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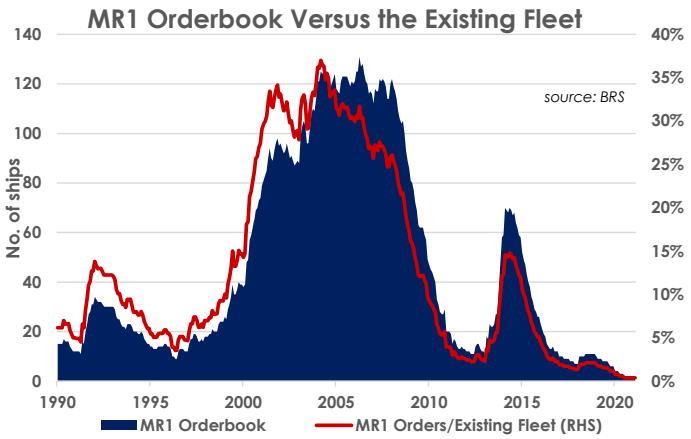
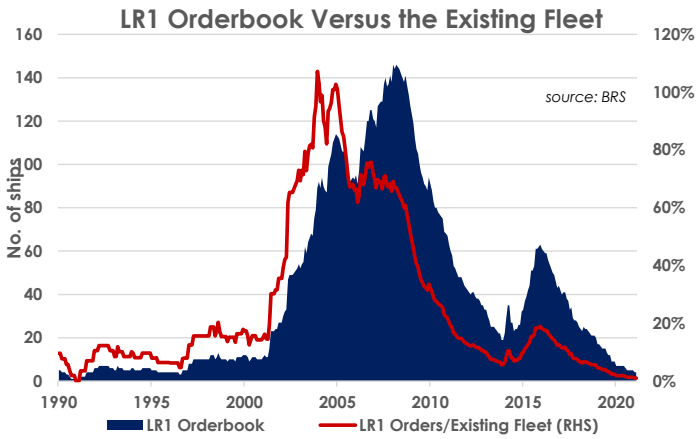
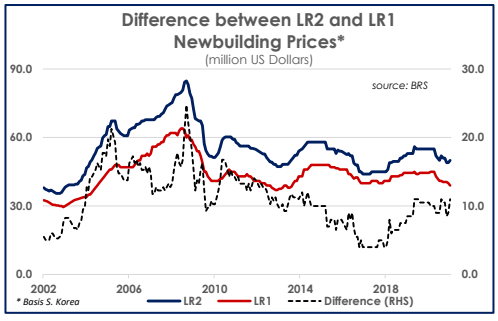
A rare breed: MR1s and LR1s becoming niche tankers

Seventeen years ago, when your author started his career in oil and tanker markets, MR1s and LR1s were two of the most popular CPP tankers with large fleets and orderbooks. However, much has changed since then, not least that these two tanker segments have fallen out of fashion so that both are now characterised by small orderbooks and therefore ageing fleets. This week, we examine the drivers behind this change and discuss what their ageing fleets means for wider CPP and DPP tanker markets.





Slowing fleet growth. Both LR1s (60,000 – 84,999 dwt) and MR1s (34,000 – 40,999 dwt) have seen orders decline rapidly over the past decade so that by the time of writing, there were 5 LR1s and 2 MR1s on order which equates to around 1% of each fleet respectively. In the LR1 segment, four units are officially scheduled to be delivered this year, although it must be noted that two of these are severely delayed units for Petrobras and thus it seems unlikely that these will hit the water before the end of the year and could be pushed into 2022 or even later. The final LR1 unit is due to be delivered in 2022. The MR1 fleet should see its final two units delivered this year, which are 2 Chinese-built eco-type tankers which were originally due to be delivered in 2018. Furthermore, going forward, we do not anticipate that there will be a rebound in ordering activity for either of these segments as they have largely been superseded by larger MR2s and LR2s. The impact of the small orderbook and slowing deliveries is that we project that the MR1 fleet will contract by 0.8% this year. This hypothesis is based off our demolition forecast where 6 MR1s are expected to hit the beach by the end of the year. In contrast, we project that 1 LR1 will be demolished in 2021 which implies that the LR1 fleet will grow by 0.8%. This assumes that the Petrobras units are delivered, if they are not, the fleet will grow by 0.3%.



