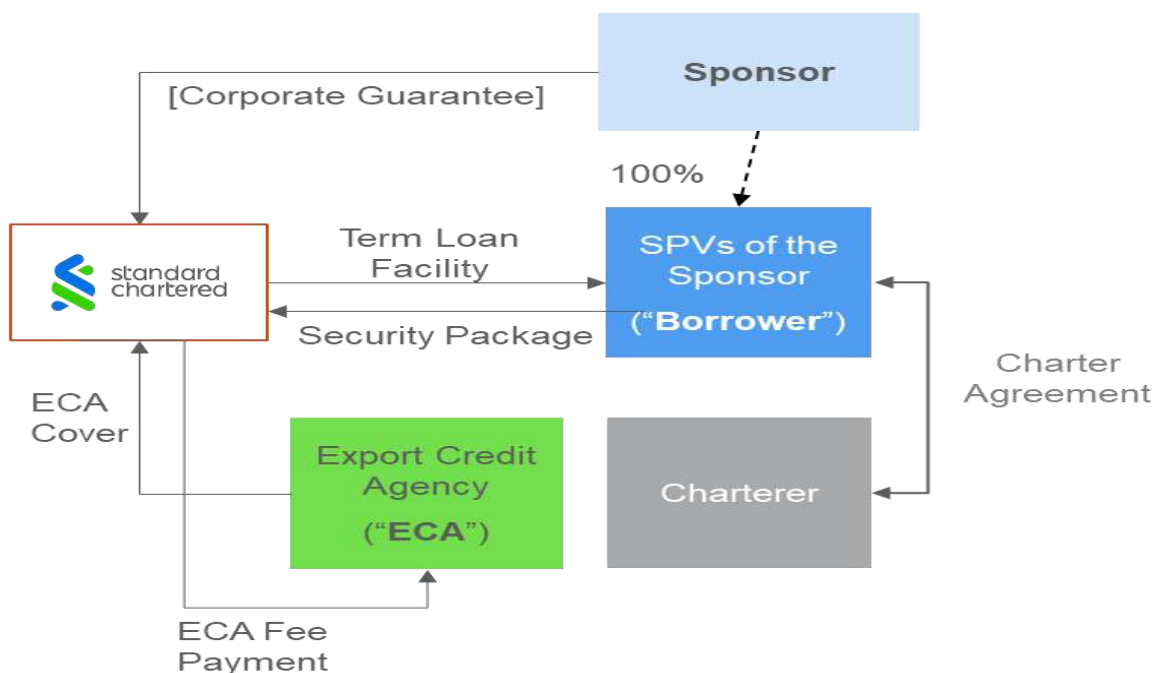


Option 3: Export Credit Agency (“ECA”) Backed Loan**Key Considerations**

- 1 All-in blended pricing would likely be more competitive than purely commercial loan seeing as ECAs would offer substantial credit enhancement to the overall structure of financing
- 2 Tapping into new source of liquidity, provided by the ECA from where the shipyard is located

Indicative Terms & Structures

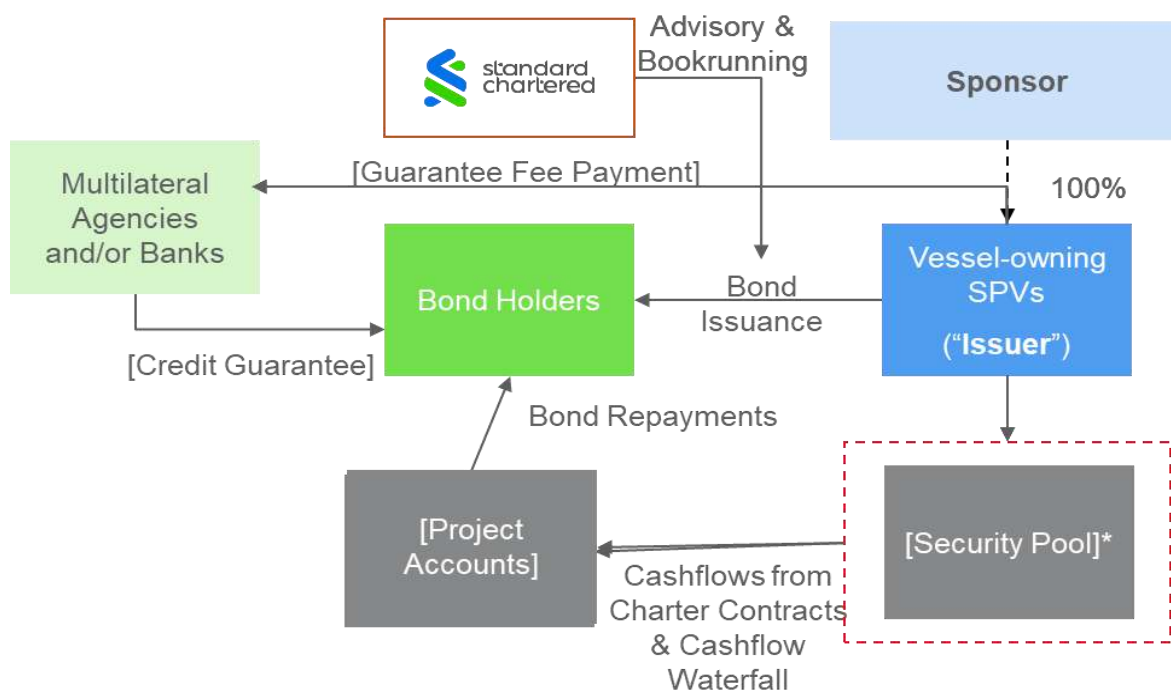
Borrower	Special purpose company (“ SPV ”), Vessels owning entity, wholly-owned subsidiary of Sponsor
Lenders	Standard Chartered Bank and other financial institutions acceptable to Borrower
Facility	USD-denominated Term Loan Facility and USD-denominated ECA-backed Term Loan Facility
Export Credit Agency	Suitable Export Credit Agency (“ ECA ”) to be partnered
LTV	Up to [80]% of Vessel(s) aggregate CMV
Tenor	Upto [14] years
Repayment	Amortising Repayments
Security Package	Including but not limited to: (i) Mortgage over Vessels, (ii) Charge over project accounts (earnings account, debt service reserve account), (iii) Pledge over Borrower’s shares, (iv) Manager’s undertaking, (v) Assignment over Charter Agreements. (vi) Assignment over Vessels’ earnings, insurance and requisition compensation
Other Terms and Conditions	• Sponsor to retain majority ownership and control over Borrower • Subordination of shareholders’ loan • Covenants to be agreed



Bond Financing Options

Option 4: Project Bond

Key Considerations	
1	More freedom to operate compared to senior debt as there are typically less restrictive incurrence covenants compared to maintenance covenants seen in senior debt
2	Loan tenors can be much longer than a typical term loan and would typically be unsecured in nature
Indicative Terms & Structures	
Issuer	Wholly-owned subsidiaries of Sponsor
Issue Format	Reg S, Fixed/Floating Rate Notes
Tenor	Up to [•] years
Coupon/ Yield	[TBD]%
Use of Proceeds	[Refinancing of bridge loans / financing of capex payments and funding of transaction costs and expenses]
Security for Bond	Unsecured
Benchmark	[SOFR]
[Credit Guarantor]	[If present, multilateral agencies and/or banks]
[Credit Guarantee Security Pool]	Including but not limited to: (i) Mortgage over Vessels, (ii) Charge over project accounts (earnings account, debt service reserve account), (iii) Pledge over Borrower's shares, (iv) Manager's undertaking, (v) Assignment over Charter Agreements. (vi) Assignment over Vessels' earnings, insurance and requisition compensation
[Credit Guarantee Fee Payment]	[TBD]



* Security pool would be made exclusively available to credit guarantors. Bond itself will be unsecured

• **Leasing Structures**

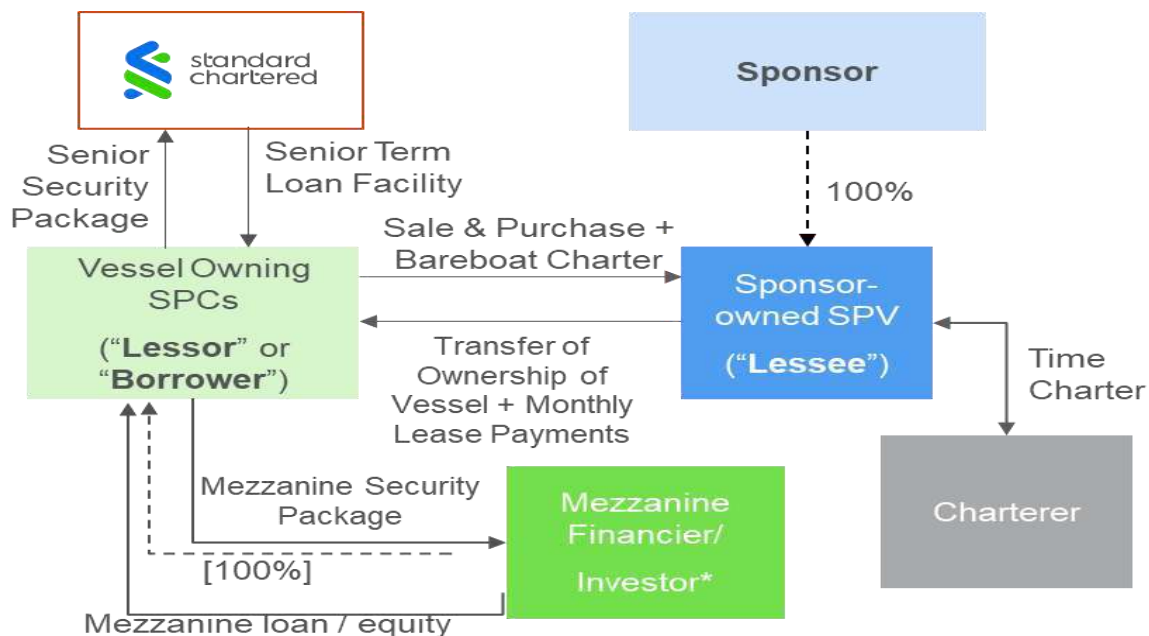
Option 5: Sale & Leaseback / Finance Lease

Key Considerations

- 1 Pricing is much more competitive; tenor and financing quantum can be stretched given the ships can be mortgaged
- 2 Sponsor will be able to tap into this new source of liquidity and replicate this structure across its entire fleet to diversify its liquidity sources

Indicative Terms & Structures

Lessor / Borrower	SPC set up by Leasing Company to own the Vessels or orphan SPC, depending on leasing structure.
Lessee	Wholly-owned subsidiary of Sponsor
LTV	[85-90%]
Tenor	Tend to be longer than unsecured commercial loan
Repayment	Amortising Lease Repayments
Purchase Option	To be agreed
Charter	▪ Time Charter: Acceptable time charter party between lessee and charterer which ensures that there is sufficient earnings for Borrower to repay the scheduled P+I at all times. ▪ Bareboat Charter: Acceptable hell or high water bareboat charter between lessee and lessor ▪ Tenor of Charter to match loan/lease tenor
Other Terms and Conditions	▪ Typical standard security package (including mortgage over vessels, charge over accounts, assignment of time charters, managers' undertaking, assignment over vessels' earnings and insurances and requisition compensation, among others) ▪ Sponsor to retain majority ownership and control over Lessee ▪ Any other requirements from leasing company/ partner ▪ Purchase option at tenor-end (or interim purchase option) to be agreed



* This could be either a mezzanine financier, equity provider (in a JOLCO structure outlined in next slide) or leasing company (such as CLC outlined in subsequent slide). Ownership of Lessors will be dependent on final structure.

