

# **APPLIED RESEARCH PROJECT – 6IM995**

## **OPTIMISING PRECIOUS SHIPPING'S**

### **CHARTERING STRATEGY**

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**Declaration: This is an original work by myself, any researched material used is quoted and referenced, and this has never been submitted before by me or anyone else.**

## **Abstract**

A shipowner is faced with various employment options on each vessel and must manage risk in order to maximise returns. Earnings, charterer reliability, vessel positioning, contract duration and future market expectations are just some of the factors that influence decision-making. This paper's aim is to historically analyse the strategy of Precious Shipping Public Company Limited. Successes and failures relative to the index will be highlighted and the company's performance is compared with the competition. To conclude, an improved strategy is suggested with the desired result of increasing vessel revenue and returns for the company's stakeholders.

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## 1. Introduction

PSL (Precious Shipping) owns a modern fleet of 32 standard bulk carriers between 28,000 and 63,000 mts dwt (see Appendix A) which trade globally. Bulk carriers are flexible ships which typically carry iron ore, coal, grains, sugar, fertilisers, steels, other ores and minerals, metal concentrates, scrap metal, steels and cement (Stopford, 2009). PSL's ships are in the 'handysize' (20-39,999 mts dwt), 'supramax' (50-59,999 mts dwt) and 'ultramax' (60-65,000 mts dwt) sectors of the dry bulk industry. As can be seen below, PSL's ships operate in the smaller segments of the dry bulk sector.

Dry bulk vessel segments		
Terminology	Cargo capacity	Specifications
Handysize	20-39,999 mts dwt	Cranes, 5 holds
Handymax	40-49,999 mts dwt	Cranes, 5 holds
Supramax	50-59,999 mts dwt	Cranes, 5 holds
Ultramax	60-66,999 mts dwt	Cranes, 5 holds
Panamax	67,000-99,999 mts dwt	No cranes, 7 holds
Capesize	100,000-220,000 mts dwt	No cranes, 9 holds

**Table 1. (Source: The Institute of Chartered Shipbrokers (2014))**

An important feature of the dry bulk market is the wide availability of chartering contracts (Hale and Vanags, 1989). Bulk vessels often perform short contracts, with most ships plying their trade in the 'spot market' where cargoes and ships are traded for immediate delivery, with freight rates determined by the current supply and demand for shipping services (Stopford, 2009). Ships perform one cargo at a time and then look for the next best paying business, a process called 'tramping' (Stopford, 2009). Alternatively, they can be employed on longer contracts for anything from a few months to many years or even the life of the ship – whatever both parties agree upon (Stopford, 2009). The problem PSL faces is two-fold; spot versus period (longer duration charters) and how to distribute the ships globally between the two main basins - the Atlantic and Indian-Pacific.

Due to the recent weaker shipping markets PSL has been reluctant to charter the ships on longer contracts at loss-making hire levels. The current strategy is to wait until the market improves and then look for longer contracts.

Historically the Atlantic is a stronger market than the Indian-Pacific region due oligopolistic market tendencies (Laulajainen, 2007). As Asian countries industrialise, in the recent decades they have come to dominate the demand of agricultural minerals, minerals and building materials. Raw materials to non-Western economies will quadruple by 2050 (Dinwoodie et al, 2014). Thus, more cargoes move from the Atlantic to the Pacific. Ships are also built and dry-docked mainly in China, Korea or Japan which further adds to the imbalance. Regions can be very volatile so a chartering manager must spread the risk apportioning the fleet across the globe. Certain types of PSL's ships appear to work better in certain regions but no such quantitative analysis has been carried out. It would therefore benefit the company such a study was undertaken, analysing the strengths of each region over time, as well as analysing where PSL's ships have been more successful in the past, compared to the market indices at the time.

In the shipping research space, a lot of attention is paid to the more significant larger sectors of the dry bulk market – the panamax and capesize ships – which will regularly sail empty from Asia to Brazil to take carry cargoes back to China, so regional strengths are less significant. Less attention is focused on our smaller sectors and there is a lack of analysis of such regional strengths compared to vessel type. It was therefore necessary to do further research for PSL's benefit, and since the company has 7 x 33,000 mts dwt vessels, 5 x 56,000 mts dwt vessels and 8 x 63,000 mts dwt vessels, these will be the focus of the study.



## **2. Aims and objectives**

### **Atlantic vs Indian-Pacific**

- To establish the relative strengths of each basin over the past 10 years.
- To examine annual fluctuations.

### **PSL fleet financial analysis**

- To analyse all vessel charters since delivery and summaries them annually against the index.
- To benchmark each vessel versus the index to assess performance.
- To analyse each vessel's movements and compare their locations with earnings.
- To investigate the success of the current strategy, which has been to only secure longer contracts in stronger markets and keeping the ships trading spot in depressed markets.

### **Competitor analysis**

- To use all available means to compare PSL's performance versus the competition. This will include financial results from publicly listed companies, discussions with cooperative individuals from private companies, questionnaires and historical vessel movements.

### **Improving the chartering strategy**

- To arrive at an optimised strategy, increasing vessel earnings and boosting value to the shareholders.

### 3. Literature review

#### Spot vs Period

An early study on this dilemma was undertaken by Hale and Vanags (1989) who tested the expectations hypothesis – that the period rate must be equal to expected future short rates - which hadn't been tested empirically at the time. Of the then three current standard ship sizes, the hypothesis was clearly rejected in the 30,000 mts dwt and 55,000 mts dwt categories, with no clear results for the standard 120,000 mts dwt capesize ship of the time. They noted that their study only looked at the years in which the market was in steady decline, and thus period rates were hampered by negative sentiment.

Kavussanos (1996) determined that volatility is much higher in the period markets, with wilder fluctuations. He was, however, generalising across all dry bulk vessel segments. In a later section he includes a table of volatilities and splits up the segments but combines the handysize and supramax segments. This is a frequent theme – analysts over-looking the smaller segments and focusing more on the largest ships which are more significant to economists.

Stopford (2009) notes that all the risk is passed to the owner in the spot market, suggesting that some ships should be on longer contracts to reduce this risk.

Berg (2018) analysed panamax spot and period rates in random date ranges. He concluded that the spot strategy outperformed rolling 1-2 year period contracts and 11-16 year period contracts, but the spot strategy was the winner for 3-10 year periods, but only by \$23 per day. This is a tiny margin, and it can be assumed that across all the segments, over time, spot vs period is going to balance out.

Each owner will have a different view on this issue depending on several factors highlighted later.

### **Atlantic vs Pacific**

Kavussanos (2001) determined that there was ‘no evidence of stochastic seasonality’ which appears to undermine the Atlantic vs Pacific theory, but he was combining all sizes up to the capesize ships, and the larger vessels (panamax and capes) cross-trade between the two basins much more frequently.

Skavlan (2015) studied spatial efficiency in the supramax sector, stating that an owner with a ship in either basin will simply evaluate the spread between the ‘round voyage’ rate (a trans-Atlantic or trans-Pacific return voyage) or the inter-basin rate (switching between Atlantic and Indian-Pacific) and seek the most profitable option. He determined that the supramax market is overall spatially efficient, assuming short-term profit is the only consideration. His study is based on ‘supramaxes’ but with the Japanese 52,000 mts dwt design in mind which is a very different vessel to PSL’s 6 x 56,000 mts dwt non-economical deep-drafted Chinese designs, which appear to operate more efficiently in the Pacific. This is the only Supramax-focused study publicly available and was still too broad in relation to PSL’s fleet.

Laulajainen (2007) analyses regional differences in freight rates, proposing a Revenue Gradient to explain geographical strengths and weaknesses, including a ratio of demanded and available ships relative to the distance from the load port. Stopford (2009) also notes each loading zone is its own separate market divided by the time it takes a ship to reposition from one area to another. This is certainly true for capesize and panamax ships which will sail empty from Asia to Brazil to find a cargo, but small ships will not sail as far, hence why PSL and other owners of handysize and supramaxes get embroiled in the ‘Atlantic or Pacific’ debate, because repositioning ships is harder and most costly.

A lack of studies on the handysize, supramax and ultramax sectors is apparent. Dry bulk academia is flooded with analyses broadly combining all vessel segment sizes or focusing on the largest sectors of the capesize and panamax vessels. This study is fleet-specific and focusing on the smaller sectors and is therefore unique.

#### **4. Hypothesis**

It is hypothesised that the Atlantic market is consistently stronger over time and PSL are not keeping enough ships in the Atlantic to take advantage. Market and historical PSL fleet analysis should reveal that the ultramax and handysize vessels' higher earnings will correlate with greater time spent in the Atlantic.

## 5. Methodology

### 5.1 Atlantic vs Indian-Pacific

It was first necessary to examine the strengths of the two basins going back 10 years - a fair representation. The Baltic Exchange, dating back to 1744, is the leading dry bulk market indices provider, setting daily indexes across all shipping segments including various major routes within each sub sector (Baltic Exchange 2019).

Clarksons shipbrokers keep a comprehensive online database called the Shipping Intelligence Network ('SIN') in which all historical Baltic Exchange indices can be found (Clarksons SIN, 2019). Below table indicates the 6 routes of the Baltic handysize index for the standard 28,000 mts dwt ship (Clarksons SIN, 2019).

<b>Baltic Exchange handysize index</b>						
	<b>Europe / S America</b>	<b>Europe / USA</b>	<b>S America / Europe</b>	<b>USA / Europe</b>	<b>SE Asia round voyage</b>	<b>Far East round voyage</b>
<b>Date</b>	<b>\$/day</b>	<b>\$/day</b>	<b>\$/day</b>	<b>\$/day</b>	<b>\$/day</b>	<b>\$/day</b>
<b>2009</b>	10,550	9,953	14,785	17,361	9,871	9,174
<b>2010</b>	12,720	12,484	22,142	23,340	15,470	14,897
<b>2011</b>	7,341	7,076	15,924	16,072	9,728	9,272
<b>2012</b>	5,254	5,194	12,132	10,662	7,022	6,862
<b>2013</b>	6,154	5,613	11,414	13,794	7,129	7,100
<b>2014</b>	5,627	5,274	10,070	10,752	7,025	7,840
<b>2015</b>	3,793	4,079	8,599	7,242	4,218	5,450
<b>2016</b>	4,558	4,753	6,561	6,898	4,326	5,143
<b>2017</b>	6,414	6,497	10,617	9,257	7,188	6,964
<b>2018</b>	7,539	7,493	11,825	10,679	8,035	7,997
<b>2019</b>	4,666	5,191	8,861	6,599	5,985	5,858

**Table 2. (Source: Clarksons SIN, 2019)**

The average of the first four columns (Atlantic) is 9,405 US dollars (usd) daily. The final two columns (Pacific) average 7,843 usd daily. The percentage difference is 19.91%

**Baltic Exchange supramax index**

	<b>Pacific round voyage</b>	<b>US Gulf to Europe</b>	<b>Europe to US Gulf</b>
<b>Date</b>	<b>\$/day</b>	<b>\$/day</b>	<b>\$/day</b>
<b>2009</b>	13,540	29,107	11,913
<b>2010</b>	19,595	36,487	12,979
<b>2011</b>	11,279	26,696	6,304
<b>2012</b>	7,883	15,570	4,111
<b>2013</b>	8,595	19,810	4,794
<b>2014</b>	8,871	14,642	4,973
<b>2015</b>	6,079	12,035	4,335
<b>2016</b>	5,483	10,350	4,442
<b>2017</b>	8,059	15,580	6,463
<b>2018</b>	10,250	18,565	8,131
<b>2019</b>	7,798	12,196	5,461

**Table 3. (Source: Clarksons SIN, 2019)**

The average of the Pacific column is 9,767 usd per day. The average of the two Atlantic columns is 12,952 usd daily. The Atlantic is therefore 32.62% stronger since 2009.

Figures 1 and 2 illustrate the Atlantic/Pacific earnings relationship with volume ratios.

