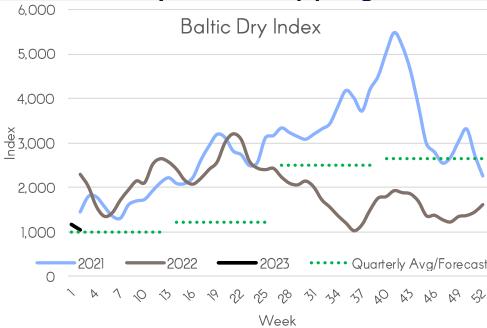


Shipping Weekly 3/2023

Shipping Coverage

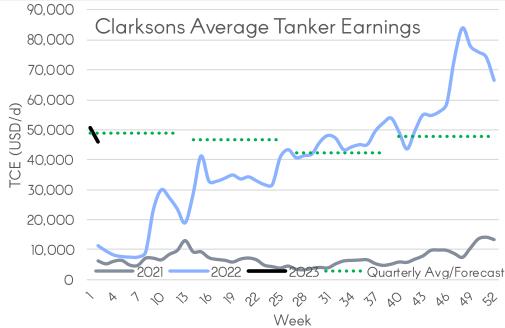
Ticker	Cleaves' Rating	TP	Last Price	Δ w/w
2020 NO	BUY	144	101	+7%
DSX US	BUY	4.6	3.65	-4%
EGLE US	BUY	60.0	51.2	-2%
GNK US	BUY	28.0	16.1	-4%
GOGI US	BUY	14.0	9.1	-8%
HSHIP NO	BUY	96.0	53.2	-
SBLK US	BUY	31.0	20.8	-6%
Dry Bulk				4%
DHT US	BUY	12.0	8.7	-3%
EURN US	BUY	33.0	15.0	-4%
FRO US	BUY	23.0	14.1	-27%
INSW US	BUY	65.0	38.0	-10%
NAT US	BUY	4.0	3.1	-6%
OET NO	BUY	288	172	-6%
TNK US	BUY	54	29	-7%
Oil Tankers				8%
ALNG NO	HOLD	6.4	7.7	-1%
FLNG NO	HOLD	361	315	-5%
LNG Carriers				2%
AGAS NO	SELL	37	55.3	-6%
BWLPG NO	HOLD	67	72.6	-6%
LPG US	SELL	10.0	17.8	-9%
LPG Carriers				7%

Dry Bulk Shipping



Another rough week for owners of Capesize tonnage with the 5TC dropping 14% w/w to \$11k/d. BR-CN fell back 17% w/w to \$8k/d and W.Aus-CN shed another 21% w/w to \$8k/d. Panamax earnings -20% w/w to \$8k/d as owners remained under pressure on most routes. This was true for Supramax owners as well, with rates falling another 18% w/w to \$8k/d.

Oil Tankers



Modern VLCC earnings fell 19% w/w to \$39k/d (with scrubber fitted units -16% w/w to \$48k/d), due to a tonnage overhang in the MEG and a softening of activity levels in ex-USG. In smaller tonnage, Suezmax avg earnings added 34% w/w to \$78k/d as rates firmed across all major routes. Aframax earnings added 14% w/w to \$80k/d as rates ex-B.Sea and -Med strengthened.

Past 1y



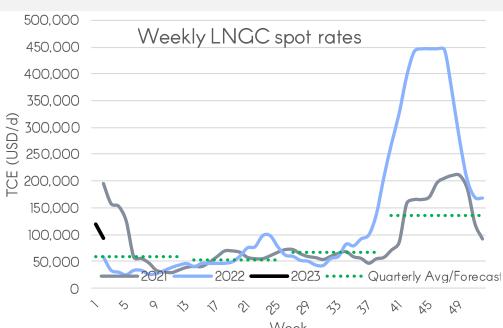
Analysts

Peter Michael E. Christensen

Head of Research

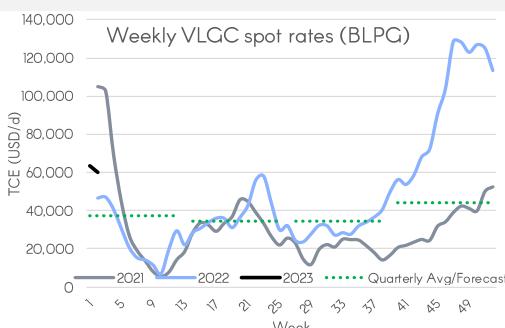
pmc@cleaves.no
+47 21040041

LNG Carriers



LNGC rates continue to be in free-fall, with MEGIs -19% w/w to \$128k/d, TFDE's -22% w/w to \$94k/d, and ST's -10% w/w to \$54k/d.

LPG Carriers



BLPG added 4% w/w to \$59k/d despite an increasing number of vessels becoming available in the East. A widening US/FE arb could provide some support in the near-term.

Key Shipping Statistics

Dry Bulk	Spot rates				Cleaves' spot rate forecasts				Last	ly timecharter rates				5y old vessel values (broker quotes)			
	Last	(ly)	Δw/w	Δm/m	Δy/y	2023E	2024E	2025E	2026E	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y	
BDI	946		-16%	-29%	-56%	1,472	2,146	2,796	2,400	18,500	-1%	10%	-27%	44.0	0%	2%	-6%
Capesize	10,770		-14%	-16%	-44%	23,525	29,197	40,398	33,881	15,500	0%	-5%	-36%	30.0	0%	0%	-12%
Panamax	8,282		-20%	-39%	-64%	15,328	17,276	21,506	19,045	14,750	-3%	-6%	-42%	28.5	0%	4%	-7%
Supramax	7,545		-18%	-41%	-65%	14,700	15,320	17,836	15,790								
Oil Tankers	Last	(ly)	Δw/w	Δm/m	Δy/y	2023E	2024E	2025E	2026E	Last	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y
VLCC	39,174		-19%	-31%	8580%	61,096	75,073	69,597	57,798	46,500	-3%	-7%	104%	100.0	0%	6%	39%
Suezmax	78,478		34%	-12%	1752%	58,008	57,584	53,463	44,582	47,000	-3%	-5%	135%	68.0	0%	6%	42%
Aframax	79,586		14%	-28%	659%	48,122	43,394	40,492	34,237	45,500	-5%	-6%	143%	62.5	0%	6%	39%
MR	26,650		-12%	-45%	242%	26,335	23,902	22,546	19,625	31,250	-2%	-11%	102%	41.5	0%	4%	38%
Gas Carriers	Last	(ly)	Δw/w	Δm/m	Δy/y	2023E	2024E	2025E	2026E	Last	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y
TFDE (LNG)	93,750		-22%	-45%	186%	78,853	80,190	66,726	50,820	165,000	0%	10%	90%	77.0	0%	7%	
VLGC (LPG)	59,494		4%	-53%	28%	37,576	30,093	42,763	47,617	38,631	0%	-10%	13%				

Source: Cleaves Securities, Bloomberg, Shipping Intelligence Network, company data, www

Disclaimer: The analyst may have investments in some of the companies covered in the report. More disclaimers at the end of the document



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Cleaves Securities

Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Recent Events

We have revised our dry bulk forecast.

Delta	2022	2023	2024	2025	2026
Base case					
Baltic Dry	(155)	(407)	(437)	112	96
Capesize, spot ^a (TCE/d)	(4,371)	(10,000)	(7,692)	1,846	1,585
Panamax, spot ^a (TCE/d)	735	(3,582)	(2,905)	697	599
Supramax, spot ^a (TCE/d)	(70)	(1,479)	(1,414)	580	498
Handysize, spot ^a (TCE/d)	(430)	(381)	(302)	432	371
Capesize, 5y ^a (USDm)	(0)	(6)	(5)	2	1
Panamax, 5y ^a (USDm)	(0)	(3)	(2)	1	1
Supramax, 5y ^a (USDm)	0	(0)	(1)	1	1
Handysize, 5y ^a (USDm)	0	1	(0)	1	0

Delta	4Q22	1Q23	2Q23	3Q23	4Q23
Base case					
Baltic Dry	(530)	(1,010)	(996)	16	(217)
Capesize, spot ^a (TCE/d)	(12,278)	(15,644)	(18,011)	(1,255)	(5,090)
Panamax, spot ^a (TCE/d)	432	(5,907)	(6,291)	(341)	(1,789)
Supramax, spot ^a (TCE/d)	(1,720)	(6,910)	(2,898)	2,548	1,344
Handysize, spot ^a (TCE/d)	1,053	(3,664)	(1,781)	2,409	1,511
Capesize, 5y ^a (USDm)	(2)	(5)	(7)	(6)	(6)
Panamax, 5y ^a (USDm)	(0)	(2)	(3)	(3)	(3)
Supramax, 5y ^a (USDm)	2	0	(0)	(0)	(1)
Handysize, 5y ^a (USDm)	1	1	0	0	0

^a Average during period

New	2022	2023	2024	2025	2026
Base case					
Baltic Dry	1,728	1,472	2,146	2,796	2,400
Capesize, spot ^a (TCE/d)	15,259	23,525	29,197	40,398	33,881
Panamax, spot ^a (TCE/d)	17,743	15,328	17,276	21,506	19,045
Supramax, spot ^a (TCE/d)	19,496	14,700	15,320	17,836	15,790
Handysize, spot ^a (TCE/d)	19,346	13,996	14,864	15,988	14,461
Capesize, 5y ^a (USDm)	47	43	49	53	49
Panamax, 5y ^a (USDm)	31	26	28	31	28
Supramax, 5y ^a (USDm)	30	24	24	26	24
Handysize, 5y ^a (USDm)	26	23	23	23	22

New	4Q22	1Q23	2Q23	3Q23	4Q23
Base case					
Baltic Dry	1,558	998	1,223	2,496	2,651
Capesize, spot ^a (TCE/d)	14,478	10,789	12,891	33,935	36,484
Panamax, spot ^a (TCE/d)	16,787	10,325	11,629	19,198	20,160
Supramax, spot ^a (TCE/d)	15,835	8,543	11,958	18,749	19,549
Handysize, spot ^a (TCE/d)	15,846	9,053	11,982	17,177	17,773
Capesize, 5y ^a (USDm)	44	42	43	44	45
Panamax, 5y ^a (USDm)	29	26	26	26	27
Supramax, 5y ^a (USDm)	29	25	24	24	24
Handysize, 5y ^a (USDm)	25	23	22	22	23

And, based on recent S&P activity, market sentiment, and fundamentals, we have also revised our dry bulk asset prices.

Summary	Capesize	Panamax	Supramax	Handymax	Handysize
NB	60.5	33.5	30.5	29.5	28.5
resale	58.5	34.5	32.0	30.3	28.5
5y	43.0	28.0	26.5	24.5	22.5
10y	28.0	20.5	18.0	16.5	15.0
15y	17.0	13.8	13.5	12.0	10.5
20y	14.0	10.0	9.3	8.1	7.0
scrap	11.7	6.9	5.6	4.8	3.6

All prices are excluding scrubbers

delta	Changes	Capesize	Panamax	Supramax	Handymax	Handysize
NB		-4.0	-4.0	-4.0	-3.0	-2.0
resale		-4.5	-4.0	-4.0	-3.3	-2.5
5y		-4.0	-2.0	-3.0	-3.3	-3.5
10y		-2.5	-0.5	-1.5	-1.9	-2.3
15y		-2.0	-1.3	-1.0	-1.0	-1.0
20y		-0.6	-1.3	-2.0	-1.6	-1.3
scrap		-1.8	-1.1	-0.9	-0.8	-0.6

Consequently, we have made the following changes to our dry bulk target prices:

	New		Old		Pricing/Upside		P/NAV			
	M.cap	Turnover	Rec.	TP	Rec.	TP	P	+/-	Now	ly fwd
2020 NO	227	1.5	BUY	144	BUY	179	101	42%	0.94	0.84
DSX US	360	2.8	BUY	4.6	BUY	5.7	4	26%	0.87	0.92
EGLE US	701	11.5	BUY	60.0	BUY	71.0	51.2	17%	0.84	0.85
GNK US	683	13.6	BUY	28	BUY	28	16.1	74%	0.76	0.70
GOGL US	1,823	20.1	BUY	14	BUY	16	9.1	55%	0.95	0.94
SBLK US	2,136	41.5	BUY	31	BUY	34	20.8	49%	0.94	0.94
HSHIP NO	173	9.0	BUY	96	BUY	96	53.4	80%	1.05	1.17
Average	872	14.3						49%	0.91	0.91
Median	683	11.5						49%	0.94	0.92

We reiterate our BUY recommendation on the dry bulk segment, with our top picks: 1) GNK US with a 74% upside to our unchanged \$28 target price; 2) SBLK US with a 49% upside to our \$31 target price; 3) GOGL US with a 55% upside to our \$14 target price.

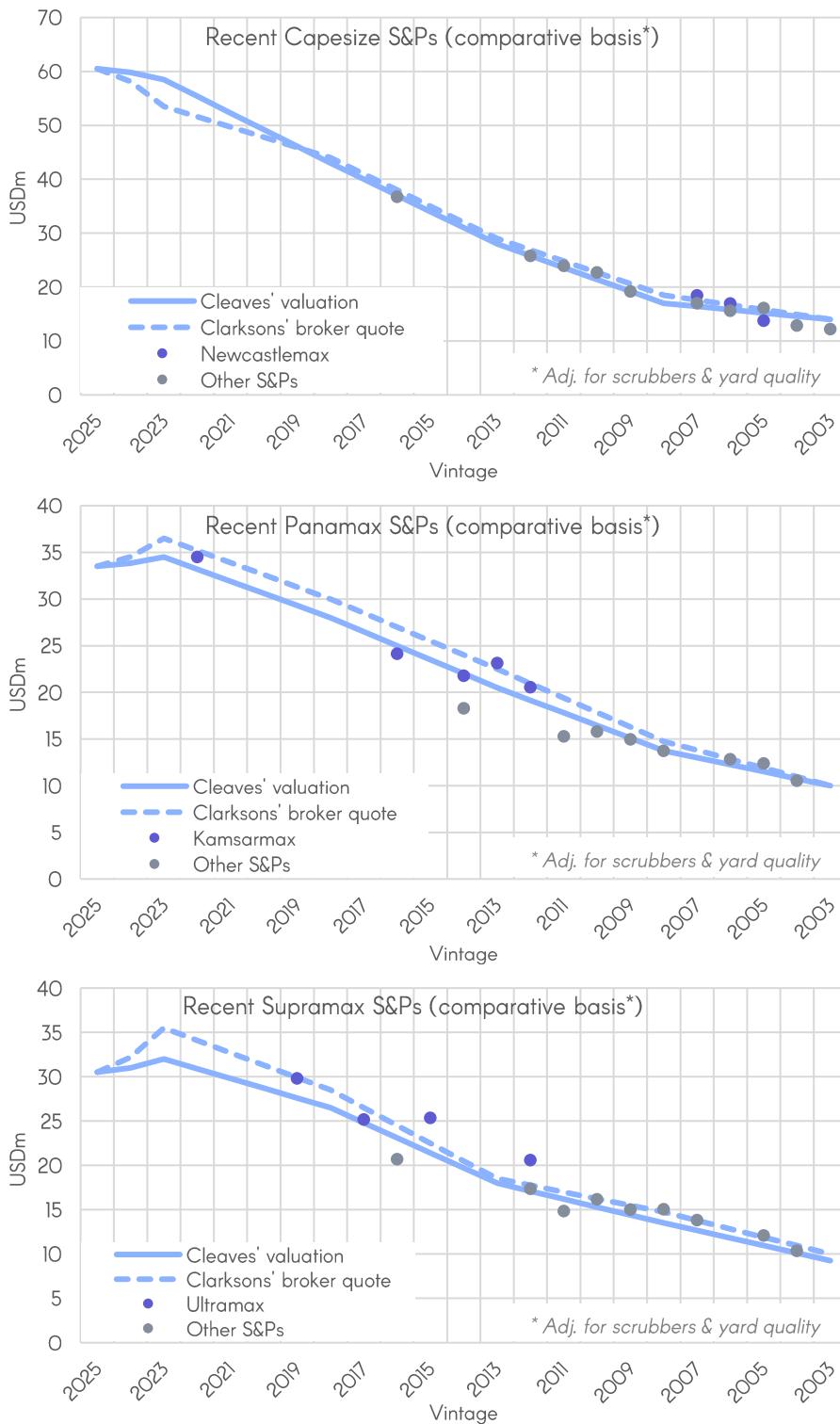


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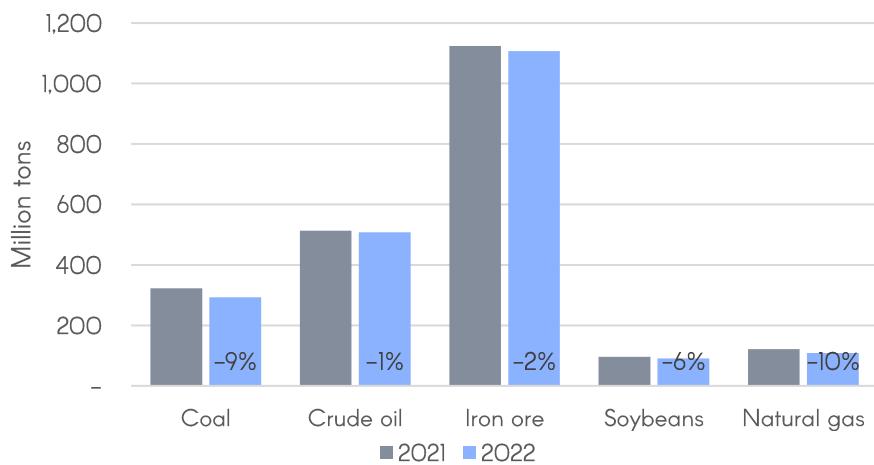
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Supporting graphs:



Chinese commodity imports saw a mixed picture in December, with most major commodities falling back for the full year vs 2021. Iron ore imports came in at 90.9mt (-8% m/m, +6% y/y, -2% YTD), coal imports at 30.9mt (-4% m/m, -0% y/y, -9% YTD), and soybeans at 10.6mt (+43% m/m, +20% y/y, -6% YTD). Crude oil imports amounted to 48.1mt (+3% m/m, +4% y/y, -1% YTD) while natural gas imports were 10.3mt (-0% m/m, -12% y/y, -10% YTD).

	December 2022	November 2022	October 2022	September 2022	August 2022				
	Import volumes (million tons)					m/m %	y/y %	MT	YTD y/y %
Coal	30.9	32.3	29.2	33.0	29.5	-4%	0%	293.2	-9%
Crude oil	48.1	46.7	43.1	40.2	40.4	3%	4%	508.3	-1%
Refined oil products	3.3	3.1	2.5	2.3	1.9	6%	49%	26.5	-3%
Iron ore	90.9	98.9	95.0	99.7	96.2	-8%	6%	1,106.9	-2%
Steel products	0.7	0.8	0.8	0.9	0.9	-13%	-30%	10.6	-26%
Soybeans	10.6	7.4	4.1	7.7	7.2	43%	20%	91.1	-6%
Copper	0.5	0.5	0.4	0.5	0.5	0%	-15%	5.9	6%
Copper ore & concentrate	2.1	2.4	1.9	2.3	2.3	-13%	2%	25.3	8%
Natural gas	10.3	10.3	7.6	10.2	8.9	0%	-12%	109.3	-10%





From the shipbrokers at our S&P/project desk

The tanker freight markets have continued to ease off, but this does not seem to deter potential buyers. After all, crude tanker earning of between USD 50–70k/d depending on size/type are not at all bad. Hence the tanker S&P market have come out of the holidays at pace, or how else can we describe the sales list after the first week of January: 3 x VLCCs, 2 x Suezmaxes, 2 x Aframaxes, a bloc of 4 x Panamax LRIs, and one MR – total sales value of nearly USD 450 mill. Product tanker rates are also tumbling, as trade is hampered by the looming EU ban on Russian oil products import coming into effect on 5th February. Crude export from Russia has been reduced after the EU import ban and EU/G20 price cap on export to outside countries, but the latter trade is continuing also with the participation of western (notably Greek) ship owners – which by the way is not sanctioned provided the price cap is observed. Some notable sales are that of Chandris' scrubber fitted VLCC M/T Ellinis built 2007 for USD 57 mill to German buyers, and Cosco's older M/T Cosgreat Lake built 2002 NACKS for USD 39 mill to Middle East. Not to mention (again) Westport Tankers' sale of M/T Mike R 146,000 dwt built 2006, Ice 1A and scrubber fitted, for a reported USD 49 mill basis prompt delivery. Remind you, she was previously reported sold in early December for USD 45 mill, but this did not come to conclusion – already then a staggering price when knowing that the sellers themselves purchase the ship only in August 2022 for USD 31 million!

Comparatively less excitement in the dry bulk market, where earnings have continued to drop off. The Supramax index fell below USD 10,000 pd for the first time since late 2020, but the sharpest fall was as usual in the Capesize segment, after its surge in late December. Nevertheless, we have already recorded five Capesizes sold since the holidays, two vessels admittedly "internal" between related companies, but also two 2012/2011 built sisters to Greek buyers at prices region USD 27 / 25 mill respectively.

As always in the dry bulk market, China holds a pivotal position, and much will hinge on the effects of the opening up policy after the devastating Covid-restrictions that curtailed the Chinese economy over the last few years. Perhaps not immediately, but there is no doubt that this will be a real boost for the dry bulk trade some time ahead. Additionally, it has now emerged that China is lifting its unofficial two years long ban on imports of coal from Australia, by allowing three utility companies and one steel maker to again purchase Australian coal. The question is whether this is good news or bad news for shipping; revitalizing the key Australia-China coal trade is of course positive, but the flip side is that Australian exporters have meantime found new customers farther away (mainly Europe) and a shift back to China may reduce sailing distances. Same goes for Chinese importers who have also instead sourced their coal from Indonesia, South Africa and even further afar. Still, more accessible imports of higher quality coal will likely also replace the most ineffective and environmentally unfriendly domestic mining, so on balance we think that free trade will be positive for any economic activity.

Last update: 09/01/2023

Comment by

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Deal of the week

M/T Ice Transporter 146,000 dwt blt 2006 Universal, Ice 1A, sold for USD 47.5 mill.

Dry bulk S&P sentiment



Oil tanker S&P sentiment





Our Universe at a Glance

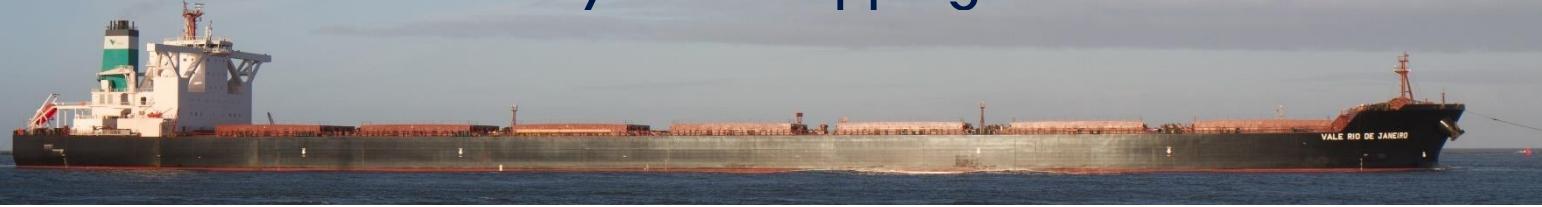
Updated 16 Jan 17:56 CET			Return			Rec.	Target Price	Last Price	Target/Price	P/NAV			EV/GAV	adj. equity	EV/EBITDA			Dividend yield		
Company	Sector	ly	Now	ly fwd	€					2021	2022	2023			2021	2022	2023			
DHT US	Oil	58%	BUY	12.0	8.7	38%	1.09	0.68	1.24	1.07	72%	0.3	6.6	3.0	34%	2%	26%			
EURN US	Oil	63%	BUY	33.0	15.0	120%	1.08	0.63	1.60	1.10	54%	0.1	8.2	3.0	35%	1%	9%			
FRO US	Oil	89%	BUY	23.0	14.1	63%	1.18	0.60	1.74	1.09	49%	0.4	7.2	3.1	35%	3%	19%			
INSW US	Oil	159%	BUY	65.0	38.0	71%	0.82	0.56	1.27	0.88	66%	0.1	4.3	2.3	37%	2%	16%			
NAT US	Oil	89%	BUY	4.0	3.1	27%	1.28	0.60	1.70	1.17	51%	0.3	5.2	1.5	60%	3%	31%			
OET NO	Oil	138%	BUY	288.0	171.8	68%	1.00	0.51	2.18	1.01	42%	0.1	8.1	3.8	45%	4%	30%			
TNK US	Oil	146%	BUY	54.0	29.0	86%	0.92	0.45	1.40	0.95	58%	0.3	3.4	1.2	58%	0%	17%			
Average, Oil Tankers			106%			68%			1.05			1.59			1.04			56%		
2020 NO	Dry	5%	BUY	144	101	42%	0.94	0.84	1.77	0.97	53%	0.4	8.2	5.3	59%	16%	24%			
DSX US	Dry	7%	BUY	4.6	3.7	26%	0.87	0.92	2.62	0.95	32%	0.1	5.4	4.6	67%	23%	10%			
EGLE US	Dry	33%	BUY	60.0	51.2	17%	0.84	0.85	1.00	0.72	74%	0.1	2.5	4.6	30%	15%	5%			
GNK US	Dry	14%	BUY	28.0	16.1	74%	0.76	0.70	1.03	0.77	81%	0.3	3.5	3.2	48%	17%	13%			
GOGL US	Dry	20%	BUY	14.0	9.1	55%	0.95	0.94	1.63	0.97	54%	0.4	5.2	5.6	47%	26%	9%			
HSHIP NO	Dry	9%	BUY	96.0	53.4	80%	1.05	1.17	5.72	1.01	17%	0.6	13.5			99%				
SBLK US	Dry	20%	BUY	31.0	20.8	49%	0.94	0.94	1.37	0.96	60%	0.1	3.9	3.9	47%	31%	9%			
Average, Dry Bulk			16%			49%			0.91			2.16			0.91			53%		
ALNG NO	LNG	48%	HOLD	6.4	7.7	-17%	1.39	1.07	3.46	1.11	26%	0.1	5.5	7.1	19%	7%	6%			
FLNG NO	LNG	61%	HOLD	361	314	15%	0.95	0.86	1.79	0.99	50%	0.1	11.3	10.6	9%	12%	9%			
Average, LNG Carriers			54%			-1%			1.17			2.63			1.05			38%		
AGAS NO	LPG	69%	SELL	37	55	-33%	0.63	0.71	1.74	0.79	48%	0.1	4.4	6.5	26%	12%	8%			
BWLPG NO	LPG	64%	HOLD	67	72	-8%	0.67	0.61	1.13	0.76	67%	0.1	2.4	2.6	33%	12%	12%			
LPG US	LPG	73%	SELL	10.0	17.8	-44%	0.78	0.79	1.51	0.86	56%	0.0	5.4	7.2	22%	31%	7%			
Average, LPG Carriers			68%			-28%			0.69			0.71			0.81			57%		
Average of all segments			61%			22%			0.96			0.73			0.95			51%		
																		0.2		
																		5.8		
																		5.7		
																		18%		
																		9%		
																		12%		
																		12%		

Indicative Quarterly Reporting Schedule

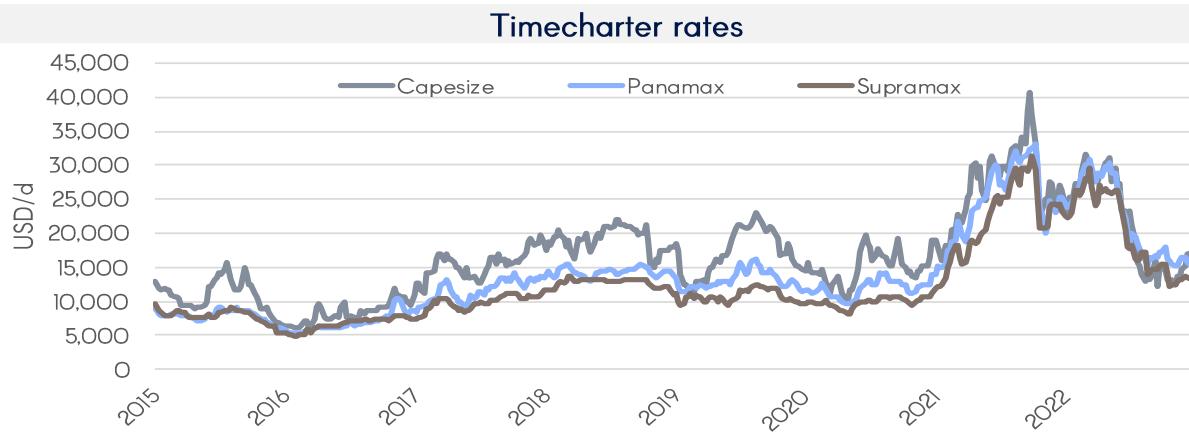
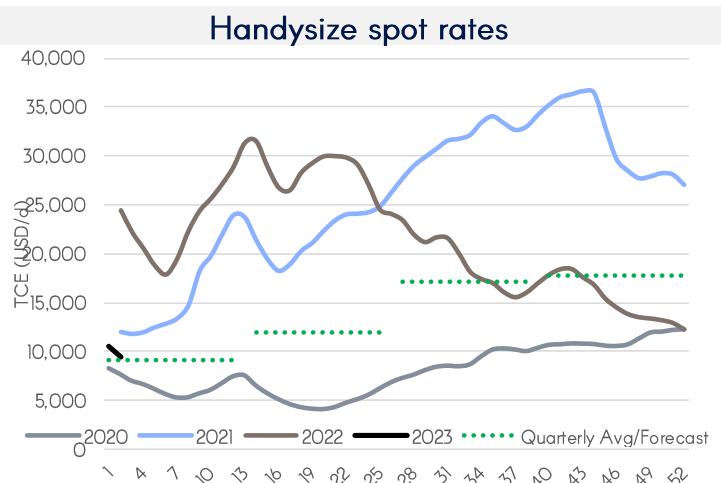
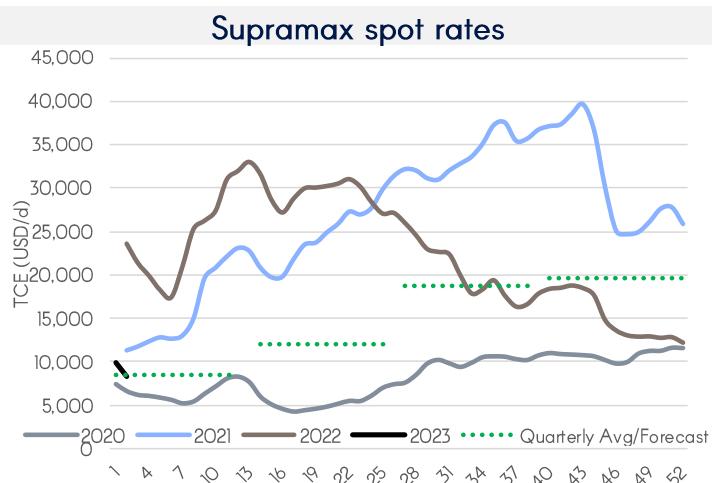
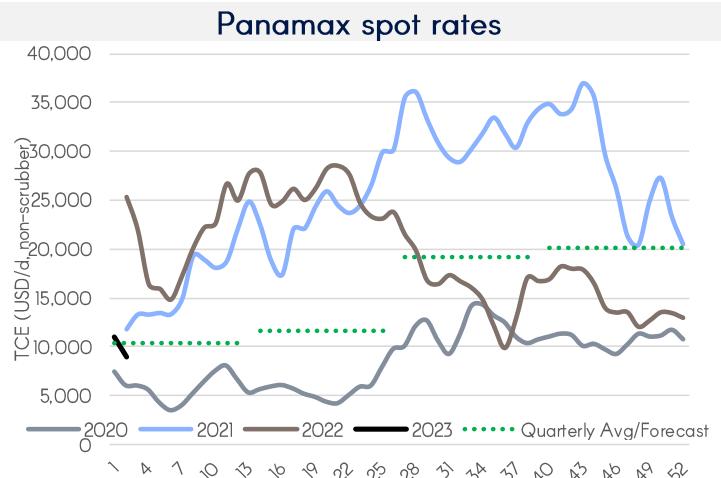
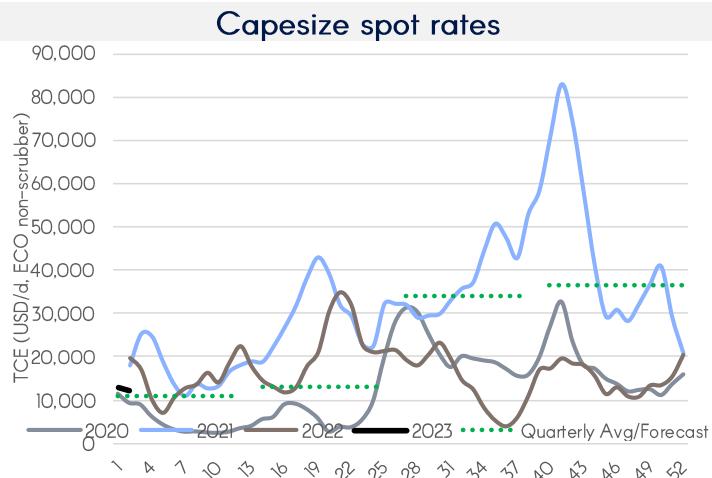
Company	Indicative* Reporting Schedule	Sector	TCE Revenue			Cleaves	EBITDA			Cleaves	Net Profit			Cleaves	vs Cons.		
			Cleaves	Consensus	Last year		Cleaves	Consensus	Last year		Cleaves	Consensus	Last year		Cleaves	Consensus	Last year
EURN US	02-Feb/23	Oil	298	82	n.a.	229	29	n.a.	229	n.a.	129	73	n.a.	n.a.	n.a.	n.a.	n.a.
LPG US	03-Feb/23	LPG	76	99	n.a.	47	63	n.a.	47	n.a.	22	44	n.a.	n.a.	n.a.	n.a.	n.a.
DHT US	07-Feb/23	Oil	117	54	n.a.	95	32	n.a.	95	n.a.	60	-3	n.a.	n.a.	n.a.	n.a.	n.a.
2020 NO	08-Feb/23	Dry	17	19	37	-9%	12	14	31	-15%	7	8	26	-2	-2	-2	-2
HSHIP NO	13-Feb/23	Dry	0	n.a.	n.a.	n.a.	-1	-1	—	-50%	-1	-1	—	1	1	1	1
FLNG NO	14-Feb/23	LNG	95	114	n.a.	77	96	n.a.	77	n.a.	48	69	n.a.	n.a.	n.a.	n.a.	n.a.
SBLK US	16-Feb/23	Dry	239	229	428	5%	158	142	353	11%	105	91	300	14	14	14	14
ALNG NO	16-Feb/23	LNG	22	14	n.a.	19	11	n.a.	19	n.a.	18	6	n.a.	n.a.	n.a.	n.a.	n.a.
GNK US	24-Feb/23	Dry	81	80	147	2%	48	47	108	1%	28	29	91	-1	-1	-1	-1
TNK US	24-Feb/23	Oil	203	64	n.a.	143	5	n.a.	143	n.a.	100	-40	n.a.	n.a.	n.a.	n.a.	n.a.
OET NO	24-Feb/23	Oil	84	24	n.a.	71	24	n.a.	71	n.a.	52	5	n.a.	n.a.	n.a.	n.a.	n.a.
DSX US	24-Feb/23	Dry	71	68	68	4%	41	42	41	-1%	20	19	41	1	1	1	1
NAT US	28-Feb/23	Oil	83	n.a.	n.a.	65	2	n.a.	65	n.a.	46	-21	n.a.	n.a.	n.a.	n.a.	n.a.
AGAS NO	28-Feb/23	LPG	54	55	33	-2%	43	44	22	-2%	28	29	7	-1	-1	-1	-1
FRO US	28-Feb/23	Oil	358	101	n.a.	306	58	n.a.	306	n.a.	231	20	n.a.	n.a.	n.a.	n.a.	n.a.
GOGL US	28-Feb/23	Dry	171	161	313	7%	102	90	271	13%	53	43	204	10	10	10	10
BWLPG NO	28-Feb/23	LPG	210	188	117	12%	175	153	113	14%	130	101	62	29	29	29	29
INSW US	02-Mar/23	Oil	307	93	n.a.	232	10	n.a.	232	n.a.	184	-34	n.a.	n.a.	n.a.	n.a.	n.a.
EGLE US	03-Mar/23	Dry	112	130	161	-13%	65	65	108	0%	57	47	87	10	10	10	10

* Extracted from Bloomberg. Not always up-to-date. Please see company websites to validate actual reporting dates

Dry Bulk Shipping



Earnings





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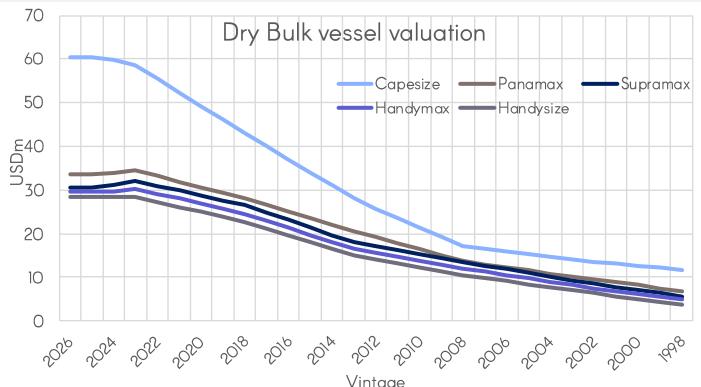
$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Asset Valuation

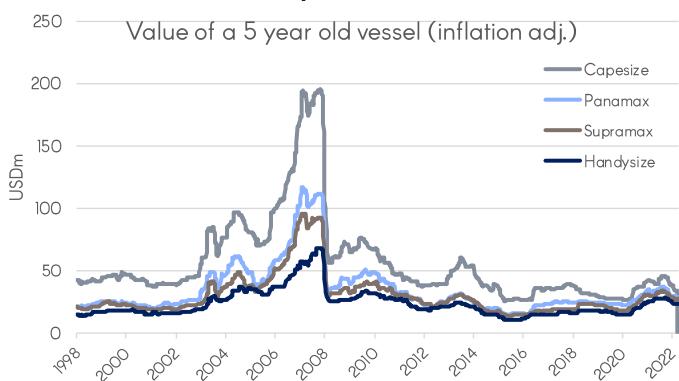
Asset valuation overview

Summary	Capesize	Panamax	Supramax	Handymax	Handysize
NB	60.5	33.5	30.5	29.5	28.5
resale	58.5	34.5	32.0	30.3	28.5
5y	43.0	28.0	26.5	24.5	22.5
10y	28.0	20.5	18.0	16.5	15.0
15y	17.0	13.8	13.5	12.0	10.5
20y	14.0	10.0	9.3	8.1	7.0
scrap	11.7	6.9	5.6	4.8	3.6
All prices are excluding scrubbers					
NB parity	21,740	14,268	13,008	12,257	11,527