Option 6: Japanese Operating Lease with Call Option (“JOLCO”)**Key Considerations**

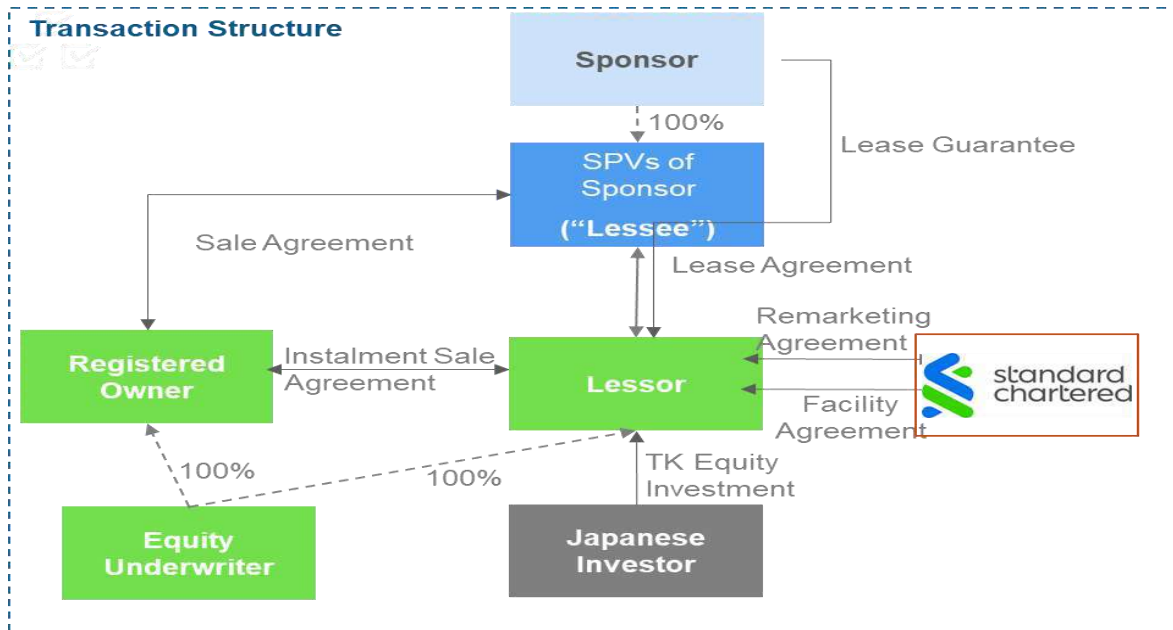
- 1** High leverage at a very competitive pricing and a purchase option (at a pre-determined fixed price and on a specific date) which might provide residual value upside.
- 2** Freeing up equity for Sponsor upon delivery of Vessels on the back of Japanese investors' involvement. Japanese partners are silent/ limited partners that are represented by Equity Underwriter throughout the tenor of financing

Indicative Terms

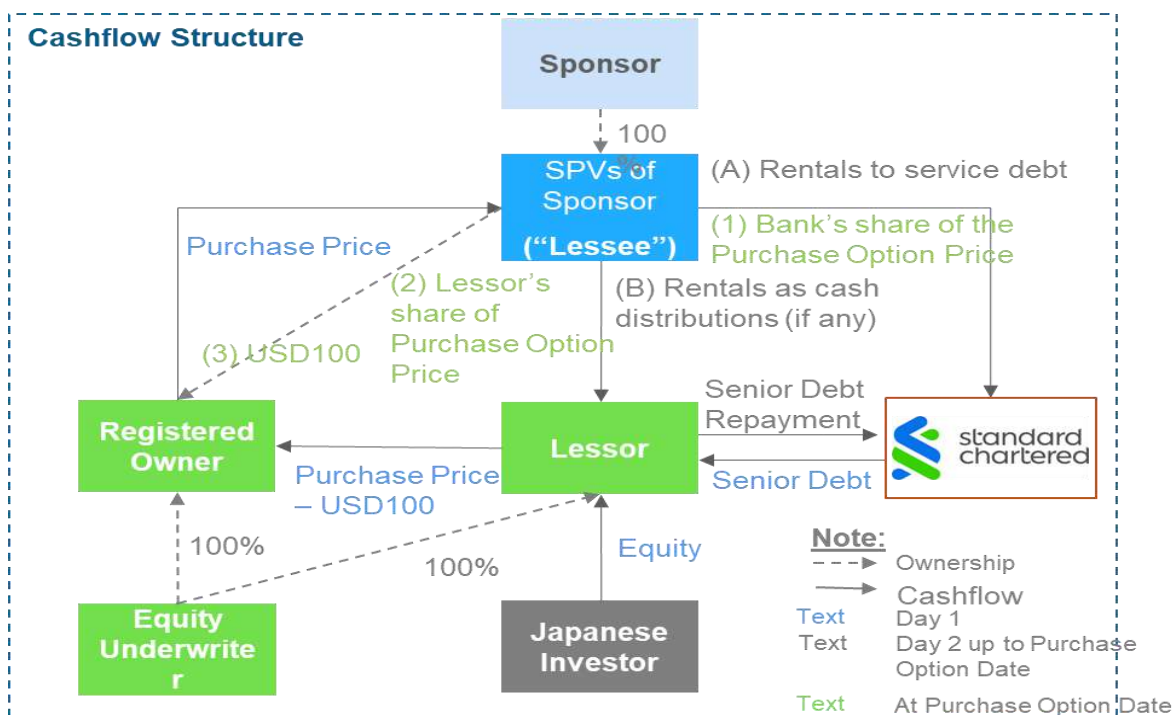
Lessee	[●], wholly-owned subsidiary of Sponsor
Lessor / Senior Debt Borrower	[●], Japanese SPV, wholly-owned subsidiary of Equity Underwriter and established under Tokumei Kumiai (“TK”) structure
Lease	Japanese Operating Lease with Call Option (“JOLCO”)
Registered Owner	[●], wholly-owned subsidiary of Equity Underwriter, set up to acquire Vessels from Lessee at Purchase Price
Purchase Price	[85-90%] of Vessel(s) aggregate CMV
Purchase Option	Option for Lessee to buy back Vessels on a specified purchase option date at end of Year [●] from Registered Owner at Purchase Option Price
Repayments	Amortising Lease Repayments
Tenor	[TBD]

Equity Underwriter	[●]
Equity Amount	[10-20]% of Vessel(s) aggregate CMV
Senior Debt Structure	Senior secured term loan facility in favor of Lessor
Senior Debt Facility Amount	[70-75%] of Vessel(s) aggregate CMV
Senior Debt Lenders	Standard Chartered Bank and other financial institutions acceptable to Borrower
Senior Debt Terms and Conditions	• Typical standard security package (including mortgage over vessels, charge over accounts, assignment of time charters, managers' undertaking, assignment over vessels' earnings and insurances and requisition compensation, among others) • Sponsor to retain majority ownership and control over Lessee • Any other requirements from leasing company/ partner

SHIP OWNING, FINANCING, OPERATING STRUCTURES



1. A direct sale between Lessee and Registered Owner is executed followed by immediate Instalment Sale Agreement between Registered Owner and Lessor. Registered Owner (and therefore, Instalment Sale Agreement) is part of the structure to allow Lessee to flag the vessel where convenient (given that Lessor needs to be based in Japan)
2. Lessor and Lessee enter into a Lease Agreement of up to [•] years. Lessee is allotted a pre-agreed Purchase Option. Lessor enters into a Facility Agreement with Bank and security package includes, but not limited to, (i) from Registered Owner, mortgage over Vessels provided by Registered Owner; and (ii) from Lessor, assignment over Lease Agreement, earnings, insurances and pledge over accounts.
3. Remarketing Agreement: In case of a Lessee's default, if requested, Bank can be appointed by Lessor to act as Agent to recover Vessel. In other words. Bank would have access to Vessel as if it were a direct loan arrangement.



1. Lessor is funded by Debt from Bank and Equity from Investor underwritten by Equity Underwriter.
2. Registered Owner acquires Vessels for Purchase Price from Lessee. Lessor acquires Vessel for Purchase Price minus USD 100 from Registered Owner through the Instalment Sale Agreement.
3. Lease rentals are paid quarterly in arrears. Rentals have been split in 2 components: (A) Rentals to service debt and (B) Rentals to pay cash distributions (if any) to Japanese Investors. The (A) Rentals are payable in an account with and pledged to Bank.
4. At Purchase Option Date, Lessee pays (1) Bank's share of Purchase Option Price, which is equivalent to Senior Debt outstanding amount, (2) Lessor's share to Lessor and (3) USD 100 to Registered Owner.

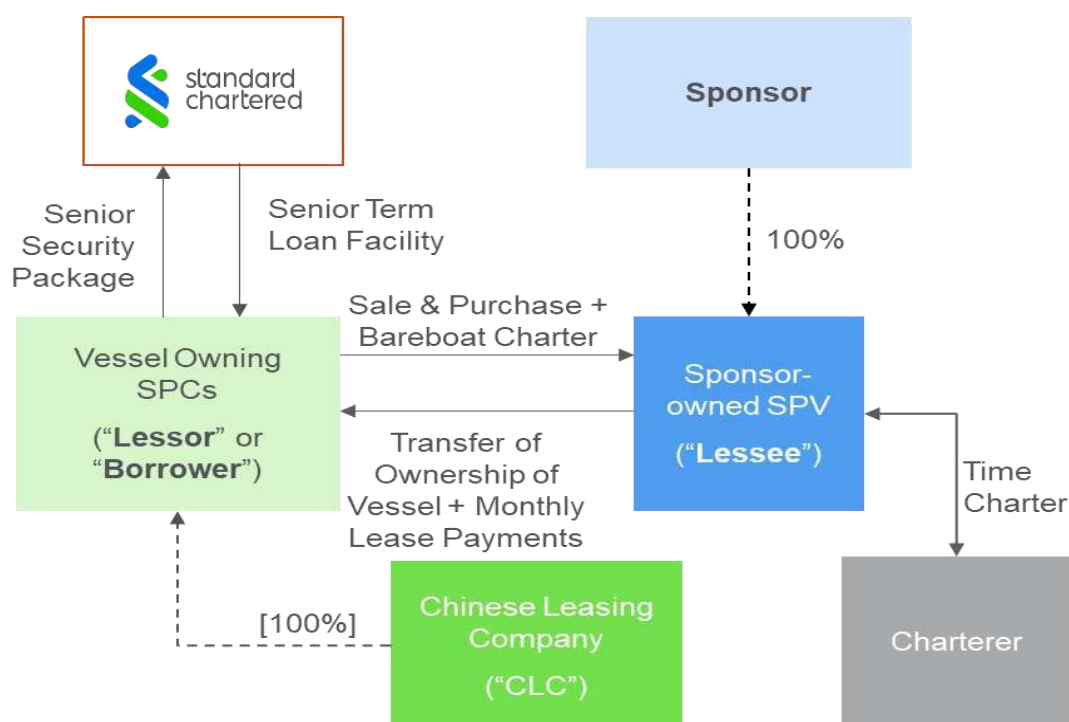
Option 7: Chinese Leasing Company (“CLC”)

