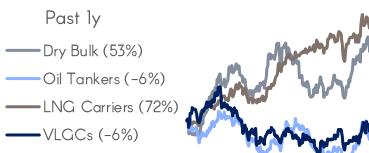




Shipping Weekly 12/2022

Shipping Coverage

Ticker	Cleaves' Rating	TP	Last Price	Δ w/w
2020 NO	BUY	210.0	119	-2%
BULK NO	BUY	239	75	
DSX US	BUY	7.9	4.66	-5%
EGLE US	BUY	86.0	62.3	-5%
GNK US	BUY	33.0	20.7	-1%
GOGL US	BUY	20.0	12.0	0%
HSHIP NO	BUY	87.0	52.0	
SBLK US	BUY	41.0	29.3	-3%
Dry Bulk				-3%
ADS NO	HOLD	1.5	1.4	-4%
DHT US	BUY	7.8	5.8	5%
EURN US	BUY	13.0	10.8	2%
FRO US	BUY	11.0	8.7	5%
HUNT NO	BUY	3.8	2.8	1%
INSW US	BUY	26.0	16.8	-2%
NAT US	HOLD	1.9	1.9	-5%
OET NO	BUY	131.0	85.2	-1%
TNK US	BUY	20	13	3%
Oil Tankers				0%
ALNG NO	HOLD	4.8	6.0	3%
FLNG NO	HOLD	170	199	9%
LNG Carriers				6%
AGAS NO	BUY	58	33.7	-3%
BWLPG NO	BUY	82	53.5	-3%
LPG US	BUY	19.0	13.6	-2%
LPG Carriers				-3%



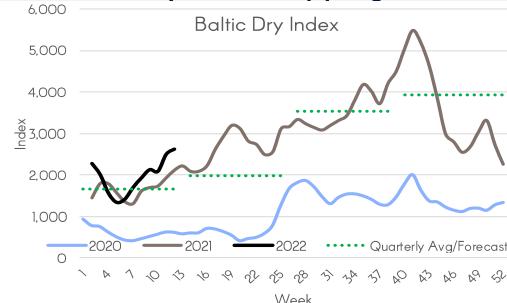
Analysts

Peter Michael E. Christensen

Head of Research

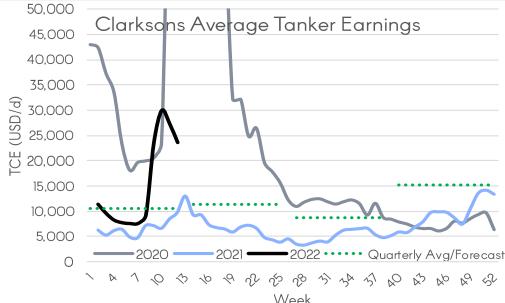
pmc@cleaves.no
+47 21040041

Dry Bulk Shipping



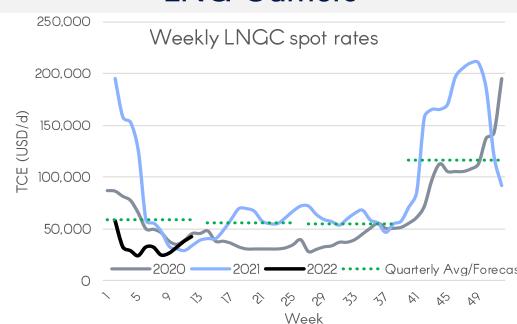
Although earnings on both BR-CN (+3% w/w to \$19k/d) and W.Aus-CN (+27% w/w to \$22k/d) strengthened, Capesize avg earnings softened slightly last week, dropping 3% to \$22k/d. In smaller tonnage, Panamax avg earnings fell back 10% w/w to \$25k/d as rates in the Pacific came under increasing pressure. South East Asia was particularly rough for owners, with e.g. Indonesia-S.China shedding 42% w/w to \$22k/d.

Oil Tankers



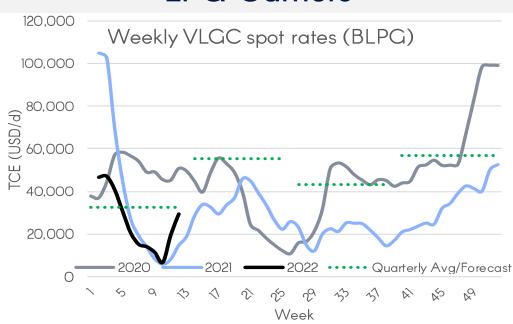
Another abysmal week for owners of large tanker tonnage as the benchmark Baltic AG-China (TD3C) dropped to -\$11k/d on Friday. A sharp drop in fuel prices and the HSFO/LSFO spread also saw the theoretical premiums for modern, scrubber fitted vessels (vs older, non-fitted) drop significantly, with avg earnings for said tonnage quoted at \$10k/d on Friday (-33% w/w).

LNG Carriers



MEGIs unchanged at \$79k/d, TFDEs +12% w/w to \$43k/d and STs +29% w/w to \$29k/d.

LPG Carriers



A slight easing w/w as activity fell back in both hemispheres following a couple of active weeks. In the West Panama Canal delays have reportedly eased significantly.

Key Shipping Statistics

Dry Bulk	Spot rates					Cleaves' spot rate forecasts				Last	1y timecharter rates				5y old vessel values (broker quotes)						
	Last	(1y)	Δw/w	Δm/m	Δy/y	2022E	2023E	2024E	2025E		Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y
BDI	2,605		-4%	37%	18%	2,787	3,070	2,541	1,915	32,250	-2%	17%	33%	47.0	0%	0%	15%	72.0	0%	3%	7%
Capesize	21,604		-3%	77%	14%	37,841	44,898	36,202	25,896	29,250	-3%	11%	34%	35.5	0%	4%	34%	49.0	0%	4%	9%
Panamax	24,532		-10%	22%	2%	22,554	23,205	19,921	16,030	32,000	2%	6%	56%	33.0	0%	5%	53%	45.0	0%	0%	29%
Supramax	32,147		-1%	26%	38%	19,878	19,248	16,519	13,284	21,500	-4%	15%	16%	29.0	0%	-3%	5%	27.549	2%	4%	5%
Oil Tankers	Last	(1y)	Δw/w	Δm/m	Δy/y	2022E	2023E	2024E	2025E	Last	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y
VLCC	-7,636		-4%	17%	-740%	13,176	45,621	53,075	51,547	20,000	-18%	-8%	-20%	72.0	0%	3%	7%	49.0	0%	4%	9%
Suezmax	25,185		-19%	517%	103%	13,588	31,969	36,805	35,813	24,500	0%	32%	26%	45.0	0%	0%	29%	35.5	0%	4%	34%
Aframax	50,300		-26%	369%	126%	14,536	25,006	28,382	27,690	21,500	-4%	15%	16%	29.0	0%	0%	5%	27.549	2%	4%	5%
MR	15,877		0%	62%	85%	9,453	15,409	16,960	16,642	16,000	3%	9%	12%	29.0	0%	-3%	5%	72.0	0%	3%	5%
Gas Carriers	Last	(1y)	Δw/w	Δm/m	Δy/y	2022E	2023E	2024E	2025E	Last	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y	Last	Δw/w	Δm/m	Δy/y
TFDE (LNG)	42,500		12%	70%	27%	71,498	69,324	63,783	82,943	115,000	0%	51%	113%	72.0	0%	0%	3%	72.0	0%	0%	3%
VLGC (LPG)	27,112		-1%	92%	72%	46,943	34,304	27,540	22,581	32,549	-1%	2%	4%	72.0	0%	0%	5%	72.0	0%	0%	3%

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



Table of Contents

[Recent Events](#)

[Our Universe at a Glance](#)

[Dry Bulk Shipping](#)

[Oil Tankers](#)

[LNG Carriers](#)

[LPG Carriers](#)

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Our Universe at a Glance

Updated 19 Mar 2021 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	ϵ					2021	2022	2023			2021	2022	2023			
DHT US	Oil	-9%	BUY	7.8	5.8	34%	0.92	0.79	1.39	0.95	65%	0.2	10.0	2.8	43%	1%	11%			
EURN US	Oil	17%	BUY	13.0	10.8	20%	0.99	0.89	1.73	1.04	50%	0.1	18.2	4.5	35%	1%	5%			
FRO US	Oil	11%	BUY	11.0	8.7	27%	1.20	1.05	2.70	1.07	33%	0.3	14.9	5.0	42%	1%	11%			
HUNT NO	Oil	15%	BUY	3.8	2.8	36%	0.86	0.75	1.70	0.92	53%	0.1	11.6	4.1	38%	1%	11%			
INSW US	Oil	-12%	BUY	26.0	16.8	55%	0.56	0.68	1.63	0.77	51%	0.2	16.6	4.0	57%	1%	13%			
NAT US	Oil	-46%	HOLD	1.9	1.9	-1%	0.85	0.78	1.69	0.92	50%	0.2	34.5	4.0	43%	2%	10%			
OET NO	Oil	29%	BUY	131.0	85.5	53%	0.85	0.75	2.88	0.96	33%	0.2	11.7	4.9	49%	4%	14%			
TNK US	Oil	-12%	BUY	20.0	13.3	51%	0.73	0.73	1.82	0.87	44%	0.5	90.8	2.8	79%	0%	10%			
Average, Oil Tankers						34%	0.87	0.80	1.94	0.94	47%	0.2	26.0	4.0	48%	1%	11%			
2020 NO	Dry	87%	BUY	210	120	75%	1.13	0.65	1.78	1.07	53%	0.2	4.2	2.8	28%	30%	45%			
BULK NO	Dry		BUY	239	82.9	188%	0.59	0.37	1.24	0.64	71%	2.6	1.3	0.7	28%	48%	75%			
DSX US	Dry	51%	BUY	7.9	4.7	70%	0.66	0.44	1.55	0.79	54%	7.0	2.0	1.1	2%	19%	29%			
EGLE US	Dry	79%	BUY	86.0	62.3	38%	0.95	0.76	1.30	0.97	63%	3.5	3.2	2.6	3%	9%	12%			
GNK US	Dry	79%	BUY	33.0	20.7	59%	0.98	0.70	1.25	0.99	70%	3.6	2.5	2.0	2%	18%	30%			
GOGL US	Dry	97%	BUY	20.0	12.0	67%	1.14	0.72	1.61	1.09	54%	5.5	3.3	2.6	13%	20%	25%			
HSHIP NO	Dry		BUY	87.0	51.1	70%	1.07	0.53	5.28	1.01	19%				6.6	0%	15%			
SBLK US	Dry	107%	BUY	41.0	29.3	40%	1.20	0.82	1.41	1.14	61%	4.7	3.2	2.7	8%	23%	31%			
Average, Dry Bulk						76%	0.97	0.62	1.93	0.96	55%	3.9	2.8	2.7	11%	21%	33%			
ALNG NO	LNG	263%	HOLD	4.8	5.8	-17%	1.42	1.06	4.37	1.09	21%	6.5	7.4	12.3	0%	10%	7%			
FLNG NO	LNG	191%	HOLD	170	189	-10%	0.91	0.78	2.13	0.96	44%	9.6	8.0	8.4	9%	12%	12%			
Average, LNG Carriers						-14%	1.16		3.25	1.02	33%	8.0	7.7	10.4	4%	11%	9%			
AGAS NO	LPG	-12%	BUY	58	33	78%	0.50	0.43	2.14	0.77	42%	5.5	3.7	5.4	8%	11%	12%			
BWLPNO NO	LPG	5%	BUY	82	53	55%	0.60	0.50	1.38	0.75	57%	4.3	2.6	3.7	12%	12%	8%			
LPG US	LPG	16%	BUY	19.0	13.6	39%	0.53	0.51	1.41	0.69	63%	5.7	3.5	5.5	7%	16%	9%			
Average, LPG Carriers						58%	0.54	0.48	1.64	0.73	54%	5.2	3.2	4.9	9%	13%	10%			
Average of all segments						39%	0.89	0.64	2.19	0.91	47%	4.3	9.9	5.5	18%	12%	16%			

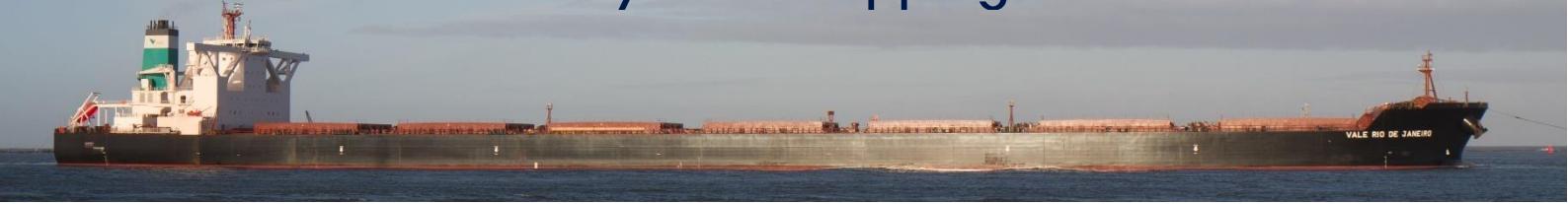
Indicative Quarterly Reporting Schedule

Company	Indicative* Reporting Schedule	Sector	TCE Revenue				Cleaves			EBITDA			Cleaves			Net Profit			Cleaves
			Cleaves	Consensus	Last year	vs Cons.	Cleaves	Consensus	Last year	vs Cons.	Cleaves	Consensus	Last year	vs Cons.	Cleaves	Consensus	Last year	vs Cons.	
BULK NO	24-Mar/22	Dry	71	66	29	7%	58	53	20	10%	46	41	8	5					
2020 NO	27-Apr/22	Dry																	
GNK US	05-May/22	Dry																	
DHT US	05-May/22	Oil																	
EURN US	12-May/22	Oil																	
INSW US	06-May/22	Oil																	
EGLE US	06-May/22	Dry																	
TNK US	13-May/22	Oil																	
OET NO	13-May/22	Oil																	
BWLPNO NO	19-May/22	LPG																	
SBLK US	19-May/22	Dry																	
LPG US	19-May/22	LPG																	
DSX US	20-May/22	Dry																	
NAT US	25-May/22	Oil																	
ALNG NO	25-May/22	LNG																	
HUNT NO	26-May/22	Oil																	
AGAS NO	31-May/22	LPG																	
FLNG NO	31-May/22	LNG																	
GOGL US	31-May/22	Dry																	
FRO US	31-May/22	Oil																	
HSHIP NO	10-Aug/22	Dry																	

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

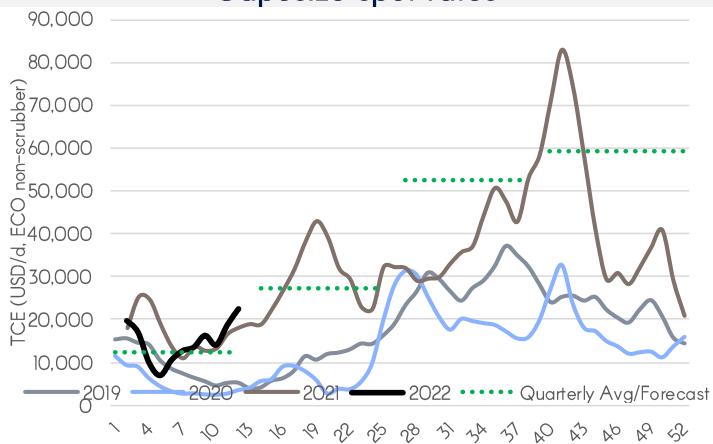


Dry Bulk Shipping

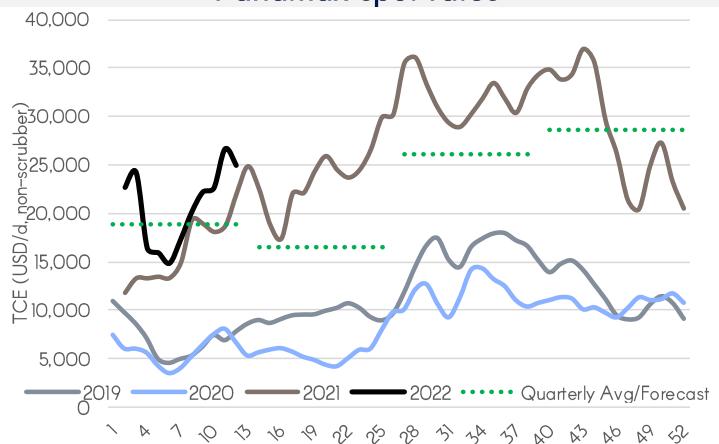


Earnings

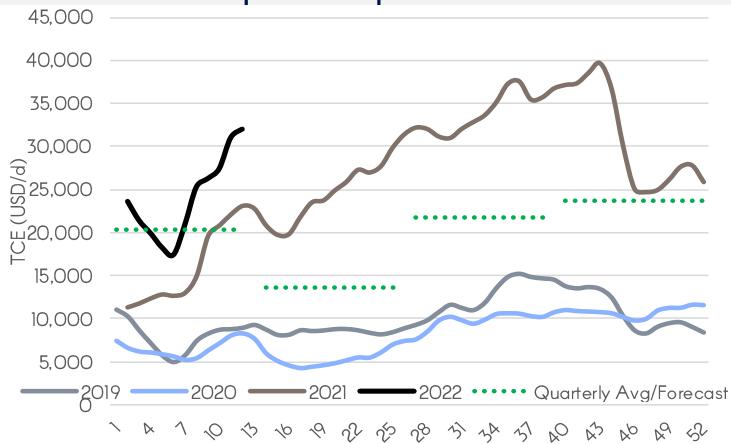
Capesize spot rates



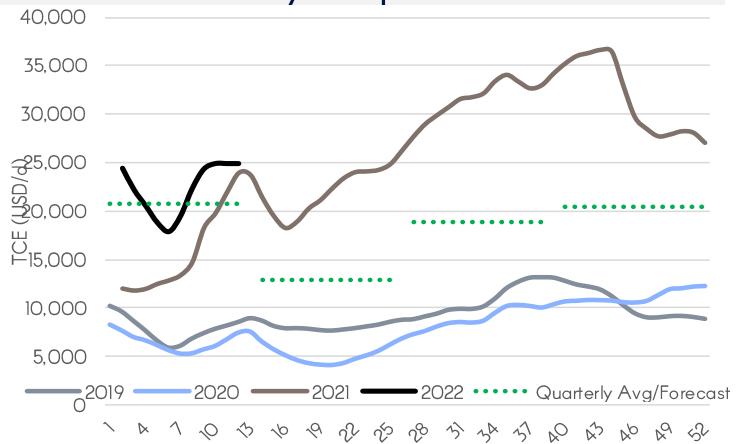
Panamax spot rates



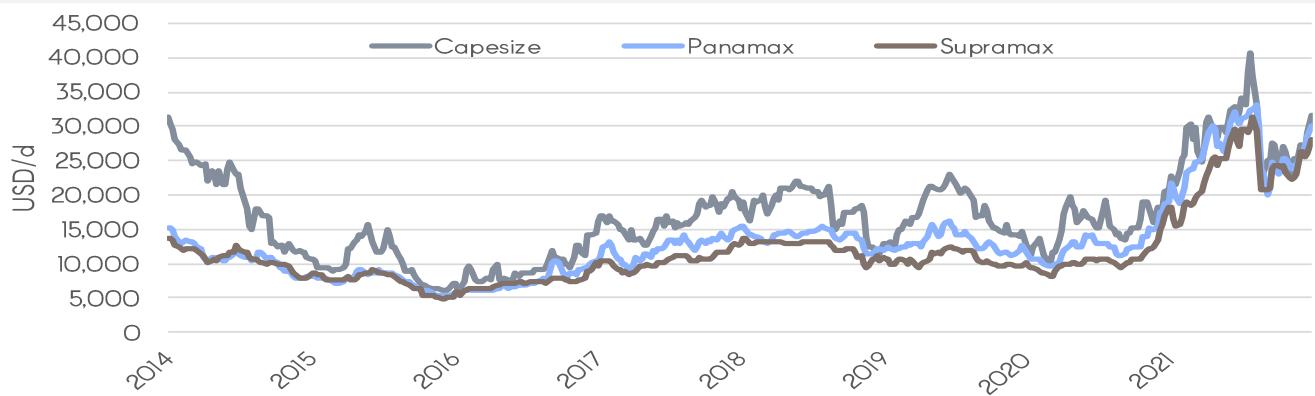
Supramax spot rates



Handysize spot rates



Timecharter rates





Cleaves Securities

Shipping Weekly 12/2022

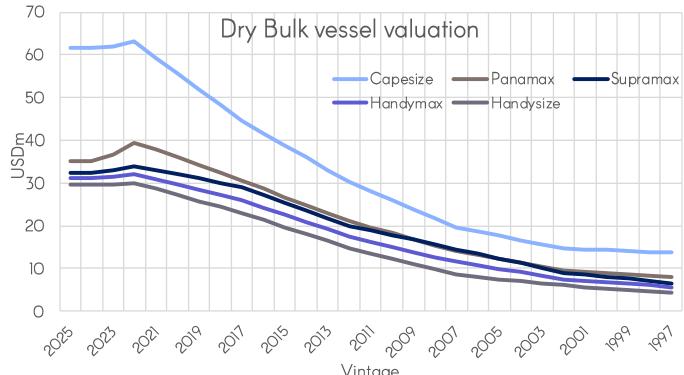
$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

Asset Valuation

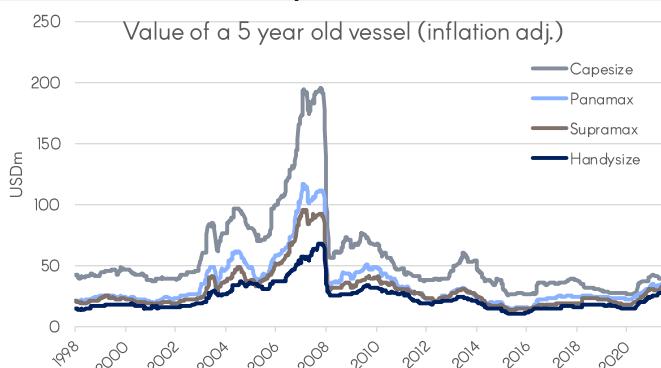
Asset valuation overview

Summary	Capesize	Panamax	Supramax	Handymax	Handysize
NB	61.5	35.0	32.5	31.0	29.5
resale	63.0	39.5	34.0	32.0	30.0
5y	44.5	30.5	29.0	26.0	23.0
10y	30.3	21.0	20.0	17.4	14.8
15y	19.5	14.0	14.5	11.5	8.5
20y	14.7	9.5	9.0	7.5	6.0
scrap	13.7	8.0	6.5	5.7	4.2
<i>All prices are excluding scrubbers</i>					
NB parity	21,929	14,620	13,501	12,623	11,768

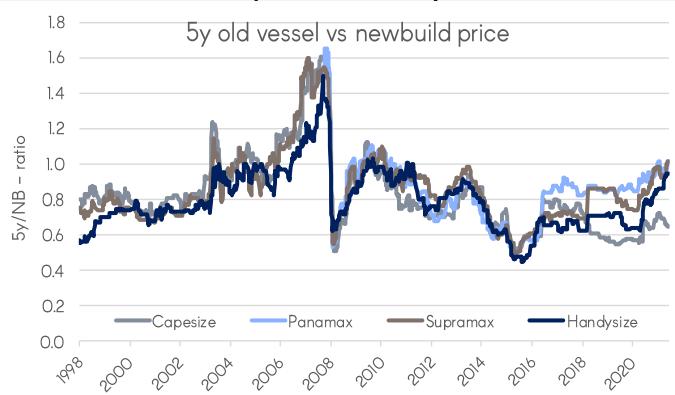
Asset valuation overview



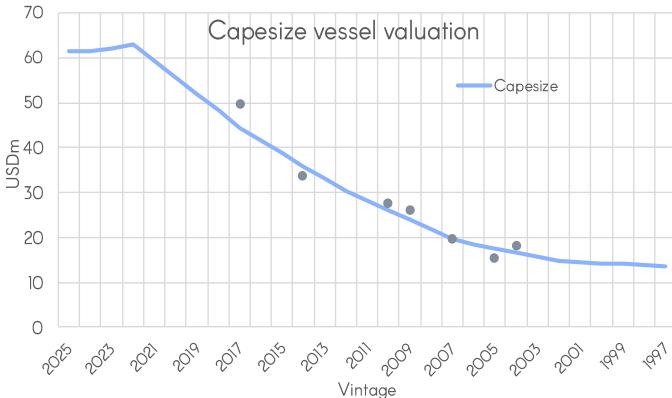
Historical 5y old vessel values



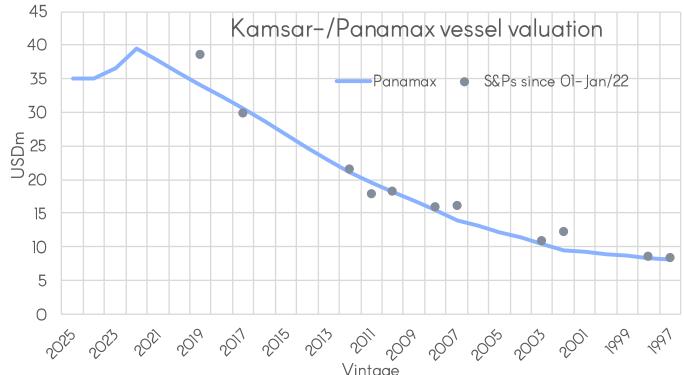
Historical price ratio, 5y/newbuild



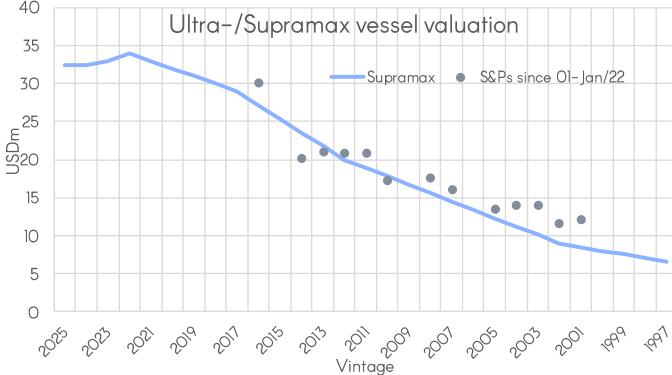
Capesize valuation vs recent S&Ps



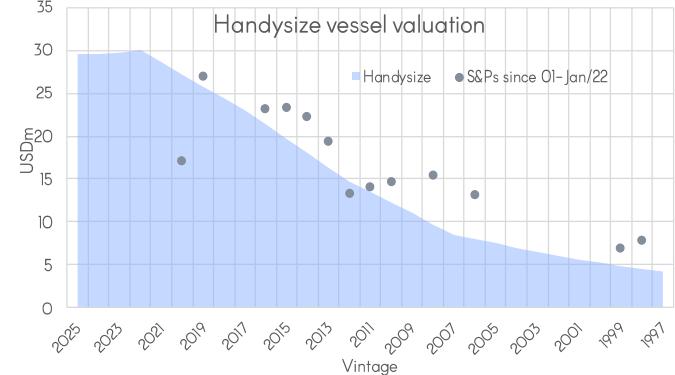
Pana-/Kamsarmax valuation vs recent S&Ps



Supra-/Ultramax valuation vs recent S&Ps



Handysize valuation vs recent S&Ps





Cleaves Securities

Shipping Weekly 12/2022

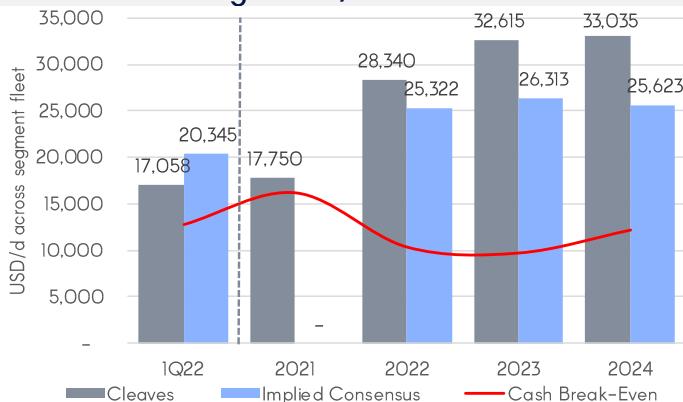
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Peer Group

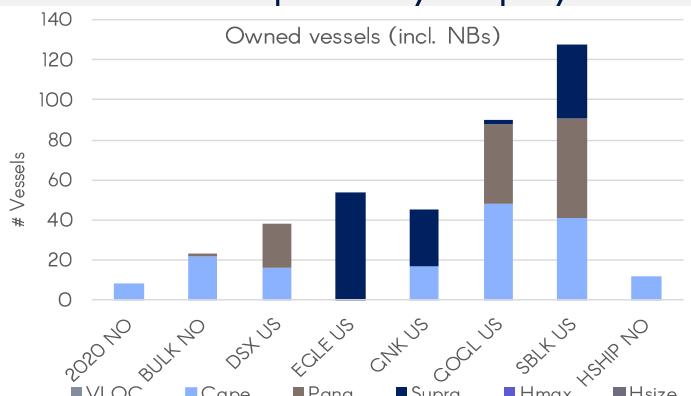
Updated 19 Mar 2022 CET				Return		Target	Last	Target/	NAV	P/NAV	EV/GAV	adj.	τ	
Company	M.cap	Turnover	ly	Rec.	Price	Price	Price	/sh	Now	1y fwd	ϵ	equity		
2020 NO	305	2.6	87%	BUY	210	120	75%	106	1.13	0.65	1.78	1.07	53%	1.00
BULK NO	285			BUY	239	83	188%	141	0.59	0.37	1.24	0.64	71%	0.95
DSX US	427	3.2	51%	BUY	7.9	4.7	70%	7.0	0.66	0.44	1.55	0.79	54%	0.89
EGLE US	849	16.6	79%	BUY	86	62	38%	65.6	0.95	0.76	1.30	0.97	63%	0.99
GNK US	870	14.5	79%	BUY	33.0	20.7	59%	21.2	0.98	0.70	1.25	0.99	70%	0.85
GOGL US	2,414	47.9	97%	BUY	20.0	12.0	67%	10.5	1.14	0.72	1.61	1.09	54%	0.89
SBLK US	2,996	70.0	107%	BUY	41	29	40%	24.3	1.20	0.82	1.41	1.14	61%	1.00
HSHIP NO	175	1.1		BUY	87	51.1	70%	48	1.07	0.53	5.28	1.01	19%	1.00
Average	1,040		83%				76%		0.97	0.62	1.93	0.96	55%	0.95
Median	638		83%				68%		1.02	0.67	1.48	1.00	58%	0.97

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	0.2	4.2	2.8	3.4	4.1	2.6	1.7	2.2	28%	30%	45%	35%	71%	35%	52%	40%
BULK NO	2.6	1.3	0.7	0.7	2.3	1.2	0.9	1.2	28%	48%	75%	58%	44%	78%	103%	78%
DSX US	7.0	2.0	1.1	0.9	8.2	1.3	1.1	1.5	2%	19%	29%	27%	10%	44%	73%	56%
EGLE US	3.5	3.2	2.6	2.7	2.1	2.3	2.4	3.3	3%	9%	12%	10%	10%	30%	30%	23%
GNK US	3.6	2.5	2.0	2.4	2.9	2.1	1.8	2.4	2%	18%	30%	29%	20%	29%	40%	31%
GOGL US	5.5	3.3	2.6	3.1	3.0	2.0	1.7	2.2	13%	20%	25%	25%	7%	36%	39%	28%
SBLK US	4.7	3.2	2.7	3.4	2.9	2.2	1.9	2.5	8%	23%	31%	31%	22%	35%	39%	31%
HSHIP NO			6.6	4.8			2.4	1.4	0%	0%	15%	47%		-49%	-149%	-91%
Average	3.9	2.8	2.7	2.7	3.6	1.9	1.7	2.1	11%	21%	33%	33%	26%	30%	28%	25%
Median	3.6	3.2	2.6	2.9	2.9	2.1	1.8	2.2	5%	19%	30%	30%	20%	35%	39%	31%

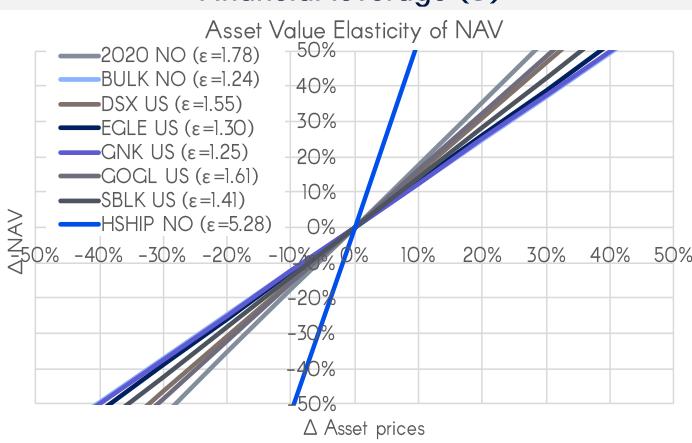
Cleaves' average TCE/d forecast vs consensus



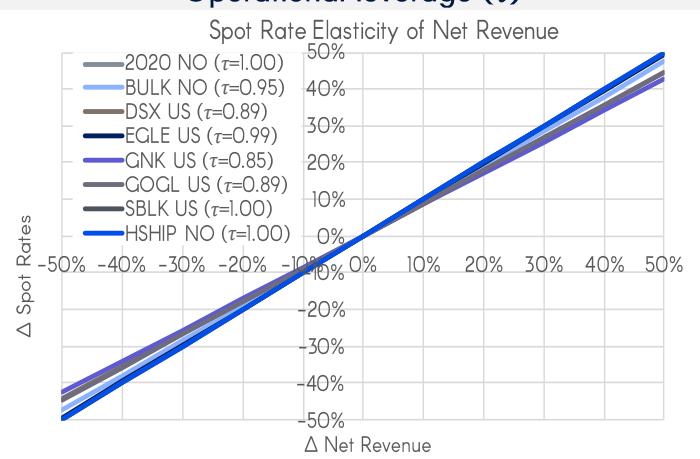
Fleet composition by company



Financial leverage (ϵ)