More bang for their bucks. Newbuilding prices have been an important driver in making owners decide to opt for larger vessels as the deltas in newbuilding prices for MR1s and MR2s and LR1s and LR2s have narrowed significantly over the past couple of decades. For example, at end-2020, it cost $40 million to order an LR1. Meanwhile, an LR2 cost $49 million, a difference of $9 million or 18%. This compares with a 30% ($25 million) difference between LR2 and LR1 prices in 2008, a year when the ratio of the orderbook to the existing LR1 fleet stood at a whopping 70%. A similar trend is present in MR1 prices with an MR2 now costing $35.5 million compared with $33 million for an MR1 (this delta actually fell to $1 million in October 2020), representing a 7% premium for an MR2. In comparison, 2008 saw the delta between MR2 and MR1prices reach around $5 million (approximately 10%). This narrowing of spreads has attracted owners to order larger capacity vessels as relatively speaking, their money goes a longer way.

Improved Economies of scale and oil market developments. Although an MR2 carries around 20-24% more cargo than an MR1, its operating expenses are only around 10% higher. For example, an eco-type MR2 consumes around 22 mt/day of bunker fuel while an equivalent MR1 consumes 20 mt/day. Furthermore, both vessels need the same number of crew and onshore support staff. The same is true for LR1s where the LR2s also have significantly improved economies of scale but not significantly higher operating costs.

Impact of oil infrastructure changes. The broad impacts which developments in oil infrastructure have had on owners' tanker preferences cannot be underestimated. The past decade has been characterised by the construction of increasingly large and complex export-orientated refineries, with plants of over 400 kb/d now commonplace. These installations can easily produce 600-700 kb parcels of clean products. In turn, this has helped to increase LR2 tanker demand. The majority of these plants are located East of Suez and a significant portion of their output has been transported long-haul. Although LR1s have undoubtedly benefitted from the increase in long haul trade CPP trade, data suggest that much of this incremental demand has been carried by LR2s rather than LR1s. One further reason for this could be the beam of some units which previously hindered the use of LR1s to carry products from the US to Asia via the Panama Canal. An additional point which has counted against LR1s is that they are now not considered to be as flexible as LR2s. Both of these vessel classes have the option of 'dirtying up' to carry crude or fuel oil cargoes, if the underlying economics permit. Data suggest that over the past decade there has also been an increase in global Aframax (LR2-sized crude carriers) demand which appears to come at the expense of Panamax demand (a segment which is also characterised by a shrinking orderbook). As such, this implies that there are less employment opportunities for LR1s in dirty tanker markets when compared with LR2s, although this could change over the coming years (see below).

Ageing fleet. A consequence of the small orderbook is that both the LR1 and MR1 fleets are ageing rapidly which eventually will have consequences on charter rates. Currently, the average age of the LR1 and MR1 fleets is 10.9 and 13.4 years old, respectively. More and more charterers are insisting upon only chartering tankers which are less than 15 years old and currently 56% and 77% of MR1 and LR1 tonnage, respectively, is under 15 years old. The lack of newbuildings will see this aging accelerate over the coming years so that by end-2022, only 37% and 59% of MR1s and LR1s, respectively, are projected to be younger than 15 years old. As the fleet ages moving forward and less and less tonnage is acceptable to these large charterers, we expect that modern tonnage will fetch a premium, especially if as expected, the tanker market exits its current doldrums and moves towards a period of sustained stronger rates over 2022-24. Considering the relative sizes of the fleets and that the MR1 fleet is ageing approximately three years ahead of the LR1 fleet, LR1 owners should follow trends seen in the delta in charter rates for modern and older MR1 tonnage as their market could be in a similar position in the near future.