Key Considerations

- 1 Higher LTV, and full underwrite by CLC. However, approvals can take c.3 months.
- 2 Not all CLC houses can do tankers, only a handful of names can do tankers (especially VLCCs) due to potential reputational risk associated with a potential oil spill

Indicative Terms & Structures

Seller / Lessee	Wholly-owned subsidiary of Sponsor
Buyer/Lessor/Borrower	SPV, wholly-owned subsidiary of CLC
Lenders	Standard Chartered Bank and other financial institutions acceptable to the Borrower
Charter	▪ Time Charter: Acceptable time charter party between lessee and charterer which ensures that there is sufficient earnings for Borrower to repay the scheduled P+I at all times. ▪ Bareboat Charter: Acceptable hell or high water bareboat charter between the lessee and lessor ▪ Tenor of the Charter to match the loan/lease tenor
Purchase Price	[85-90]% of the Vessel(s) aggregate CMV
Repayment	Amortising Lease Repayments minus Purchase Obligation
Other Terms & Conditions	▪ Typical standard security package (including mortgage over vessels, charge over accounts, assignment of time charters, managers' undertaking, assignment over vessels' earnings and insurances and requisition compensation, among others) ▪ Sponsor to retain majority ownership and control over Lessee ▪ Any other requirements from leasing company/ partner



2.4. Ship Finance, Global

Ship finance is the ability to fund ships with the asset as collateral. It requires a deep knowledge of the shipping market, business plan of borrower, and ability to repossess the asset and operate it for a period if required. Ship finance can be characterised as a highly skilled and niche segment of financing.

The complexity and effect of being wrong in predicting the market was amply demonstrated by the lasting impact of the 2008-09 global financial crisis on almost all sectors of financing, but especially so for ship finance. The non-existing ‘value’ generated by western banks by packaging and marketing complex mortgage derivatives had created a large amount of credit in the market which actually did not exist, but distorted valuations of assets globally after pushing freight rates to historical highs. The valuations and freight rates came crashing down once mark-to-market valuation was undertaken after defaults in US mortgage markets.

Figure 2: Dramatic increase in valuation of a Panamax Dry Bulk Vessel



Several large banks, particularly the European banks which had historically dominated the market for ship finance, decided strategically to withdraw from the sector, or at least shrink their books significantly, given heavy losses during the shipping sector crisis in 2008-09. They have been selling their shipping portfolios or allowing existing loans to amortise and not taking on new business. As a result, portfolio sales have become an increasingly prominent feature of the market. A number of these sales have been announced publicly.

In terms of volumes and trends, top-40 banks' lending to shipping fell from USD 300.7bn in 2018 to USD 294.4bn in 2019, the lowest level since the global crisis in 2008. Chinese banks also continued to mark a small gradual decline in terms of direct, bilateral bank ship finance. However, Chinese leasing is increasing its exposure from USD 52.5bn in 2018 to USD 59.2bn in 2019. The growth of the global fleet continues to be funded from non-banking sources, such as leasing, alternative lending, private equity from funds and investors.

Following the substantial reduction in availability of financing from traditional banks, ship-owners are increasingly having to turn to alternative financing sources. This is particularly the case for small to medium-sized ship-owners, as traditional lenders are generally focusing on larger shipping clients due to regulatory and risk management requirements. Resultantly,

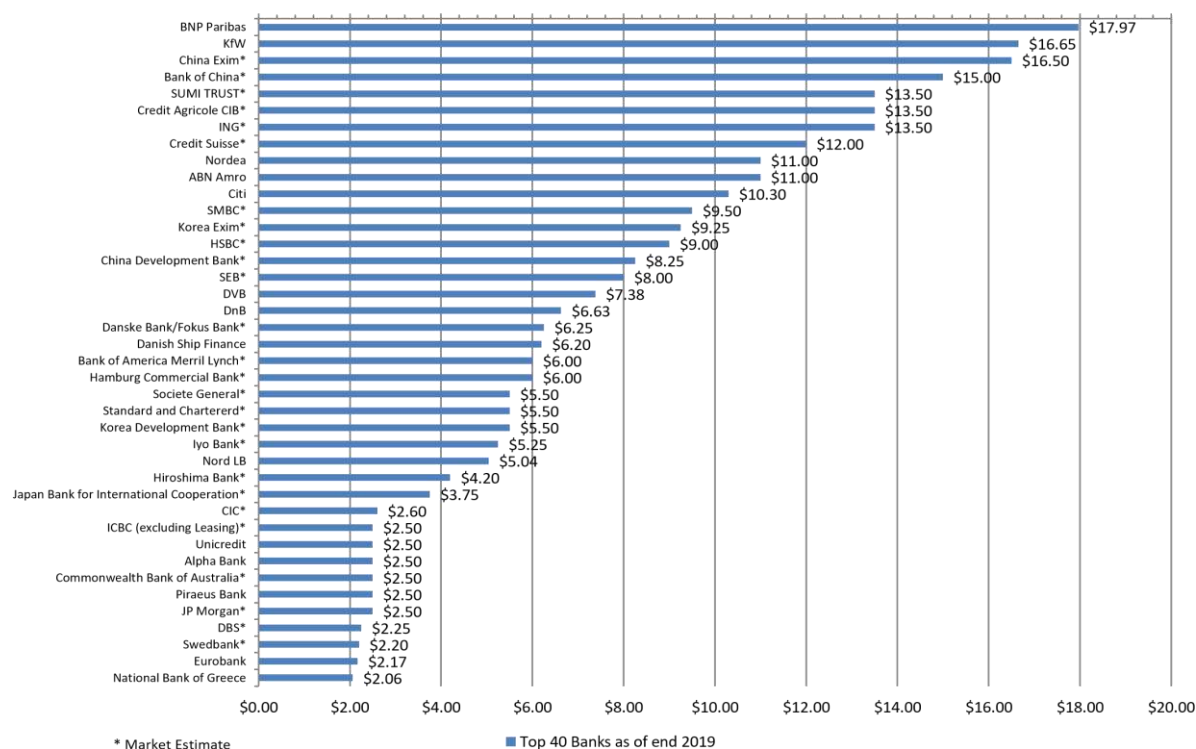
ship-owners are now increasingly interested in structures such as high-yield bonds, convertible debt, capital and operating leases, as well as preferred equity structures.

Figure 3: Dramatic increase in valuation of a Panamax Dry Bulk Vessel



Figure 4: Global Bank Shipping Portfolios – as of end 2019 (in USD bn)

(end 2018: \$300.7, end 2017: \$345, end 2016: 355.25bn)

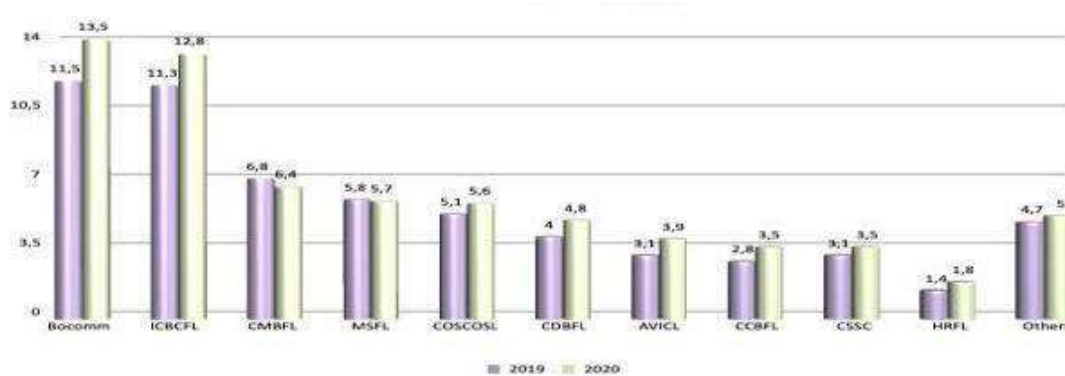


The last few years have seen some of the larger players within the shipping market turning to the capital markets in order to meet their funding requirements. Many of these transactions have involved the US and Norwegian capital markets, with the Norwegian bond market being seen as particularly favourable for shipping assets. The London markets are also actively looking to attract more shipping listings.

The entry of private equity has prompted discussion around its long-term role in the shipping industry. Many private equity funds initially entered into joint ventures with ship-owners. A number of equity funds are buying loans from traditional banks at a large discount.

With the rapid development and growth of China over the last 20 years and especially in the last decade, the Chinese financial sector grew initially to serve Chinese shipping clients and local ship-building, and subsequently international clients on an international basis. Most of the Chinese banks developed their own leasing subsidiaries which have come to dominate the global shipping leasing business.

Figure 5: Top-10 Chinese Lessors by Shipping Portfolio in 2020 (in USD bn)



Source: Smarine

It is interesting to observe that the Asian banks (mainly Chinese banks) have receded by 6.45% over the preceding year, compared to the rise of Chinese Leasing by 12.8% in 2019. Chinese banks appear to have reduced their direct lending. Increased Chinese lending was extended via bank leasing subsidiaries or via independent leasing companies.

Financial ship leasing is a process by which one party (lessee) obtains the full operational use and control of a fixed asset (ship) for which they must pay a series of rentals to the owner (lessor) of the ship for an agreed period. There are different types of ship leasing transactions with the most common being: the operating lease and finance lease. Their structures and terms are also significant from an accounting treatment perspective. In terms of residual value, a finance lease is a risk, where at the end of the lease period the residual risk (ship) is transferred to the lessee, whereas with an operating lease the residual risk (ship) stays with the lessor.

