JCA Case Study Task

9 January 2025

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Write 5 shipping stories from any trends you may notice using the data provided.

I declare that this is my own work.

Each section is structured as follows:

- Point
- Evidence
- Implication

Effort has been made to make the colour scheme between graphs consistent. However, there are instances where colours have been changed to either make trends more visible or to draw attention to points of interest.

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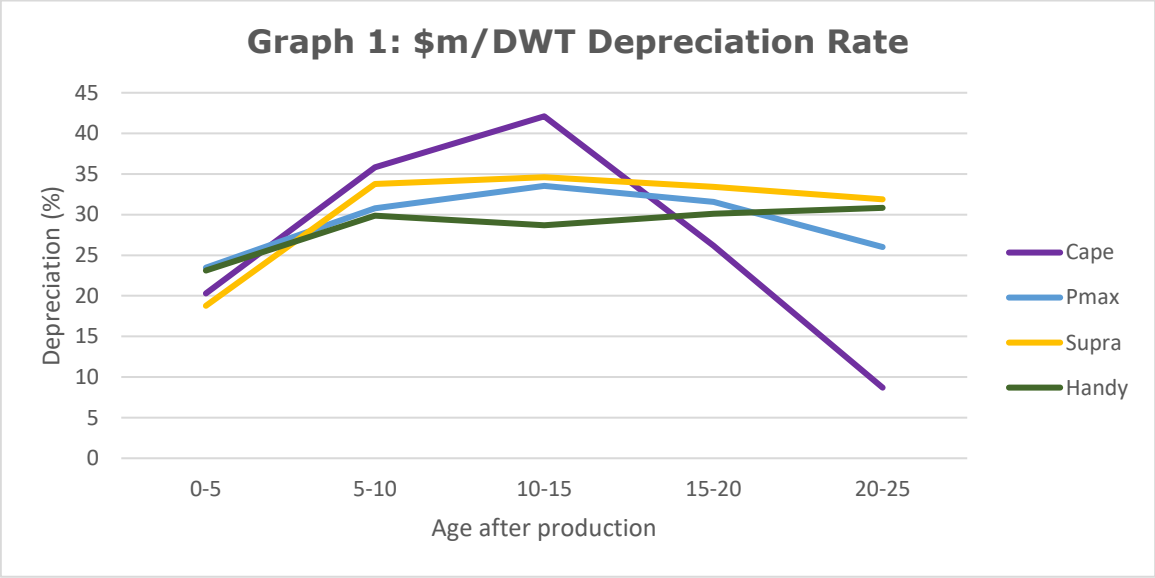
Depreciation

CAPESIZE bulkers deprecate at a greater year-on-year rate compared to other ships measured in the dataset.

Table 1 shows that CAPESIZE bulkers experience a sharper decline in value measured in $m/Dead Weight Tonnage (hereon DWT) as they age. Graph 1 illustrate a particularly steep decline of 20.28% in the first five years, followed by a 35.83% depreciation in years 5-10. CAPESIZE depreciation peaks in the 10–15-year range at 42.10%, before slowing down to be more in line with other vessel types at 26.17%, finally slowing significantly to just 8.70% depreciation in the final period. By comparison, other vessels measured have more consistent depreciation patterns.

Table 1: $m/DWT Depreciation Rate				
Period	**Cape**	**Pmax**	**Supra**	**Handy**
0-5	**20.28**	23.46	18.77	23.11
5-10	**35.83**	30.78	33.75	29.85
10-15	**42.10**	33.53	34.60	28.67
15-20	**26.17**	31.56	33.41	30.11
20-25	**8.70**	26.02	31.88	30.83



This trend implies that stakeholders should take special considerations when owning CAPESIZE bulkers. This may imply that stakeholders interested in using CAPESIZE bulkers should also consider that they rapidly lose their value and likely have higher and more frequent maintenance costs if operated for moderate to long periods of time. i.e., 10-15 years. In turn, the CAPESIZE bulker's high depreciation rate may incentivise stakeholders to try and maximise its value early on, or to substitute for multiple smaller bulkers that retain their value for longer, for example, the PANAMAX.

