based container movement remained buoyant during the year. ICD market in fiscal 2022 was estimated at Rs 14-16 billion, which grew at more than 15%, led by container traffic growth and partial commissioning of DFC.

The major revenue streams include container handling and transportation, ground rent, and storage and service charges.

CTO market

CTO market size

Overall rail container traffic increased at 8% CAGR between fiscals 2016 and 2022. In fiscal 2022, EXIM traffic increased 13% year-on-year, while domestic traffic increased 38% year-on-year. Similar, growth rates are observed for traffic in billion tonne kilometres also. The growth in domestic segment was also driven by cement loading.

Fig 31: Container rail traffic (million tonne)

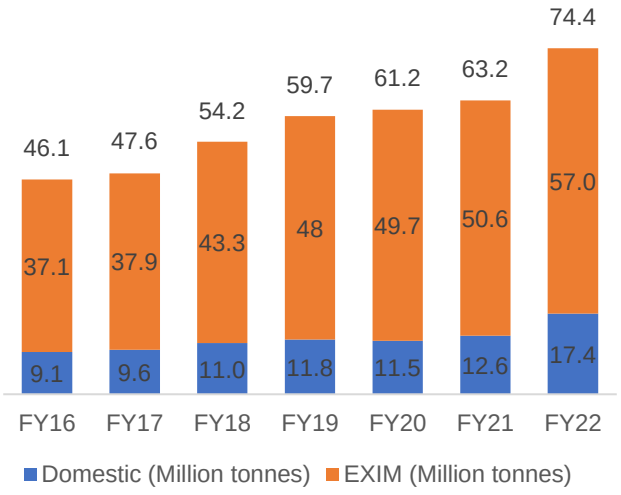
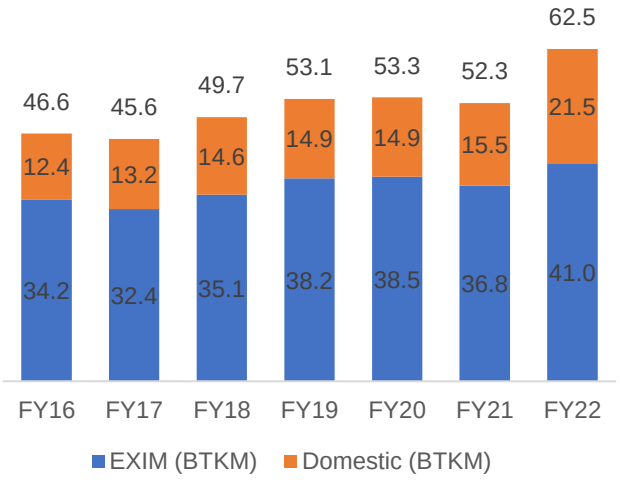


Fig 32: Container rail traffic (BTKM)

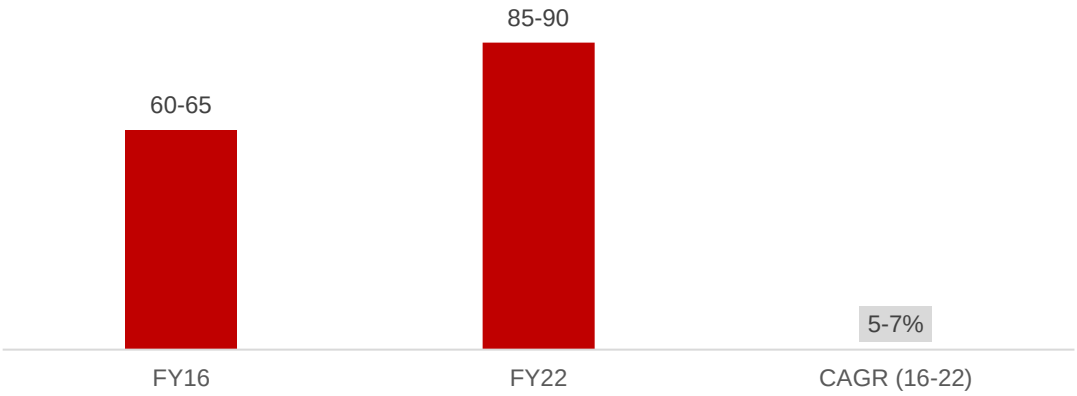


Note: BTKM is billion tonne-km travelled

Source: Indian Railways, industry, CRISIL MI&A

The CTO market is dominated by CONCOR, though its share has declined over the years. As per annual reports and investor presentations, CONCOR's share decreased to 65% in fiscal 2022 from 72% in fiscal 2016. The CTO market posted 5-7% CAGR between fiscals 2016 and 2022. It remained flat in fiscal 2021, due to fall in lead distances as well as tariff rebates extended by players to end users, which lowered the revenue.

Fig 33: CTO market size (Rs billion)