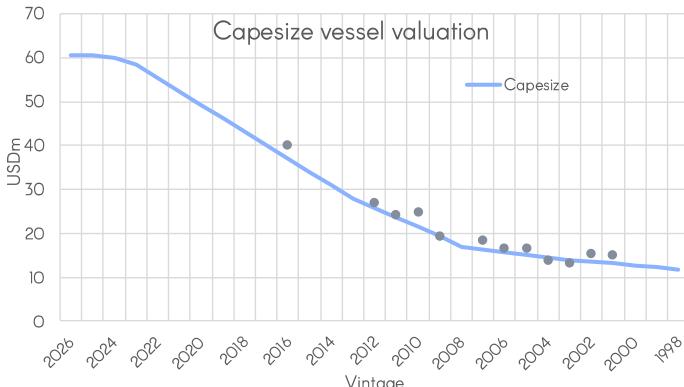
Asset valuation overview



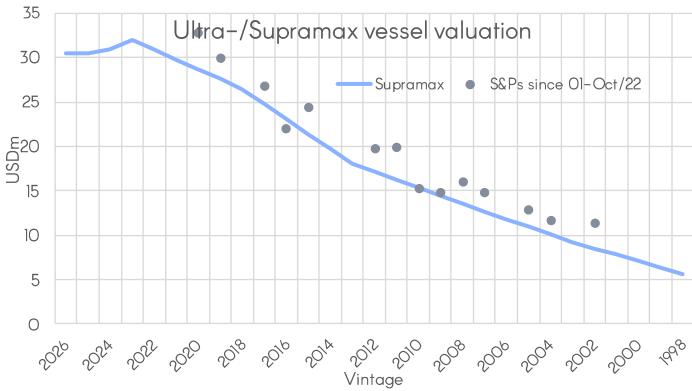
Historical 5y old vessel values



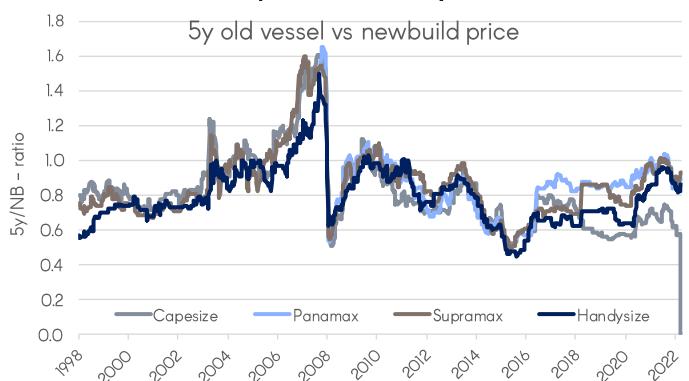
Capesize valuation vs recent S&Ps



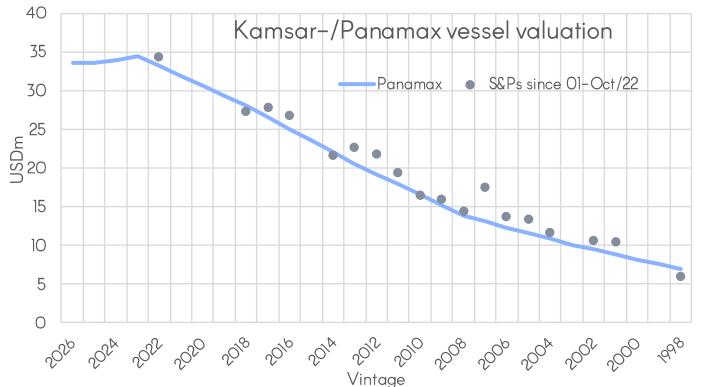
Supra-/Ultramax valuation vs recent S&Ps



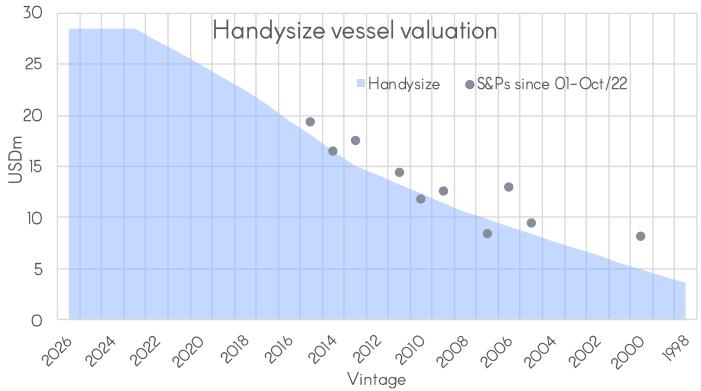
Historical price ratio, 5y/newbuild



Pana-/Kamsarmax valuation vs recent S&Ps



Handysize valuation vs recent S&Ps





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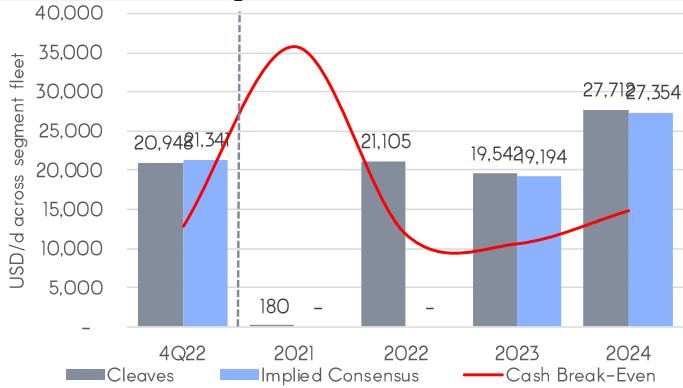
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Peer Group

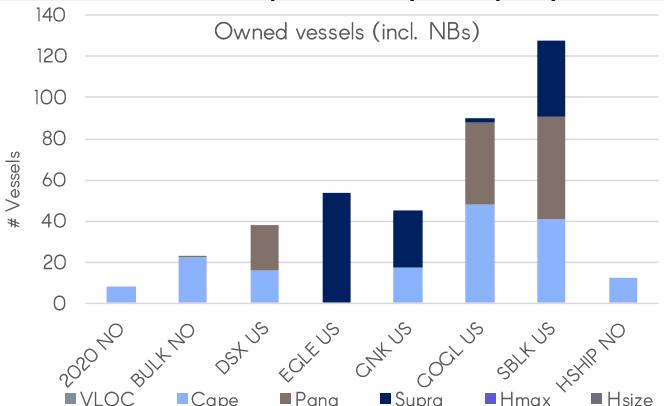
Updated 9 Jan 17:53 CET				Return				Target	Last	Target/	NAV	P/NAV	EV/GAV	adj.	
Company	M.cap	Turnover	ly	Rec.	Price	Price	Price	/sh	Now	ly fwd	ϵ		equity	τ	
2020 NO	213	1.4	-5%	BUY	179	95	89%	125	0.76	0.61	1.68	0.86	56%	1.00	
DSX US	379	2.7	13%	BUY	5.7	3.8	48%	6.6	0.58	0.57	2.10	0.86	41%	0.73	
EGLE US	696	12.0	29%	BUY	71.0	50.9	40%	69.0	0.74	0.74	0.95	0.63	81%	0.73	
GNK US	663	13.7	14%	BUY	28	16	79%	24.2	0.65	0.59	1.02	0.67	85%	0.99	
GOGL US	1,732	20.4	8%	BUY	16.0	8.6	86%	10.3	0.84	0.71	1.60	0.91	54%	0.85	
SBLK US	2,076	41.7	15%	BUY	34.0	20.2	68%	25.3	0.80	0.73	1.32	0.86	63%	0.89	
HSHIP NO	166	8.9	5%	BUY	96	51	89%	73	0.70	0.68	4.20	0.93	24%	1.00	
Average	847		11%				71%		0.72	0.66	1.84	0.82	58%	0.89	
Median	663		13%				79%		0.74	0.68	1.60	0.86	56%	0.89	

Company	EV/EBITDA				P/E				Dividend yield				FCF yield			
	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024	2021	2022	2023	2024
2020 NO	0.4	8.2	5.3	4.0	2.5	7.3	3.9	2.8	59%	16%	24%	33%	75%	17%	30%	41%
DSX US	0.1	5.4	4.6	3.6	1.7	3.6	4.5	3.6	67%	23%	10%	13%	60%	-63%	36%	43%
EGLE US	0.1	2.5	4.6	3.3	2.1	2.6	8.0	6.2	30%	15%	5%	5%	88%	40%	15%	24%
GNK US	0.3	3.5	3.2	2.5	1.5	4.4	4.8	3.8	48%	17%	13%	23%	92%	20%	28%	33%
GOGL US	0.4	5.2	5.6	4.3	2.8	4.7	5.7	4.0	47%	26%	9%	24%	77%	29%	14%	28%
SBLK US	0.1	3.9	3.9	3.1	1.6	3.4	4.4	3.5	47%	31%	9%	28%	81%	36%	30%	35%
HSHIP NO	0.6		13.5	6.2	3.7		5.4	2.1	99%	0%	8%	32%	41%	-79%	-180%	-116%
Average	0.3	4.8	5.8	3.9	2.3	4.3	5.2	3.7	57%	18%	11%	23%	73%	0%	-4%	12%
Median	0.3	4.5	4.6	3.6	2.1	4.0	4.8	3.6	48%	17%	9%	24%	77%	20%	28%	33%

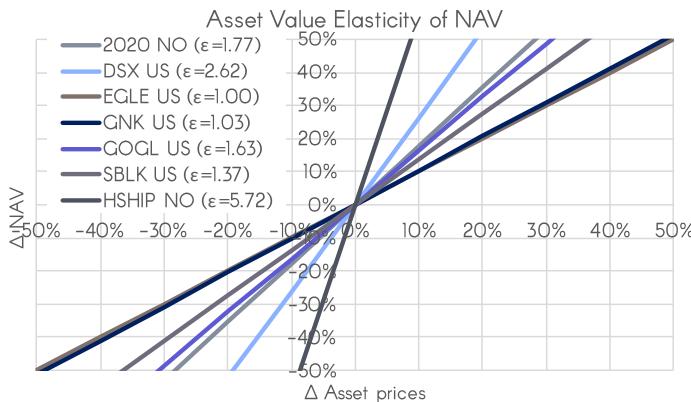
Cleaves' average TCE/d forecast vs consensus



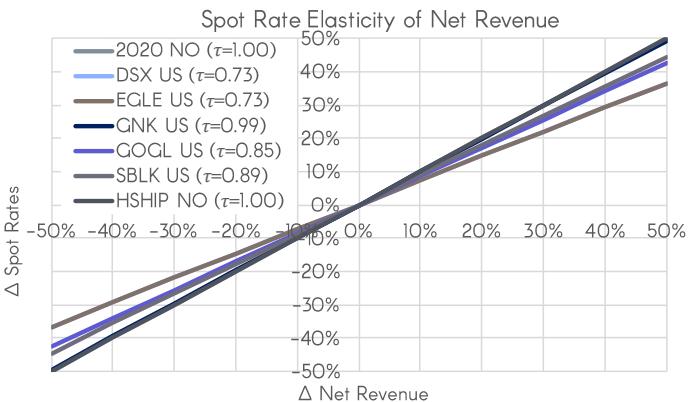
Fleet composition by company



Financial leverage (ϵ)



Operational leverage (τ)



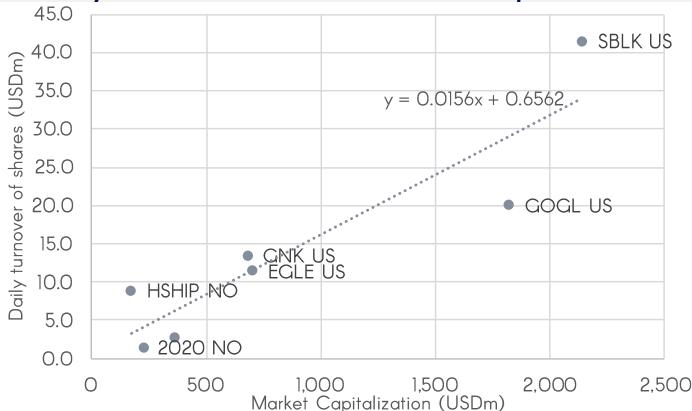


Cleaves Securities

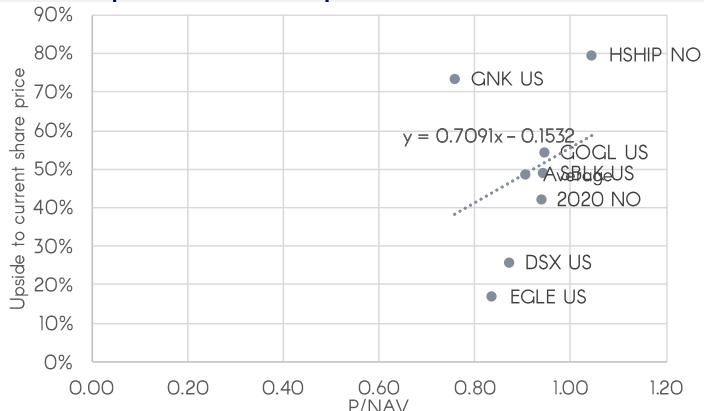
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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

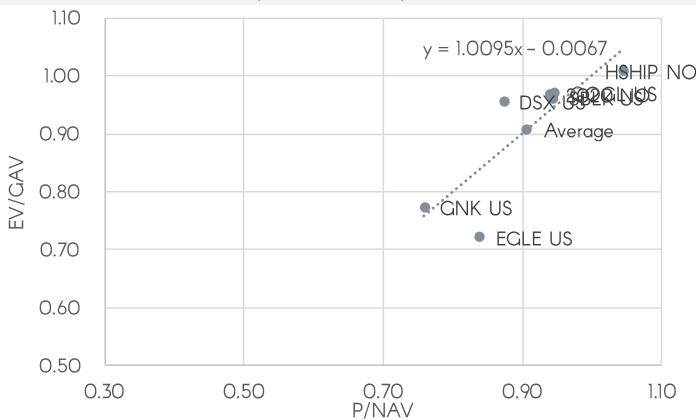
Daily share turnover vs market capitalization



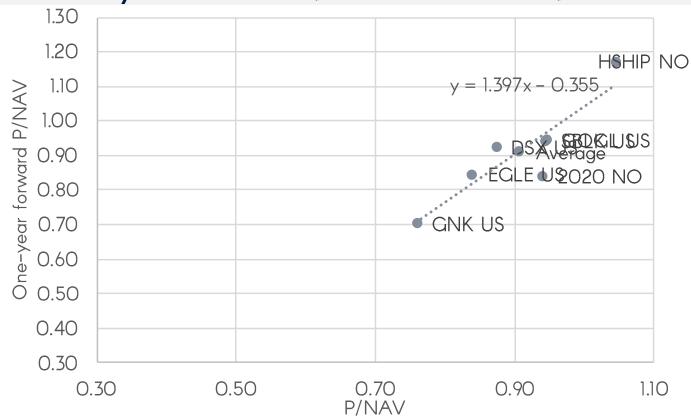
Upside to share price current P/NAV



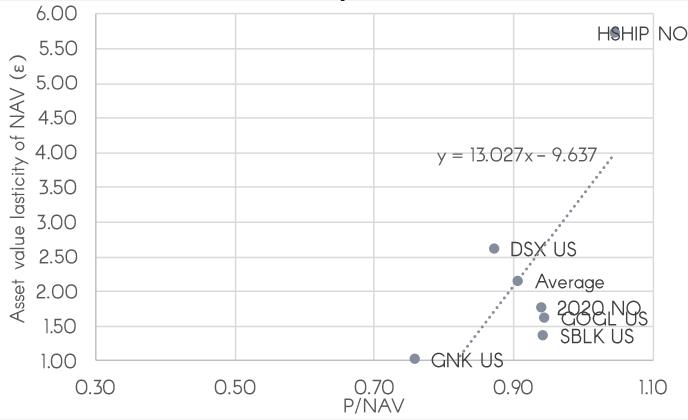
EV/GAV vs P/NAV



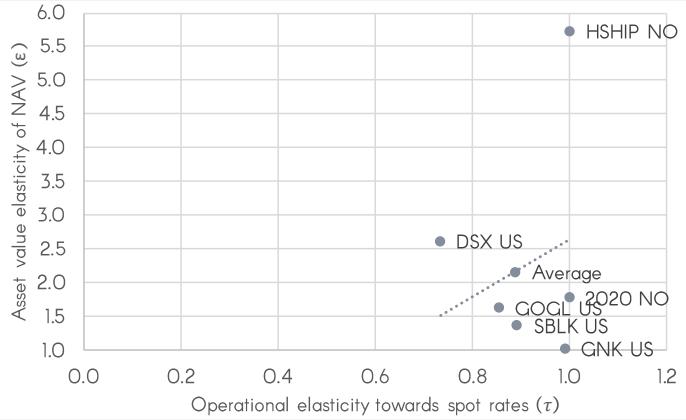
One-year forward P/NAV vs current P/NAV



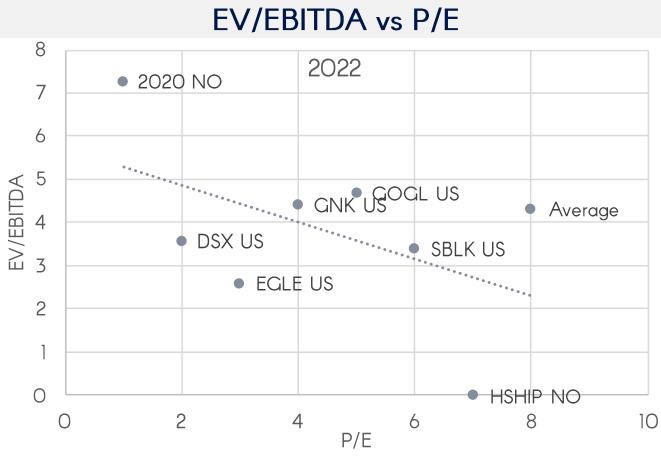
Asset value elasticity of NAV vs P/NAV



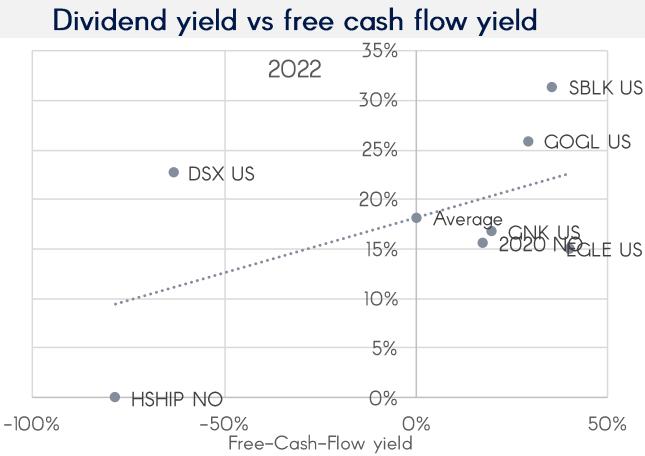
Elasticities: NAV vs net revenue



EV/EBITDA vs P/E



Dividend yield vs free cash flow yield





Generic Shipping Accounting

Current vessel economics (5y old)

Current vessel economics (5y old)			
Profit & Loss (USDm)	Capesize	Panamax	Supramax
Revenue	6.7	5.6	5.3
Opex/G&A	-2.6	-2.4	-2.2
EBITDA	4.1	3.2	3.1
Depreciation	-1.6	-1.1	-1.0
EBIT	2.5	2.2	2.1
Financials (6% pa)	-1.8	-1.2	-1.1
Net profit	0.7	1.0	1.0
Balance (USDm)	Capesize	Panamax	Supramax
Asset (5y)	43.0	28.0	26.5
Equity (30%)	12.9	8.4	8.0
Debt (70%)	30.1	19.6	18.6
Cash Flow (USDm)	Capesize	Panamax	Supramax
Net profit	0.7	1.0	1.0
Depreciation	1.6	1.1	1.0
Operational CF	2.3	2.0	2.0
Docking accruals	-0.3	-0.2	-0.2
Debt repayments	-2.5	-1.6	-1.5
Net Cash Flow	-0.5	0.2	0.3
Key Ratios	Capesize	Panamax	Supramax
EV/EBITDA	10.5	8.7	8.5
EV/EBIT	16.9	13.0	12.8
P/E	17.5	8.6	8.3
ROE	6%	12%	12%
ROCE	6%	8%	8%
FCF yield	16%	22%	23%
Variables	Capesize	Panamax	Supramax
1y TC (USD/d)	18,500	15,500	14,750
Opex (USD/d)	-6,000	-5,500	-5,000
G&A (USD/d)	-1,000	-1,000	-1,000
Docking (USD/d)	-800	-600	-500

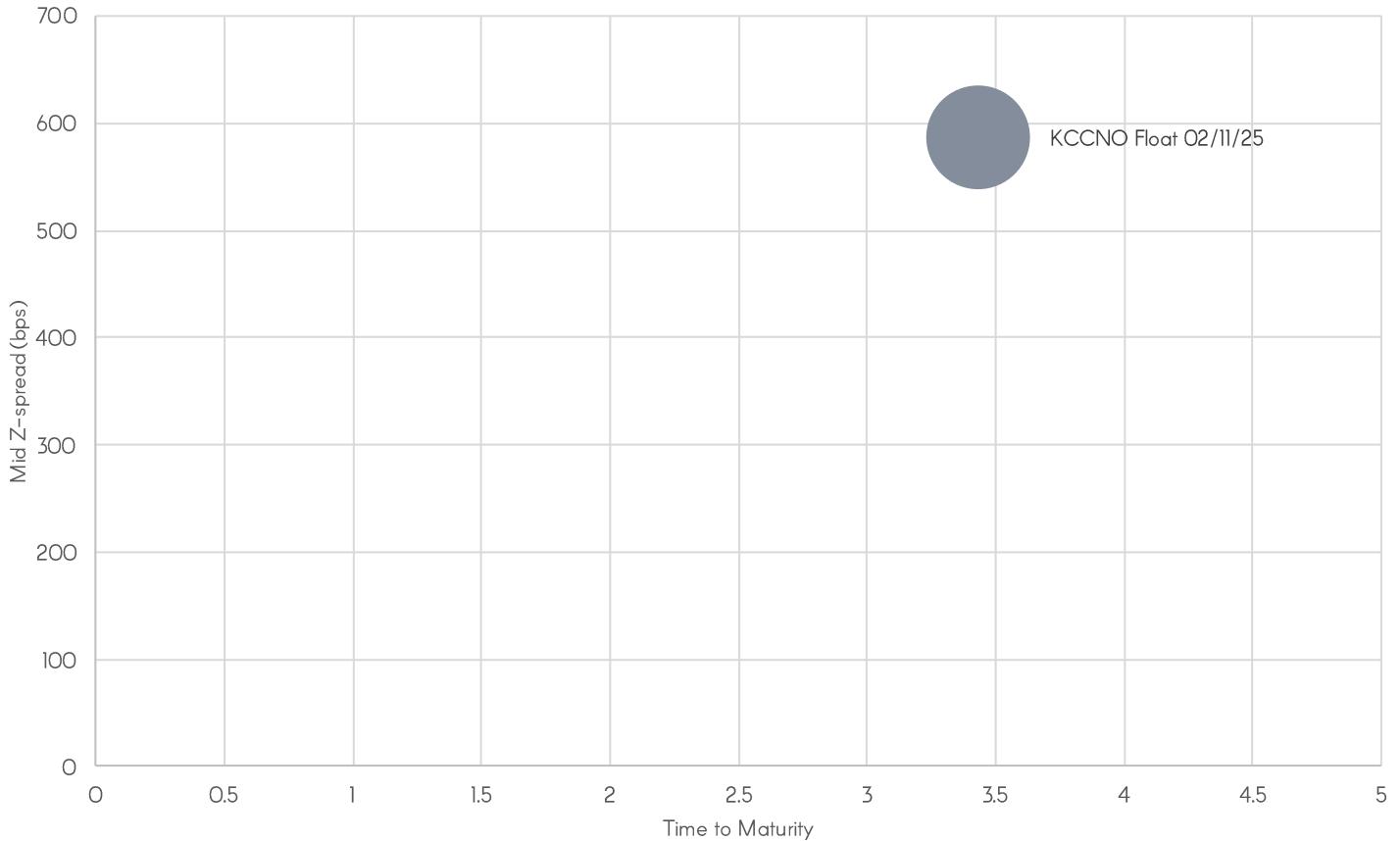
Assumptions: 25 years life, depreciated to scrap, 360 revenue days, 365 opex days, 12 years debt amortization

Cash Break-even (USD/d)	Capesize	Panamax	Supramax
Opex	6,000	5,500	5,000
G&A	1,000	1,000	1,000
Docking	800	600	500
Interest cost	4,948	3,222	3,049
Debt amortization	6,872	4,475	4,235
Cash Break-even	19,620	14,797	13,784
Current 1y TC	18,500	15,500	14,750
NB parity rate	21,740	14,268	13,008



The Credit Market

Dry Bulk bond pricing (by amount outstanding)





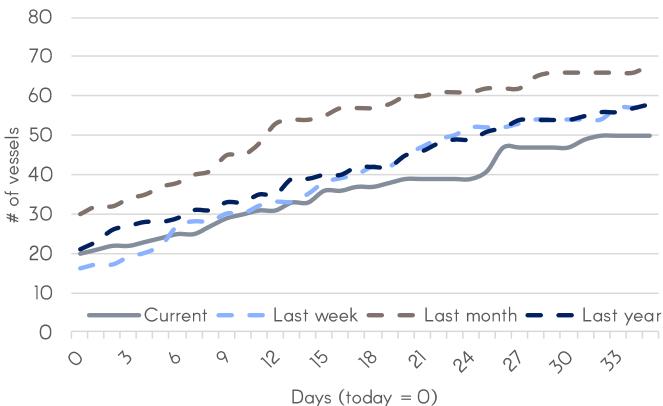
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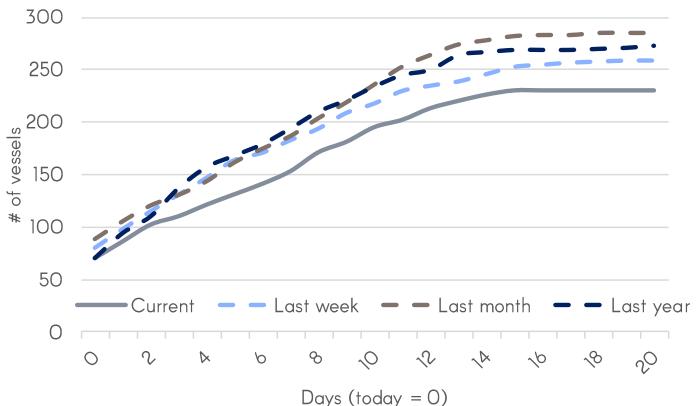
$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Market Snapshots

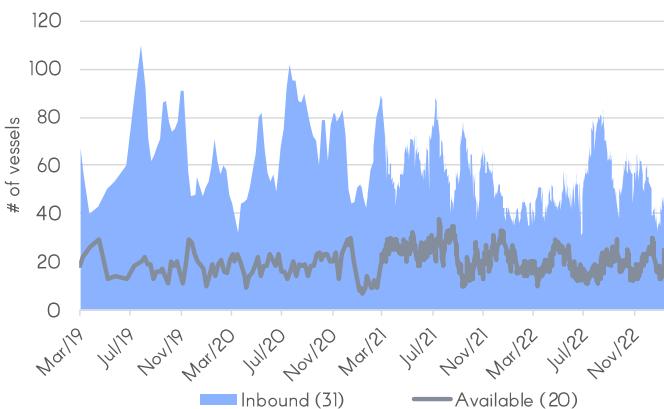
of Capesizes inbound for Brazil



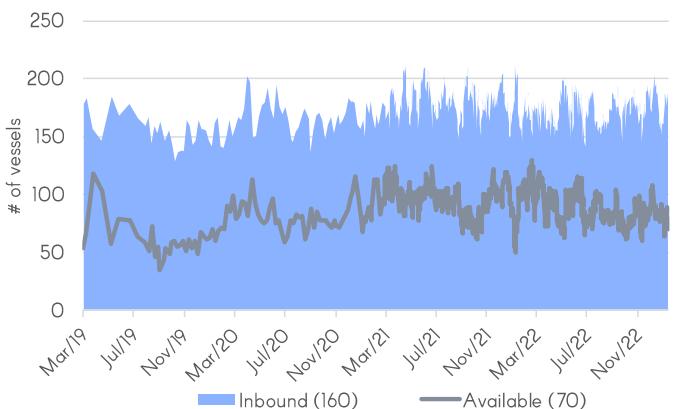
of Capesizes inbound for Australia



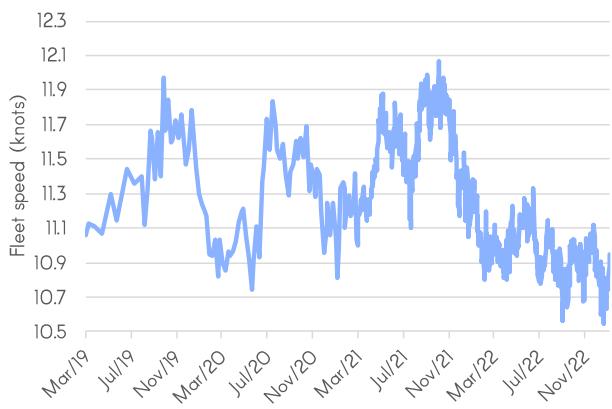
of Capesizes inbound for Brazil



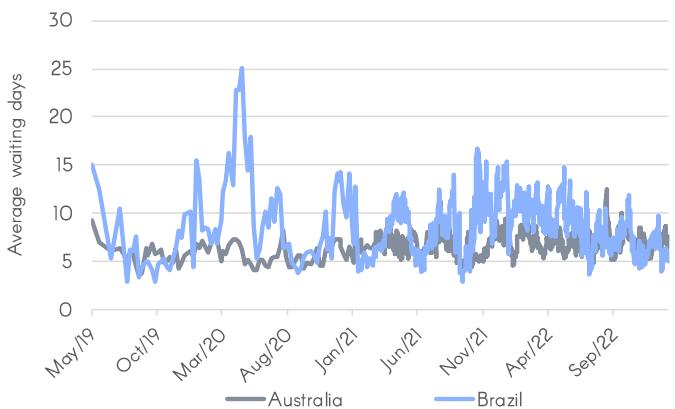
of Capesizes inbound Australia



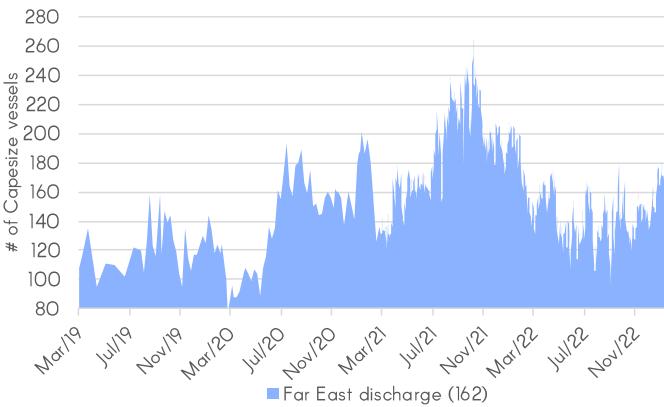
Average vessel speed



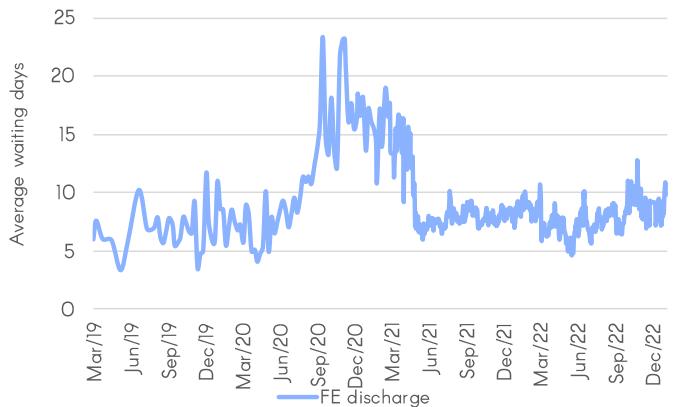
Average waiting days for vessels in loading ports



Vessels in Far Eastern discharge



Average waiting days for FE discharge



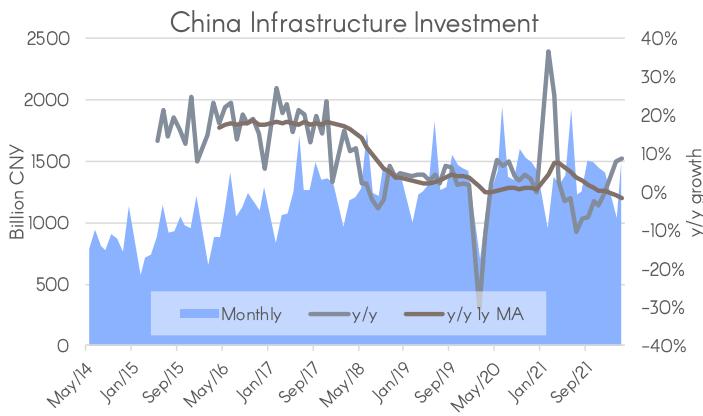


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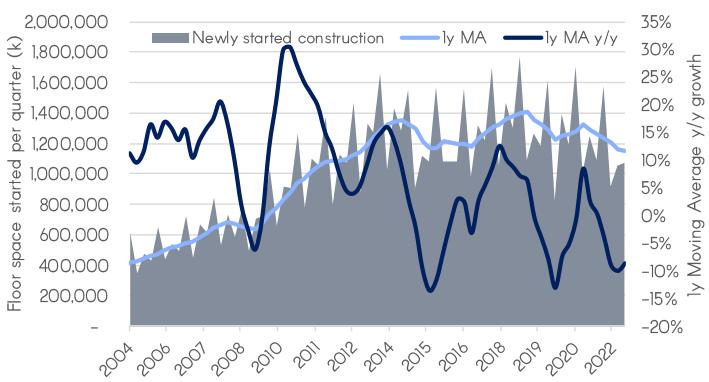
Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

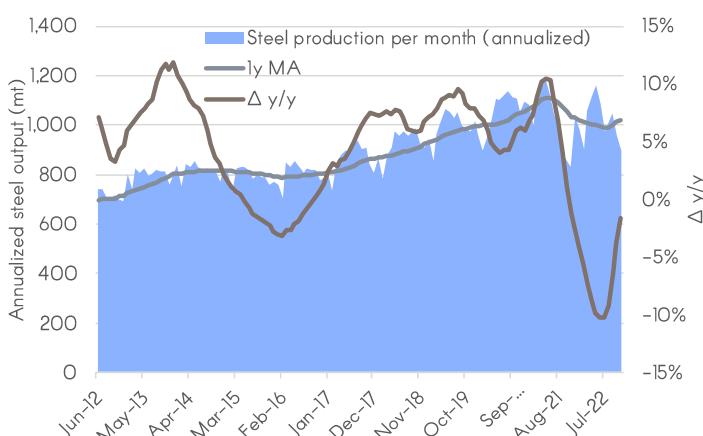
Chinese infrastructure investments



Chinese housing construction



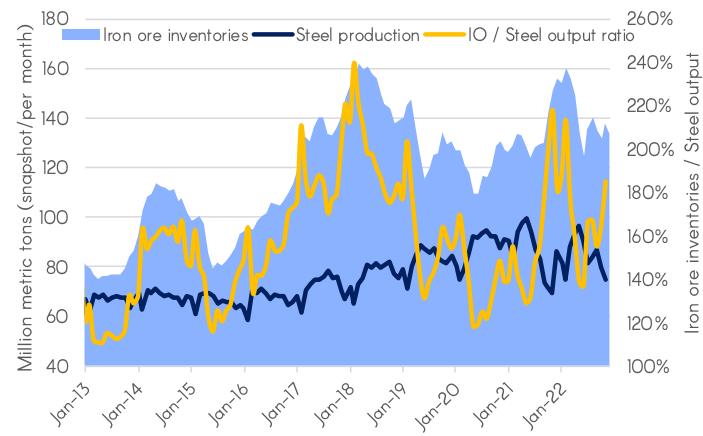
Chinese steel production



Stocks & prices for Chinese steel mills



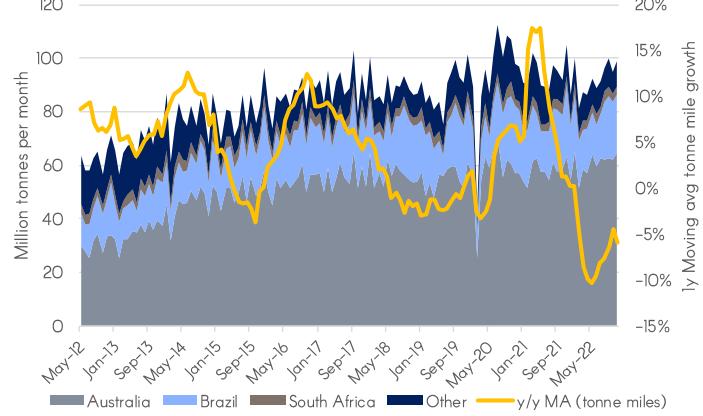
Chinese iron ore stockpiles vs steel production