Operational leverage (τ)



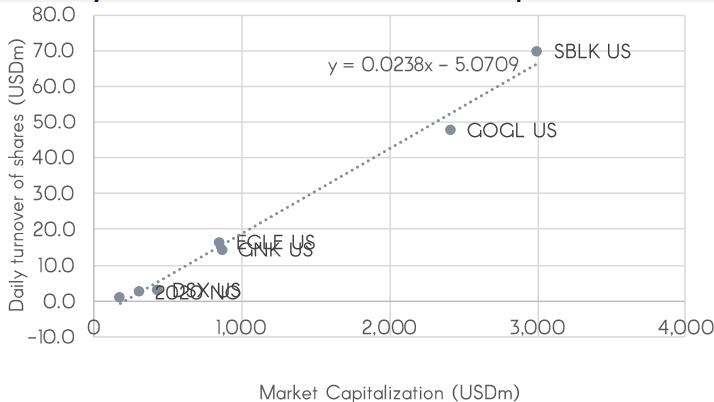


Cleaves Securities

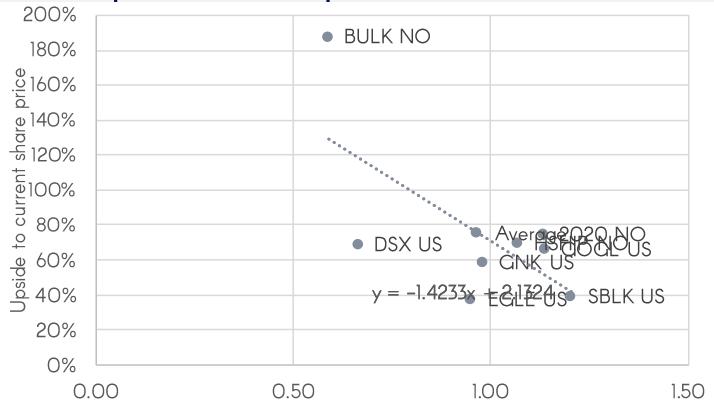
Shipping Weekly 12/2022

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

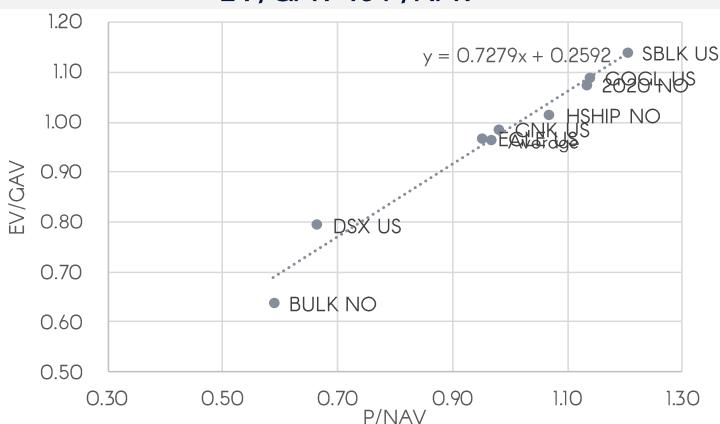
Daily share turnover vs market capitalization



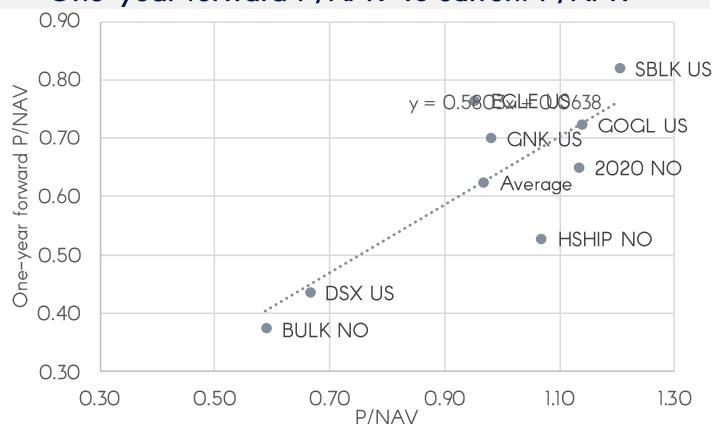
Upside to share price current P/NAV



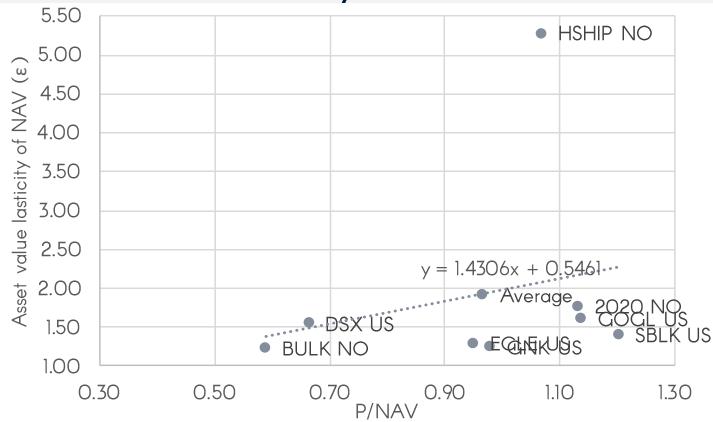
EV/GAV vs P/NAV



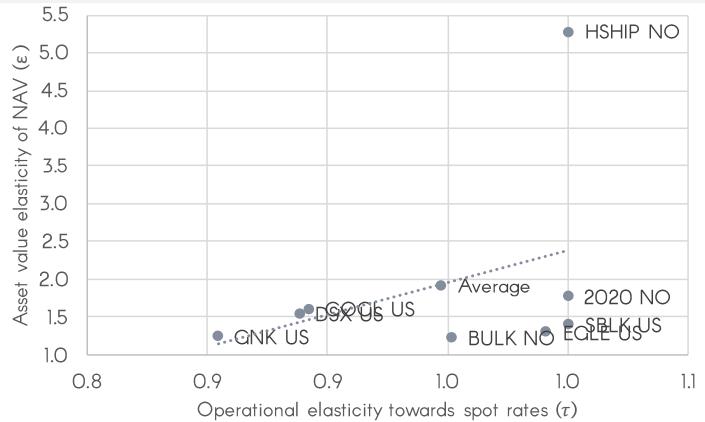
One-year forward P/NAV vs current P/NAV



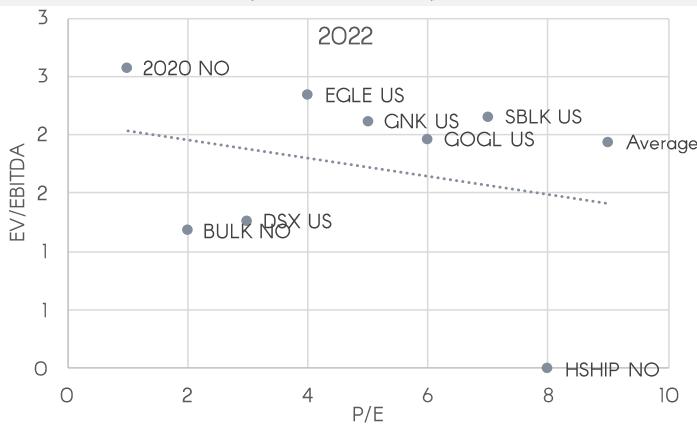
Asset value elasticity of NAV vs P/NAV



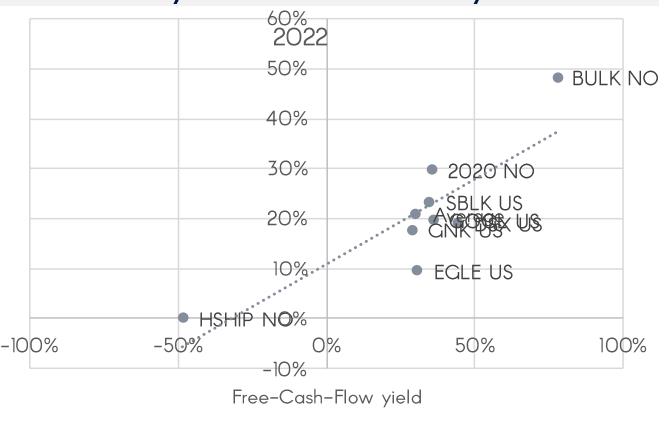
Elasticities: NAV vs net revenue



EV/EBITDA vs P/E



Dividend yield vs free cash flow yield





Generic Shipping Accounting

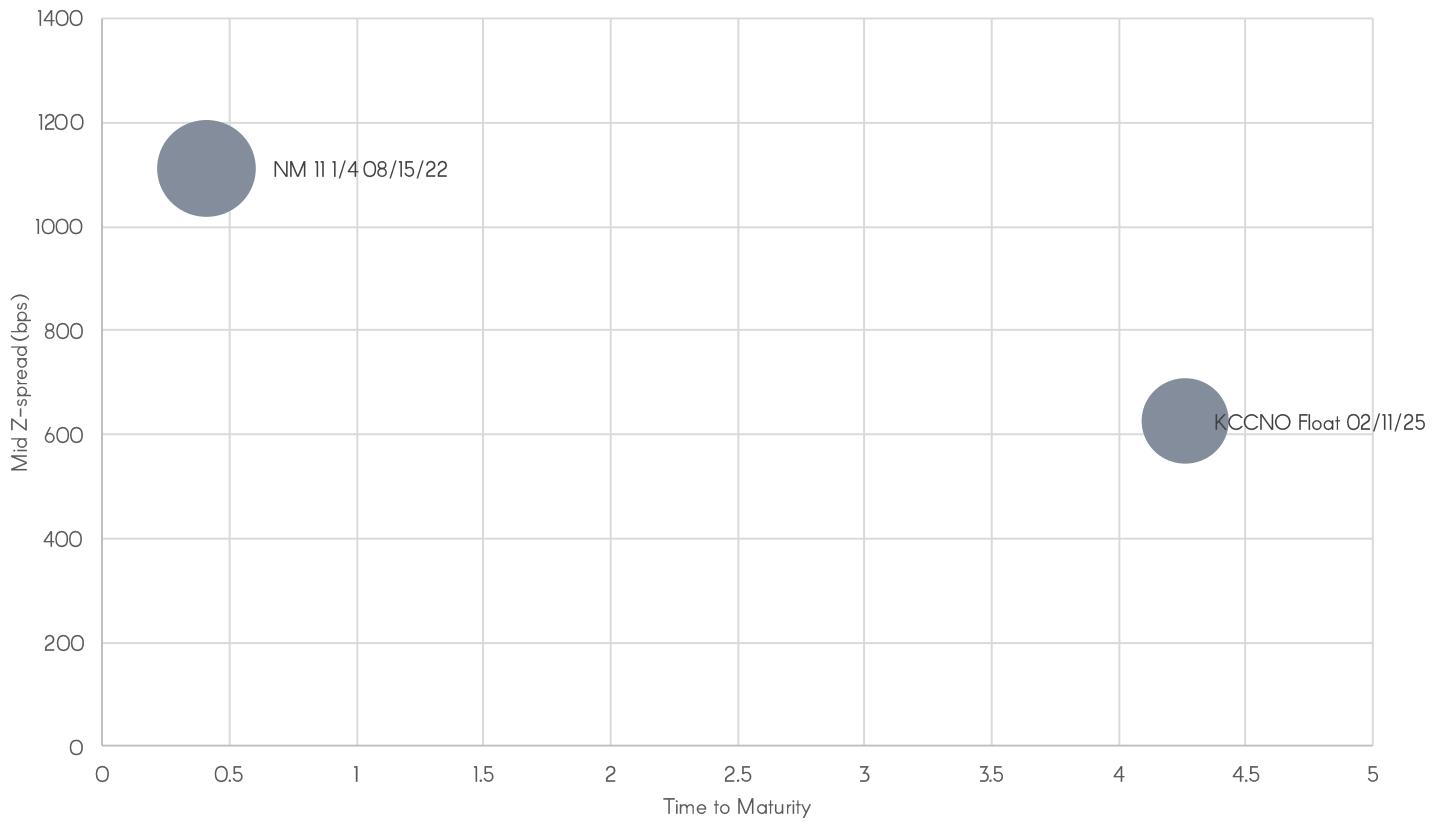
Current vessel economics (5y old)

Current vessel economics (5y old)			
Profit & Loss (USDm)	Capesize	Panamax	Supramax
Revenue	11.6	10.5	11.5
Opex/G&A	-2.6	-2.4	-2.2
EBITDA	9.1	8.2	9.3
Depreciation	-1.5	-1.1	-1.1
EBIT	7.5	7.0	8.2
Financials (6% pa)	-1.9	-1.3	-1.2
Net profit	5.6	5.8	7.0
Balance (USDm)	Capesize	Panamax	Supramax
Asset (5y)	44.5	30.5	29.0
Equity (30%)	13.4	9.2	8.7
Debt (70%)	31.2	21.4	20.3
Cash Flow (USDm)	Capesize	Panamax	Supramax
Net profit	5.6	5.8	7.0
Depreciation	1.5	1.1	1.1
Operational CF	7.2	6.9	8.1
Docking accruals	-0.3	-0.2	-0.2
Debt repayments	-2.6	-1.8	-1.7
Net Cash Flow	4.3	4.9	6.2
Key Ratios	Capesize	Panamax	Supramax
EV/EBITDA	4.9	3.7	3.1
EV/EBIT	5.9	4.3	3.5
P/E	2.4	1.6	1.2
ROE	42%	63%	80%
ROCE	17%	23%	28%
FCF yield	52%	73%	91%
Variables	Capesize	Panamax	Supramax
1y TC (USD/d)	32,250	29,250	32,000
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	5,121	3,510	3,337
Debt amortization	7,112	4,874	4,635
Cash Break-even	20,032	15,484	14,472
Current 1y TC	32,250	29,250	32,000
NB parity rate	21,929	14,620	13,501



The Credit Market

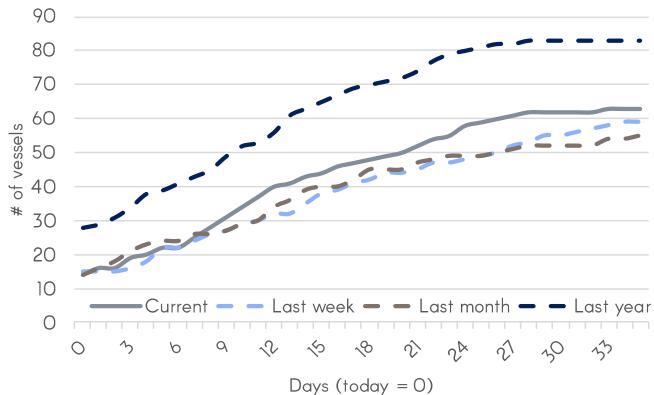
Dry Bulk bond pricing (by amount outstanding)



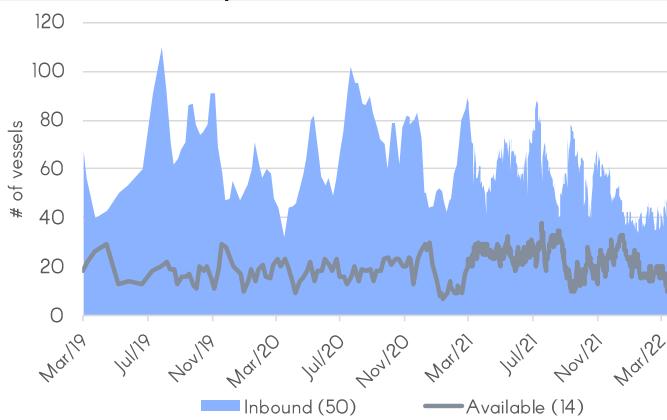


Market Snapshots

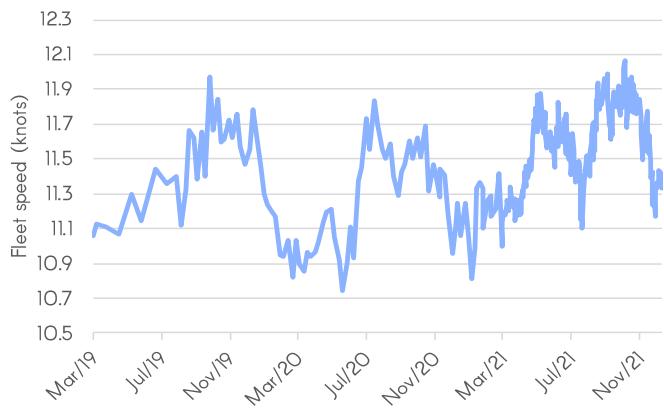
of Capesizes inbound for Brazil



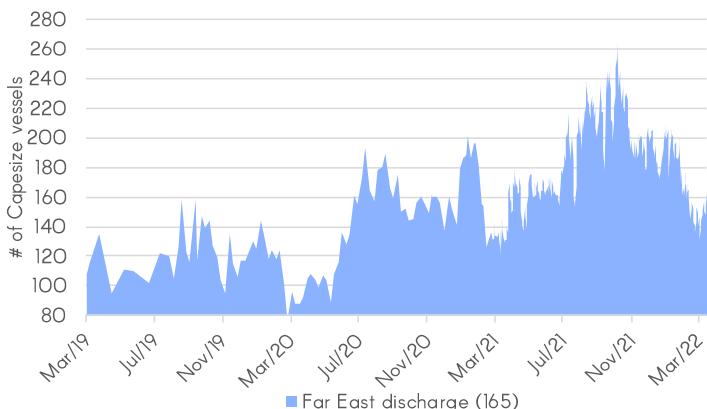
of Capesizes inbound for Brazil



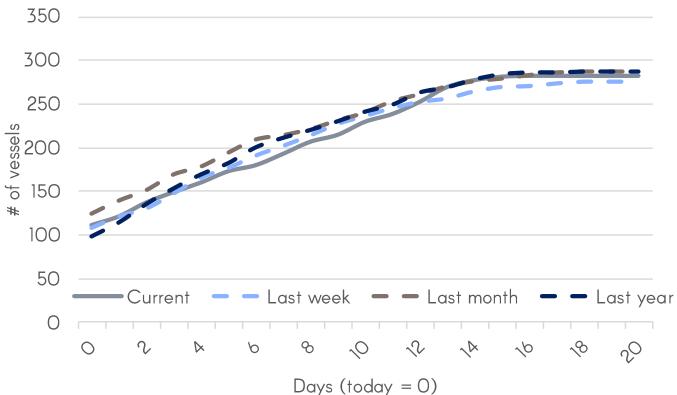
Average vessel speed



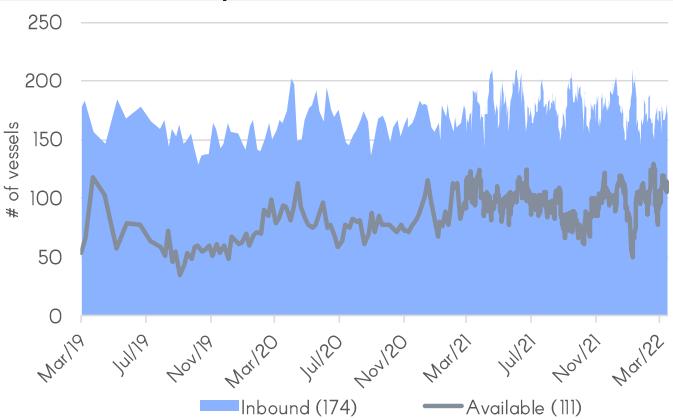
Vessels in Far Eastern discharge



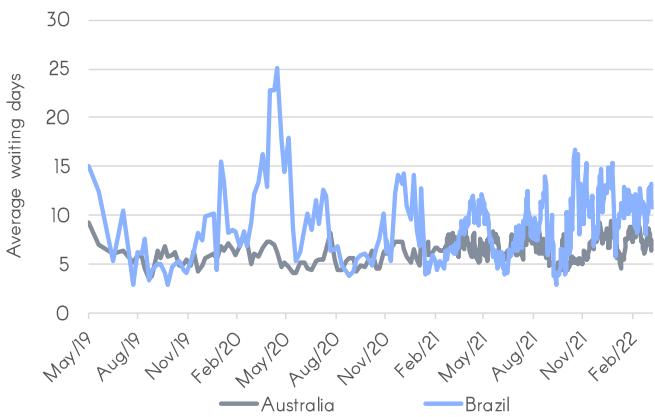
of Capesizes inbound for Australia



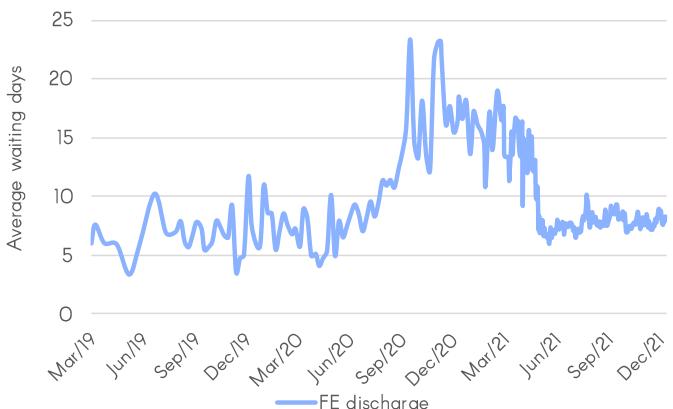
of Capesizes inbound Australia



Average waiting days for vessels in loading ports



Average waiting days for FE discharge



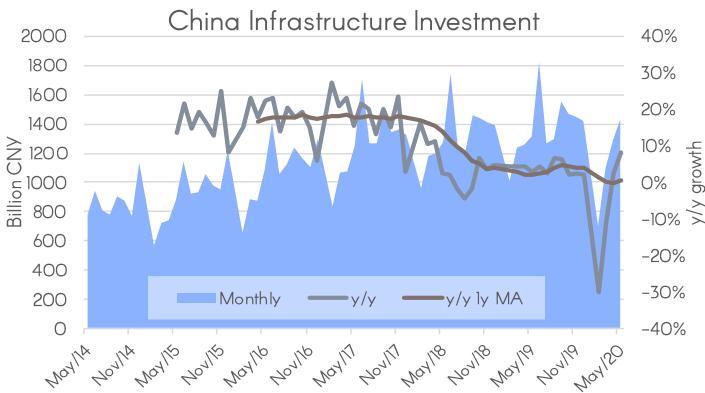


Cleaves Securities

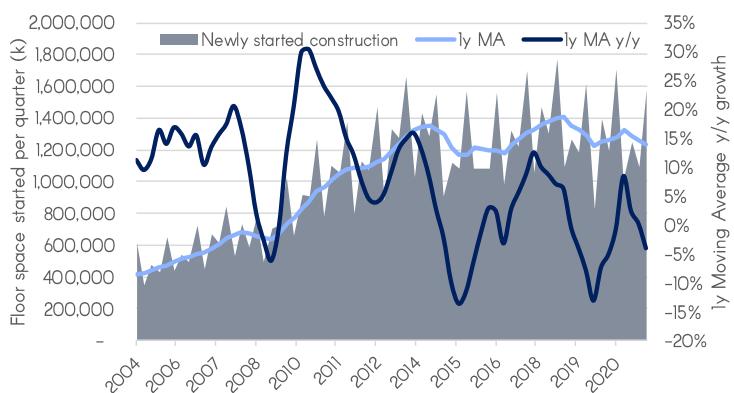
Shipping Weekly 12/2022

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

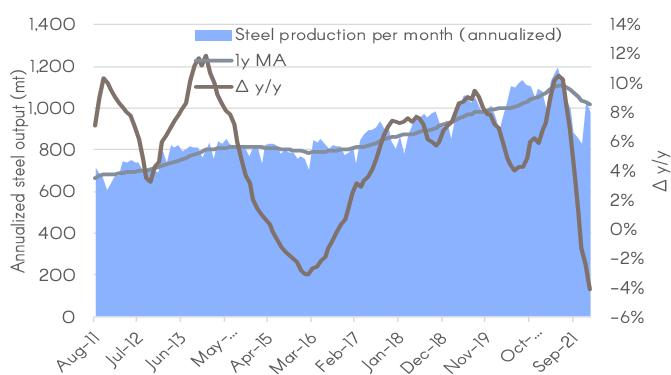
Chinese infrastructure investments



Chinese housing construction



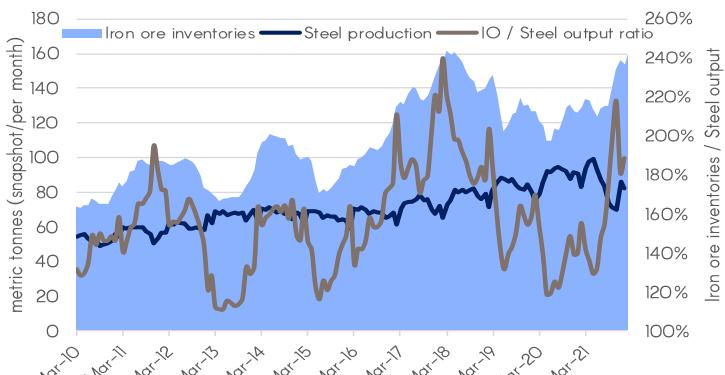
Chinese steel production



Stocks & prices for Chinese steel mills



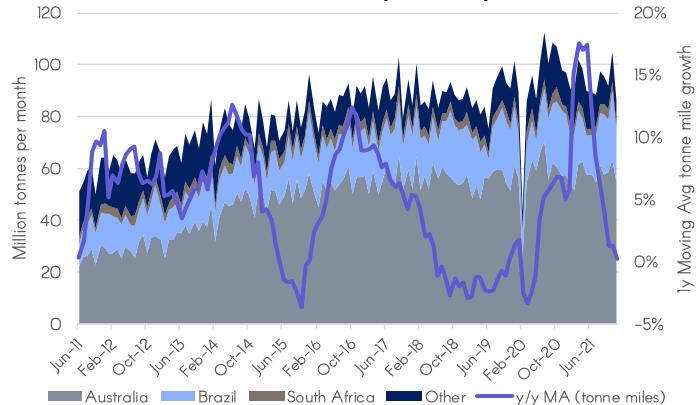
Chinese iron ore stockpiles vs steel production



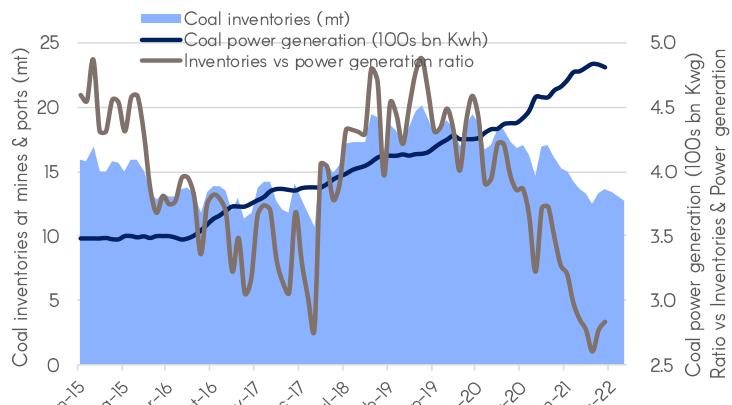
Iron ore prices by FE content



Chinese iron ore imports by source

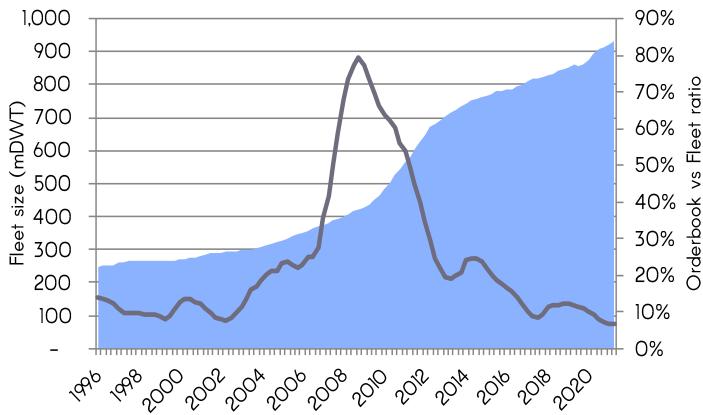


Chinese coal inventories

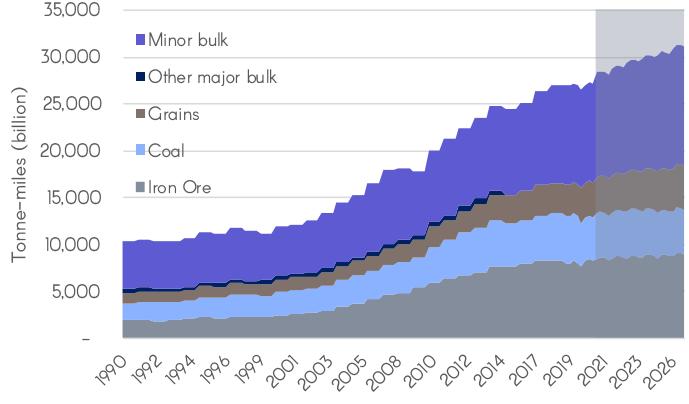


Market Fundamentals

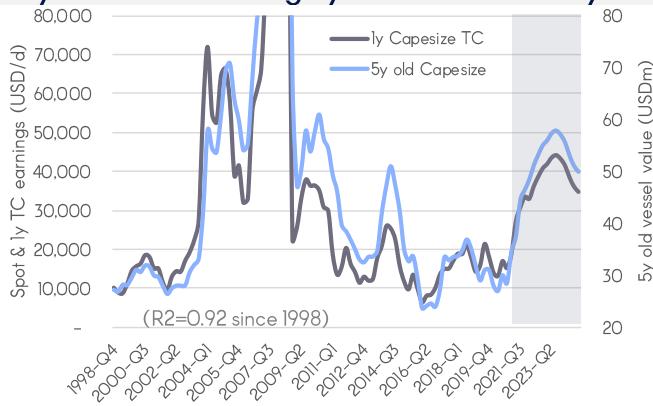
Orderbook vs fleet



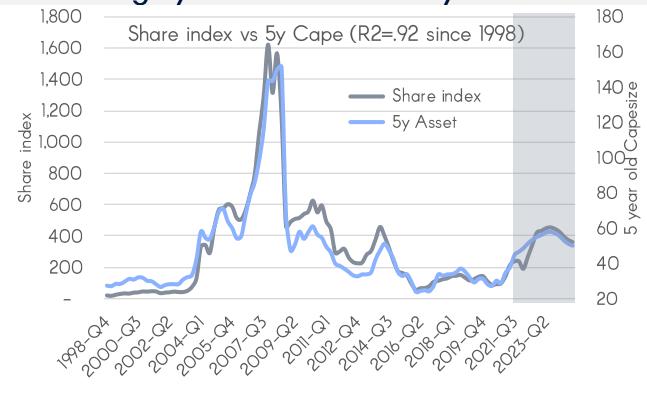
Historical dry bulk shipping demand



5y vessel values highly correlated with 1y TC



Shares highly correlated with 5y vessel values





Market Overview

Annual view

Base case	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
VLOC, spot ^a (TCE/d)	57,933	149,165	134,674	54,751	42,760	20,095	9,878	18,660	18,579	10,335	9,499	19,476	21,113	22,931	16,706	41,910	48,436	57,469	46,339
Capesize, spot ^a (TCE/d)	45,260	116,535	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	32,742	37,841	44,898	36,202
Panamax, spot ^a (TCE/d)	23,853	57,004	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	27,124	22,554	23,205	19,921
Supramax, spot ^a (TCE/d)	22,680	47,604	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	26,795	19,878	19,248	16,519
Handymax, spot ^a (TCE/d)	21,546	45,224	39,226	16,483	21,353	13,689	8,986	9,782	9,328	6,594	5,860	8,897	10,914	9,427	7,771	25,455	18,884	18,286	15,693
Handysize, spot ^a (TCE/d)	9,855	32,541	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	24,862	18,226	17,042	15,005
VLOC, 5y ^a (USDm)	111	193	224	91	100	76	60	63	82	57	42	55	61	54	49	70	86	103	96
Capesize, 5y ^a (USDm)	64	111	128	52	57	43	34	36	47	33	24	32	35	31	28	40	49	59	55
Panamax, 5y ^a (USDm)	37	66	73	32	39	31	22	21	24	17	14	18	21	19	18	26	31	35	33
Supramax, 5y ^a (USDm)	33	57	61	27	32	28	22	21	25	16	13	16	18	17	16	25	28	27	26
Handymax, 5y ^a (USDm)	31	54	58	25	30	26	21	20	23	15	12	15	17	16	15	24	26	25	25
Handysize, 5y ^a (USDm)	26	37	44	21	26	23	18	18	20	13	10	14	15	16	15	20	22	25	22

High case	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
VLOC, spot ^a (TCE/d)	57,933	149,165	134,674	54,751	42,760	20,095	9,878	18,660	18,579	10,335	9,499	19,476	21,113	22,931	16,706	52,373	78,305	108,577	79,411
Capesize, spot ^a (TCE/d)	45,260	116,535	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	37,945	61,176	84,826	62,040
Panamax, spot ^a (TCE/d)	23,853	57,004	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	28,301	30,854	41,616	31,247
Supramax, spot ^a (TCE/d)	22,680	47,604	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	26,140	27,113	35,542	27,421
Handymax, spot ^a (TCE/d)	21,546	45,224	39,226	16,483	21,353	13,689	8,986	9,782	9,328	6,594	5,860	8,897	10,914	9,427	7,771	24,833	25,758	33,765	26,050
Handysize, spot ^a (TCE/d)	9,855	32,541	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	21,723	19,180	24,829	19,386
VLOC, 5y ^a (USDm)	111	193	224	91	100	76	60	63	82	57	42	55	61	54	49	77	121	152	139
Capesize, 5y ^a (USDm)	64	111	128	52	57	43	34	36	47	33	24	32	35	31	28	44	70	87	80
Panamax, 5y ^a (USDm)	37	66	73	32	39	31	22	21	24	17	14	18	21	19	18	29	43	54	49
Supramax, 5y ^a (USDm)	33	57	61	27	32	28	22	21	25	16	13	16	18	17	16	27	35	42	38
Handymax, 5y ^a (USDm)	31	54	58	25	30	26	21	20	23	15	12	15	17	16	15	25	33	40	37
Handysize, 5y ^a (USDm)	26	37	44	21	26	23	18	18	20	13	10	14	15	16	15	19	29	33	15