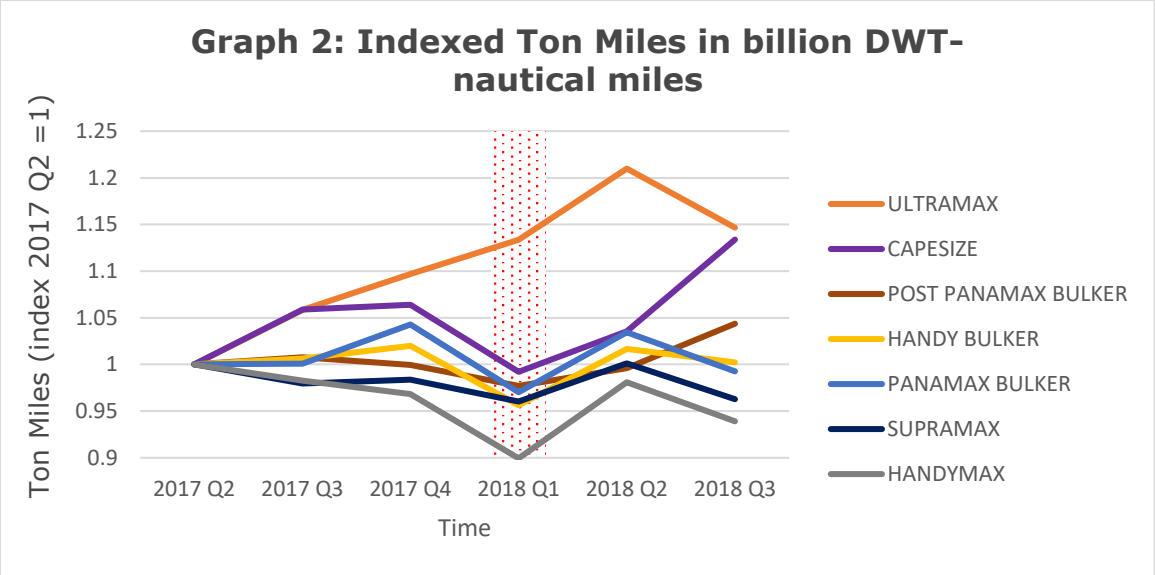
Seasonality

There appears to be some seasonality with the amount each bulker ships.

In 2018 Q1, there is a measurable dip in the Ton Miles in billion DWT-nautical miles of each ship, with the exception of ULTRAMAX bulkers.

This is illustrated in Graph 2, with the 2018 Q1 highlighted. Most vessels decline their tonnage shipped below the starting period of 2017 Q2, with HANDYMAX vessels experiencing the steepest aggregate decline, and CAPESIZE and PANAMAX experiencing the highest relative decline compared to the prior period.

Table 2: Indexed Ton Miles in billion DWT-nautical miles						
Ship Type	**2017 Q2**	**2017 Q3**	**2017 Q4**	**2018 Q1**	**2018 Q2**	**2018 Q3**
ULTRAMAX	1	1.06	1.10	**1.13**	1.21	1.15
CAPESIZE	1	1.06	1.06	**0.99**	1.04	1.13
POST PANAMAX BULKER	1	1.01	1.00	**0.98**	1.00	1.04
HANDY BULKER	1	1.01	1.02	**0.96**	1.02	1.00
PANAMAX BULKER	1	1.00	1.04	**0.97**	1.03	0.99
SUPRAMAX	1	0.98	0.98	**0.96**	1.00	0.96
HANDYMAX	1	0.98	0.97	**0.90**	0.98	0.94



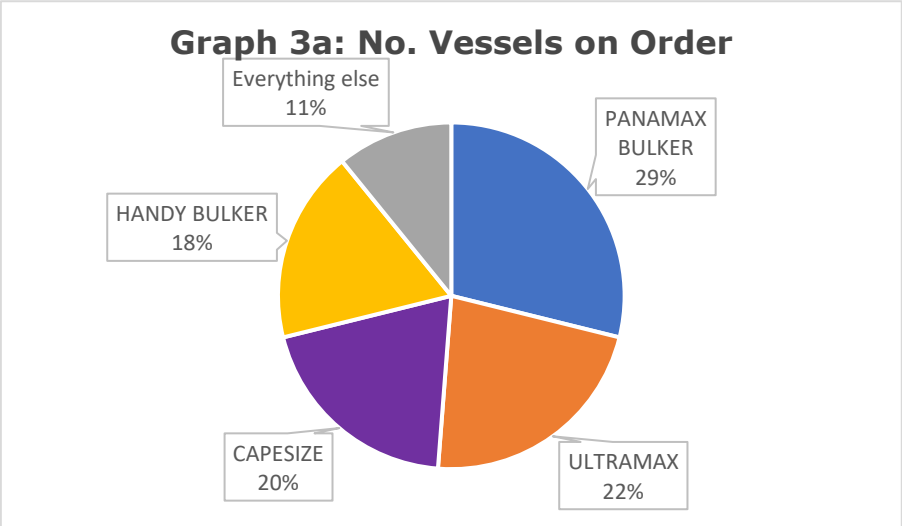
This trend implies a broader market slowdown in the first quarter of 2018, as evident from the reduced shipping activity. This could imply that shipping firms should scale back operations or time fleet maintenance to align with periods of predictable reduced demand. Alternatively, stakeholders could invest more into ULTRAMAX vessels considering that they were apparently unaffected by the market wide reduction in tonnage miles.