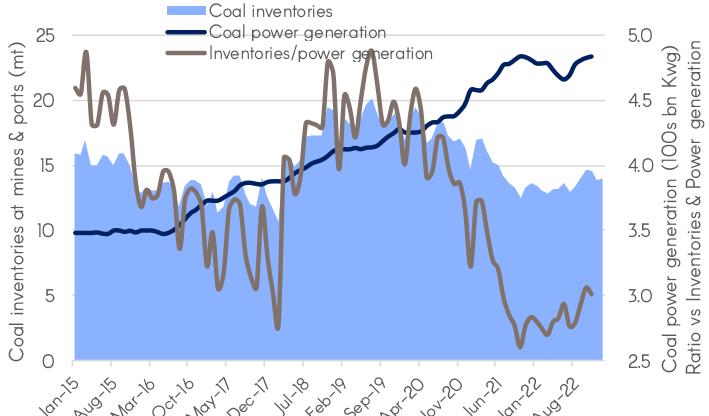
Iron ore prices by FE content



Chinese iron ore imports by source



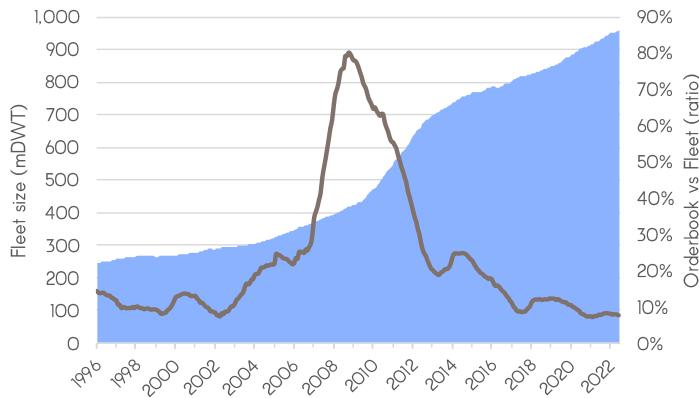
Chinese coal inventories



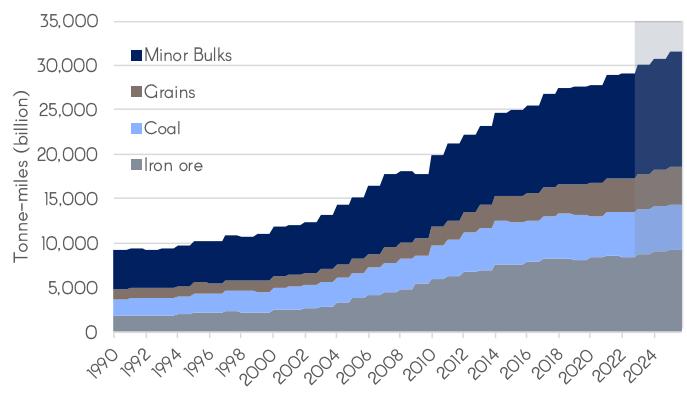


Market Fundamentals

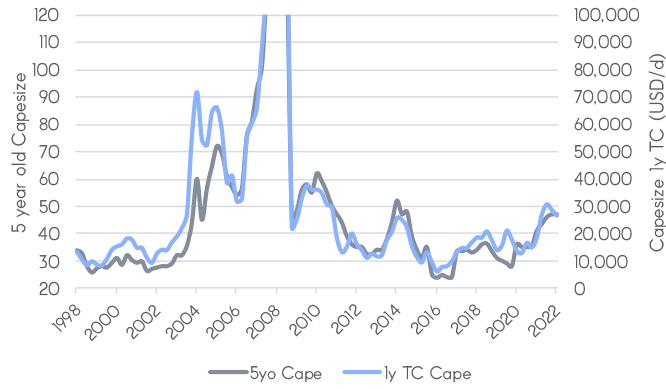
Orderbook vs fleet



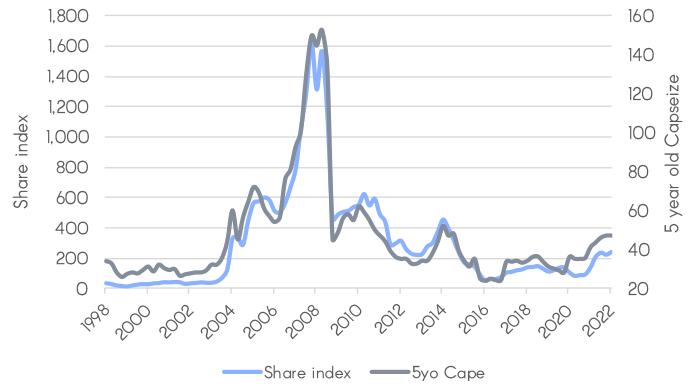
Historical dry bulk shipping demand



5y vessel values highly correlated with 1y TC



Shares highly correlated with 5y vessel values





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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

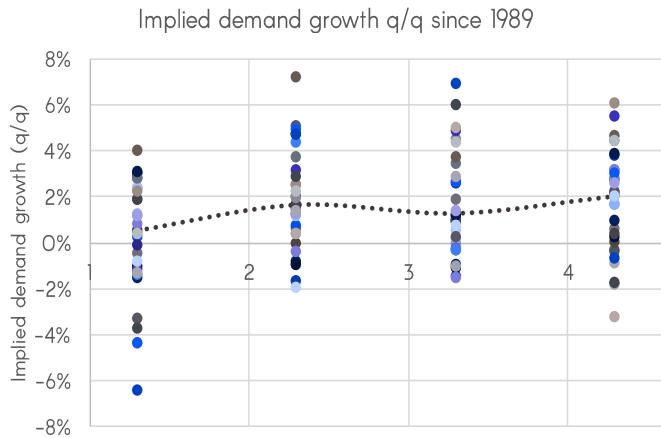
Market Overview

Annual view		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Base case		6,908	2,811	2,762	1,481	823	1,177	1,107	697	650	1,191	1,395	1,386	1,065	2,941	1,728	1,472	2,146	2,796	2,400
Baltic Dry		105,214	42,774	33,406	15,699	7,717	14,578	14,515	8,074	7,421	15,215	16,494	17,915	13,051	33,230	15,259	23,525	29,197	40,398	33,881
Capesize, spot ^a (TCE/d)		48,682	19,332	25,059	14,016	7,701	9,497	7,726	5,534	5,588	10,053	13,009	12,383	9,906	26,948	17,743	15,328	17,276	21,506	19,045
Panamax, spot ^a (TCE/d)		41,290	17,351	22,477	14,409	9,459	10,296	9,819	6,941	6,168	9,365	11,488	9,923	8,180	26,774	19,496	14,700	15,320	17,836	15,790
Supramax, spot ^a (TCE/d)		29,100	11,359	16,437	10,560	7,636	8,190	7,687	5,366	5,222	7,659	10,482	9,274	8,003	25,634	19,346	13,996	14,864	15,988	14,461
Handysize, spot ^a (TCE/d)		128	52	57	43	34	36	47	33	24	32	35	31	28	40	47	43	49	53	49
Capesize, 5y ^a (USDm)		73	32	39	31	22	21	24	17	14	18	21	19	18	26	31	26	28	31	28
Panamax, 5y ^a (USDm)		61	27	32	28	22	21	25	16	13	16	18	17	16	25	30	24	24	26	24
Supramax, 5y ^a (USDm)		44	21	26	23	18	18	20	13	10	14	15	16	15	20	26	23	23	23	22
Quarterly view																				
Base case		2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25
Baltic Dry		2,793	3,641	3,591	2,021	1,651	1,680	1,558	998	1,223	2,496	2,651	1,056	1,860	2,872	2,795	1,423	2,534	4,007	3,221
Capesize, spot ^a (TCE/d)		31,120	40,329	44,344	14,873	17,789	13,898	14,478	10,789	12,891	33,935	36,484	11,255	24,497	41,154	39,882	17,786	36,085	60,333	47,389
Panamax, spot ^a (TCE/d)		26,052	33,565	29,682	22,853	13,898	17,433	16,787	10,325	11,629	19,198	20,160	10,501	15,501	21,791	21,311	12,967	19,877	29,033	24,146
Supramax, spot ^a (TCE/d)		25,538	34,043	30,881	24,676	17,433	20,038	15,835	8,543	11,958	18,749	19,549	9,689	13,845	19,073	18,674	10,739	16,482	24,093	20,030
Handysize, spot ^a (TCE/d)		22,507	31,817	31,601	23,580	19,036	18,922	15,846	9,053	11,982	17,177	17,773	10,662	13,764	17,665	17,367	10,692	14,977	20,656	17,625
Capesize, 5y ^a (USDm)		38	45	45	49	50	47	44	42	43	44	45	45	47	49	53	55	54	53	51
Panamax, 5y ^a (USDm)		26	29	29	31	35	30	29	26	26	26	27	27	27	29	31	31	31	29	29
Supramax, 5y ^a (USDm)		23	29	29	31	33	29	29	25	24	24	24	24	24	26	26	26	26	26	24
Handysize, 5y ^a (USDm)		20	23	23	27	27	26	25	23	22	22	23	22	23	23	24	24	24	23	22

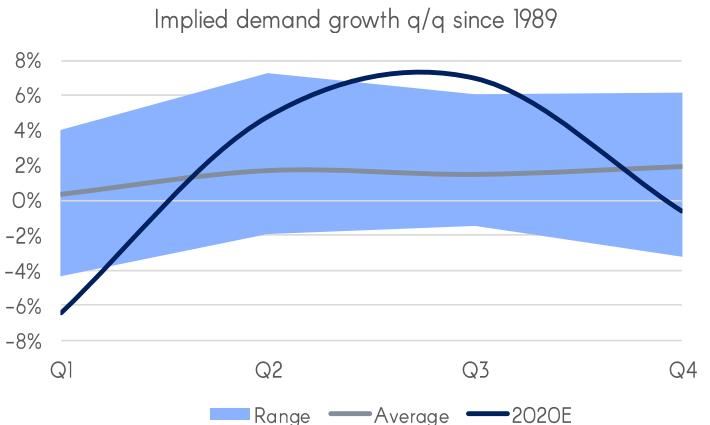


Seasonality

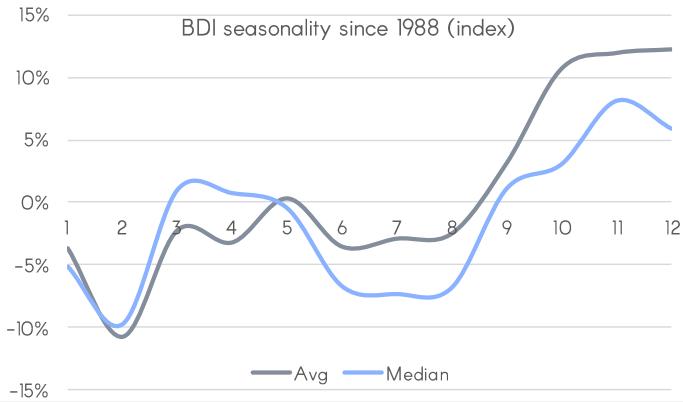
Historically strongest demand growth in 2Q/4Q



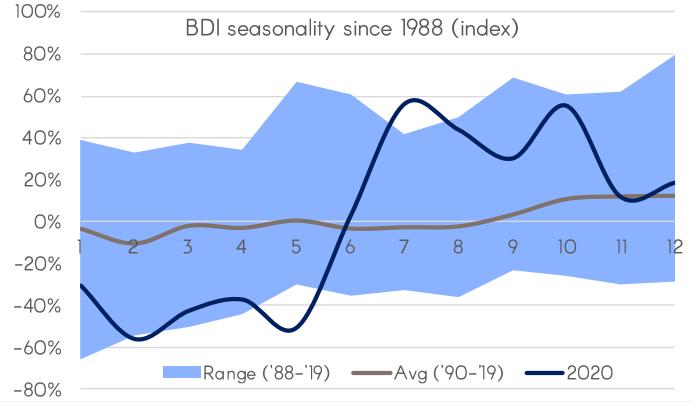
Historical demand growth



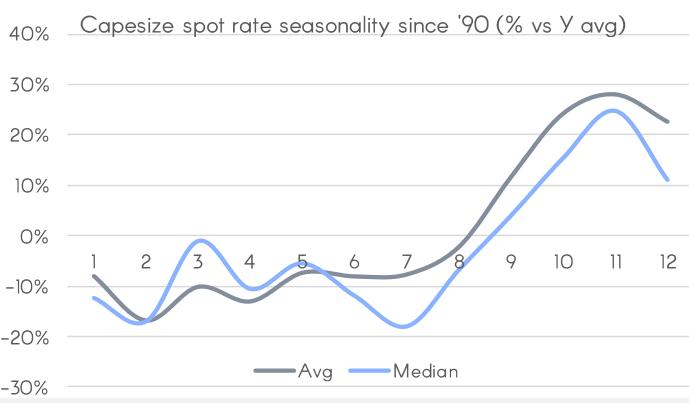
Historical Baltic Dry Index seasonality



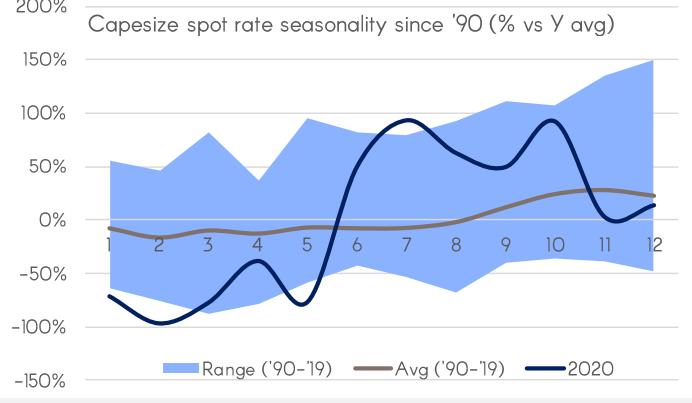
Historical Baltic Dry Index seasonality



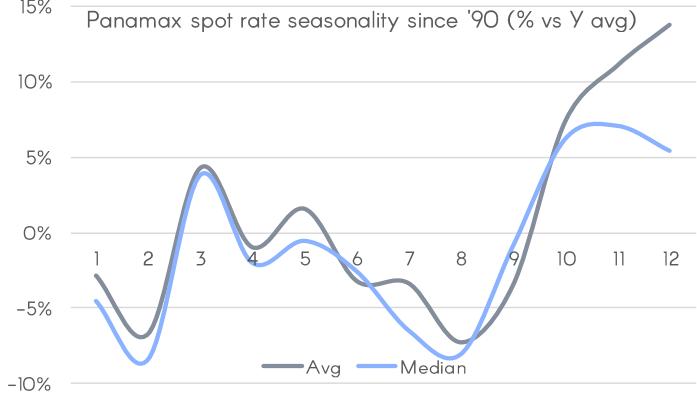
Historical Capesize spot rate seasonality



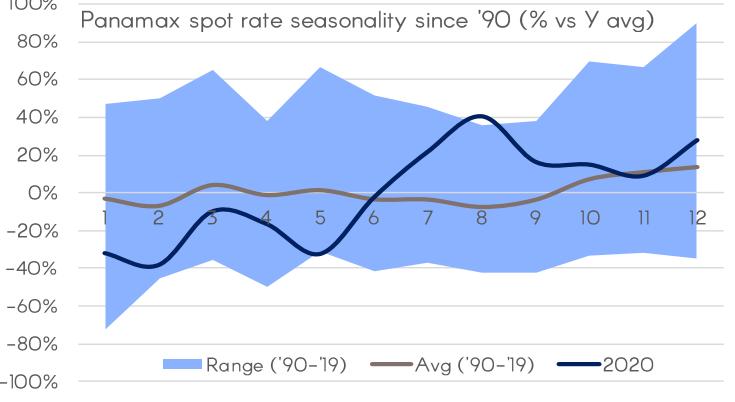
Historical Capesize spot rate seasonality



Historical Panamax spot rate seasonality



Historical Panamax spot rate seasonality



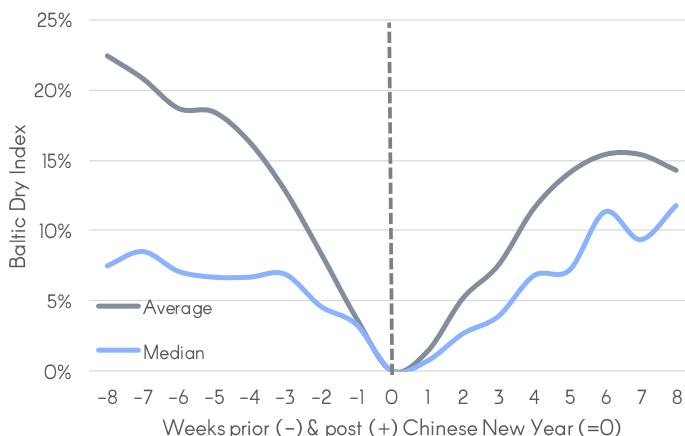


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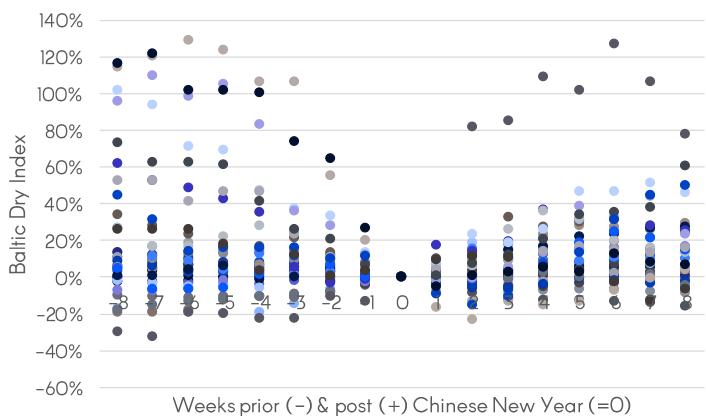
Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

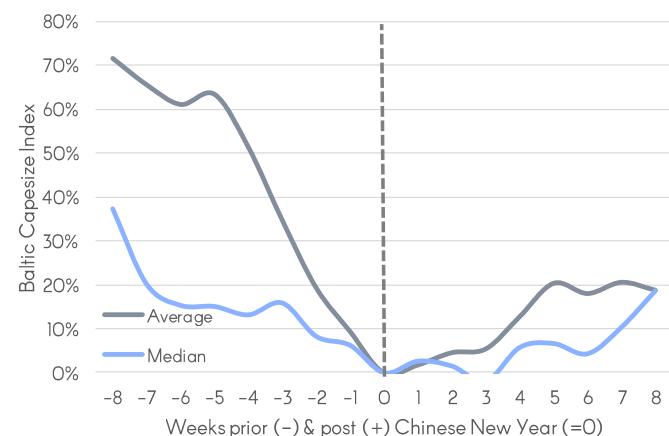
Dry Bulk spot rates vs Chinese New Year



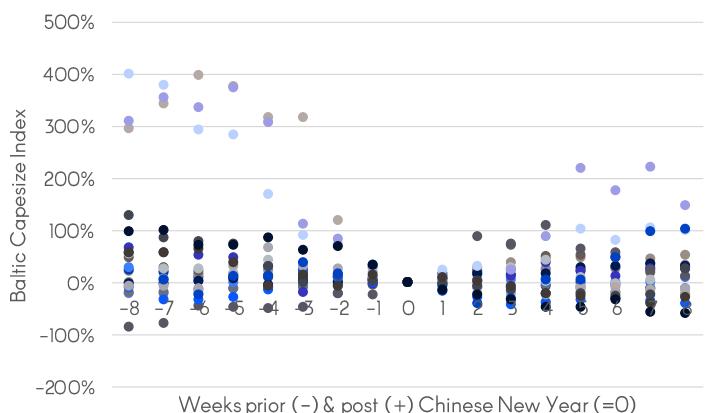
Dry Bulk spot vs Chinese New Year (distribution)



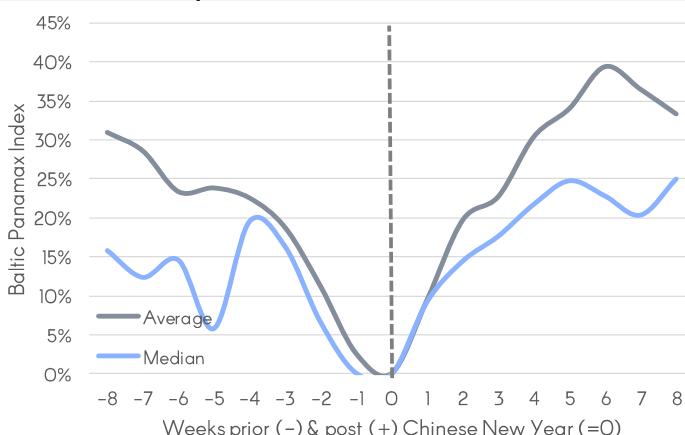
Capesize spot rates vs Chinese New Year



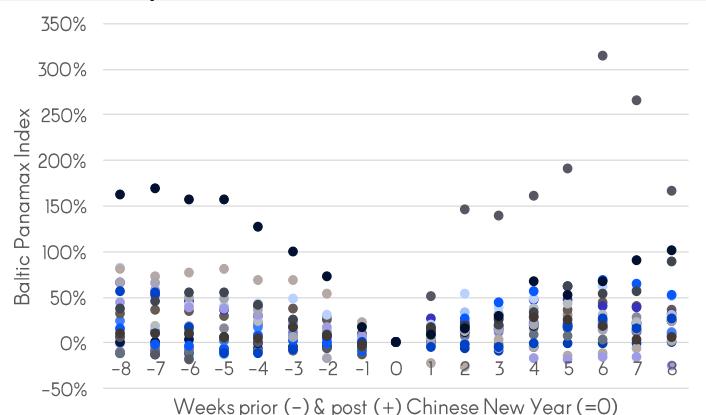
Capesize spot vs Chinese New Year (distribution)



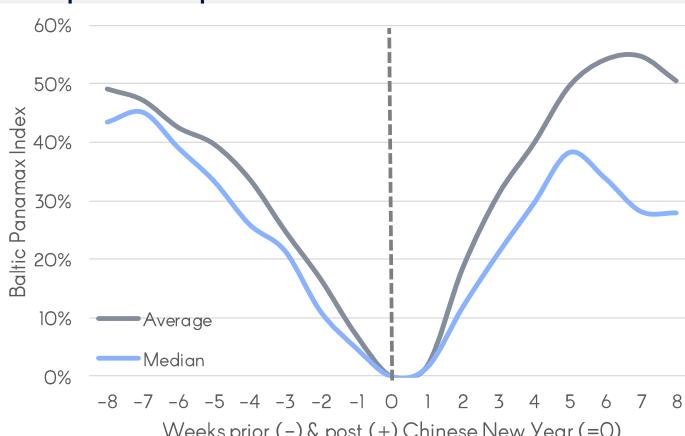
Panamax spot rates vs Chinese New Year



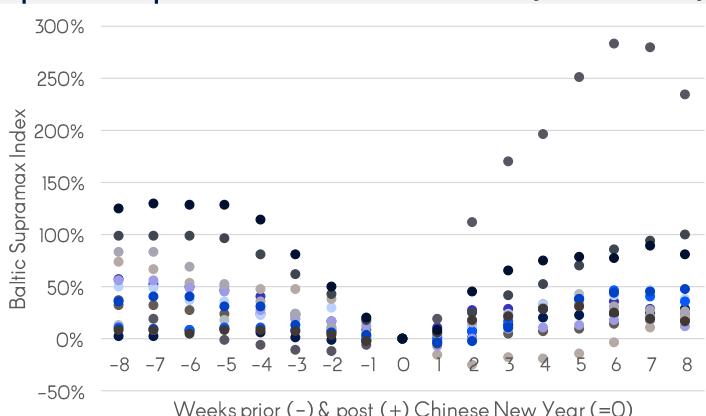
Panamax spot vs Chinese New Year (distribution)



Supramax spot rates vs Chinese New Year



Supramax spot vs Chinese New Year (distribution)





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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Company Financials (annual estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit				
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	
USDm																	
2020 NO	74	101	123	163	52	79	101	141	40	67	89	129	31	59	81	122	
DSX US	279	300	319	412	175	181	198	291	131	127	145	237	100	88	108	202	
EGLE US	560	327	337	379	331	168	193	233	270	104	129	169	269	88	114	158	
GNK US	381	326	358	447	228	217	249	338	167	152	187	277	157	145	181	272	
GOGL US	825	796	890	1,178	541	514	657	941	409	371	507	791	390	318	458	747	
HSHIP NO	0	51	157	237	-2	43	134	210	-2	38	110	177	-2	32	81	139	
SBLK US	1,169	1,008	1,131	1,379	835	691	814	1,081	679	533	656	922	628	488	619	889	
Average	470	416	474	599	309	270	335	462	242	199	260	386	225	174	235	361	
Median	381	326	337	412	228	181	198	291	167	127	145	237	157	88	114	202	

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity				
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	
USDm																	
2020 NO	351	341	329	317	14	13	17	41	379	369	361	373	157	161	168	195	
DSX US	1,066	1,018	965	911	76	128	212	416	1,201	1,205	1,236	1,386	542	597	658	836	
EGLE US	894	875	821	767	193	233	211	299	1,268	1,288	1,213	1,246	843	899	977	1,061	
GNK US	1,005	955	909	848	66	135	168	255	1,192	1,211	1,197	1,224	967	1,021	1,043	1,077	
GOGL US	2,857	2,928	2,876	2,760	105	114	74	151	3,275	3,355	3,263	3,224	1,905	2,065	2,077	2,165	
HSHIP NO	170	514	797	764	3	29	38	62	173	543	835	826	90	108	133	164	
SBLK US	2,900	2,758	2,637	2,517	339	443	506	1,261	3,521	3,483	3,426	4,060	2,043	2,334	2,357	3,065	
Average	1,320	1,342	1,334	1,269	114	156	175	355	1,573	1,636	1,647	1,763	935	1,026	1,059	1,223	
Median	1,005	955	909	848	76	128	168	255	1,201	1,211	1,213	1,246	843	899	977	1,061	

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E		
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2023	2024	2023	2024	
USDm																	
2020 NO	42	71	93	134	40	68	93	134	-11	0	4	24	35,682	43,057	15,624	15,273	
DSX US	158	148	168	262	-228	142	168	262	-51	52	84	204	19,699	20,856	12,935	18,935	
EGLE US	306	151	178	222	281	107	168	212	109	40	-21	88	16,120	17,041	11,030	15,827	
GNK US	199	210	244	333	137	194	228	333	-54	68	33	88	20,346	22,170	9,127	9,041	
GOGL US	466	461	608	897	531	247	510	863	-105	9	-41	78	23,186	27,310	11,323	14,339	
HSHIP																	
SBLK US	798	646	777	1,047	758	630	740	1,010	-132	104	63	755	21,762	24,131	14,489	9,099	
Average	328	281	344	482	253	231	317	469	-41	45	20	206	22,799	25,761	12,421	13,752	
Median	252	181	211	297	209	168	198	297	-52	46	19	88	21,054	23,151	12,129	14,806	



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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Company Financials (quarterly estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit				
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	
USDm																	
2020 NO	17	14	15	35	12	8	10	29	9	5	7	26	7	3	4	24	
DSX US	71	69	61	82	41	40	31	52	29	26	17	39	20	17	8	29	
EGLE US	112	55	71	99	65	10	31	63	49	-6	15	47	57	-10	10	43	
GNK US	81	52	59	104	48	25	32	77	31	8	16	60	28	7	14	59	
GOGL US	171	110	124	272	102	49	61	193	67	14	26	157	53	1	13	144	
HSHIP NO	0	0	3	21	0	-1	2	18	0	-1	2	17	0	-1	2	15	
SBLK US	239	159	182	326	158	81	102	246	118	42	63	206	105	29	51	195	
Average	99	66	74	134	61	30	38	97	43	13	21	79	38	7	15	73	
Median	81	55	61	99	48	25	31	63	31	8	16	47	28	3	10	43	

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity			
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23
USDm																
2020 NO	351	349	346	344	14	12	12	13	379	375	373	371	157	157	158	159
DSX US	1,066	1,054	1,042	1,030	76	83	82	108	1,201	1,196	1,184	1,197	542	550	550	576
EGLE US	894	909	898	887	193	156	164	202	1,268	1,245	1,242	1,269	843	819	828	868
GNK US	1,005	992	980	968	66	55	70	121	1,192	1,168	1,170	1,209	967	952	963	1,011
GOGL US	2,857	2,835	2,862	2,886	105	59	3	105	3,275	3,207	3,178	3,303	1,905	1,869	1,871	2,005
HSHIP NO	0	183	299	462	0	3	8	26	0	186	307	488	0	90	91	105
SBLK US	2,900	2,868	2,833	2,796	339	280	241	385	3,521	3,431	3,357	3,464	2,043	2,003	2,043	2,238
Average	1,296	1,313	1,323	1,339	113	93	83	137	1,548	1,544	1,544	1,614	922	920	929	994
Median	1,005	992	980	968	76	59	70	108	1,201	1,196	1,184	1,209	843	819	828	868

Cash Flow

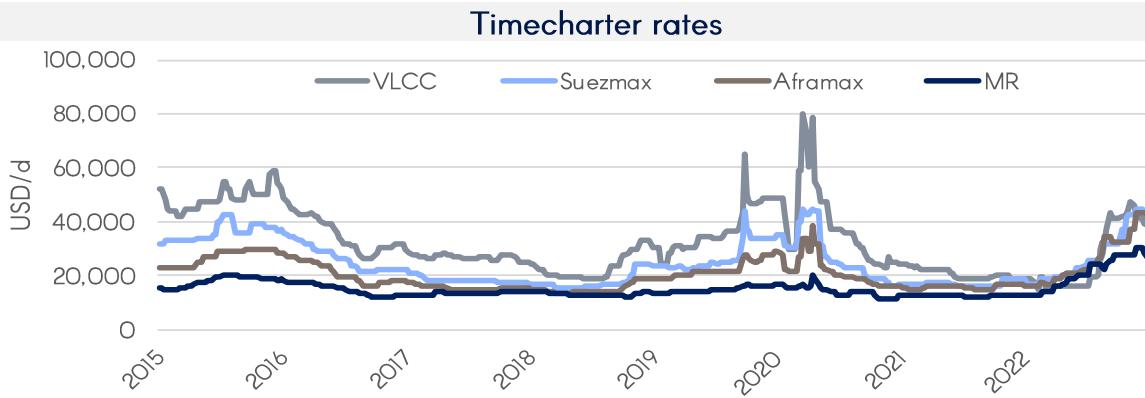
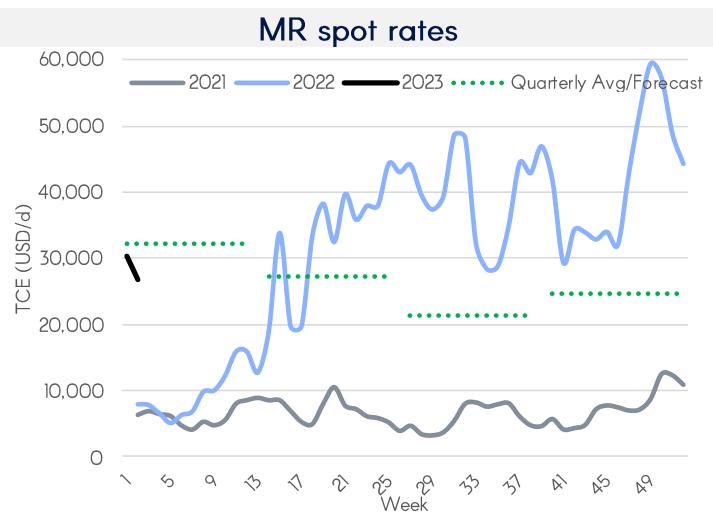
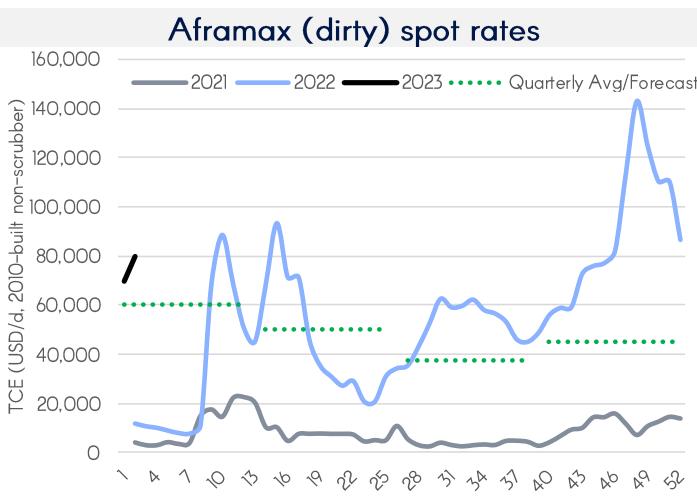
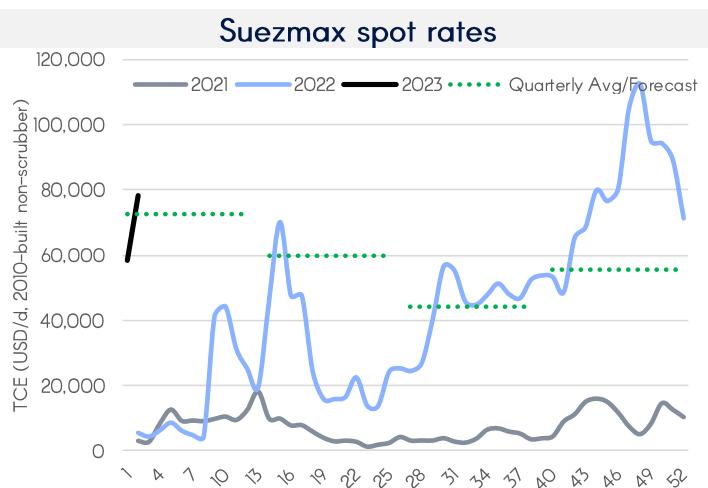
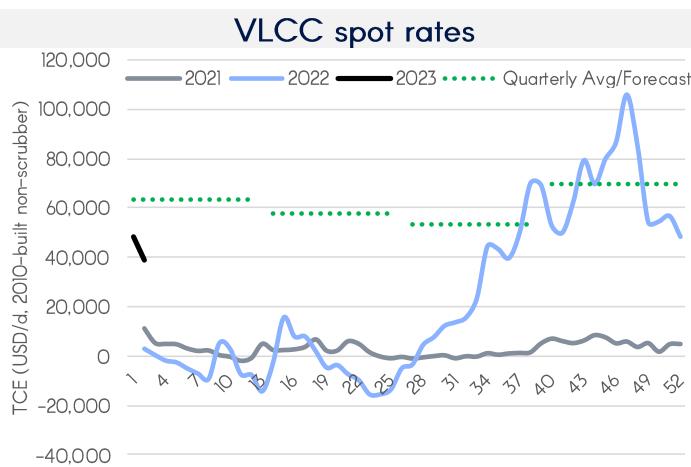
CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E	
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	1Q23	2Q23	1Q23	2Q23
USDm																
2020 NO	10	6	7	27	7	5	7	27	-1	-1	0	1	19,603	21,644	15,931	15,862
DSX US	34	32	23	44	-298	30	21	42	-53	7	-1	25	18,440	15,958	13,011	12,946
EGLE US	63	5	26	59	34	-25	21	54	-2	-37	8	38	10,563	13,509	11,890	10,879
GNK US	45	23	31	75	37	19	27	71	-5	-11	15	51	13,199	14,945	9,207	9,145
GOGL US	88	35	48	180	75	23	-14	120	-27	-46	-56	102	13,584	15,124	12,256	12,282
HSHIP NO	0	-1	2	16	0	-14	-114	-148	0	-1	6	18	17,403	17,403	7,747	7,747
SBLK US	145	69	91	235	121	61	86	233	-52	-59	-39	144	14,053	15,746	11,921	17,238
Average	55	24	32	91	-3	14	5	57	-20	-21	-10	54	14,907	16,333	12,369	12,300
Median	45	23	26	59	34	19	21	54	-5	-11	0	38	13,818	15,746	12,088	12,282



Oil Tankers



Earnings





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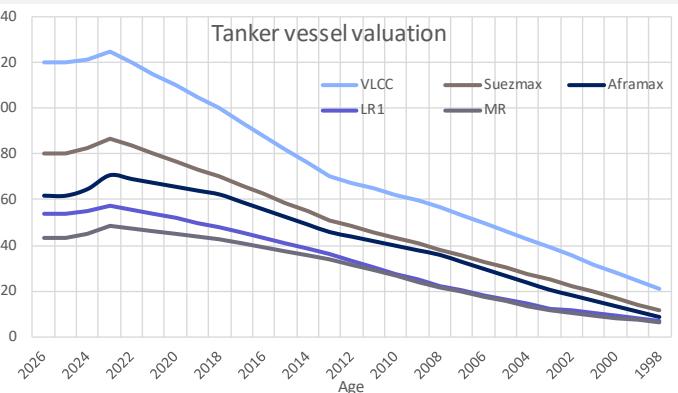
$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Asset Valuation

Asset valuation overview

Summary	VLCC	Suezmax	Aframax	LR2	LRI	MR	SR
NB	120.0	80.0	62.0	64.0	54.0	43.5	41.5
resale	125.0	87.0	71.0	73.5	57.5	48.5	44.0
5y	100.0	70.0	62.5	64.5	48.0	42.5	36.0
10y	70.0	51.0	46.0	47.5	36.0	34.0	26.0
15y	57.0	38.0	36.0	37.0	22.0	21.5	17.0
20y	39.0	24.9	20.7	21.2	12.4	11.4	7.6
scrap	20.9	11.2	8.7	8.7	6.6	6.1	4.1
All prices are excluding scrubbers							
NB parity	39,191	28,466	22,771	23,300	20,217	17,201	15,978