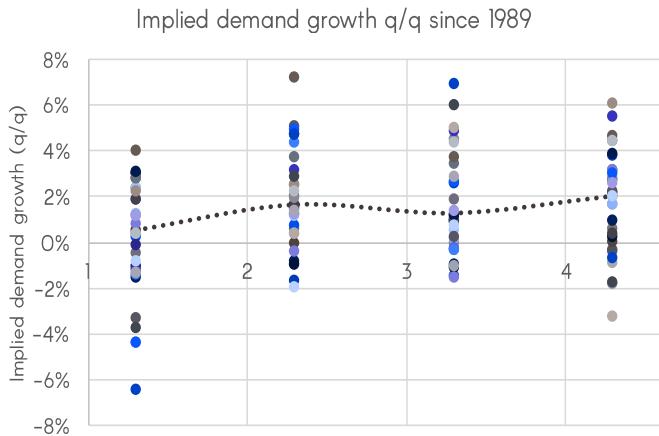
Quarterly view

Base case	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24
VLOC, spot ^a (TCE/d)	12,713	26,574	21,688	21,921	39,834	54,245	51,640	15,656	34,805	67,341	75,943	34,747	37,695	74,343	83,092	32,371	31,887	58,569	62,529
Capesize, spot ^a (TCE/d)	9,932	20,761	16,944	17,126	31,120	42,379	40,344	12,231	27,192	52,610	59,330	27,146	29,449	58,080	64,916	25,290	24,912	45,757	48,851
Panamax, spot ^a (TCE/d)	7,390	13,108	12,045	18,493	26,052	32,406	31,543	18,926	16,519	26,117	28,655	16,502	17,372	28,183	30,764	15,801	15,658	23,529	24,698
Supramax, spot ^a (TCE/d)	5,484	9,931	10,749	16,633	25,538	31,048	33,960	20,376	13,691	21,669	23,778	13,676	14,399	23,386	25,531	13,094	12,975	19,518	20,489
Handymax, spot ^a (TCE/d)	5,210	9,435	10,211	15,801	24,261	29,495	32,262	19,357	13,006	20,585	22,589	12,993	13,679	22,216	24,254	12,439	12,326	18,542	19,464
Handysize, spot ^a (TCE/d)	5,221	9,136	11,142	16,610	22,507	25,762	34,569	20,741	12,895	18,848	20,421	12,884	13,424	20,129	21,729	12,450	12,361	17,243	17,967
VLOC, 5y ^a (USDm)	47	52	50	60	65	78	74	74	95	100	101	103	105	104	103	99	93	90	90
Capesize, 5y ^a (USDm)	27	30	29	35	38	45	45	42	42	55	58	58	59	60	60	59	57	53	52
Panamax, 5y ^a (USDm)	18	18	18	22	26	29	29	27	27	35	34	35	35	36	36	35	34	32	31
Supramax, 5y ^a (USDm)	16	16	16	19	23	29	29	28	28	27	27	27	27	28	28	27	26	25	24
Handymax, 5y ^a (USDm)	15	15	15	18	22	28	28	26	26	27	25	26	26	26	26	26	25	24	23
Handysize, 5y ^a (USDm)	15	15	15	16	20	23	20	19	19	24	25	25	25	24	24	23	22	22	21

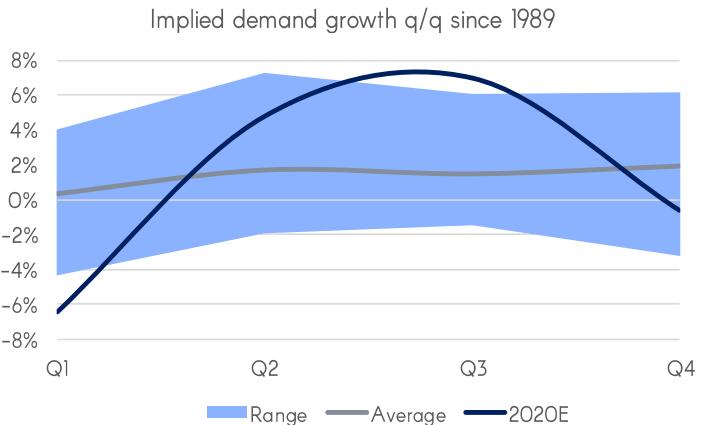


Seasonality

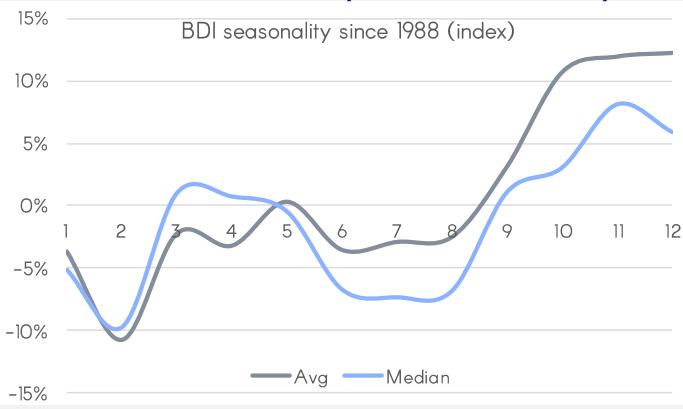
Historically strongest demand growth in 2Q/4Q



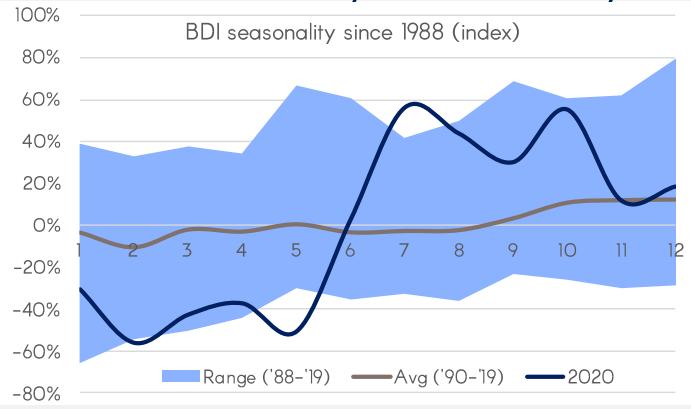
Historical demand growth



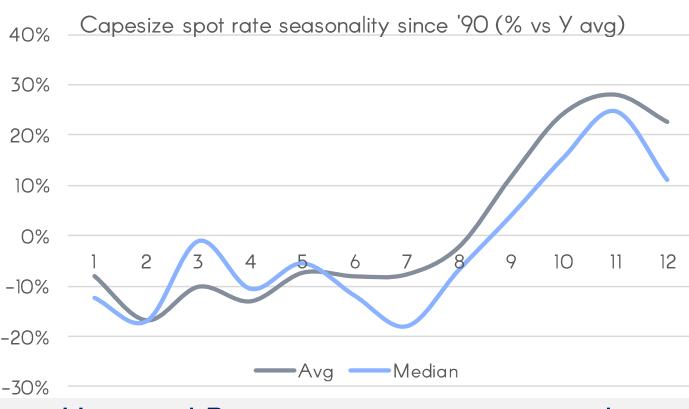
Historical Baltic Dry Index seasonality



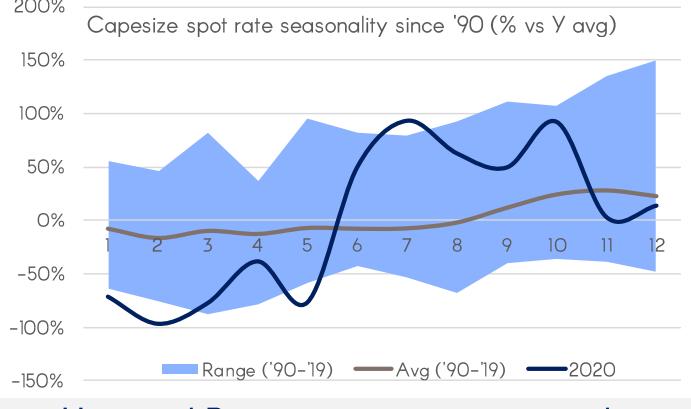
Historical Baltic Dry Index seasonality



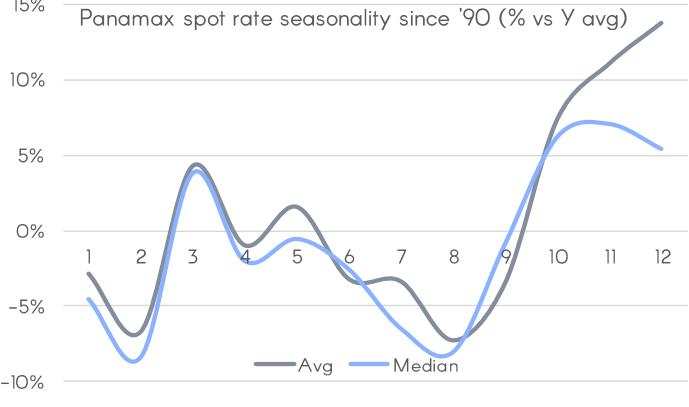
Historical Capesize spot rate seasonality



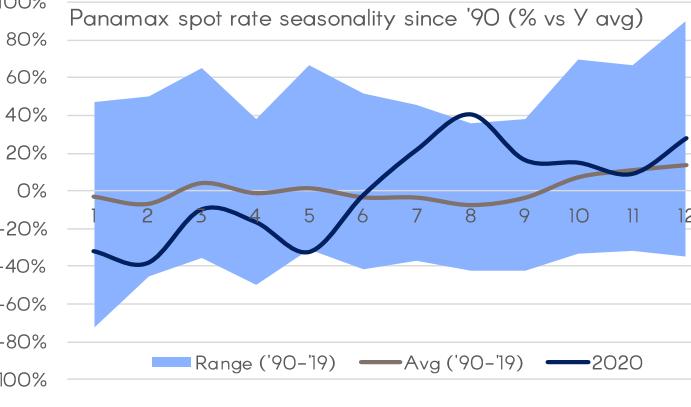
Historical Capesize spot rate seasonality



Historical Panamax spot rate seasonality



Historical Panamax spot rate seasonality



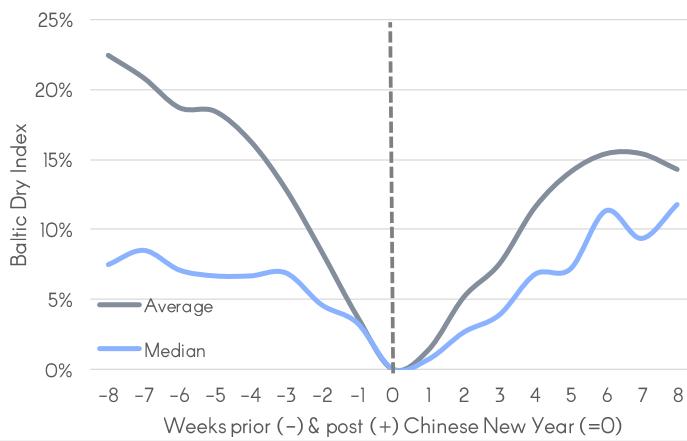


Cleaves Securities

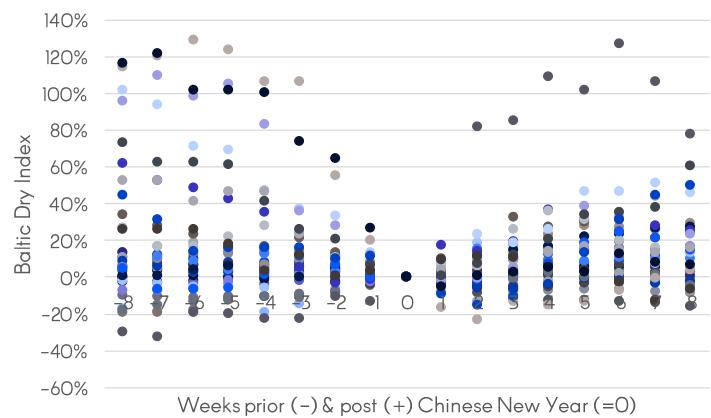
Shipping Weekly 12/2022

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

Dry Bulk spot rates vs Chinese New Year



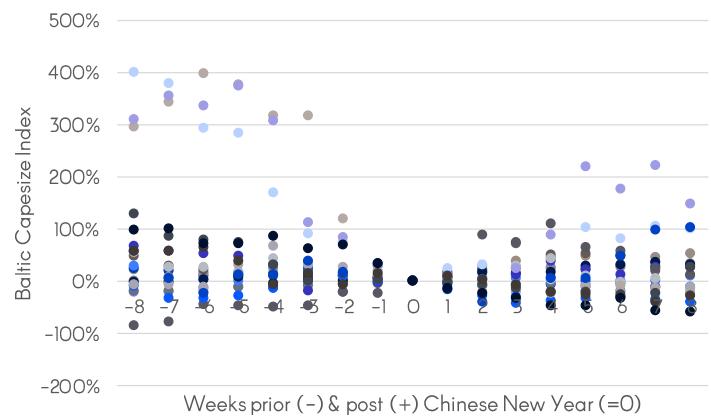
Dry Bulk spot vs Chinese New Year (distribution)



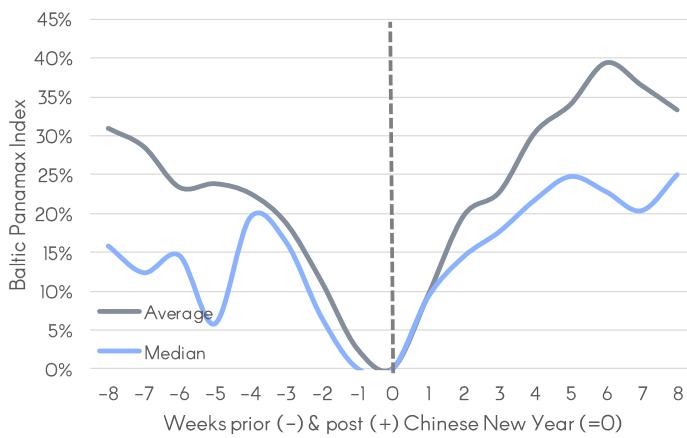
Capesize spot rates vs Chinese New Year



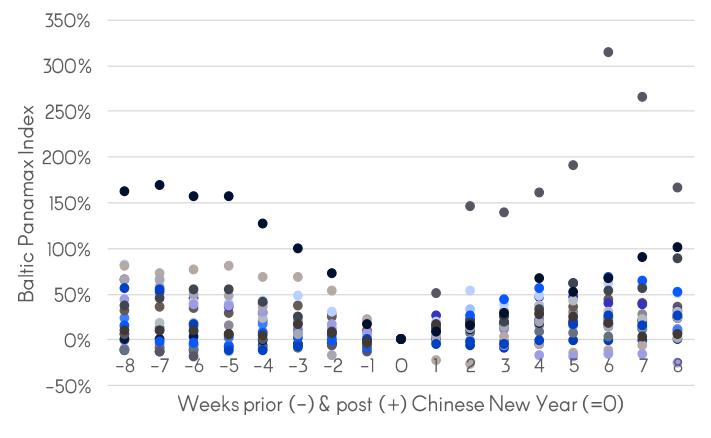
Capesize spot vs Chinese New Year (distribution)



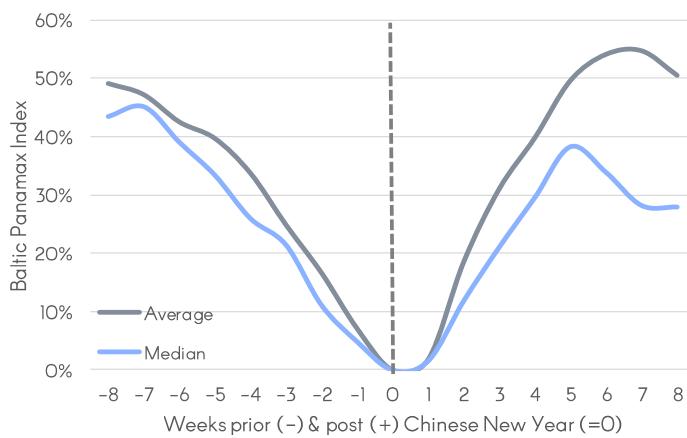
Panamax spot rates vs Chinese New Year



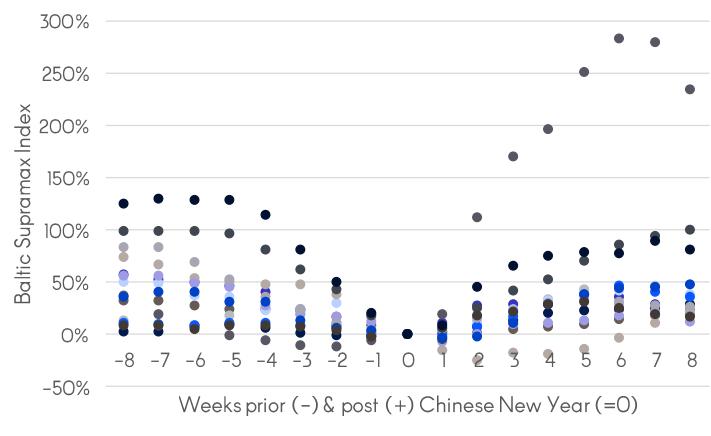
Panamax spot vs Chinese New Year (distribution)



Supramax spot rates vs Chinese New Year



Supramax spot vs Chinese New Year (distribution)





Cleaves Securities

Shipping Weekly 12/2022

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

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	136	184	150	108	117	166	132	90	106	154	120	78	97	146	112	71	
BULK NO	294	358	290		242	306	239		201	265	197		195	259	192		
DSX US	400	447	371		289	332	254		246	289	211		223	267	190		
EGLS US	446	399	342		282	273	216		226	217	160		210	204	149		
GNK US	467	477	401		327	371	295		266	310	233		256	302	227		
GOCL US	1,239	1,368	1,068		938	1,058	849		808	926	706		768	891	672		
HSHIP NO	0	91	191		0	83	168		0	78	144		-2	68	113		
SBLK US	1,418	1,524	1,270		1,138	1,250	998		981	1,093	841		937	1,056	808		
Average	550	606	511	108	417	480	394	90	354	416	326	78	336	399	308	71	
Median	423	423	357	108	286	319	246	90	236	277	204	78	216	263	191	71	

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	352	343	335	323	26	30	33	47	384	379	373	375	160	170	179	196
BULK NO	431	402	375		110	160	192		586	607	612		427	475	506	
DSX US	730	693	650		206	350	455		986	1,094	1,155		578	726	806	
EGLS US	870	823	776		203	305	362		1,209	1,265	1,275		797	902	964	
GNK US	991	946	901		193	244	236		1,272	1,278	1,225		1,020	1,057	1,031	
GOCL US	2,913	2,886	2,885		506	741	713		3,680	3,887	3,859		2,220	2,508	2,583	
HSHIP NO	170	515	798		23	70	94		193	585	892		105	144	171	
SBLK US	2,908	2,775	2,655		618	647	564		3,709	3,605	3,402		2,281	2,384	2,272	
Average	1,171	1,173	1,172	323	235	319	331	47	1,502	1,588	1,599	375	948	1,046	1,064	196
Median	800	758	787	323	198	275	299	47	1,098	1,179	1,190	375	687	814	885	196

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	108	158	124	83	106	155	121	83	2	4	3	14	63,310	51,528	13,990	13,800
BULK NO	236	301	234		219	288	220		56	50	32		42,460	34,381	10,079	9,698
DSX US	271	316	240		188	310	240		64	145	104		32,808	27,205	12,318	10,848
EGLS US	267	260	205		257	250	196		127	102	57		20,576	17,630	9,749	9,752
GNK US	317	363	288		250	347	272		60	51	-8		30,230	25,403	9,027	8,727
GOCL US	899	1,022	815		853	918	673		239	235	-28		38,751	31,976	11,139	13,836
HSHIP																
SBLK US	1,094	1,212	965		1,054	1,189	927		134	29	-83		32,782	27,284	10,962	8,350
Average	456	519	410	83	418	494	378	83	97	88	11	14	37,274	30,772	11,038	10,716
Median	271	316	240	83	250	310	240	83	64	51	3	14	32,808	27,284	10,962	9,752



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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				
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22
USDm																
2020 NO		15	27	46		10	22	41		7	19	39		5	17	36
BULK NO	71	25	52	102	58	12	39	89	48	2	29	78	46	1	28	77
DSX US		66	77	121		40	50	94		29	39	83		23	33	77
EGLS US		112	81	125		69	38	84		55	24	70		51	20	66
GNK US		83	87	141		49	52	106		34	37	91		31	34	88
GOCL US		157	223	407		93	159	322		61	126	289		50	116	279
HSHIP NO	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SBLK US		230	262	440		161	192	369		122	153	330		111	142	319
Average	36	86	101	173	29	54	69	138	24	39	53	122	23	34	49	118
Median	36	74	79	123	29	44	45	91	24	31	33	81	23	27	30	77

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity			Total Assets				Total Equity				
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22
USDm																
2020 NO		358	356	354		24	24	25		388	386	385		153	154	157
BULK NO	456	450	444	437	54	54	70	108	555	549	558	591	368	369	386	425
DSX US		741	738	734		92	107	161		884	895	946		443	466	527
EGLS US		910	897	884		95	100	162		1,141	1,134	1,182		692	697	757
GNK US		1,023	1,014	1,002		81	101	168		1,191	1,202	1,258		913	932	997
GOCL US		2,976	2,954	2,935		145	212	393		3,382	3,427	3,589		1,814	1,895	2,093
HSHIP NO	0	96	109	143	0	25	24	24	0	120	133	167	0	107	106	106
SBLK US		3,006	2,977	2,943		346	388	569		3,535	3,548	3,696		1,952	2,017	2,216
Average	228	1,195	1,186	1,179	27	108	128	201	277	1,399	1,410	1,477	184	805	832	910
Median	228	826	818	809	27	87	100	162	277	1,013	1,015	1,064	184	568	581	642

Cash Flow

CF	Net Operational CF				Free Cash Flow			Net Cash Flow				TCE/d		Cash B/E		
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	1Q22	2Q22	1Q22	2Q22
USDm																
2020 NO		8	20	39		7	19	39		0	0	1	21,497	37,306	15,233	15,117
BULK NO	56	11	38	87	54	6	34	83	17	0	16	38	12,619	25,947	10,249	10,147
DSX US		35	46	89		-27	38	82		-50	15	54	20,493	22,791	12,520	12,304
EGLS US		65	35	81		57	33	80		19	5	62	21,121	15,108	11,248	10,996
GNK US		46	49	104		-7	43	99		-52	20	67	20,347	20,603	10,586	10,556
GOCL US		83	149	312		72	138	298		-121	67	181	18,038	25,708	11,804	11,867
HSHIP NO	0	0	0	0	0	-14	-14	-34	0	0	0	0				
SBLK US		150	181	358		129	171	352		-138	42	181	20,540	22,746	11,314	11,202
Average	28	50	65	134	27	28	58	125	9	-43	21	73	19,237	24,316	11,851	11,741
Median	28	41	42	88	27	7	36	83	9	-25	16	58	20,493	22,791	11,314	11,202



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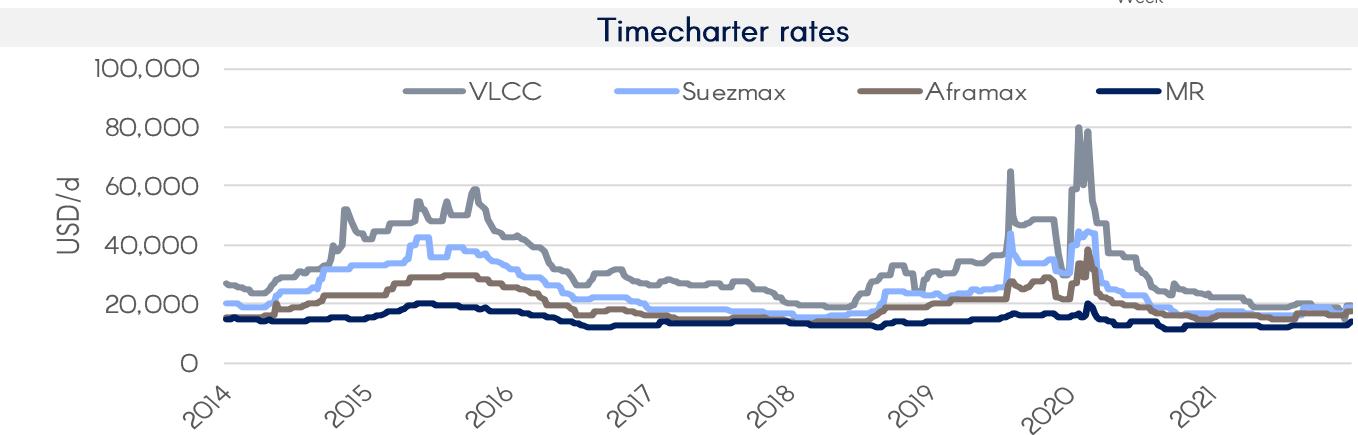
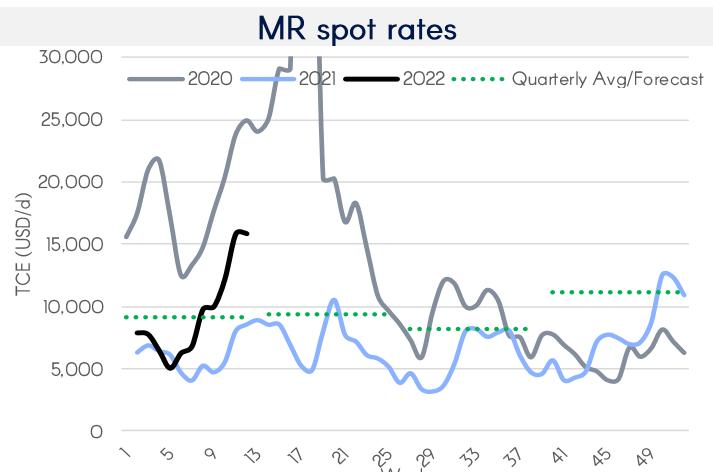
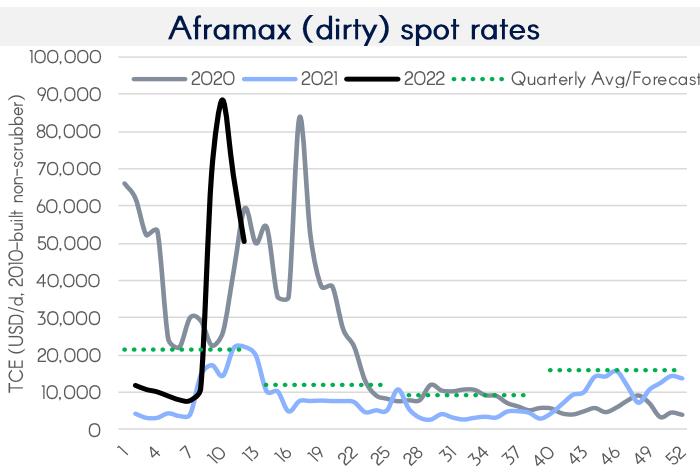
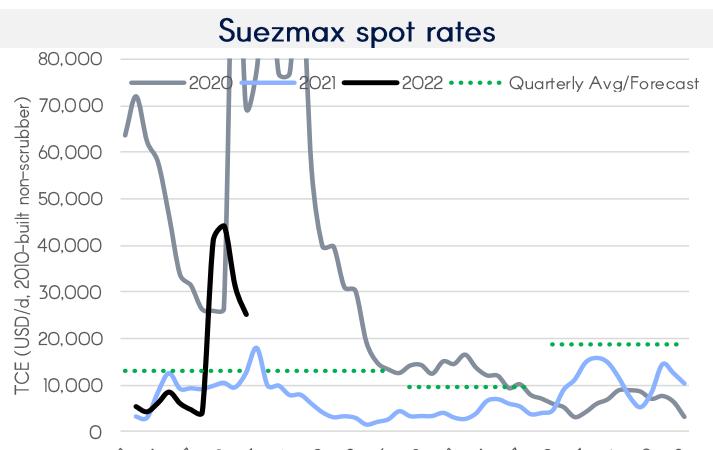
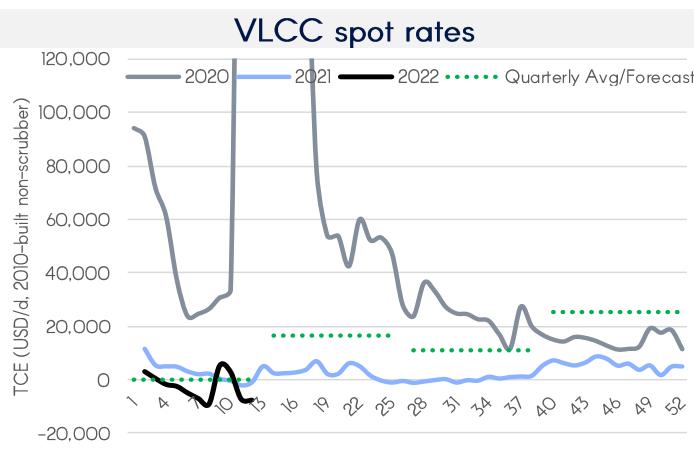
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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Oil Tankers



Earnings





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Shipping Weekly 12/2022

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

Asset Valuation

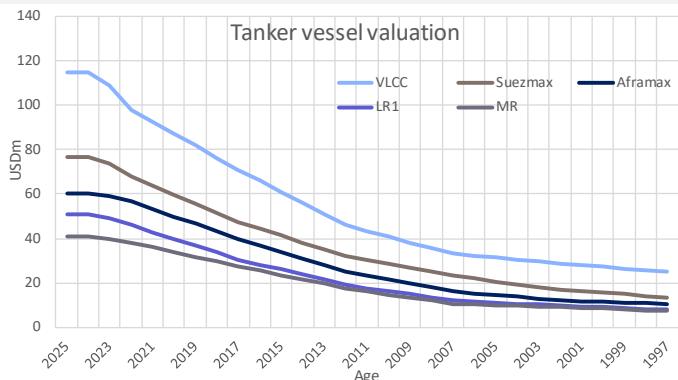
Asset valuation overview

Summary	VLCC	Suezmax	Aframax	LR2	LRI	MR	SR
NB	115.0	77.0	60.0	62.0	51.0	41.0	39.0
resale	98.0	68.0	56.5	58.5	46.0	38.0	34.0
5y	71.0	47.5	40.0	41.5	30.5	27.5	24.0
10y	46.0	32.0	25.0	26.0	19.0	17.5	15.5
15y	33.0	23.0	16.0	17.0	12.0	10.5	9.5
20y	28.8	17.0	11.9	12.4	9.6	8.9	6.6
scrap	24.8	13.3	10.3	10.3	7.9	7.3	4.8