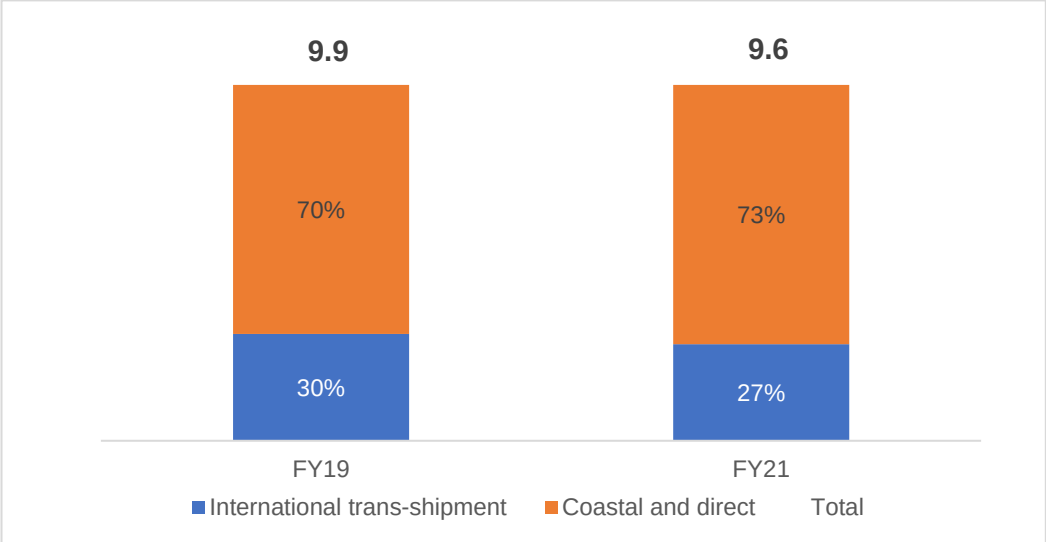
Source: Indian Railways, company websites and reports, rating rationales, industry, CRISIL MI&A

Trans-shipment market

Trans-shipment is a significant contributor to overall container traffic

Trans-shipment accounts for a major share of overall container traffic at Indian ports. For major ports, ~27% of container traffic was international trans-shipment traffic in fiscal 2021, translating to ~2.6 million TEUs of the total ~9.6 million TEUs handled at major ports. The rest was Indian coastal movement and direct destination traffic. Chennai and V. O. Chidambaranar are key major ports with a high share of international trans-shipment movement. Among international trans-shipment destinations, the share of Colombo stood out to be the highest, with a share of ~44%in total international trans-shipment in fiscal 2021, followed by Singapore with a share of ~16%

Fig 34: Container trans-shipment at major ports (million TEUs)



Source: Indian Ports Association (IPA), CRISIL MI&A

Storage tanks across ports

Provided below is the tank farm storage capacity available at key ports in India.

Table 17: Storage tanks across key ports

Port	Tank farm capacity (KL)*
Cochin	594,491
Paradip	2,487,981
Vizag	347,246 KL (1,893,223 tonnes)
Kamrajar	254,478 KL (360,000 cbm)
Mumbai	28,932 (4 tanks)
Kolkata	554,662
JNPT	1,534,686 KL (186 tanks)
Chennai	540,538 Sq. m. (Includes crude oil storage)
VOC	152,948
New Mangalore	349,773
Mormugao	149460 KL (27,500 tonnes)
Deendayal	3,486,000
Haldia	82,838 (20 tanks)
Pipavav	81,027 (32 tanks)^, 2, 50,136 (46 tanks)^^
Karwar	34,768 (8 tanks)
Kakinada	20,076 (7 tanks)
JSW Jaigarh[#]	4x5200 KL, 2x9300 KL, 2x8800 KL

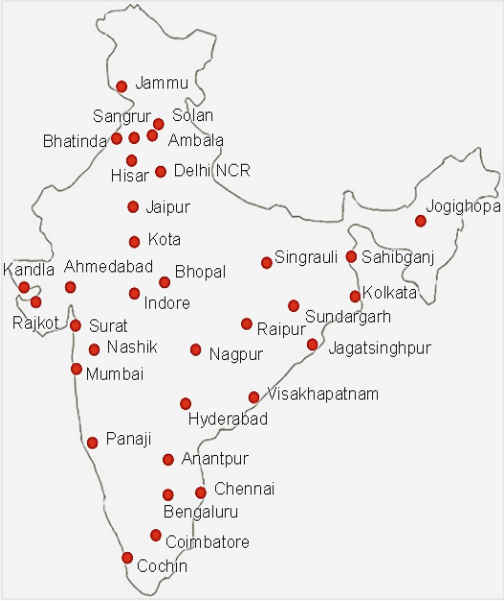
**Includes crude oil tank farms*
^IMC, ^^Gulf Petrochem [#] https://samsarashipping.com/port/jaigarh_port.php
Source: IPA, Port websites, IMC website

Multimodal logistics parks

MMLPs (Multimodal logistics Parks) refers to a hub providing integrated logistic facilities with mechanised handling and inventory management. However, there is no regulatory definition for MMLPs yet in India. MMLPs are being designed to act as one-stop solutions with facilities such as custom clearance services, warehouses, cold storage, vehicle parking area, and other value-added services.

As per a Press Information Bureau (PIB) release dated July, 2021, the Ministry of Road Transport and Highways (MoRTH) has proposed to develop 35 multimodal logistics parks (MMLP) in the country to make freight transportation in the country more efficient by facilitating the use of a favourable modal mix of transport, thereby reducing logistic costs and also pollution. These are being planned on the hub-and-spoke model to facilitate efficient movement of freight along routes of economic importance. These parks will be built on NH outside cities, so they will help reduce traffic congestion and also reduce pollution.

Fig 35: State-wise proposed MMLPs



Source: MoRTH, PIB, CRISIL MI&A

The first phase would involve development of 15 multimodal parks at various strategic locations identified by the ministry. They account for over 40% of the total road freight in the country as per a Planning Commission study. Jogighopa, Chennai and Indore have already been awarded by the authorities. National Highways Logistics Management Ltd, the nodal body MMLP implementation.

However, on-ground execution of the project has been slow. MMLPs suffer from issues such as lack of standard definition and involvement of multiple ministries. As per the project guidelines, the land to develop the MMLP is to be provided by the respective state governments, while the road, port and railway connectivity will be ensured by the respective ministries. The participation of private players such as 3PL players or logistics service providers has been invited to develop and operate the infrastructure, which could act as an opportunity for expansion of organised players.