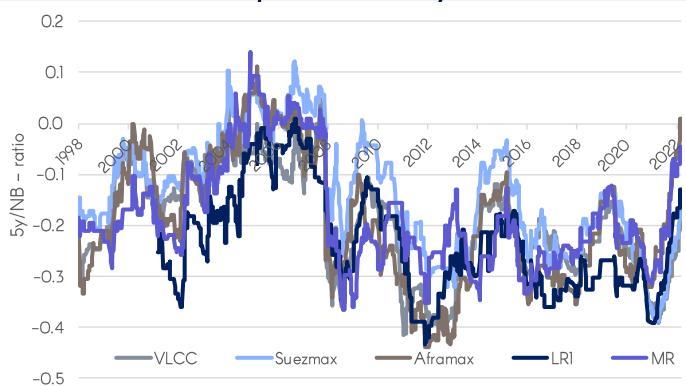
Asset valuation overview



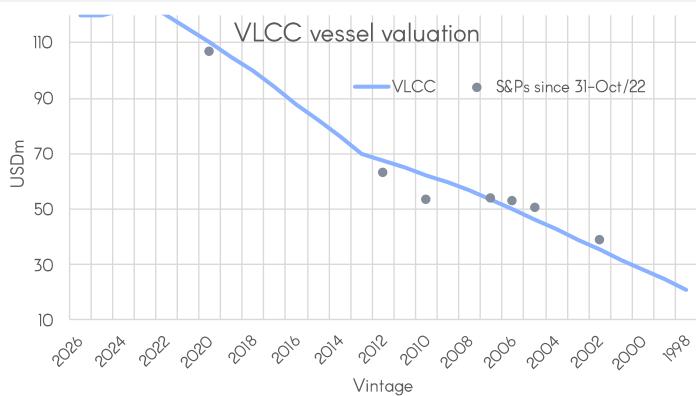
Historical 5y old vessel values



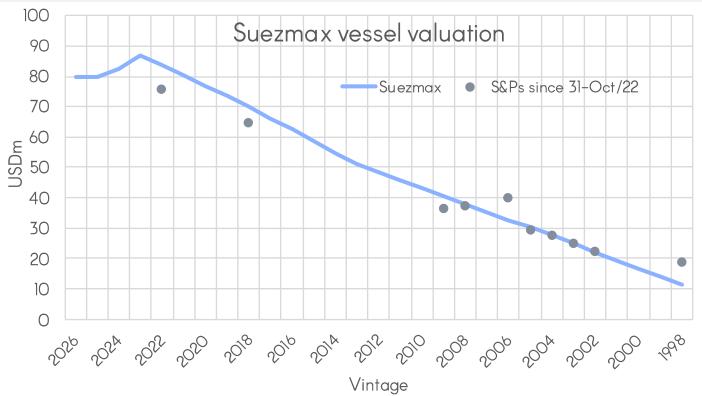
Historical price ratio, 5y/newbuild



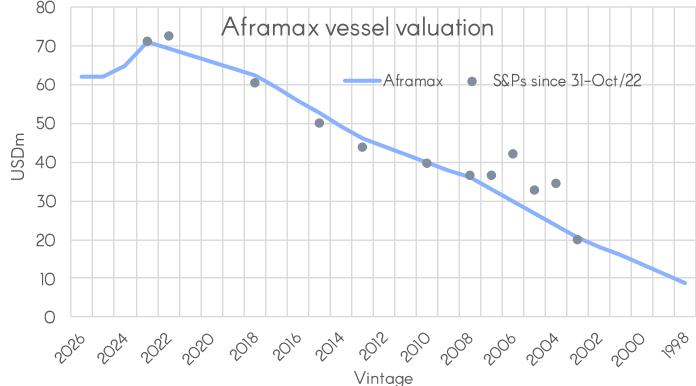
VLCC valuation vs recent S&P



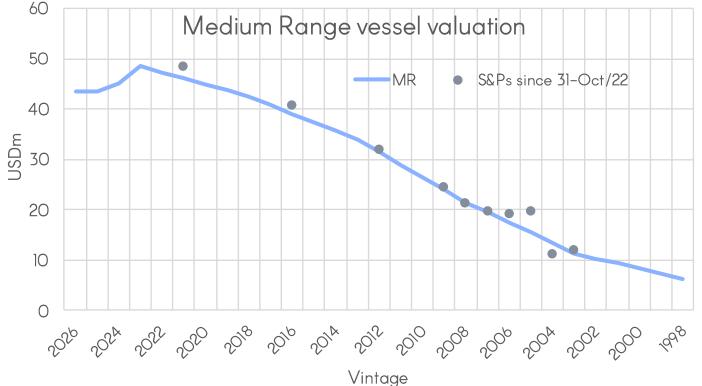
Suezmax valuation vs recent S&P



Aframax valuation vs recent S&P



MR valuation vs recent S&P





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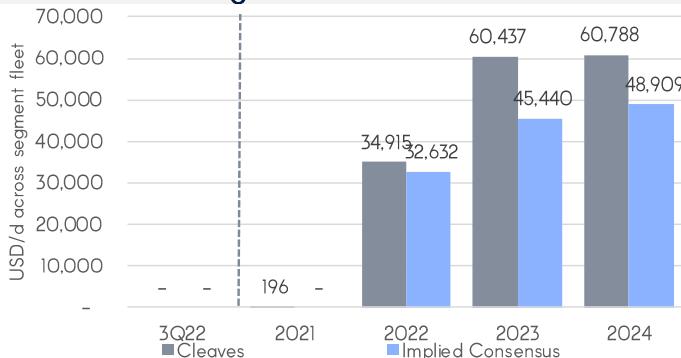
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Peer Group

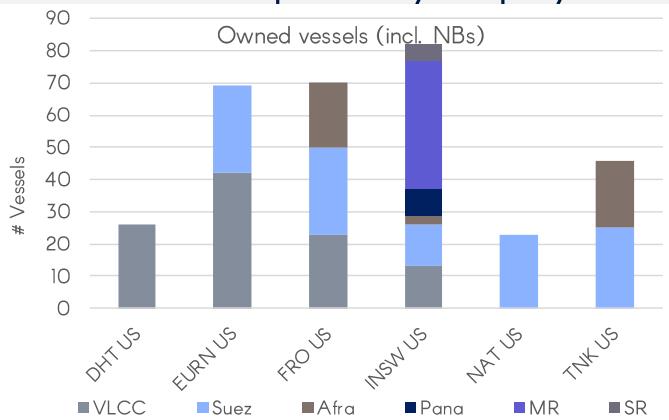
Updated 16 Jan 18:09 CET				Return	Target	Last	Target/	NAV	P/NAV		EV/	adj.	
Company	M.cap	Turnover	1y	Rec.	Price	Price	Price	/sh	Now	1y fwd	ϵ	equity	τ
DHT US	1,418	22.0	58%	BUY	12.0	8.7	38%	8.0	1.09	0.68	1.24	1.07	72% 0.88
EURN US	3,303	37.7	63%	BUY	33.0	15.0	120%	13.9	1.08	0.63	1.60	1.10	54% 0.82
FRO US	3,143	65.9	89%	BUY	23.0	14.1	63%	12.0	1.18	0.60	1.74	1.09	49% 0.99
INSW US	188	2.5	159%	BUY	65.0	38.0	71%	46	0.82	0.56	1.27	0.88	66% 0.94
NAT US	656	13.6	89%	BUY	4.0	3.1	27%	2.5	1.28	0.60	1.70	1.17	51% 0.90
OET NO	5,651	14.5	138%	BUY	288.0	171.8	68%	17.3	1.01	0.51	2.18	1.01	42% 0.87
TNK US	99	1.5	146%	BUY	54	29.0	86%	31	0.92	0.45	1.40	0.95	58% 1.00
Average	2,065		106%		68%				1.05	0.58	1.59	1.04	56% 0.91
Median	1,418		89%		68%				1.08	0.60	1.60	1.07	54% 0.90

Company	EV/EBITDA			P/E			Dividend yield			FCF yield		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
DHT US	0.3	6.6	3.0	2.5	17.7	3.7	34%	2%	26%	90%	22%	33%
EURN US	0.1	8.2	3.0	3.0	20.9	4.6	35%	1%	9%	92%	8%	30%
FRO US	0.4	7.2	3.1	2.6	5.2	2.2	35%	3%	19%	69%	10%	40%
INSW US	0.1	4.3	2.3	1.1	3.7	2.1	37%	2%	16%	74%	29%	32%
NAT US	0.3	5.2	1.5	0.6	8.9	1.8	60%	3%	31%	82%	13%	66%
OET NO	0.1	8.1	3.8	2.3	5.7	2.0	45%	4%	30%	61%	-12%	45%
TNK US	0.3	3.4	1.2	0.1	3.6	1.6	58%	0%	17%	81%	31%	64%
Average	0.2	6.1	2.6	1.8	9.4	2.6	44%	2%	21%	78%	14%	44%
Median	0.3	6.6	3.0	2.3	5.7	2.1	37%	2%	19%	81%	13%	40%

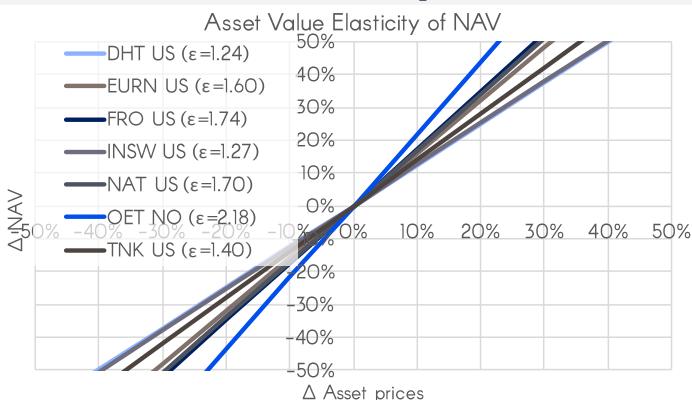
Cleaves' average TCE/d forecast vs consensus



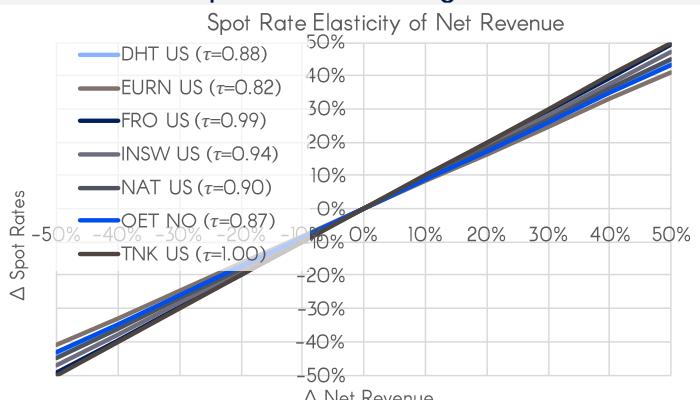
Fleet composition by company



Financial leverage (ϵ)



Operational leverage (τ)



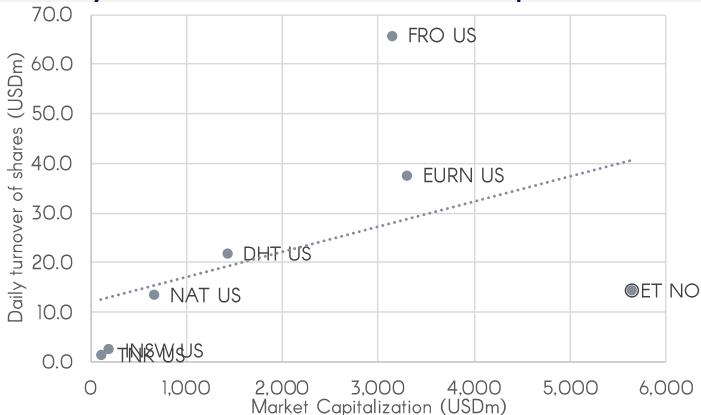


Cleaves Securities

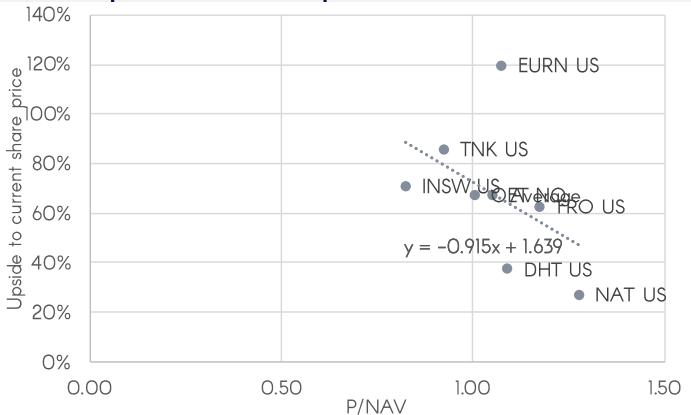
Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Daily share turnover vs market capitalization



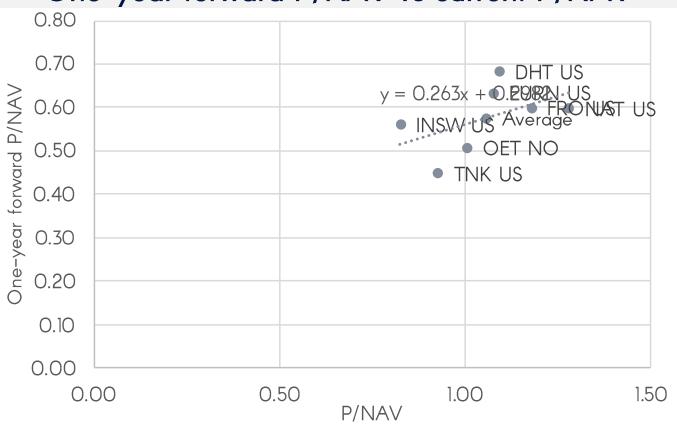
Upside to share price current P/NAV



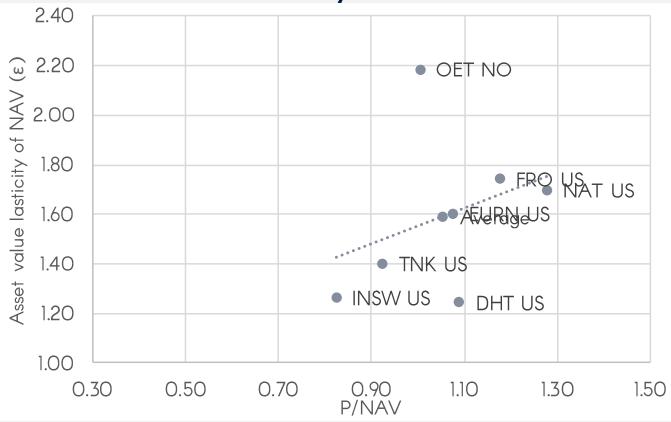
EV/GAV vs P/NAV



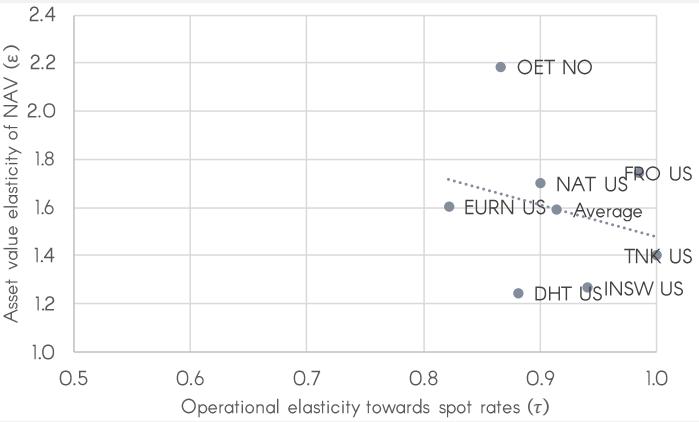
One-year forward P/NAV vs current P/NAV



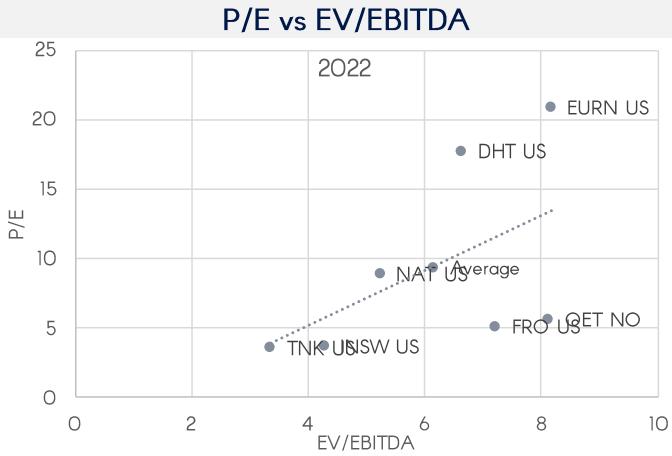
Asset value elasticity of NAV vs P/NAV



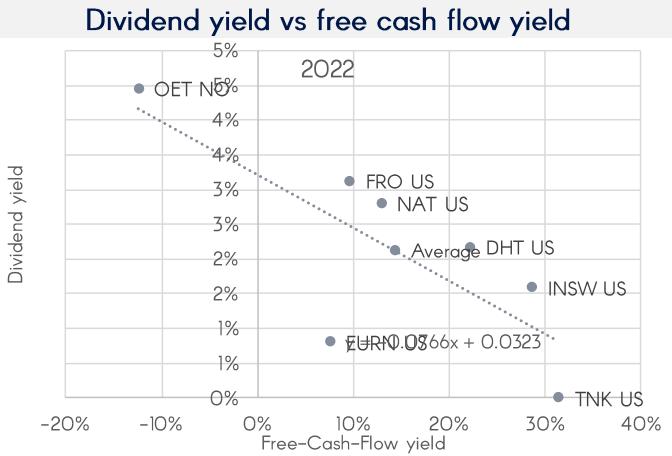
Elasticities: NAV vs net revenue



P/E vs EV/EBITDA



Dividend yield vs free cash flow yield



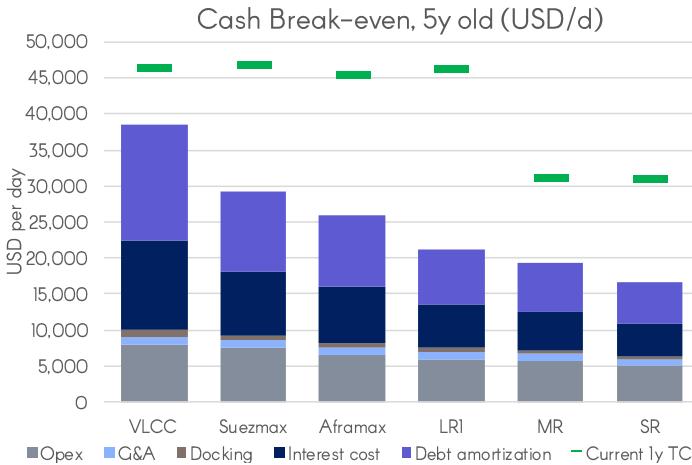


Generic Shipping Accounting

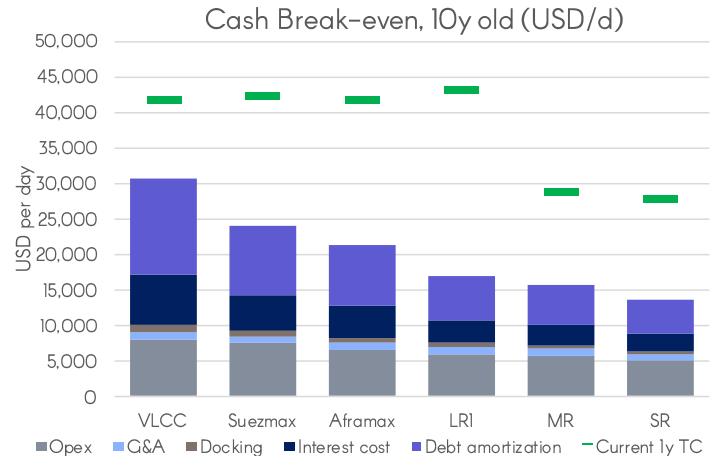
Current vessel economics (5y old)

Current vessel economics (5y old)						
Profit & Loss (USDm)	VLCC	Suezmax	Aframax	LRI	MR	SR
Revenue	17.3	17.5	17.3	16.7	11.5	11.2
Opex/G&A	-3.3	-3.1	-2.7	-2.6	-2.5	-2.2
EBITDA	14.0	14.4	14.5	14.1	9.1	9.0
Depreciation	-3.6	-2.8	-2.5	-1.9	-1.6	-1.5
EBIT	10.4	11.6	12.0	12.2	7.4	7.5
Financials (7% pa)	-4.2	-3.0	-2.7	-2.0	-1.8	-1.5
Net profit	6.2	8.5	9.4	10.1	5.6	5.9
Balance (USDm)	VLCC	Suezmax	Aframax	LRI	MR	SR
Asset (5y)	93.0	67.0	59.0	45.0	39.0	34.0
Equity (30%)	27.9	20.1	17.7	13.5	11.7	10.2
Debt (70%)	65.1	46.9	41.3	31.5	27.3	23.8
Cash Flow (USDm)	VLCC	Suezmax	Aframax	LRI	MR	SR
Net profit	6.2	8.5	9.4	10.1	5.6	5.9
Depreciation	3.6	2.8	2.5	1.9	1.6	1.5
Operational CF	9.8	11.3	11.9	12.0	7.3	7.4
Docking accruals	-0.4	-0.3	-0.3	-0.2	-0.2	-0.1
Debt repayments	-5.4	-3.9	-3.4	-2.6	-2.3	-2.0
Net Cash Flow	4.0	7.1	8.2	9.2	4.8	5.3
Key Ratios	VLCC	Suezmax	Aframax	LRI	MR	SR
EV/EBITDA	6.6	4.7	4.1	3.2	4.3	3.8
EV/EBIT	8.9	5.8	4.9	3.7	5.3	4.5
P/E	4.5	2.4	1.9	1.3	2.1	1.7
ROE	22%	42%	53%	75%	48%	58%
ROCE	11%	17%	20%	27%	19%	22%
FCF yield	34%	55%	66%	88%	61%	71%
Variables	VLCC	Suezmax	Aframax	LRI	MR	SR
1y TC (USD/d)	48,000	48,500	48,000	46,250	32,000	31,000
Opex (USD/d)	-8,000	-7,500	-6,500	-6,000	-5,750	-5,000
G&A (USD/d)	-1,000	-1,000	-1,000	-1,000	-1,000	-1,000
Docking (USD/d)	-1,000	-800	-700	-600	-500	-400
Assumptions: 25 years life, depreciated to scrap, 360 revenue days, 365 opex days, 12 years debt amortization						
Cash Break-even, 5y old (USD/d)	VLCC	Suezmax	Aframax	LRI	MR	SR
Opex	8,000	7,500	6,500	6,000	5,750	5,000
G&A	1,000	1,000	1,000	1,000	1,000	1,000
Docking	1,000	800	700	600	500	400
Interest cost	11,593	8,352	7,355	5,610	4,862	4,238
Debt amortization	14,863	10,708	9,429	7,192	6,233	5,434
Cash Break-even	36,456	28,360	24,984	20,401	18,345	16,072
Current 1y TC	48,000	48,500	48,000	46,250	32,000	31,000
NB parity rate	39,175	28,457	22,764	20,212	17,197	15,974

Cash break-even vs 1y TC on a 5y old vessel

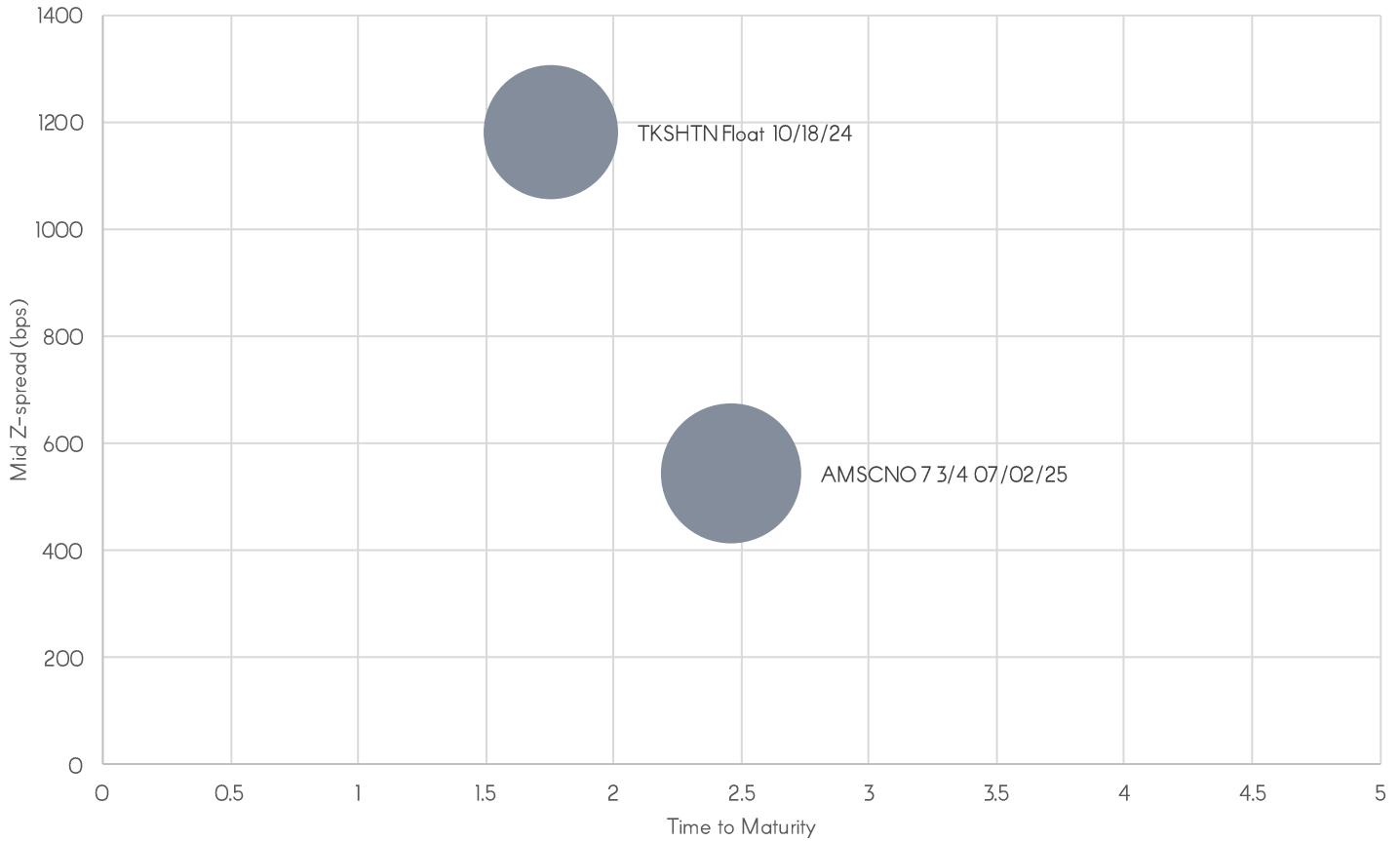


Cash break-even vs 1y TC on a 10y old vessel



The Credit Market

Oil Tanker bond pricing (by amount outstanding)





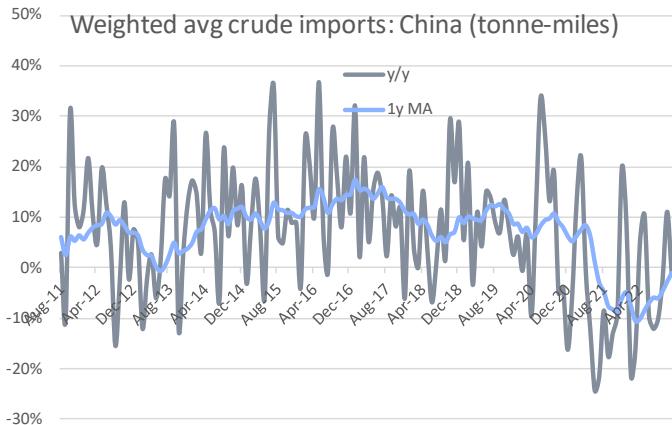
Cleaves Securities

Shipping Weekly 3/2023

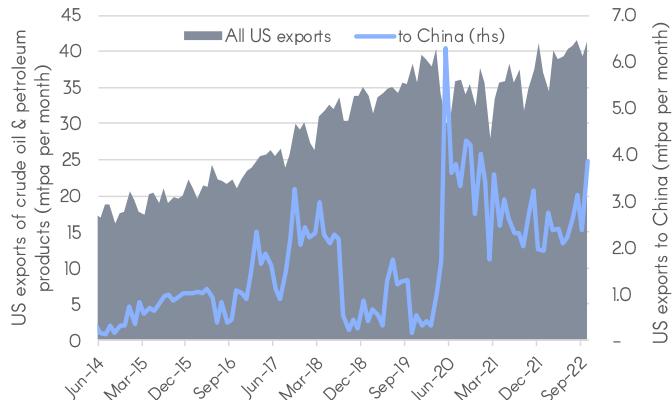
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Market Snapshots

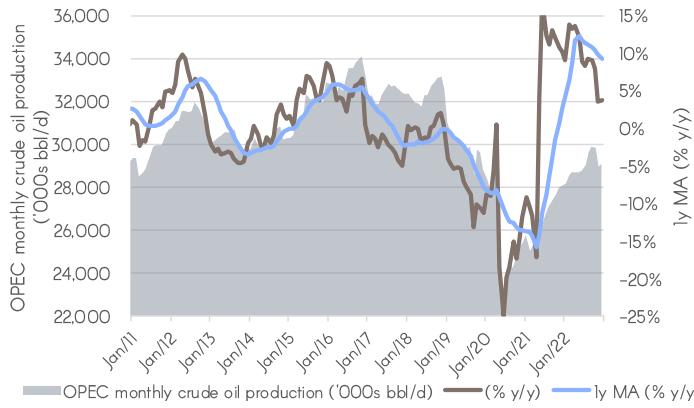
Chinese crude oil imports



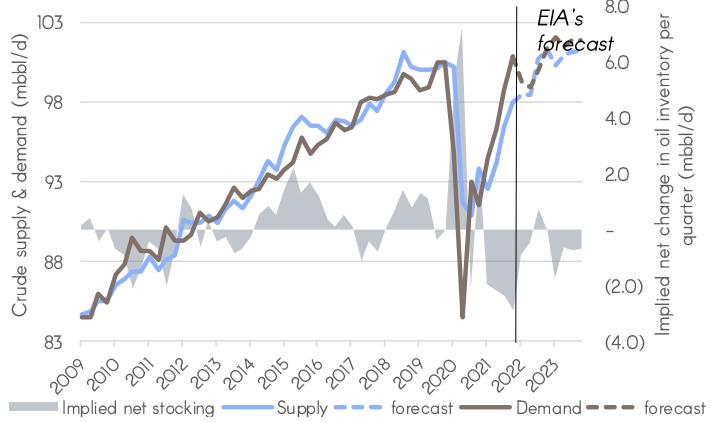
US petroleum exports



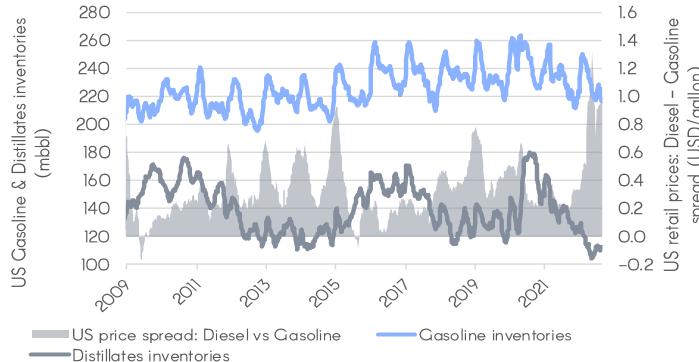
OPEC monthly crude oil production



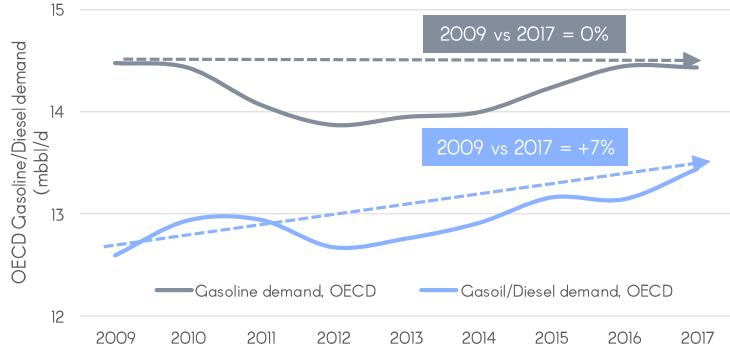
Global oil supply/demand & implied net stocking



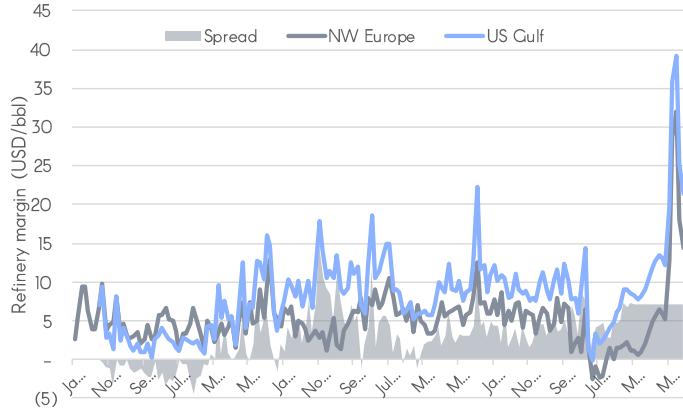
US light/sweet crude => less diesel



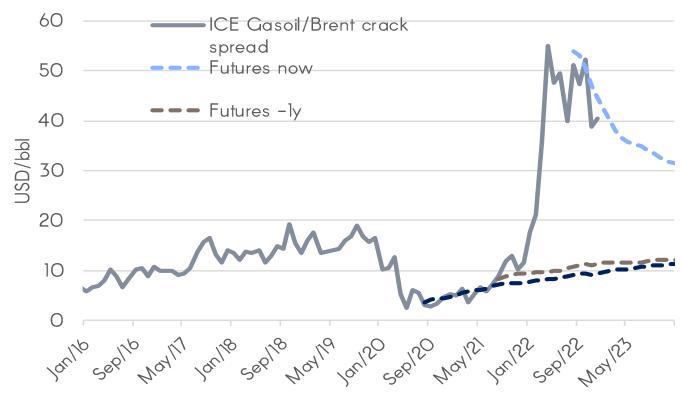
OECD demand for diesel outpacing gasoline



Refinery margins (FCC), US Gulf vs NW Europe

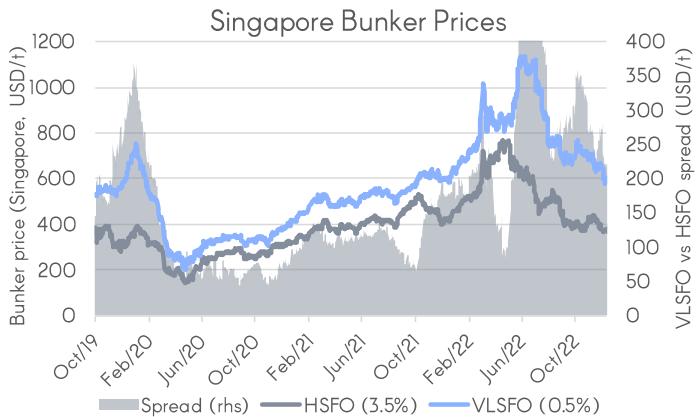


Gasoil crack spread futures

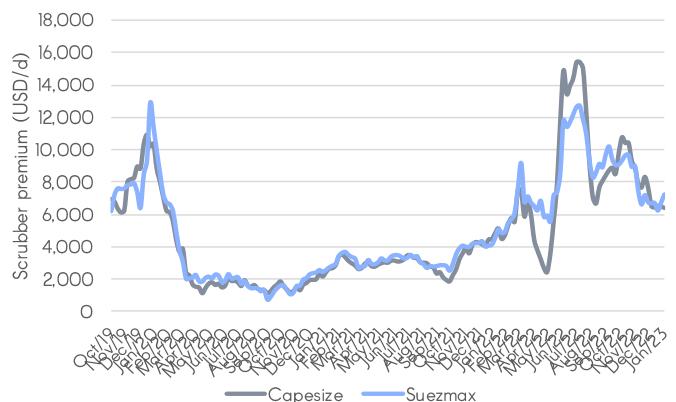


IMO 2020 Sulphur Regulations

VLSFO vs HSFO in Singapore: Spot & futures



Scrubber premium for selected vessel classes



Scrubber economics

Dry bulk scrubber economics (2010-built)

(USDm)	Capesize	Kamsarmax	Supramax
Cost of scrubber installation	-2.8	-2.6	-2.6
Offhire "cost"	-0.4	-0.4	-0.3
Annual savings	1.9	0.9	0.8
Payback time (years)	1.6	3.2	3.7
VLSFO/HSFO spread from futures market	223		
Fuel consumption per day at sea, 2010-built (t)	43	24	22
Voyage days per annum	250	225	200
Scrubber running costs* (USD per calendar day)	-1,274	-675	-578
Savings per day at sea (USD/d)	7,719	4,140	3,846
Savings per calendar day (USD/d)	5,287	2,552	2,107

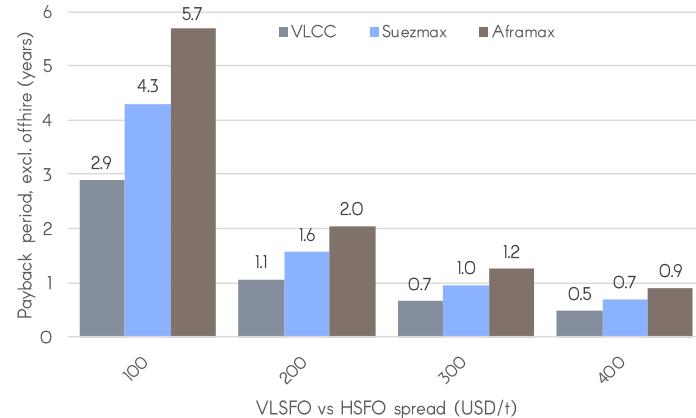
* Reflects added energy consumption & maintenance capex

Oil tanker scrubber economics (2010-built)

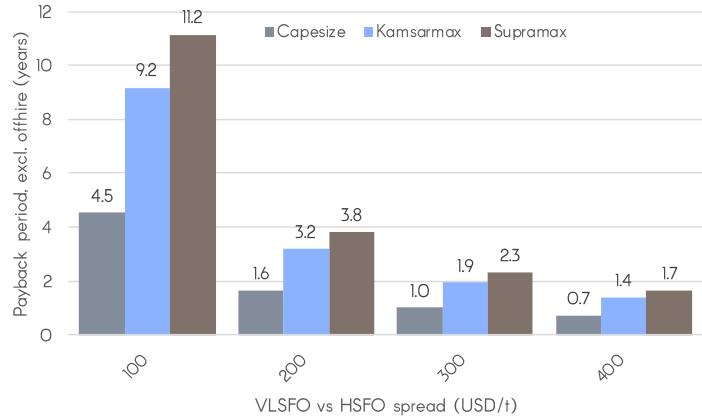
(USDm)	VLCC	Suezmax	Aframax
Cost of scrubber installation	-3.2	-3.1	-2.9
Offhire "cost"	-0.8	-2.0	-6.2
Annual savings	3.4	2.2	1.6
Payback time (years)	1.2	2.2	5.6
VLSFO/HSFO spread from futures market	223		
Fuel consumption per day at sea, 2010-built (t)	65	45	35
Voyage days per annum	292	276	260
Scrubber running costs* (USD per calendar day)	-2,176	-1,457	-1,093
Savings per day at sea (USD/d)	11,761	8,098	6,263
Savings per calendar day (USD/d)	9,409	6,124	4,461