The future. It appears that MR1s and LR1s are becoming niche tankers. Although this is more the case for MR1s than LR1s at the moment as these smaller tankers are by and large now being increasingly used for intra-regional short-haul trade. As such, MR1s are concentrated in the Mediterranean, Northwest Europe Southeast Asia and the Middle East while LR1s continue to be widely distributed and used for longer haul trade. Furthermore, even older MR1s have regular employment being used for hauling fuel oil across the Mediterranean or Northwest Europe, a trade which should continue to sustain demand for these vessels over the medium-term. Currently, the same is not true for LR1s but this could happen in the future as the Panamax fleet ages rapidly. This trend could see LR1s carry more fuel oil, especially in the Caribbean. Additionally, there continue to be many cases when an LR1 or MR1 is preferable to a larger tanker for a charterer. For example, these smaller tankers have smaller port costs compared with their larger brethren which can make a big difference to tanker earnings in a poor market. This is one of the main reasons for fuel oil trade in Northern Europe being dominated by MR1s, and the movement to MR2s could prove to be difficult for this market. Finally, if such 'niche' demand is sustained amid a contracting fleet, this could help to support rates versus other more 'en vogue tankers' over the coming years.

This week's market pointers ↑↓

ICE Brent breaks through the $60/bbl mark. The past week has seen benchmark crude prices surge to their highest level since the Covid-19 pandemic started. This has been fueled by positive sentiment stemming from hope that the US will soon pass President Biden's mammoth $1.9 trillion stimulus package which will help to support US economic growth and thus oil demand. Furthermore, signs are that the physical crude market remains tight in the wake of Saudi Arabia's ongoing 1 mb/d cut while recent data have pointed to solid compliance among OPEC+ member countries with their production limits. Accordingly, earlier this week, front month ICE Brent broke through the $60/bbl mark and was last trading at $61.10/bbl. In the US, NYMEX WTI was last standing at $58.30/bbl.

Libyan situation remains tense. Despite Libya's rival factions agreeing to form a new interim government late last week, the security situation at Libya's oil terminals remains tense. This week has seen newswire reports suggest that the Petroleum Facilities Guards' ongoing strike at Hariga shows no signs of stopping while there remains the possibility that it could spread to other terminals as there continue to be several wage disputes. Nonetheless, latest *Alphatanker* data show that exports have been little impacted so far as Libya exported 1.22 mb/d mb/d of crude and condensate in the week ending 5 February. Meanwhile, the four-weekly average of 1.15 mb/d remains on a par with end-2020 export levels. Furthermore, it is noteworthy that the new government has pledged to hold elections on 24 December 2021.

Qatar announces huge gas production expansion, condensate production to be lifted. Qatar Petroleum has announced that it will develop the North Field East project, labelled as 'the largest ever LNG project'. This $28.8 billion project will eventually produce 33 million tonnes of natural gas which will see its associated gas condensate production and exports soar. The project will be built at Ras Laffan and will eventually contain a 4 train LNG project which will also produce LPG and ethane which could be exported. Furthermore, the sanctioning of this project suggests that Qatar will push ahead with its ambitious newbuilding LNG carrier plans which could see up to 151 carriers ordered.

President Biden confirms not easing of Iranian sanctions until Tehran complies with its nuclear deal commitments. As expected, President Biden has confirmed that his administration will not ease its sanctions on Iran until it reduces its uranium enrichment program. Last year saw Iran increase its uranium enrichment to 20%, well above the 3.67% cap agreed upon in 2015. In comparison, weapons grade uranium is 90% pure. This situation suggests a potential stalemate as Tehran had previously stated that they would only return to compliance if the US first lifted all economic sanctions. Furthermore, reports from Iran suggest that the government has asked NOC to increase production at South Azadegan and West Karun fields. This production hike appears to have translated into higher exports over the past few weeks with *Alphatanker* data suggesting that the country's crude and condensate exports have risen to 0.35 mb/d over the past four weeks, significantly higher than its shipments at end-2020.

