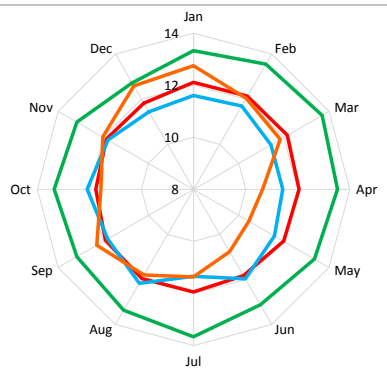
April 2014

Tanker Operational KPI's: Tanker Pools v.s. Owners

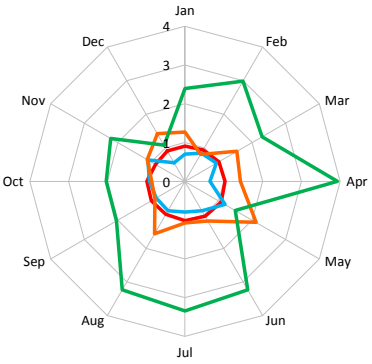
Operational performance metrics are often hard to quantify due to data availability and fleet heterogeneity. We take a unique approach by utilizing our existing vessel database along with our AIS based analytics to build a comprehensive picture to analyse Key Performance Indicators (KPI's) for VLCC operators and pool operators. We select three prominent owners and benchmark four KPI's with the global fleet average over 12 months. Frontline and Maran tankers metrics are almost indistinguishable from each other and from the global benchmark however Vela with its comparative advantage are quite prominent in the comparison. The efficiency with which operators are able to optimize their laden times and slow steam are also apparent.

Average Laden Speed



VLCC fleet
Frontline LTD
Maran Tankers
Vela International

Laden Underway / Total time



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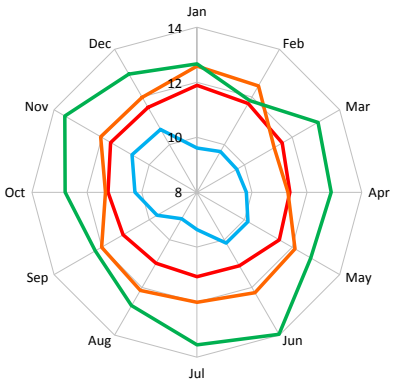
Average Ballast Speed



VLCC fleet
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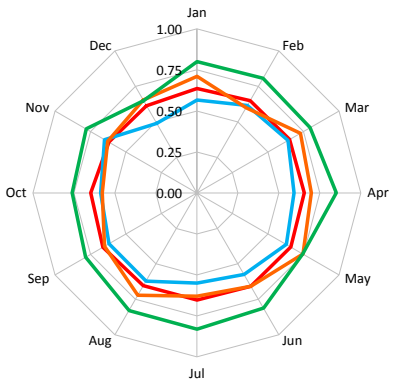
1-[Ballast/Sum] (paid period)



VLCC fleet
Frontline LTD
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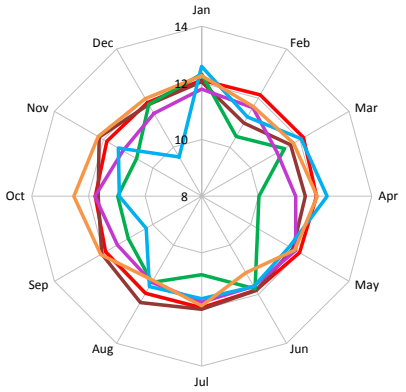
All Sources: VesselsValue.com

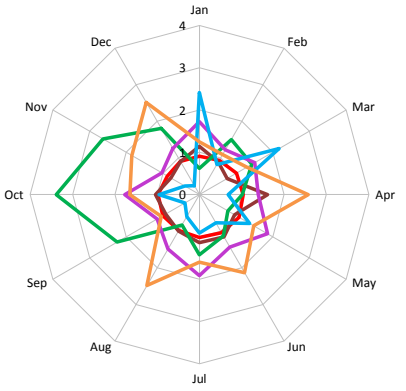
Pool operators performance is also benchmarked in a similar fashion to vessel owners to assess their ability to outperform the global fleet as a benchmark. We find that except for the Unique tankers pool, most other pools have superior laden/ballast ratios and also manage to minimize their ballast legs. Adjustments for age, pool points and other features have not been made but this may be carried out upon request.