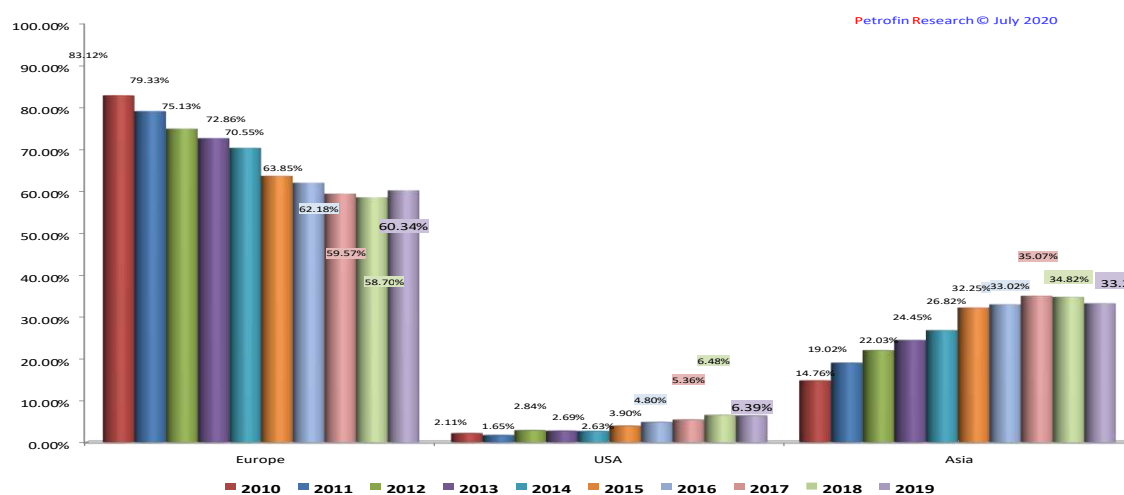
For a very capital-intensive industry such as shipping, liquidity management is an important motivator. Leasing transactions tend to have higher lending to asset ratios which reduces the capital requirements per transaction. In addition, the loan profile is longer than bank finance, thus often achieving a lower breakeven despite the higher lending ratio. Leasing provides better funding diversification especially given the departures over the last decade of many large shipping banks which has restricted funding choice. With operating leases too, the risk of technological obsolescence is mitigated. Lastly, leases are possible at times of economic difficulty to release valuable resources or to reduce debt servicing requirements via sale-and-leaseback structures.

Overall financing costs for the lessee, though, have tended to be higher than those of banks and leases are more complex and require more time to conclude. Due to lack of familiarity and inability to have physical meetings between lessors and potential clients, reaching an agreement is often assisted by a financial boutique that specialize in specialised Japanese/Chinese leasing. All in all, there are significant benefits to the lessee.

For lessors, leases offer an attractive risk / return profile, ability to lend larger amounts and achieve sizeable financial leverage, tax benefits, and possibility of residual value speculation.

A schematic representation of a typical sale and leaseback structure covering both pre- and post-delivery scenarios (under Option-5 above), shows the basic principle that title in the vessel or in the construction contract at pre-delivery stage is transferred to an SPV wholly-owned by the leasing house (by a novation of the construction contract at pre-delivery stage or a memorandum of agreement for sale on a post-delivery only financing). The vessel is then bareboat chartered back to the seller/lessee on “hell and high water” terms by way of a bareboat charter under which the seller/lessee pays regular instalments (often termed as “fixed hire”) equivalent to the financed amount of the vessel over the term of the lease after delivery (normally with a “balloon” purchase option/obligation at the end of the charter period) plus an interest element (often termed as “variable hire”).

Figure 6: Global Bank Shipping Portfolios by Geographic Area, end-2019 (in USD bn)



Looking forward, the COVID-19 pandemic and its resultant major negative impact upon the global economic activity, international trade, and price of oil, has completely changed the scene in 2020-2021. The effect of lockdown and travel restrictions have imposed an enormous strain on some shipping sectors, such as, offshore, cruising and containers which took the brunt, whilst others, such as dry bulk and tanker sector displayed increased volatility. Notably, in all the months of turmoil in the main sectors of dry, wet and containers, there were hardly any insolvencies and for many banks, non-performing loans remained low.

Banks were cautious, although some loan restructuring took place. Fresh bank approvals became more cautious and demanding, with more stringent terms and higher pricing. Chinese leasing companies which were adversely impacted by their exposure to aviation combined with higher cost of US Dollar funding, saw a slowdown in their ship finance activities.

But the situation appears to be stabilising by mid-year 2020 as assessed by Petrofin Research. The focus is on timing and magnitude of the global economic recovery. Dry and wet bulk and containers have already staged recoveries based on inventory and other seasonal and trade route factors and bank lending has started to return across all these main sectors. Alternative capital providers have continued to provide capital and loans but at even higher costs, seeking to take advantage of the difficulties in obtaining finance by some owners and in order to mitigate their higher perceived risk. There are some new entrants consisting of smaller

European, Middle Eastern and Asian banks, mainly supplying their own local clientele, for building up their loan portfolios. **Every crisis hides an opportunity for the intrepid.**

Trade protectionism is an increasing concern which has been shaping shipping sector's recovery. Although newbuilding orders have slowed down globally, it is the demand side that will shape market conditions. Here, India is poised well to seize the opportunities.

2.5. Ship Finance in India

There is no unified policy towards shipping among Indian banks. The variations in policy depend on individual banks' strategy, largely centered on corporate financing, and views as to trade sanctions and prospects for shipping as well as their overall lending limits. The results for 2020 and 2021 would be interesting, capturing the role played by transport sector in meeting emergency healthcare and essential goods and services needs as well as COVID-19 related financial and economic packages provided by governments worldwide.

Interactions with Indian banks indicate that they lack a dedicated shipping desk with the skillset and ability to fund shipping assets. Operationally, the decision on lending is left to relationship managers and there is no specialist input or oversight to the activity. Shipping constitutes a very small percentage of loan portfolio of most banks and several of these are NPAs. The Indian banking system has also been a victim of credit boom/crisis of 2008-09. Many smaller ship-owners who had purchased expensive assets could not service the debt when the markets collapsed.

It is strongly felt that it is time that Indian banks also explore the lucrative options of lease financing for India-IFSC ship owners and ship operators. Many enterprises are now medium-sized and have a good track record of operating ships. They have the necessary market information and expertise to operate vessels commercially. By providing them with tonnage with requisite guarantees on a sale-and-leaseback basis on a second-hand vessel (for instance), the banks can expect a higher effective rate of lending, while retaining control over the asset at all times, as the ship is simply bareboat chartered out to the lessee.

It is imperative that banks develop the expertise to independently evaluate various sectors in terms of cash flow projections and earning scenarios across various sectors in shipping. The banks need to develop the expertise to evaluate business plans and identify trigger points where they should initiate action to safeguard their interests.

Apart from lending to Indian operators under a sale and leaseback arrangements, Indian banks can also explore participating in syndicated loans and structures with good credits. The maritime cluster at India-IFSC-GIFT City is expected to provide banks with both the necessary manpower and the opportunities to participate in global shipping. RBI have also provided attractive liquidity terms to banks in order to enhance the economic recovery and this may support increased ship finance by banks. Ship financing companies can also consider financing and refinancing assets in domestic tariff area. For companies owning and operating coastal, offshore and/or other utility vessels under Indian flag there, the presence of experienced ship financing companies at GIFT IFSC can provide an important source of funding for their shipping operations. Proximity to markets and better understanding of the Indian situation will also help financiers in GIFT IFSC better evaluate and participate in the Indian domestic tariff area tonnage building.

Indian insurance and alternate finance also need to lay at rest their faint-hearted approach to financing large mobile and bankruptcy remote assets like ships. The National Infrastructure Investment Fund (NIIF), a sovereign wealth fund registered as an AIF for the purpose of providing long-term funding to infrastructure related projects, for instance, is most suitably placed to seed the financing of greenfield transport projects such as aircraft and ships lease financing. The NIIF is currently managing three funds, with an estimated corpus as follows:

- Master Fund – INR 16,000 crore
- Funds of Fund – INR 5000 crore; and
- Strategic Fund - within INR 10,000 crore (so far and continuing to attract sizeable funds)

NIIF, and funds it invests in, do not address capital intensive industries such as ship leasing, aircraft leasing etc. While the Master Fund and Funds of Fund are focussed on investing in airports, ports, roads, renewable energy and such infrastructural sectors, the Strategic Fund is a private equity and sector agnostic fund and could be used for lease financing of large transport assets, including aircraft, satellites, ships, metro and rail rolling stock, etc.

NIIF should also be desired to immediately create a strategic fund investing in transport bankruptcy-remote mobile assets, so as to aid capital incentive industries such as ship and aircraft leasing. Such a strategic fund could also target decarbonising the shipping sector by specifically addressing new technology vessels and other green shipping infrastructure initiatives.

Figure 7: Comparative of India's Tax Regime with that of Major Marine Hubs

Particulars	India	Hong Kong	Singapore	UAE	IFSC in India – Post Change
Corporate Tax Rate	30% plus applicable surcharge and cess. 22% - if opting for the new tax regime	16.5% (reduced to 0% for qualifying ship leasing and 8.25% for non-associated qualifying ship leasing management companies)	17% (0% for ship leasing, Singapore flagged vessels; 5%/10% for ship management and support services) 0% on qualifying shipping income of MSI-AIS company for either: a 10-year renewable period; or a 5-year non-renewable period, with the option of graduating to 10-year renewable award at the end of 5-year period, if qualifying conditions are met	No Corporate Tax	100% tax exemption for 10 consecutive years out of 15 years.
Tonnage tax	Yes. Conditions: Binding period – 10 years	Not Applicable	SGD 0.2 per MT subject to maximum of SGD 10,000	Not Applicable	Yes. Conditions: Binding period – 10 years, Requirement–

SHIP OWNING, FINANCING, OPERATING STRUCTURES

Particulars	India	Hong Kong	Singapore	UAE	IFSC in India – Post Change
	Ship with atleast 15 GRT and registered under MSA Act. 20% of book profits to be transferred to tonnage tax reserve Minimum training requirement				IFSC-controlled tonnage No Tonnage Reserve nor minimum training requirement
Minimum Alternate Tax	Nil – if opting for new tax regime, else 15%	Not Applicable	Not Applicable	Not Applicable	Nil – if opting for new tax regime, else 9%
Withholding Tax– Charter hire payments	Indian entity to foreign entity– paid as royalty or freight charges – 10%/3%	Nil	Nil	Nil	Indian entity to IFSC lessor – Nil IFSC lessee to foreign entity (paid as royalty or freight charges) – Nil
Tax– distribution of profits	Resident Shareholders– 10% Non-resident Shareholders– 20% + applicable surcharge, cess or rates as per DTAA whichever is beneficial	Nil	Nil	Nil	Resident Shareholders– 10% Non-resident Shareholders– Exempt
Customs Duty	Not applicable subject to certain conditions	Nil	Nil	Nil	Not applicable subject to certain conditions
GST– lease rental payments	Nil. Due to an anomaly, GST is paid on forward charge basis	Nil	Nil	Nil	Nil
GST– import of vessel	Yes – 5%	Nil	Nil	Nil	Nil
GST on THC/ Port congestion charge/ Equipment surplus charge/ Others	Yes – 18%	Nil	Nil	Nil	Exempt
Stamp Duty	Applicable	Nil	Nil	Nil	Nil