* Reflects added energy consumption & maintenance capex

Oil tankers: Scrubber payback sensitivity



Dry bulk: Scrubber payback sensitivity



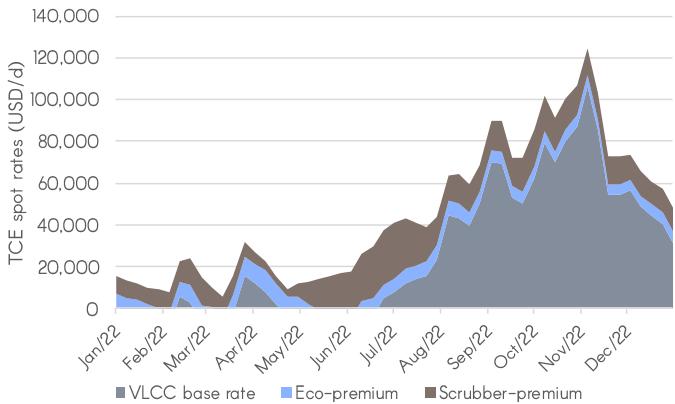


Cleaves Securities

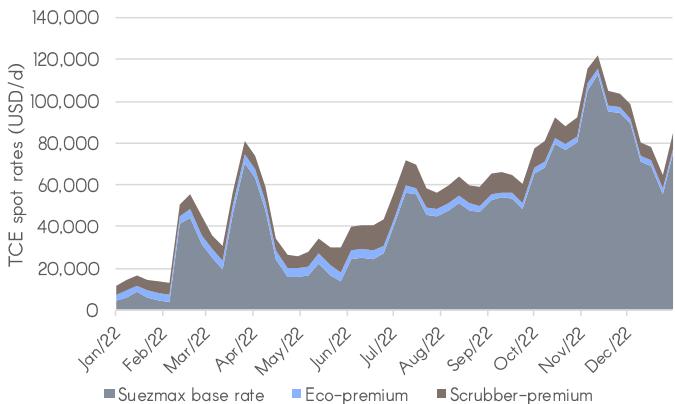
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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

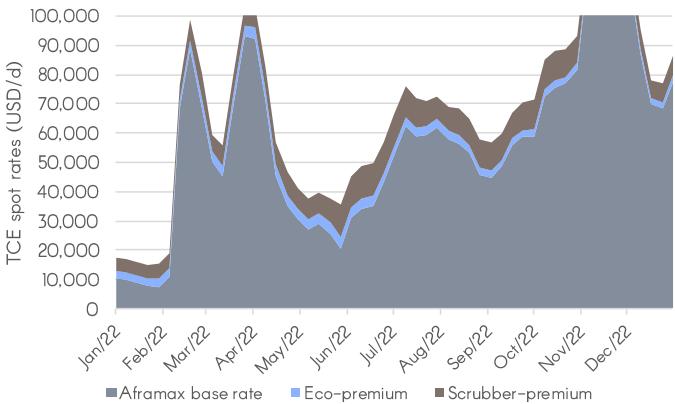
VLCC spot rate breakdown



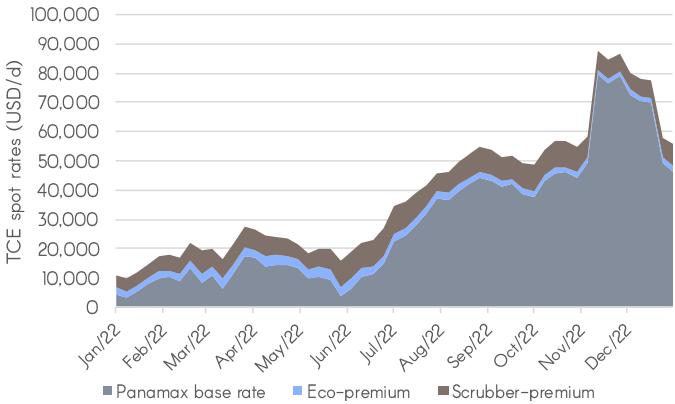
Suezmax spot rate breakdown



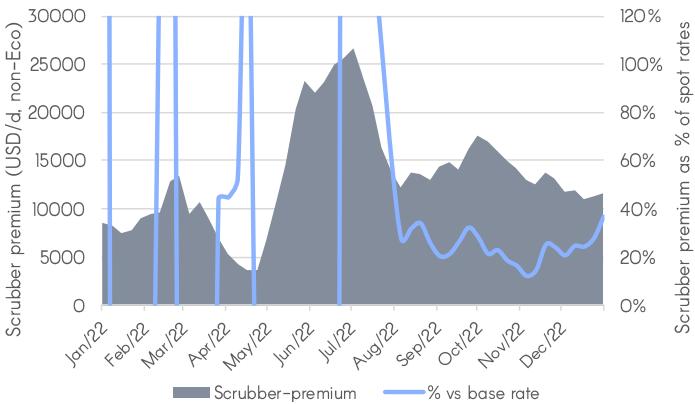
Aframax spot rate breakdown



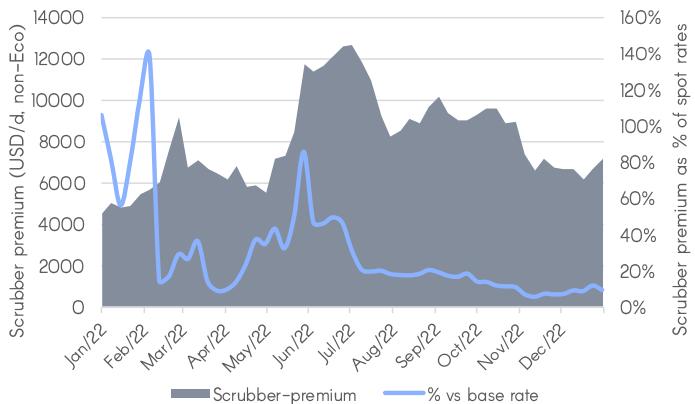
Panamax (dirty) spot rate breakdown



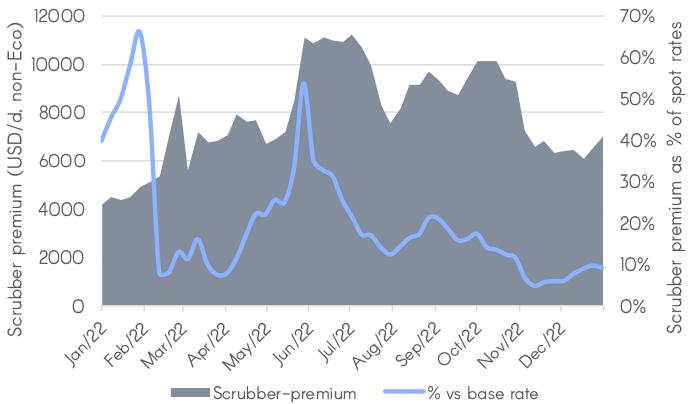
VLCC spot rate scrubber premium



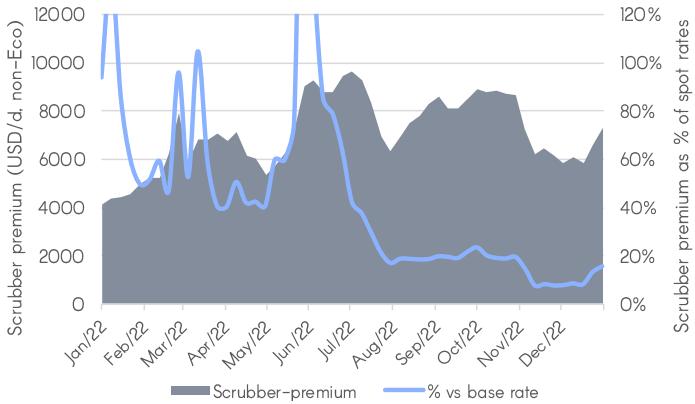
Suezmax spot rate scrubber premium



Aframax spot rate scrubber premium



Panamax (dirty) spot rate scrubber premium



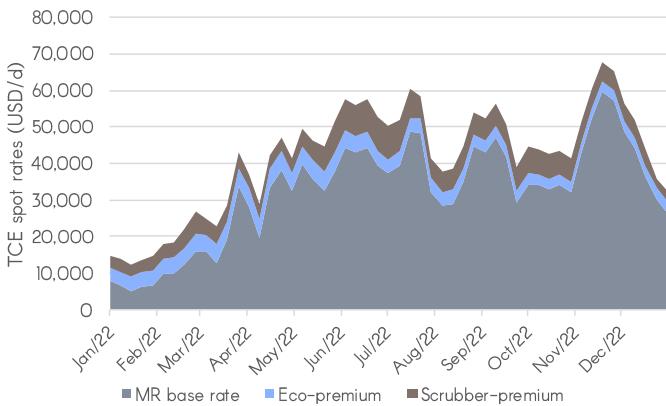


Cleaves Securities

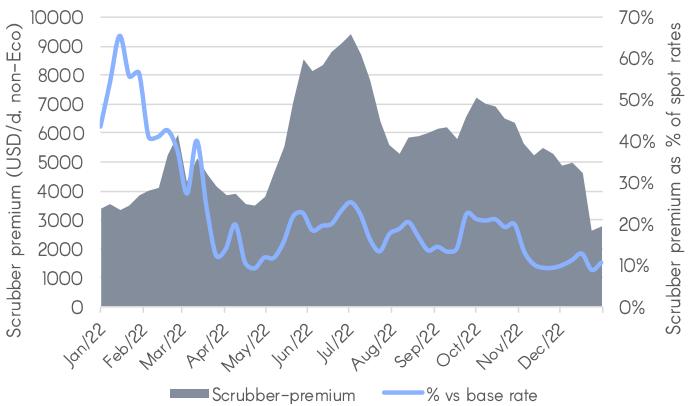
Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

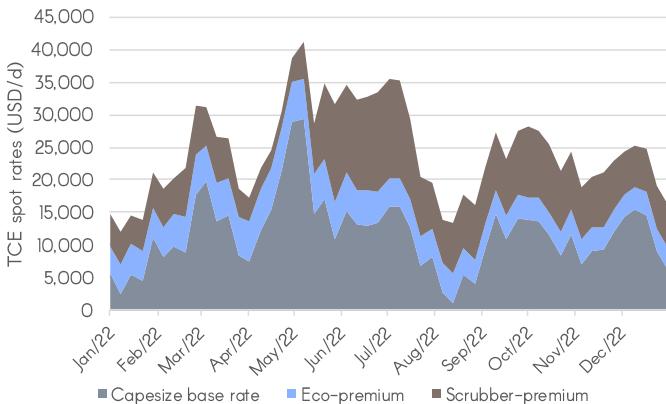
MR spot rate breakdown



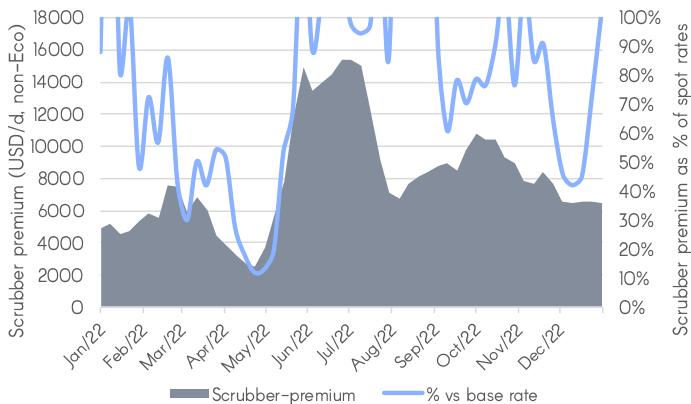
MR spot rate scrubber premium



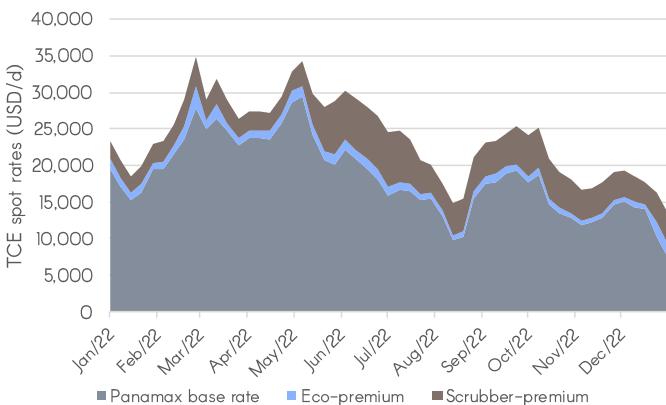
Capesize spot rate breakdown



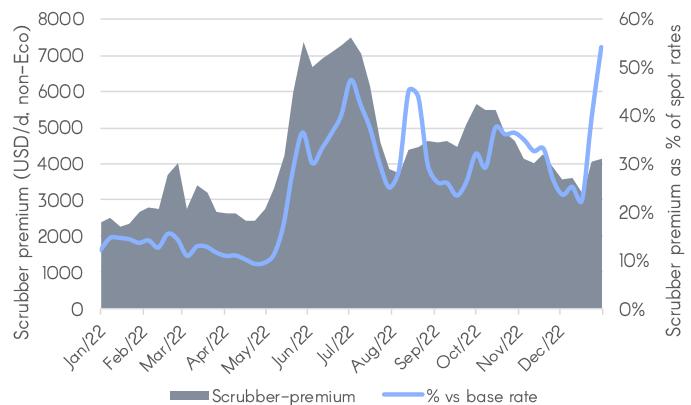
Capesize spot rate scrubber premium



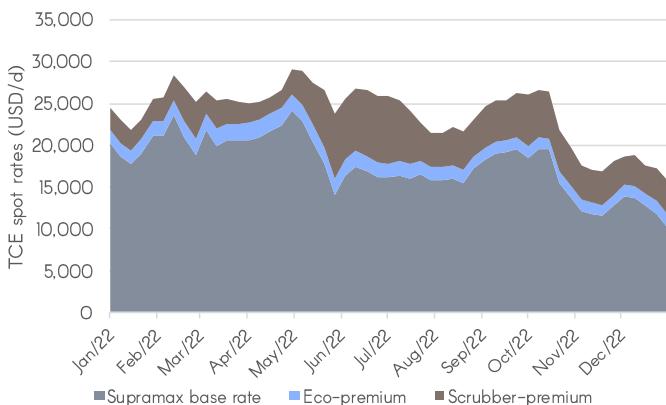
Panamax spot rate breakdown



Panamax spot rate scrubber premium



Supramax spot rate breakdown



Supramax spot rate scrubber premium



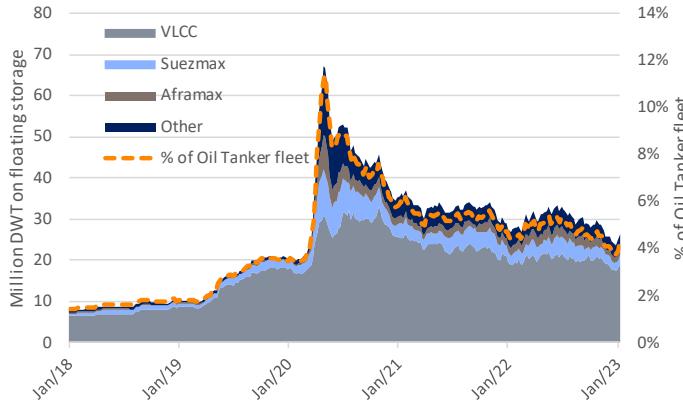
Oil Tanker Storage Economics

VLCC & Suezmax floating storage economics

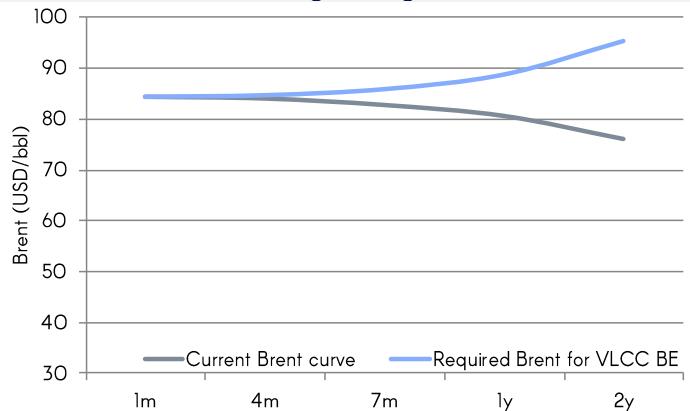
Crude tanker storage arbitrage (excl. cost of carry)

	1m	4m	7m	1y	2y
Brent (USD/bbl)	84.5	84.2	82.9	80.7	76.0
Time-spread against 1m		-0.3	-1.7	-3.9	-8.5
Profit/loss from storage at current rates (USDm)					
VLCC		-1.4	-6.6	-17.2	-40.8
Suezmax		-1.7	-4.8	-10.6	-25.7
Required Brent fwd price for VLCC break-even					
Brent (USD/bbl)	84.5	84.8	86.0	88.9	95.4
Time-spread against 1m		0.3	1.5	4.3	10.9
Required tanker rates for storage to break-even					
VLCC		(8,059)	(19,169)	(24,303)	(25,619)
Suezmax		(3,838)	(9,128)	(11,573)	(12,200)

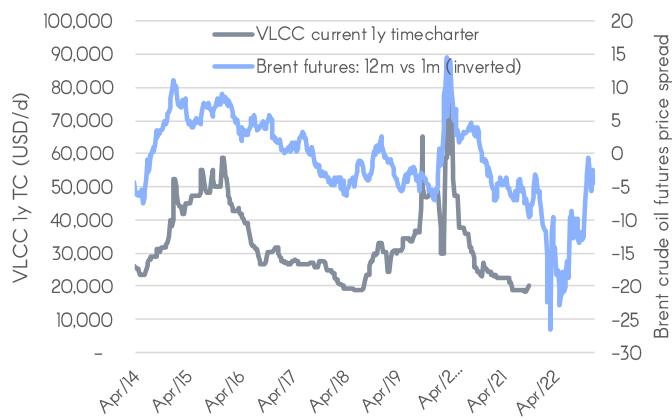
Oil Tanker floating storage



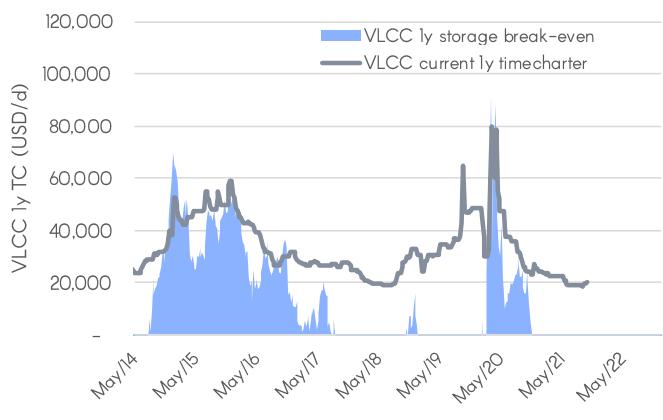
VLCC floating storage economics



Brent oil futures contango vs VLCC 1y TC

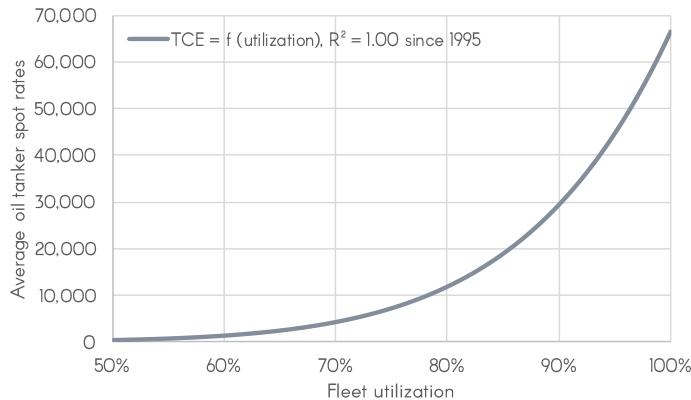


VLCC 1y floating storage breakeven vs 1y TC



Market Fundamentals

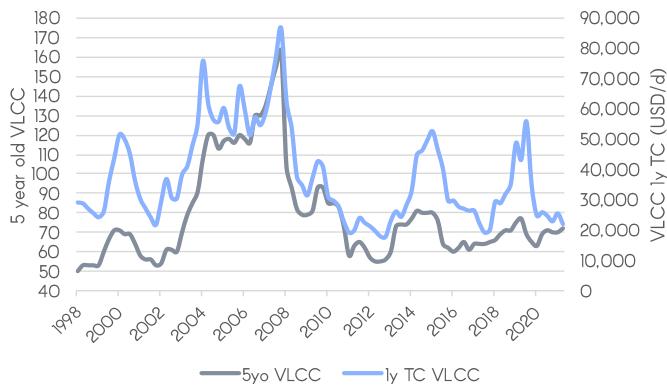
Econometrics: Spot rates vs fleet utilization



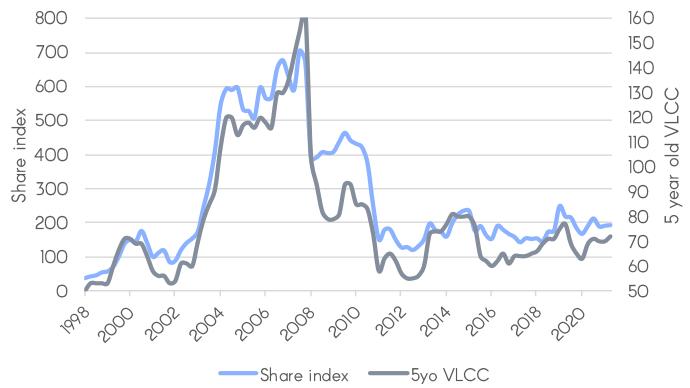
Orderbook vs fleet



5y vessel values highly correlated with 1y TC



Shares highly correlated with 5y vessel values





Market Overview

Annual view		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Base case		58,795	97,152	28,434	34,060	18,596	21,187	18,621	30,015	64,846	41,908	17,794	15,561	41,364	53,145	3,177	18,662	61,096	75,073	69,597
VLCC, spot ^a (TCE/d)		43,437	73,863	25,733	27,864	18,432	16,908	15,511	27,791	46,713	27,799	15,436	16,466	31,560	30,240	7,272	35,751	58,008	57,584	53,463
Suezmax, spot ^a (TCE/d)		33,311	50,010	14,370	17,690	12,378	12,541	14,131	24,705	37,977	23,142	13,873	16,175	26,225	22,161	8,187	43,517	48,122	43,394	40,492
Aframax, spot ^a (TCE/d)		23,669	21,168	9,176	10,692	10,638	10,589	13,277	12,360	21,405	12,166	10,220	8,750	13,740	15,251	6,719	27,363	26,335	23,902	22,546
MR, spot ^a (TCE/d)		126	142	85	87	77	63	56	74	81	68	62	67	67	68	82	113	130	116	
VLCC, 5y ^a (USDm)		90	95	61	62	54	45	40	50	60	49	41	41	46	46	45	59	84	93	82
Suezmax, 5y ^a (USDm)		68	71	44	44	39	31	29	39	46	36	30	31	36	37	38	52	71	75	66
Aframax, 5y ^a (USDm)		50	50	29	27	29	25	26	27	28	25	24	25	27	27	27	36	41	42	38

Quarterly view		1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25
Base case		3,989	2,837	503	5,378	(3,590)	(2,978)	15,571	65,645	63,275	57,945	53,509	69,653	70,974	67,830	63,194	98,295	76,613	66,581	55,219
VLCC, spot ^a (TCE/d)		9,156	5,177	4,207	10,547	16,666	31,831	35,205	59,304	72,521	59,732	44,166	55,614	54,499	52,132	48,643	75,063	58,743	51,192	42,641
Suezmax, spot ^a (TCE/d)		10,527	7,648	3,479	11,093	32,266	52,453	42,703	46,649	60,393	49,766	37,589	44,740	41,221	39,555	37,098	55,704	44,211	38,893	32,870
Aframax, spot ^a (TCE/d)		6,339	6,880	5,809	7,847	9,749	27,520	39,425	32,757	32,170	27,125	21,376	24,669	22,887	22,109	20,961	29,651	24,283	21,800	18,987
MR, spot ^a (TCE/d)		64	65	70	71	72	77	84	94	103	113	116	120	130	132	131	128	122	119	114
VLCC, 5y ^a (USDm)		42	44	48	47	51	54	61	70	78	87	85	86	92	94	94	92	87	85	81
Suezmax, 5y ^a (USDm)		35	37	40	41	45	49	54	61	68	74	70	70	75	76	75	74	70	68	65
Aframax, 5y ^a (USDm)		26	26	28	29	31	34	39	40	41	42	40	40	42	43	43	42	40	39	37

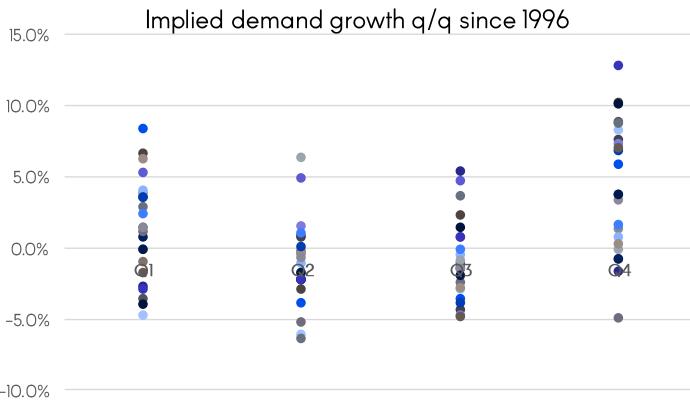
Rates for non-eco, non-scrubber fitted tonnage

^a Average during period

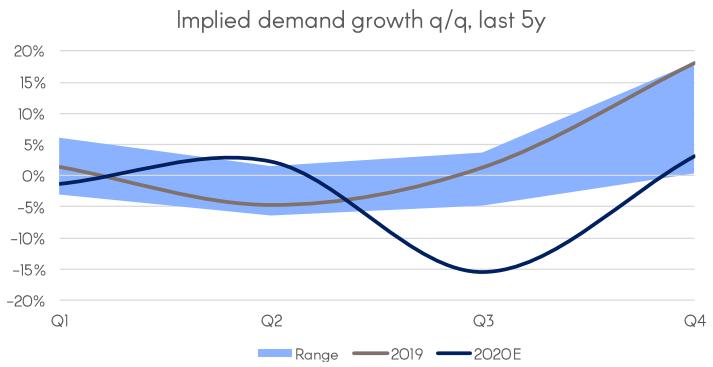


Seasonality

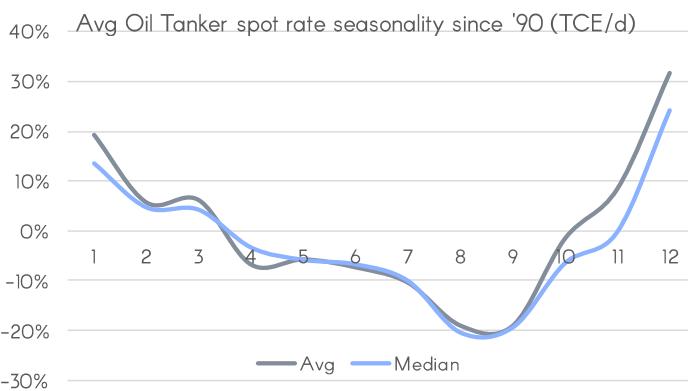
Historically strong demand growth in 4Q



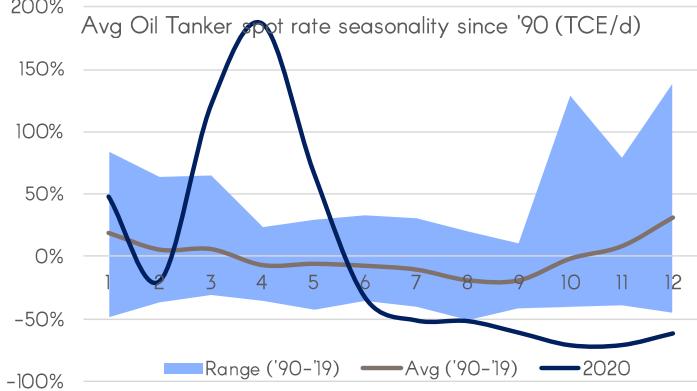
Historic demand growth



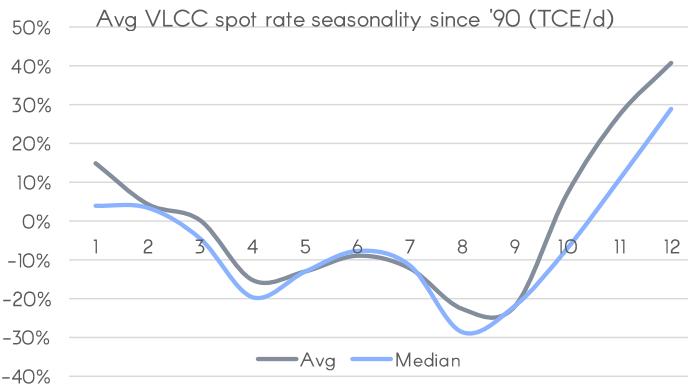
Historical Oil Tanker avg. spot rate seasonality



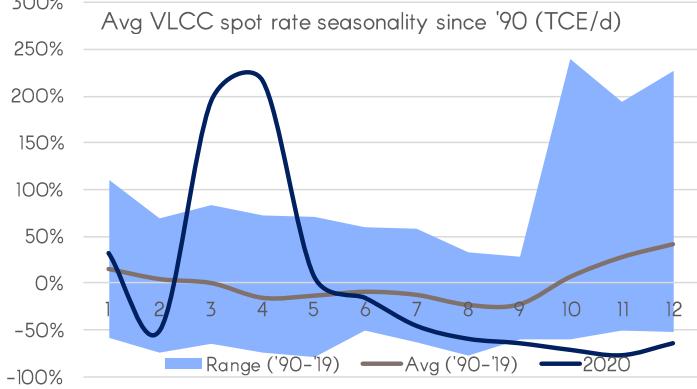
Historical Oil Tanker avg. spot rate seasonality



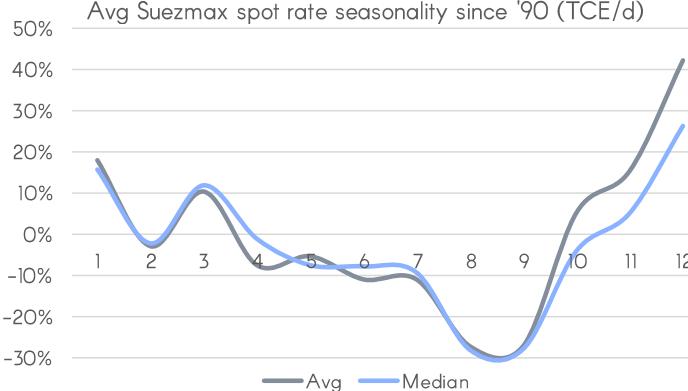
Historical VLCC spot rate seasonality



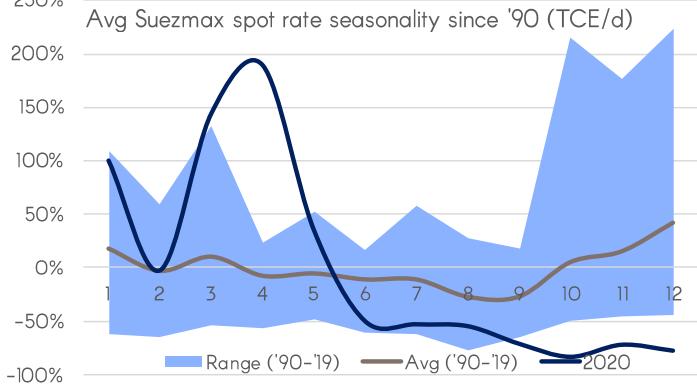
Historical VLCC spot rate seasonality



Historical Suezmax spot rate seasonality



Historical Suezmax spot rate seasonality



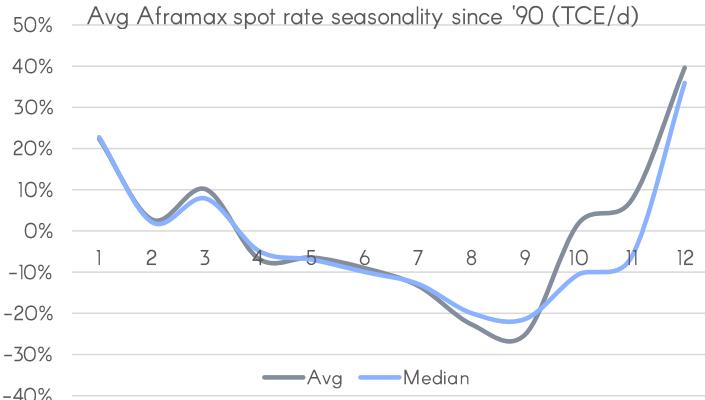


Cleaves Securities

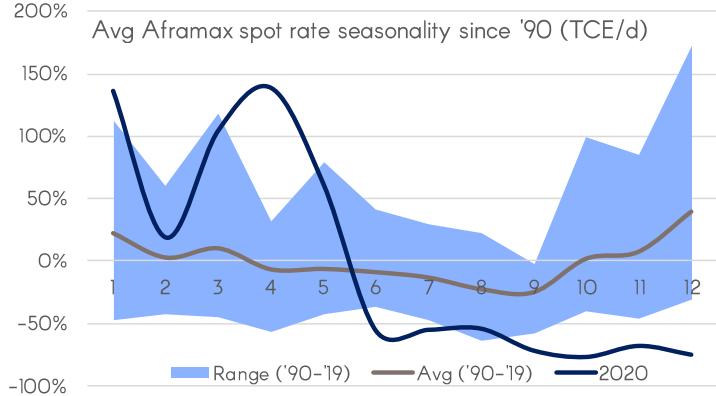
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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

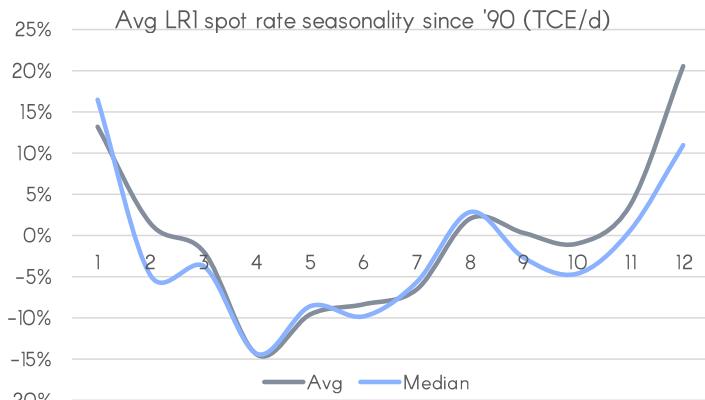
Historical Aframax spot rate seasonality



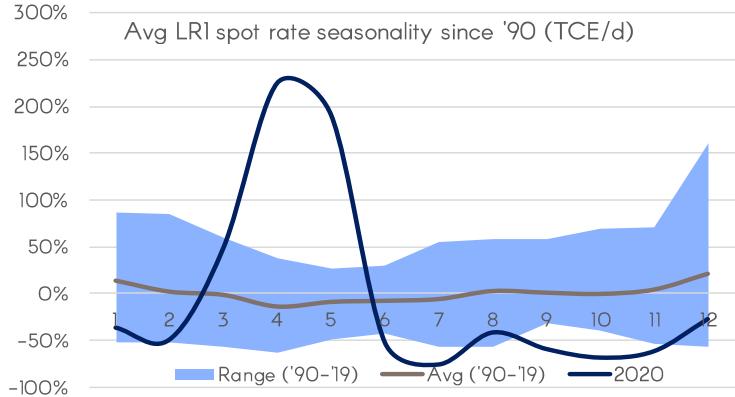
Historical Aframax spot rate seasonality



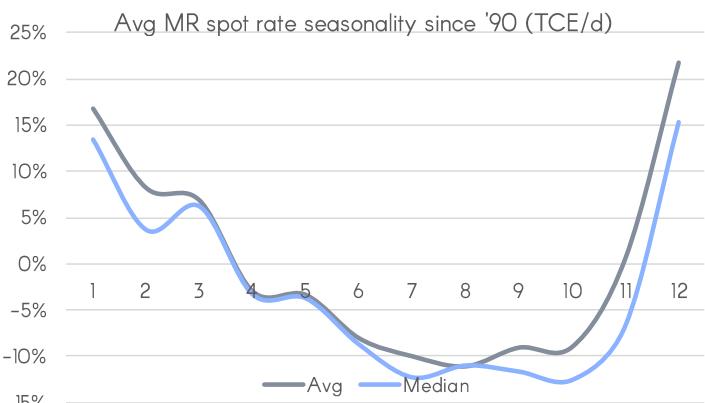
Historical LR1 spot rate seasonality



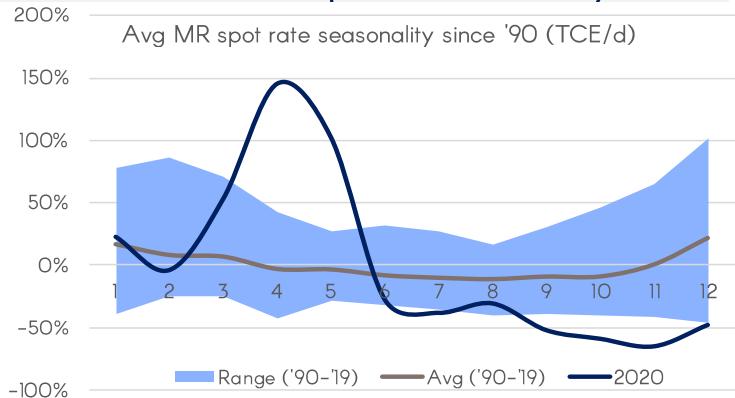
Historical LR1 spot rate seasonality



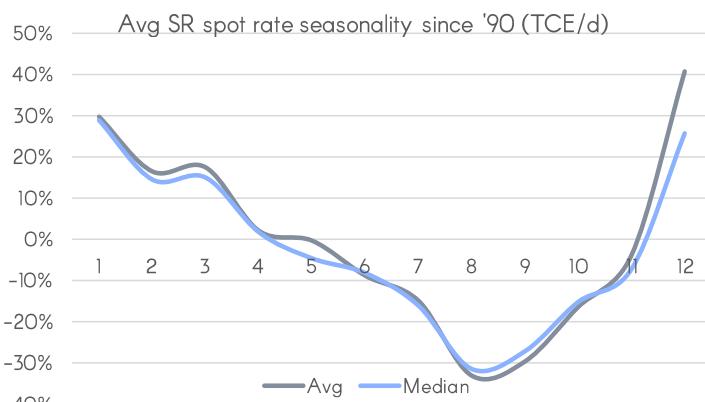
Historical MR spot rate seasonality



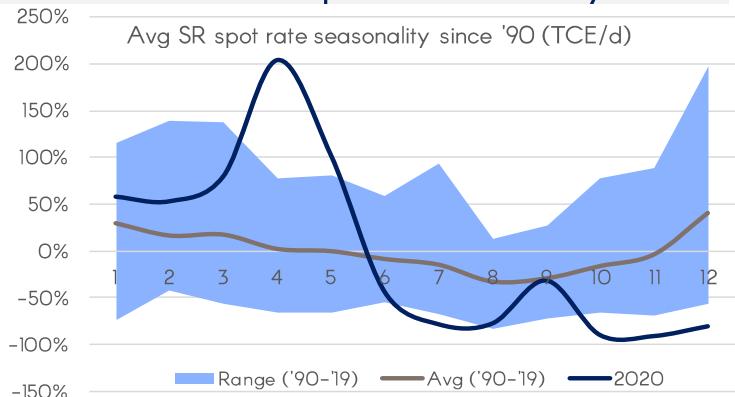
Historical MR spot rate seasonality



Historical SR spot rate seasonality



Historical SR spot rate seasonality

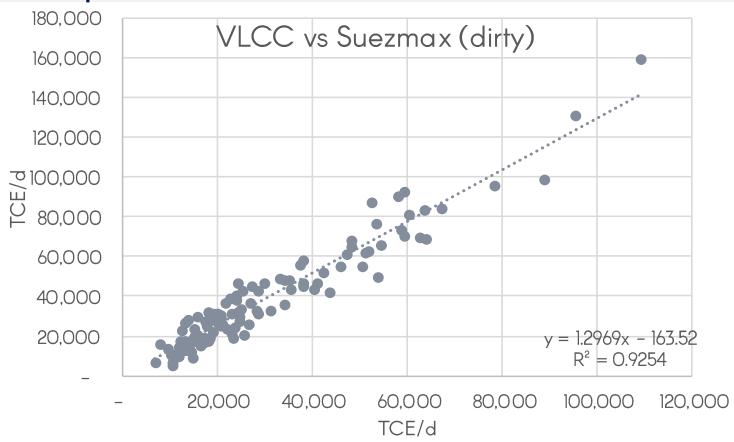


Product Tanker Dynamics

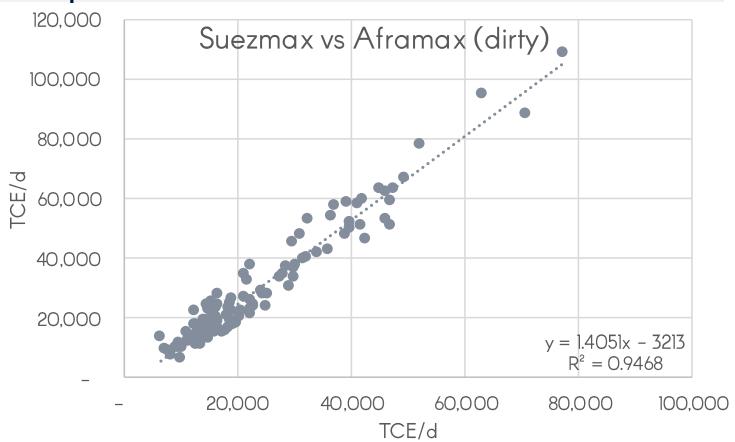
Oil Tanker spot earnings correlation matrix (quarterly since 1990)