Average Laden Speed



- VLCC fleet
- Nova Tankers Pool
- Seawolf Tankers Pool
- Tankers International Pool
- Unique Tankers Pool
- VL8 Pool

Laden Underway / Ballast Underway



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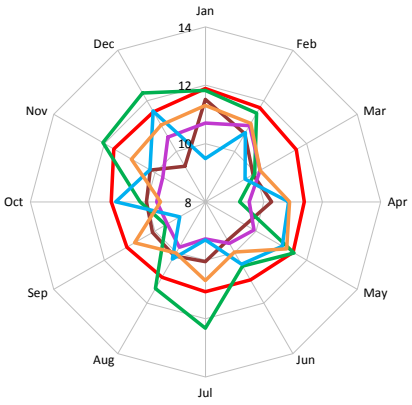
Average Ballast Speed



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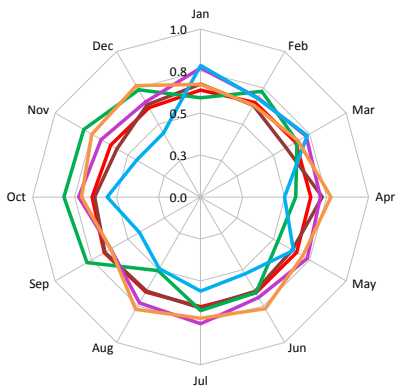
1-[Ballast/Sum] (paid period)



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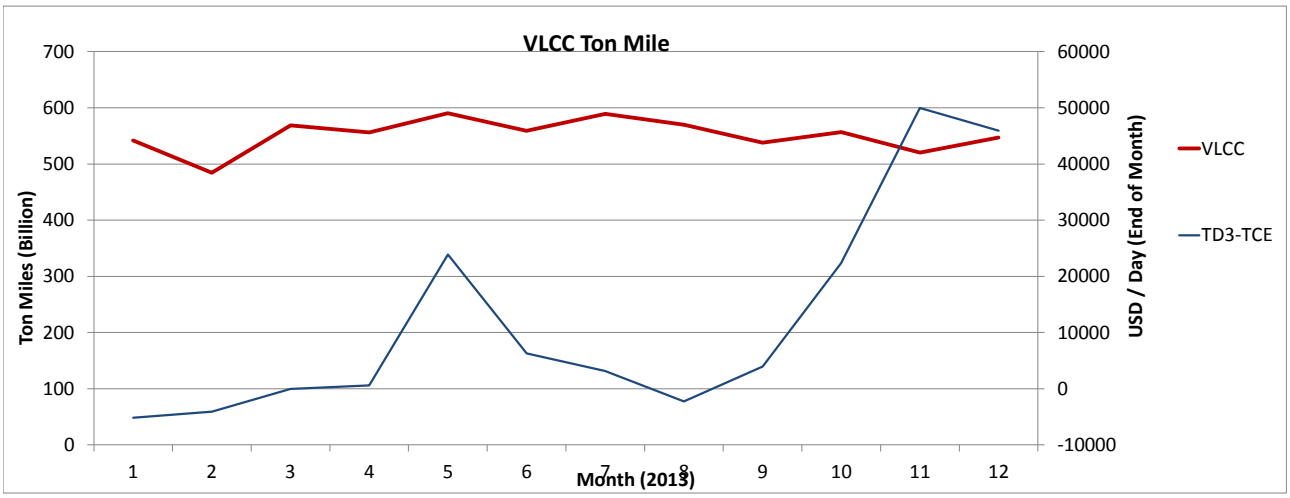
All Sources: VesselsValue.com