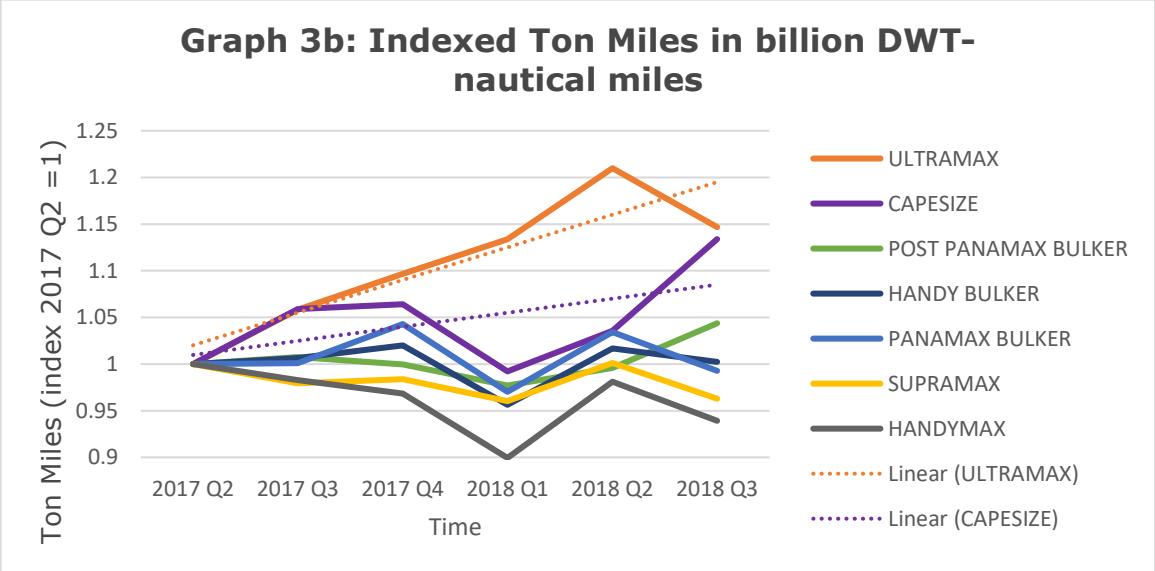
ULTRAMAX trend

ULTRAMAX vessels appear to be attracting increased attention from stakeholders.

ULTRAMAX vessels have a high number of orders (200 vessels) relative to their current activity levels. In 2018 Q3, ULTRAMAX vessels made up just 5.47% of ton miles in billion DWT- nautical miles but make up 22% of vessels on order.

This is significant as ULTRAMAX vessels also had the greatest quarter-on-quarter increase in ton miles over the period measured and were the only ship type in 2018 Q1 to not suffer a decrease in ton miles, as described in Point 2.





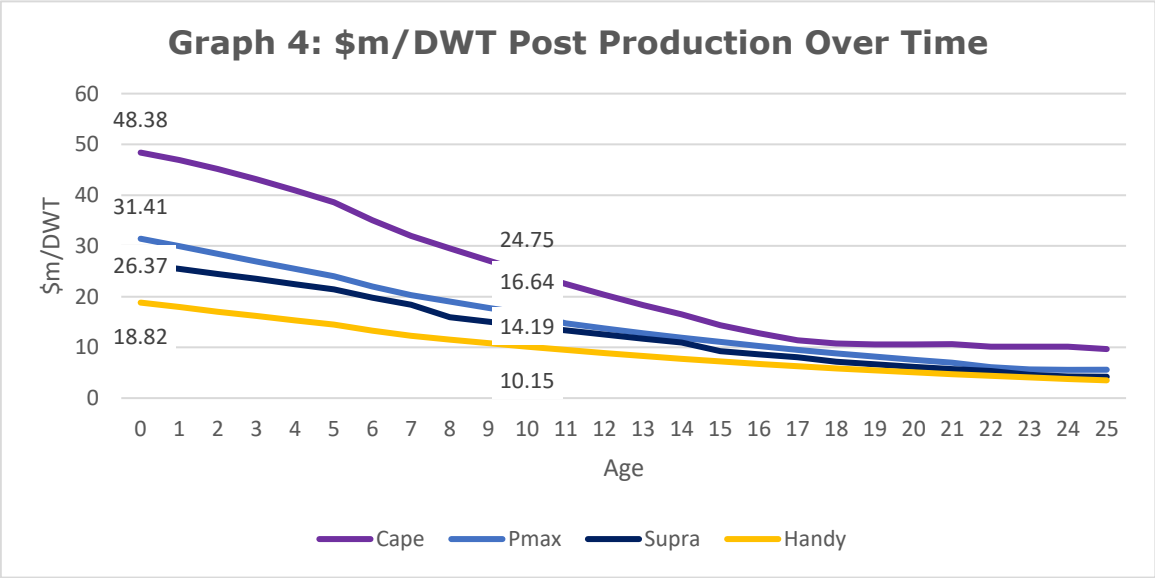
This may suggest that ULTRAMAX vessels could make up a larger proportion of ships in the future, given their relatively strong performance and their high number of orders. In turn, this may imply that maritime infrastructure and services will have to accommodate a growing number of ULTRAMAX vessels in the future and that ports that already service these types of ships may be at an advantage. Additionally, the trend suggests that stakeholders view ULTRAMAX vessels as having desirable qualities, which may influence future trends in ship design.