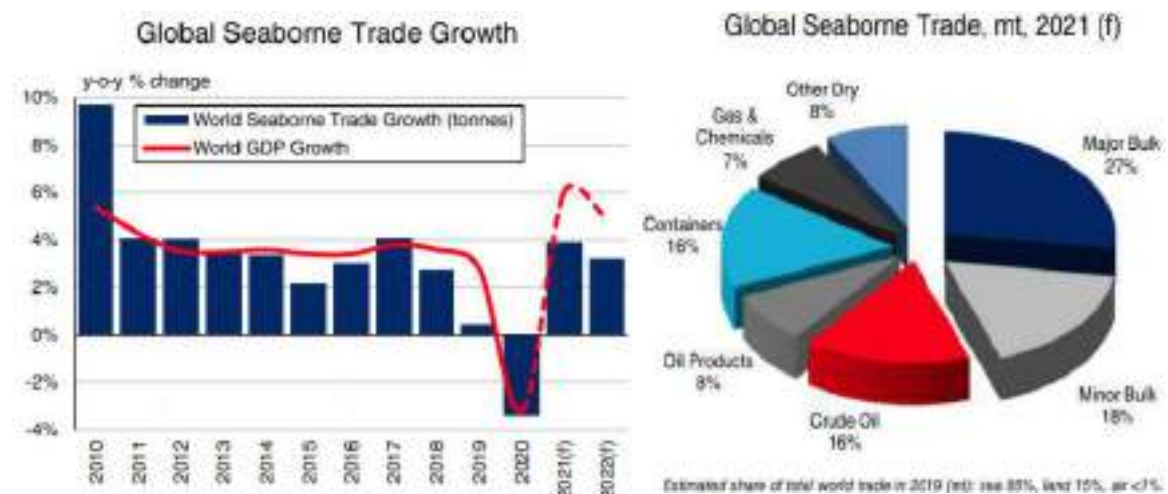
3. GLOBAL SHIPPING SCENARIO

3.1. Global Seaborne Trade

Global seaborne trade is projected to grow by a healthy 3.9% in CY 2021 (4.4% in tonne-miles), with volumes on track to rebound to c.12.0bn tonnes, rising slightly ahead of CY 2019 levels. Major stimulus, vaccination progress and pent-up demand have all provided positive impetus so far. Yet, risks are clear – further Covid-19 pandemic outbreaks, tapering of government support, and signs of cooling growth in China’s vast industrial sector.

- Dry Bulk trade is projected at 3.6% (4.3% in tonne-miles)
- Container trade is projected at 6.3% (6.9% in tonne-miles)
- Tanker trade is projected at 3.1% (2.6% in tonne-miles)
- Gas trade is projected at 5.5% (9.7% in tonne-miles)

Figure 8: Trade Growth (y-o-y %) and Sector Shares in CY 2021 (Projected)



Source: Clarksons Research, August 2021

3.2. Fleet Ownership and Growth

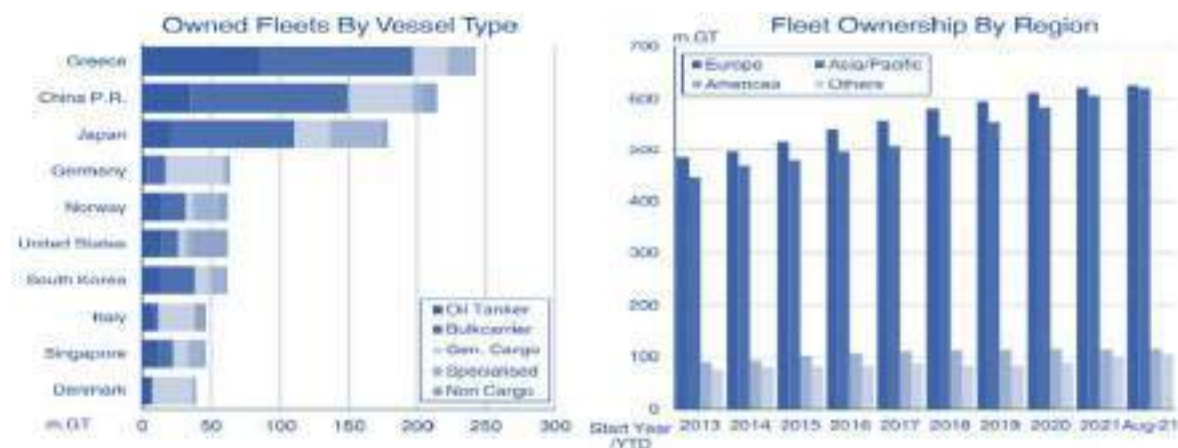
2021 World fleet growth is projected at 3% against a demand growth of 4%. Orderbook as a percentage of fleet is at 9.1% as at 1 September 2021. This is significantly below the 15-year historical average of 24%. Projected fleet growth in 2022-23 is likely at 3-4% levels. Driven by a low orderbook and continued demolition of older tonnage, uneven distribution of fleet growth is being seen. For instance, Gas Carriers and Containerships have ~20% orderbook levels, but demand for these sectors is expected to be a lot higher.

The current fleet of vessels for the Top-10 countries, numbered 45,806 vessels and valued at USD 822bn, accounting for 69% of the total fleet worldwide. The orderbook of vessels placed by these top-10 is 2,170 valued at about USD 153bn., accounting for 55% of the total orders.

GLOBAL SHIPPING SCENARIO

Top 10 Countries are dominated by Europe / Asia, with the exception of USA in sixth place. The top 10 countries account for a large proportion of global fleet – 45% by number of vessels; 69% by GT and Asset Price. By region, Europe is still largest fleet owner, but Asia is catching up quickly. Both regions have >600m GT ownership as of August 2021, accounting for ~85% of the world's total fleet.

Figure 9: Fleet Ownership by Vessel Type and by Region in CY 2021 (August)



Source: Clarksons Research August 2021

Figure 10: Fleet Ownership by Top-10 countries; Vessel Orderbook as in CY 2021

Country/ Region	Current Fleet, number								Current Orderbook, number							
	Oil Tanker	Bulk-carrier	Gen. Cargo	Specialised	Non Cargo	Total	m.GT	\$bn. ⁶	Oil Tanker	Bulk-carrier	Gen. Cargo	Specialised	Non Cargo	Total	m.GT	\$bn. ⁷
1 Greece	1,399	2,479	702	490	704	5,774	242.3	141.7	83	29	25	46	4	187	14.7	14.3
2 China P.R.	1,422	3,066	2,596	839	2,572	10,486	214.0	149.5	67	178	237	63	151	696	26.0	29.0
3 Japan	936	1,912	2,599	1,811	1,754	8,812	178.5	134.7	23	289	94	77	31	514	20.0	19.0
4 Germany	126	354	1,703	196	476	2,855	63.8	58.4	1	18	61	17	15	112	5.0	7.0
5 Norway	226	339	515	573	1,233	2,886	62.4	65.5	10	15	18	24	56	123	3.9	9.5
6 United States	255	246	339	160	4,004	5,004	62.3	109.7	3	2	4	6	112	129	6.1	35.0
7 South Korea	354	377	663	624	906	2,924	62.0	39.7	21	10	32	41	17	121	8.3	13.1
8 Italy	305	88	460	143	944	1,940	45.2	46.6	3		32	6	21	64	4.5	14.9
9 Singapore	726	243	491	450	1,731	3,641	45.8	42.0	27	13	36	31	85	194	7.2	9.5
10 Denmark	183	57	462	116	657	1,475	38.8	34.6	12	6	1	1	10	30	1.1	1.3
Total Top-10	5,932	9,161	10,530	5,202	14,981	45,806	1,016.1	822.4	250	560	542	316	502	2,170	96.8	152.5
Share of World Total	52%	73%	42%	59%	35%	45%	69%	69%	59%	83%	60%	60%	36%	55%	65%	61%

Total Cargo Fleet, m. Dwt	Year End				01-Sep-21		Orderbook & Delivery Schedule					
	2017	2018	2019	2020	No.	m.Dwt	No.	m.Dwt	% Fleet	2021	2022	2023+
CRUDE TANKERS	367.1	389.4	414.6	428.0	2,218	436.8	176	36.8	8.4%	3.8	21.5	11.5
PRODUCTS TANKERS	175.6	178.3	186.8	191.0	9,315	192.9	240	11.9	6.2%	3.9	4.6	3.9
CHEMICAL TANKERS	43.6	45.4	46.7	48.0	3,984	48.6	185	3.4	7.0%	0.9	1.5	1.1
OTHER TANKERS	0.9	1.0	0.9	1.0	423	1.0	6	0.0	0.7%	0.0	0.0	0.0
BULKERS	821.5	845.5	879.0	912.2	12,576	934.2	669	58.1	6.2%	11.8	27.3	19.0
COMBOS	1.4	1.1	0.8	0.9	12	1.1	0	0.0	0.0%	0.0	0.0	0.0
LPG CARRIERS	24.3	24.6	25.6	27.0	1,511	28.0	152	6.2	22.2%	0.6	1.9	3.8
LNG CARRIERS	40.2	44.6	48.1	50.5	664	54.1	162	13.4	24.9%	1.3	3.2	9.0
CONTAINERSHIPS	253.7	266.2	275.0	281.8	5,531	209.0	621	55.3	19.1%	4.7	9.9	40.8
MULTI-PURPOSE	29.4	29.3	29.3	28.9	3,164	29.0	66	1.1	3.8%	0.3	0.7	0.1
GENERAL CARGO	39.0	39.3	39.5	39.8	15,735	39.8	163	1.2	3.0%	0.5	0.5	0.2
RO-RO	6.8	6.9	7.1	7.1	629	7.2	35	0.6	8.9%	0.2	0.2	0.3
CAR CARRIERS	12.5	12.5	12.4	12.2	760	12.3	27	0.5	3.9%	0.1	0.1	0.3
REEFERS	4.8	4.7	4.6	4.6	1,462	4.6	6	0.0	0.7%	0.0	0.6	0.0
OFFSHORE (AHTS/PSV)	9.6	9.6	9.6	9.5	4,480	9.4	185	0.5	5.2%	0.1	0.2	0.2
WORLD CARGO FLEET	1,850.2	1,898.8	1,980.2	2,042.9	62,664	2,088.0	2,693	189.2	9.1%	28.2	70.8	90.1
TOTAL WORLD FLEET	1,933.0	1,983.7	2,065.3	2,128.3	101,546	2,173.2	3,963	193.7	8.9%	29.3	72.6	91.9
TOTAL WORLD FLEET (\$bn)	933.0	952.9	963.7	960.5		1,218.8		251.9	20.6%	36.4	81.1	133.5

Source: Clarksons Research August 2021

3.3. Industry Outlook by Sector

Besides the implications for ship finance and ship leasing evidenced from the vessel orderbook, the market research forecasts were also examined for the near term and long-term earnings outlook for various key players in shipping industry. A very positive outlook with the speedometer in the green for a vast majority of the industry is foreseen as below.

Bulkers:



10y Historical Breakeven Rate = \$11,100/day

Short Term Earnings Outlook = \$17,500/day (+58%)

Long Term Earnings Outlook = \$15,500/day (+38%)

Positive 2021 Fundamentals: Demand Growth +4.6% > Supply Growth +3.4%

Bulker markets are enjoying a strong 2021, with Baltic Dry Index reaching 3,314 points in August 2021, its highest since 2010. Global seaborne dry bulk trade is likely to grow by 4.2% to reach 5.39bn tonnes in CY 2021, supported by rebounding economic and industrial activity and significant government stimulus in key regions. Fleet growth is likely to reach 3.3% in dwt terms this year. Rebounding activity and Covid-19-related disruption has seen a significant share of bulker fleet caught up in congestion, helping to soak up tonnage and reducing 'active' capacity. In future, the balance of fundamentals is supportive.