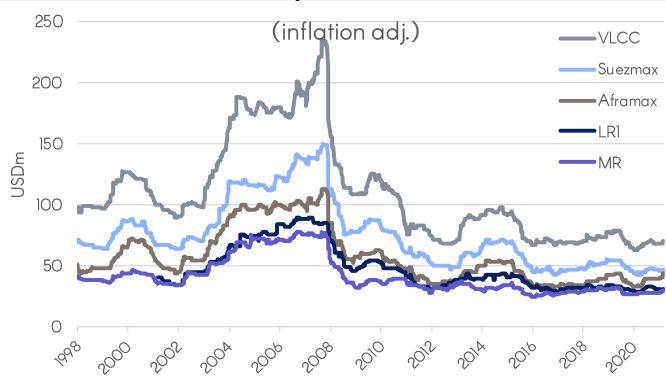
All prices are excluding scrubbers

NB parity 37,717 27,591 22,179 22,708 19,376 16,496 15,287

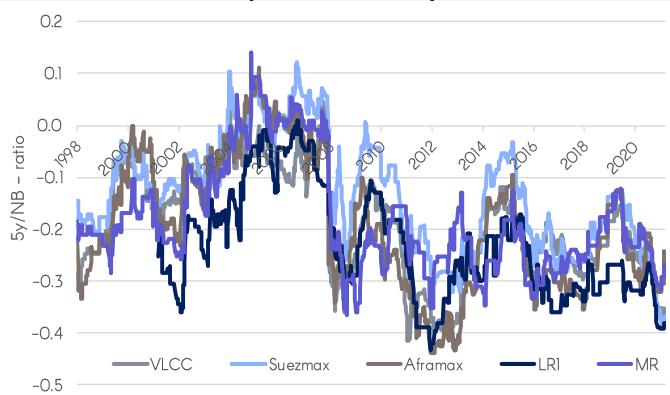
Asset valuation overview



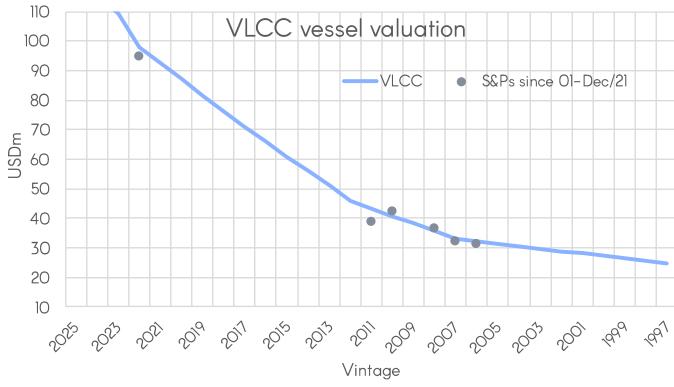
Historical 5y old vessel values



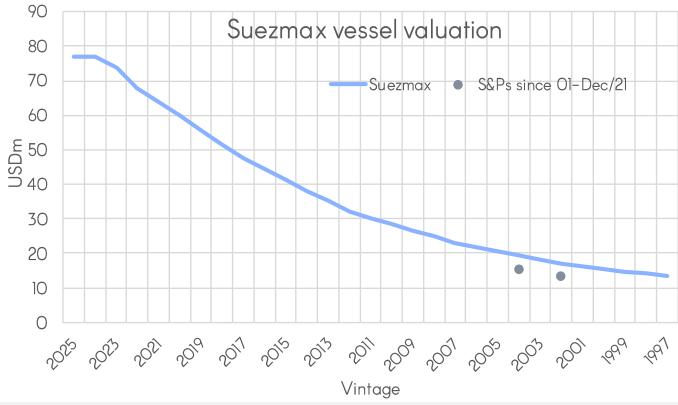
Historical price ratio, 5y/newbuild



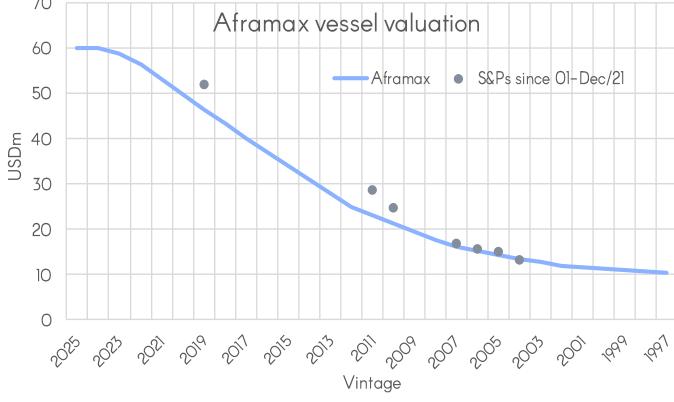
VLCC valuation vs recent S&P



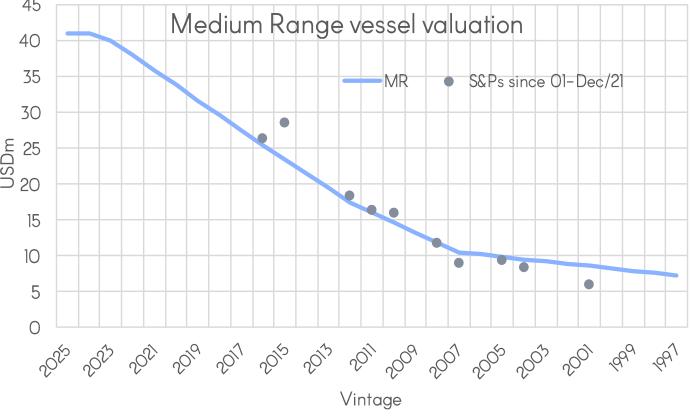
Suezmax valuation vs recent S&P



Aframax valuation vs recent S&P



MR valuation vs recent S&P





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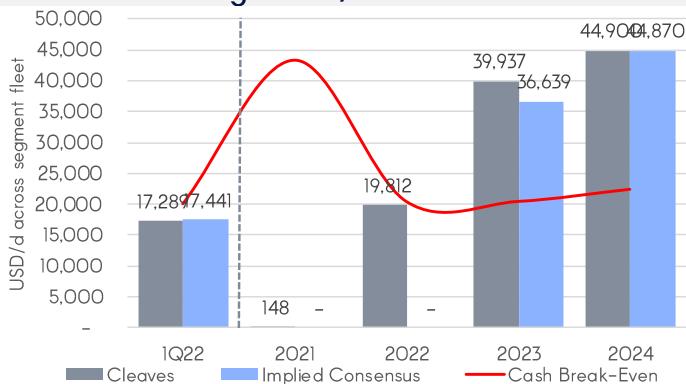
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Peer Group

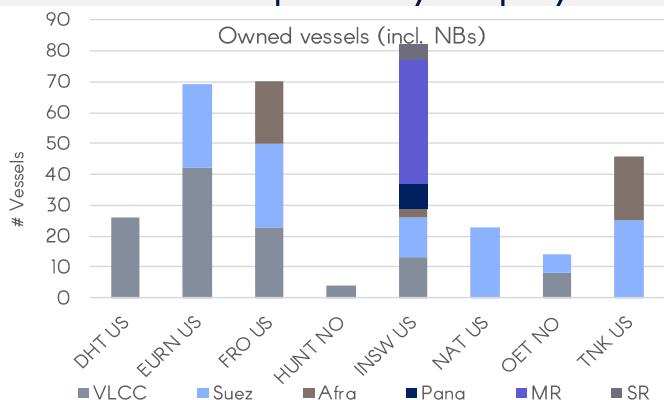
Updated 19 Mar 17:50 CET				Return		Target Rec.	Target Price	Last Price	Target/Price	NAV /sh	P/NAV Now	P/NAV 1y fwd	ϵ	EV/GAV	adj. equity	τ
Company	M.cap	Turnover	1y	BUY	7.8	5.8	34%	6.3	0.92	0.79	1.39	0.95	65%	0.95		
DHT US	964	12.5	-9%	BUY	7.8	5.8	34%	6.3	0.92	0.79	1.39	0.95	65%	0.95		
EURN US	2,378	15.0	17%	BUY	13.0	10.8	20%	10.9	0.99	0.89	1.73	1.04	50%	0.86		
FRO US	1,767	19.1	11%	BUY	11.0	8.7	27%	7.2	1.20	1.05	2.70	1.07	33%	1.00		
HUNT NO	184	0.5	15%	BUY	4	2.8	36%	3	0.86	0.75	1.70	0.92	53%	1.00		
INSW US	95	1.1	-12%	BUY	26.0	16.8	55%	30	0.56	0.68	1.63	0.77	51%	0.95		
NAT US	373	6.8	-46%	HOLD	1.9	1.9	-1%	2.3	0.85	0.78	1.69	0.92	50%	0.91		
OET NO	2,812	2.8	29%	BUY	131.0	85.5	53%	11.5	0.85	0.75	2.88	0.96	33%	0.87		
TNK US	51	0.5	-12%	BUY	20	13.3	51%	18	0.73	0.73	1.82	0.87	44%	1.00		
Average	1,078		-1%				34%		0.87	0.80	1.94	0.94	47%	0.94		
Median	668		1%				35%		0.86	0.77	1.71	0.93	50%	0.95		

Company	EV/EBITDA			P/E			Dividend yield			FCF yield		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
DHT US	0.2	10.0	2.8	1.3		3.6	43%	1%	11%	86%	11%	37%
EURN US	0.1	18.2	4.5	2.7		4.9	35%	1%	5%	69%	1%	20%
FRO US	0.3	14.9	5.0	3.3	29.4	3.2	42%	1%	11%	57%	-8%	37%
HUNT NO	0.1	11.6	4.1	2.6	21.0	3.4	38%	1%	11%	74%	12%	35%
INSW US	0.2	16.6	4.0	2.2		2.7	57%	1%	13%	67%	-2%	22%
NAT US	0.2	34.5	4.0	2.4		5.4	43%	2%	10%	72%	-18%	34%
OET NO	0.2	11.7	4.9	3.8		3.5	49%	4%	14%	59%	-40%	39%
TNK US	0.5	90.8	2.8	1.0		2.3	79%	0%	10%	68%	0%	58%
Average	0.2	26.0	4.0	2.4	25.2	3.6	48%	1%	11%	69%	-6%	35%
Median	0.2	15.7	4.0	2.5	25.2	3.5	43%	1%	11%	69%	-1%	36%

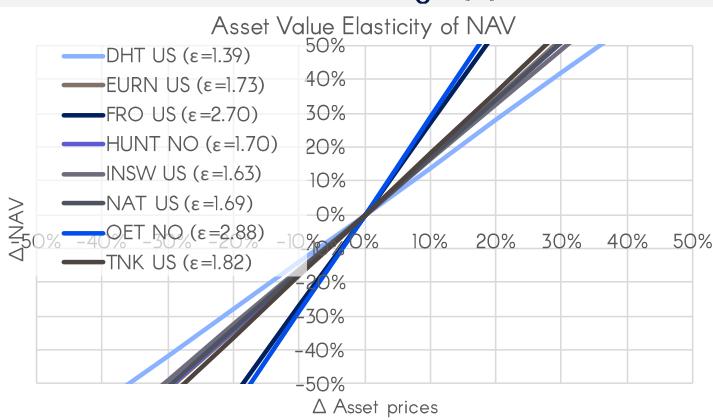
Cleaves' average TCE/d forecast vs consensus



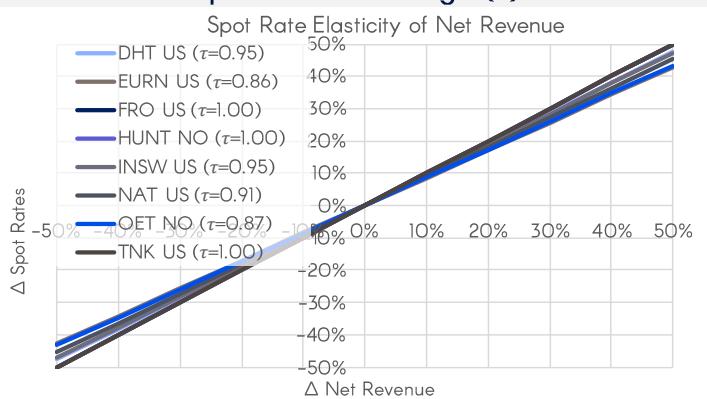
Fleet composition by company



Financial leverage (ϵ)



Operational leverage (τ)



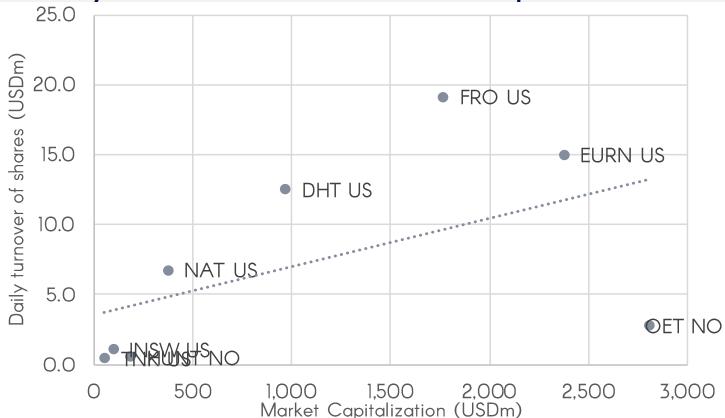


Cleaves Securities

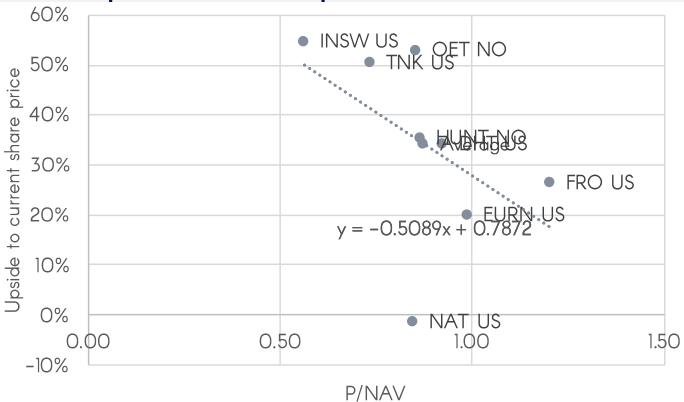
Shipping Weekly 12/2022

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

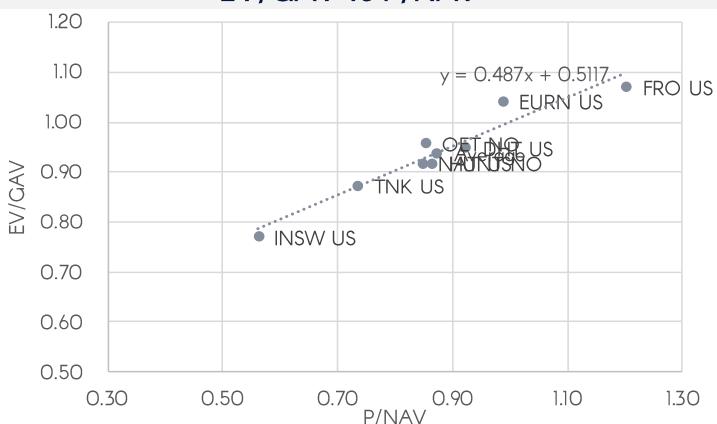
Daily share turnover vs market capitalization



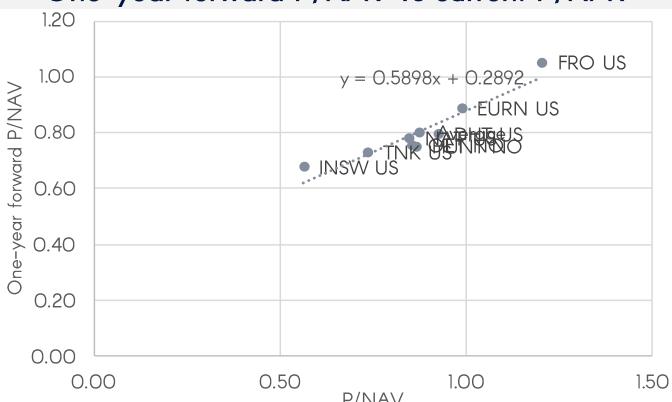
Upside to share price current P/NAV



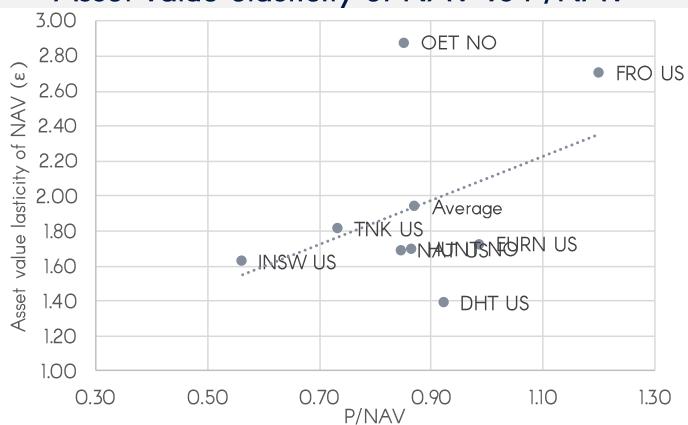
EV/GAV vs P/NAV



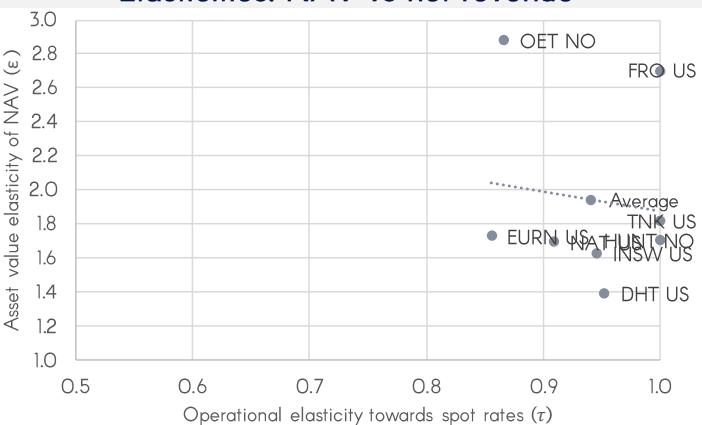
One-year forward P/NAV vs current P/NAV



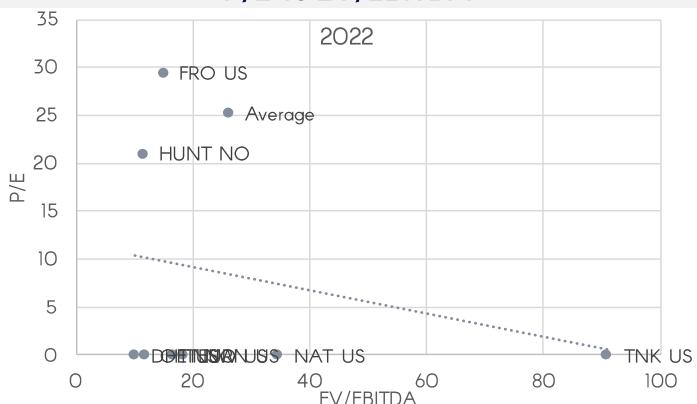
Asset value elasticity of NAV vs P/NAV



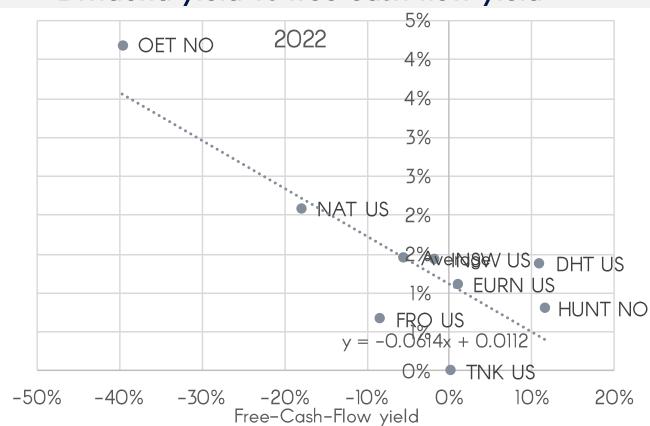
Elasticities: NAV vs net revenue



P/E vs EV/EBITDA



Dividend yield vs free cash flow yield



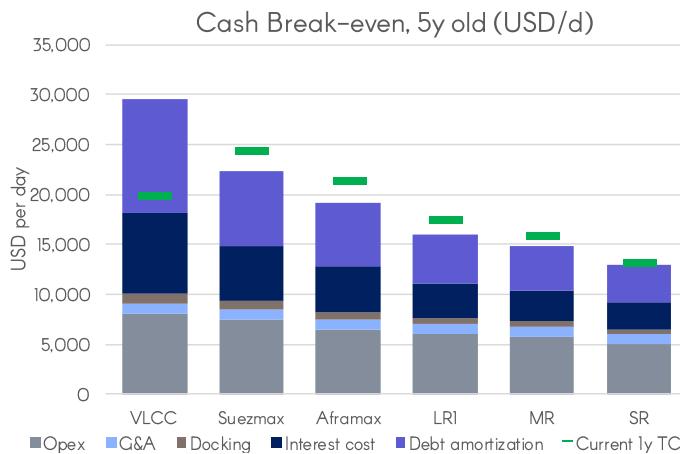


Generic Shipping Accounting

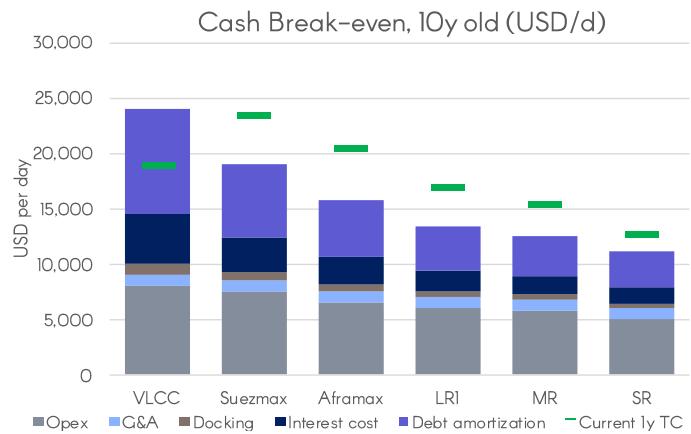
Current vessel economics (5y old)

Current vessel economics (5y old)						
Current vessel economics (5y old)	VLCC	Suezmax	Aframax	LRI	MR	SR
Revenue	7.2	8.8	7.7	6.3	5.8	4.8
Opex/Q&A	-3.3	-3.1	-2.7	-2.6	-2.5	-2.2
EBITDA	3.9	5.7	5.0	3.7	3.3	2.6
Depreciation	-2.3	-1.7	-1.5	-1.1	-1.0	-1.0
EBIT	1.6	4.0	3.5	2.6	2.3	1.6
Financials (6% pa)	-3.0	-2.0	-1.7	-1.3	-1.2	-1.0
Net profit	-1.4	2.0	1.8	1.3	1.1	0.6
Balance (USDm)	VLCC	Suezmax	Aframax	LRI	MR	SR
Asset (5y)	71.0	47.5	40.0	30.5	27.5	24.0
Equity (30%)	21.3	14.3	12.0	9.2	8.3	7.2
Debt (70%)	49.7	33.3	28.0	21.4	19.3	16.8
Cash Flow (USDm)	VLCC	Suezmax	Aframax	LRI	MR	SR
Net profit	-1.4	2.0	1.8	1.3	1.1	0.6
Depreciation	2.3	1.7	1.5	1.1	1.0	1.0
Operational CF	0.9	3.7	3.3	2.5	2.1	1.6
Docking accruals	-0.4	-0.3	-0.3	-0.2	-0.2	-0.1
Debt repayments	-4.1	-2.8	-2.3	-1.8	-1.6	-1.4
Net Cash Flow	-3.6	0.7	0.7	0.5	0.4	0.0
Key Ratios	VLCC	Suezmax	Aframax	LRI	MR	SR
EV/EBITDA	18.1	8.3	8.0	8.1	8.3	9.3
EV/EBIT	44.2	11.9	11.4	11.7	12.0	14.8
P/E	-15.5	7.1	6.5	6.9	7.3	11.7
ROE	-6%	14%	15%	15%	14%	9%
ROCE	2%	8%	9%	9%	8%	7%
FCF yield	3%	24%	26%	25%	24%	20%
Variables	VLCC	Suezmax	Aframax	LRI	MR	SR
1y TC (USD/d)	20,000	24,500	21,500	17,500	16,000	13,250
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	8,170	5,466	4,603	3,510	3,164	2,762
Debt amortization	11,347	7,591	6,393	4,874	4,395	3,836
Cash Break-even	29,517	22,357	19,195	15,984	14,809	12,997
Current 1y TC	20,000	24,500	21,500	17,500	16,000	13,250
NB parity rate	37,717	27,591	22,179	19,376	16,496	15,287

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



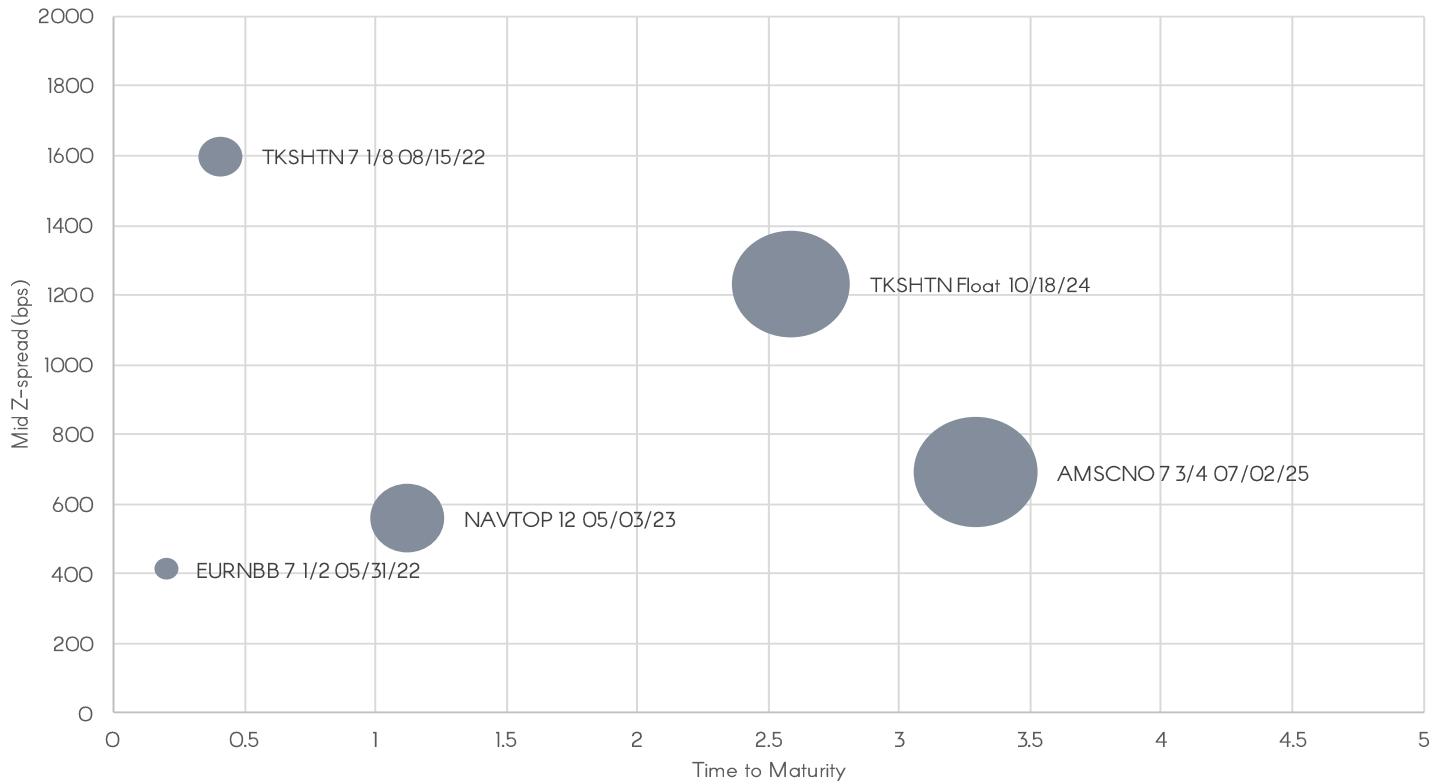
Cash break-even vs 1y TC on a 10y old vessel





The Credit Market

Oil Tanker bond pricing (by amount outstanding)





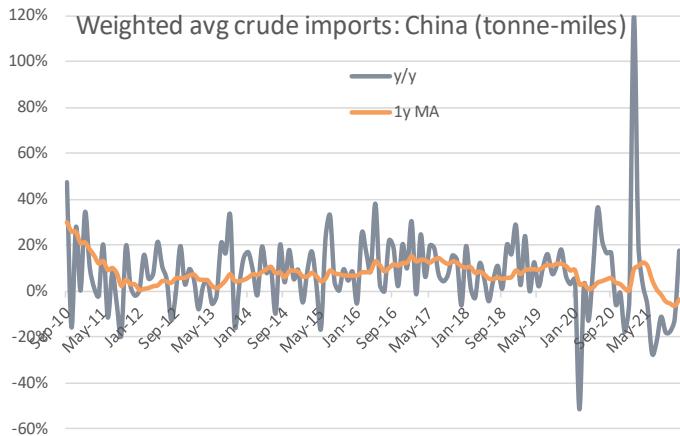
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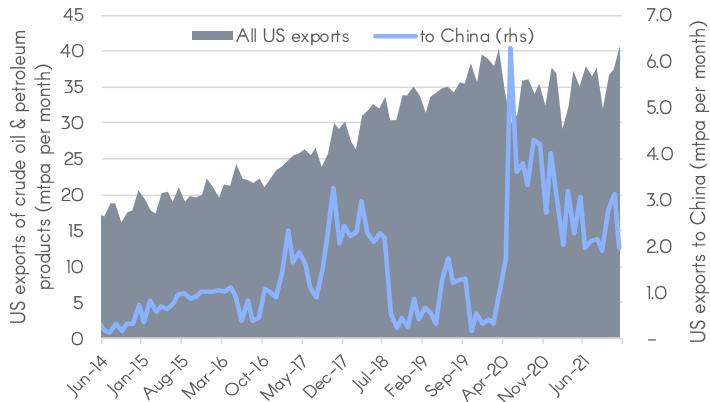
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Market Snapshots

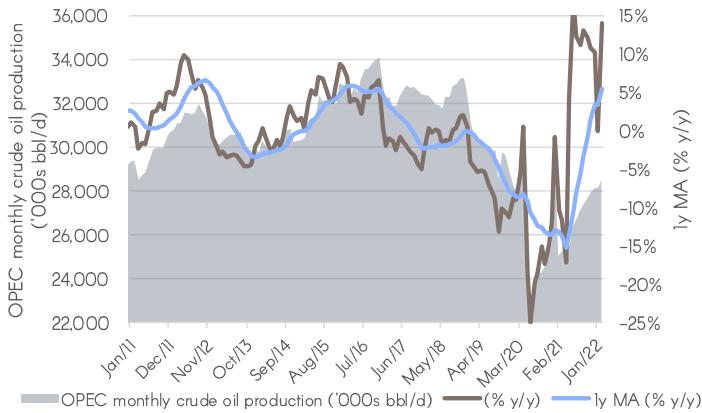
Chinese crude oil imports



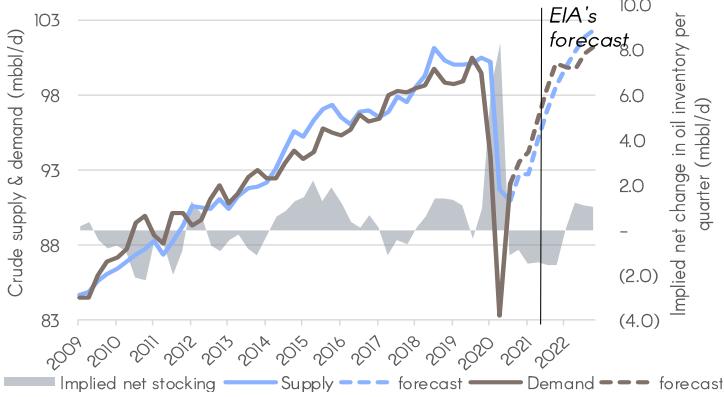
US petroleum exports



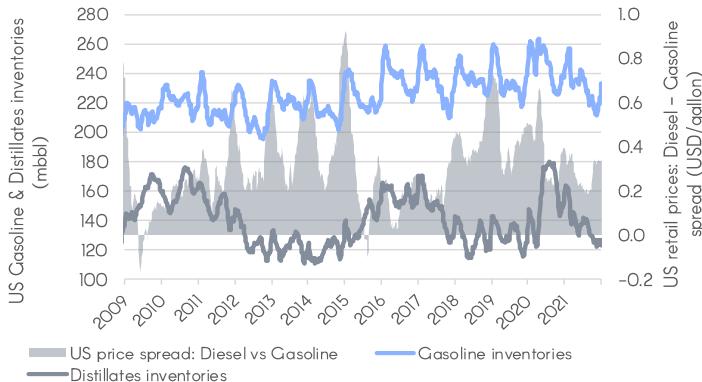
OPEC monthly crude oil production



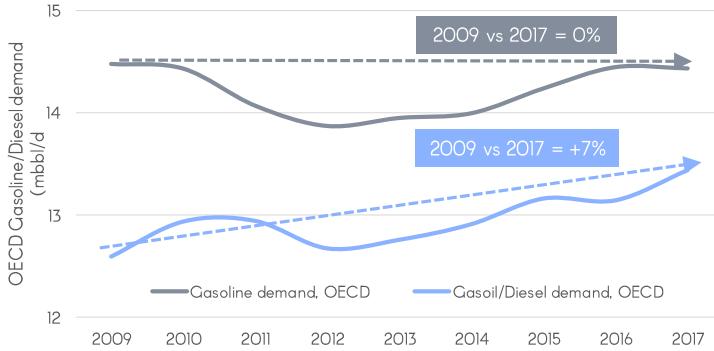
Global oil supply/demand & implied net stocking



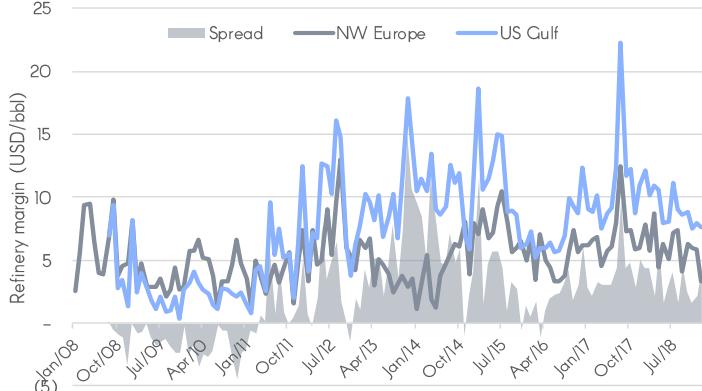
US light/sweet crude => less diesel



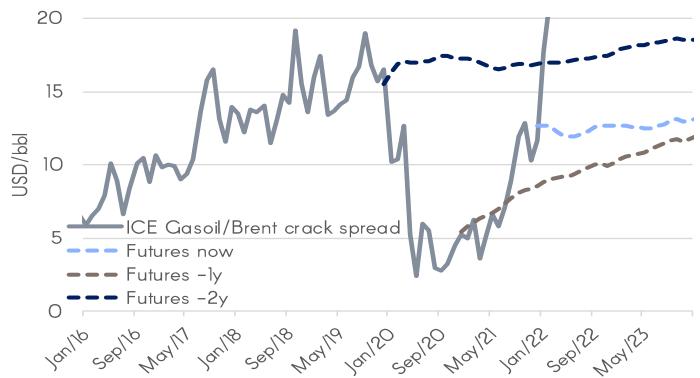
OECD demand for diesel outpacing gasoline