	Crude/dirty tanker spot rates				Product/clean tanker spot rates			
	VLCC	Suezmax	Aframax	Panamax	LR2	LRI	MR	SR
VLCC		0.93	0.86	0.80	0.52	0.57	0.60	0.61
Suezmax	0.93		0.95	0.89	0.61	0.64	0.69	0.73
Aframax	0.86	0.95		0.91	0.66	0.70	0.74	0.78
Panamax	0.80	0.89	0.91		0.65	0.73	0.85	0.87
LR2	0.52	0.61	0.66	0.65		0.97	0.69	0.62
LRI	0.57	0.64	0.70	0.73	0.97		0.78	0.70
MR	0.60	0.69	0.74	0.85	0.69	0.78		0.88
SR	0.61	0.73	0.78	0.87	0.62	0.70	0.88	

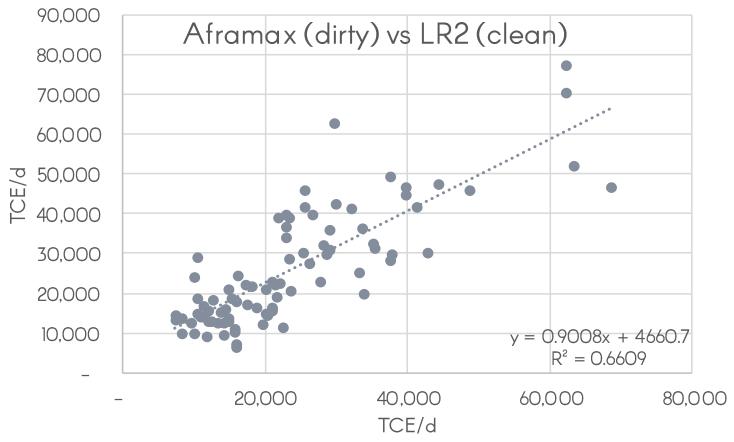
Spot rate correlation: VLCC vs Suezmax



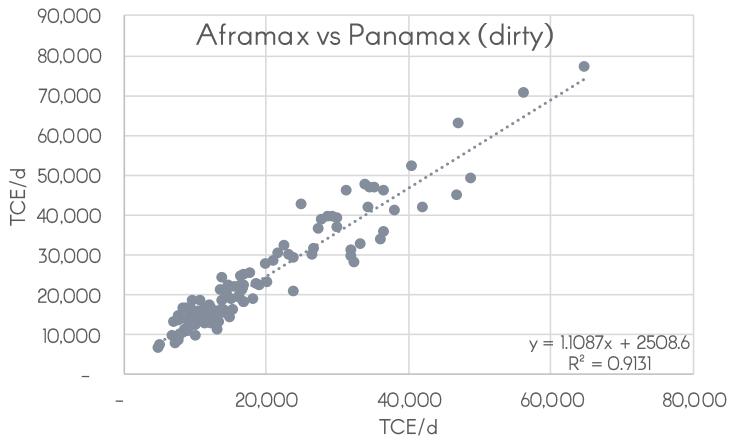
Spot rate correlation: Suezmax vs Aframax



Spot rate correlation: Aframax vs LR2

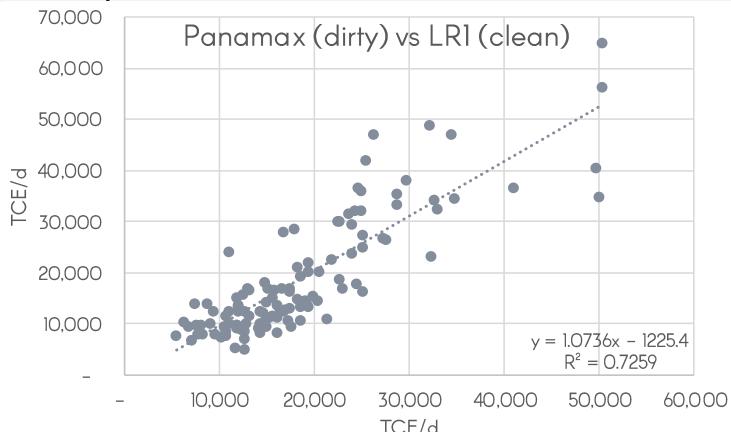


Spot rate correlation: Aframax vs Panamax

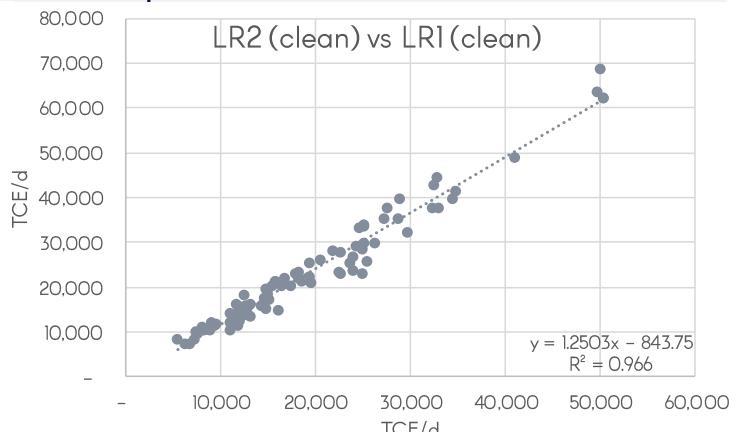


Product Tanker Dynamics (continued)

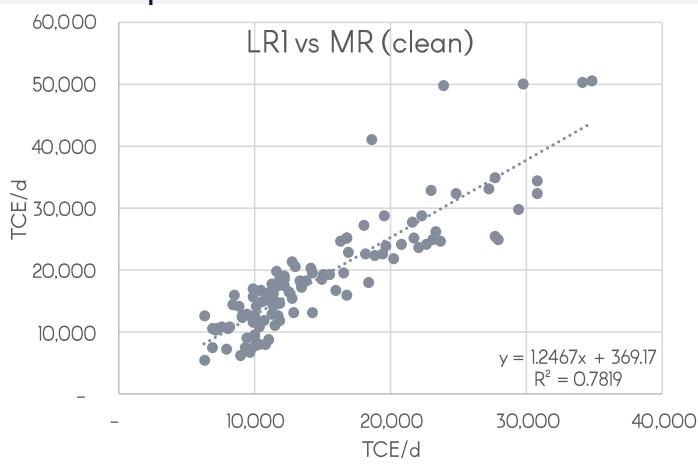
Spot rate correlation: Panamax vs LR1



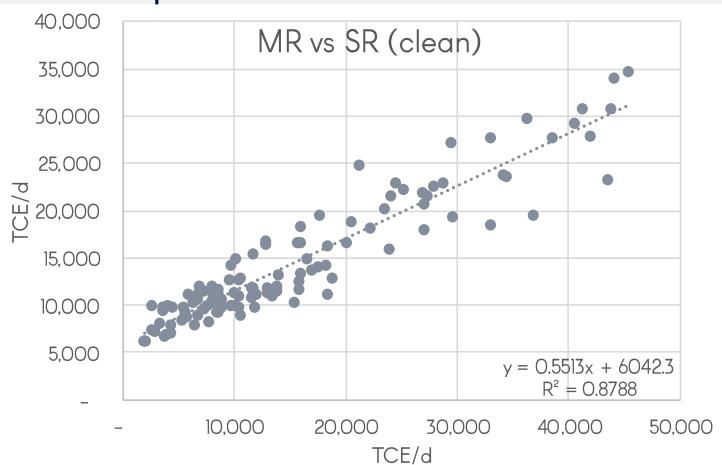
Spot rate correlation: LR2 vs LR1



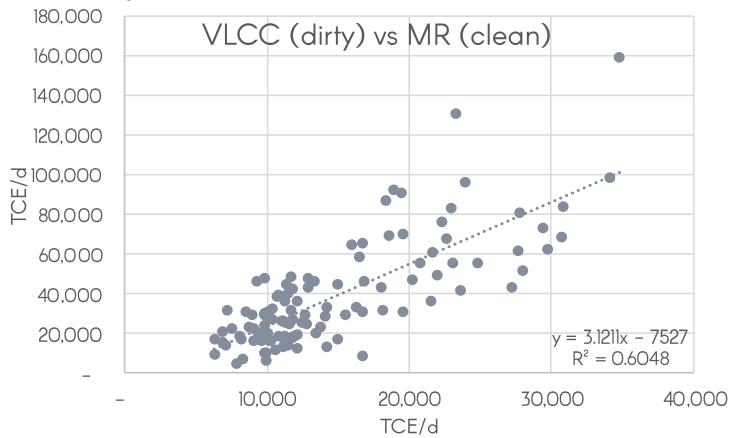
Spot rate correlation: LR1 vs MR



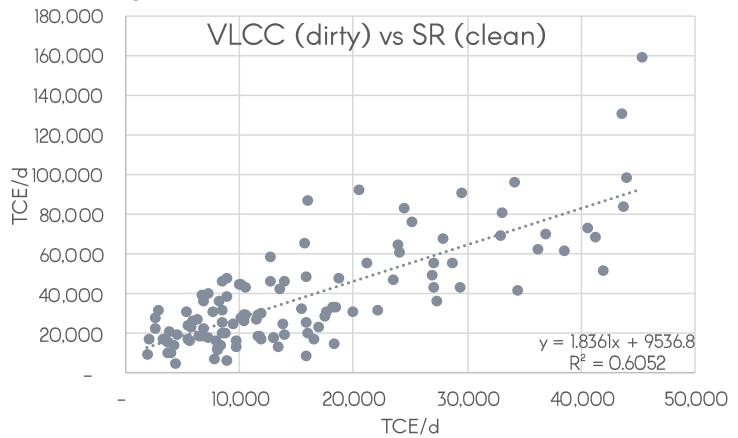
Spot rate correlation: MR vs SR



Spot rate correlation: VLCC vs MR



Spot rate correlation: VLCC vs SR





Company Financials (annual estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit				
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	
USDm																	
DHT US	320	587	636	597	231	502	550	511	103	405	430	385	80	384	412	370	
EURN US	760	1,544	1,579	1,459	505	1,296	1,329	1,210	289	1,040	1,061	943	205	923	944	834	
FRO US	947	1,635	1,516	1,400	710	1,413	1,292	1,177	561	1,258	1,129	1,004	499	1,180	1,056	935	
INSW US	829	1,126	1,054	969	542	867	805	727	434	751	689	610	389	708	651	577	
NAT US	203	390	384	357	122	313	306	279	71	263	256	228	48	241	236	210	
OET NO	192	338	362	333	148	294	318	288	109	252	275	246	75	217	243	216	
TNK US	597	889	836	804	373	668	627	599	275	574	533	504	243	553	519	493	
Average	550	930	909	845	376	765	747	684	263	649	625	560	220	601	580	519	

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity				
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	
USDm																	
DHT US	1,253	1,164	1,059	946	269	287	395	422	1,611	1,541	1,544	1,457	1,111	1,133	1,165	1,132	
EURN US	3,241	3,251	3,060	2,823	538	1,252	1,852	2,351	4,234	4,958	5,367	5,629	2,185	2,834	3,305	3,723	
FRO US	3,769	3,693	3,538	3,373	429	947	1,542	1,502	4,818	5,262	5,700	5,496	2,253	2,834	3,398	3,312	
INSW US	1,781	1,893	1,796	1,679	466	839	1,127	1,553	2,585	3,071	3,261	3,571	1,550	1,962	2,319	2,702	
NAT US	723	678	634	583	127	256	401	509	937	1,022	1,122	1,180	563	671	792	873	
OET NO	1,022	978	930	884	98	121	147	303	1,176	1,155	1,133	1,243	416	460	486	633	
TNK US	1,244	1,166	1,088	1,010	305	662	1,016	1,209	1,824	2,104	2,380	2,495	1,087	1,470	1,808	1,986	
Average	1,862	1,832	1,729	1,614	319	623	926	1,121	2,455	2,730	2,930	3,010	1,309	1,623	1,896	2,051	

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E		
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2023	2024	2023	2024	
USDm																	
DHT US	204	481	533	496	314	472	518	483	208	18	108	27	72,059	77,832	23,622	16,577	
EURN US	448	1,179	1,211	1,102	231	912	1,135	1,072	386	713	600	499	67,741	68,514	24,135	22,263	
FRO US	602	1,335	1,219	1,107	303	1,255	1,211	1,099	316	518	594	-39	65,939	60,874	20,301	16,935	
INSW US	408	824	768	694	533	595	749	694	368	373	288	426	40,899	39,586	16,540	16,498	
NAT US	88	291	286	260	56	285	280	260	82	129	145	108	55,213	54,109	16,796	46,771	
OET NO	109	259	286	258	-72	261	292	261	57	23	26	156	67,027	72,831	28,241	24,313	
TNK US	284	647	614	588	308	631	597	572	252	357	354	193	54,180	51,769	20,354	17,768	
Average	306	717	702	644	239	630	683	634	238	305	302	196	60,437	60,788	21,427	23,018	



Company Financials (quarterly estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA			EBIT			Net Profit		
	USDm	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23
DHT US		145	141			124	120			100	96		
EURN US		414	384			353	321			292	257		
FRO US		466	411			411	356			373	317		
INSW US		333	288			267	222			239	193		
NAT US		119	100			100	81			88	68		
OET NO		88	80			77	69			66	59		
TNK US		279	229			223	173			200	149		
Average		263	233			222	192			194	163		
												182	150

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity			
	USDm	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23
DHT US		1,231	1,209			277	279			1,598	1,577			1,113	1,108	
EURN US		3,301	3,287			829	980			4,585	4,721			2,443	2,565	
FRO US		3,804	3,767			610	673			5,035	5,062			2,448	2,569	
INSW US		1,967	1,942			682	732			2,987	3,013			1,753	1,821	
NAT US		712	701			180	204			979	993			611	631	
OET NO		1,012	1,001			109	101			1,176	1,157			434	433	
TNK US		1,225	1,206			501	569			2,001	2,050			1,282	1,348	
Average		1,893	1,873			455	505			2,623	2,653			1,441	1,496	

Cash Flow

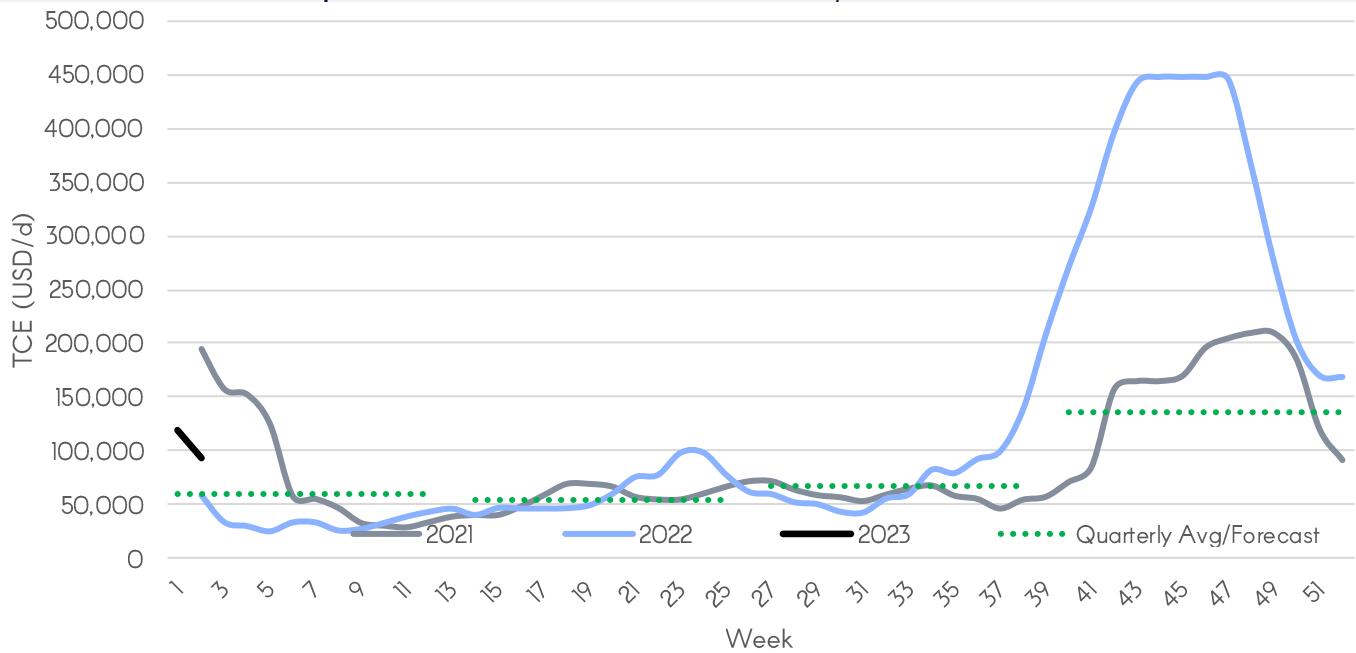
CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E		
	USDm	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	1Q23	2Q23	1Q23	2Q23
DHT US		118	114			116	112			9	1			72,263	69,319	20,399	19,948
EURN US		324	292			204	242			290	151			73,358	66,342	25,714	25,614
FRO US		391	336			317	334			181	63			76,093	66,446	19,364	27,400
INSW US		257	211			42	206			216	50			48,272	41,244	16,600	16,515
NAT US		94	76			93	74			53	24			68,295	56,773	17,347	17,082
OET NO		68	60			68	61			11	-8			70,385	63,735	29,910	29,757
TNK US		217	167			213	163			196	68			67,485	55,515	18,584	18,506
Average		210	179			151	170			137	50			68,022	59,910	21,131	22,117

LNG Carriers



Earnings

Spot rates (Tri-Fuel Diesel Electric Propulsion, 160k cbm)





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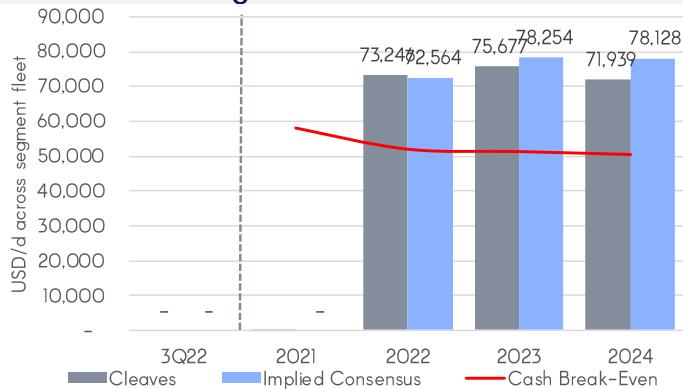
$$f(\lambda) = a_0 + \beta_1 \lambda^\tau, R^2 \approx 1$$

Peer Group

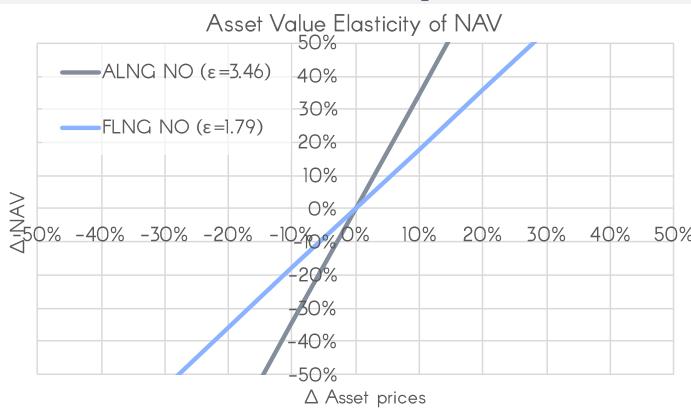
Updated 16 Jan 17 14 CEST				Return	Target Rec.	Target Price	Last Price	Target/Price	NAV /sh	P/NAV Now	1y fwd	ϵ	EV/GAV	adj. equity	τ
Company	M.cap	Turnover	1y												
ALNG NO	103	0.5	48%	HOLD	6.4	7.7	-17%	5.5	1.39	1.07	3.46	1.11	26%	1.00	
FLNG NO	1,725	3.9	61%	HOLD	361	313.6	15%	330	0.95	0.86	1.79	0.99	50%	0.30	
Average	914	2	54%				-1%			1.17	0.96	2.63	1.05	38%	0.65
Median	914	2	54%				-1%			1.17	0.96	2.63	1.05	38%	0.65

Company	EV/EBITDA			P/E			Dividend yield			FCF yield		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
ALNG NO	0.1	5.5	7.1	8.2	3.7	7.3	19%	7%	6%	39%	37%	26%
FLNG NO	0.1	11.3	10.6	14.6	13.4	12.5	9%	12%	9%	63%	13%	13%
Average	0.1	8.4	8.9	11.4	8.6	9.9	14%	9%	8%	51%	25%	20%
Median	0.1	8.4	8.9	11.4	8.6	9.9	14%	9%	8%	51%	25%	20%

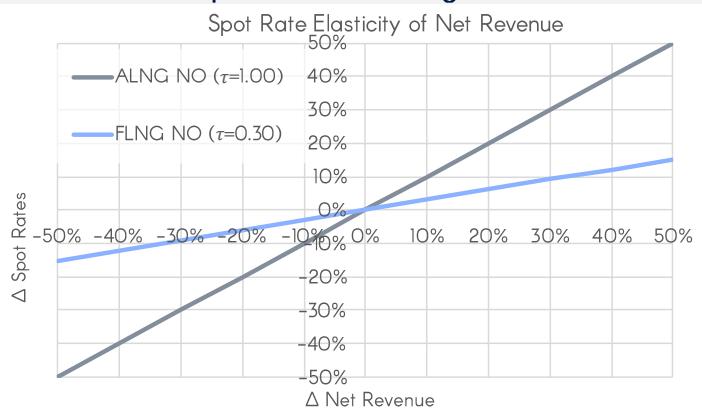
Cleaves' average TCE/d forecast vs consensus



Financial leverage (ϵ)



Operational leverage (τ)



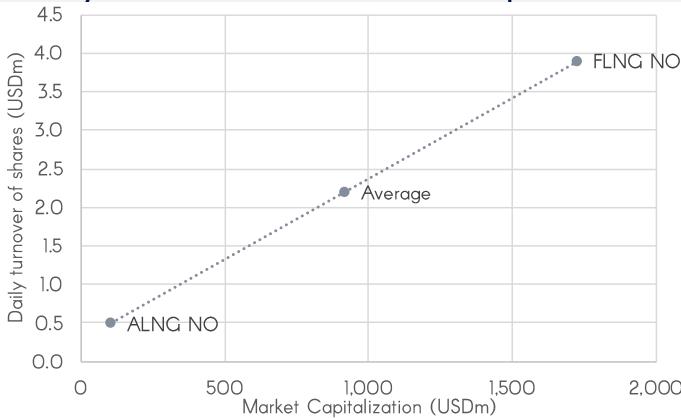


Cleaves Securities

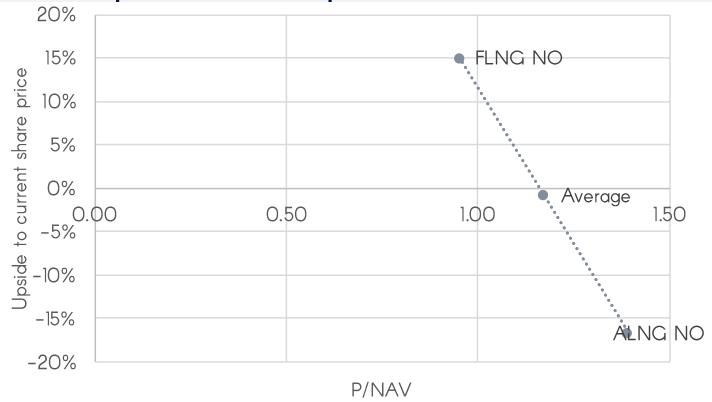
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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

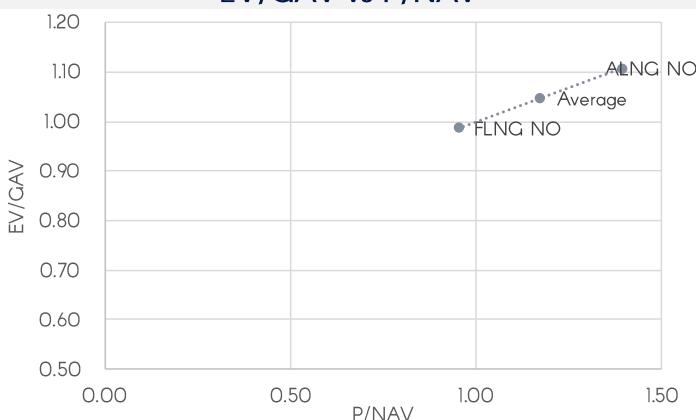
Daily share turnover vs market capitalization



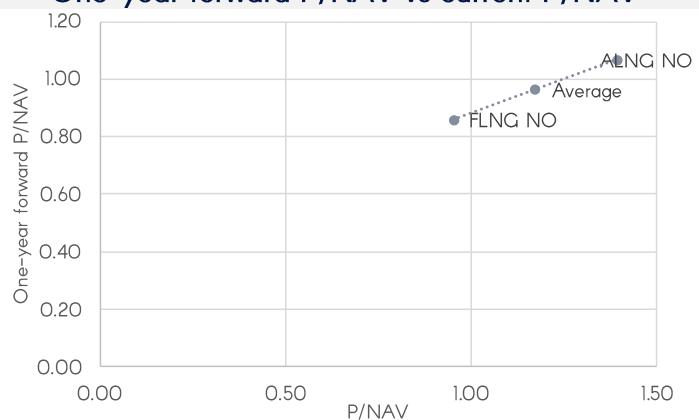
Upside to share price current P/NAV



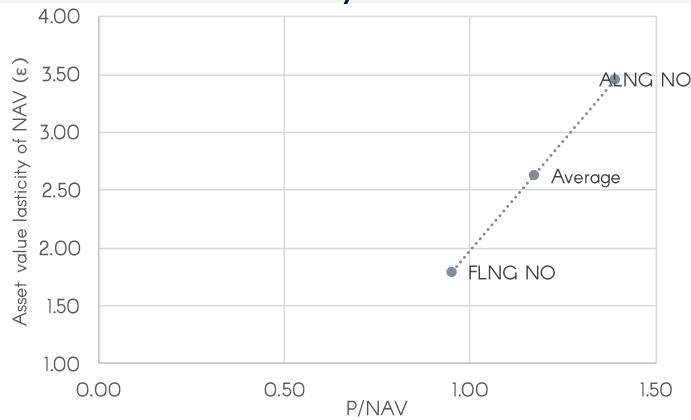
EV/GAV vs P/NAV



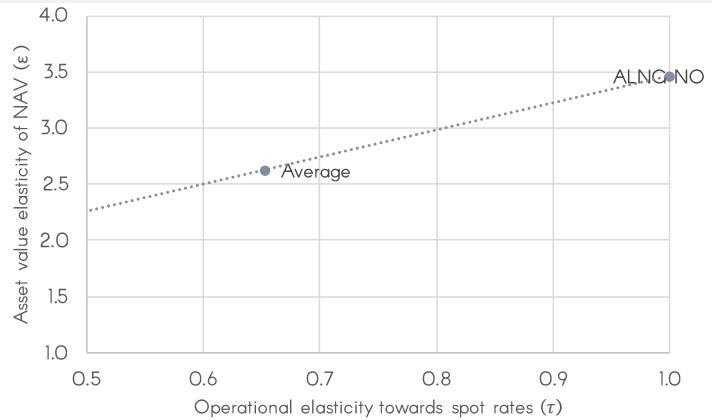
One-year forward P/NAV vs current P/NAV



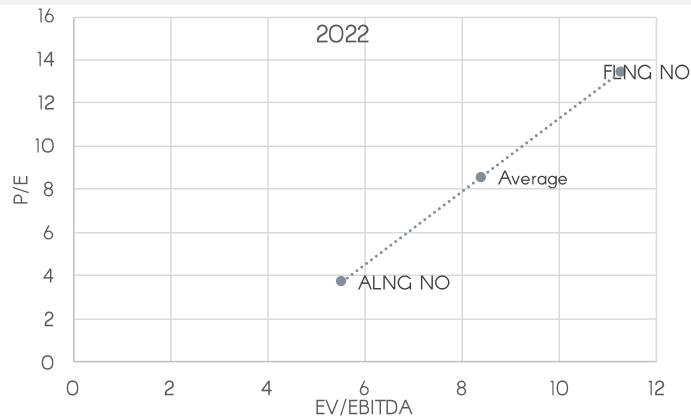
Asset value elasticity of NAV vs P/NAV



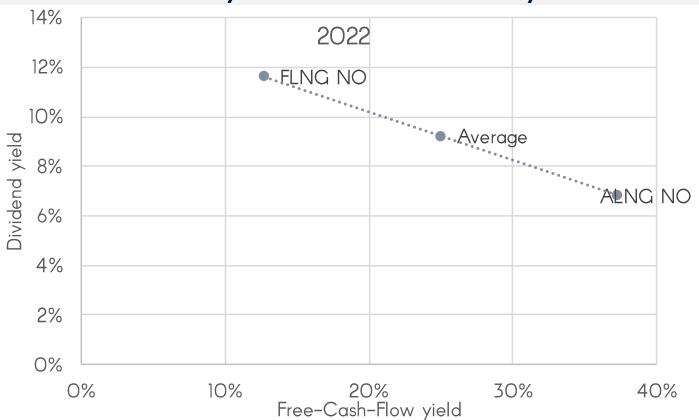
Elasticities: NAV vs net revenue



P/E vs EV/EBITDA



Dividend yield vs free cash flow yield





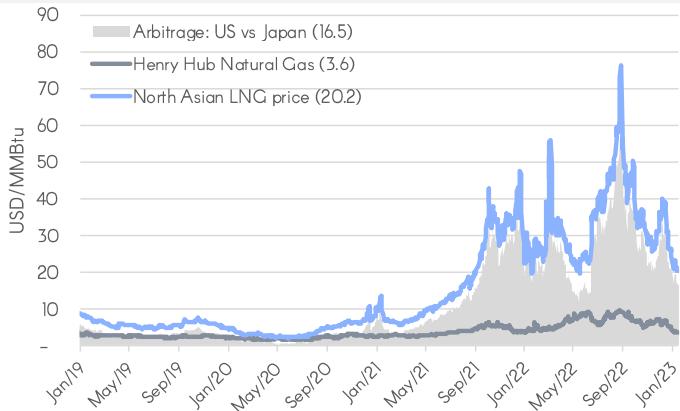
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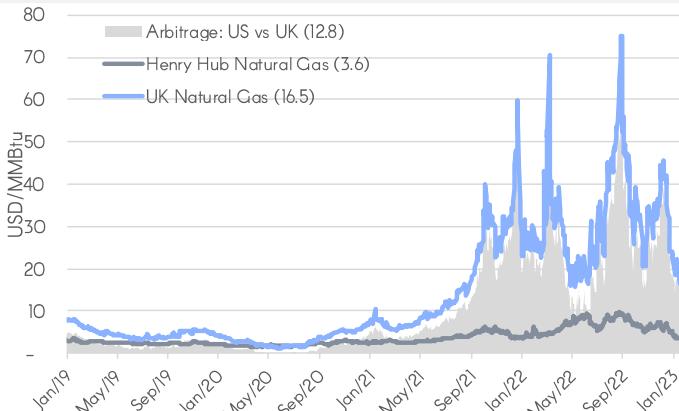
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Market Snapshots

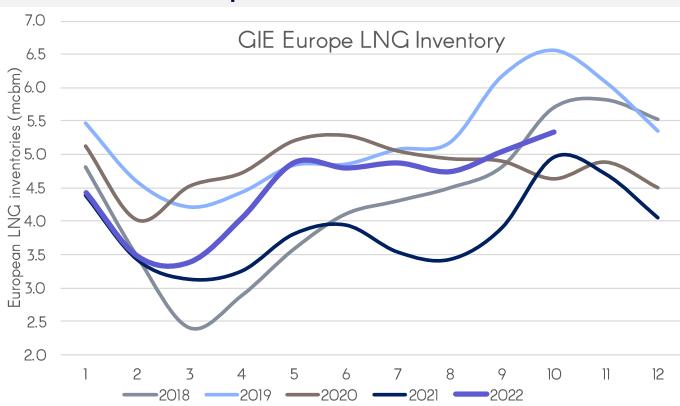
Natural gas price arbitrage: US vs North Asia



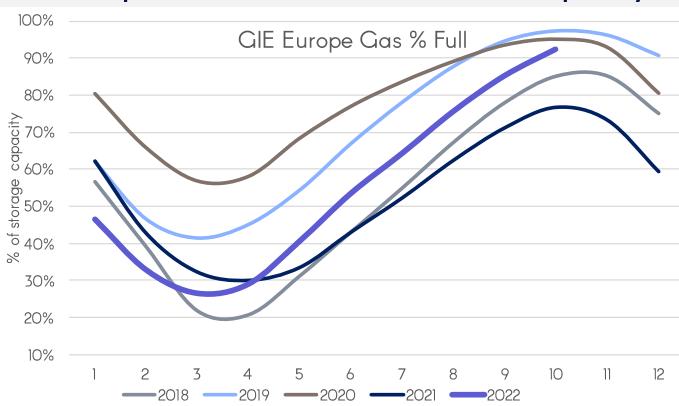
Natural gas price arbitrage: US vs UK



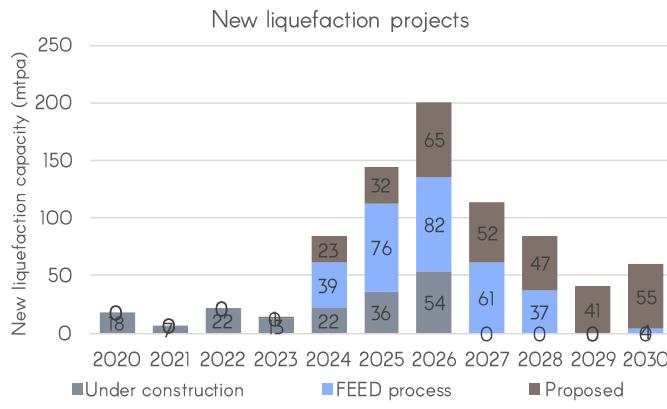
European LNG inventories



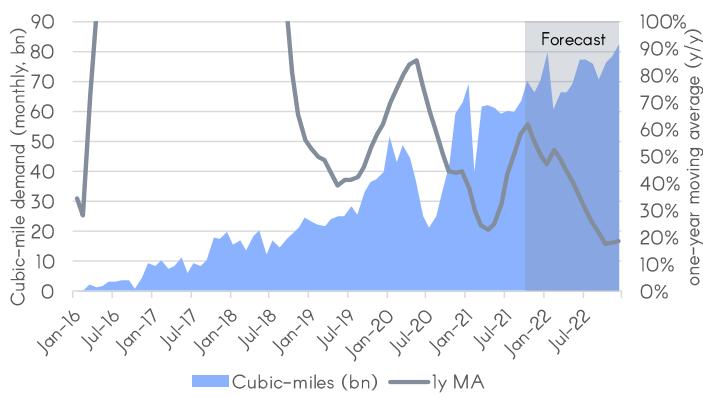
European LNG inventories: % of capacity



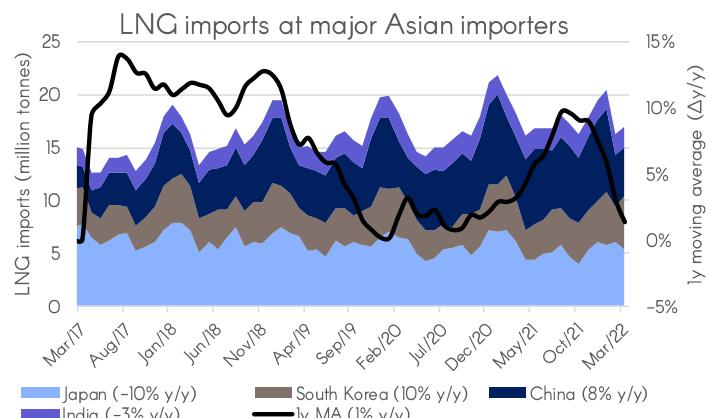
Expected & proposed new liquefaction capacity