Crude Tankers:



10y Historical Breakeven Rate = \$18,900/day

Short Term Earnings Outlook = \$21,300/day (+13%)

Long Term Earnings Outlook = \$27,300/day (+45%)

Negative 2021 Fundamentals: Demand Growth +3.1% < Supply Growth +4.6%

The tanker market remains under pressure, with average weighted tanker earnings falling below \$4,500/day in June 2021, the lowest monthly average in over 30 years. Deep OPEC+ supply cuts remain in force, and oil demand continues to experience pressure from Covid-19 pandemic, with seaborne oil trade likely to be c.10% below 2019 levels in H1-2021. But, with OPEC+ crude supply cuts set to ease from August 2021, and global oil demand expected to continue to rebound, crude tanker demand could 4-5% levels in 2022. Combined with a subdued orderbook of 8%, fleet expansion stands at 2% in 2022, which should drive a recovery in the tanker market in the next 18 months.

Product Tankers:



10y Historical Breakeven Rate = \$13,100/day

Short Term Earnings Outlook = \$15,400/day (+17%)

Long Term Earnings Outlook = \$18,100/day (+38%)

Positive 2021 Fundamentals: Demand Growth +8.2% > Supply Growth +3.1%

Product tanker demand is expected to improve substantially more than for crude tanker due to refinery closures in US, Europe and Australia. Typically, these countries would import crude for domestic refining. With impending refinery closures, product tanker trade could evolve into longer distances, with rising share of imports from Middle East, India and North Asia. Product tanker market is expected to gradually recover over the next 18 months.



Chemical Tankers:

10y Historical Breakeven Rate = \$14,600/day

Short Term Earnings Outlook = \$18,300/day (+25%)

Long Term Earnings Outlook = \$20,200/day (+39%)

Neutral 2021 Fundamentals: Demand Growth +1.0% = Supply Growth +1.0%

The chemical tanker market has been muted so far in 2021. Prolonged effects of COVID-19 related restrictions combined with extreme winter weather effects in the West have reduced demand between western and eastern hemispheres. Trade was dramatically disrupted when an unusual February 2021 snowstorm hit much of southern USA, sending commodity prices in USA soaring to record levels, reducing potential arbitrage with the international market. As it stands, Q3-2021 should see the balance tip back in the producer's favour, re-opening the arbitrage and allowing for more long-haul exports for the remainder of the year. Looking ahead, assuming countries recover swiftly from the latest COVID-19 wave, strong trade growth is foreseen in H2-2021 and in CY 2022 with a recovery in chemical tanker earnings.



LNG:

10y Historical Breakeven Rate = \$54,400/day

Short Term Earnings Outlook = \$56,400/day (+4%)

Long Term Earnings Outlook = \$57,600/day (+6%)

Neutral 2021 Fundamentals: Demand Growth +10% = Supply Growth +10%

LNG sector has seen encouraging trends in 2021, with demand rebounding healthily and vessel earnings remaining firm. While market fundamentals appear broadly balanced with both LNG tonne-mile trade and fleet capacity forecast to grow by c.10% in 2021, the short-term market outlook is positive, with demand for LNG expected to remain firm and tight spot vessel availability. Looking ahead to CY 2022, LNG carrier market fundamentals appear positive. While tonne-mile trade growth is currently projected to ease back to 5.2% as USA's export growth slows, fleet capacity is projected to grow by 4.5% as deliveries moderate.



LPG:

10y Historical Breakeven Rate = \$17,900/day

Short Term Earnings Outlook = \$23,600/day (+28%)

Long Term Earnings Outlook = \$23,000/day (+27%)

Positive 2021 Fundamentals: Demand Growth +8% < Supply Growth +6%

LPG carrier market fundamentals appear broadly balanced, with LPG tonne-mile demand growth of c.8% and LPG carrier fleet capacity growth of c.6% (c.9% VLGC) projected. As such, there is potential for improvement in the VLGC spot market in the remainder of the year, especially with the easing of tensions between the US and China, which has unleashed a renewed surge in shipments between the two countries. Looking to the East, there is also potential for Middle Eastern exports to pick up given the recent OPEC+ decision to ease crude production cuts. Support may also materialize from market inefficiencies. Looking ahead, in 2022, the rate of LPG tonne-mile trade growth is projected to increase to c.5%, partly as OPEC+ cuts are lifted. However, some supply-side pressure may emerge, with LPG carrier fleet growth of c.6% (c.7% VLGC) projected.

Liner Operators:



Positive 2021 Fundamentals: Demand Growth +6.6% > Supply Growth +4.3%

Container shipping markets continued to surge during June and into July 2021, with freight and charter markets soaring even further to new all-time highs. Strong trade volumes and severe logistical disruption and port congestion, against a backdrop of ‘manageable’ supply growth, are continuing to provide extraordinary support, and with potential for disruption to take some time to ‘unwind’, the short-term market outlook remains very positive. Rates are likely to ease from current record levels at some point, as disruption eases and as demand ‘normalises’ with potential for a shift in spending back towards services to provide ‘drag’. Moderate supply growth in CY 2022 could provide support, though robust deliveries in CY 2023 from record ordering in H1-2021 will likely exert downward pressure.



Offshore Vessels:

10y Historical Breakeven Rate = \$14,500/day

Short Term Earnings Outlook = \$12,000/day (-17%)

Long Term Earnings Outlook = \$16,900/day (+20%)

Positive 2021 fundamentals, but from a weak base

The sector is entering the seventh year of its downturn and there is cautiously optimistic in industry that CY 2021 will be the year of the turnaround, not with high freight rates, but there will be signs of improvement. Oil prices are moving in the right direction (\$70/bbl) as of August 2021 and E&P CAPEX is expected to increase by 7% and 22% in 2021 and 2022 respectively. In addition, there is also a positive development in the area of offshore renewables market (windfarms), which is helping existing Offshore Vessel owners pivot their assets in a new and greener direction.

3.4. Historical Imperatives of International Shipping

• Fleet Development

The origin of international shipping is traced to the advent of steam engines for propulsion of ships. The American ship *SS Savannah*, a steamship-sailing hybrid, first crossed the Atlantic Ocean (North America-Europe) in 1819. Suez Canal’s opening in 1869 gave a distance

saving of 3,300 nm (6,100 km; 3,800 miles) from China to London, enabling steamships to obtain a much higher rate of freight and lower insurance premiums for cargos than sailing ships. So successful were the steamers using the Suez Canal that, in 1871, 45 were built in Clyde shipyards alone for Far Eastern trade. The decline of the steamship began after World War II, by when marine diesel engines had also finally matured as an economical and viable alternative to steam power. Most steamships today are powered by steam turbines.³

Britain's merchant fleet, the largest in the world, had a third of the world's merchant ships in 1939, and there were about 200,000 sailors, many drawn from the British Empire – India, Hong Kong, West Africa.⁴ The fleet at World War II's ending, consisted of dry bulk cargo vessels (carried in pallets, bulk, bags, other unitized format) and tankers.

Figure 11: Evolution of Vessels

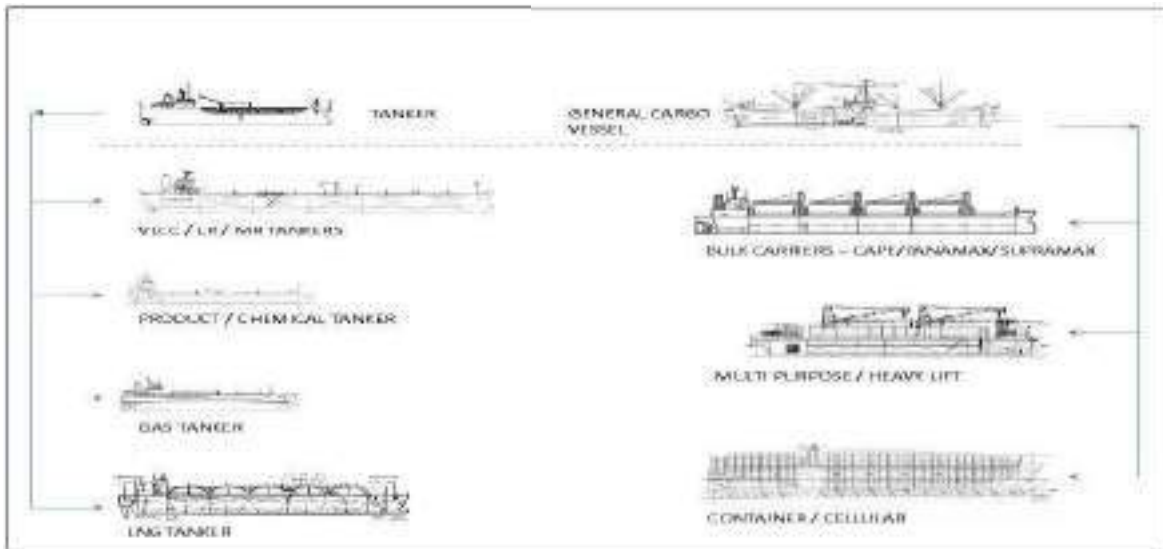
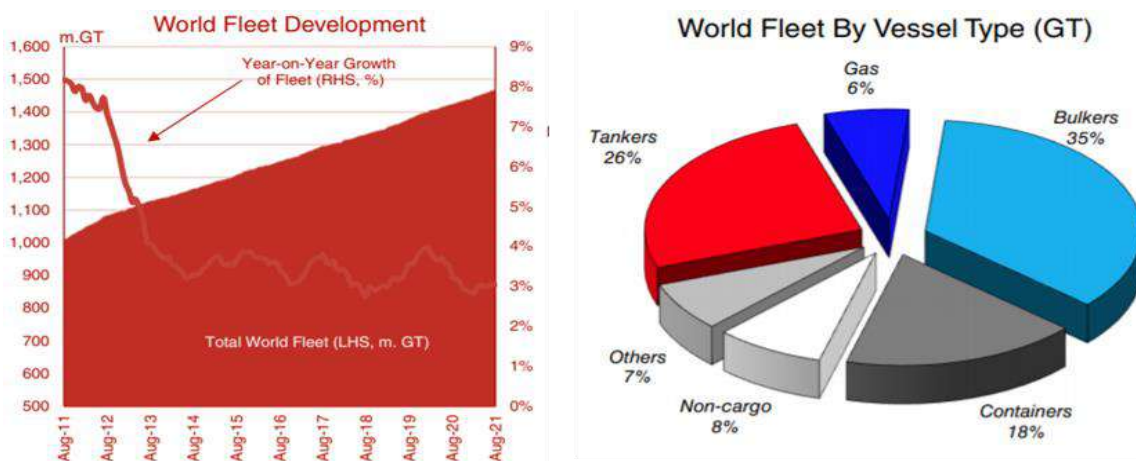


Figure 12: World Fleet by Vessel Type (GT)