Refinery margins (FCC), US Gulf vs NW Europe

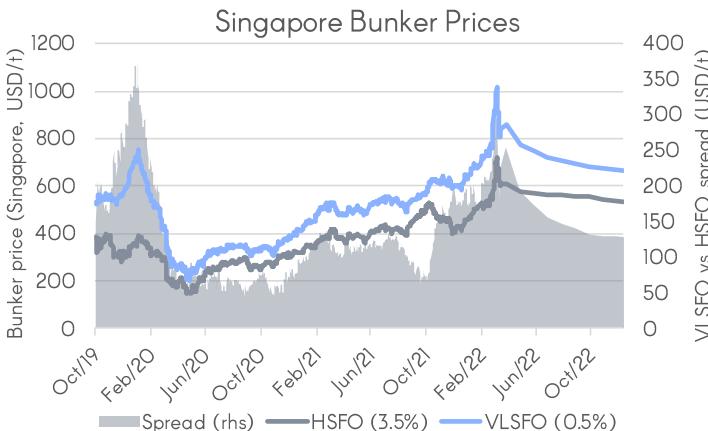


Gasoil crack spread futures

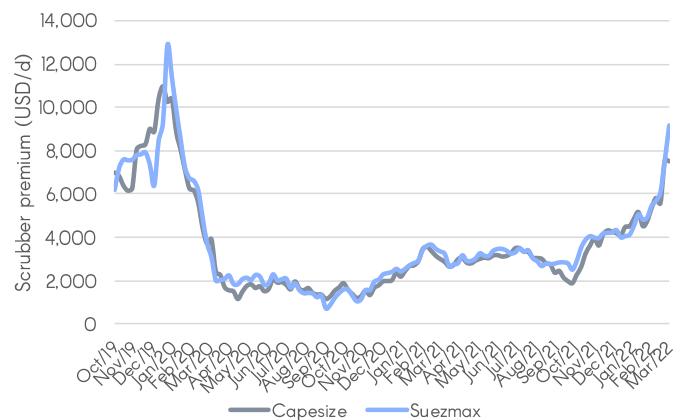


IMO 2020 Sulphur Regulations

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"	-0.8	-1.0	-1.3
Annual savings	1.2	0.6	0.5
Payback time (years)	2.9	6.0	8.0
VLSFO/HSFO spread from futures market	158		
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)	4,934	2,618	2,421
Savings per calendar day (USD/d)	3,380	1,614	1,327

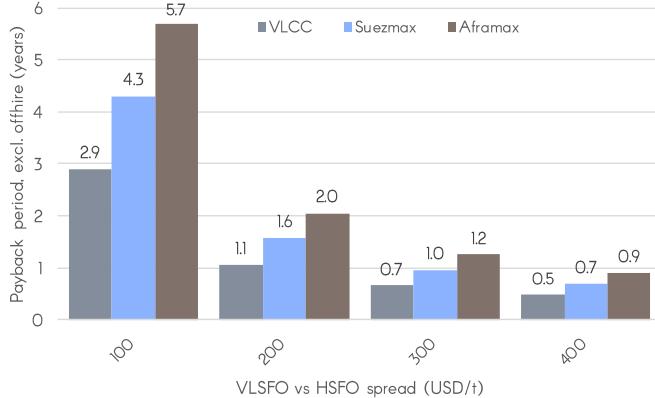
* Reflects added energy consumption & maintenance capex

Oil tanker scrubber economics (2010-built)

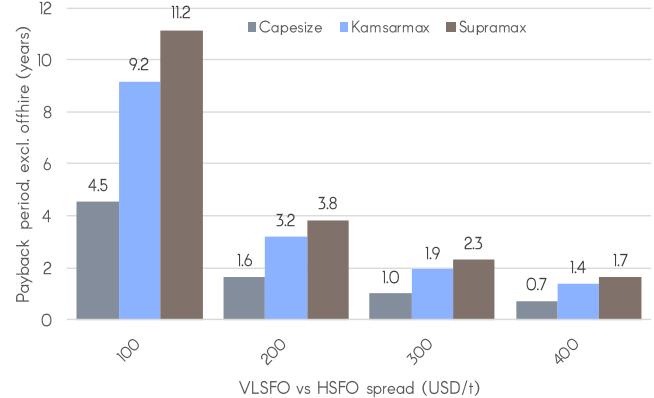
(USDm)	VLCC	Suezmax	Aframax
Cost of scrubber installation	-3.2	-3.1	-2.9
Offhire "cost"	0.5	-0.2	-5.5
Annual savings	2.2	1.4	1.0
Payback time (years)	1.2	2.2	8.1
VLSFO/HSFO spread from futures market	158		
Fuel consumption per day at sea, 2010-built (t)	65	45	35
Voyage days per annum	292	276	260
Scrubber running costs* (USD per calendar day)	-2,176	-1,457	-1,093
Savings per day at sea (USD/d)	7,551	5,184	3,996
Savings per calendar day (USD/d)	6,041	3,920	2,846

* Reflects added energy consumption & maintenance capex

Oil tankers: Scrubber payback sensitivity



Dry bulk: Scrubber payback sensitivity



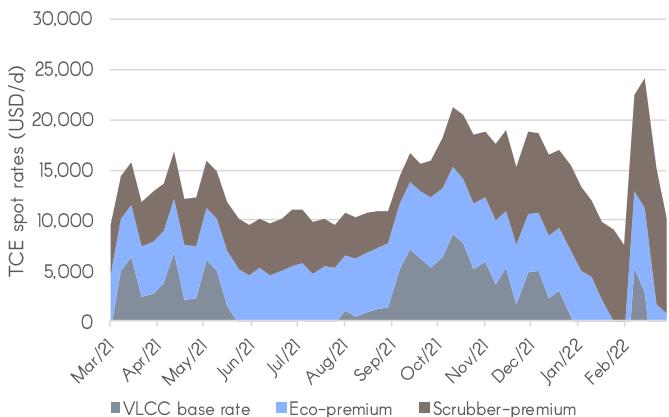


Cleaves Securities

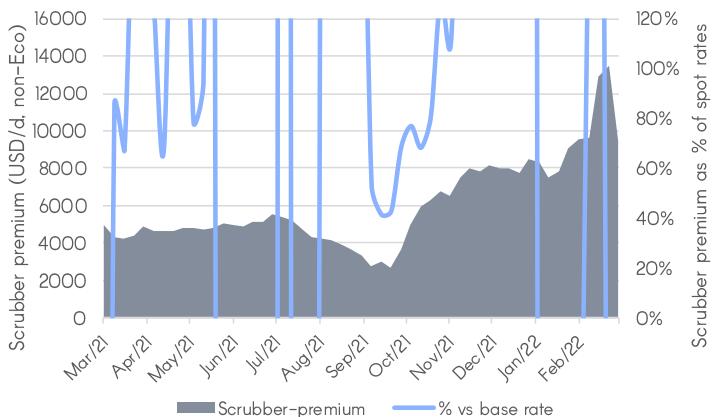
Shipping Weekly 12/2022

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

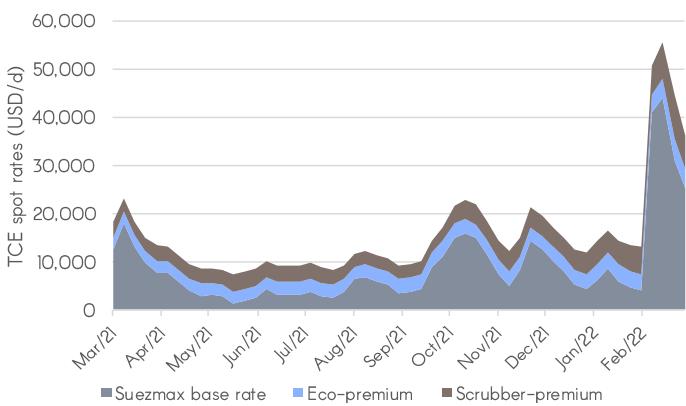
VLCC spot rate breakdown



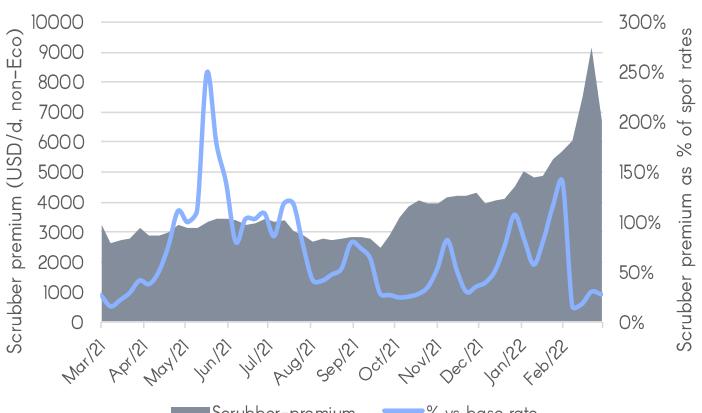
VLCC spot rate scrubber premium



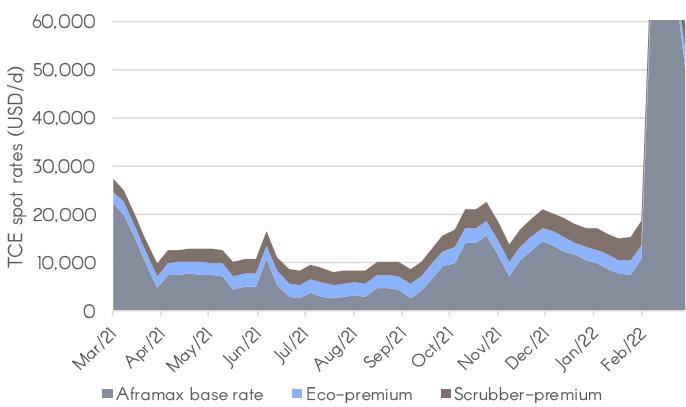
Suezmax spot rate breakdown



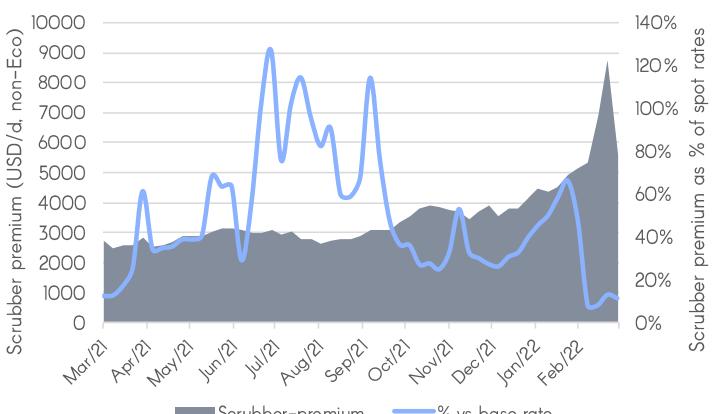
Suezmax spot rate scrubber premium



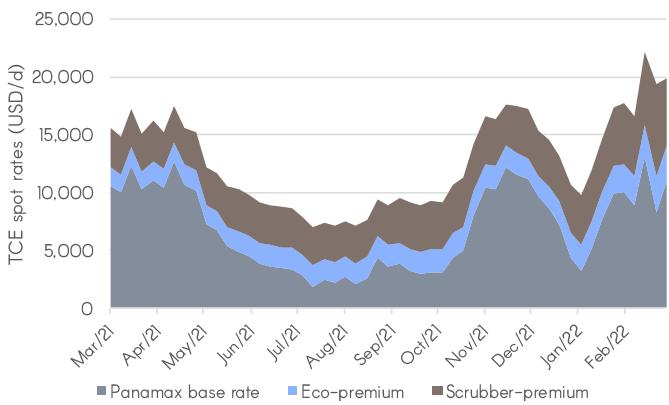
Aframax spot rate breakdown



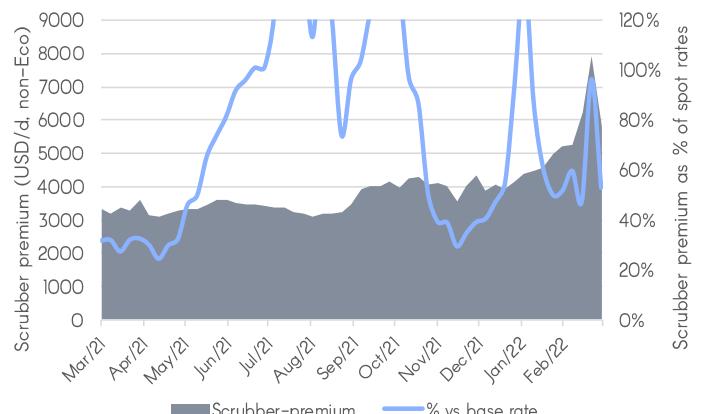
Aframax spot rate scrubber premium



Panamax (dirty) spot rate breakdown



Panamax (dirty) spot rate scrubber premium



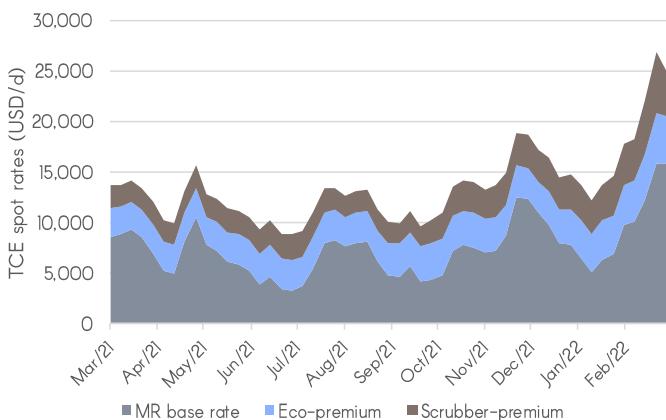


Cleaves Securities

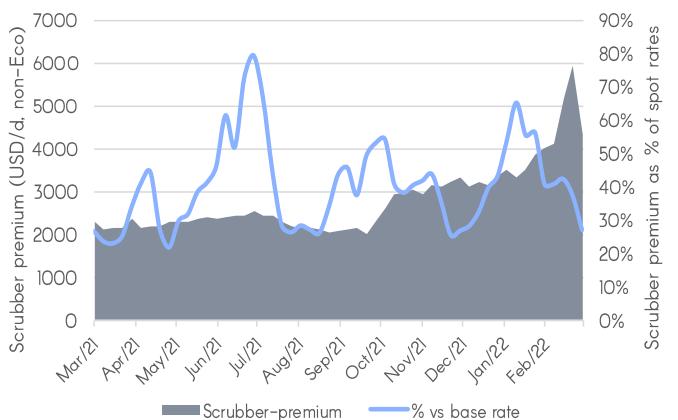
Shipping Weekly 12/2022

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

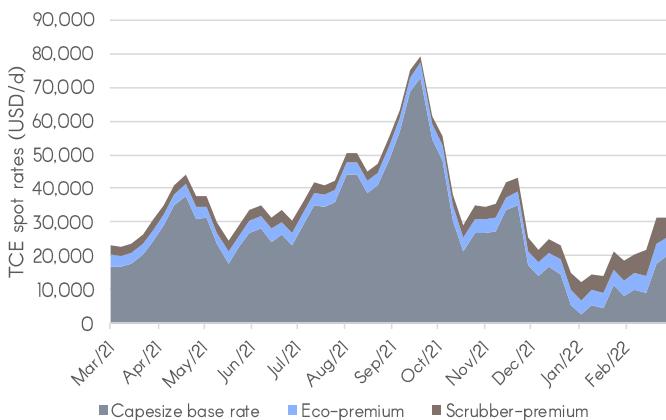
MR spot rate breakdown



MR spot rate scrubber premium



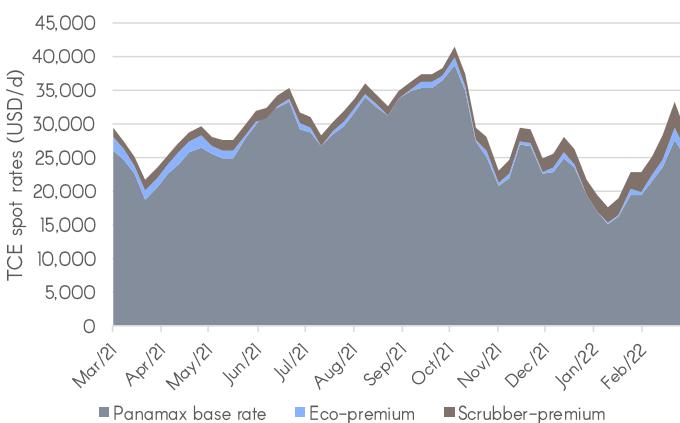
Capesize spot rate breakdown



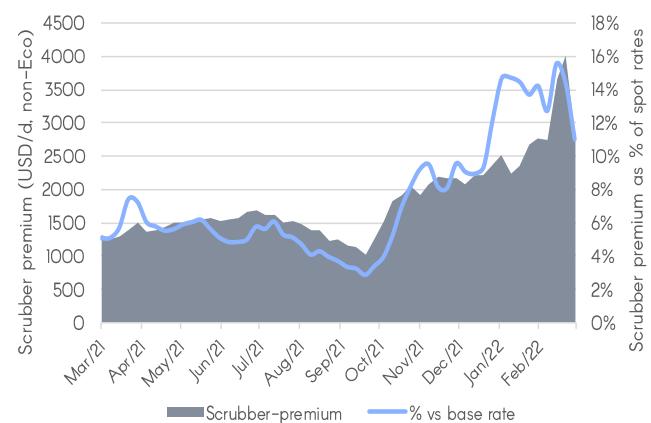
Capesize spot rate scrubber premium



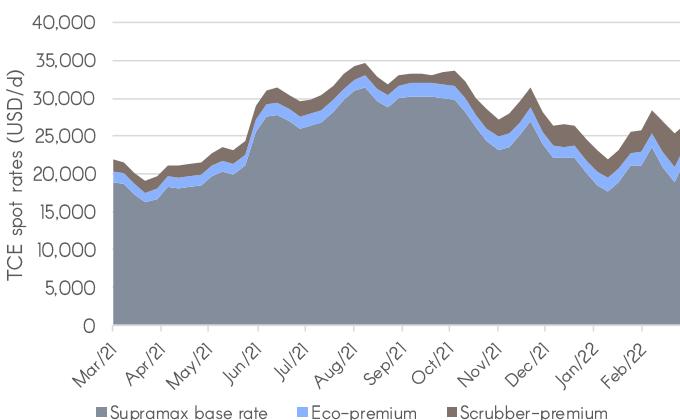
Panamax spot rate breakdown



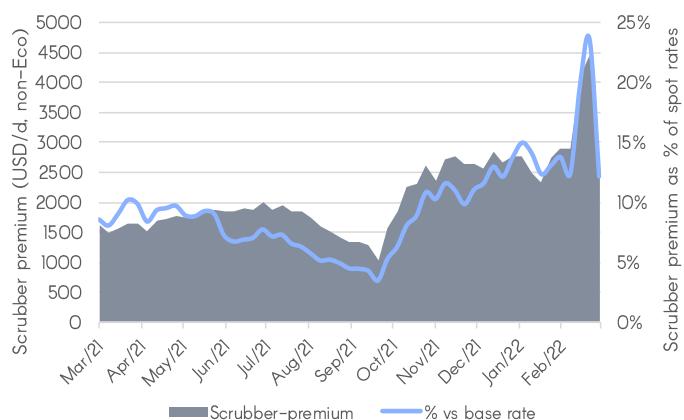
Panamax spot rate scrubber premium



Supramax spot rate breakdown



Supramax spot rate scrubber premium



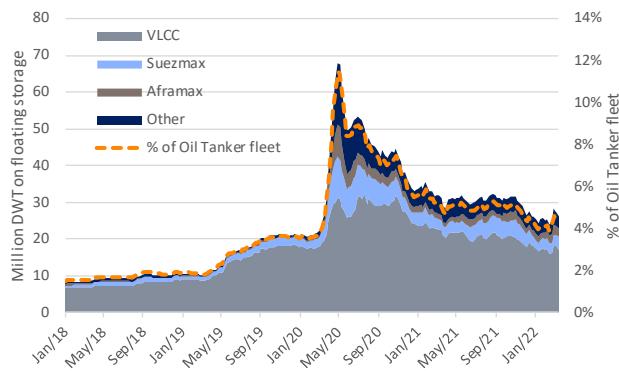
Oil Tanker Storage Economics

VLCC & Suezmax floating storage economics

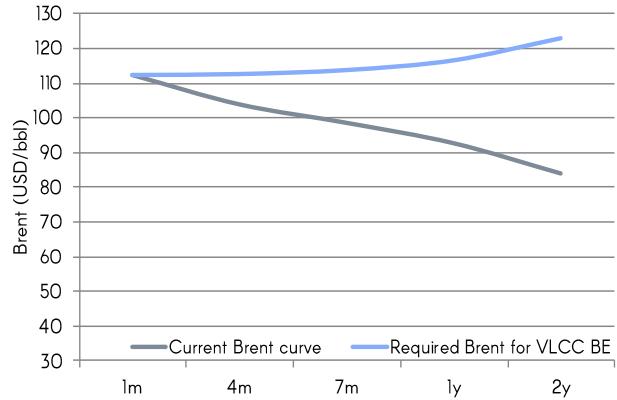
Crude tanker storage arbitrage (excl. cost of carry)

	1m	4m	7m	1y	2y
Brent (USD/bbl)	112.3	103.8	98.5	92.6	83.9
Time-spread against 1m		-8.5	-13.8	-19.7	-28.4
Profit/loss from storage at current rates (USDm)					
VLCC		-18.4	-32.1	-50.5	-82.5
Suezmax		-9.8	-17.1	-26.7	-45.7
Required Brent fwd price for VLCC break-even					
Brent (USD/bbl)	112.3	112.5	113.7	116.6	123.1
Time-spread against 1m		0.3	1.5	4.3	10.9
Required tanker rates for storage to break-even					
VLCC	(195,148)	(158,997)	(123,651)	(85,328)	
Suezmax	(92,928)	(75,713)	(58,882)	(40,632)	

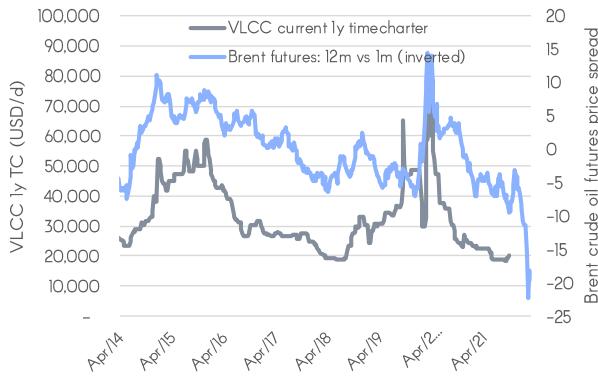
Oil Tanker floating storage



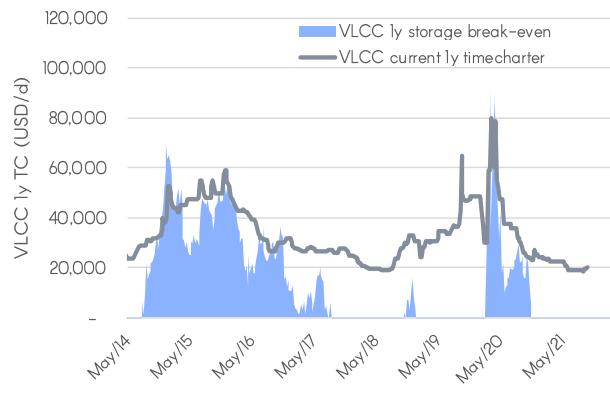
VLCC floating storage economics



Brent oil futures contango vs VLCC 1y TC

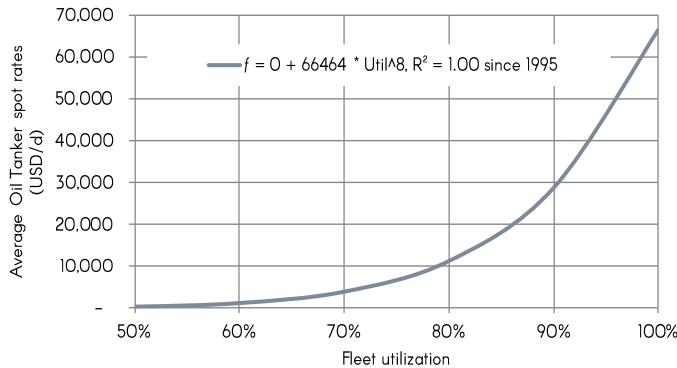


VLCC 1y floating storage breakeven vs 1y TC

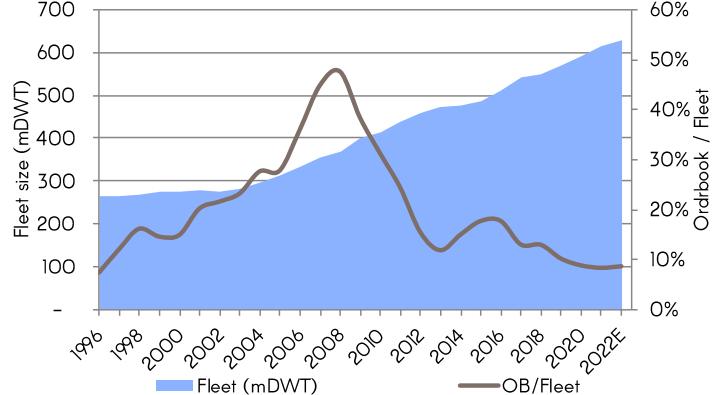


Market Fundamentals

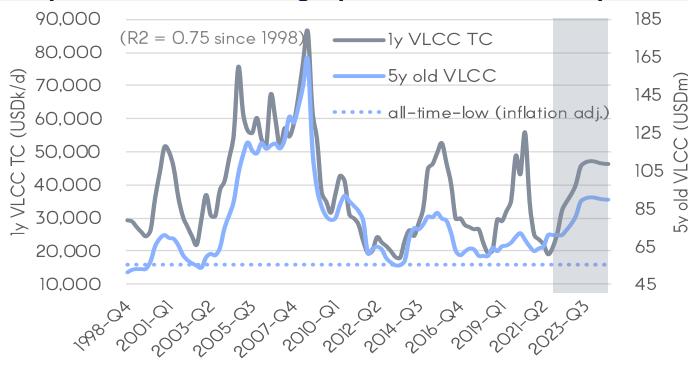
Econometrics: Spot rates vs fleet utilization



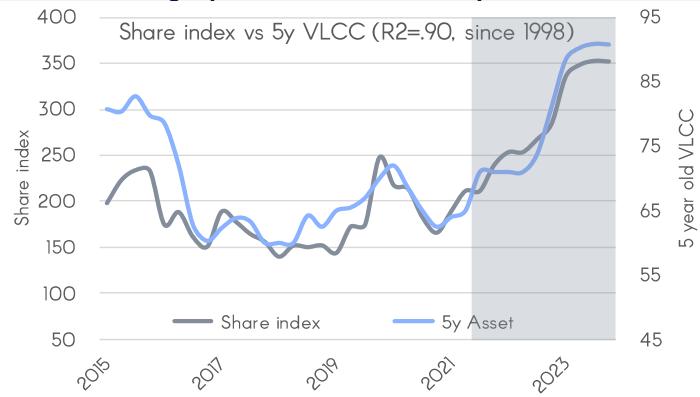
Orderbook vs fleet



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		VLCC, spot ^a (TCE/d)	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	13,176	45,621	53,075	51,547
Suezmax, 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	13,588	31,969	36,805	35,813		
Aframax, spot ^a (TCE/d)	33,311	50,010	14,370	17,690	12,578	12,541	14,131	24,705	37,977	23,142	13,873	16,175	26,225	22,161	8,187	14,536	25,006	28,382	27,690		
LR2, spot ^a (TCE/d)	23,704	41,305	16,926	16,080	13,331	14,172	13,683	18,302	30,497	16,567	10,077	11,002	22,045	28,582	7,687	11,004	22,901	25,567	25,020		
Panamax, spot ^a (TCE/d)	33,029	38,574	10,538	12,393	8,593	11,671	11,127	18,858	26,548	15,495	10,184	9,739	16,681	14,392	5,359	9,069	20,224	23,137	22,540		
LRI, spot ^a (TCE/d)	24,194	34,854	13,676	12,041	10,207	12,890	12,951	15,232	24,847	12,923	8,247	8,397	15,147	19,858	7,029	10,310	19,657	21,741	21,314		
MR, spot ^a (TCE/d)	23,669	21,168	9,176	10,692	10,638	10,589	12,277	12,360	21,405	12,166	10,220	8,750	13,740	15,251	6,719	9,453	15,409	16,960	16,642		
SR, spot ^a (TCE/d)	31,942	32,792	5,319	11,232	9,566	10,592	10,668	12,473	22,094	9,049	7,380	6,734	14,560	13,881	7,831	10,591	16,904	19,547	19,005		
VLCC, 5y ^a (USDm)	126	142	85	87	77	63	56	74	81	68	62	62	67	67	68	73	94	98	97		
Suezmax, 5y ^a (USDm)	90	95	61	62	54	45	40	50	60	49	41	41	46	46	45	49	62	64	63		
Aframax, 5y ^a (USDm)	68	71	44	44	39	31	29	39	46	36	30	31	36	37	37	40	49	51	50		
LR2, 5y ^a (USDm)	69	72	45	46	40	32	30	40	47	38	32	32	37	39	39	41	50	52	51		
Panamax, 5y ^a (USDm)	57	57	36	37	33	25	26	31	34	31	26	26	28	30	29	29	35	37	36		
LRI, 5y ^a (USDm)	58	58	38	39	35	26	28	33	36	33	27	28	30	32	30	31	36	38	38		
MR, 5y ^a (USDm)	50	50	29	27	29	25	26	27	28	25	24	25	27	27	26	26	28	30	30		
SR, 5y ^a (USDm)	43	44	25	24	26	23	24	24	25	22	21	23	25	24	24	24	30	33	32		
Quarterly view		3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24	1Q25	
Base case		VLCC, spot ^a (TCE/d)	23,711	15,404	3,989	2,837	503	5,378	(II)	16,644	10,823	25,249	50,426	43,498	37,258	51,303	63,128	53,021	42,381	53,770	61,730
Suezmax, spot ^a (USDm)	12,229	6,455	9,156	5,177	4,207	10,547	13,045	13,167	9,390	18,750	35,086	30,591	26,542	35,655	43,327	36,770	29,866	37,255	42,420		
Aframax, spot ^a (TCE/d)	8,698	5,713	10,527	7,648	3,479	11,093	21,245	11,879	9,242	15,777	27,183	24,044	21,217	27,580	32,936	28,358	23,538	28,697	32,303		
LR2, spot ^a (TCE/d)	11,971	11,350	5,563	6,994	8,380	9,809	5,406	12,538	10,456	15,615	24,619	22,142	19,910	24,933	29,162	25,547	21,742	25,815	28,662		
Panamax, spot ^a (TCE/d)	4,918	3,135	2,582	8,464	2,995	7,396	8,498	8,897	6,621	12,260	22,102	19,394	16,954	22,445	27,067	23,116	18,957	23,409	26,520		
LRI, spot ^a (TCE/d)	7,993	9,282	5,708	6,920	7,275	8,214	5,841	11,555	9,927	13,916	21,001	19,063	17,319	21,246	24,552	21,726	18,751	21,935	24,161		
MR, spot ^a (TCE/d)	9,062	6,432	6,339	6,880	5,809	7,847	9,091	9,381	8,170	11,171	16,409	14,968	13,669	16,591	19,051	16,948	14,735	17,104	18,760		
SR, spot ^a (TCE/d)	4,993	1,703	7,372	6,598	4,292	13,064	21,492	6,629	4,564	9,680	18,608	16,151	13,938	18,919	23,112	19,528	15,755	19,794	22,616		
VLCC, 5y ^a (USDm)	65	63	64	65	71	71	71	71	71	80	89	93	96	98	99	99	98	97	97		
Suezmax, 5y ^a (USDm)	45	43	42	44	48	48	48	48	48	53	59	61	63	64	65	65	64	64	64		
Aframax, 5y ^a (USDm)	36	35	35	37	39	39	39	39	39	41	46	48	50	51	51	51	50	50	50		
LR2, 5y ^a (USDm)	38	36	36	38	41	41	41	41	41	43	47	50	51	52	53	52	52	52	52		
Panamax, 5y ^a (USDm)	30	29	29	29	30	29	29	29	29	31	34	34	35	36	37	37	36	36	36		
LRI, 5y ^a (USDm)	32	30	30	30	31	31	31	31	31	32	35	36	37	38	38	38	38	38	38		
MR, 5y ^a (USDm)	27	26	26	26	26	26	26	26	26	25	26	28	29	30	30	30	30	30	30		
SR, 5y ^a (USDm)	24	23	23	23	24	24	24	24	24	26	26	29	29	31	32	33	33	33	33		