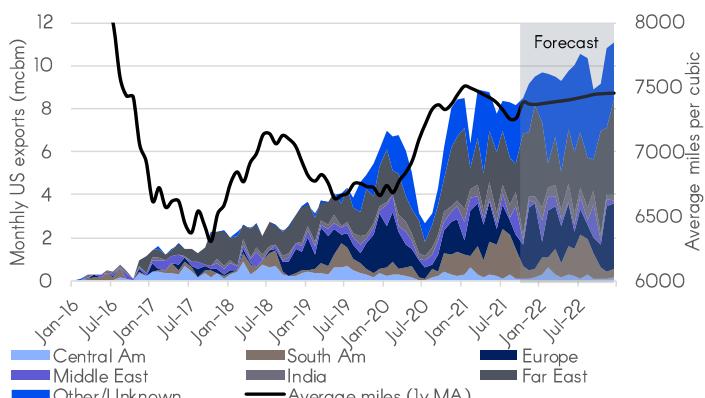
US LNG exports (cubic-miles)



Major Asian LNG imports



US LNG exports by import destination (mcbm)



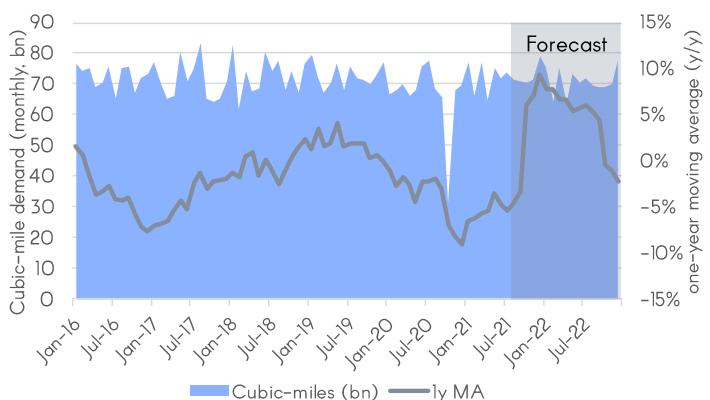


Cleaves Securities

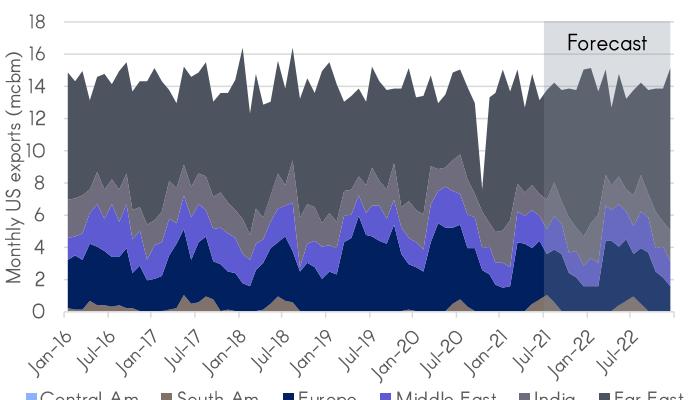
Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

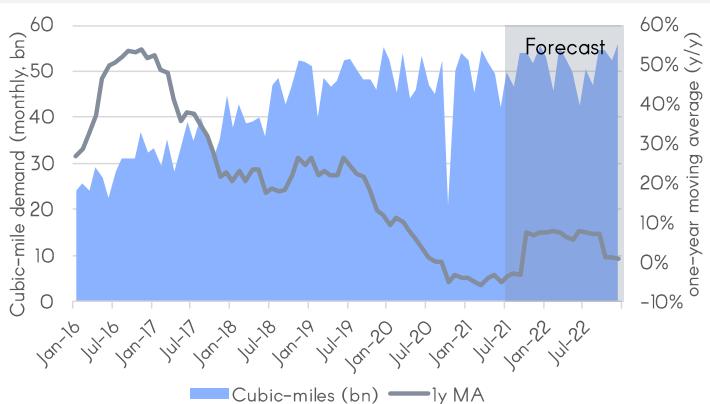
Qatari LNG exports (cubic-miles)



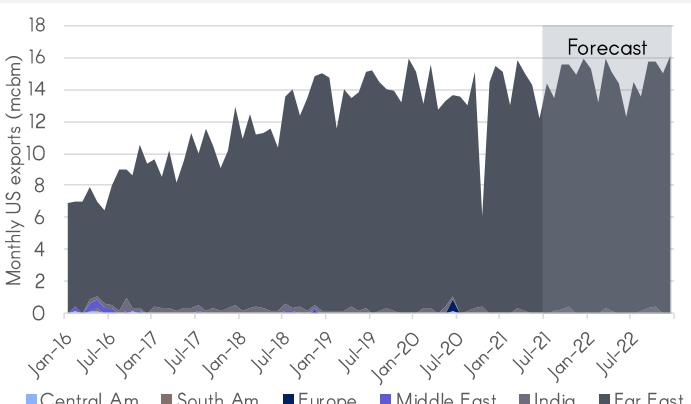
Qatari LNG exports by import destination (mcbm)



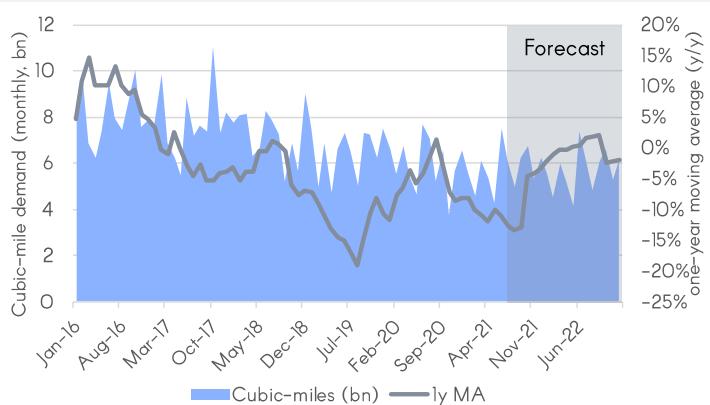
Australian LNG exports (cubic-miles)



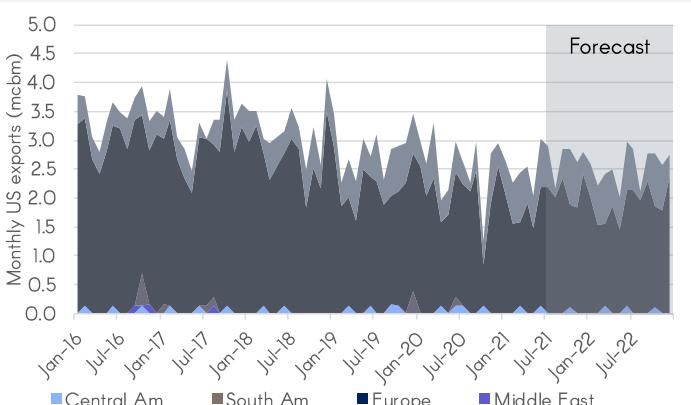
Australian LNG exports by import destination (mcbm)



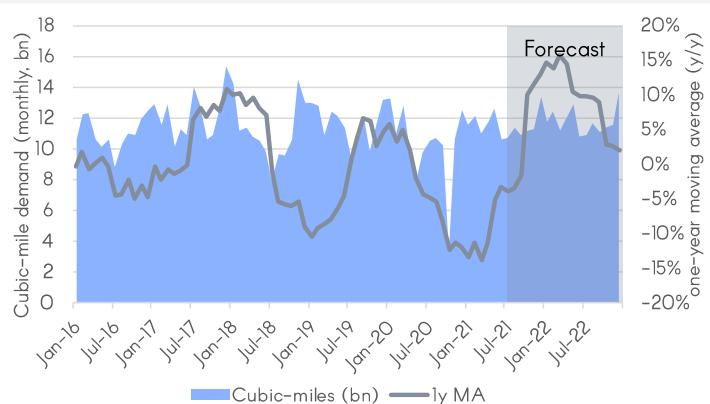
Indonesian LNG exports (cubic-miles)



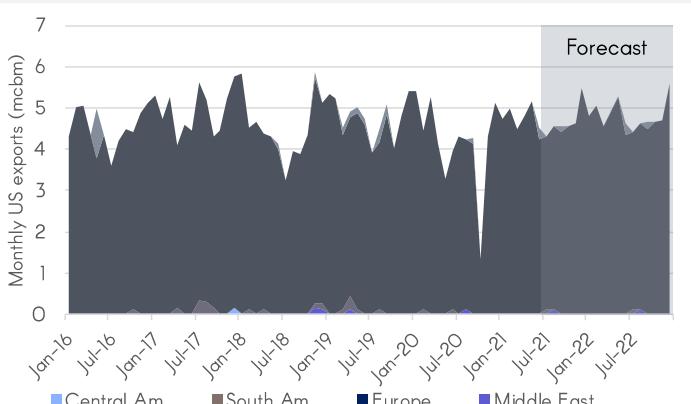
Indonesian LNG exports by import destination (mcbm)



Malaysian LNG exports (cubic-miles)



Malaysian LNG exports by import destination (mcbm)



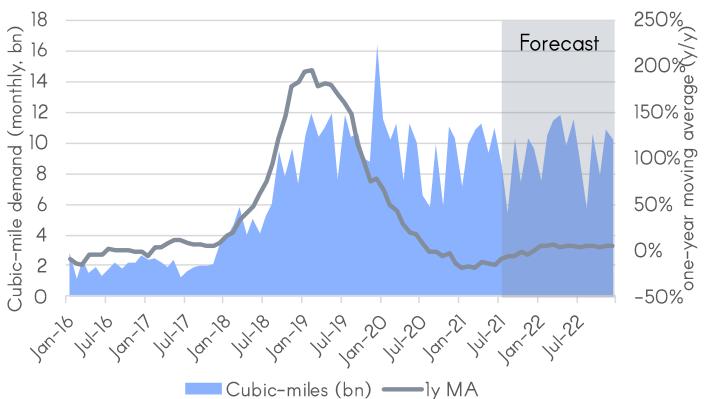


Cleaves Securities

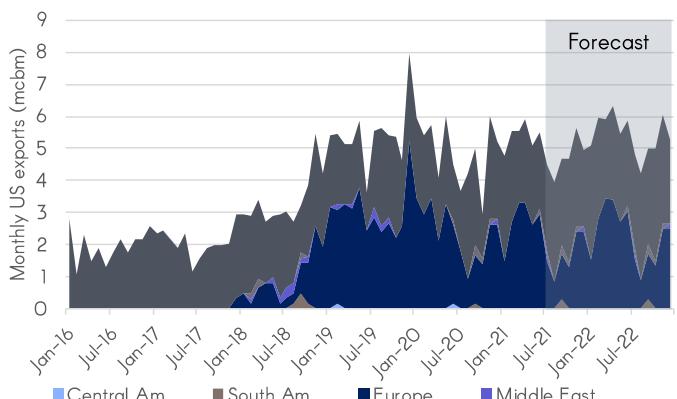
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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

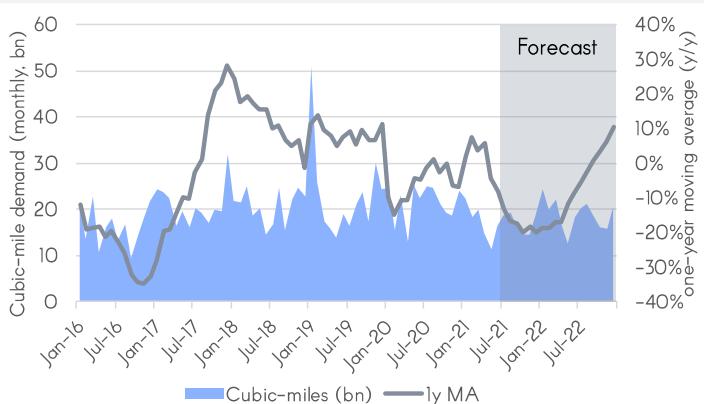
Russian LNG exports (cubic-miles)



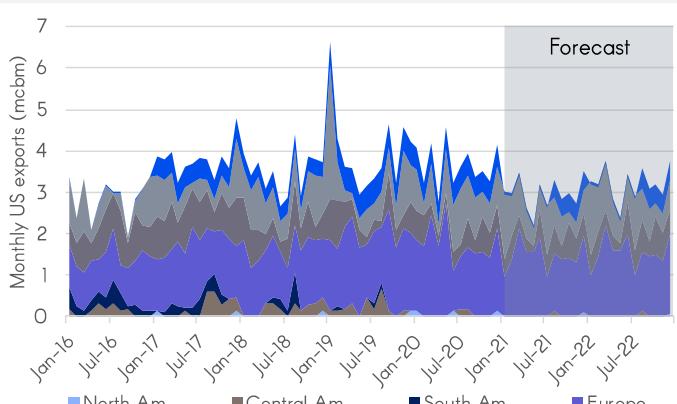
Russian LNG exports by import destination (mcbm)



Nigerian LNG exports (cubic-miles)

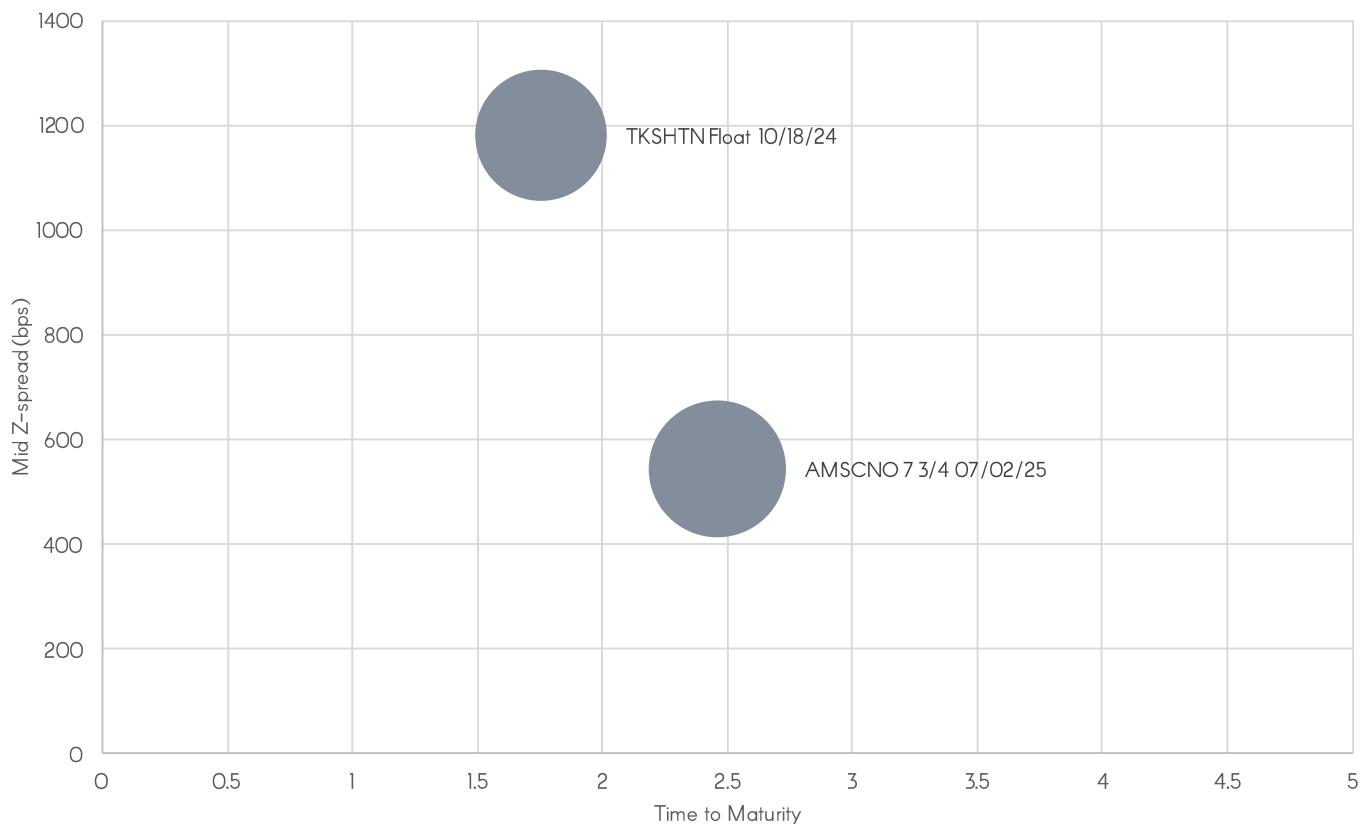


Nigerian LNG exports by import destination (mcbm)



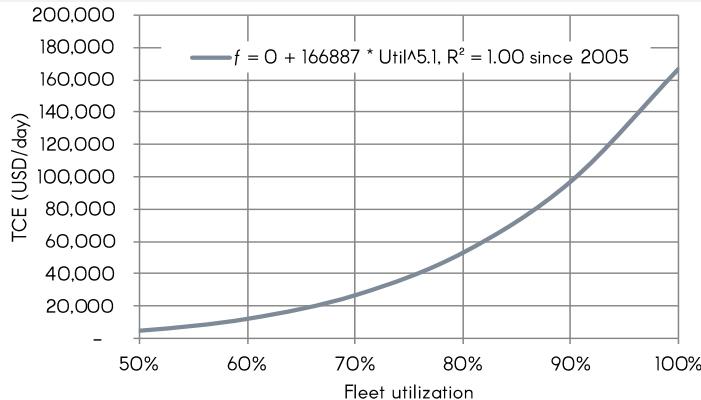
The Credit Market

Gas Carrier bond pricing (by amount outstanding)

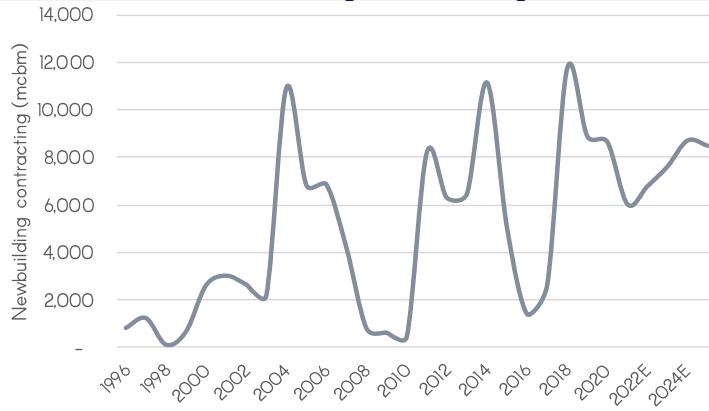


Market Fundamentals

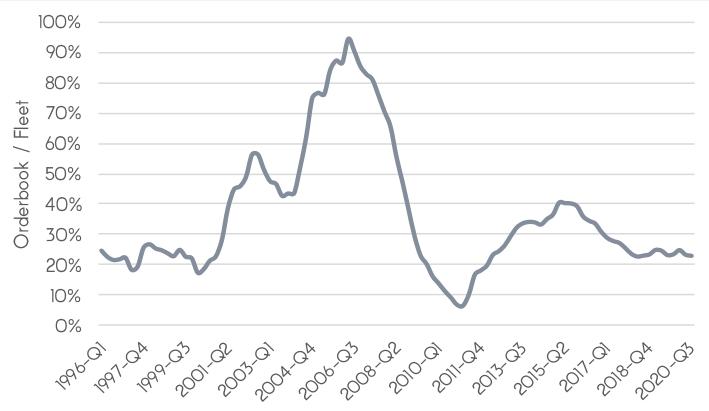
Econometrics: Spot rates vs fleet utilization



Newbuilding contracting



Orderbook vs fleet





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Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^x, R^2 \approx 1$$

Market Overview

Annual view		2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	
Base case		-	-	-	19,818	119,397	149,316	124,129	88,687	49,417	46,608	60,376	107,007	81,915	71,173	117,832	105,591	98,685	83,435	65,419	
MEG1 175k, spot ^a (TCE/d)					71,302	109,708	138,346	114,237	80,315	42,728	40,039	53,217	97,850	75,626	65,221	103,085	87,177	88,578	74,466	57,795	
DFDE 170k, spot ^a (TCE/d)					63,333	100,020	127,375	104,346	71,942	36,038	33,470	46,058	88,692	69,337	59,269	93,837	78,853	80,190	66,726	50,820	
DFDE 155k, spot ^a (TCE/d)					58,303	49,370	37,072	40,673	93,135	128,404	100,433	55,626	27,314	20,088	28,596	52,000	47,695	41,048	70,106	55,924	
Turbine 150k, spot ^a (TCE/d)																			61,336	47,872	33,098
MEG1 175k, 5y ^a (USDm)																				235	235
DFDE 170k, 5y ^a (USDm)																				190	190
DFDE 155k, 5y ^a (USDm)																				173	170
Turbine 150k, 5y ^a (USDm)																				135	135
Turbine 125k, 5y ^a (USDm)																				131	131

Quarterly view		1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25
Base case		101,500	74,327	77,942	217,558	80,731	81,731	98,607	161,296	55,273	88,005	75,952	175,512	49,374	75,956	64,192	144,217	40,901	59,654	50,173
MEG1 175k, spot ^a (TCE/d)		92,962	66,144	66,147	187,086	66,560	60,523	75,109	146,515	48,407	78,695	67,542	159,669	42,948	67,546	56,660	130,710	35,108	52,461	43,687
DFDE 170k, spot ^a (TCE/d)		84,423	57,962	58,788	174,173	59,183	53,423	67,339	135,465	41,863	70,760	60,120	148,015	36,656	60,123	49,738	120,386	29,176	45,731	37,361
DFDE 155k, spot ^a (TCE/d)		59,962	44,654	41,692	134,115	36,192	34,731	36,161	116,611	23,009	51,906	41,266	129,161	17,802	41,269	30,884	101,532	14,846	26,877	18,507
Turbine 150k, spot ^a (TCE/d)		235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235	235
MEG1 175k, 5y ^a (USDm)		190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190	190
DFDE 170k, 5y ^a (USDm)		180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180	180
DFDE 155k, 5y ^a (USDm)		135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135	135
Turbine 150k, 5y ^a (USDm)		131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131	131
Turbine 125k, 5y ^a (USDm)																				



Company Financials (annual estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit			
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025
USDm	64	50	44	41	50	36	30	27	37	24	17	14	27	14	8	6
ALNG NO	348	359	343	287	278	289	272	216	206	217	200	144	143	154	140	88
Average	206	205	193	164	164	163	151	122	122	120	109	79	85	84	74	47
Median	206	205	193	164	164	163	151	122	122	120	109	79	85	84	74	47

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity			
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025
USDm	316	303	290	278	31	33	31	25	354	342	328	309	140	147	152	152
ALNG NO	2,270	2,198	2,125	2,053	247	234	277	246	2,593	2,507	2,478	2,375	877	872	923	903
Average	1,293	1,251	1,208	1,165	139	133	154	136	1,473	1,425	1,403	1,342	509	509	537	527
Median	1,293	1,251	1,208	1,165	139	133	154	136	1,473	1,425	1,403	1,342	509	509	537	527

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E	
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2023	2024	2023	2024
USDm	40	27	21	19	38	27	21	19	8	1	-2	-6	68,434	59,984	57,837	56,608
ALNG NO	218	226	212	160	218	226	212	160	46	-13	43	-31	75,677	71,939	44,851	44,401
Average	129	126	117	90	128	126	117	90	27	-6	21	-18	72,056	65,961	51,344	50,504
Median	129	126	117	90	128	126	117	90	27	-6	21	-18	72,056	65,961	51,344	50,504

Company Financials (quarterly estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit			
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23
USDm	12	10			9	7			6	3			3	1		
ALNG NO	86	90			68	72			51	54			35	39		
Average	49	50			39	39			28	29			19	20		
Median	49	50			39	39			28	29			19	20		

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity			
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23
USDm	313	310			28	26			347	342			138	138		
ALNG NO	2,252	2,234			240	237			2,568	2,547			872	871		
Average	1,283	1,272			134	132			1,457	1,445			505	504		
Median	1,283	1,272			134	132			1,457	1,445			505	504		

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E	
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	1Q23	2Q23	1Q23	2Q23
USDm	6	4			6	4			-4	-2			68,279	54,488	58,259	57,937
ALNG NO	53	57			53	57			-7	-3			73,406	75,923	45,277	44,801
Average	30	30			30	30			-5	-2			70,842	65,205	51,768	51,369
Median	30	30			30	30			-5	-2			70,842	65,205	51,768	51,369

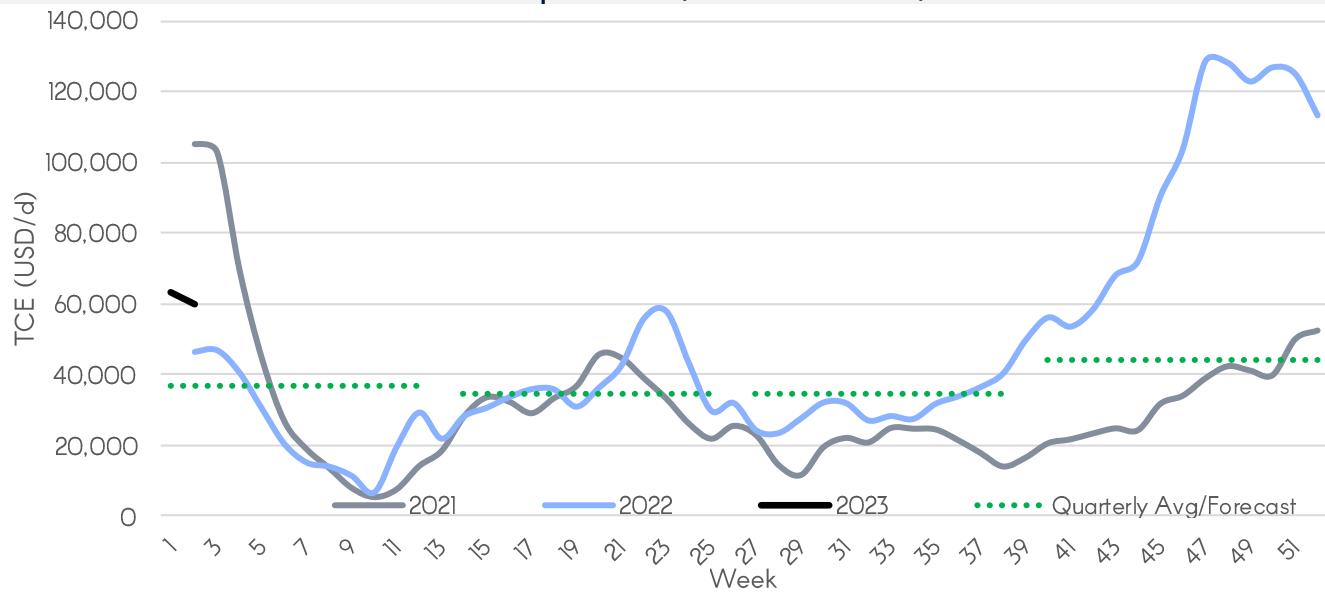


LPG Carriers

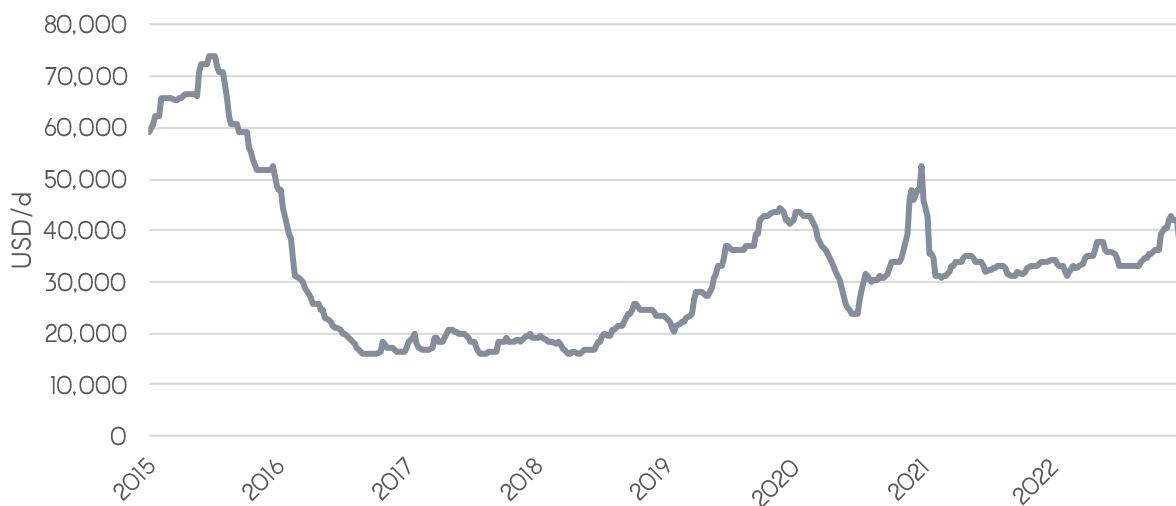


Earnings

VLCG spot rates (Baltic LPG Index)



VLCG one-year timecharter rates





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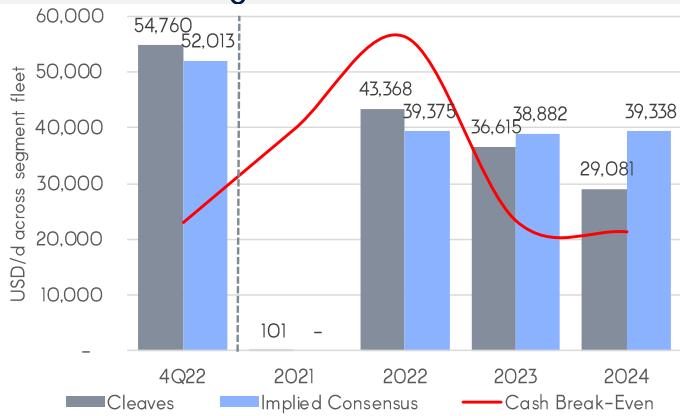
$$f(\lambda) = a_0 + \beta_1 \lambda^\tau, R^2 \approx 1$$

Peer Group

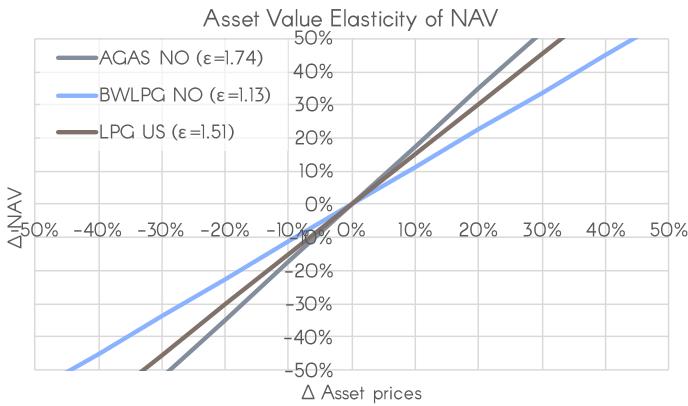
Updated 16 Jan 18 03 CEST				Return		Target	Last	Target/	NAV	P/NAV		EV/	adj.	
Company	M.cap	Turnover	ly	Rec.	Price	Price	Price	/sh	Now	ly fwd	ϵ	GAV	equity	τ
AGAS NO	432	1.0	69%	SELL	37	55.3	-33%	88	0.63	0.71	1.74	0.79	48%	1.00
BWLPG NO	1,039	2.5	64%	HOLD	67	72.5	-8%	108	0.67	0.61	1.13	0.76	67%	1.00
LPG US	719	10.1	73%	SELL	10	17.8	-44%	23	0.78	0.79	1.51	0.86	56%	0.95
Average	730	4.6	68%				-28%		0.69	0.71	1.46	0.81	57%	0.98
Median	719	2.5	69%				-33%		0.67	0.71	1.51	0.79	56%	1.00

Company	EV/EBITDA			P/E			Dividend yield			FCF yield		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
AGAS NO	0.1	4.4	6.5	4.1	4.6	7.2	26%	12%	8%	56%	19%	-17%
BWLPG NO	0.1	2.4	2.6	1.3	3.6	4.8	33%	12%	12%	84%	52%	30%
LPG US	0.0	5.4	7.2	4.9	5.1	8.3	22%	31%	7%	64%	30%	6%
Average	0.1	4.1	5.4	3.4	4.4	6.8	27%	18%	9%	68%	34%	6%
Median	0.1	4.4	6.5	4.1	4.6	7.2	26%	12%	8%	64%	30%	6%

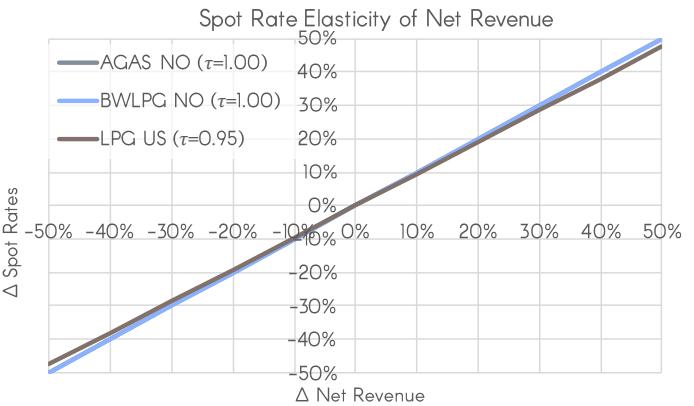
Cleaves' average TCE/d forecast vs consensus



Financial leverage (ϵ)



Operational leverage (τ)



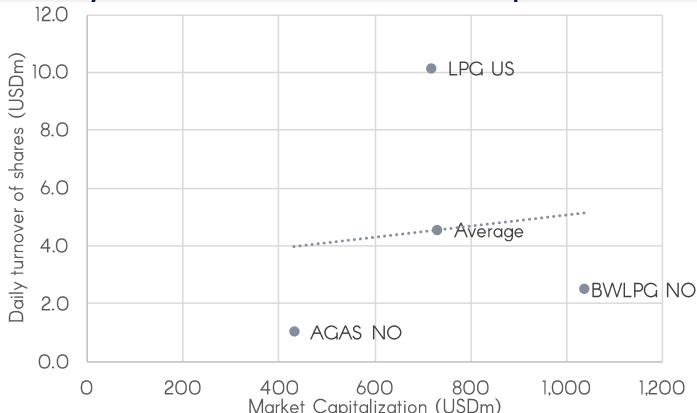


Cleaves Securities

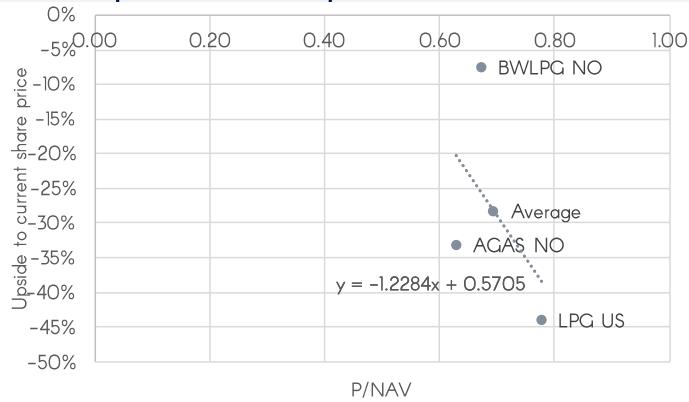
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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

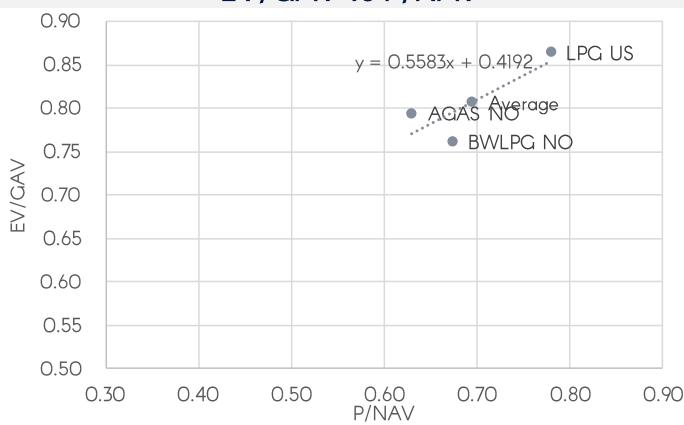
Daily share turnover vs market capitalization