Source: Clarksons Research, August 2021

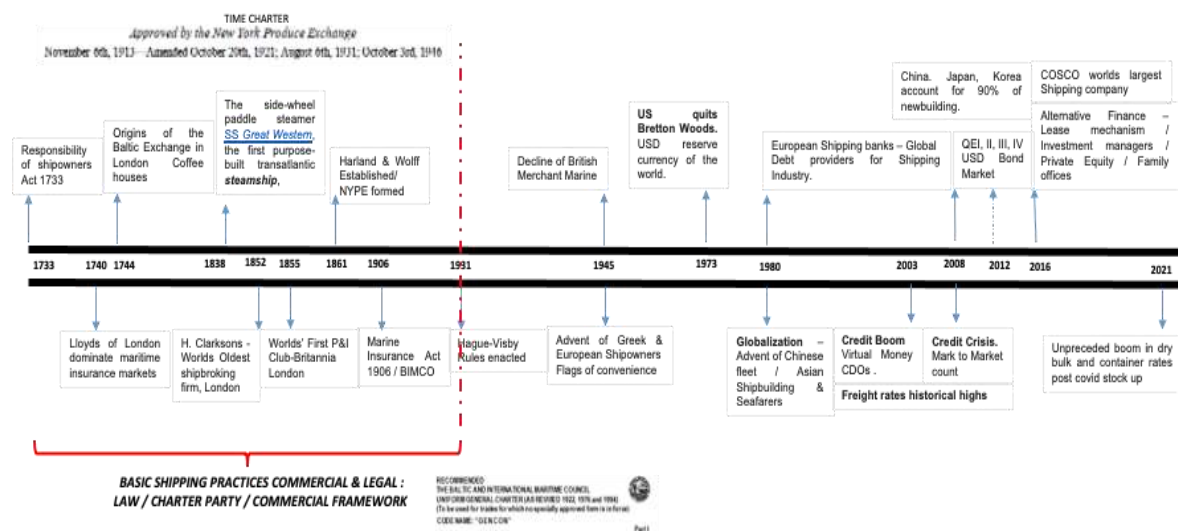
The development of containerisation came about with 58 *trailer vans* being moved from Newark to Houston in USA in April 1956 aboard the refitted tanker SS *Ideal X* followed by the first TEU container ship, the Japanese *Hakone Maru* from shipowner NYK, which started sailing in 1968 and could carry 752 TEU containers. The establishment of global ‘shipping lines’, with scheduled routes and calls, was distinct from the ‘tramp’ model adopted

by traditional bulk shipping. Tanker trade evolved into specialized vessels carrying products, chemicals and gas carriers. Specialized heavy lift, project cargo vessels and offshore supply vessels also entered the global commercial shipping scenario. Today, container tonnage makes up for 18% of world fleet by GT (measure of cargo space capacity), while gas carriers and another specialized fleet make up for 13% of world capacity.

• Commercial Developments

Modern commercial shipping is rooted in technological, legal and commercial developments and advances in Great Britain in the late 18th and early 19th century. Establishment of Lloyds of London as a marine insurance centre by late 18th century helped ship owners and sailors underwrite risks. The Baltic Exchange, a major shipping exchange today, was established in 1744. The first Protection and Indemnity Club (P&I) was set up in mid-19th Century, which covered risks not covered by Lloyds' market by forming an association of shipowners.

Figure 13: Commercial Developments



Besides great technological strides, 'load lines' (the legal limit to which a ship can load cargo) and many other navigation innovations were introduced. Many shipbroking firms were established, some of whom are still in business for an unbroken period of over 200 years – the world's largest shipbroking firm today, H. Clarksons & Co. was established in 1852.

Shipyards and ports sprung up in Great Britain, helping it retain world leadership in ship owning, shipbuilding, commercial and legal practices and maritime innovation till WW-II. Britain was eased out by USA, and other centres for shipping emerged. Greek shipowners capitalized on the availability of USA's surplus merchant tonnage produced during WW-II (Liberty ships and tankers) and emerged as a key ship-owning nation. Adoption of USD as the preferred reserve currency globally and its primacy in international trade ushered in an era of globalization. The commercial and legal practices created and practices by maritime Britain then, serve as the basic foundation and framework for global shipping today.

At the end of WW-II, the revival of Japanese economy saw shipbuilding migrating from Britain and Europe to Japan and later South Korea.

- With massive Chinese investment in the sector, by 2016, China, Japan and South Korea accounted for 90 per cent of new ships built globally.

- Globalization also gave a boost to world trade, by volume today is roughly 40 times the level recorded in the early days of the GATT (4100% growth from 1950 to 2020).
- World trade values today have ballooned by almost 300 (274) times from 1950 levels.

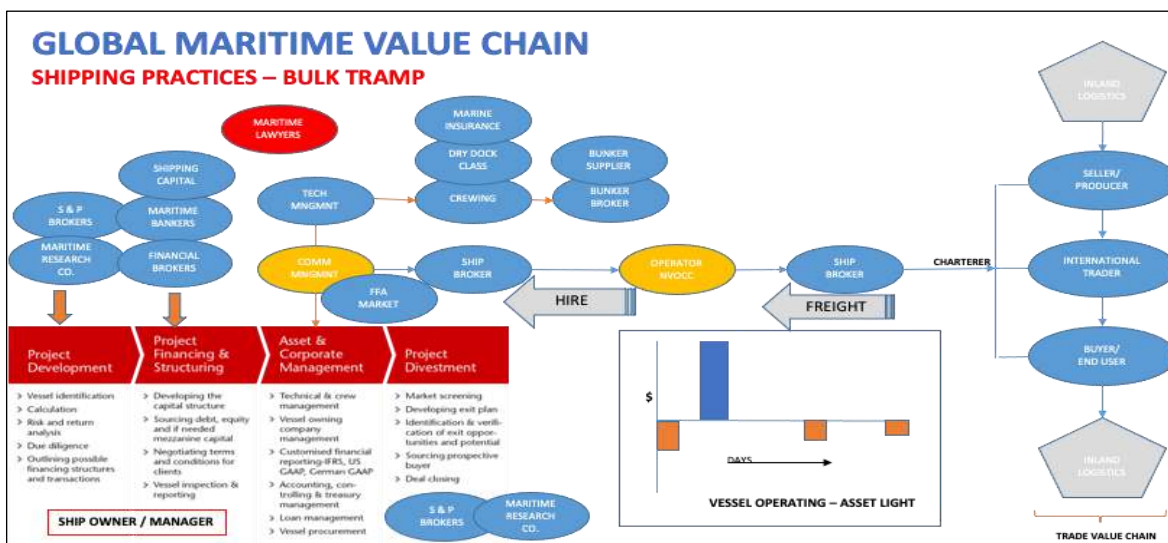
Ship-owning became more fragmented with increase in cargo volumes and more wealth created in Asia after globalization. Dry bulk shipping, with least barriers to entry, is the most fragmented sector, followed by tankers and least in container trade.

Britain and Europe retained commercial, legal and financial hub status, though Singapore and Hong Kong caught up fast. European banks, once the largest providers of shipping debt capital, have reduced their exposure seeing prolonged weak shipping markets after the credit boom and crisis in 2008-09, which distorted valuation and supply-demand balance for a decade. US bond markets entered ship finance in a big way post the crisis, only to retreat with large losses in a few years. COVID 19 further skewed the markets. Currently, Chinese leasing funds have filled the gap with expensive and innovative finance, though ship building remains muted since the historical market lows of 2016-17.

• Global Maritime Value Chain

The global shipping marketplace is a now complex interplay of many eco systems, with many players, competing and cooperating with each other to enable efficient transportation of goods and passengers worldwide.

Figure 14: Global Maritime Value Chain



The bulk cargo tramp trade (both dry and tankers) is spread over several jurisdictions. The trade value chain procures shipping services through a shipbroker from either an operator (ship lessee) or from a direct shipowner. The ship owner and lessor may use freight derivatives to hedge freight and bunker risks, while procuring their services again from intermediaries. He may have outsourced commercial and technical management of the ship, while retaining the core function of ship acquisition and financing. Here again, he is likely to use the services of specialist market consultants and intermediaries to understand the markets and to access capital from varied sources like banks, AIFs and other finance providers.

Ship operator is a lessee of vessels, who procure the ship on a ‘wet lease’ (a lease which includes crew and maintenance) from ship owners who own the asset. In the value chain, he brings vital localized expertise and risk-taking ability. Ship operators have the advantage of being asset light and cash positive, as the trade involves receipt of freight after completion of loading of cargo, while the payment to the owners is typically in dollars per day based on the daily hire rate. Ship operators, therefore, profit from the arbitrage of ‘time’ and ‘voyage’ charter differentials, while also taking long term positions in the freight market.

3.5. Global Shipping Scenario Today – Global Maritime Hubs

The primacy of USD and resultant globalization of shipping industry has created distinct shipping activities. Further concentration of capital, aided by liberal taxation and regulation, has created global shipping hubs specializing in these activities. Countries that could not adapt to these changes became net importers of shipping services from established hubs.

Figure 15: Global Maritime Hubs



Source: *The leading maritime capitals of the world 2019 – A Menon Economics and DNV GL publication*

Shipping hubs have developed their own USP. Notable shipping hubs by type of services offered include the following:

- Ship-building: Asian Tigers (China, South Korea, Japan)
- Shipbreaking/Recycling: Cheap labour and demand for steel (India, Bangladesh, Pakistan)
- Ownership: Historical reasons and accumulation of capital (Greece, Switzerland, China)
- Registry / Flag: Jurisdictions with easy regulation and tax policy to attract registration of vessels (Panama, Liberia, Marshall Islands, Malta, Bahamas, etc.)
- Crewing and technical management: Historical reasons (Cyprus, Hong Kong, Singapore)
- Financial: New York, Oslo, Hamburg, Singapore, Hong Kong, Tokyo
- Commercial: Ship leasing companies and associated activities (Singapore, Dubai, Hong Kong)
- Trading / charterers: Strong capital and traders (New York, Switzerland, Singapore, Dubai)

- Services: Broking, legal, educational hubs, with historical advantages and organic developments (London, Singapore, Dubai, Hong Kong)

Participation of hubs in international trade brings huge benefits to the host economy, with tailwinds from output and employment multipliers. Apart from direct payment of tonnage and corporate tax, the hub also brings indirect and induced taxable incomes to the host economy, ranging from individual incomes, incomes generated by employee-specific local spend, manufacturing and services delivery induced by company buys, besides the catalytic impacts from labour-intensive tourism, entertainment, hospitality sectors, IT services, etc.

3.6. Flagging and Taxation

• Ship Registration

Ship Registration serves to document a ship at a registry, gives it the nationality and right to sails under the flag of the country of registration. International law requires that every ship be registered in a country, called its flag state. A ship is subject to the law of its flag state.

A ship's flag state exercises regulatory control over it and is required to inspect it regularly, certify the ship's equipment and crew, and issue safety and pollution prevention documents. Registries may be governmental or private agencies. In some cases, like USA's Alternative Compliance Program, the registry can assign a third party to administer inspections.

Flag of convenience (FOC), a term coined in the 1950s, is a business practice⁵ whereby a ship owner registers a merchant ship in a ship register of a foreign country, and the ship flies the civil ensign of that country. Merchant ships had for long been using false flags as a *ruse de guerre* or on slave ships.