Size and value correlation

There is an apparent correlation between size and value per DWT across vessel lifecycles, with larger vessels being more valuable.

New CAPESIZE vessels with a capacity of 180k tons are valued at 48.38m/DWT. This value is greater compared to other vessels measured, such as PANAMAX (80k), SUPRAMAX (60k), and HANDYMAX (30k), as visualised on the above graph. This tonnage premium persists throughout each vessel's lifecycle.

Table 3: $m/DWT					
Age		**Cape**	**Pmax**	**Supra**	**Handy**
0	$m/DWT	48.38	31.41	26.37	18.82
	DWT (k)	180	80	60	30
10	$m/DWT	24.75	16.64	14.19	10.15
	DWT (k)	*180*	*80*	*55*	*30*



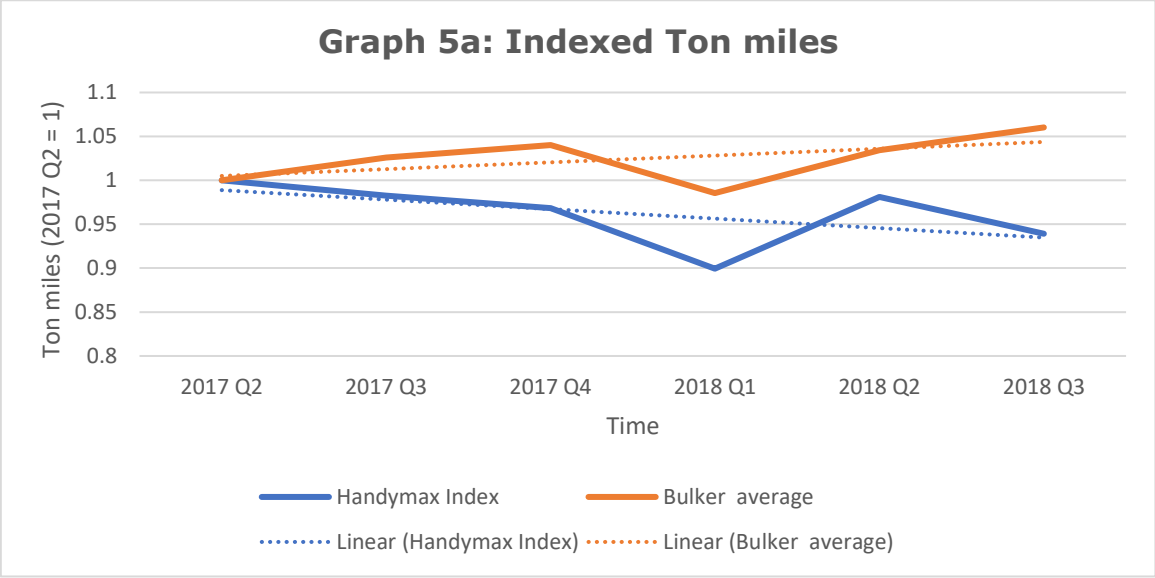
This trend may imply the presence of economies of scale, i.e., ships with larger tonnage capacity have lower per-unit cost to transport goods. For stakeholders, this may imply that investing in larger vessels, such as CAPESIZE bulkers, could yield greater returns over time relative to smaller vessels. However, one should keep in mind the steep depreciation of CAPESIZE bulkers value, as described in Section 1.