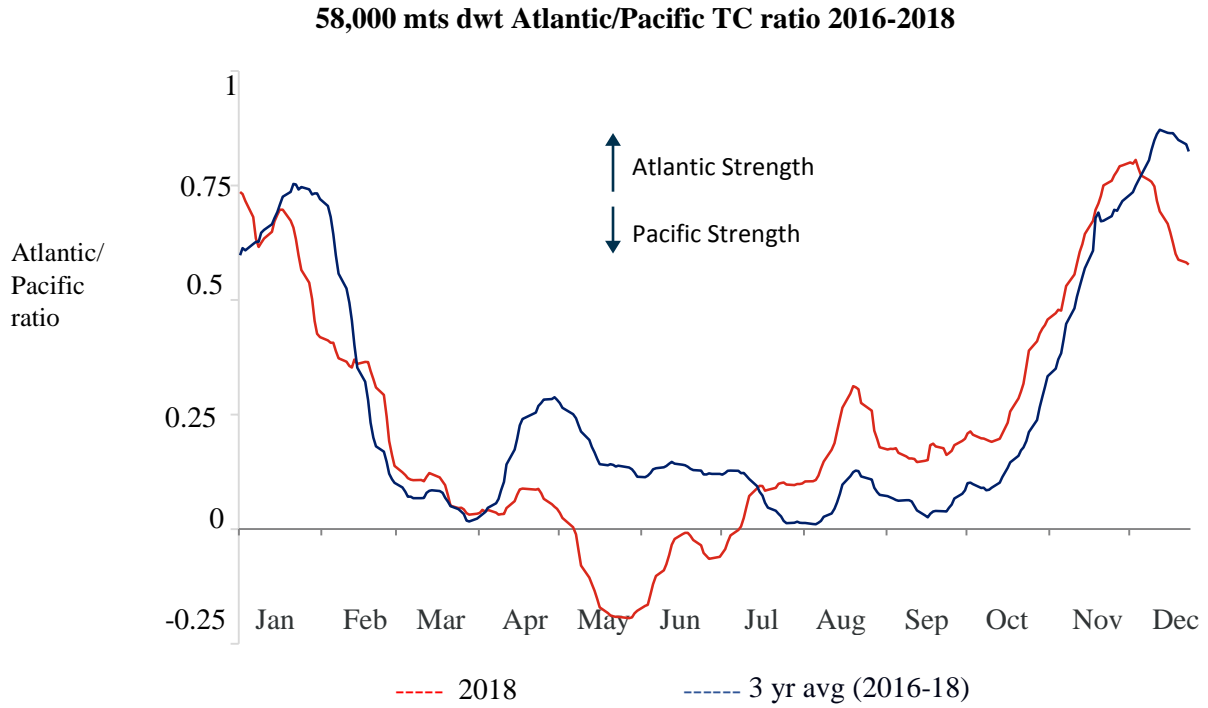


Figure 1. (Source: Clarksons, 2019)

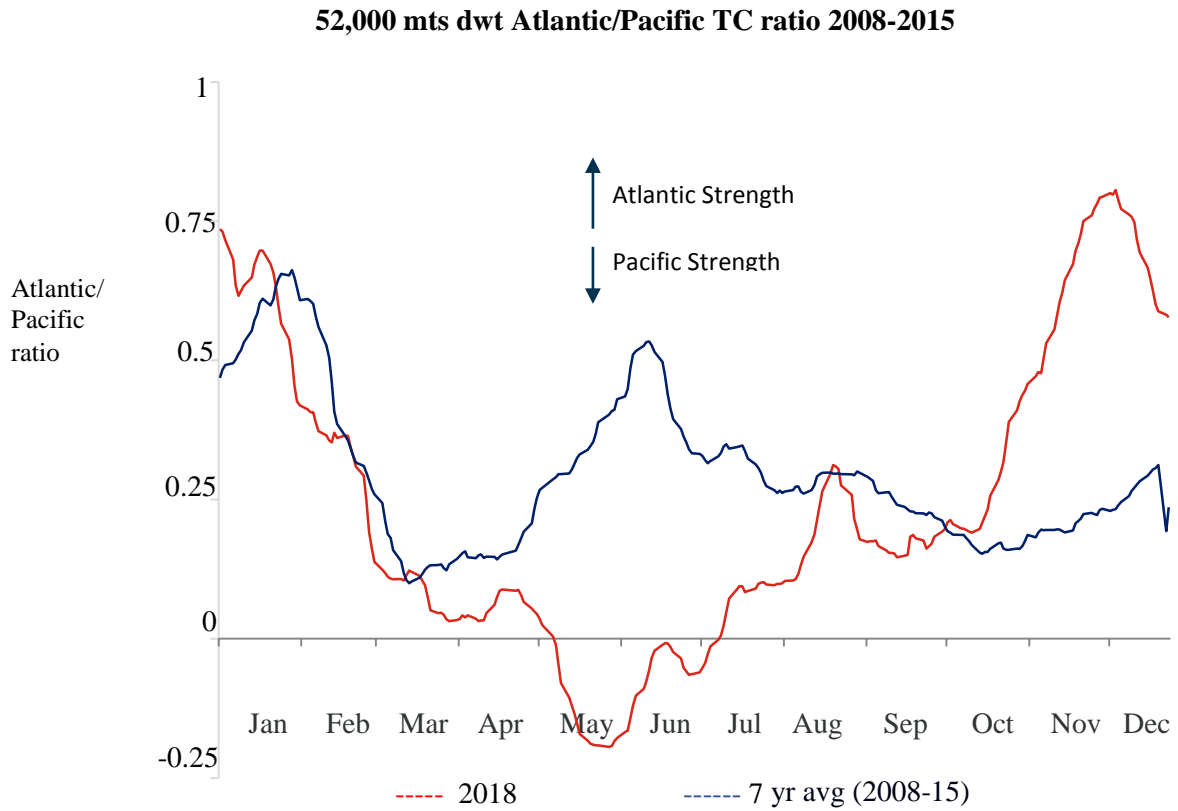


Figure 2. (Source: Clarksons, 2019)

Figure 3 illustrates the strength of the Atlantic over the Pacific on the 38,000 mts dwt major routes. This size is comparable to PSL's 6 x 33,000 mts dwts. HS1-HS4 are the major Atlantic routes, HS5-7 are the major Pacific routes. The two highest lines represent South America to Europe and US Gulf to Europe.

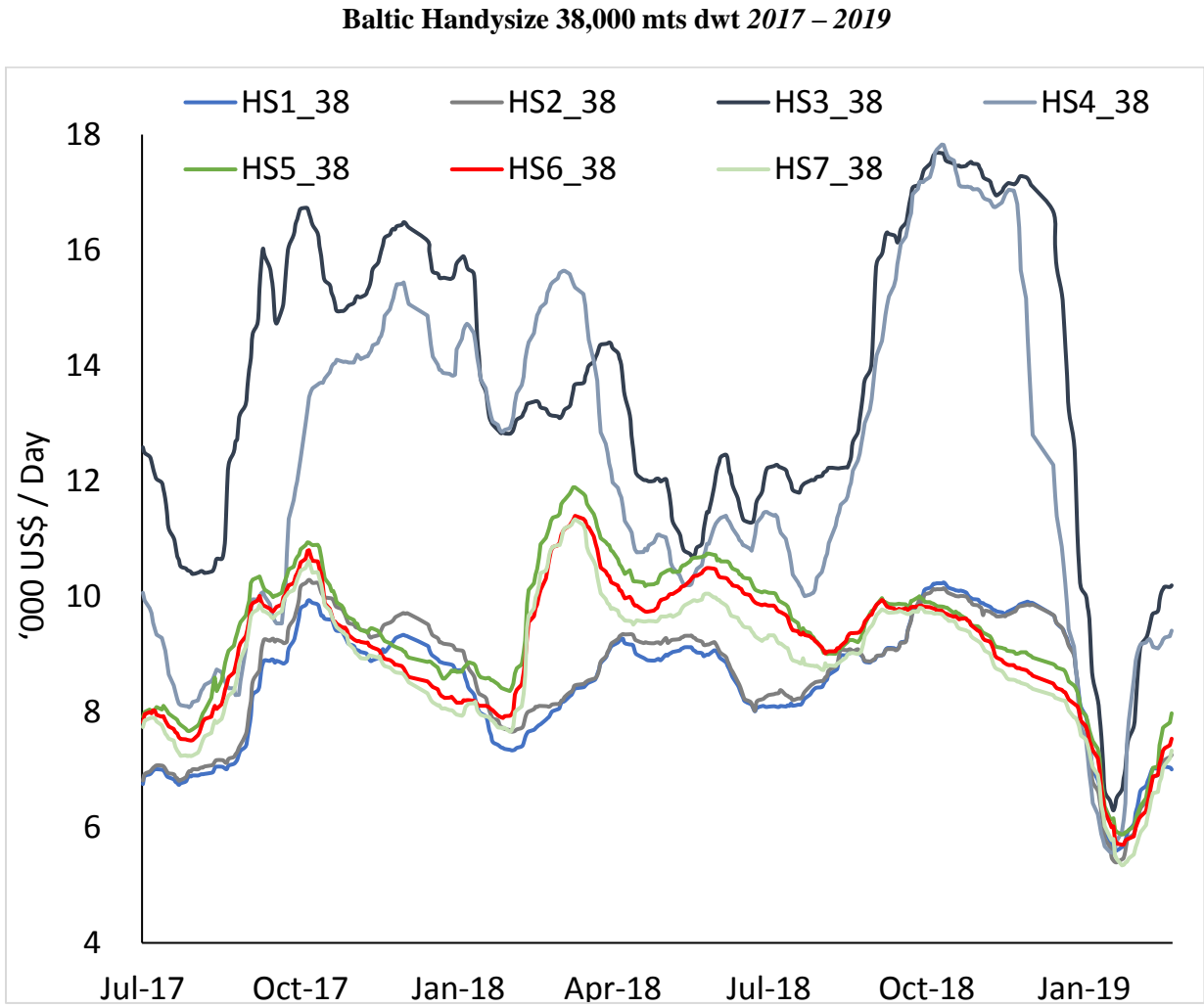


Figure 3. (Source: Howe Robinson, 2019)



## 5.2 PSL's fleet performance

It was then necessary to compare how PSL's ships have performed since delivery against the relevant Baltic index. All historical charters are available internally. Each ship was analysed annually with net average earnings compared against the Baltic Exchange index as well as Clarksons' one-year period index. Net earnings are in US dollars per day. N.B. 2019's results are not included in the total averages since many charters are not concluded yet and it is not a fair annual representation. Each vessel's results are summarised as follows:

### PSL's 8 x 63,000 mts dwt (ultramax) financials vs the Baltic supramax index

(These ships should comfortably beat the index and it is hypothesised that they will perform better in the Atlantic.)

<b>MV INTHIRA NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT 2014</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2014	7572		10952		
2015	7109	6%	8106	100%	0%
2016	5412	-7%	6495	60%	40%
2017	7859	-23%	9822	17%	83%
2018	12330	13%	12808	100%	0%
2019	10044	28%			
<b>Average</b>	<b>8178</b>	<b>-3%</b>	<b>10430</b>	<b>63%</b>	<b>37%</b>

Table 4. (Source: PSL internal charter records, 2014-2019)

In Table 4, the worst year correlates with the most amount of time in the Pacific (2017). The best full year correlates with 100% of time spent in the Atlantic.

<b>MV ISSARA NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT 2014</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2014	7630		10952		
2015	6191	-7%	8106	100%	0%
2016	5685	-2%	6495	80%	20%
2017	9220	-9%	9822	65%	35%
2018	12224	12%	12808	0%	100%
2019	11493	47%	10474	0%	100%
<b>Average</b>	<b>8330</b>	<b>-2%</b>	<b>10430</b>	<b>50%</b>	<b>50%</b>

Table 5. (Source: PSL internal charter records, 2014-2019)

In Table 5, the overall results are poor, not beating the index. 2017 saw the ship moved from Atlantic to Pacific, normally a premium route, at extremely low levels due to a pressing dry-dock schedule, ruining the average for the year. 2018 saw a healthy 6-month charter in the Pacific, and, significantly, sees the only year in the Pacific in which an ultramax outperforms the index. The vessel has not spent enough time in the Atlantic.

<b>MV SAVITA NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT 2016</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2016	6195	6%	6495	50%	50%
2017	11676	15%	9822	50%	50%
2018	11546	6%	12808	66%	33%
2019	12545	60%	10474	5%	95%
<b>Average</b>	<b>10491</b>	<b>9%</b>	<b>10430</b>	<b>52%</b>	<b>48%</b>

Table 6. (Source: PSL internal charter records, 2016-2019)

In Table 6, 2016 saw the vessel repositioned from China to the Atlantic (at a discount rate), and 2017 saw a premium charter back to Asia. 2018 saw a slow 3-month discounted charter back to the Atlantic. Overall the vessel has not spent enough time in the Atlantic.

<b>MV SARIKA NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT 2016</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2016	6203	6%	6495	pool	pool
2017	7551	-26%	9822	65%	35%
2018	11217	3%	12808	75%	25%
2019	7300	-7%	10474	50%	50%
<b>Average</b>	<b>8324</b>	<b>-6%</b>	<b>10430</b>	<b>53%</b>	<b>47%</b>

Table 7. (Source: PSL internal charter records, 2016-2019)

In Table 7, the vessel's overall results are extremely poor. 2017 saw the ship repositioned into the Atlantic but then she was fixed on several poor Atlantic charters. Not enough time in Atlantic overall.