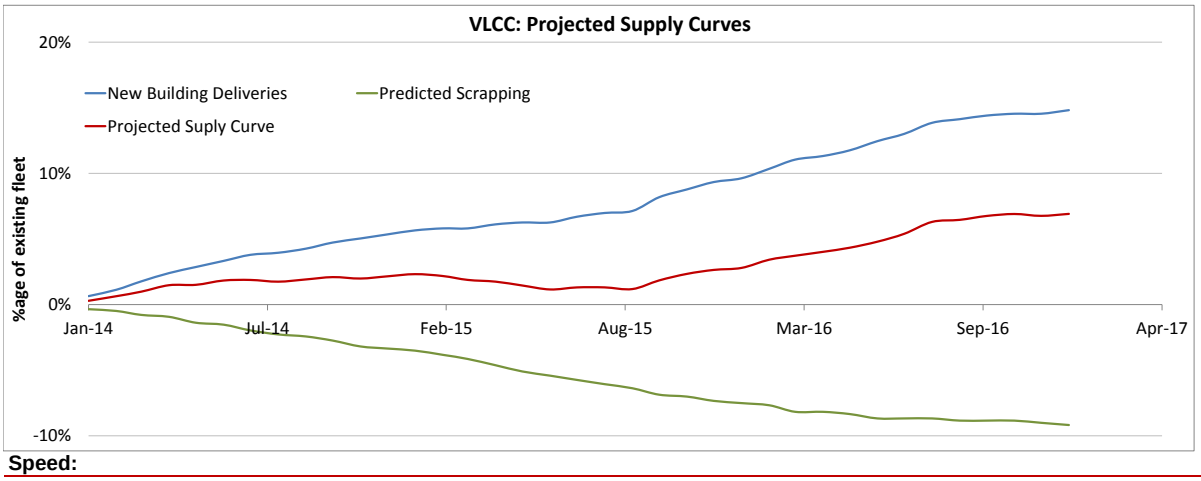
VLCC Demand: Ton Miles

The demand for VLCC vessels is usually measured in "Ton Miles" which is simply the quantity of cargo multiplied by the (laden) distance travelled. The trend in demand is one of the major factors affecting the freight rates. However utilization, average speed and the supply of tonnage need to be taken into consideration for a comprehensive overview.



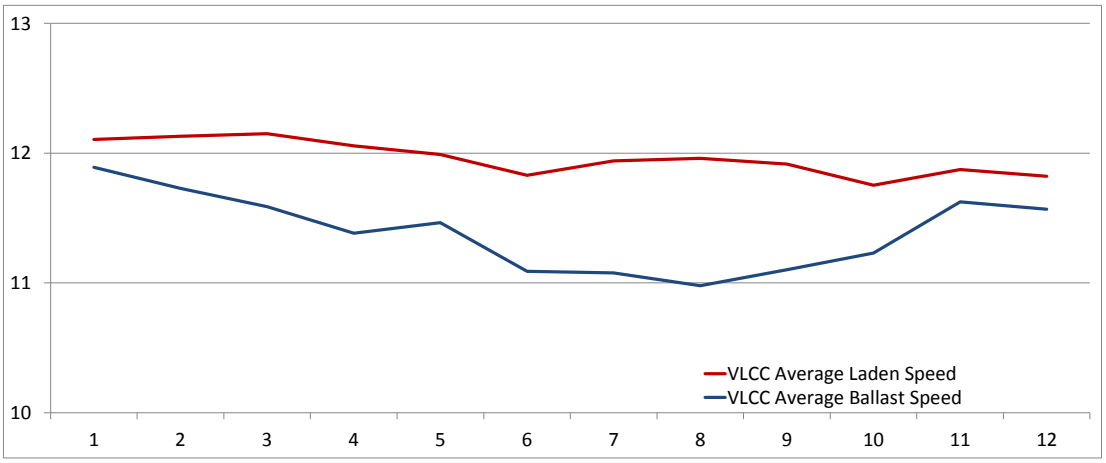
VLCC Projected Supply Curve

The projected supply curves are computed by taking the difference between the vessel delivery schedule and the projected scrapping activity of the VLCC sector. The scrapping activity is projected based on an algorithm that mimics the decision making ability of a ship owner and takes into account the average scrap age, special survey positions etc. In the case of the delivery schedules, there is an element of slippage or lag with yards in various countries exhibiting delays in their delivery schedules. Multiple scenarios based on yard slippage and scrapping assumptions may be generated, however the graph below is a fair representation of the future supply curve.



Speed:

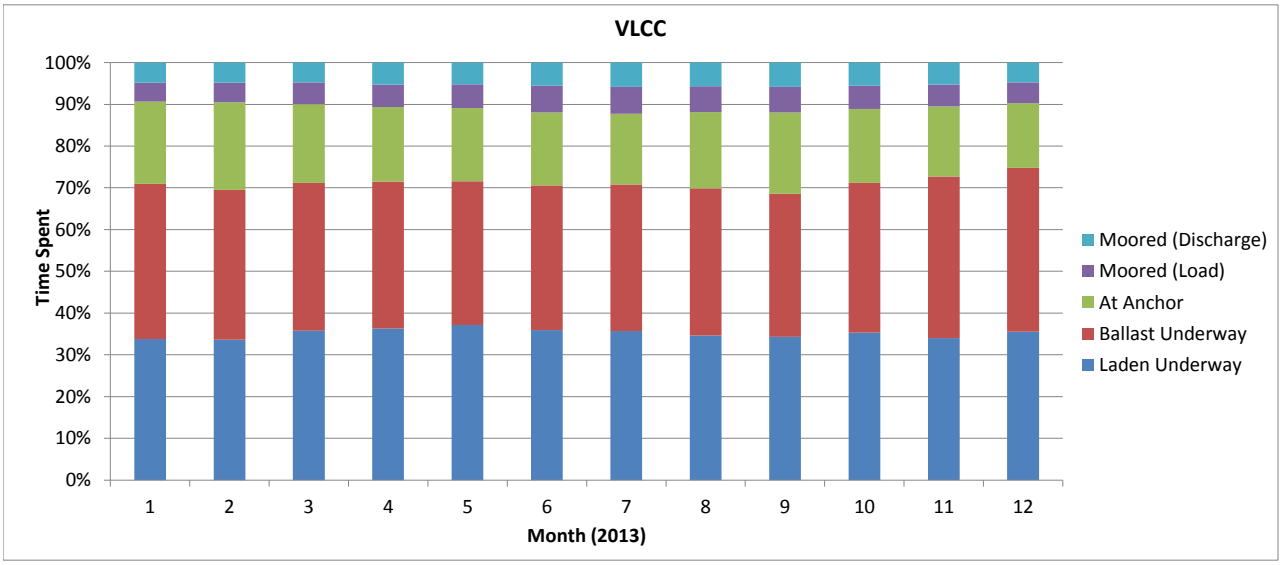
The productivity of the VLCC fleet would be conditioned by the (average) speed, time spent carrying out cargo operations, port congestion, optimal stowage or deadweight utilization. Fluctuations in the average speed (both laden and ballast) are attributable to a combination of weather, bunker prices and possibly oversupply. We find that the average VLCC ballast speed had reduced to 11 knots by Sept, 13 and was only revived due to an increase in rates during the Winter.