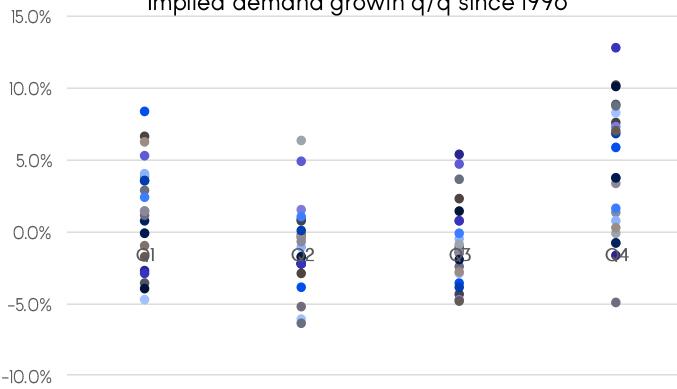
^a Average during period



Seasonality

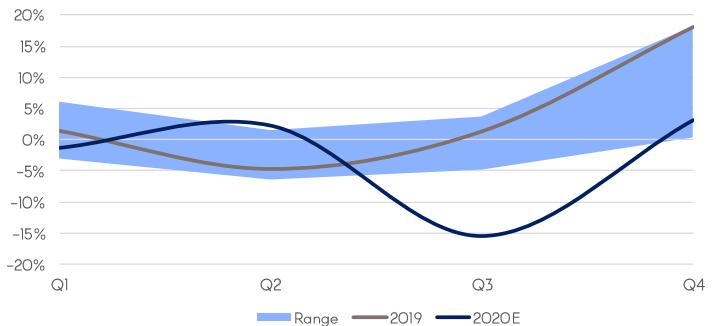
Historically strong demand growth in 4Q

Implied demand growth q/q since 1996



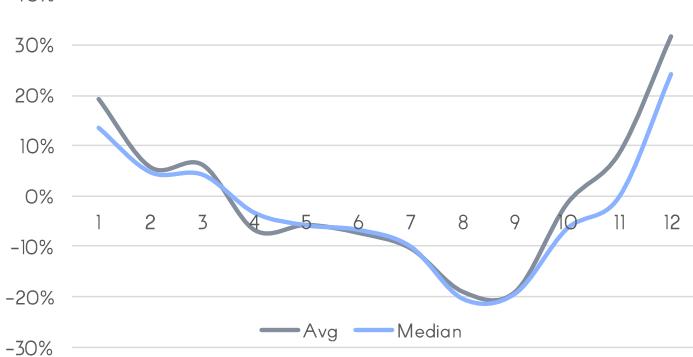
Historic demand growth

Implied demand growth q/q, last 5y



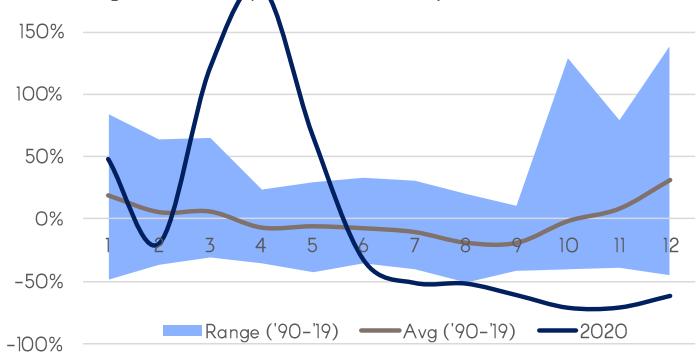
Historical Oil Tanker avg. spot rate seasonality

Avg Oil Tanker spot rate seasonality since '90 (TCE/d)



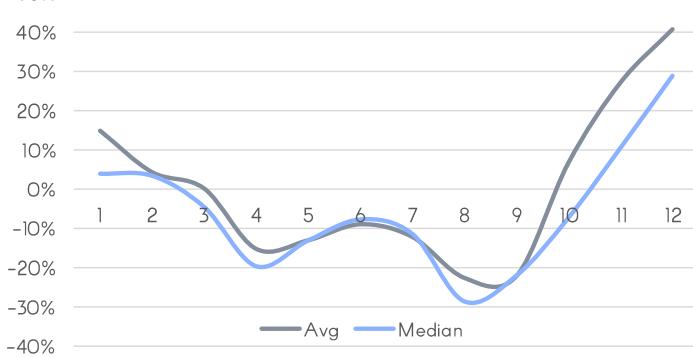
Historical Oil Tanker avg. spot rate seasonality

Avg Oil Tanker spot rate seasonality since '90 (TCE/d)



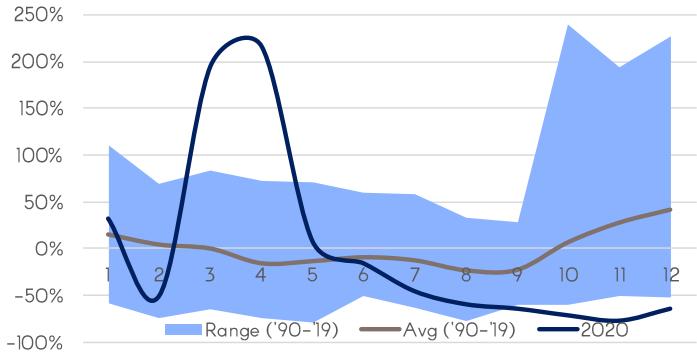
Historical VLCC spot rate seasonality

Avg VLCC spot rate seasonality since '90 (TCE/d)



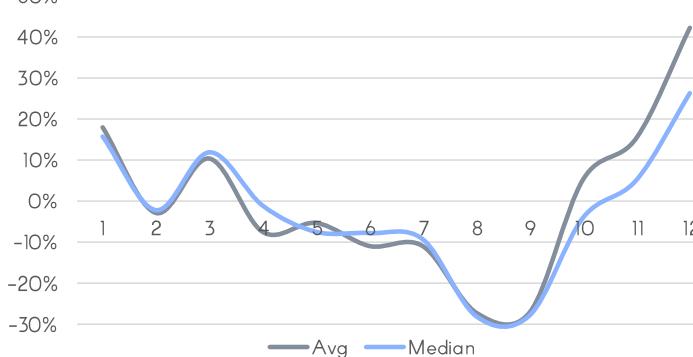
Historical VLCC spot rate seasonality

Avg VLCC spot rate seasonality since '90 (TCE/d)



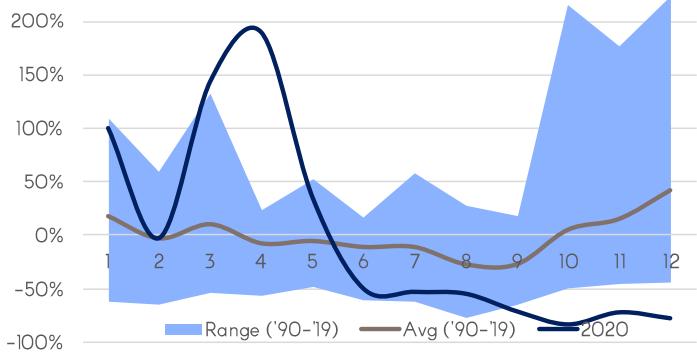
Historical Suezmax spot rate seasonality

Avg Suezmax spot rate seasonality since '90 (TCE/d)



Historical Suezmax spot rate seasonality

Avg Suezmax spot rate seasonality since '90 (TCE/d)



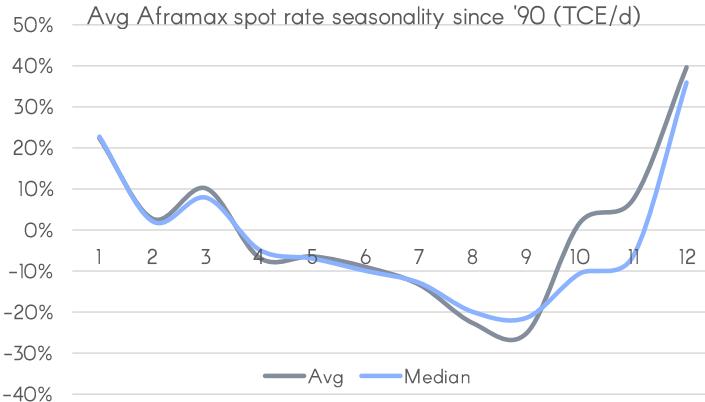


Cleaves Securities

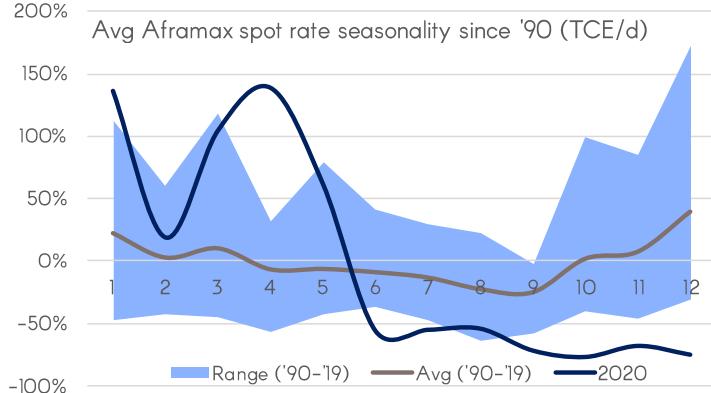
Shipping Weekly 12/2022

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

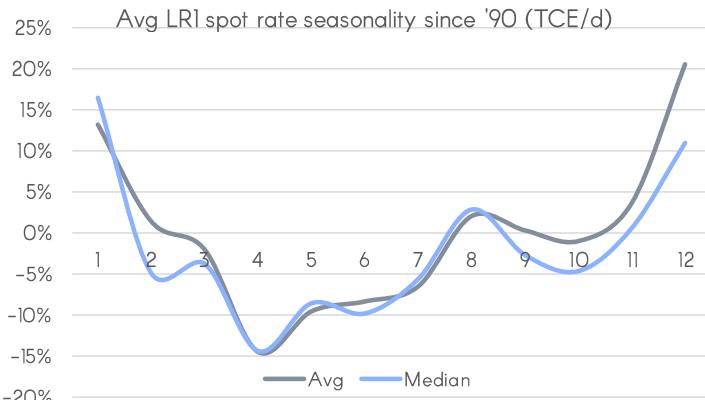
Historical Aframax spot rate seasonality



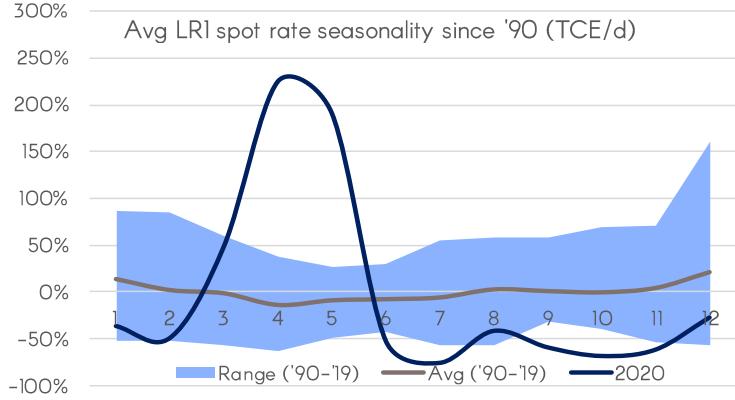
Historical Aframax spot rate seasonality



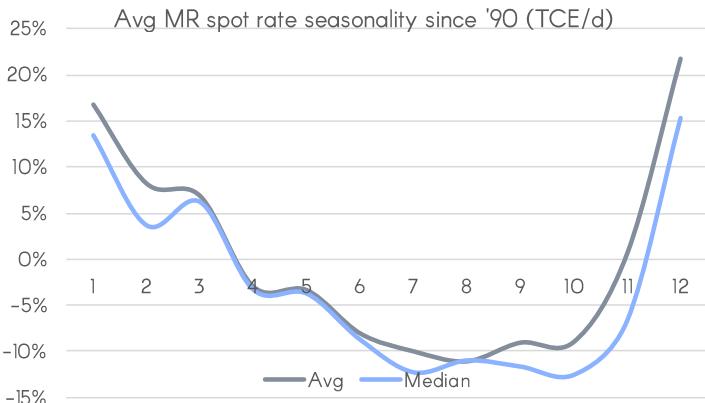
Historical LR1 spot rate seasonality



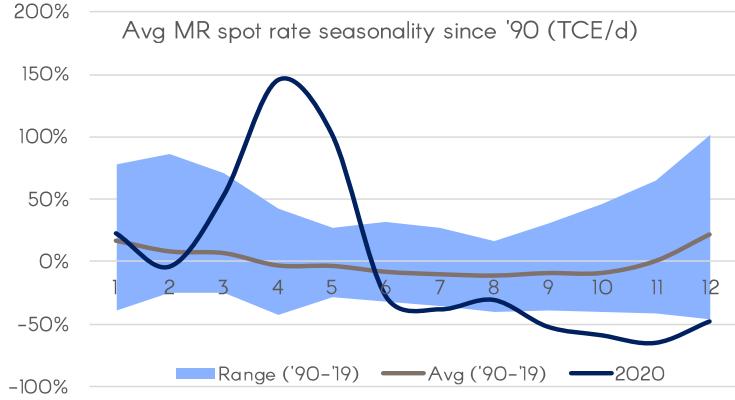
Historical LR1 spot rate seasonality



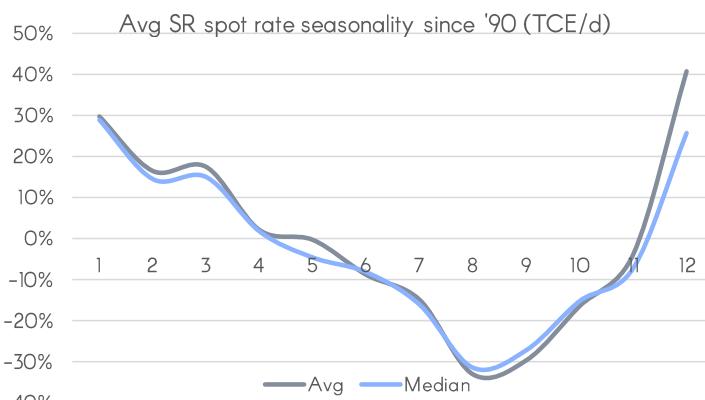
Historical MR spot rate seasonality



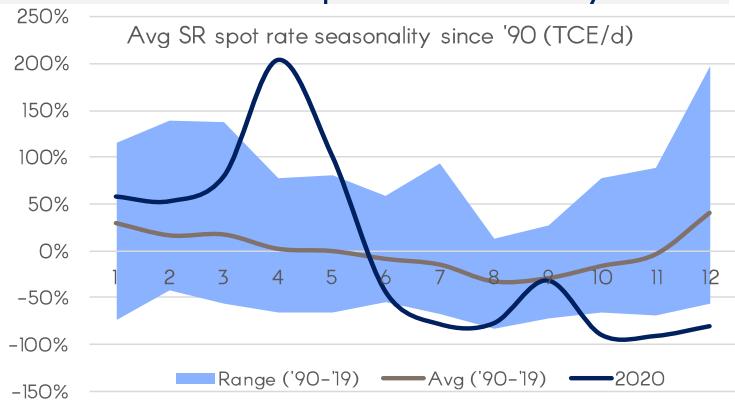
Historical MR spot rate seasonality



Historical SR spot rate seasonality



Historical SR spot rate seasonality

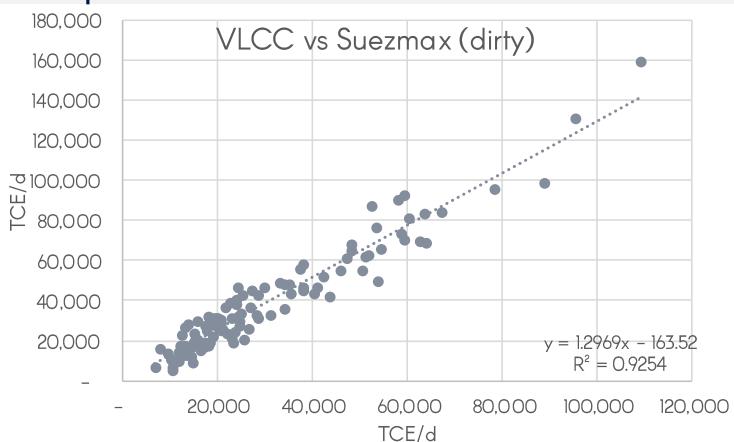


Product Tanker Dynamics

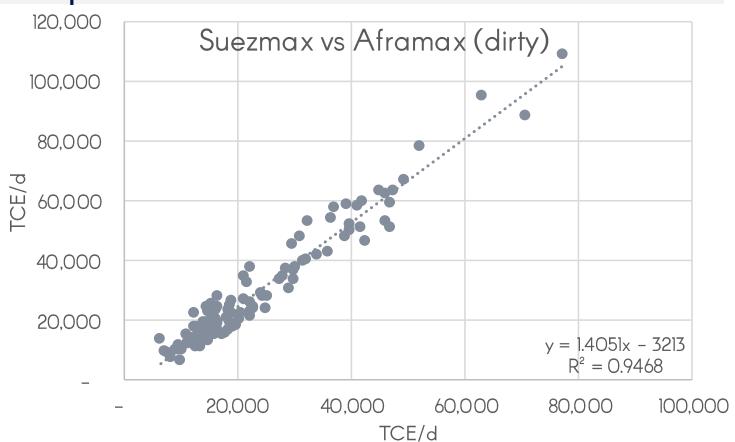
Oil Tanker spot earnings correlation matrix (quarterly since 1990)

	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	

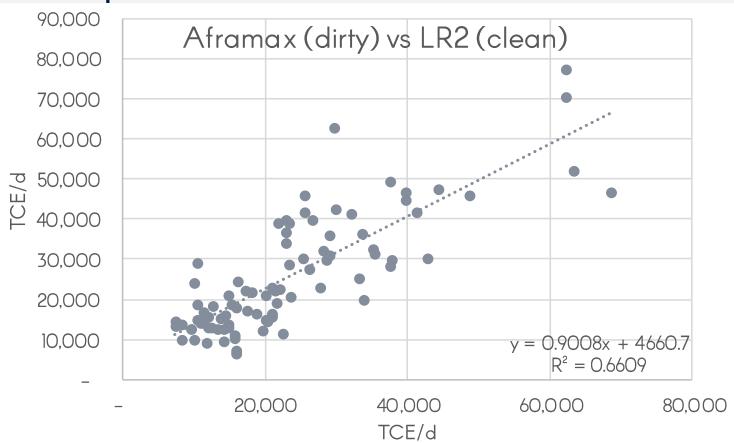
Spot rate correlation: VLCC vs Suezmax



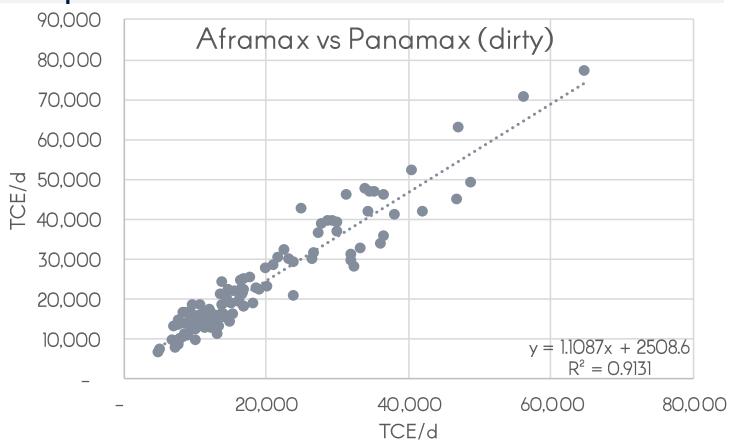
Spot rate correlation: Suezmax vs Aframax



Spot rate correlation: Aframax vs LR2

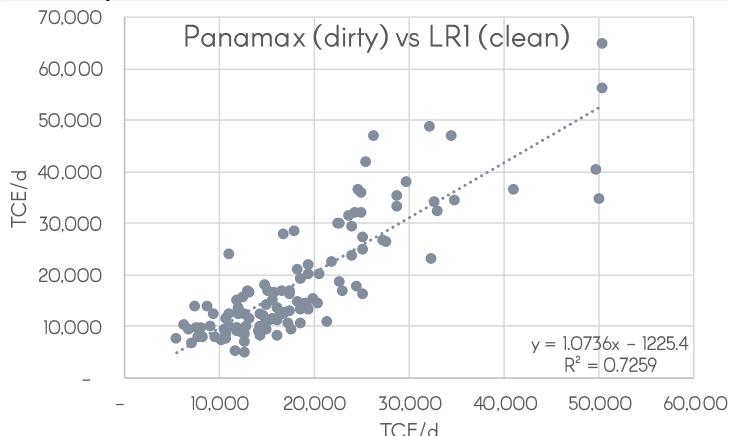


Spot rate correlation: Aframax vs Panamax

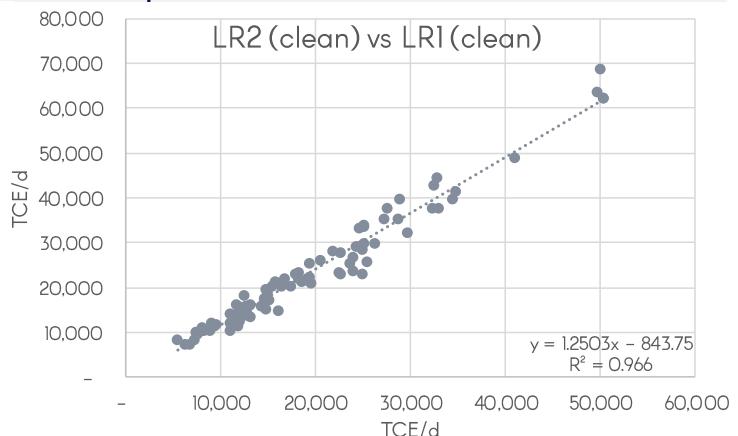


Product Tanker Dynamics (continued)

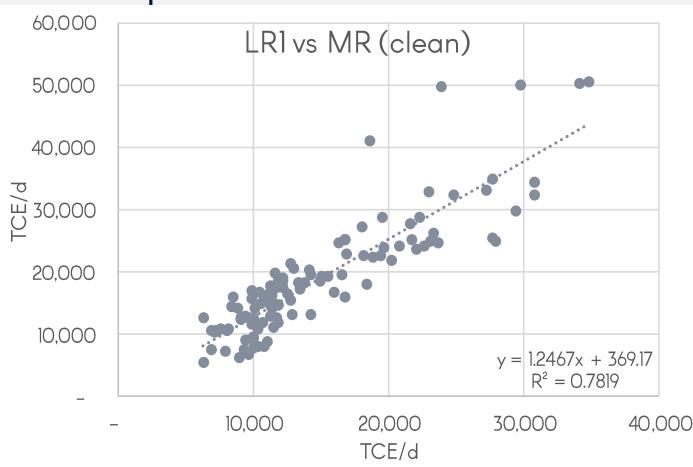
Spot rate correlation: Panamax vs LR1



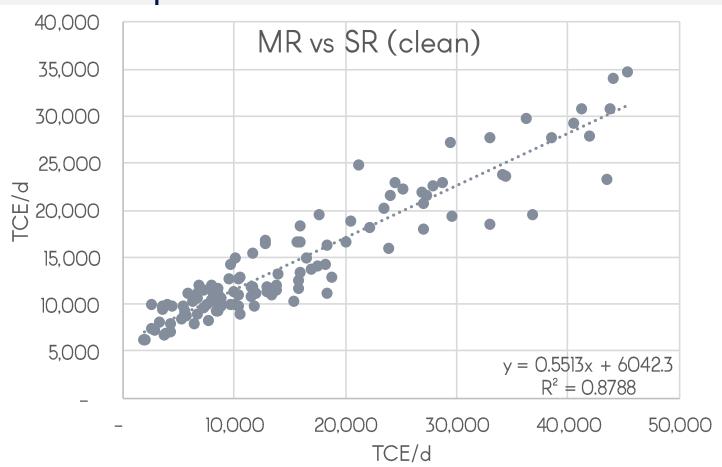
Spot rate correlation: LR2 vs LR1



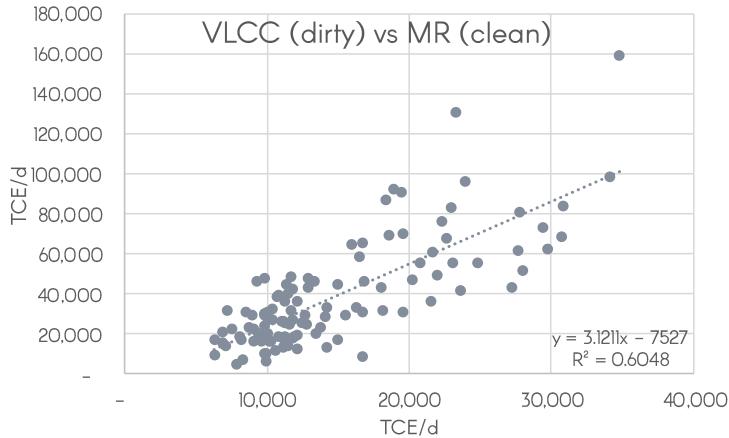
Spot rate correlation: LR1 vs MR



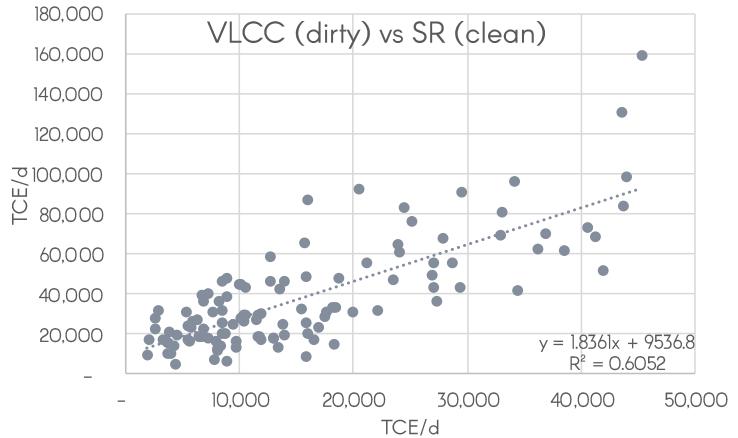
Spot rate correlation: MR vs SR



Spot rate correlation: VLCC vs MR



Spot rate correlation: VLCC vs SR





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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																	
DHT US	227	480	539	518	132	385	443	422	3	255	312	291	-16	233	300	284	
EURN US	434	983	1,118	1,077	191	751	884	844	-89	483	616	576	-158	408	540	507	
FRO US	492	956	1,064	1,037	280	737	844	812	116	544	599	567	52	473	531	503	
HUNT NO	40	81	90	85	28	70	79	74	15	57	66	61	8	51	60	55	
INSW US	401	735	807	771	113	453	536	506	0	332	414	384	-34	292	382	356	
NAT US	102	242	277	270	21	161	195	187	-42	97	131	123	-70	68	104	98	
OET NO	127	231	262	249	84	186	217	204	49	149	181	167	-13	88	124	115	
TNK US	251	525	580	599	12	291	359	377	-93	187	254	272	-121	167	240	260	
Average	259	529	592	576	108	379	445	428	-5	263	322	305	-44	222	285	272	

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	1,348	1,227	1,108	979	142	297	290	458	1,570	1,604	1,479	1,518	1,018	1,145	1,248	1,340	
EURN US	2,984	2,949	2,801	2,549	110	560	929	1,293	3,570	3,986	4,206	4,318	1,791	2,081	2,351	2,604	
FRO US	3,810	3,626	3,388	3,151	162	486	860	969	4,368	4,507	4,644	4,515	1,693	1,972	2,241	2,237	
HUNT NO	320	308	301	288	36	64	88	123	365	382	398	421	183	213	243	275	
INSW US	1,833	1,942	1,841	1,719	113	221	297	574	2,511	2,729	2,704	2,859	1,124	1,311	1,504	1,739	
NAT US	764	707	649	585	37	104	176	243	893	903	917	920	473	503	539	569	
OET NO	993	961	964	927	22	48	43	111	1,045	1,040	1,038	1,069	333	377	420	486	
TNK US	1,215	1,123	1,030	937	57	168	345	443	1,501	1,520	1,604	1,609	717	840	986	1,053	
Average	1,658	1,605	1,510	1,392	85	244	378	527	1,978	2,084	2,124	2,153	916	1,055	1,191	1,288	

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	114	363	431	415	105	354	419	413	81	155	-6	168	52,174	58,380	21,988	15,186	
EURN US	135	676	808	775	21	442	689	759	-43	450	368	364	41,852	47,091	18,893	18,940	
FRO US	216	665	777	748	-150	657	769	740	49	324	374	108	38,515	42,784	17,346	16,876	
HUNT NO	21	64	73	68	21	63	67	68	6	29	24	35	55,703	61,575	21,340	20,999	
INSW US	80	413	503	478	-15	182	483	478	15	108	76	277	24,512	27,719	17,339	17,629	
NAT US	-7	132	168	162	-67	126	162	162	-7	67	72	67	31,138	35,534	16,377	43,921	
OET NO	22	124	161	151	-122	120	121	151	-19	26	-5	68	46,539	52,739	30,518	28,558	
TNK US	-17	271	344	365	0	259	332	353	4	111	177	98	29,066	33,380	19,546	17,072	
Average	70	338	408	395	-26	275	380	391	11	159	135	148	39,937	44,900	20,419	22,398	



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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					
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22
USDm																
DHT US	37	64	49		13	40	25		-19	8	-8		-20	2	-14	
EURN US	89	113	85		26	52	23		-47	-19	-46		-63	-35	-65	
FRO US	117	118	99		65	66	45		26	25	3		15	8	-14	
HUNT NO	8	10	8		5	8	5		2	4	2		0	3	0	
INSW US	106	95	80		34	23	7		6	-5	-21		-1	-13	-31	
NAT US	19	24	21		-1	5	0		-17	-10	-16		-22	-17	-23	
OET NO	27	31	29		16	21	17		8	12	8		-5	-3	-8	
TNK US	67	59	43		8	-1	-16		-17	-27	-43		-25	-34	-50	
Average	59	64	52		21	27	13		-7	-1	-15		-15	-11	-26	

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity			Total Assets			Total Equity					
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22
USDm																
DHT US	1,439	1,408	1,378		65	91	102		1,584	1,580	1,561		1,024	1,023	1,006	
EURN US	3,153	3,092	3,041		157	99	140		3,786	3,666	3,658		1,904	1,863	1,792	
FRO US	3,661	3,692	3,719		129	126	110		4,186	4,214	4,224		1,668	1,668	1,650	
HUNT NO	330	326	323		29	32	31		368	367	363		176	179	178	
INSW US	1,870	1,864	1,854		106	125	130		2,541	2,555	2,550		1,167	1,151	1,117	
NAT US	720	793	779		61	53	37		873	938	907		526	507	481	
OET NO	946	1,009	1,001		31	43	26		1,008	1,082	1,058		350	343	332	
TNK US	1,285	1,262	1,239		112	108	64		1,626	1,599	1,531		814	780	729	
Average	1,676	1,681	1,667		86	85	80		1,997	2,000	1,981		954	939	911	

Cash Flow

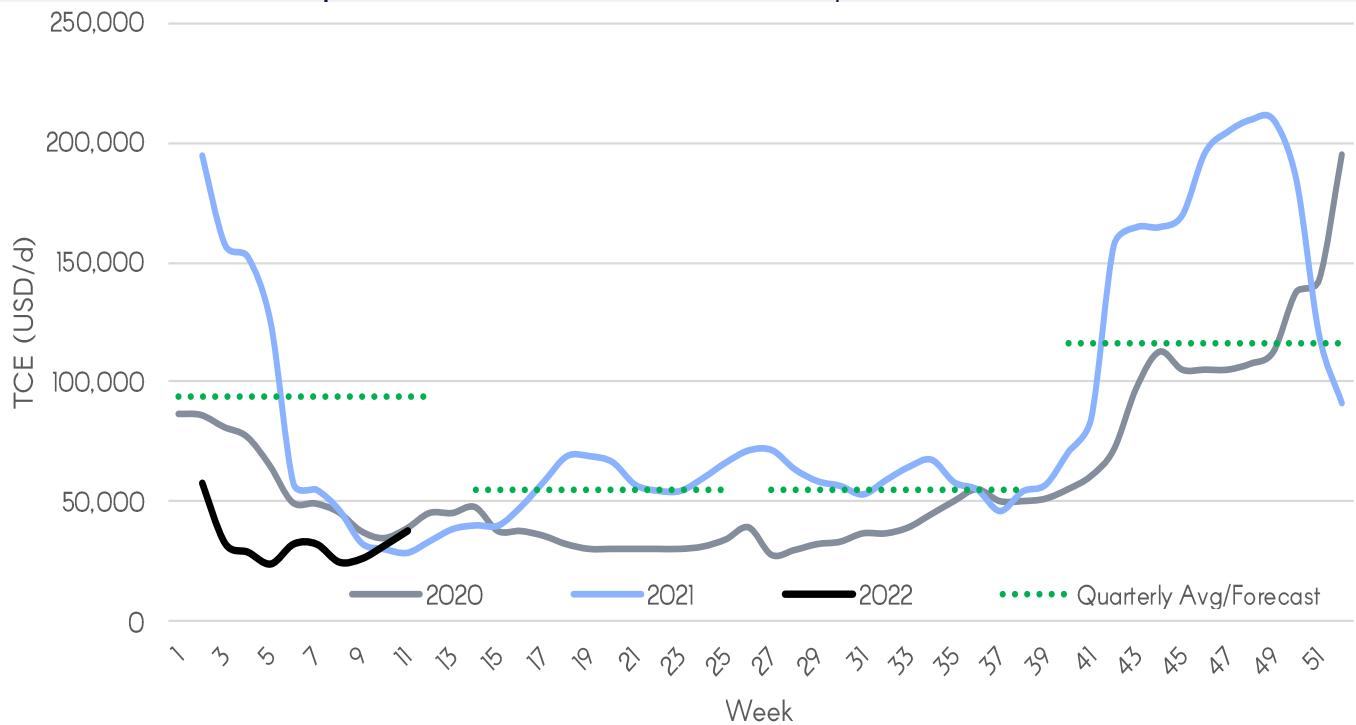
CF	Net Operational CF				Free Cash Flow			Net Cash Flow			TCE/d		Cash B/E			
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	1Q22	2Q22	1Q22	2Q22
USDm																
DHT US	12	35	19		10	32	16		5	26	11		16,477	27,733	13,549	13,746
EURN US	23	36	4		-54	26	-15		4	-58	42		14,682	19,271	22,434	26,014
FRO US	54	49	28		-38	-23	-41		16	-3	-17		19,994	19,987	19,096	19,186
HUNT NO	3	6	4		3	6	4		0	2	-1		21,058	28,600	22,251	22,066
INSW US	28	16	-3		-18	-7	-21		8	19	5		15,298	12,690	16,146	16,197
NAT US	-7	-2	-7		24	-90	-9		16	-8	-16		10,018	13,084	15,951	16,689
OET NO	2	5	1		-68	-66	0		-10	12	-17		25,122	27,254	32,549	32,099
TNK US	1	-8	-24		27	-11	-27		59	-4	-45		15,664	13,310	18,234	18,236
Average	15	17	3		-14	-17	-12		12	-2	-5		17,289	20,241	20,026	20,529