<b>MV SUNISA NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT END 2016</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2017	9666	-5%	9822	80%	20%
2018	11876	9%	12808	100%	0%
2019	12087	55%	10474	50%	50%
<b>Average</b>	<b>10771</b>	<b>2%</b>	<b>10430</b>	<b>83%</b>	<b>17%</b>

Table 8. (Source: PSL internal charter records, 2017-2019)

In Table 8, 2017 saw the vessel repositioned from China to the Atlantic. Performed as hypothesised in 2018, comfortably beating the index whilst remaining in the Atlantic. Only 2 full years observed.

<b>MV SARITA NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT 2016</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2016	5176	-11%	6495	0%	100%
2017	8722	-14%	9822	15%	85%
2018	12796	17%	12808	60%	40%
<b>Average</b>	<b>8898</b>	<b>2%</b>	<b>10430</b>	<b>29%</b>	<b>71%</b>

Table 9. (Source: PSL internal charter records, 2016-2019)

In Table 9, the vessel was delivered at lowest market in history. In 2017 the vessel was cheaply repositioned into the Atlantic. 2018, when the market had recovered significantly, the vessel traded mainly in Atlantic before securing a 137-day premium charter back to China.

<b>MV SAVITREE NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT 2016</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2016	6072	4%		66%	44%
2017	11756	16%	9822	100%	0%
2018	13349	22%	12808	45%	55%
2019	7370	-6%	10474		
<b>Average</b>	<b>10393</b>	<b>14%</b>	<b>10430</b>	<b>64%</b>	<b>36%</b>

Table 10. (Source: PSL internal charter records, 2016-2019)

In Table 10, the vessel was initially cheaply repositioned back to the Atlantic before performing well in 2017 entirely in the Atlantic, as hypothesised. 2018 saw 165 days of premium rates back to Asia. The best ultramax performer overall.

<b>MV SAROCHA NAREE</b>					
<b>63,000 MTS DWT</b>					
<b>BUILT 2017</b>					
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2017	9371	-8%	9822	75%	25%
2018	12657	16%	12808	100%	0%
2019	7000	-11%	10474	100%	0%
<b>Average</b>	<b>11014</b>	<b>4%</b>	<b>10430</b>	<b>89%</b>	<b>11%</b>

Table 11. (Source: PSL internal charter records, 2017-2019)

In Table 11, the vessel was initially cheaply repositioned back to the Atlantic before performing well in 2018 entirely in the Atlantic, as hypothesised. Only 2 full year observations.

### PSL's 5 x 56,000 mts dwt (supramax) financials vs the Baltic supramax index

(These ships are not expected to beat the index and it is hypothesised that they will perform better in the Pacific.)

<b>MV BARANEE NAREE</b>						
<b>56,000 MTS DWT</b>						
<b>BUILT 2013</b>						
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>52k 1 yr period index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2013	8254	-16%	10034		0%	100%
2014	7045	-24%	11385		25%	75%
2015	5145	-22%	7620		100%	0%
2016	5493	-7%	6044		100%	0%
2017	8819	-1%		9822	33%	66%
2018	9884	-9%		12808	17%	83%
2019	9500	25%		10430		
<b>Average</b>	<b>7440</b>	<b>-13%</b>			<b>46%</b>	<b>54%</b>

Table 12. (Source: PSL internal charter records, 2013-2019)

In Table 12, extremely poor average vs the index correlating with relatively longer time in Atlantic, since these ships are better suited to the Pacific. 2014 saw 2 consecutive weak charters moving the ship from Pacific to Atlantic. 2015, in the market downturn, saw very poor returns.

<b>MV CHAYANEE NAREE</b>						
<b>56,000 MTS DWT</b>						
<b>BUILT 2012</b>						
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>52k 1 yr period index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2013	8470	-13%	10034		0%	100%
2014	8923	-4%	11385		25%	75%
2015	5291	-20%	7620		50%	50%
2016	4762	-20%	6044			
2017	8048	-8%		9822	0%	100%
2018	11194	5%		12808	16%	84%
2019	7669	2%		10430	100%	0%
<b>Average</b>	<b>7765</b>	<b>-10%</b>			<b>29%</b>	<b>71%</b>

Table 13. (Source: PSL internal charter records, 2016-2019)

In Table 13, the overall average is poor, despite the vessel spending more time in the Pacific. 2015-2016 saw the worst results in the market downturn. There appears to be no correlation between stronger results and greater percentage of time spend in the Atlantic.

<b>MV DARANEE NAREE</b>						
<b>56,000 MTS DWT</b>						
<b>BUILT 2013</b>						
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>52k 1 yr period index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2013	7880	-19%	10034		0%	100%
2014	8686	-7%	11385		0%	100%
2015	5497	-17%	7620		25%	75%
2016	5230	-12%	6044		60%	40%
2017	8058	-7%		9822	15%	85%
2018	11886	12%		12808	0%	100%
2019	6931	-7%		10430	50%	50%
<b>Average</b>	<b>7738</b>	<b>-8%</b>			<b>23%</b>	<b>77%</b>

Table 14. (Source: PSL internal charter records, 2013-2019)

In Table 14, the overall average is better. 2015-2016 saw very poor results in the market downturn. The vessel has spent most of its time in the Pacific with better earnings relatively.

<b>MV KIRANA NAREE</b>						
<b>56,000 MTS DWT</b>						
<b>BUILT 2012</b>						
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>52k 1 yr period index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2012	9516	6%	10034		35%	65%
2013	10439	7%	11385		5%	95%
2014	9345	0%	7620		0%	100%
2015	4000	-40%	6044		16%	84%
2016	4410	-26%		9822	5%	95%
2017	7468	-14%		12808	10%	90%
2018	10232	-4%		10430	50%	50%
<b>Average</b>	<b>7530</b>	<b>-11%</b>			<b>20%</b>	<b>80%</b>

Table 15. (Source: PSL internal charter records, 2012-2019)

In Table 15, 2012-2013 saw strong returns due to a longer charter and basin-switching. 2015-2016 saw extremely poor results in the market downturn. The vessel has spent most of its time in the Pacific and the results are comparable to the sister-ships of Tables 12 & 13.

<b>MV KANCHANA NAREE</b>						
<b>56,000 MTS DWT</b>						
<b>BUILT 2012</b>						
<b>Year</b>	<b>Net earnings</b>	<b>vs index</b>	<b>52k 1 yr period index</b>	<b>58k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2012	10662	19%	10034		20%	80%
2013	8874	-9%	11385		16%	84%
2014	8568	-8%	7620		15%	85%
2015	6441	-3%	6044		50%	50%
2016	4800	-19%		9822		
2017	8781	2%		12808	0%	100%
2018	10210	-4%		10430	50%	50%
<b>Average</b>	<b>8334</b>	<b>-3%</b>			<b>32%</b>	<b>68%</b>

Table 16. (Source: PSL internal charter records, 2016-2019)

In Table 16, the results are the best of the supramaxes. The worst result was again seen during the market depression (2016). The best results are mainly Pacific-based.

#### PSL's 6 x 33,000 mts dwts (handysize) financials vs the Baltic handysize dwt index

(These ships should beat the index and it is hypothesised that they will perform better in the Atlantic.)

<b>MV BENJAMAS NAREE</b>					
<b>33,000 MTS DWT</b>					
<b>BUILT 2012</b>					
<b>Year</b>	<b>Net earnings</b>	<b>Vs index</b>	<b>32k dwt 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2012	9323	29%	8234	90%	10%
2013	7947	2%	8106	90%	10%
2014	9753	34%	9012	20%	80%
2015	3963	-22%	6692	50%	50%
2016	4472	-10%	5264	5%	95%
2017	7257	0%	8087	100%	0%
2018	9247	12%	10207	100%	0%
2019	7347	29%	8922	100%	0%
<b>Average</b>	<b>7423</b>	<b>9%</b>	<b>8066</b>	<b>64%</b>	<b>36%</b>

Table 17. (Source: PSL internal charter records, 2012-2019)

In Table 17, 2013's poor year is due to a very bad charter from Pacific to Atlantic. 2015-2016 saw significantly poor results in the market downturn, with lots of unemployed days. There appears to be no correlation between stronger results and greater percentage of time spend in the Atlantic.

<b>MV CHINTANA NAREE</b>					
<b>33,000 MTS DWT</b>					
<b>BUILT 2013</b>					
<b>Year</b>	<b>Net earnings</b>	<b>Vs index</b>	<b>32k dwt 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2013	8125	5%	8106	0%	100%
2014	9758	34%	9012	0%	100%
2015	4223	-17%	6692	0%	100%
2016	5363	8%	5264	0%	100%
2017	6716	-7%	8087	60%	40%
2018	7708	-7%	10207	100%	0%
2019	5958	4%	8922	100%	0%
<b>Average</b>	<b>6982</b>	<b>3%</b>	<b>8041</b>	<b>26%</b>	<b>76%</b>

Table 18. (Source: PSL internal charter records, 2013-2019)

In Table 18, 2014's strong year was due to a healthy 11-month charter. The worst result was seen in 2015 during the market downturn. The vessel has performed slightly better in the Pacific overall.

<b>MV CHAMCHURI NAREE</b>					
<b>33,000 MTS DWT</b>					
<b>DELIVERED 2012</b>					
<b>Year</b>	<b>Net earnings</b>	<b>VS Index</b>	<b>32k dwt 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2012	8695	20%	8234	period charter	
2013	8695	12%	8106	period charter	
2014	8695	19%	9012	period charter	
2015	3960	-23%	6692	5%	95%
2016	4684	-5%	5264	100%	0%
2017	8005	10%	8087	100%	0%
2018	8629	4%	10207	16%	84%
2019	5142	-10%	8922	50%	50%
<b>Average</b>	<b>7338</b>	<b>5%</b>	<b>8066</b>	<b>36%</b>	<b>64%</b>

Table 19. (Source: PSL internal charter records, 2016-2019)

In Table 19, the 3 early years saw excellent performances due to a 3-year charter. The worst result was seen in 2015 during the market downturn. There appears to be no correlation between stronger results and greater percentage of time spend in the Atlantic.



<b>MV CHARANA NAREE</b>					
<b>33,000 MTS DWT</b>					
<b>DELIVERED 2012</b>					
<b>Year</b>	<b>Net earnings</b>	<b>VS Index</b>	<b>32k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2012	10715	41%	8234	8%	92%
2013	9803	26%	8106	25%	100%
2014	10366	42%	9012	50%	50%
2015	5333	4%	6692	0%	100%
2016	3539	-29%	5264	90%	10%
2017	8310	15%	8087	80%	20%
2018	9800	19%	10207	50%	50%
2019	4650	-19%	8922	55%	45%
<b>Average</b>	<b>8267</b>	<b>17%</b>	<b>8041</b>	<b>32%</b>	<b>68%</b>

Table 20. (Source: PSL internal charter records, 2012-2019)

In Table 20, 2012 and 2014 is explained by 1-year charters starting in Atlantic and ending in Pacific (the premium route). The worst result was seen in 2016 during the market downturn. This ship has the best return vs. the index, mainly explained by strong longer period charters.

<b>MV LANNA NAREE</b>					
<b>33,000 MTS DWT</b>					
<b>BUILT 2013</b>					
<b>Year</b>	<b>Net earnings</b>	<b>VS Index</b>	<b>32k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2013	7772	0%	8106	0%	100%
2014	9540	31%	9012	84%	16%
2015	5075	-1%	6692	60%	40%
2016	5293	7%	5264	50%	50%
2017	7345	1%	8087	50%	50%
2018	9454	14%	10207	50%	50%
2019	6530	14%	8922	0%	100%
<b>Average</b>	<b>7287</b>	<b>9%</b>	<b>8041</b>	<b>43%</b>	<b>57%</b>

Table 21. (Source: PSL internal charter records, 2013-2019)

In Table 21, 2014's strong year is due to a healthy 1-year charter starting in Pacific and ending in Atlantic. There appears to be no correlation between stronger results and greater percentage of time spend in the Atlantic.

<b>MV LATIKA NAREE</b>					
<b>33,000 MTS DWT</b>					
<b>BUILT 2013</b>					
<b>Year</b>	<b>Net earnings</b>	<b>VS Index</b>	<b>32k 1 yr period index</b>	<b>Atlantic</b>	<b>Pacific</b>
2013	9626	24%	8106	92%	8%
2014	7190	-1%	9012	75%	25%
2015	5572	9%	6692	0%	100%
2016	4972	0%	5264	50%	50%
2017	9234	27%	8087	50%	50%
2018	8095	-2%	10207	0%	100%
2019	9032	58%	8922	50%	50%
<b>Average</b>	<b>7674</b>	<b>10%</b>	<b>8041</b>	<b>40%</b>	<b>60%</b>

**Table 22. (Source: PSL internal charter records, 2016-2019)**

In Table 22, this vessel has spent a lot of time switch between basins reasonably successfully (2013, 2017 & 2019). There appears to be no correlation between stronger results and greater percentage of time spend in the Atlantic.