All Sources: VesselsValue.com

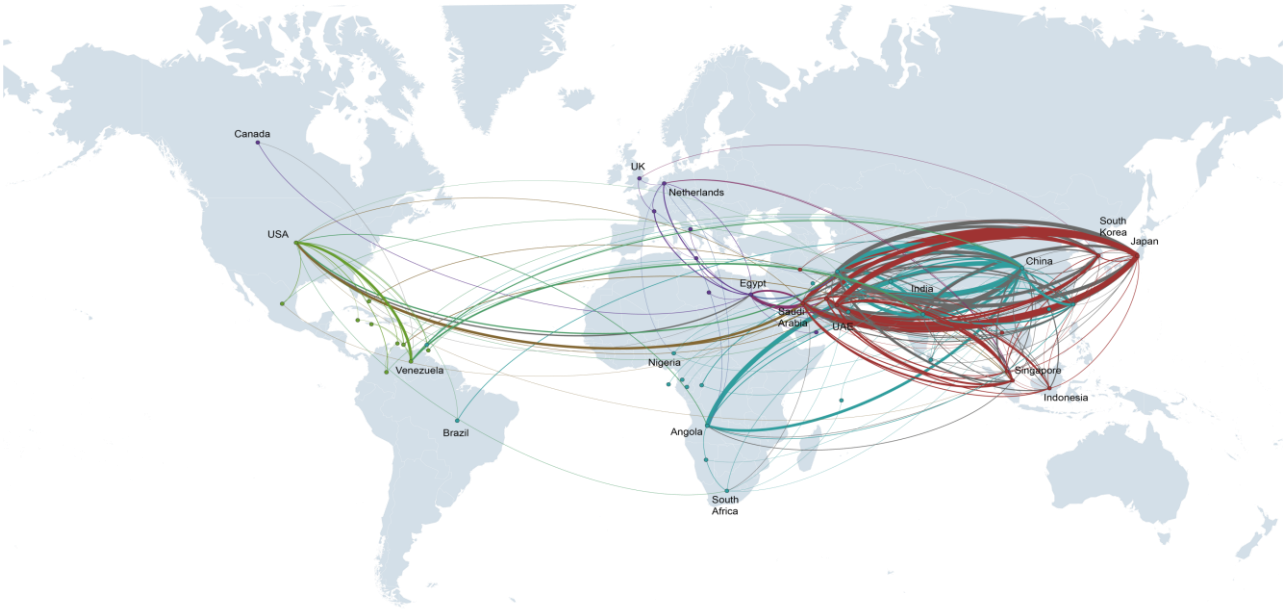
Operating Performance: what do VLCCs do with their time

A breakup of how the average fleet spends its time is calculated on a monthly basis. Congestion time plays an important role in determining the fleet productivity as is the ratio between the laden to ballast days. Seasonality and geopolitical issues also play a major role in the changes underlying the utilization metrics e.g. Sanctions on the Iranian VLCC fleet.



Operating Performance: what do VLCCs do with their time

An annual snapshot of the global VLCC traffic is analysed. Various patterns emerge from the AIS data which highlight the importance of the energy hungry Eastern economies. The growing prominence of Angola's exports to China along with the reduction in the Crude imports by the US are most notable from the graph below. The reliance of South Korea and Japan on the Middle East for energy security is highlighted whereas China has a more diversified approach towards sourcing their crude oil requirements.



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All Sources: VesselsValue.com

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