LNG Carriers



Earnings

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





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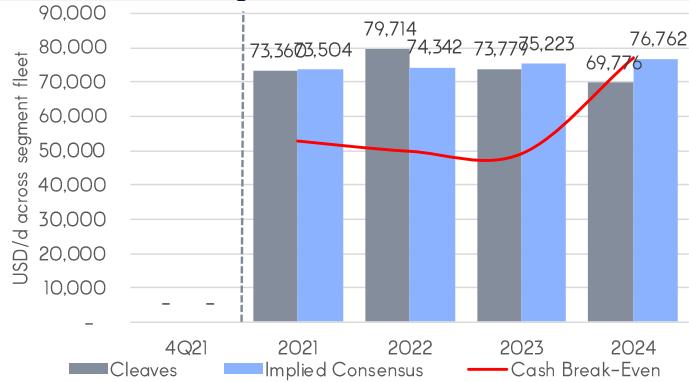
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Peer Group

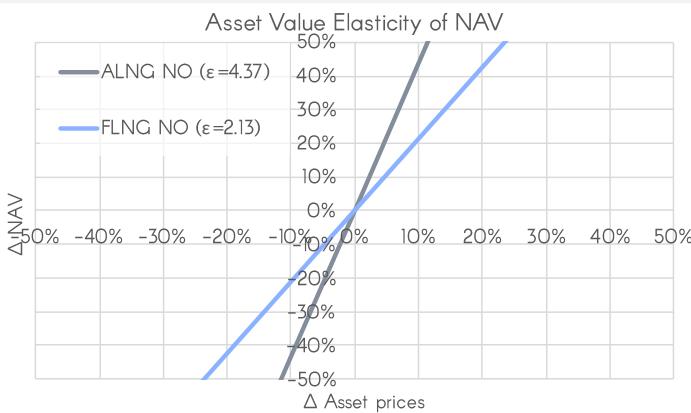
Updated 19 Mar 2022 CET				Return		Target	Last	Target/	NAV	P/NAV		EV/	adj.	
Company	M.cap	Turnover	ly	Rec.	Price	Price	Price	/sh	Now	ly fwd	ϵ	GAV	equity	τ
ALNG NO	88	0.6	263%	HOLD	4.8	5.8	-17%	4.1	1.42	1.06	4.37	1.09	21%	0.75
FLNG NO	1,171	4.5	191%	HOLD	170	189.2	-10%	209	0.91	0.78	2.13	0.96	44%	0.28
Average	630	3	227%				-14%		1.16	0.92	3.25	1.02	33%	0.52
Median	630	3	227%				-14%		1.16	0.92	3.25	1.02	33%	0.52

Company	EV/EBITDA			P/E			Dividend yield			FCF yield		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
ALNG NO	6.5	7.4	12.3	3.1	4.4		0%	10%	7%	47%	24%	15%
FLNG NO	9.6	8.0	8.4	6.9	5.4	6.3	9%	12%	12%	-5%	22%	20%
Average	8.0	7.7	10.4	5.0	4.9	6.3	4%	11%	9%	21%	23%	17%
Median	8.0	7.7	10.4	5.0	4.9	6.3	4%	11%	9%	21%	23%	17%

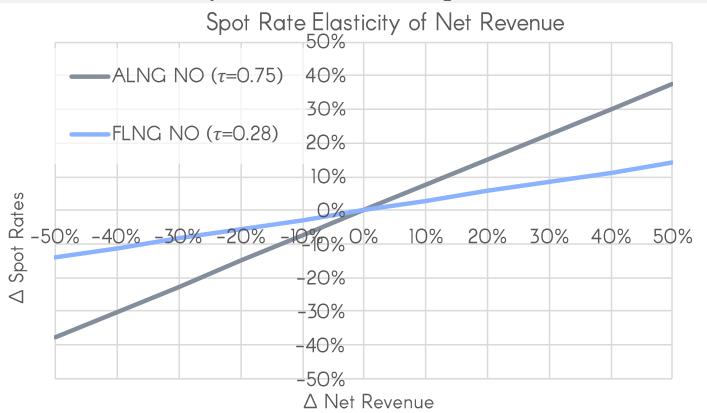
Cleaves' average TCE/d forecast vs consensus



Financial leverage (ϵ)



Operational leverage (τ)



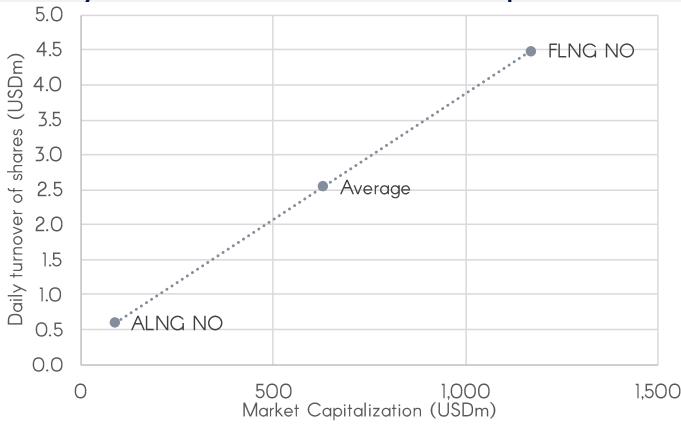


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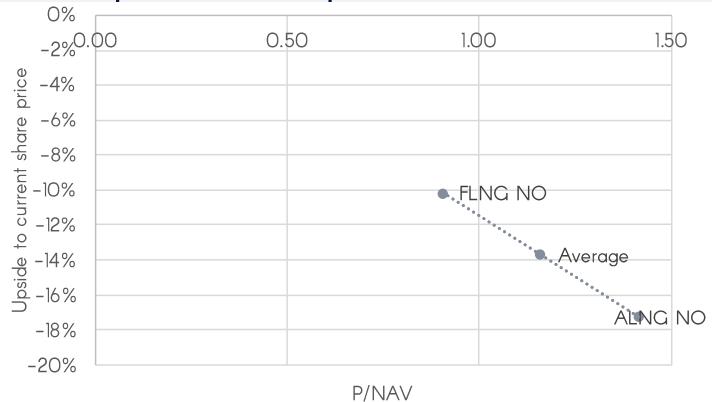
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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

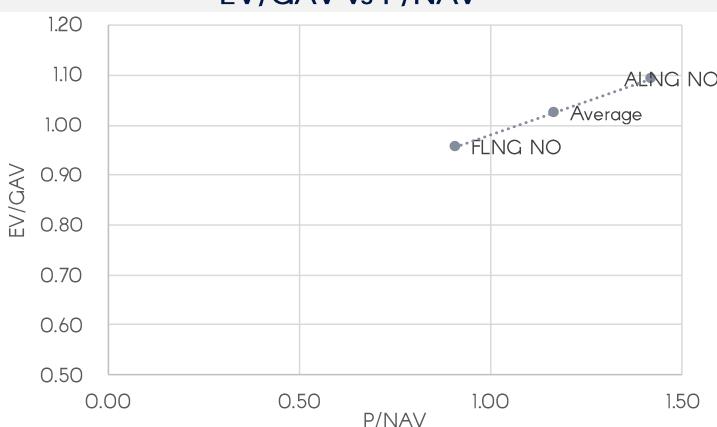
Daily share turnover vs market capitalization



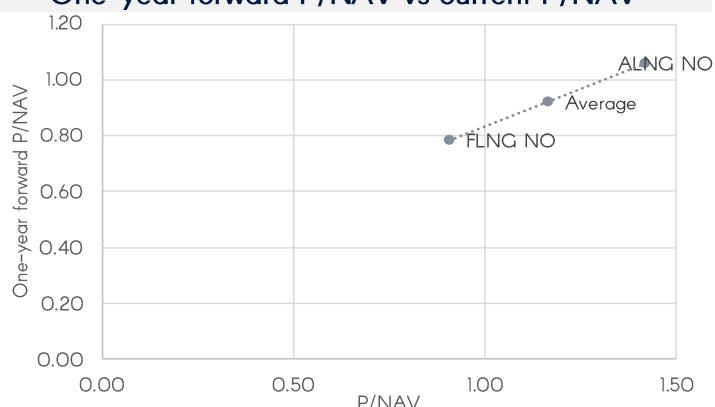
Upside to share price current P/NAV



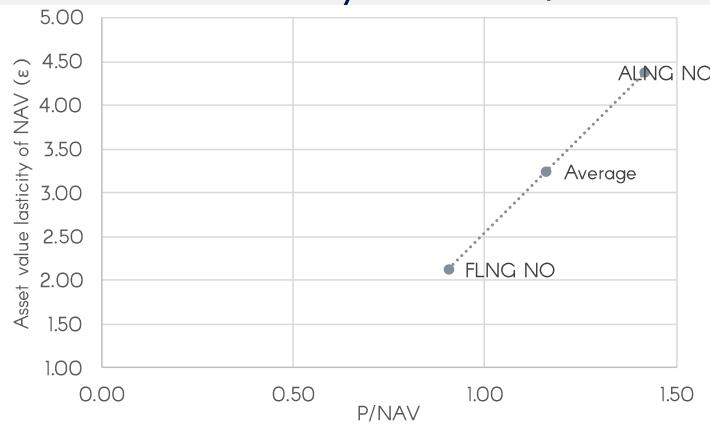
EV/GAV vs P/NAV



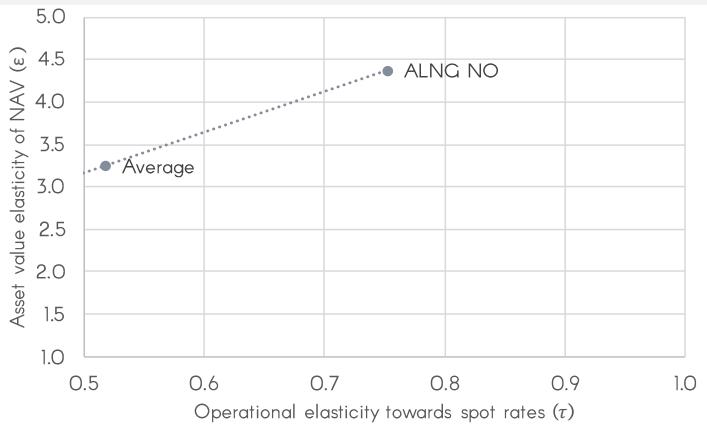
One-year forward P/NAV vs current P/NAV



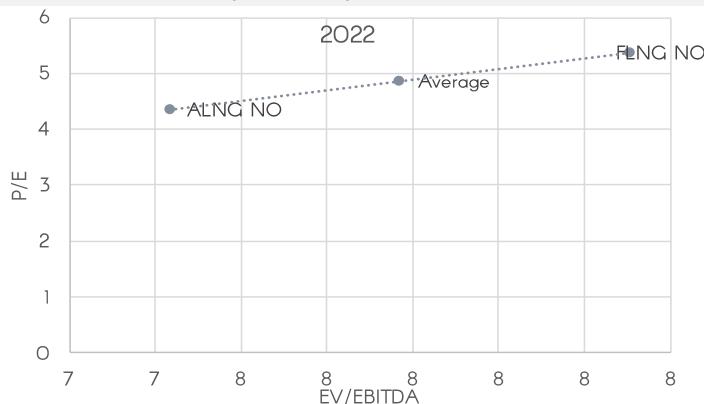
Asset value elasticity of NAV vs P/NAV



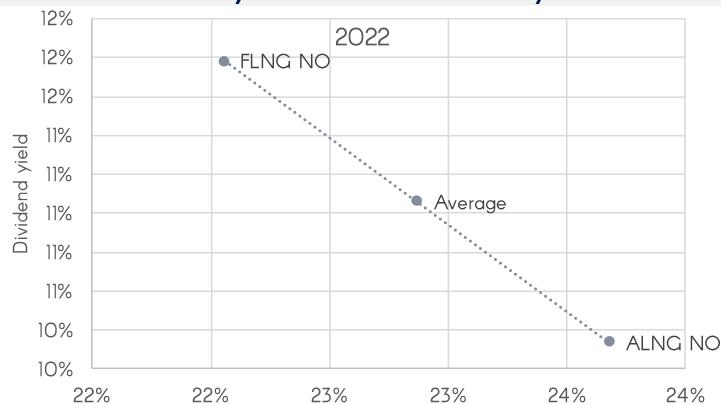
Elasticities: NAV vs net revenue



P/E vs EV/EBITDA



Dividend yield vs free cash flow yield





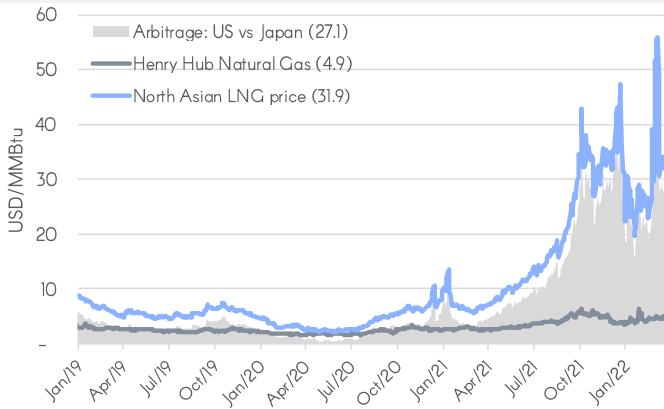
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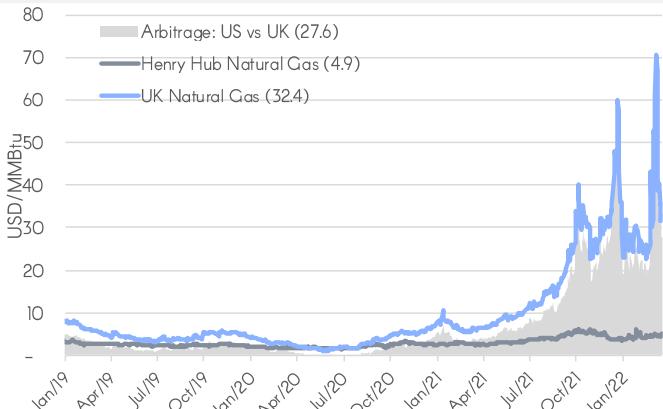
$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Market Snapshots

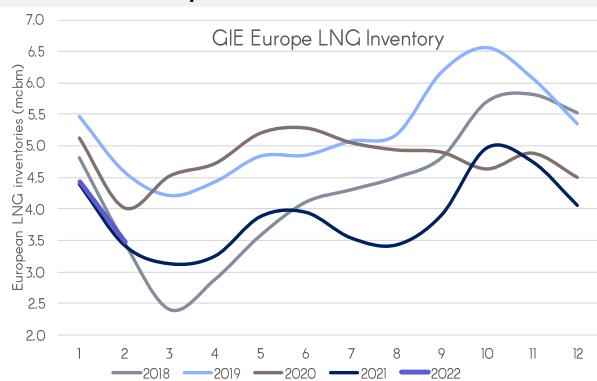
Natural gas price arbitrage: US vs North Asia



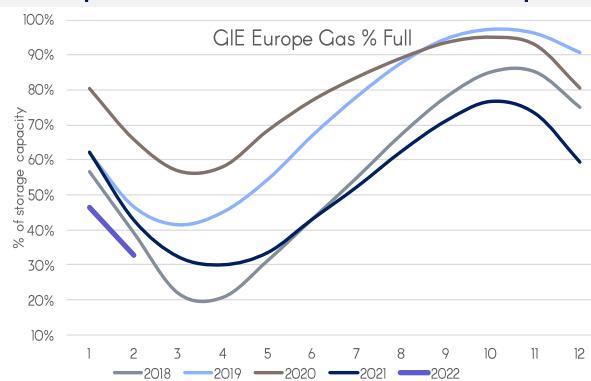
Natural gas price arbitrage: US vs UK



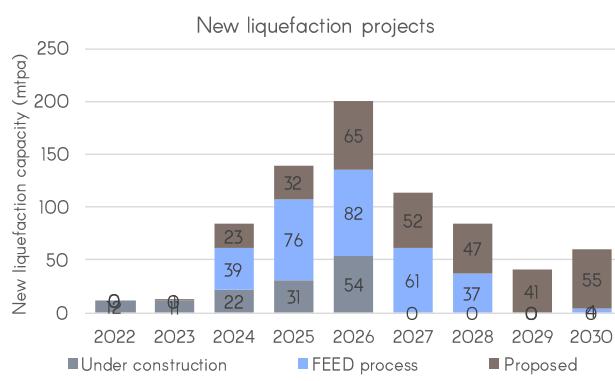
European LNG inventories



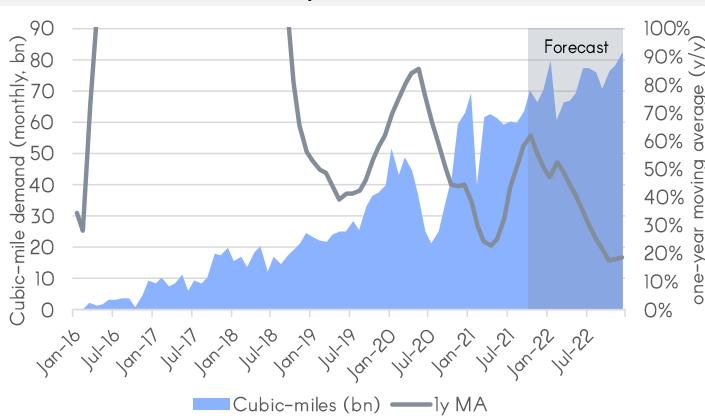
European LNG inventories: % of capacity



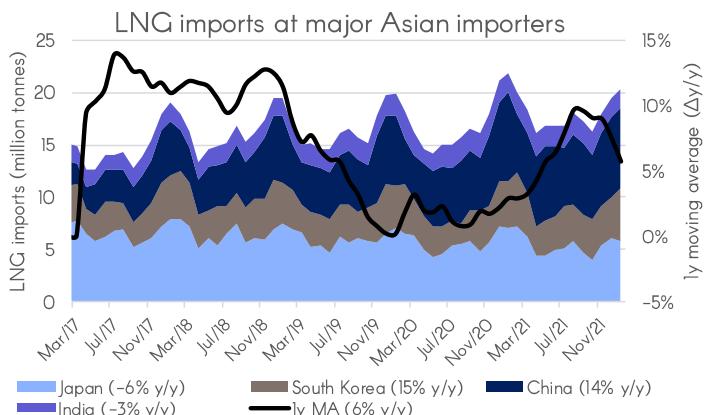
Expected & proposed new liquefaction capacity



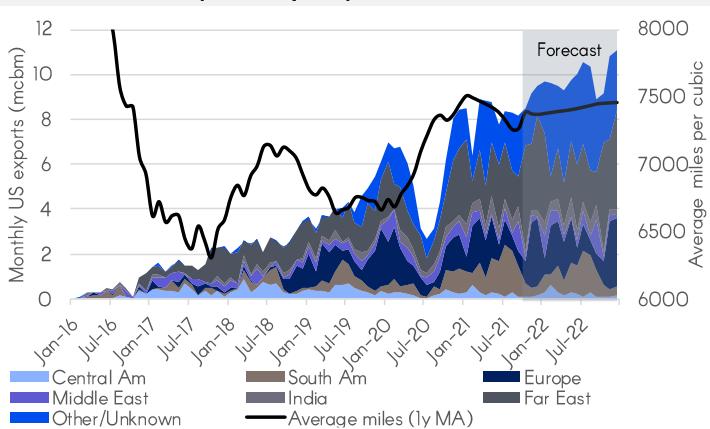
US LNG exports (cubic-miles)



Major Asian LNG imports



US LNG exports by import destination (mcmbm)



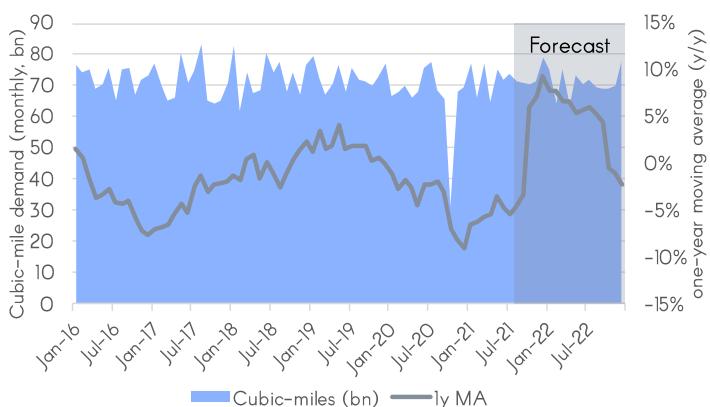


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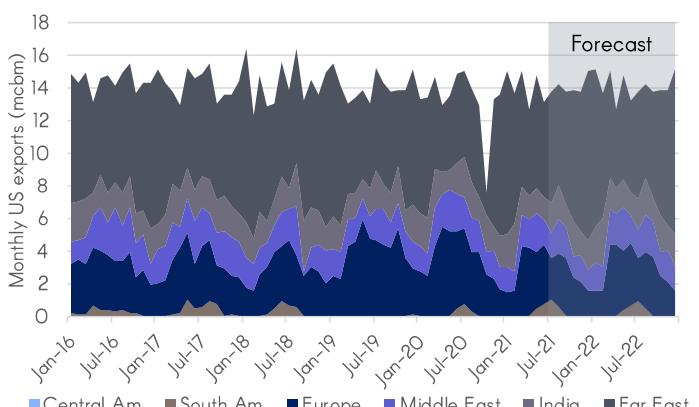
Shipping Weekly 12/2022

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

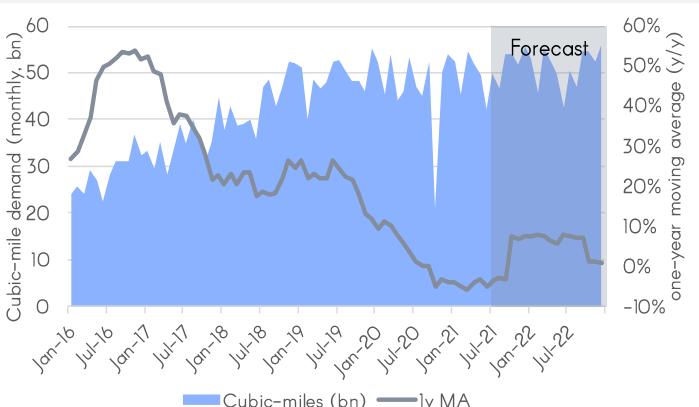
Qatari LNG exports (cubic-miles)



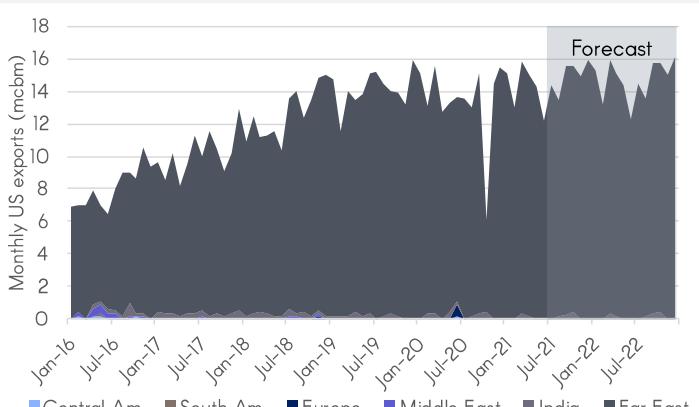
Qatari LNG exports by import destination (mcbm)



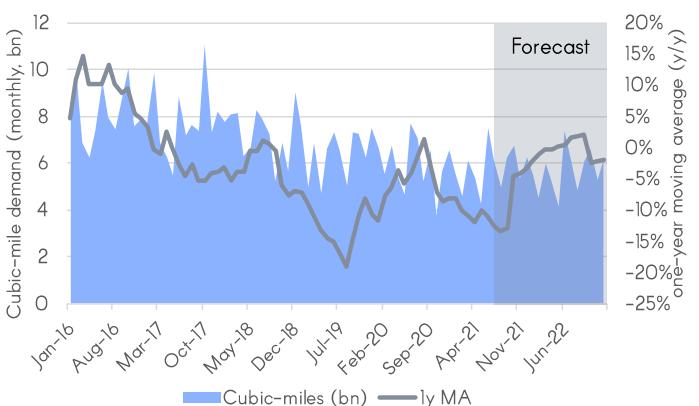
Australian LNG exports (cubic-miles)



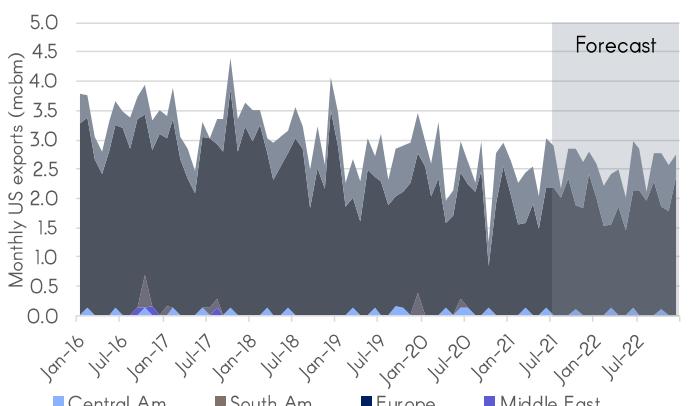
Australian LNG exports by import destination (mcbm)



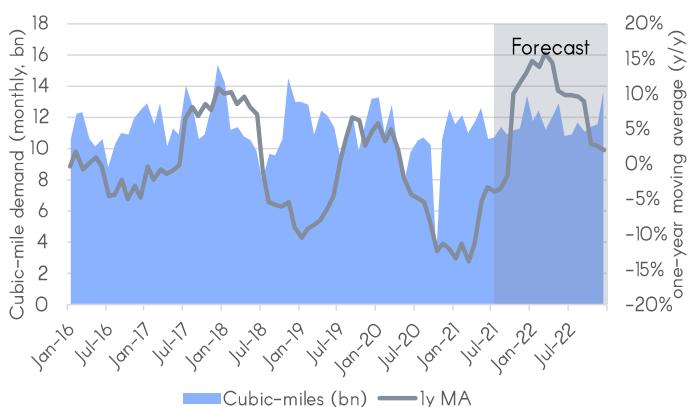
Indonesian LNG exports (cubic-miles)



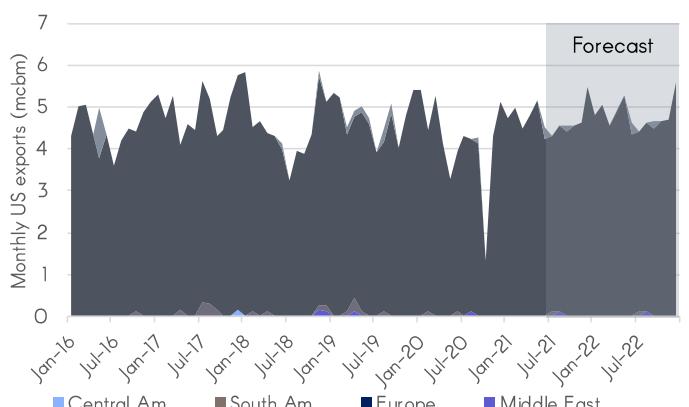
Indonesian LNG exports by import destination (mcbm)



Malaysian LNG exports (cubic-miles)



Malaysian LNG exports by import destination (mcbm)



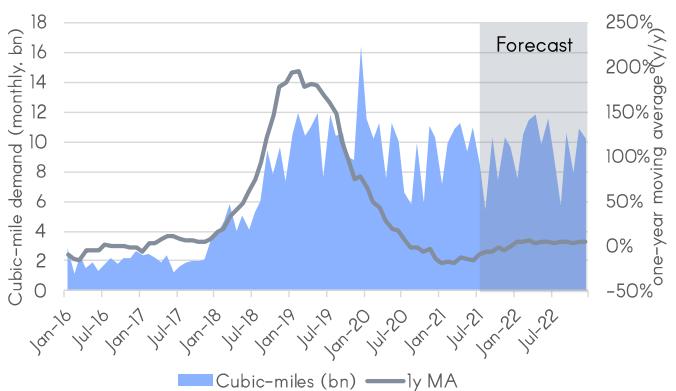


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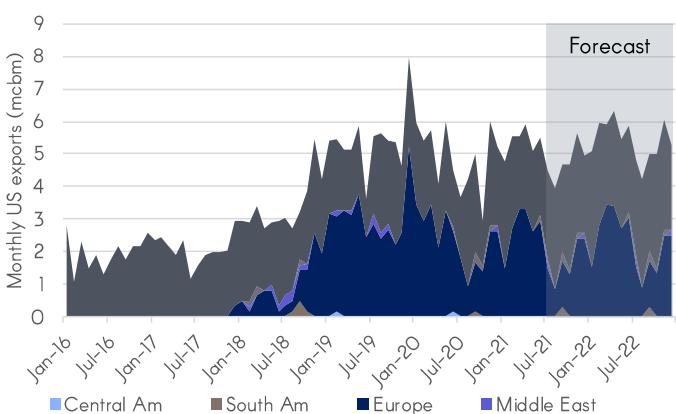
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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

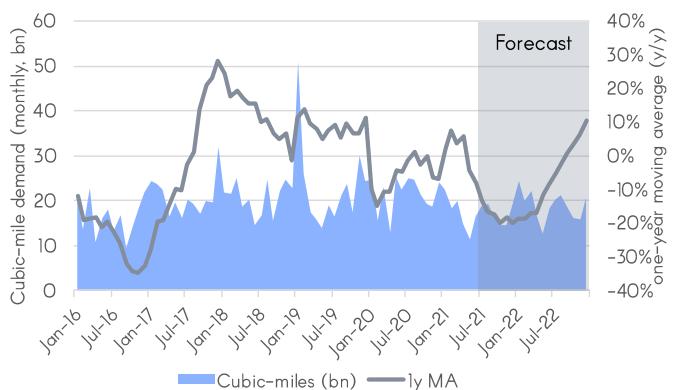
Russian LNG exports (cubic-miles)



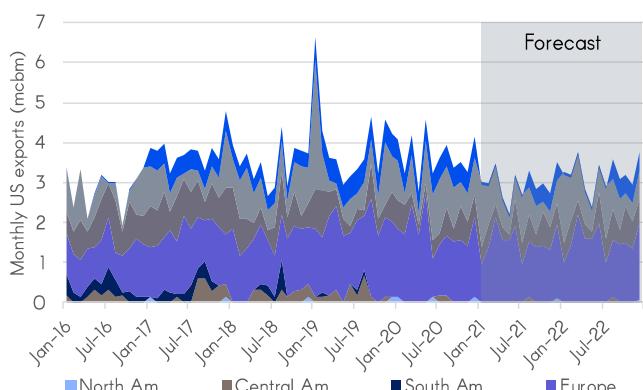
Russian LNG exports by import destination (mcbm)



Nigerian LNG exports (cubic-miles)

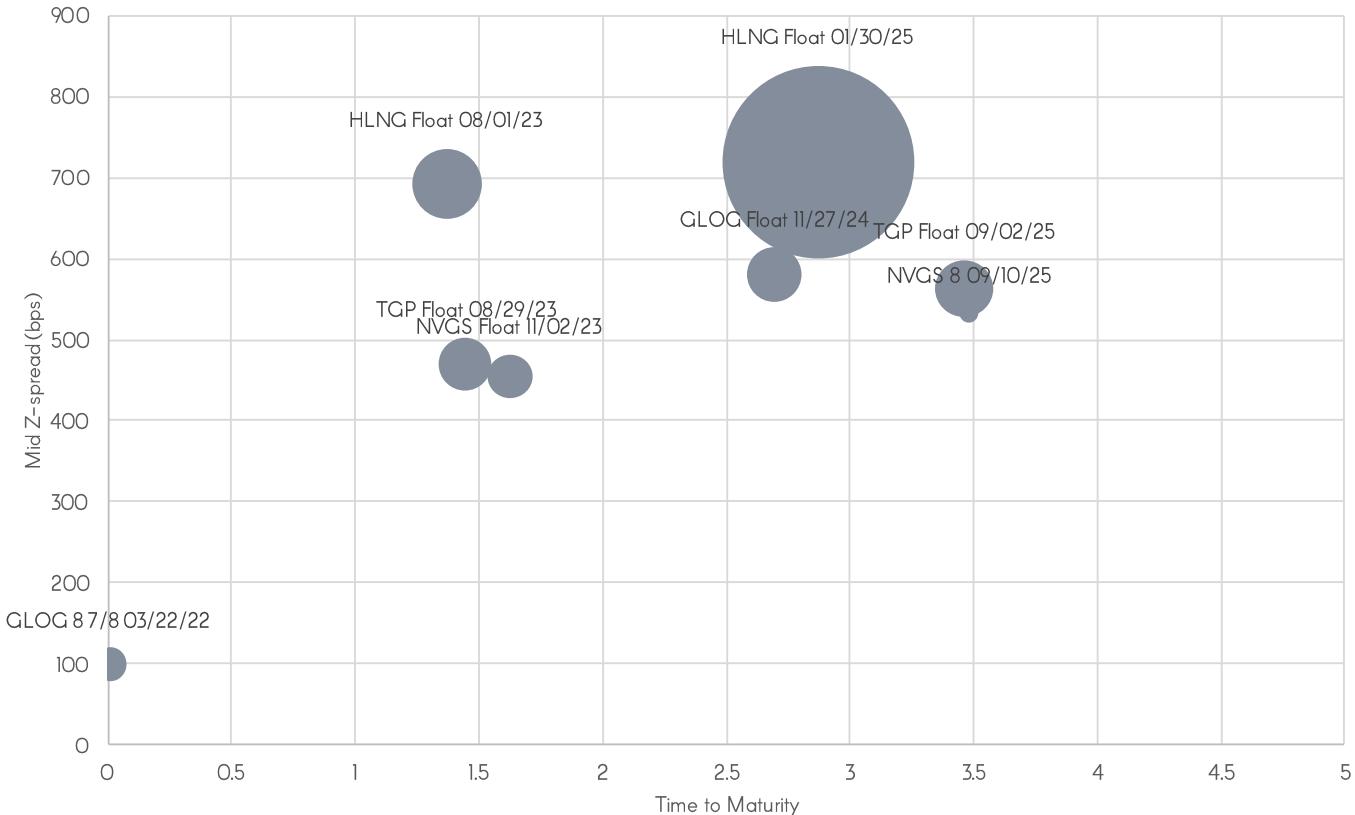


Nigerian LNG exports by import destination (mcbm)