## Combined annual results

### All 8 ultramaxs vs the Baltic 58k index

Year	vs index	% in Atlantic
2015	-1%	100%
2016	-1%	63%
2017	-7%	58%
2018	+12%	68%
<b>Average</b>	<b>3%</b>	<b>60%</b>

Table 23. (Source: PSL internal charter records, 2015-2018)

### All 5 supramaxes vs the Baltic 52-58k index

Year	vs index	% in Atlantic
2012	+13%	28%
2013	-10%	4%
2014	-9%	13%
2015	-20%	48%
2016	-16%	55%
2017	-7%	12%
2018	-2%	27%
<b>Average</b>	<b>-7%</b>	<b>27%</b>

Table 24. (Source: PSL internal charter records, 2012-2018)

### All 6 handys vs the Baltic 28k index

Year	vs index	% in Atlantic
2012	+30%	49%
2013	+12%	41%
2014	+27%	36%
2015	-8%	19%
2016	-5%	49%
2017	+8%	73%
2018	+7%	53%
<b>Average</b>	<b>10%</b>	<b>46%</b>

Table 25. (Source: PSL internal charter records, 2012-2018)

## League tables

### Ultramaxs ranked vs index

Vessel	vs index	% time in Atlantic
Savitree Naree	+14%	64%
Savita Naree	+9%	52%
Sarocho Naree	+4%	89%
Sarita Naree	+2%	29%
Sunisa Naree	+2%	83%
Issara Naree	-2%	50%
Inthira Naree	-3%	63%
Sarika Naree	-6%	53%

Table 26. (Source: PSL internal charter records, 2015-2018)

### Supramaxes ranked vs index

Vessel	vs index	% time in Atlantic
Kanchana Naree	-3%	32%
Daranee Naree	-8%	23%
Chayanee Naree	-10%	29%
Kirana Naree	-11%	20%
Baranee Naree	-13%	46%

Table 27. (Source: PSL internal charter records, 2012-2018)

### 33s ranked vs index

Vessel	vs index	% time in Atlantic
Charana Naree	+17%	32%
Latika Naree	+10%	40%
Benjamas Naree	+9%	64%
Lanna Naree	+9%	43%
Chamchuri Naree	+5%	36%
Chintana Naree	+3%	26%

Table 28. (Source: PSL internal charter records, 2012-2018)

### 5.3 Trading histories

Clarkson’s SeaNet vessel tracking database logs every port call ever made so the total time and for how long each ship was in the Atlantic vs Indian-Pacific (simply labelled as ‘Pacific’ below) could be calculated (Clarksons SeaNet, 2019). Here is the full port history of one PSL ultramax (Sarocho Naree):

Location Name	Country Name	First Seen	Last Seen	Days Between Ports	Days within Ports	Region
Taizhou	China	5/12/16	22/4/17		138	Pacific
Taixing	China	22/4/17	22/4/17	0	0	Pacific
Jingjiang	China	22/4/17	22/4/17	0	0	Pacific
Jiangyin	China	22/4/17	22/4/17	0	0	Pacific
Zhangjiagang	China	22/4/17	22/4/17	0	0	Pacific
Changshu	China	22/4/17	22/4/17	0	0	Pacific
Taicang	China	22/4/17	22/4/17	0	0	Pacific
Shanghai	China	22/4/17	22/4/17	0	0	Pacific
Gwangyang	S Korea	23/4/17	26/4/17	1	3	Pacific
Yosu-bando	S Korea	26/4/17	26/4/17	0	0	Pacific
Kaohsiung	Taiwan	2/5/17	9/5/17	6	7	Pacific
Vung Tau	Vietnam	16/5/17	16/5/17	7	0	Pacific
Singapore	Singapore	18/5/17	19/5/17	2	1	Pacific
Suez	Egypt	5/6/17	5/6/17	17	0	Pacific
Liverpool	UK	28/6/17	5/7/17	23	7	Atlantic
Belfast	UK	5/7/17	8/7/17	0	3	Atlantic
Antwerp	Belgium	11/7/17	13/7/17	3	2	Atlantic
Halmstad	Sweden	16/7/17	20/7/17	3	4	Atlantic
Kalundborg	Denmark	21/7/17	21/7/17	1	0	Atlantic
Nyborg	Denmark	21/7/17	21/7/17	0	0	Atlantic
Muuga	Estonia	24/7/17	28/7/17	3	4	Atlantic
Skagen Havn	Denmark	31/7/17	1/8/17	3	1	Atlantic
Santos	Brazil	17/9/17	17/9/17	47	0	Atlantic
Santos	Brazil	17/9/17	23/9/17	0	6	Atlantic
Santos	Brazil	23/9/17	23/9/17	0	0	Atlantic
Santos	Brazil	24/9/17	29/9/17	1	5	Atlantic
Gibraltar	Gibraltar	16/10/17	16/10/17	17	0	Atlantic
El Dekheila	Egypt	26/10/17	29/10/17	10	3	Atlantic
Chornomorsk	Ukraine	9/11/17	17/11/17	11	8	Atlantic
Amsterdam	Netherlands	29/11/17	5/12/17	12	6	Atlantic
Ijmuiden	Netherlands	5/12/17	5/12/17	0	0	Atlantic

Amsterdam	Netherlands	5/12/17	8/12/17	0	3	Atlantic
Velsen	Netherlands	8/12/17	8/12/17	0	0	Atlantic
Dunkirk	France	17/12/17	20/12/17	9	3	Atlantic
Ceuta	Morocco	25/12/17	25/12/17	5	0	Atlantic
Ceuta	Morocco	25/12/17	25/12/17	0	0	Atlantic
Djen-Djen	Algeria	30/12/17	30/12/17	5	0	Atlantic
Djen-Djen	Algeria	18/1/18	30/1/18	19	12	Atlantic
Algeciras	Spain	3/2/18	3/2/18	4	0	Atlantic
Gibraltar	Gibraltar	3/2/18	4/2/18	0	1	Atlantic
Jorf Lasfar	Morocco	15/2/18	15/2/18	11	0	Atlantic
Corpus Christi	USA	5/3/18	11/3/18	18	6	Atlantic
Port Ingleside	USA	12/3/18	12/3/18	1	0	Atlantic
Davant	USA	14/3/18	14/3/18	2	0	Atlantic
Arabi	USA	16/3/18	16/3/18	2	0	Atlantic
Marrero	USA	17/3/18	17/3/18	1	0	Atlantic
La Place	USA	17/3/18	17/3/18	0	0	Atlantic
Burnside	USA	18/3/18	26/3/18	1	8	Atlantic
Marrero	USA	26/3/18	26/3/18	0	0	Atlantic
Colon	Panama	1/4/18	2/4/18	6	1	Atlantic
Panama City	Panama	2/4/18	2/4/18	0	0	Pacific
Isla Taboguilla	Panama	3/4/18	3/4/18	1	0	Pacific
Panama City	Panama	3/4/18	3/4/18	0	0	Pacific
Callao	Peru	9/4/18	11/4/18	6	2	Pacific
General San Martin	Peru	11/4/18	16/4/18	0	5	Pacific
Caleta Patillos	Chile	18/4/18	20/4/18	2	2	Pacific
Panama City	Panama	26/4/18	26/4/18	6	0	Pacific
Panama City	Panama	27/4/18	29/4/18	1	2	Pacific
New Haven	USA	8/5/18	12/5/18	9	4	Atlantic
Virginia	USA	14/5/18	28/5/18	2	14	Atlantic
Southport	USA	29/5/18	29/5/18	1	0	Atlantic
Wilmington NC	USA	29/5/18	1/6/18	0	3	Atlantic
Immingham	UK	18/6/18	21/6/18	17	3	Atlantic
Klaipeda	Lithuania	27/6/18	30/6/18	6	3	Atlantic
Kalundborg	Denmark	1/7/18	1/7/18	1	0	Atlantic
Skagen Havn	Denmark	2/7/18	2/7/18	1	0	Atlantic
Davant	USA	23/7/18	23/7/18	21	0	Atlantic
Marrero	USA	23/7/18	23/7/18	0	0	Atlantic
La Place	USA	23/7/18	23/7/18	0	0	Atlantic
Gramercy	USA	24/7/18	24/7/18	1	0	Atlantic
Westwego	USA	25/7/18	25/7/18	1	0	Atlantic
Chalmette	USA	25/7/18	28/7/18	0	3	Atlantic

Arabi	USA	29/7/18	29/7/18	1	0	Atlantic
Gretna	USA	29/7/18	29/7/18	0	0	Atlantic
Gretna	USA	31/7/18	31/7/18	2	0	Atlantic
Southport	USA	5/8/18	5/8/18	5	0	Atlantic
Wilmington NC	USA	5/8/18	14/8/18	0	9	Atlantic
Terneuzen	Netherlands	28/8/18	28/8/18	14	0	Atlantic
Sluiskil	Netherlands	28/8/18	28/8/18	0	0	Atlantic
Ghent	Belgium	28/8/18	9/9/18	0	12	Atlantic
Sas van Ghent	Netherlands	9/9/18	9/9/18	0	0	Atlantic
Terneuzen	Netherlands	9/9/18	9/9/18	0	0	Atlantic
Hereke	Turkey	21/9/18	28/9/18	12	7	Atlantic
Buyukdere	Turkey	28/9/18	28/9/18	0	0	Atlantic
Odessa	Ukraine	1/10/18	1/10/18	3	0	Atlantic
Odessa	Ukraine	1/10/18	5/10/18	0	4	Atlantic
Odessa	Ukraine	8/10/18	8/10/18	3	0	Atlantic
Cuxhaven	Germany	23/10/18	23/10/18	15	0	Atlantic
Hamburg	Germany	23/10/18	29/10/18	0	6	Atlantic
Ust-Luga	Russia	3/11/18	3/11/18	5	0	Atlantic
Ust-Luga	Russia	3/11/18	7/11/18	0	4	Atlantic
Ust-Luga	Russia	7/11/18	7/11/18	0	0	Atlantic
Kalundborg	Denmark	9/11/18	9/11/18	2	0	Atlantic
New Hampshire	USA	1/12/18	7/12/18	22	6	Atlantic
Chesapeake	USA	10/12/18	14/12/18	3	4	Atlantic
Virginia	USA	14/12/18	14/12/18	0	0	Atlantic
Immingham	UK	30/12/18	2/1/19	16	3	Atlantic
Amsterdam	Netherlands	4/1/19	4/1/19	2	0	Atlantic
Ijmuiden	Netherlands	4/1/19	4/1/19	0	0	Atlantic
Velsen	Netherlands	4/1/19	4/1/19	0	0	Atlantic
Amsterdam	Netherlands	4/1/19	12/1/19	0	8	Atlantic
Velsen	Netherlands	12/1/19	12/1/19	0	0	Atlantic
Payas	Turkey	24/1/19	24/1/19	12	0	Atlantic
Payas	Turkey	24/1/19	3/2/19	0	10	Atlantic
Iskenderun	Turkey	3/2/19	3/2/19	0	0	Atlantic
Tuapse	Russia	12/2/19	20/2/19	9	8	Atlantic
Buyukdere	Turkey	23/2/19	23/2/19	3	0	Atlantic
Tubarao	Brazil	18/3/19	18/3/19	23	0	Atlantic
Praia Mole	Brazil	18/3/19	20/3/19	0	2	Atlantic
Santos	Brazil	23/3/19	3/4/19	3	11	Atlantic
Santos	Brazil	3/4/19	10/4/19	0	7	Atlantic
Tubarao	Brazil	12/4/19	12/4/19	2	0	Atlantic
Praia Mole	Brazil	12/4/19	15/4/19	0	3	Atlantic

Mobile	USA	3/5/19	7/5/19	18	4	Atlantic
Fazendinha	Brazil	22/5/19	22/5/19	15	0	Atlantic
Fazendinha	Brazil	22/5/19	22/5/19	0	0	Atlantic
Macapa	Brazil	22/5/19	22/5/19	0	0	Atlantic
Santarem	Brazil	27/5/19	31/5/19	5	4	Atlantic
Santarem	Brazil	31/5/19	31/5/19	0	0	Atlantic
Macapa	Brazil	1/6/19	1/6/19	1	0	Atlantic

Table 29. (Source: Clarksons SIN, 2019)

The port data of all 19 of PSL's vessels under study are summarised as follows:

Vessel	IMO no.	Days in Indian-Pacific	Percentage	Days in Atlantic	Percentage	Total Days
Sarika Naree	9726425	687	46.61%	787	53.39%	1474
Sarita Naree	9726413	1044	71.26%	421	28.74%	1465
Sarocho Naree	9726449	89	23.00%	699	77.00%	788
Savita Naree	9726437	560	48.23%	601	51.77%	1161
Savitree Naree	9751224	451	35.82%	808	64.18%	1259
Sunisa Naree	9751248	167	16.60%	839	83.40%	1006
Inthira Naree	9732199	675	37.03%	1148	62.97%	1823
Issara Naree	9732187	933	50.54%	913	49.46%	1846
			<b>41.14%</b>		<b>58.86%</b>	

Table 30. (Source: Clarksons SIN, 2019)

Vessel	IMO no.	Days in Indian-Pacific	Percentage	Days in Atlantic	Percentage	Total Days
Baranee Naree	9613422	1354	54.42%	1134	45.58%	2488
Chayanee Naree	9613434	1730	70.67%	718	29.33%	2448
Daranee Naree	9613446	1863	77.46%	542	22.54%	2405
Kanchana Naree	9434735	1848	67.94%	872	32.06%	2720
Kirana Naree	9434723	2057	74.64%	699	25.36%	2756
			<b>69.03%</b>		<b>30.97%</b>	

Table 31. (Source: Clarksons SIN, 2019)

Vessel	Code	Days in Indian-Pacific	Percentage	Days in Atlantic	Percentage	Total Days
Ananya Naree	9464003	2684	92.08%	231	7.92%	2915
Benjamas Naree	9464027	966	36.18%	1704	63.82%	2670
Chintana Naree	9464039	1810	73.76%	644	26.24%	2454
Chamchuri Naree	9296274	2324	63.90%	1313	36.10%	3637
Charana Naree	9296303	2523	68.30%	1171	31.70%	3694
Lanna Naree	9496939	1487	56.67%	1137	43.33%	2624
Latika Naree	9496941	1542	60.19%	1020	39.81%	2562
			<b>59.83%</b>		<b>40.17%</b>	

Table 32. (Source: Clarksons SIN, 2019)



Then, in order to compare PSL’s trading patterns with competitors, 109 identical or almost identical other ships were identified across the three segments and their time spent in each basin was analysed. Time constraints meant every ship in the world could not be analysed.

### Ultramax

Forty-eight ‘Dolphin 64’ ultramax port histories, all identically designed to PSL’s, are summarised as follows (Clarksons SeaNet, 2019):

#### Owner: Lavinia Bulk, UK

Vessel	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
aeolos	9670901	743	45.55%	888	54.45%	1631
diomidis	9696527	648	42.05%	893	57.95%	1541
dionysus	9696515	612	37.85%	1005	62.15%	1617
glafkos	9696448	368	29.94%	861	70.06%	1229
iolaos	9696450	215	17.89%	987	82.11%	1202
leonidas	9696474	182	18.76%	788	81.24%	970
leto	9696424	587	40.88%	849	59.12%	1436
menelaos	9696436	508	35.47%	924	64.53%	1432
nefeli	9696462	93	8.78%	966	91.22%	1059
oceanus	9670925	328	20.15%	1300	79.85%	1628
			<b>29.73%</b>		<b>70.27%</b>	

Table 33. (Source: Clarksons SIN, 2019)

#### Owner: Spar Shipping, Norway

Vessel	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
spar apus	9734989	465	32.09%	984	67.91%	1449
spar aries	9701920	703	43.61%	909	56.39%	1612
spar indus	9734991	414	35.03%	768	64.97%	1182
spar octans	9735000	389	28.03%	999	71.97%	1388
spar pavo	9735012	434	39.24%	672	60.76%	1106
spar pyxis	9701932	614	38.57%	978	61.43%	1592
			<b>36.09%</b>		<b>63.91%</b>	

Table 34. (Source: Clarksons SIN, 2019)

**Owner: Common Progress, Greece**

Vessel	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
common galaxy	9704831	1324	87.68%	186	12.32%	1510
common horizon	9693202	642	53.46%	559	46.54%	1201
			<b>70.57%</b>		<b>29.43%</b>	

**Table 35. (Source: Clarksons SIN, 2019)****Owner: Eagle Bulk, USA**

Vessel	IMO.no	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
cape town eagle	9700134	937	61.48%	587	38.52%	1524
greenwich eagle	9575266	1459	69.31%	646	30.69%	2105
groton eagle	9575242	1425	65.73%	743	34.27%	2168
hamburg eagle	9698587	1260	71.55%	501	28.45%	1761
madison eagle	9575278	1219	58.86%	852	41.14%	2071
mystic eagle	9575204	266	53.52%	231	46.48%	497
new london eagle	9754991	1092	74.69%	370	25.31%	1462
rowayton eagle	9575216	1511	65.38%	800	34.62%	2311
singapore eagle	9788100	277	29.95%	648	70.05%	925
southport eagle	9575228	1561	66.85%	774	33.15%	2335
stonington eagle	9575151	1798	69.72%	781	30.28%	2579
westport eagle	9705988	961	58.45%	683	41.55%	1644
fairfield eagle	9575230	933	42.01%	1288	57.99%	2221
			<b>60.58%</b>		<b>39.42%</b>	

**Table 36. (Source: Clarksons SIN, 2019)****Owner: Kiran Holdings, Turkey**

Vessel	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
kiran adriatic	9653185	1421	80.92%	335	19.08%	1756
kiran america	9491264	2402	83.00%	492	17.00%	2894
kiran anatolia	9650171	1351	62.98%	794	37.02%	2145
kiran australia	9576961	1764	84.85%	315	15.15%	2079
kiran bosphorus	9576997	1493	83.27%	300	16.73%	1793
kiran caribbean	9718571	1463	95.81%	64	4.19%	1527
kiran caspian	9718583	1178	81.24%	272	18.76%	1450
kiran china	9577006	1472	80.75%	351	19.25%	1823
kiran europe	9491197	2359	72.97%	874	27.03%	3233
kiran istanbul	9576973	1167	57.26%	871	42.74%	2038
kiran marmara	9576985	1700	85.17%	296	14.83%	1996
			<b>78.93%</b>		<b>21.07%</b>	

**Table 37. (Source: Clarksons SIN, 2019)**

**Owners: Genco, USA**

Vessel	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
baltic hornet	9721932	648	38.21%	1048	61.79%	1696
baltic mantis	9729489	289	20.88%	1095	79.12%	1384
baltic scorpion	9729477	813	56.77%	619	43.23%	1432
baltic wasp	9722015	768	47.09%	863	52.91%	1631
			<b>40.74%</b>		<b>59.26%</b>	

**Table 38. (Source: Clarksons SIN, 2019)****Owner: Peter Doehle, Germany**

Vessel	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
td hamburg	9726578	618	65.61%	324	34.39%	942
td tokyo	9726566	71	8.00%	816	92.00%	887
			<b>36.80%</b>		<b>63.20%</b>	

**Table 39. (Source: Clarksons SIN, 2019)****Ultramax summary**

	Indian-Pacific	Atlantic
All competitor vessels	<b>53.07%</b>	<b>46.93%</b>
PSL vessels	<b>41%</b>	<b>59%</b>

**Table 40. (Source: Clarksons SIN, 2019)**

There are 271 ‘Dolphin 64’ designed ships currently trading, so the 48 vessels as analysed above is subject to the small sample bias (Clarksons SeaNet, 2019). It was therefore also necessary to track the current positions of all the ultramaxes. Using Clarksons’s SeaNet vessel tracking database all the current Dolphin 64 positions were analysed. 37% are currently in the Atlantic, 63% Indian-Pacific (Clarksons SeaNet, 2019). Widening the search to all ultramaxes (60-65,000 mts dwt) the spread is the same – 63% Indian-Pacific, 37% Atlantic (Clarksons SIN, 2019).

**Supramaxes**

Twenty-two ‘Dolphin 57’ supramax port histories, all identically designed to PSL’s are summarised as follows (Clarksons SeaNet, 2019):

**Owner: Common Progress, Greece**

Vessel	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
common calypso	9594705	2061	72.19%	794	27.81%	2855
common faith	9610092	1996	75.38%	652	24.62%	2648
common spirit	9594717	2209	78.67%	599	21.33%	2808
common venture	9610080	1103	40.99%	1588	59.01%	2691
georgios p	9476680	1990	63.80%	1129	36.20%	3119
magda p	9476692	1789	57.38%	1329	42.62%	3118
			<b>64.73%</b>		<b>35.27%</b>	

**Table 41. (Source: Clarksons SIN, 2019)**

**Owner: various**

Ship Names	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
antero	9537381	1785	62.65%	1064	37.35%	2849
blue fin	9607277	2151	75.42%	701	24.58%	2852
cas amares	9483255	773	26.75%	2117	73.25%	2890
cas avanca	9483190	1801	52.25%	1646	47.75%	3447
cepheus	9594597	1960	75.33%	642	24.67%	2602
dato lucky	9596569	2849	100.00%	0	0.00%	2849
dato success	9610494	2719	100.00%	0	0.00%	2719
frederike	9436769	1713	59.21%	1180	40.79%	2893
gladiator	9605853	498	19.09%	2111	80.91%	2609
hammona korsika	9515759	1764	55.25%	1429	44.75%	3193
kiran america	9491264	2402	83.00%	492	17.00%	2894
kiran europe	9491197	2359	72.97%	874	27.03%	3233
skylight	9434711	1741	49.18%	1799	50.82%	3540
tatjana	9456135	2274	65.46%	1200	34.54%	3474
trenta	9456159	2055	61.77%	1272	38.23%	3327
xenofon xl	9499618	2532	78.98%	674	21.02%	3206
			<b>64.83%</b>		<b>35.17%</b>	

**Table 42. (Source: Clarksons SIN, 2019)**

**Dolphin 57s summary**

	Indian-Pacific	Atlantic
All competitor vessels	<b>64.78%</b>	<b>35.22%</b>
PSL vessels	<b>69.03%</b>	<b>30.97%</b>

**Table 43. (Source: Clarksons SIN, 2019)**

Again, this was subject to the small sample bias, so it was necessary to track the current locations of all Dolphin 57s. There are currently 443 Dolphin 57s in the water of which 19% are in the Atlantic, 81% Indian-Pacific (Clarksons SeaNet, 2019).

## Handys

Thirty-one 33-33,999 mts dwt log-fitted handysize ships of the same or very similar designs to PSL's ships (which are designed by 3 different shipyards in China, Japan and India) were identified and their port histories are summarised as follows (Clarksons SeaNet, 2019):

### Owner: Pacific Basin, Hong Kong

Ship Names	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
darling river	9378008	2988	82.07%	653	17.93%	3641
maipo river	9379935	3623	98.96%	38	1.04%	3661
oak harbour	9268942	2910	78.67%	789	21.33%	3699
otago harbour	9268928	3162	86.77%	482	13.23%	3644
port phillip	9377975	3123	85.03%	550	14.97%	3673
santiago basin	9377999	3142	86.25%	501	13.75%	3643
silver lake	9377963	2787	76.57%	853	23.43%	3640
diamond harbour	9377987	2890	80.19%	714	19.81%	3604
			<b>84.31%</b>		<b>15.69%</b>	

Table 44. (Source: Clarksons SIN, 2019)

### Owner: Oskar Wehr, Germany

Ship Names	IMO no.	Days in Pacific	Percentage	Days in Atlantic	Percentage	Total Days
mereille selmer	9474199	600	18.32%	2675	81.68%	3275
michel selmer	9474216	342	11.50%	2633	88.50%	2975
thomas selmer	9474242	1555	54.01%	1324	45.99%	2879
caroline selmer	9474266	942	32.95%	1917	67.05%	2859
christina selmer	9474278	1155	42.57%	1558	57.43%	2713
imke selmer	9559690	1390	42.55%	1877	57.45%	3267
jakob selmer	9474228	683	23.39%	2237	76.61%	2920
			<b>32.18%</b>		<b>67.82%</b>	

Table 45. (Source: Clarksons SIN, 2019)

**Owner: Daelim Corporation, South Korea**

Ship Names	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
dl jasmine	9629665	2375	98.75%	30	1.25%	2405
dl lilac	9629677	2555	97.22%	73	2.78%	2628
dl marigold	9621170	2565	97.60%	63	2.40%	2628
dl tulip	9621170	1982	91.67%	180	8.33%	2162
			<b>96.31%</b>		<b>3.69%</b>	

**Table 46. (Source: Clarksons SIN, 2019)**

**Owners: various**

Ship Names	IMO no.	Days in India Pacific	Percentage	Days in Atlantic	Percentage	Total Days
anogyra	9491226	1443	48.92%	1507	51.08%	2950
bulktec	9473406	2954	81.69%	887	18.31%	3756
cl antwerp	9474204	420	13.17%	2769	86.83%	3189
cleantec	9473418	2285	64.97%	1232	35.03%	3517
global arc	9644043	1982	91.67%	180	8.33%	2162
global gold	9614359	2447	100.00%	0	0.00%	2447
global mermaid	9392157	3243	100.00%	0	0.00%	3243
global round	9644055	1719	82.76%	358	17.24%	2077
greentec	9493509	2626	73.03%	970	26.97%	3596
loch maree	9658800	1578	74.43%	542	25.57%	2120
loch melfort	9658795	1664	74.29%	576	25.71%	2240
maritec	9473391	2105	58.26%	1508	41.74%	3613
tiberius	9665841	1838	81.73%	411	18.27%	2249
			<b>72.69%</b>		<b>27.31%</b>	

**Table 47. (Source: Clarksons SIN, 2019)**

**Handysize summary**

	Indian-Pacific	Atlantic
All competitor vessels	<b>71.37%</b>	<b>28.63%</b>
PSL vessels	<b>59.83%</b>	<b>40.17%</b>

**Table 48. (Source: Clarksons SIN, 2019)**

Again, this was subject to the small sample bias, so it was necessary to track the current locations of all 33-33,999 mts dwt bulk carriers globally. There are 202 vessels built since 2000, of which 48% are in the Atlantic, 52% Indian-Pacific (Clarksons SeaNet, 2019).