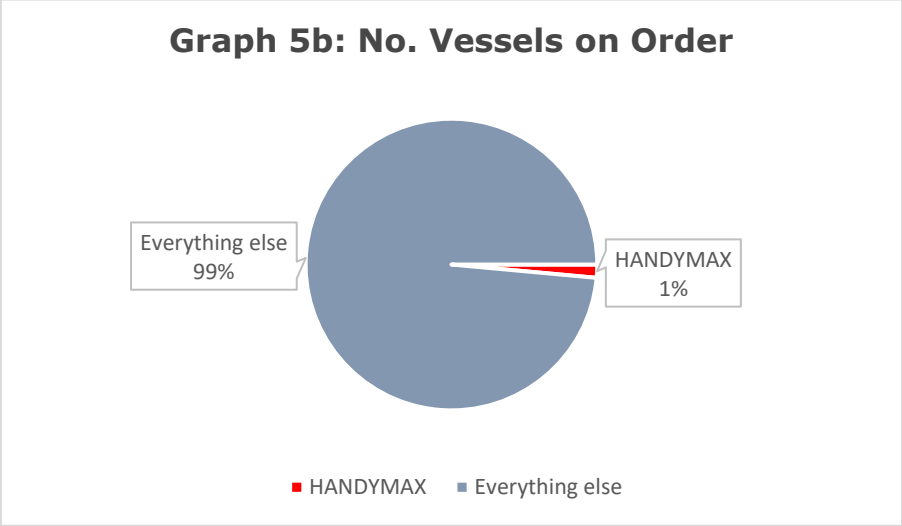
HANDYMAX decline

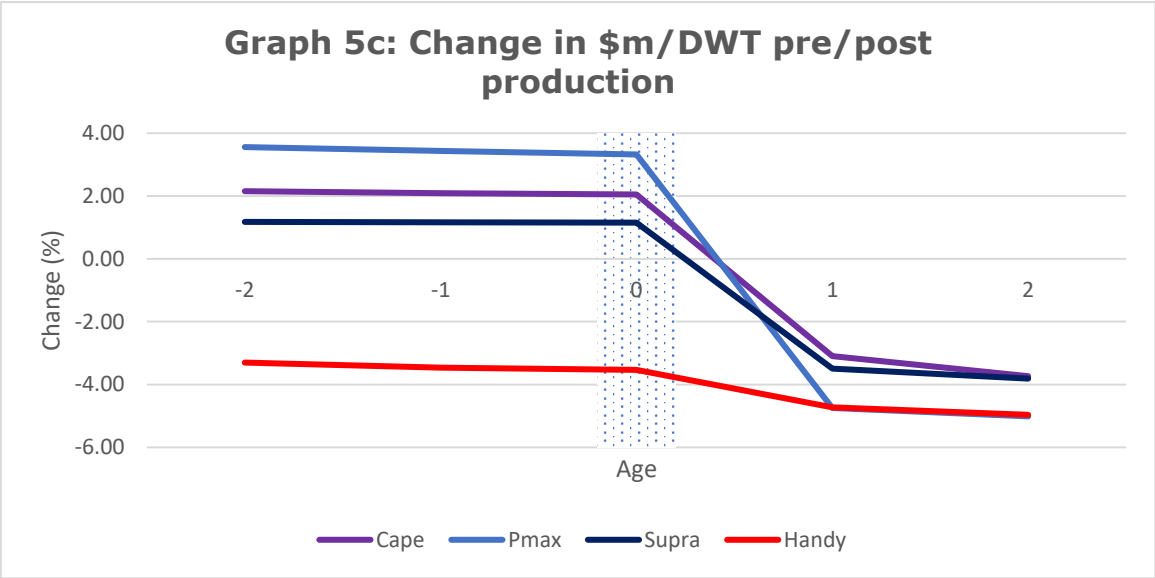
The usage of HANDYMAX vessels is in decline.

HANDYMAX vessles have faced a declining share of ton miles across measured time periods when compared to the bulker average. This is illustrated in Graph 5a, where the declining trend in ton miles is evident. This decline is compounded by HANDYMAX vessels comprising the smallest share of vessels on order of about 1.4%. Therefore, this trend is unlikely to be reversed in the future.

Additionally, Handymax vessels are the only ships measured to decline in $m/DWT value prior to delivery. This is in stark contrast to CAPESIZE, PANAMAX, and SUPRAMAX vessels that rise in value during pre-delivery, as shown in Graph 5c.







The implication of a decline in Handymax vessels may reflect a market preference for ships with greater cargo capacity that take advantage of economies of scale, as described in Section 4. In turn, this may indicate a shift towards consolidation, with fleets comprised of larger but fewer bulkers.

End of Report