A ship has been registerable in a foreign country since early 1920s, from where regulations on higher wages and working conditions and/or higher taxes applicable in the owners' country may be avoided, for example, stricter crewing standards than those by international norms, or to reduce operating costs.⁶ A register open only to ships of its own nation (a *traditional or national register*), but an *open register* does not have a nationality or residency requirement. Panama, for e.g., offers easier registration (often online) and the ability to employ cheaper foreign labour, and in case of foreign owners, a pay no income taxes.

In brief, the Flag represents the nationality of the vessel. The registered owner will be a company incorporated in the nation where the vessel is flagged. The law of the flag state regulates several important issues like:

- Requisition of vessel in case of national emergency,
- Tax on earnings by the vessel,
- Nationality of the crew,
- Salary and working conditions of the crew, and
- Safety and security (through any classification society).

Since the last five decades, 50% of the world's fleet is flagged with FOC. Key characteristics of FOC (Panama, Liberia, Marshall Islands, Malta, Bahamas, etc.) are:

- Low or Zero taxation on earnings,
- No restrictions on nationality of crew,

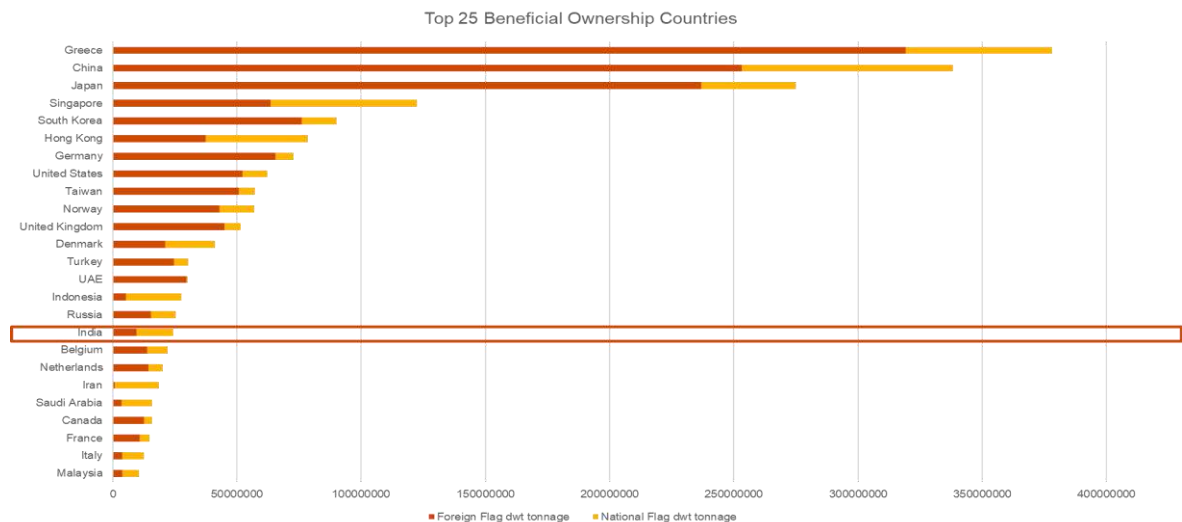
- No restrictions on recourse to specific classification society,
- Lower manning standards as per international norms, as compared to national registries, and
- No requirement for place of effective management to be the flag state.

• Evolution of international shipping

Between 1915 and 1922, several laws were passed in USA to strengthen its marine sector and provide safeguards for its mariners, which put USA-flagged vessels at an economic disadvantage. Ships started re-registering in Panama's open registry from 1919. To sidestep the Seamen's Act, Panama-flagged ships paid sailors the lower Japanese wage scales.⁷ Early in World War II, transfer of USA-owned ships to Panama's registry was sanctioned by US government to deliver materials to Britain without dragging USA unintentionally into war.⁸

Date	Event
1919	<i>Belen Quezada</i> flagged in Panama
1948	ITF FOC Campaign begins
1949	<i>World Peace</i> flagged in Liberia
1969	Liberia becomes largest registry ⁹ with maritime funds being 70% of government revenues ¹⁰
1988	Marshall Islands' open registry
1999	Panama is largest registry
2009	Panama, Liberia & Marshall Islands account for 40% of world fleet in DWT
2021	Panama, Liberia & Marshall Islands account for about 55% of world fleet in DWT, including 61% of bulk carriers and 56% of oil tankers. ¹¹

Figure 16: Top-25 Beneficial Ownerships in August 2021



Source: Clarksons' Research, August 2021

The use of open registries has since steadily increased. Multiple registries have also been opened, for instance, by Liberia which joined with the Republic of Marshall Islands to develop a new maritime program (International Registries) in 1993. A new registry (Liberian International Ship and Corporate Registry, LISCR) is being operated from Virginia, USA.

The tabular statements and graphs herein show that beneficial ownership of vessels still lies with traditional ship-owning countries, even as owners have flagged out their tonnage to open registries. While initially open registries had poor safety records, they now enjoy good ratings and significantly improved safety levels in collaboration with Classification Societies.

The data for top-25 beneficial flag states shows that India stands in 17th position, with 61% of its tonnage carried internationally on ships owned and registered in India, and the balance on foreign flags. India ranks at 22nd position among all flag states, with 10.4 m.GT capacity and 1,802 vessels. The average age of vessels is quite high at 19.3 years, and curiously, while the number of vessels flagged in India has increased in the last four years from 1,741 to 1,802 vessels, the tonnage carrying capacity has been declining from 11.2 m.GT to 10.4 m.GT. It is also noteworthy that the Top-10 flag States (7 of whom have open registries) have about 40% of the fleet by numbers but 75% of the world's tonnage capacity.

Figure 17: Breakdown of Flag States, (on 1 August 2021)

Flag States		Age	No Vessels, end				Million GT, end				01 Aug 21		
			2017	2018	2019	2020	2017	2018	2019	2020	No.	m.GT	
1	Panama	Open	18.7	7,804	7,822	7,887	7,996	218.9	219.2	218.5	227.3	8,071	230.9
2	Liberia	Open	11.6	3,311	3,486	3,720	3,945	142.6	153.7	171.7	185.3	4,122	197.6
3	Marshall Is.	Open	9.6	3,425	3,542	3,685	3,820	147.9	153.1	161.0	168.1	3,929	172.8
4	Hong Kong	Open	11.6	2,623	2,707	2,700	2,718	113.8	125.1	127.4	129.8	2,705	131.8
5	Singapore	Open	10.9	3,436	3,375	3,366	3,312	85.2	86.8	93.0	91.1	3,272	90.3
6	Malta	Open	12.4	2,194	2,171	2,199	2,128	72.8	75.0	80.5	81.9	2,077	82.5
7	China P.R.	National	14.6	6,084	6,342	6,512	6,716	60.1	64.8	67.1	70.3	6,908	72.6
8	Bahamas	Open	15.5	1,377	1,399	1,371	1,326	60.3	62.1	63.3	61.4	1,313	61.1
9	Greece	National	25.9	1,323	1,301	1,302	1,256	41.4	39.8	40.0	37.5	1,235	36.4
10	Japan	National	21.0	5,222	5,264	5,342	5,369	26.3	27.9	29.4	28.7	5,386	29.3
Total Top-10			15.3	36,799	37,409	38,104	38,586	969.3	1,087.6	1,051.8	1,081.4	39,018	1,105.1
Share of World Total				38%	38%	38%	38%	74%	75%	75%	75%	39%	75%
11	Cyprus	Open	15.9	1,010	1,030	1,058	1,053	22.4	22.6	23.1	23.0	1,048	23.4
12	Danish Int'l	International	17.5	536	568	577	601	16.9	20.4	21.1	22.1	609	22.5
13	Indonesia	National	19.9	9,932	10,182	10,453	10,602	17.5	18.6	19.6	20.8	10,654	21.0
14	Madeira	International	12.7	450	483	526	579	15.1	14.6	15.3	16.5	639	18.2
15	Norwegian Int'l	International	14.2	596	620	653	672	15.3	15.6	16.5	17.2	685	17.0
16	Italy	National	26.3	1,364	1,325	1,311	1,296	15.9	15.1	14.6	14.4	1,287	14.3
17	Isle of Man	International	11.0	407	387	348	319	16.6	16.7	14.8	13.5	305	13.2
18	South Korea	National	24.8	1,963	1,986	1,995	2,007	9.8	9.4	10.9	12.5	2,030	12.7
19	Iran	National	26.5	814	819	904	911	3.0	2.9	11.1	11.8	912	11.6
20	United States	National	32.4	3,643	3,639	3,630	3,631	10.6	10.7	10.9	10.8	3,624	10.8
Total 11-20			22.4	20,715	21,039	21,457	21,671	142.9	146.5	157.8	162.6	21,793	164.6
Share of World Total				21%	22%	22%	22%	11%	11%	11%	11%	22%	11%
21	United Kingdom	National	20.6	1,042	1,031	946	925	15.9	15.8	10.7	10.4	914	10.6
22	India	National	19.3	1,741	1,748	1,779	1,803	11.2	10.7	10.6	10.5	1,802	10.4
23	Bermuda	Open	13.8	158	150	140	147	11.3	10.9	10.0	10.5	139	10.3
24	Russia	National	30.5	2,694	2,764	2,820	2,874	7.6	8.0	8.4	9.1	2,890	9.3
25	Malaysia	National	19.0	1,741	1,760	1,782	1,784	8.2	8.5	8.4	8.4	1,777	8.0
26	Saudi Arabia	National	23.5	382	370	375	394	7.7	7.5	7.8	7.7	398	7.6
27	Vietnam	National	18.0	1,828	1,866	1,906	1,934	5.1	5.3	5.7	6.4	1,955	7.2
28	Germany	National	33.1	632	615	609	598	9.5	8.1	8.1	7.4	590	7.1
29	Netherlands	National	20.2	1,219	1,205	1,196	1,196	6.9	6.9	6.8	6.4	1,185	6.4
30	Belgium	National	16.8	193	193	196	201	5.1	6.1	6.2	6.0	203	6.1
Total 21-30			22.7	11,630	11,702	11,753	11,856	88.6	87.7	82.8	82.7	11,853	82.9
Share of World Total				12%	12%	12%	12%	7%	7%	6%	6%	12%	6%
Others			29.7	27,445	27,686	28,116	28,422	105.6	103.9	107.1	112.7	28,524	114.8
Share of World Total				28%	28%	28%	28%	8%	8%	8%	8%	28%	8%
WORLD TOTAL			21.7	96,589	97,816	99,430	100,535	1,306	1,346	1,399	1,439	101,188	1,468
% Growth y-o-y				1.3%	1.3%	1.7%	1.1%	3.4%	3.0%	4.0%	2.8%		

Source: Clarksons' Research, August 2021

There is presently no binding international framework to regulate the registration process itself. The 1986 UN Convention on Conditions for Registration of Ships establishes international standards for registration of vessels in a national registry, including references to the genuine link, ownership, management, registration, accountability and the role of the flag State.¹² However, the Convention has not entered into force.