## 5.4 Competitor comparisons

The ideal benchmark is comparing financial results with competitors. Some companies are private and some public companies do not disclose exactly what each vessel is earning and often exaggerate their overall performances against the index (Splash 2019).

In a meeting with the Brian Nixon, the managing director of Lavinia Bulk, a private Geek owner of 10 Dolphin 64s based in London, financial information of both ultramax fleets was shared for the full years 2016-2018. They have 4 ships with Oldendorff on never-ending Baltic Exchange index-linked deals – 11% of the old 52k dwt BSI. The remaining 6 vessels are strictly kept in Atlantic, DDs are in China and they take any backhaul available straight after (usually steels). They do very little voyage, mainly preferring short period.

This was the only private company that would divulge such sensitive financial information. Publicly listed companies publish their financial results but not many isolate their earnings down to each vessel segment. Scorpio Bulkers (owner of 38 ultramaxs) gave clear financial results on their ultramaxs (Scorpio Bulkers 2019). Below is a summary of the two companies with PSL.

	USD daily earnings			vs index
	2016	2017	2018	
<b>PSL</b>	5791	9478	12249	<b>6%</b>
<b>Lavinia</b>	5958	9264	11954	<b>5%</b>
<b>Scorpio</b>	5780	9106	11220	<b>2%</b>

Table 49. (Source: PSL (2019), Lavinia (2019) & Scorpio Bulkers (2019))

Eagle Bulk, USA and Genco Shipping, USA combine their average supramax and ultramax performances vs the index. (Eagle Bulk, 2019, Genco Shipping, 2019). Below is a summary of both companies compared to PSL.

<b>Supramax and ultramax averaged financial comparisons</b>				
	<b>USD daily earnings</b>			<b>vs index</b>
	<b>2016</b>	<b>2017</b>	<b>2018</b>	
<b>PSL</b>	5365	8856	11465	<b>-3%</b>
<b>Eagle</b>	4911	8829	11484	<b>-2%</b>
<b>Genco</b>	4907	8470	11364	<b>-4%</b>

**Table 50. (Source: PSL (2019), Eagle Bulk (2019) & Genco Shipping (2019))**

## **5.5 Questionnaires**

One of the best ways of gaining insights into competitors' strategies and comparing them with PSL's is by asking them the same standard questions, and such approach is a 'firm favourite with shipping decision-makers... and is a useful way of finding market intelligence' (Stopford, 2009). As many relevant competitors as possible were asked the following two simple questions:

- How do you decide between spot and period?
- How do you split the fleet between the Atlantic and Indian-Pacific?

Some were suspicious, not willing to share their strategies with a competitor, but since it was for a university project, a good number of responses were eventually secured:

### **Lavinia Bulk, UK (see Appendix B)**

#### **How do you decide between spot and period?**

This comes down to several reasons as it depends on your total cost after operational expenses (ship overheads) and capital expenses (loan repayments) and then after that how many ships you own and your exposure to the spot at the time versus period, forward freight agreement values (futures) and general



market outlook. Period duration depends on the higher the longer the better. For example, when the full year 2020 (futures market) is trading at 10,000 usd daily it's hard to do long period so we just do shorter until the long gets more interesting minimising giving away any optionality. We of course look at shipping and bank research and look at other commodity and global stories, but a lot of the decision making is on values at a particular time and our costs.

**How do you split the fleet between the Atlantic and Indian-Pacific?**

We just trade Atlantic at all times...nothing more to add. Scrubbers this year are messing it all up but the general thinking is Atlantic is the place to be.

**Technomar, Greece (see Appendix C)**

**How do you decide between spot and period?**

The general policy here is to play on period, but sometimes it's not the right market for periods. In general the concept here is to keep 30% trading in the spot market / short periods and 70% on period charters in excess of 9 months, in which we prefer half to be index-linked and half to be flat rates.

above is the ideal scenario that our investors are happy

**How do you split the fleet between the Atlantic and Indian-Pacific?**

They are kept mainly in Pacific in the Indonesian coal traders due to their heavy consumption.

**Scorpio Bulkers, UK (see Appendix D)**

**How do you decide between spot and period?**

We don't mind putting a few out on period. We add about 1500 usd to a ship in the Atlantic vs a Pacific position. In Q1 (when the market crashed) we had 7-8 ships for period. On index-linked deals we value our better Japanese designs at 115-116%. We do about 35-40% of our charters on voyage basis (avoiding time-charter which can pay better).

**How do you split the fleet between the Atlantic and Indian-Pacific?**

We try and keep 60% in the Atlantic if possible but it's more like 50/50 currently. We find it hard to get them back because lots of the ships can't do 2 x 25 mts coils.

**Lauritzen Bulkers, Denmark (see Appendix E)**

**How do you decide between spot and period?**

On our owned fleet we generally trade them in the spot market. You have to take a view on the market. If you think the market has potential then you avoid period on your own ships. If I charter on a vessel on period it's because I think market is too low and there's upside. We don't have a massive cargo book going forward. Everything forward is already hedged. We have contracts from Europe to east-coast South America. Instead of fixing period from Europe. Better than fixing period from cont. u get 1500 usd more perhaps. You should bring ships into the Atlantic

**How do you split the fleet between Atlantic and Indian-Pacific?**

We try to keep minimum 60% in Atlantic. It doesn't always work, we had lots of dry docks (in China) this year and it's not easy to get them back, it's an expensive investment. You have to factor this in when doing a front-haul (Atlantic to Asia premium cargo), you have to assume a 250-300,000 usd investment to bring them back again.

**Pacific Basin, UK (see Appendix F)**

**How do you decide between spot and period?**

We rarely do any period due to being an active operator with a large cargo book.

**How do you split the fleet between the Atlantic and Indian-Pacific?**

There has to be some consideration of the strength of the Atlantic over the Pacific but mainly it's a fluid process in relation to our cargo book, which adjusts constantly. Our long/short (ships versus the cargo book) is a big factor. You (PSL) are always 100% long on tonnage with no cargo book. Out-and-out

operators are always feeling short. We used to trade our supramaxes heavily in the Atlantic but now, since the rise of the ultramax, they go anywhere. Ultramax must try and capture the peak panamax (the segment above the ultramax – 70-80,000 mts dwt) season in the Atlantic. When the panamaxes take off the ultramax follow and do nicely.

### **Berge Bulk, UK (see Appendix G)**

#### **How do you decide between spot and period?**

Our model is more spot or forward voyage/COAs. This is decided on our macro outlook for the year, fleet cover, seasonal trends and overall market read for 6-12 months. For longer term we work off a set ROI we want to achieve on our assets.

#### **How do you split the fleet between the Atlantic and Indian-Pacific?**

We don't have set guide lines, but this is driven more the atlantic seasonal peaks and our overall exposure in terms of COAs and cargo book in each basin. For us we do find the bigger handys are better suited in the Atlantic, due to higher stowing grains and general stem sizes compared to the pacific. However we also find ourselves doing fairly well on the Namura 34s (very fuel-efficient shallow Japanese design) in the Atlantic.

### **Eagle Bulk, USA (see Appendix H)**

#### **How do you decide between spot and period?**

That is a risk management conversation. It depends on state of the market. We do relet some for period.

#### **How do you split the fleet between the Atlantic and Indian-Pacific?**

The ultramax are greyhounds. It's hard to avoid sending them to the Pacific since the majority of trade centres in and around the Pacific. The more time they spend at sea the better the earnings should be. It's tough to bring them back. The ultras by design are made to cross-trade (between Atlantic and Pacific). Keeping them in the Atlantic has proven to be the most equitable solution.

It was interesting to see the extremely varied answers between different owners. Pure owners (who don't have forward cargo commitments) like Lavinia, Scorpio, Technomar (and indeed PSL) are generally more open to period charters, whilst those with forward cargo-commitments favour the spot market more, such as Pacific Basin, Berge Bulk and Eagle Bulk. It was evident that each owner had a unique strategy depending on a number of variables.

## 6. Results and discussions

Firstly, a determination had to be made by how much more or less PSL's ships should perform versus the relevant Baltic Exchange indices. Cargo capacity, fuel consumption, draft and cubic capacities of the holds are all taken into consideration. A company called Vessel Index assesses ships against the index, so they were contacted as below showing PSL's own evaluations of each vessel type (in black) and they replied with their own evaluation (in red).

Mv Benjamas Naree 33k mts dwt - ICE 32k design, India (PSL applies 6% to the BHSI 28k) **108 points**

Mv Latika Naree 33k mts dwt - FESDEC design, China (PSL applies 7% to the BHSI 28k) **112 points**

Mv Charana Naree 33k mts dwt - Shin Kurushima design, Japan (PSL applies 7% to the BHSI 28k) **113 points**

Mv Baranee Naree 56k mts dwt – Dolphin 57 design, China (PSL subtracts 6% to the BSI) **93 points**

Mv Sunisa Naree 63k mts dwt -Dolphin 64 design, China (PSL applies 10% to the BSI) **110 points**

Source: Vessel Index (2019)

It was decided to take an average of the two as the target benchmark going forward:

Mv Benjamas Naree and mv Chintana Naree benchmark: +7% of the BHSI

Mv Lanna Naree and mv Latika Naree benchmark: +9.5% of the BHSI

Mv Charana Naree and mv Chamchuri Naree benchmark: +10% of the BHSI

All supramaxes benchmark: -6.5% of the BSI

All ultramax benchmark: +10% of the BSI

## 6.1 Atlantic vs Indian-Pacific

In Table 2 it was seen that the Atlantic handy market is on average 20% stronger than the Pacific over the past 10 years, and 33% stronger with the supramaxes as per Table 3. These are extremely significant disparities. Figures 1 and 2 further illustrate this disparity in the 52,000 mts dwt and 58,000 mts dwt sectors. The 3-year average (58k dwt) and 7-year average (52k dwt) show the dominance of the Atlantic throughout the year, whilst only in May-June last year did the Pacific briefly become a stronger market. Howe Robinson shipbrokers and others express concerns over minor inaccuracies of the index but there can be no doubt as to the significant strength of the Atlantic over time.

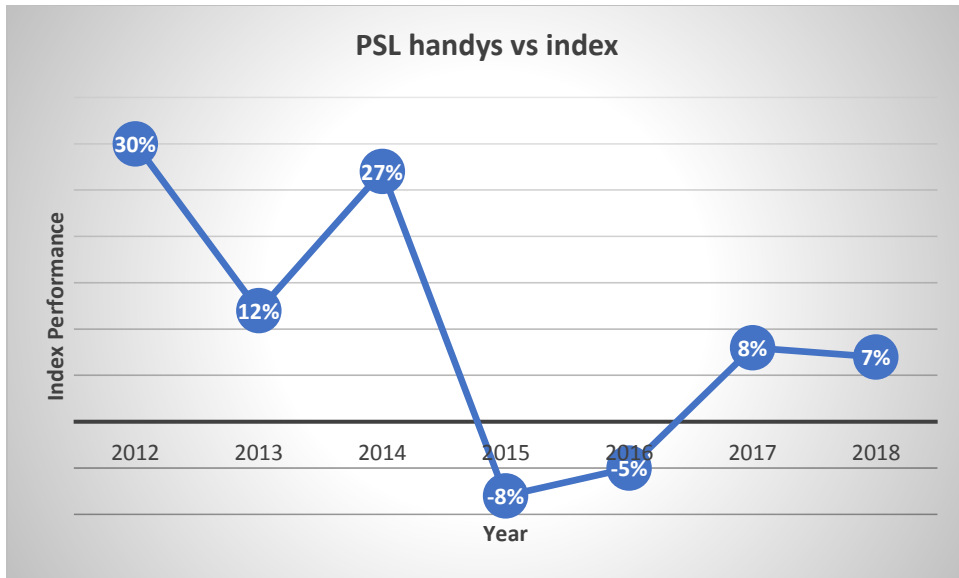
It was hypothesised that the ultramax and handysize historical earnings would be stronger in the Atlantic. PSL's supramaxes are not fuel-efficient and have deep drafts and mainly trade in Asia where distances are shorter (dominated by Indonesia to China or India coal) and ports are deeper.