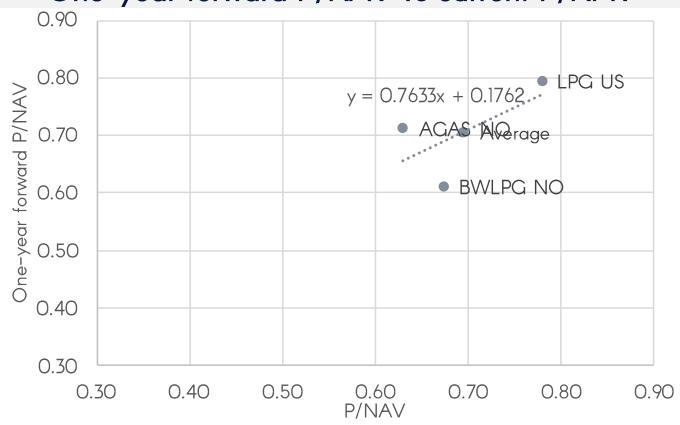
Upside to share price current P/NAV



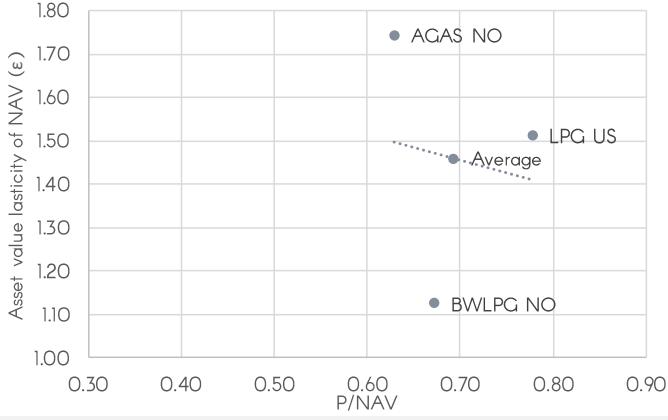
EV/GAV vs P/NAV



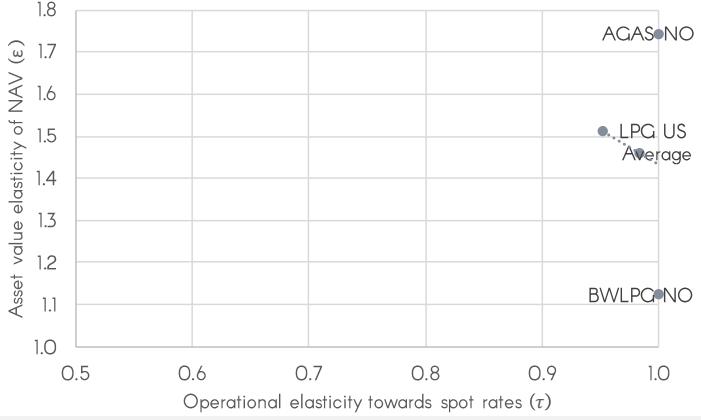
One-year forward P/NAV vs current P/NAV



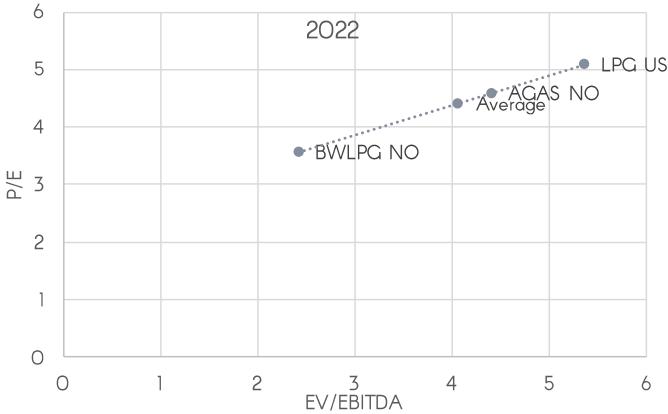
Asset value elasticity of NAV vs P/NAV



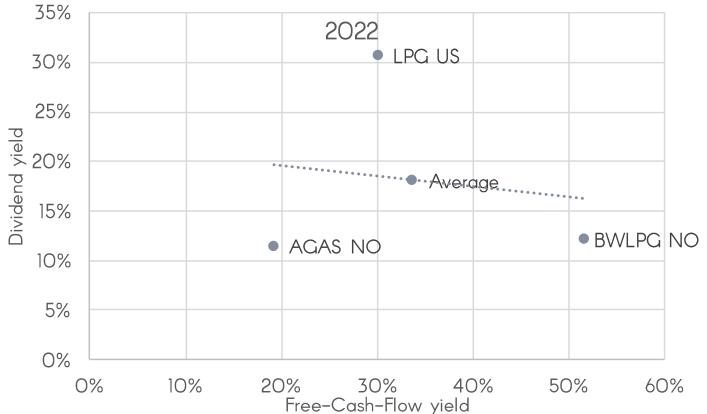
Elasticities: NAV vs net revenue



P/E vs EV/EBITDA



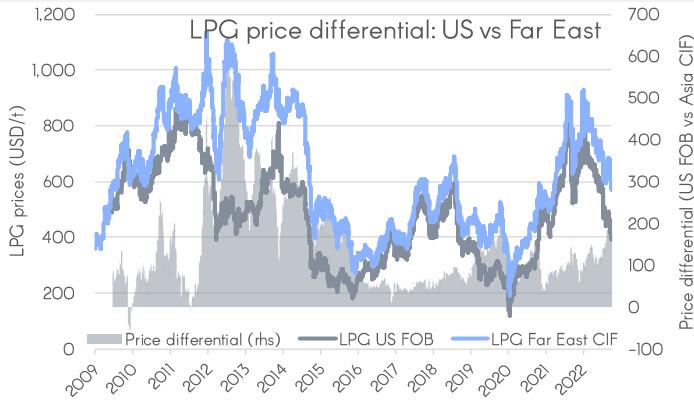
Dividend yield vs free cash flow yield



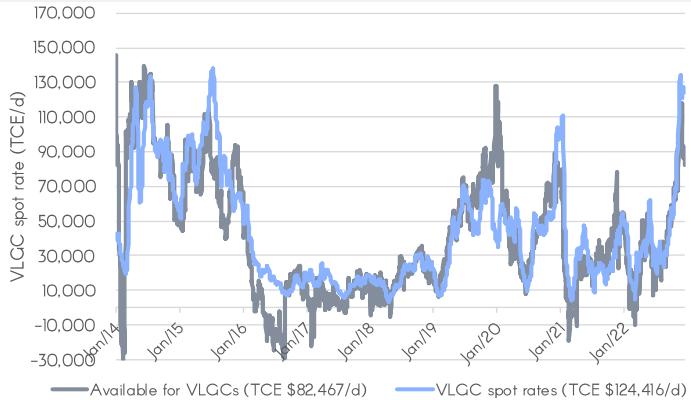


Market Snapshots

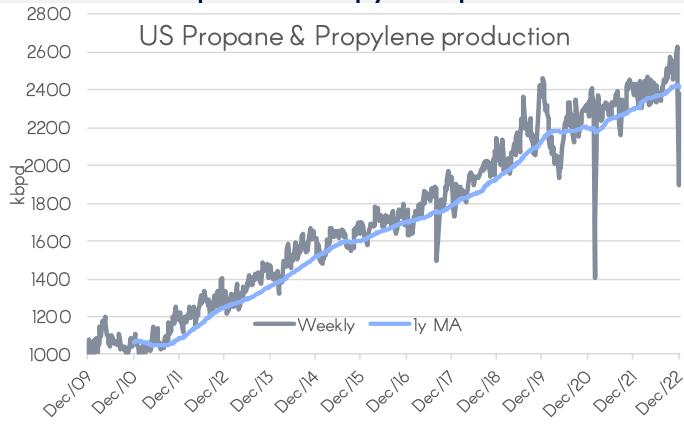
LPG pricing differential between US & Far East



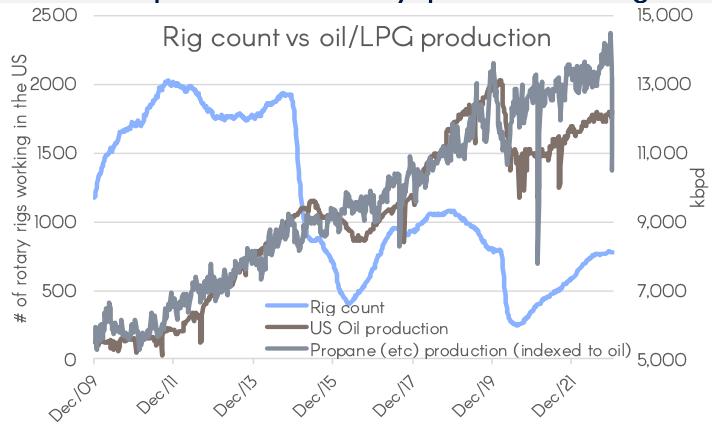
VLGC rates vs theoretical from pricing differential



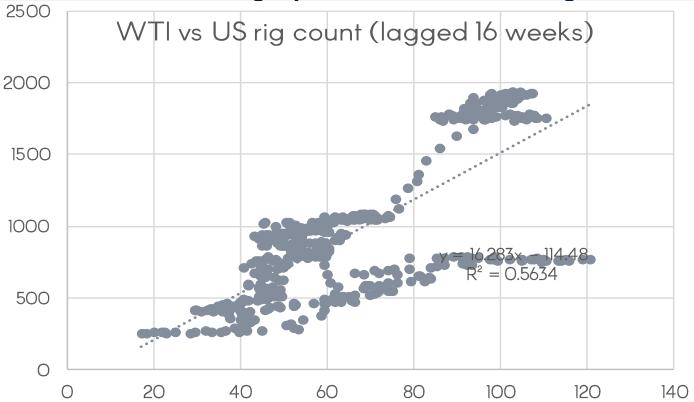
US Propane & Propylene production



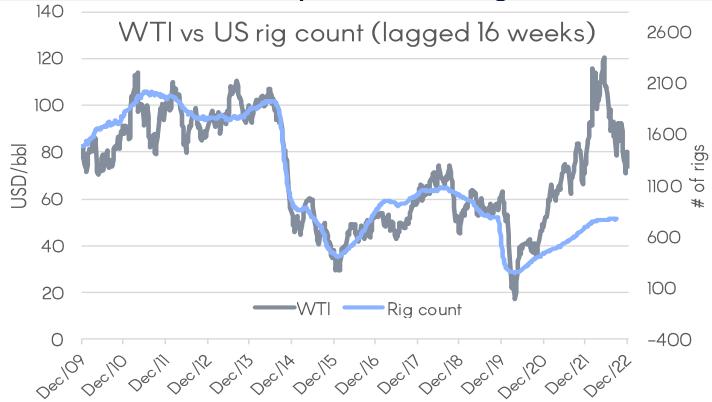
US LPG production is a by-product of oil/gas



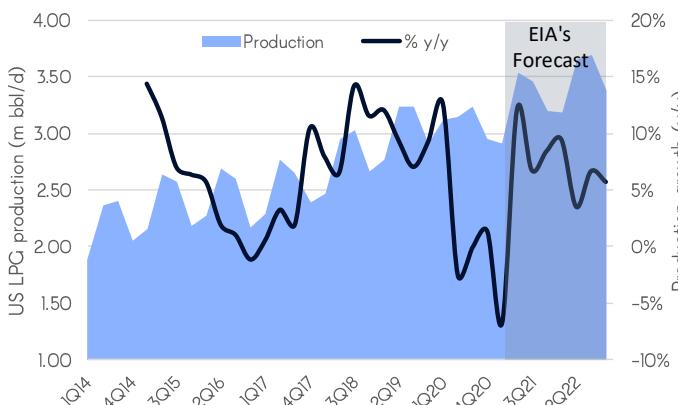
US crude oil highly correlated with rig count



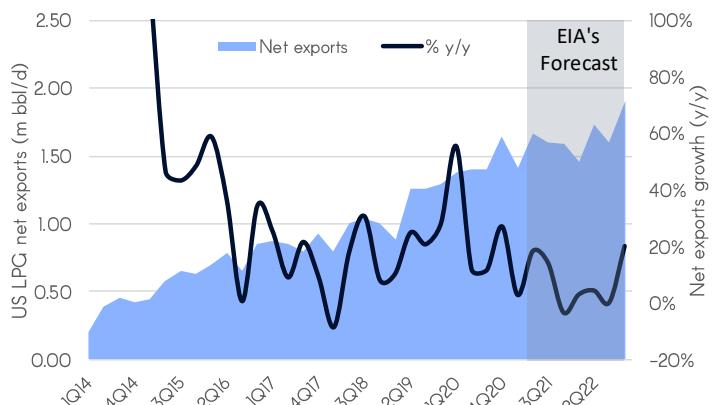
US crude oil price vs the rig count



US LPG production & EIA's forecast



US LPG net exports & EIA's forecast

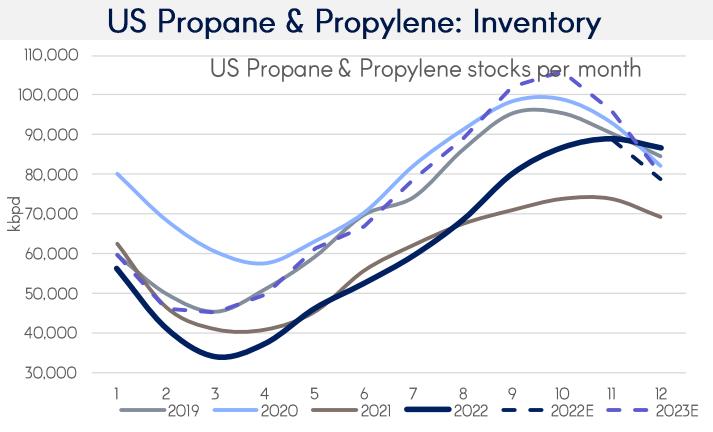
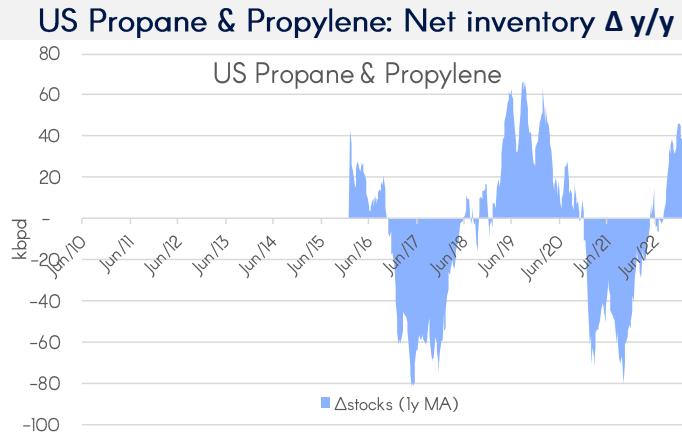
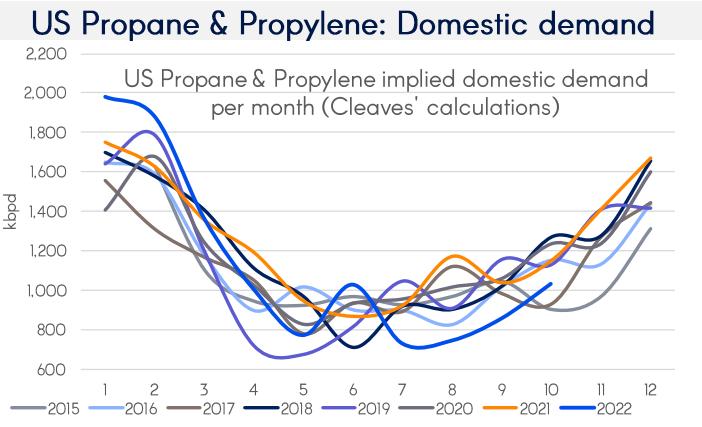
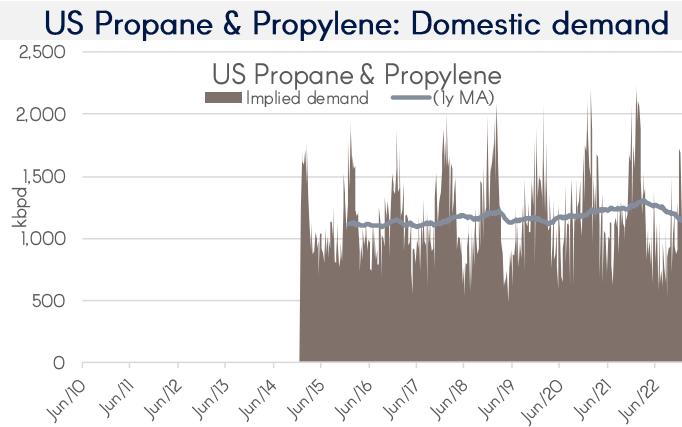
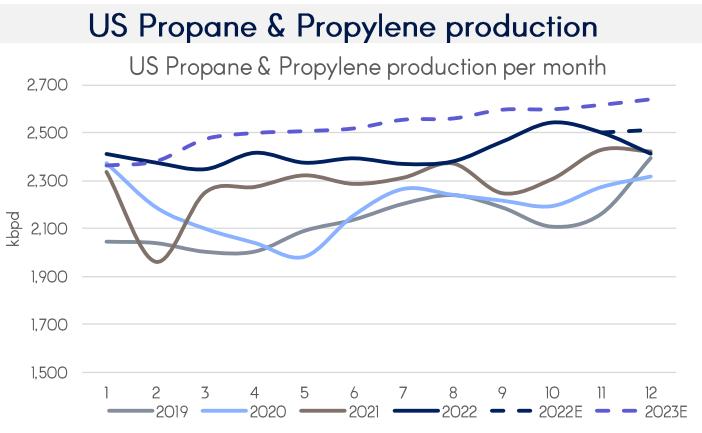
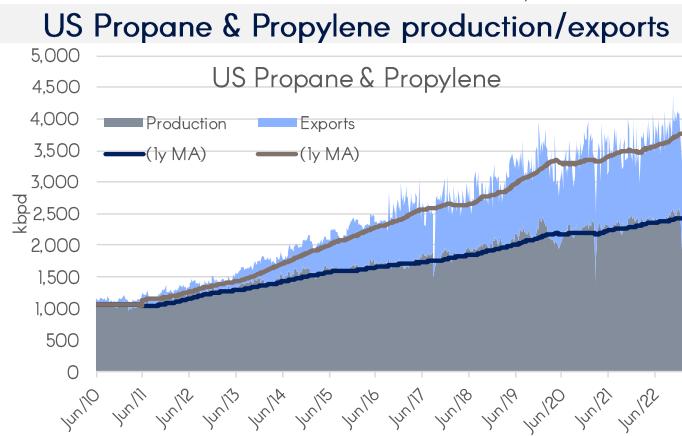
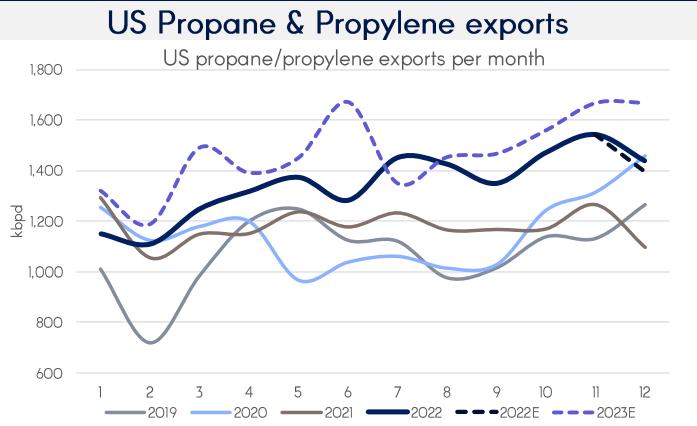
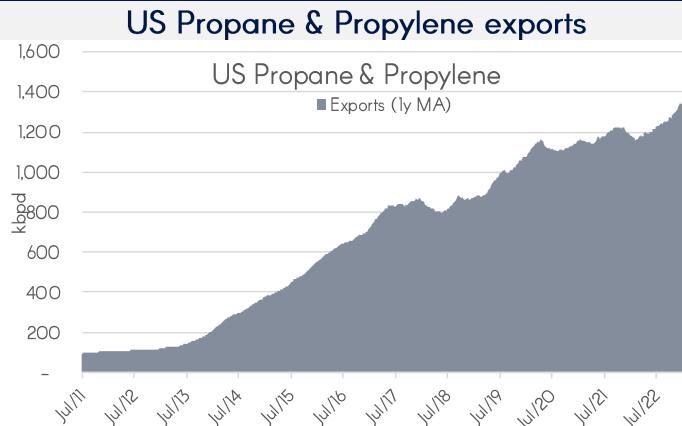




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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$



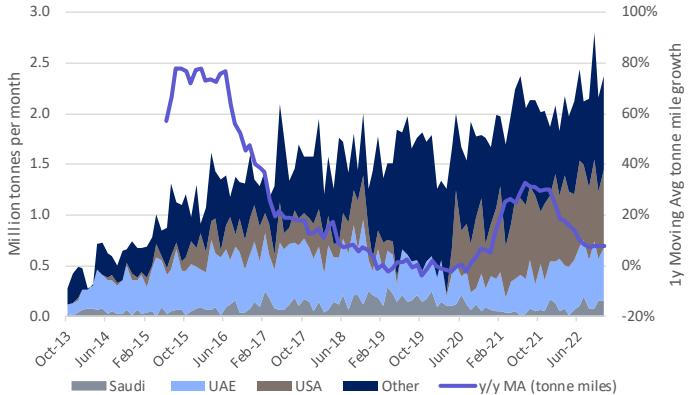


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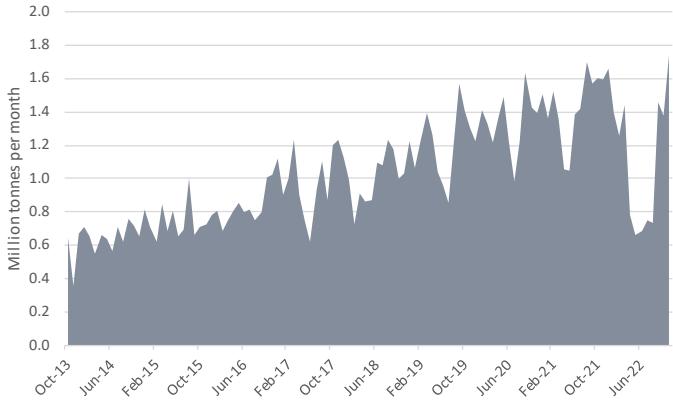
Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

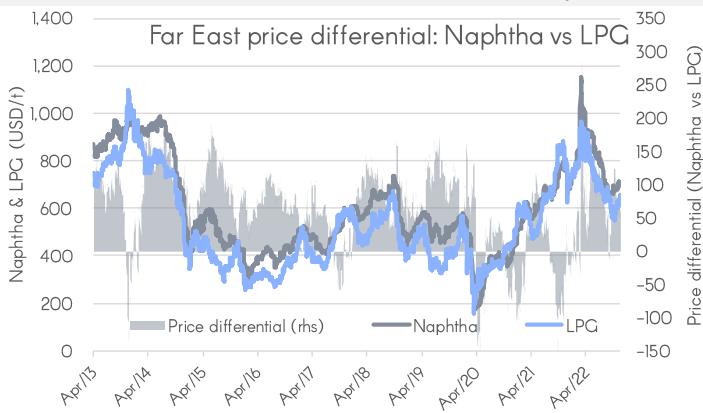
Chinese LPG imports by source



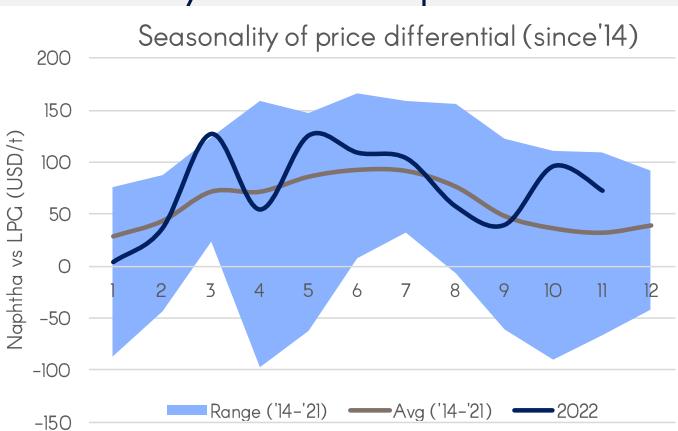
Indian LPG imports



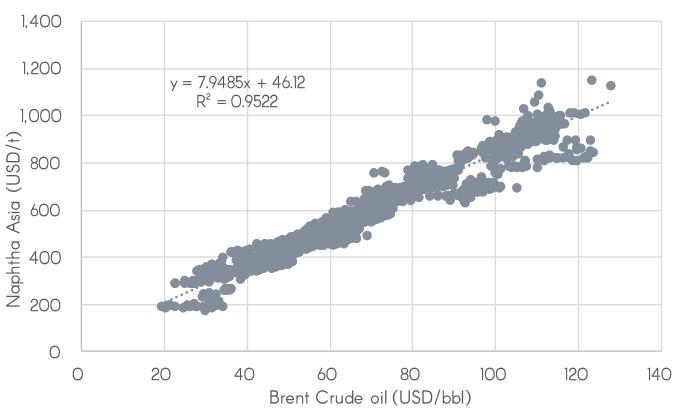
Far Eastern feedstock switch occurs ~\$50–100



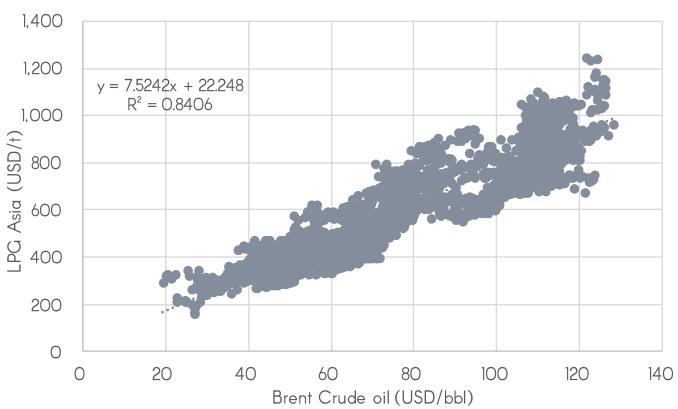
Seasonality of Far Eastern price differential



Correlation: Far East naphtha vs Brent Crude



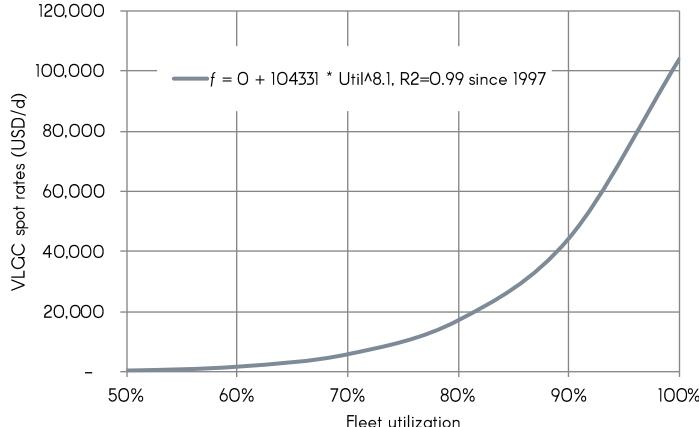
Correlation: Far East LPG vs Brent Crude



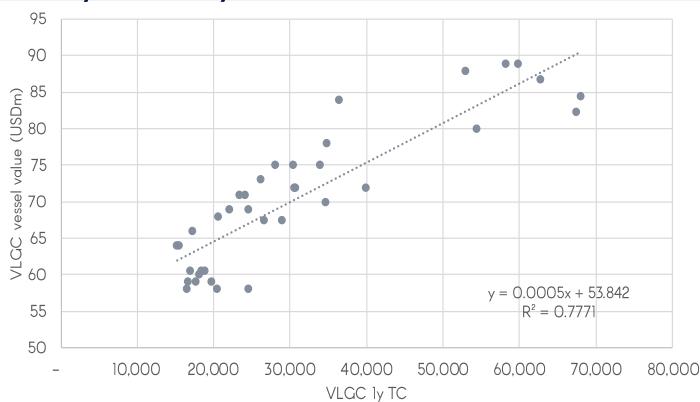


Market Fundamentals

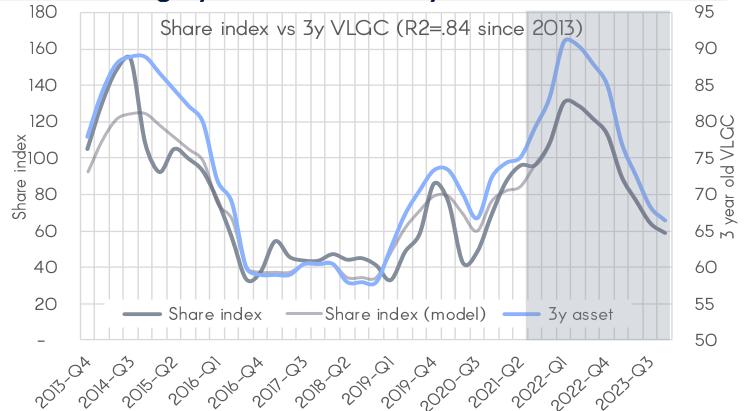
Econometrics: Spot rates vs fleet utilization



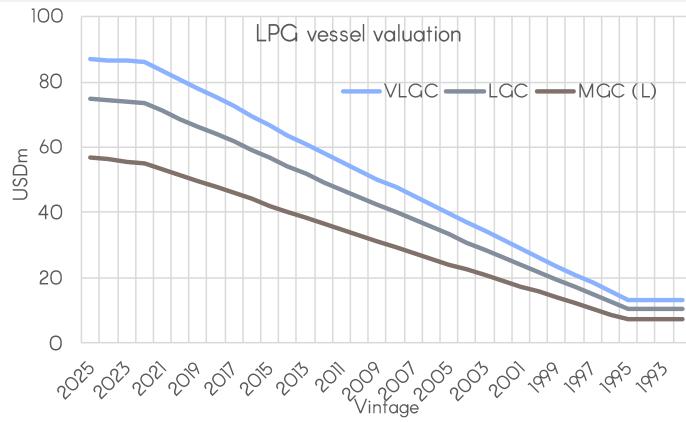
ly TC vs 3y VLGC value (since 2009)



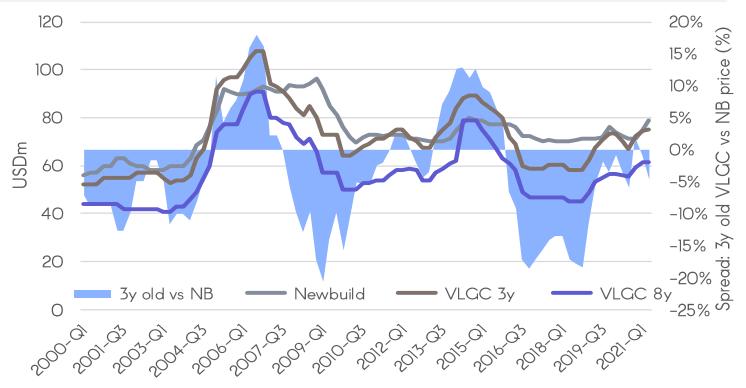
Shares highly correlated w 3y old vessel values



Cleaves' asset valuation overview



Historical asset values





Market Overview

Annual view		2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026
Base case		24,797	6,482	18,333	32,937	32,890	39,437	77,070	88,508	22,859	14,990	18,326	46,009	47,657	35,325	47,594	37,576	30,093	42,763	47,617
VLCG, spot ^a (TCE/d)											8,359	10,164	23,273	23,829	17,663	23,797	18,788	15,047	21,382	23,809
LGC, spot ^b (TCE/d)																				
VLCG, 3y ^a (USDm)		83	71	67	73	71	73	88	83	65	60	59	69	71	75	78	72	71	78	80
LGC, 3y ^a (USDm)										50	50	49	58	60	63	66	60	60	66	68

Quarterly view		2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	2Q25	3Q25	4Q25
Base case																				
VLCG, spot ^a (TCE/d)		35,499	22,819	39,713	30,039	38,058	41,099	81,180	37,056	34,704	34,572	43,971	23,683	24,951	27,794	43,944	29,591	35,327	41,583	64,553
LGC, spot ^b (TCE/d)		17,750	11,409	19,856	15,019	19,029	20,550	40,590	18,528	17,352	17,286	21,985	11,842	12,475	13,897	21,972	14,796	17,663	20,792	32,277
VLCG, 3y ^a (USDm)		75	75	75	76	77	78	82	74	72	71	70	70	70	72	74	77	78	79	79
LGC, 3y ^a (USDm)		63	63	63	64	65	66	69	62	61	60	59	59	59	61	62	65	66	67	67

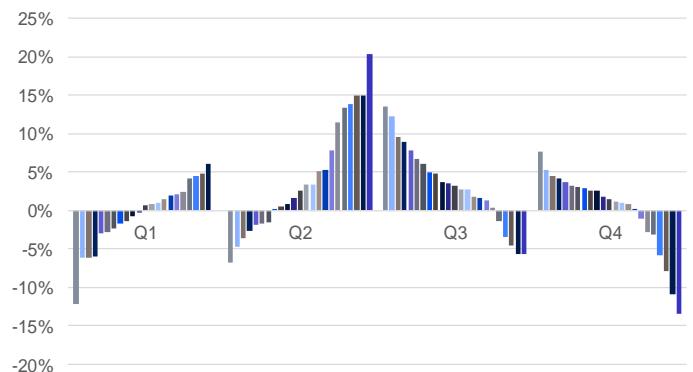
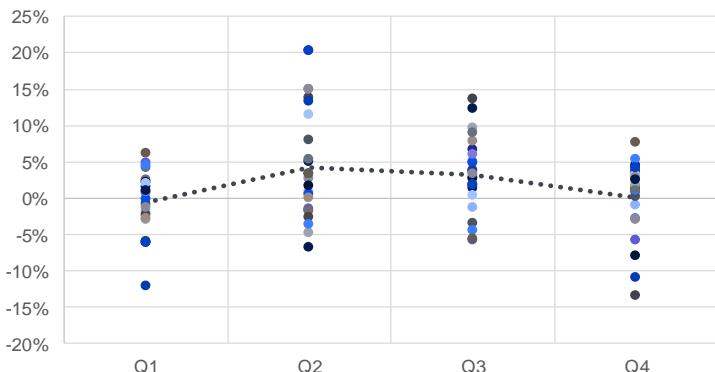
Seasonality

Historically strong demand growth in 2Q/3Q

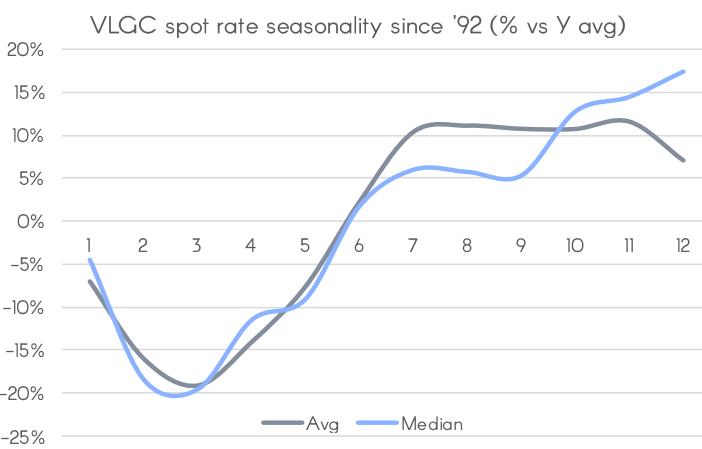
Historically strong demand growth in 2Q/3Q

Implied q/q demand growth since 1997

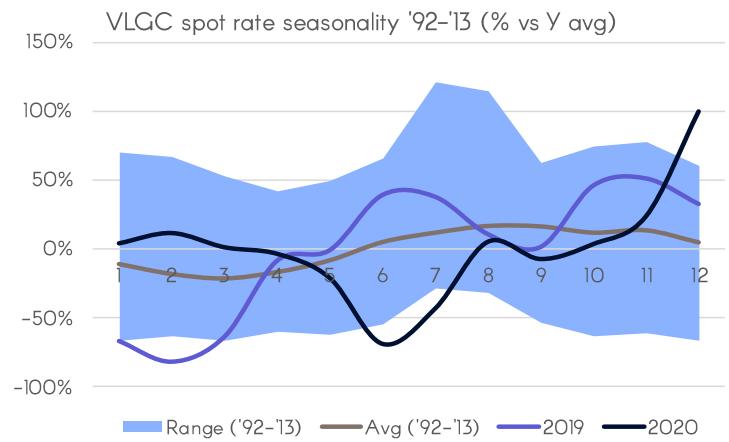
Implied q/q demand growth since 1997



Historical VLGC spot rate seasonality



Historical VLGC spot rate seasonality





Cleaves Securities

Shipping Weekly 3/2023

$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Company Financials (annual estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit				
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	
USDm																	
AGAS NO	184	170	153	201	137	123	101	149	92	75	49	98	85	54	26	76	
BWLPG NO	593	505	370	493	447	361	235	362	292	215	89	214	262	193	74	203	
LPG US	340	274	212	290	216	165	105	183	151	99	39	117	124	76	15	95	
Average	372	316	245	328	267	216	147	231	179	130	59	143	157	108	38	125	
Median	340	274	212	290	216	165	105	183	151	99	49	117	124	76	26	95	

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity				
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	
USDm																	
AGAS NO	828	957	911	873	221	251	320	348	1,093	1,253	1,276	1,265	603	623	636	677	
BWLPG NO	1,517	1,395	1,273	1,135	311	321	385	568	2,258	2,146	2,089	2,134	1,586	1,650	1,684	1,812	
LPG US	1,225	1,255	1,194	1,128	156	161	180	273	1,494	1,530	1,488	1,515	842	866	869	941	
Average	1,190	1,202	1,126	1,045	229	245	295	397	1,615	1,643	1,618	1,638	1,010	1,046	1,063	1,143	
Median	1,225	1,255	1,194	1,128	221	251	320	348	1,494	1,530	1,488	1,515	842	866	869	941	

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E		
	2022	2023	2024	2025	2022	2023	2024	2025	2022	2023	2024	2025	2023	2024	2023	2024	
USDm																	
AGAS NO	133	102	77	127	83	-75	72	114	119	30	69	28	34,089	26,917	21,716	21,340	
BWLPG NO	376	339	220	351	536	315	196	341	167	10	64	184	38,216	30,990	25,054	19,533	
LPG US	187	143	82	162	216	46	76	162	41	5	19	93	37,539	29,337	22,802	22,777	
Average	232	194	126	213	278	95	115	206	109	15	51	101	36,615	29,081	23,191	21,216	
Median	187	143	82	162	216	46	76	162	119	10	64	93	37,539	29,337	22,802	21,340	

Company Financials (quarterly estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit				
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	
USDm																	
AGAS NO	54	39	40	40	43	28	28	28	33	17	16	16	28	12	11	10	
BWLPG NO	210	129	121	118	175	91	83	82	137	55	46	46	130	49	41	40	
LPG US	111	70	63	63	79	41	36	37	62	25	19	20	57	20	14	14	
Average	125	79	74	74	99	53	49	49	77	32	27	27	72	27	22	22	
Median	111	70	63	63	79	41	36	37	62	25	19	20	57	20	14	14	

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity				
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	
USDm																	
AGAS NO	828	921	917	913	221	227	225	224	1,093	1,192	1,186	1,180	603	597	602	607	
BWLPG NO	1,517	1,487	1,456	1,426	311	280	283	290	2,258	2,198	2,170	2,146	1,586	1,570	1,587	1,607	
LPG US	1,225	1,264	1,261	1,258	156	152	148	148	1,494	1,530	1,523	1,519	842	833	837	844	
Average	1,190	1,224	1,211	1,199	229	220	219	220	1,615	1,640	1,626	1,615	1,010	1,000	1,008	1,019	
Median	1,225	1,264	1,261	1,258	221	227	225	224	1,494	1,530	1,523	1,519	842	833	837	844	

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E		
	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	4Q22	1Q23	2Q23	3Q23	1Q23	2Q23	1Q23	2Q23	
USDm																	
AGAS NO	46	23	23	22	58	-81	15	14	33	6	-2	-2	33,787	32,059	21,848	21,621	
BWLPG NO	167	84	77	77	204	78	71	71	177	-30	3	7	37,841	35,647	25,087	25,277	
LPG US	74	36	30	31	66	-20	17	18	15	-4	-4	0	37,629	35,160	22,811	23,357	
Average	96	48	43	43	109	-7	34	34	75	-9	-1	2	36,419	34,289	23,248	23,418	
Median	74	36	30	31	66	-20	17	18	33	-4	-2	0	37,629	35,160	22,811	23,357	



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Recommendation Percent

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HOLD	16%
SELL	11%

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