Four Iranian tankers de-flagged. This week has seen four NITC tankers taken off the Tanzanian registry due to their alleged involvement in the ship-to-ship transfer of Iranian oil. The de-flagged ships are Anahi (IMO: 9273337) and Laval (IMO: 9246279), both VLCCs, plus the Xenia S (IMO: 9165542) and Elisa Sea (IMO: 9199828), both Aframaxes.

IEA highlight that India will lead global energy demand growth. In a recently released report, the IEA has projected that Indian oil demand will rise by 40% between 2019 and 2030 to hit 7.1 mb/d. At the same time, its oil import dependency will soar to 91% in 2030 and 92% by 2040 which will be a big boost to both crude and clean tanker demand. Indeed, this growth makes India the country which will contribute the most to energy demand growth over the next decade and beyond. On the negative side, the IEA remains pessimistic on India's refinery capacity growth which remains below Indian government estimates. Diesel is projected to continue to play an import role in India's transport demand mix, led by demand for freight, with alternative fuels only gaining limited traction over the coming decades.

Sustainable Shipping unveil their criteria for alternative, low carbon, marine fuels. In a white paper released this week, the Sustainable Shipping Initiative, an organization 'driving change through cross-sectoral collaboration to contribute to – and thrive in – a more sustainable maritime industry', have outlined 13 issues that ship owners must consider when choosing a fuel. These include; lifecycle emissions, the source of carbon and hydrogen used, impacts on air and water quality, safety, food and labour security, resource and land use, and its ecological impact.

Seaborne Crude Exports[1] for Selected Countries for week ending 5 February 2021 Million barrels per day	12-month rolling average	4-week rolling average	latest week (29 Feb)	change from previous week
Algeria	0.38	0.34	0.54	0.43
Angola	1.22	1.02	0.95	-0.13
Gabon	0.17	0.25	0.28	-0.05
Iran	0.20	0.35	0.00	-0.35
Iraq	3.11	3.21	3.20	-0.31
Kuwait	1.79	1.79	2.11	0.20
Libya	0.44	1.15	1.22	0.27
Nigeria	1.71	1.66	1.70	-0.05
Qatar	0.72	0.62	0.69	0.03
Saudi Arabia	6.47	6.32	6.32	0.10
UAE	2.38	2.41	2.48	0.29
Venezuela	0.36	0.17	0.05	-0.44
Azerbaijan[2]	0.55	0.68	0.70	0.10
Kazakhstan[3]	1.19	1.13	1.38	0.48
Russia[4]	2.93	2.79	2.63	-0.18
Oman	0.81	0.87	0.66	-0.19
Sudan	0.15	0.20	0.14	-0.19
Brazil	1.32	1.26	1.15	-0.10
Colombia	0.53	0.49	0.60	0.25
Mexico	1.08	1.01	0.67	-0.51
Canada[5]	0.38	0.36	0.33	0.01
US	2.94	2.91	2.75	-0.60
North Sea[6]	1.32	1.50	1.51	-0.04

Source: Alphatanker

[1] *does not include pipeline flows*

[2] *adjusted for Turkmenistan re-exports*

[3] *does not include volumes exported via the Atasu - Alashankou pipeline, includes volumes exported via Russian ports*

[4] *does not include volumes exported via the Druzhba or Daqing ESPO Spur pipelines*

[5] *Does not include volumes re-exported via US ports*

[5] *Only includes volumes exported outside of UK or Norway*

Oil counted as exported when a vessel exits national territorial waters, includes volumes built on vessels over previous weeks

Data are subject to revision

Latest Crude, Refined Product and Bunker Prices and Freight Rates