## 6.2 Handys

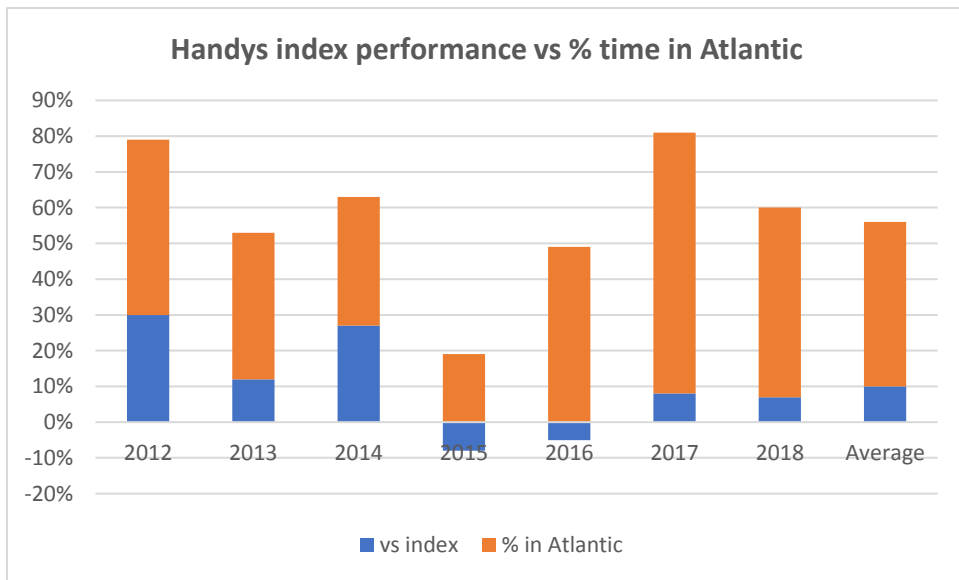
All six ships are between 33-33,999 mts dwt and fitted for carrying logs.

Vessel	Shipyard / design
Lanna Naree + Latika Naree	Jiangsu Yangzijiang, China / FESDEC 34
Chamchuri Naree + Charana Naree	Shin Kochi shipyard, Japan / 33k Shin Kurushima
Benjamas Naree + Chintana Naree	ABG shipyard, India / ICE 32k

**Table 51. (Source: Clarksons World Fleet Register (2019))**



**Figure 4. (Source: PSL internal charter records, 2012-2018)**



**Figure 5. (Source: PSL internal charter records, 2012-2018)**

Figure 4 clearly illustrates the poor performance in 2015-2016 when the market was extremely weak. As per above and Table 25, 2015 and 2016 saw the vessels underperform the index by on average 6.5%, 15% under the benchmark expectation. Every other year has been satisfactory or has exceeded the benchmark.

Figure 5 completely disproves the hypothesis that these vessels should earn more the more time they spend in the Atlantic. There is no correlation whatsoever between earnings and position. The most obvious explanation seems to be that the longer average Atlantic voyage distances compared to the Pacific naturally demand more economical and larger ships. PSL's handys are not especially fuel-efficient and their size is average. Larger sizes – 37-40,000 mts dwt – or very economical 33-35,000 mts dwt ships will benefit more in Atlantic. Whilst Table 48 showed all 31 selected competitor vessels spending 71% of their trading histories in the Pacific basin versus PSL's 60%, the current global snap-shot of all 202 33-33,999 mts dwt vessel positions shows 48% to be in the Atlantic, clearly suggesting that a natural fit for these ships is an equal split between the two basins.

Mv Chamchuri Naree and mv Charana Naree average +11% of the index versus an expectation of 10%.

Mv Lanna Naree and mv Latika Naree average +9.5% of the index versus an expectation of the same.

Mv Benjamas Naree and mv Chintana Naree average +6% of the index versus an expectation of 7%.

It is interesting to note the disparity between the sister-ship's performances. As per Table 28, mv Charana Naree is beating the index by 17%, but mv Chamchuri Naree only by 5%. Mv Benjamas Naree and Chintana Naree are also +9% and +3% respectively. When looking into the reasons behind these discrepancies, none were apparent. Charana and Chamchuri have both spent equal amounts of time in each basin and both have had lucrative periods charters over the years. Luck seems to play a big part.

Although PSL has exceeded expectations in stronger markets and performed very badly in weaker markets the overall the performance is satisfactory.



### 6.3 Supramaxes

All 5 x 56,000 mts dwt ships analysed are an identical Chinese ‘Dolphin 57’ design and are expected to underperform the index by 6.5%, due to heavy fuel consumption and deep drafts. As per Table 24, whilst 2012 seemed a good year, only two ships existed at this time and thus these results are subject to the small sample bias. From 2013 onwards these ships have averaged -11% of the index, -4.5% worse than expected.

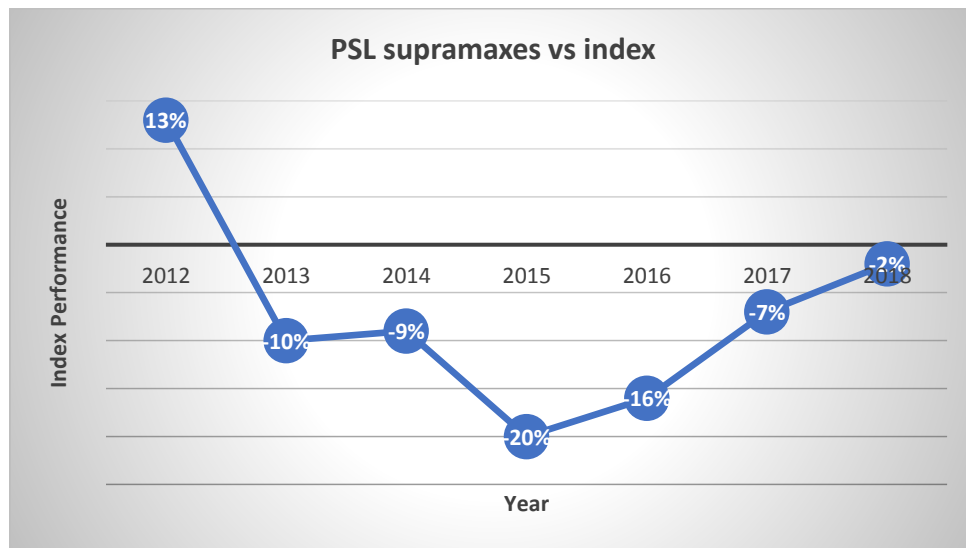
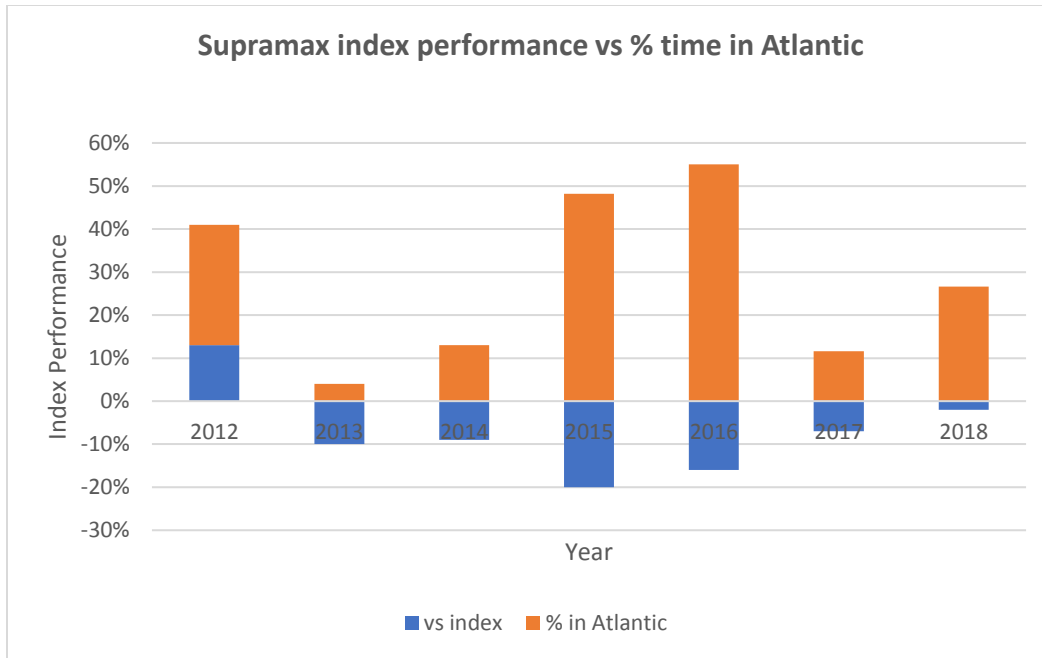


Figure 6. (Source: PSL internal charter records, 2012-2018)

Again, the 2015-2016 market crash saw the worst results, averaging -18% against the index and -11.5% worse than the benchmark expectation. During this time two ships were in the Klaveness chartering pool for one year each and they performed 2% worse than PSL’s own efforts.

As expected, these ships are performing better in the Pacific. 2012 (+13%), 2018 (-2%) and 2017 (-7%) have been their best years, with the ships spending 72%, 73% and 88% of their time in the Pacific respectively (Table 24). In the worst years the ships spent almost half their time in the Atlantic as per Figure 7 below.

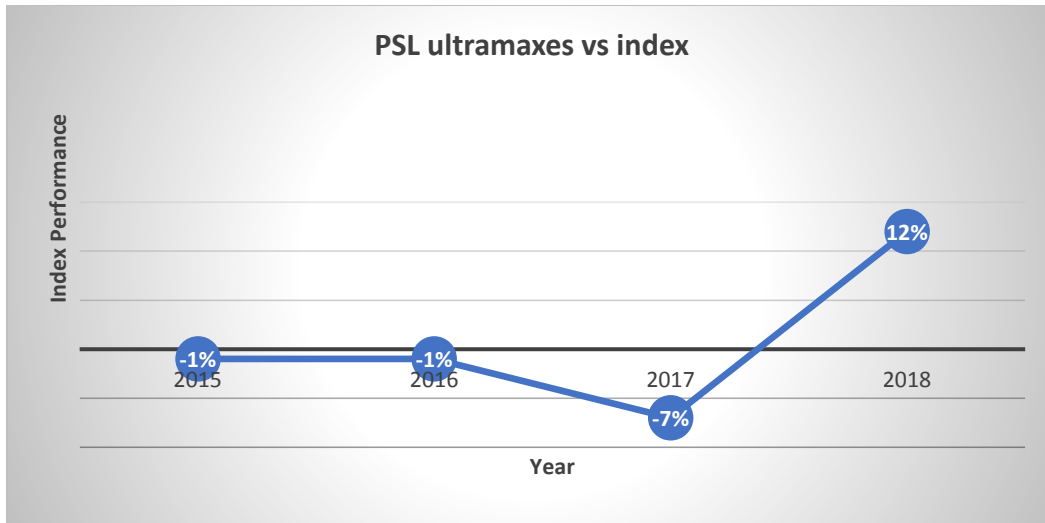


**Figure 7. (Source: PSL internal charter records, 2012-2018)**

However, all these ships are being fitted with a fuel-saving device which will increase their earnings by approximately 500 usd daily which should help them compete more easily in the Atlantic. The overall results were as hypothesised.

#### 6.4 Ultramax

Due to the young age of these ships there are only 3 good full year observations (only 2 ships existed in 2015) so the data is subject to the small sample bias. Built in China, the ships had to be moved into the Atlantic, where they were expected to earn more, at significant discounts, so initial annual returns are weak.

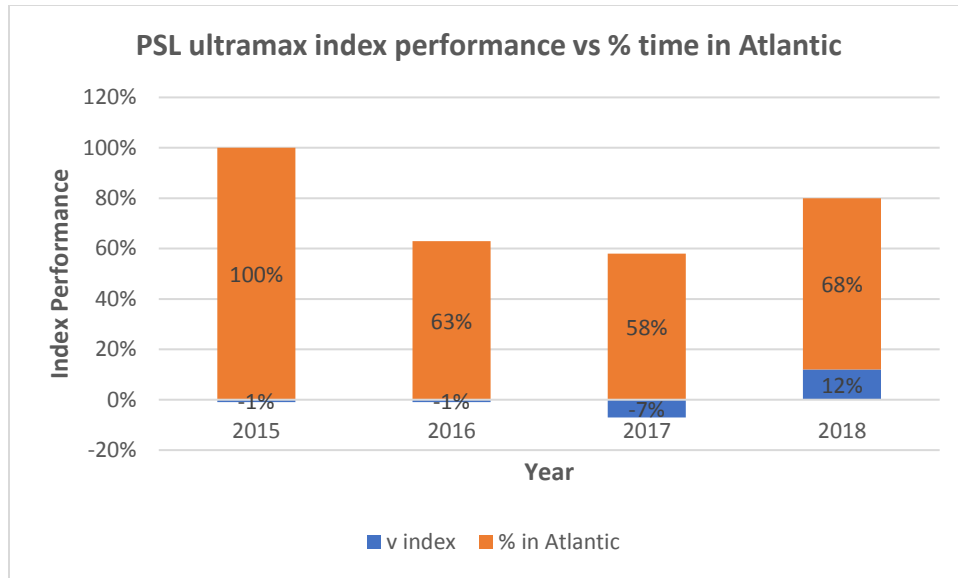


**Figure 8. (Source: PSL internal charter records, 2015-2018)**

The 2015-2016 market crash saw an average -1% performance versus the 58k index, -11% under the benchmark expectation of +10%, which is extremely poor but echoes the poor performances in the supramax and handy results. As per Table 49, it is encouraging that comparable owners Lavinia Bulk and Scorpio Bulkers also posted very similar results to PSL in 2016.

2017 extremely poor -7% against the index was due to five ships moving from the Pacific to the Atlantic at discounted rates and a terrible charter on mv Issara Naree from the Atlantic to the Pacific at 9,000 usd daily, due to an urgent Chinese dry dock schedule, which ruined the yearly average.

2018 saw the first year in a healthier market with the majority trading in the Atlantic (68%), beating the index by 12%. Significantly, this year saw the only observation overall of an ultramax beating the index in the Pacific, (Issara Naree, which spent the entire year outside the Atlantic), which was down to a good 6-month period charter.



**Figure 9. (Source: PSL internal charter records, 2015-2018)**

It was noteworthy that the global snap-shot of the ultramaxes currently trading only saw 37% in the Atlantic. This could be explained by the strong demand for these ships for the long trades back to Asia.

It has become clear that the healthier the market, the better PSL performs, and the worse the market, the worse PSL performs. It doesn't matter where any of PSL's ships were in 2015-2016, all three segments performed extremely badly. 2017 was the start of the recovery in which PSL still lost money (Precious Shipping, 2019), but 2018 was the first full observed year in a healthy market. More ultramax observations are needed but the hypothesis appears to be proven correct since the end of 2017 – but only in cases of a relatively healthy market.

## 7. Conclusions

Overall vs the index PSL's handys and supramaxes are performing very close to their index targets. The much younger ultramaxs have only had under 3 years to prove themselves but since 2017, when the majority were moved into the Atlantic, they have exceeded expectations.

### Spot vs Period

The current policy of trading ships spot in a gradually strengthening market seems sound, whilst taking long charters if a good deal presents itself. More 'voyage' cargoes should be secured however, in which the owner is paid USD-per-tonne to carry a cargo from A to B, rather than reletting the ship on time charter. In 2017 the company only secured 5.75% of its charters on voyage, increasing to 8.83% in 2018 (Precious Shipping 2018). These cargoes can significantly beat the index if the correct due diligence is carried out. The Bangkok office, which was previously over-worked, is too focused on simpler time charters and letting operators make margins in-between. A younger and larger chartering team is slowly taking over and overseas travel to develop relationships with cargo interests should be encouraged.

When the market becomes extremely excited, longer charters should be secured during the hype of the rising market. 'The dry bulk market is myopic, as is commonly believed of many competitive markets, and overreacts to current events such as the spot rate' (Hale & Vanags, 1989).

It is harder to find longer charters in weaker markets. As PSL needs to average 9000-9500 usd daily across the fleet to breakeven (private internal information), the policy has been not to fix period charters under these levels securing a loss, thus trading them in the spot market until the market improves. This is a mistake. History has proven that PSL's own performance in weak markets is much worse than the benchmark index targets (Tables 23, 24 & 25). Therefore, in the next market downturn when there is no positive sentiment in the short to medium term, PSL should avoid the spot market as much as possible

and proactively look to fix ships for 6 or 12-month charters at flat rates or index-linked deals. A more cargo-focused charterer would be tempted at an index-linked deal. In 2015-2016 the handys averaged 6.5% under the 28k index, the supramaxes 18% under the 58k index and the ultramaxs 1% under the 58k index. If the handys had been chartered on index-linked deals even at only 100% of the 28k index, (an attractive deal for the charterer and a seemingly terrible deal for the owner), these ships would have achieved 6.5% better returns than PSL's own efforts.

The reason PSL perform so badly in weak markets is due to PSL's 'pure-owner' model, with a small chartering team who also do not make the effort to develop client relationships and increase their access to cargo. The biggest owners in the market have offices globally to be closer to cargo interests/shippers/miners/traders and are given early cargo opportunities which PSL don't get. Pacific Basin (owner of 111 ships), spend 50 million usd on offices annually vs PSL's 5 million usd in 2018 (Pacific Basin, 2019 and Precious Shipping, 2019). The trade-off here is office expenditure vs cargo access, with the managing director arguing that 45 million USD per year is saved compared to Pacific Basin. PSL will never be such a big player in the market but now the chartering team is expanding there is no excuse to visit cargo interests.

### **Atlantic vs Pacific**

This is where the hypothesis has only partly lived up to expectations. Despite the Atlantic being on average 22% stronger on handys and 33% stronger on supramaxes over the past 10 years, only the ultramaxs are significantly earning more in the Atlantic, and only in healthier markets (since Q4 2017). The supramaxes have performed slightly worse in the Atlantic as expected and the handy earnings are entirely random. Since it was concluded that only larger or relatively fuel-efficient handys can take advantage of the Atlantic market, PSL's handys can continue to be traded world-wide as they are currently, keeping an equal balance in each basin.

As it has now been established that the ultramaxers are earning more in the Atlantic, there can be a greater focus on ensuring they are kept in this basin especially in Q3 and Q4. Currently there are 6 out of 8 ships in the Atlantic. The first half of 2019 activity of sending ships from the Atlantic to Asia in the depressed Q1 and sending them straight back has been very successful. By end June the ultramaxers averaged +20% of the index, +10% better than targeted, and the supramaxers +9%, a massive 15.5% better than targeted.

It was established that PSL performs better in healthier markets, as the dry bulk industry is currently experiencing, hence the results since end 2017 are more than reasonable and the current strategy cannot be criticised. It was not expected, prior to this study, that PSL's strategy would be re-written, but the chartering team now know the value of each ship and where they should and shouldn't be traded. When the next down-turn comes, however, a different and more period-focused strategy should be actively pursued. There are many geo-political variables which must be closely monitored, including the ongoing trade war between the USA and China which Trump further escalated last week (The Times, 2019), and many analysts including Morgan Stanley are predicting a global recession next year should a trade agreement not be reached soon (CNBC, 2019). It therefore seems prudent to cover a healthy percentage of the fleet on 6 to 12-month charters before the end of 2019 in case this becomes a reality.

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## APPENDIX A

### PSL's fleet

No.	Ship Name	Flag	Year Built	Dead Weight Tonnes	*Net Book Value (Million US\$)	**Insured Value (Million US\$)
1	Rattana Naree	Thai	2002	28,442	8.16	8.40
2	Rojarek Naree	Thai	2005	29,870	12.78	13.00
3	Nalinee Naree	Thai	2005	31,699	14.05	14.40
4	Chamchuri Naree	Thai	2005	33,733	13.23	13.60
5	Charana Naree	Thai	2005	33,720	13.46	13.80
6	Mookda Naree	Thai	2009	30,162	13.20	13.40
7	Mayuree Naree	Thai	2008	30,193	12.61	12.90
8	Mallika Naree	Thai	2008	30,195	12.81	13.00
9	Lanna Naree	Thai	2012	33,843	15.52	15.60
10	Latika Naree	Thai	2012	33,869	15.65	15.90
11	Ananya Naree	Singapore	2011	33,857	22.43	21.60
12	Benjamas Naree	Singapore	2012	33,780	22.88	22.00
13	Chintana Naree	Singapore	2013	33,945	19.81	20.00
14	Vipha Naree	Singapore	2015	38,851	19.84	20.00
15	Viyada Naree	Singapore	2016	38,716	20.50	20.70
Handysize 15 Vessels		Total		494,875	236.93	238.30
		Average		32,992	15.80	15.89
16	Kanchana Naree	Thai	2011	56,920	20.27	19.40
17	Kirana Naree	Thai	2011	56,823	20.22	19.40
18	Warisa Naree	Thai	2010	53,839	11.56	11.80
19	Wariya Naree	Thai	2011	53,833	12.78	12.00
20	Wikanda Naree	Thai	2013	53,857	13.80	14.00

21	Apiradee Naree	Singapore	2012	56,512	22.31	22.70
22	Baranee Naree	Singapore	2012	56,441	22.22	22.60
23	Chayanee Naree	Singapore	2012	56,548	21.83	21.20
24	Darane Naree	Singapore	2012	56,588	22.05	21.40
Supramax 9 Vessels		Total		501,361	167.04	164.50
		Average		55,707	18.56	18.28
25	Inthira Naree	Thai	2014	63,468	23.83	23.00
26	Issara Naree	Thai	2014	63,516	23.97	23.20
27	Sarita Naree	Thai	2015	62,964	24.22	22.90
28	Sarika Naree	Thai	2015	63,023	24.04	22.80
29	Savitree Naree	Singapore	2016	63,016	24.03	22.80
30	Savita Naree	Singapore	2016	62,970	23.78	23.00
31	Sunisa Naree	Thai	2016	63,007	23.98	23.20
32	Sarochoa Naree	Singapore	2017	63,047	25.34	24.60
Ultramax 8 Vessels		Total		505,011	193.19	185.50
		Average		63,126	24.15	23.19

Source: Precious Shipping (2019)

## APPENDIX B

Interviewee: Brian Nixon

Company: Lavinia Bulk (London), owner of 8 x 63k dwt ultramaxs, a pure owner like PSL with one office who don't book forward cargoes.

Position: Managing Director

(Source: Lavinia Bulk (2019))

## APPENDIX C

Interviewee: Dimitris Youroukos

Company: Technomar (Greece), pure owner of 8 x Dolphin 57s, sister ships of PSL's ships.

Position: Chartering Manager

(Source: Technomar (2019))

## **APPENDIX D**

Interviewee: Stephen Bailey

Company: Scorpio Bulkers (London), owner of 38 x ultramaxs between 60-63k dwt, another pure owner.

Position: Senior Chartering Manager

(Source: Scorpio Bulkers (2019))

## **APPENDIX E**

Interviewee: Luke Dorman

Company: J. Lauritzen (Denmark office), owner of 8 handysize vessels with many more on period charters

Position: Senior Chartering Manager

(Source: Lauritzen Bulkers (2019))

## **APPENDIX F**

Interviewee: Harry Stapleton

Company: Pacific Basin (London office), owners of 30 supramaxes and 82 handys, an owner-operator with offices all over the world and a huge forward cargo book.

Position: General Manager, Supramax, Atlantic

(Source: Pacific Basin (2019))

## **APPENDIX G**

Interviewee: Trushar Patel

Company: Berge Bulk (London office), owner of 6 x 34k dwt handys.

Position: Chartering Manager, Handysize, Atlantic

(Source: Berge Bulk (2019))

## **APPENDIX H**

Interviewee: Bo Westergaard

Company: Eagle Bulk (USA), owner of 45 supramaxes and ultramax.

Position: Chief Commercial Officer

(Source: Eagle Bulk (2019))

## **APPENDIX I**

### **Glossary**

BHSI – Baltic Exchange handysize index

BSI – Baltic supramax index

DWT – deadweight tonnes (the carrying capacity of a ship)

MTS – metric tonnes

MV – motor vessel

PSL – Precious Shipping

Sister ship – identical in design

USD – US Dollars