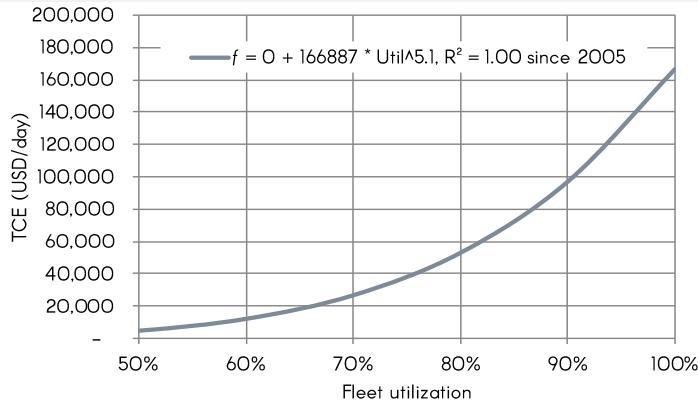
The Credit Market

Gas Carrier bond pricing (by amount outstanding)

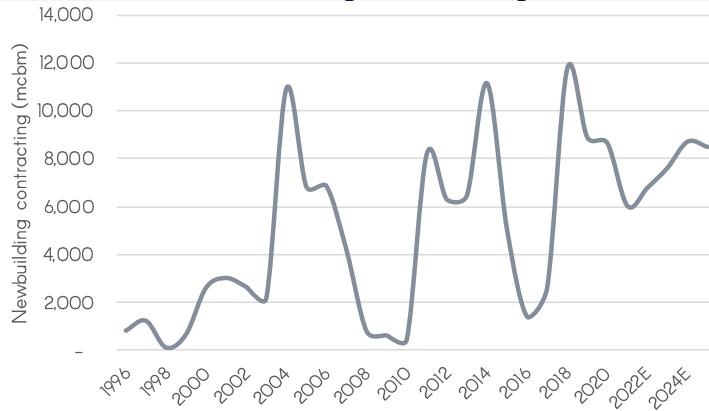


Market Fundamentals

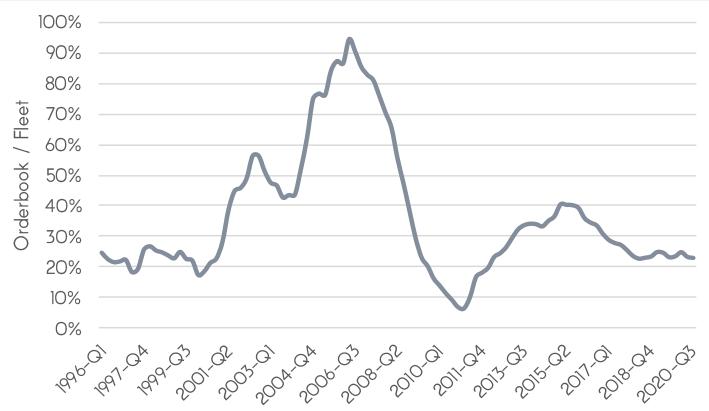
Econometrics: Spot rates vs fleet utilization



Newbuilding contracting



Orderbook vs fleet





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

Market Overview

Annual view

Base case	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
MEGI 175k, spot ^a (TCE/d)	-	-	-	-	19,818	119,397	149,316	124,129	88,687	49,417	46,608	60,376	107,007	81,915	71,173	109,467	91,705	80,899	76,016
DFDE 170k, 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	100,232	84,685	73,879	68,996
DFDE 155k, 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	92,799	77,665	66,859	61,976
Turbine 150k, spot ^a (TCE)	73,207	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	74,528	58,811	48,005	43,122
MEGI 175k, 5y ^a (USDm)										185	185	185	185	185	185	185	185	185	185
DFDE 170k, 5y ^a (USDm)										149	149	149	149	149	149	149	149	149	149
DFDE 155k, 5y ^a (USDm)										173	170	170	154	156	160	147	143	143	143
Turbine 150k, 5y ^a (USDm)										90	90	90	90	90	90	90	90	90	90
Turbine 125k, 5y ^a (USDm)										87	87	87	87	87	87	87	87	87	87

High case

Base case	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
MEGI 175k, spot ^a (TCE/d)	-	-	-	-	19,818	119,397	149,316	124,129	88,687	49,417	46,608	60,376	107,007	81,915	71,173	109,467	104,858	101,504	107,145
DFDE 170k, 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	100,232	97,838	94,484	100,125
DFDE 155k, 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	92,799	90,818	87,464	93,105
Turbine 150k, spot ^a (TCE)	73,207	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	74,528	71,964	68,610	74,251
MEGI 175k, 5y ^a (USDm)										185	185	185	185	185	185	185	185	185	185
DFDE 170k, 5y ^a (USDm)										149	149	149	149	149	149	149	149	149	149
DFDE 155k, 5y ^a (USDm)										173	170	170	154	156	160	147	143	143	143
Turbine 150k, 5y ^a (USDm)										90	90	90	90	90	90	90	90	90	90
Turbine 125k, 5y ^a (USDm)										87	87	87	87	87	87	87	87	87	87

Low case

Base case	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
MEGI 175k, spot ^a (TCE/d)	-	-	-	-	19,818	119,397	149,316	124,129	88,687	49,417	46,608	60,376	107,007	81,915	71,173	105,893	80,870	65,722	56,169
DFDE 170k, 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	96,658	73,850	58,702	49,149
DFDE 155k, 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	89,224	66,830	51,682	42,129
Turbine 150k, spot ^a (TCE)	73,207	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	70,953	47,976	33,248	26,968
MEGI 175k, 5y ^a (USDm)										185	185	185	185	185	185	185	185	185	185
DFDE 170k, 5y ^a (USDm)										149	149	149	149	149	149	149	149	149	149
DFDE 155k, 5y ^a (USDm)										173	170	170	154	156	160	147	143	143	143
Turbine 150k, 5y ^a (USDm)										90	90	90	90	90	90	90	90	90	90
Turbine 125k, 5y ^a (USDm)										87	87	87	87	87	87	87	87	87	87

Quarterly view

Base case	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24
MEGI 175k, spot ^a (TCE/d)	43,500	52,500	118,500	101,500	74,327	81,115	180,927	108,191	59,997	59,775	138,858	96,288	56,699	54,244	116,366	87,471	52,683	50,574	113,333
DFDE 170k, spot ^a (TCE/d)	39,058	46,808	111,462	92,962	66,144	67,916	173,907	101,171	52,977	52,755	131,838	89,268	49,679	47,224	109,346	80,451	45,663	43,554	106,313
DFDE 155k, spot ^a (TCE/d)	34,615	41,115	104,423	84,423	57,982	61,923	166,887	94,151	45,957	45,735	124,818	82,248	42,659	40,204	102,326	73,431	38,643	36,534	99,293
Turbine 150k, spot ^a (TCE)	23,269	27,923	73,077	59,962	44,654	45,462	148,034	75,298	27,103	26,881	105,964	63,394	23,805	21,350	83,472	54,577	19,790	17,681	80,439
MEGI 175k, 5y ^a (USDm)	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185	185
DFDE 170k, 5y ^a (USDm)	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149	149
DFDE 155k, 5y ^a (USDm)	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
Turbine 150k, 5y ^a (USDm)	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90	90
Turbine 125k, 5y ^a (USDm)	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87	87



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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																	
ALNG NO	49	34	29		37	21	17		24	9	4		15	0	-3		
FLNG NO	378	350	332		309	280	262		237	208	190		181	156	141		
Average	214	192	181	#####	173	151	140	#####	130	109	97	#####	98	78	69	#DIV/O!	
Median	214	192	181	#NUM!	173	151	140	#NUM!	130	109	97	#NUM!	98	78	69	#NUM!	

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																	
ALNG NO	321	309	296		20	8	-4		343	319	294		126	121	115		
FLNG NO	2,270	2,198	2,125		227	236	220		2,519	2,456	2,368		927	950	975		
Average	1,296	1,253	1,211	#####	123	122	108	#####	1,431	1,388	1,331	#####	527	536	545	#DIV/O!	
Median	1,296	1,253	1,211	#NUM!	123	122	108	#NUM!	1,431	1,388	1,331	#NUM!	527	536	545	#NUM!	

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																	
ALNG NO	27	13	9		20	13	9		-7	-12	-13		46,055	39,917	53,919	52,854	
FLNG NO	253	228	213		253	228	213		32	9	-16		73,779	69,776	44,049	100,985	
Average	140	120	111	#####	137	120	111	#####	13	-1	-14	#####	59,917	54,846	48,984	76,920	
Median	140	120	111	#NUM!	137	120	111	#NUM!	13	-1	-14	#NUM!	59,917	54,846	48,984	76,920	

Company Financials (quarterly estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit				
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	
USDm																	
ALNG NO	14	12	5		11	9	2		8	6	-1		6	4	-3		
FLNG NO	95	80	81		78	63	64		60	45	46		46	31	32		
Average	55	46	43		45	36	33		34	26	22		26	17	14		
Median	55	46	43		45	36	33		34	26	22		26	17	14		

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity				
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	
USDm																	
ALNG NO	331	328	324		25	20	13		357	350	339		126	123	118		
FLNG NO	2,324	2,306	2,288		187	180	181		2,534	2,509	2,492		879	873	880		
Average	1,328	1,317	1,306		106	100	97		1,446	1,429	1,416		503	498	499		
Median	1,328	1,317	1,306		106	100	97		1,446	1,429	1,416		503	498	499		

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E		
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	1Q22	2Q22	1Q22	2Q22	
USDm																	
ALNG NO	9	7	0		2	7	0		-3	-5	-7		79,658	67,403	55,534	54,990	
FLNG NO	64	49	50		64	49	50		-8	-7	2		81,341	67,975	46,745	42,594	
Average	37	28	25		33	28	25		-5	-6	-3		80,499	67,689	51,140	48,792	
Median	37	28	25		33	28	25		-5	-6	-3		80,499	67,689	51,140	48,792	

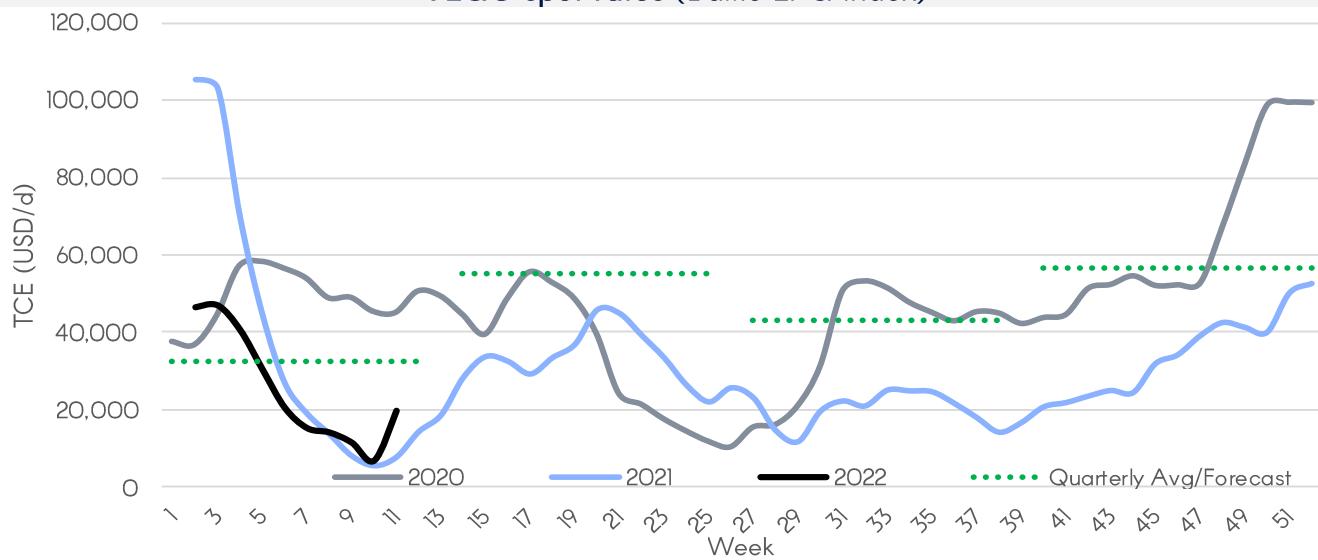


LPG Carriers



Earnings

VLGC spot rates (Baltic LPG Index)



VLGC one-year timecharter rates





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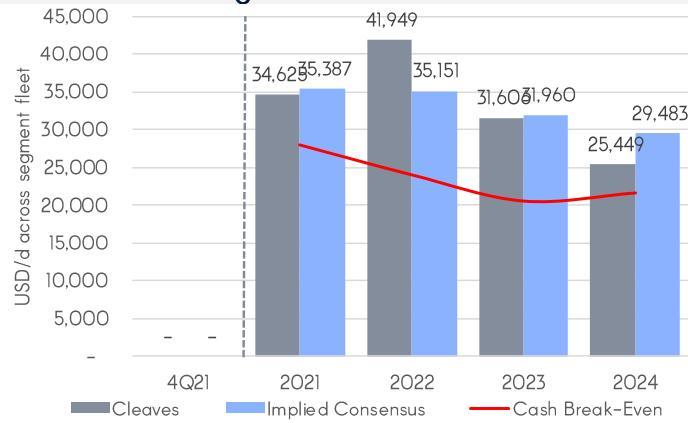
$$f(\lambda) = a_0 + \beta_1 \lambda^\tau, R^2 \approx 1$$

Peer Group

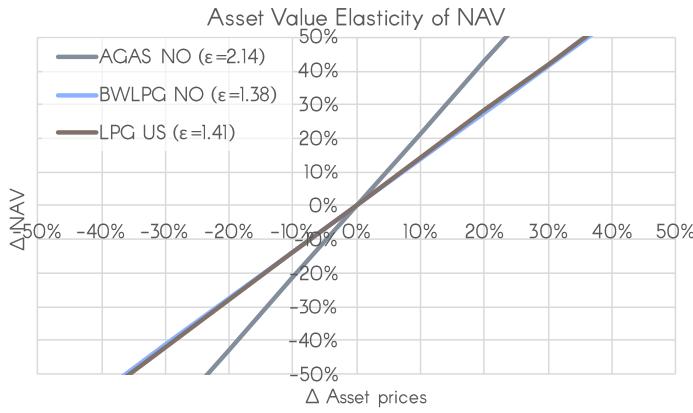
Updated 19M as of 12/1/22				Return	Target	Last	Target/	NAV	P/NAV			EV/GAV	adj. equity	τ
Company	M.cap	Turnover	1y	Rec.	Price	Price	Price	/sh	Now	ly fwd	ϵ			
AGAS NO	288	0.3	-12%	BUY	58	32.5	78%	65	0.50	0.43	2.14	0.77	42%	0.77
BWLPG NO	857	2.3	5%	BUY	82	52.8	55%	88	0.60	0.50	1.38	0.75	57%	0.86
LPG US	547	5.5	16%	BUY	19	13.6	39%	26	0.53	0.51	1.41	0.69	63%	0.96
Average	564	2.7	3%				58%		0.54	0.48	1.64	0.73	54%	0.86
Median	547	2.3	5%				55%		0.53	0.50	1.41	0.75	57%	0.86

Company	EV/EBITDA			P/E			Dividend yield			FCF yield		
	2021	2022	2023	2021	2022	2023	2021	2022	2023	2021	2022	2023
AGAS NO	5.5	3.7	5.4	9.5	3.4	6.0	8%	11%	12%	24%	-9%	-26%
BWLPG NO	4.3	2.6	3.7	5.0	3.0	7.8	12%	12%	8%	54%	52%	24%
LPG US	5.7	3.5	5.5	5.6	2.7	6.3	7%	16%	9%	41%	36%	9%
Average	5.2	3.2	4.9	6.7	3.0	6.7	9%	13%	10%	40%	26%	2%
Median	5.5	3.5	5.4	5.6	3.0	6.3	8%	12%	9%	41%	36%	9%

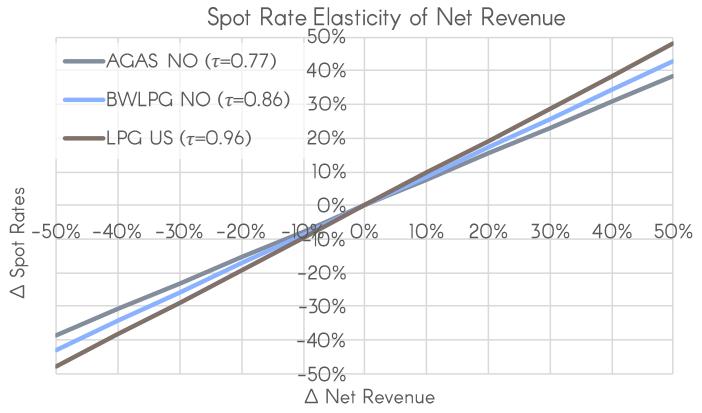
Cleaves' average TCE/d forecast vs consensus



Financial leverage (ϵ)



Operational leverage (τ)



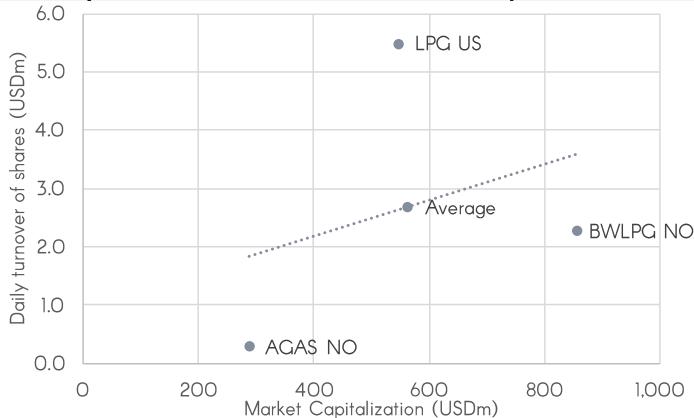


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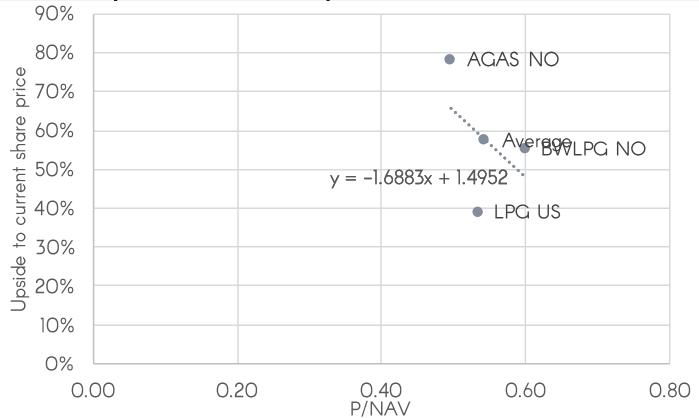
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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

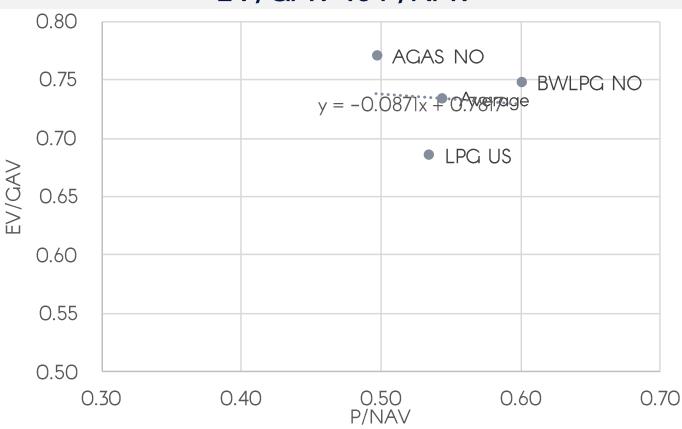
Daily share turnover vs market capitalization



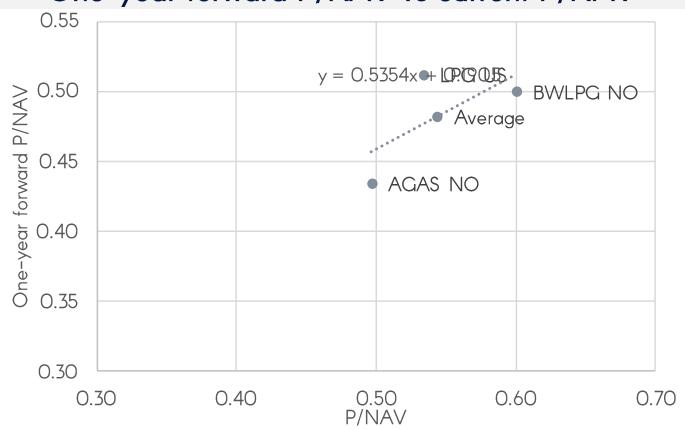
Upside to share price current P/NAV



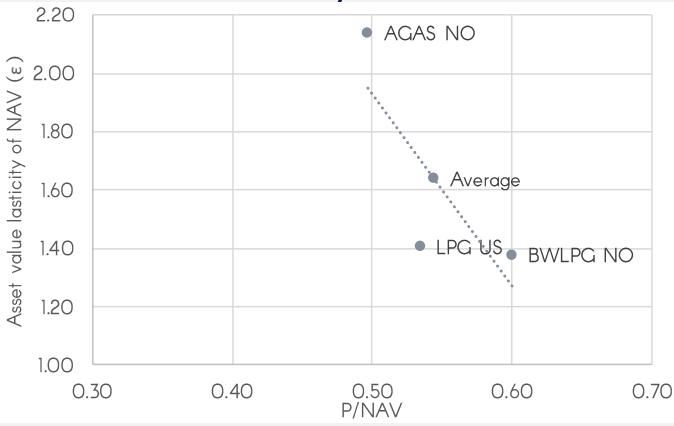
EV/GAV vs P/NAV



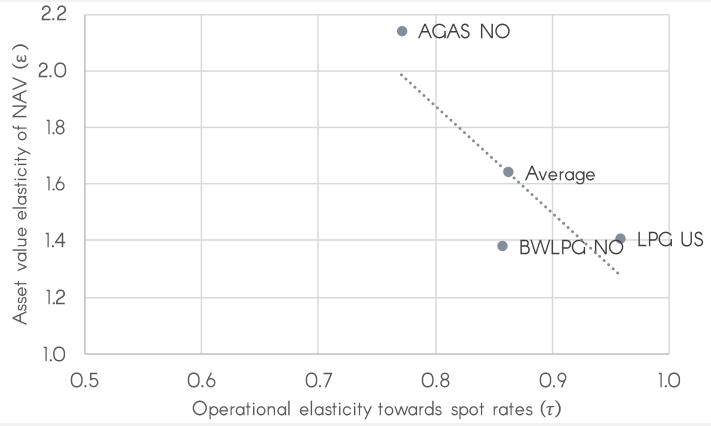
One-year forward P/NAV vs current P/NAV



Asset value elasticity of NAV vs P/NAV



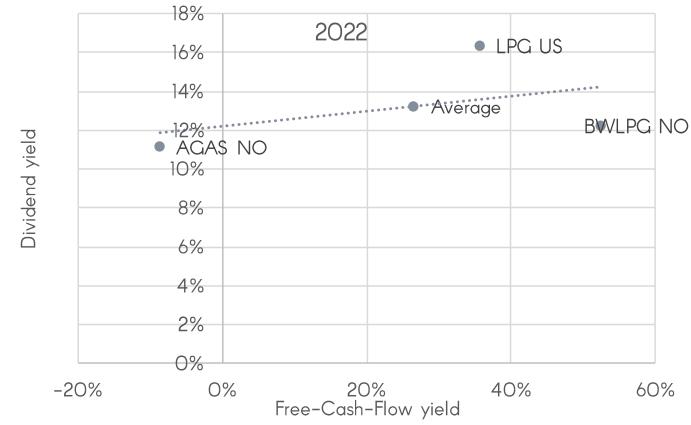
Elasticities: NAV vs net revenue



P/E vs EV/EBITDA



Dividend yield vs free cash flow yield



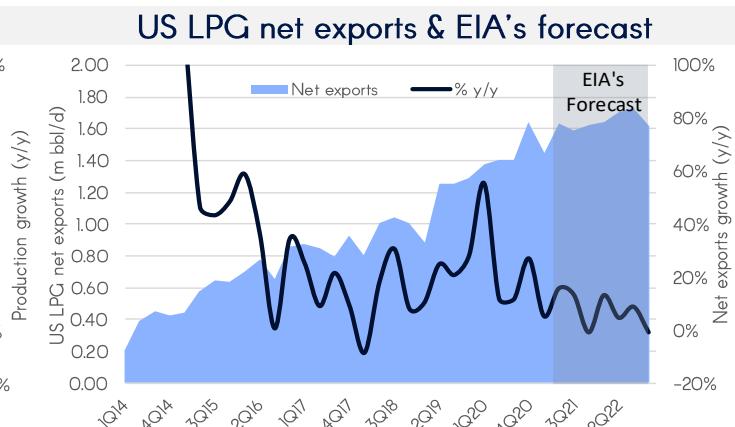
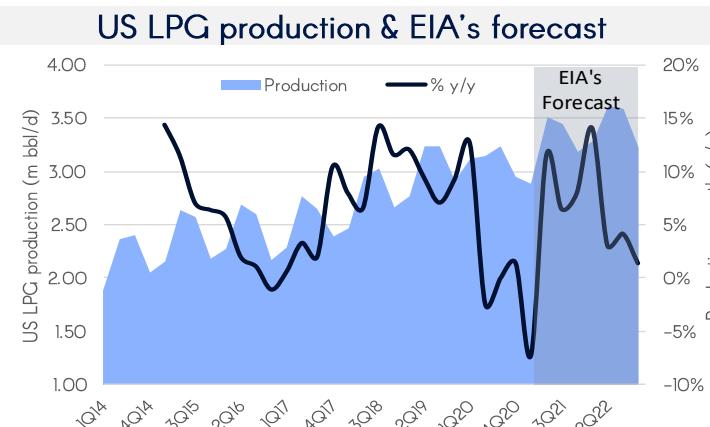
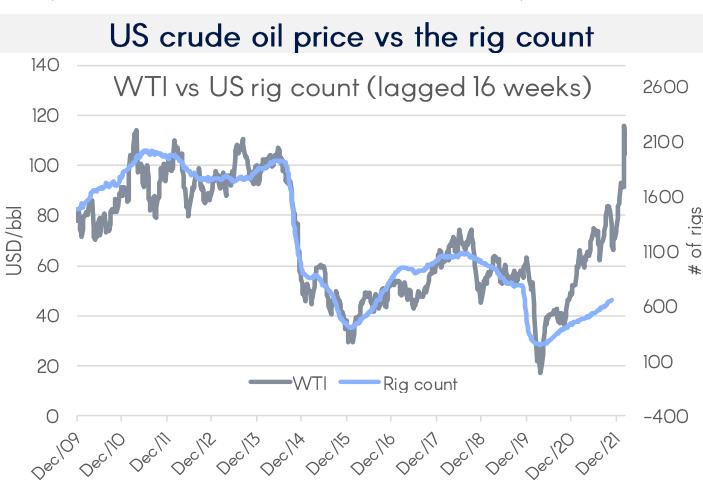
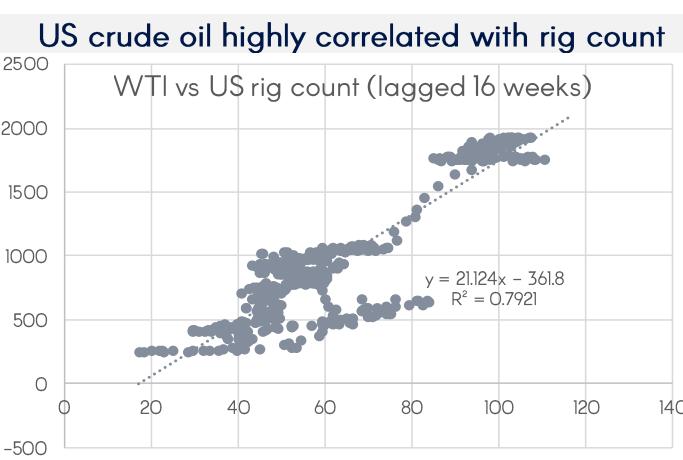
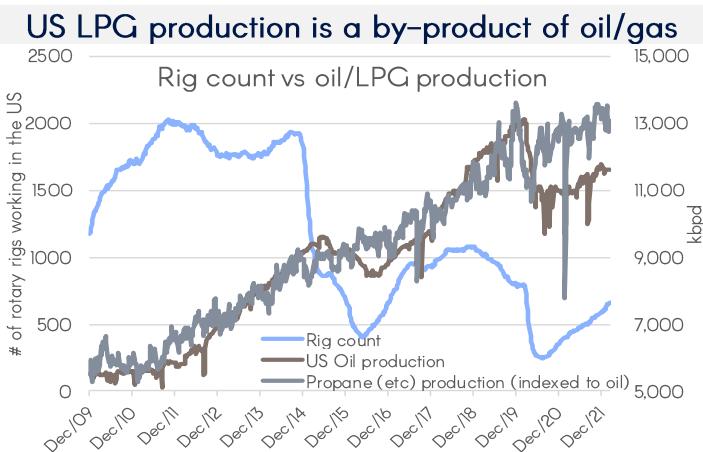
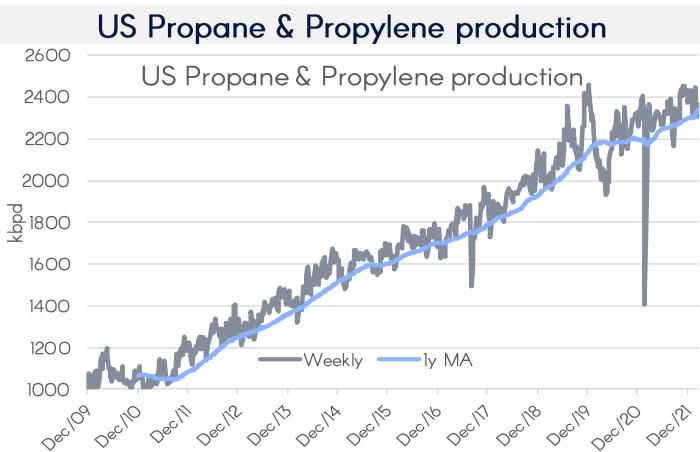
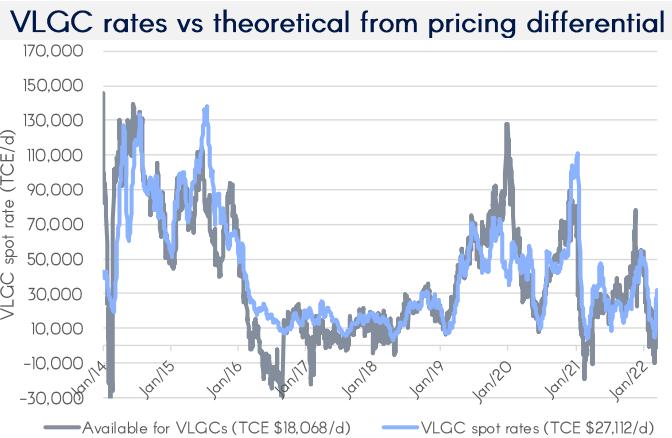


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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

Market Snapshots



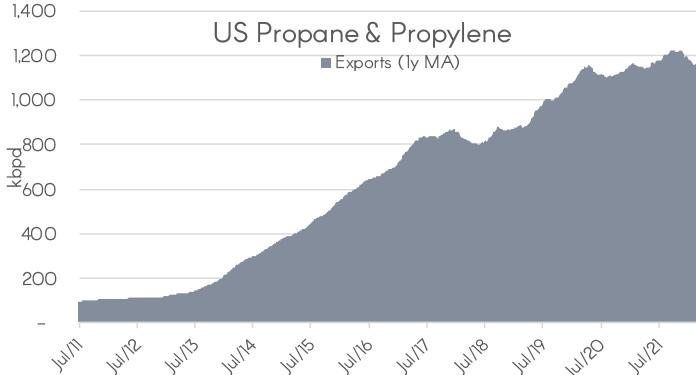


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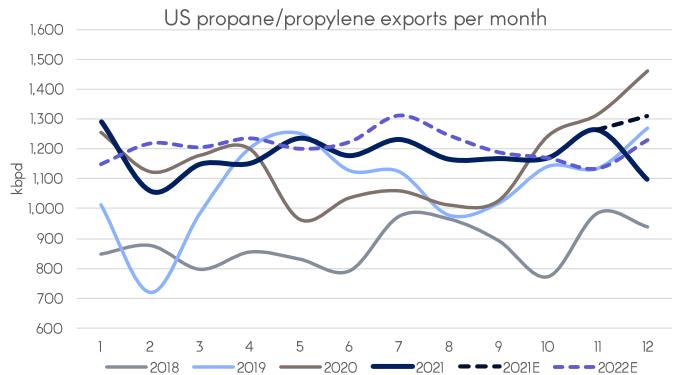
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$$f(\lambda) = a_0 + \beta_1 \lambda^T, R^2 \approx 1$$

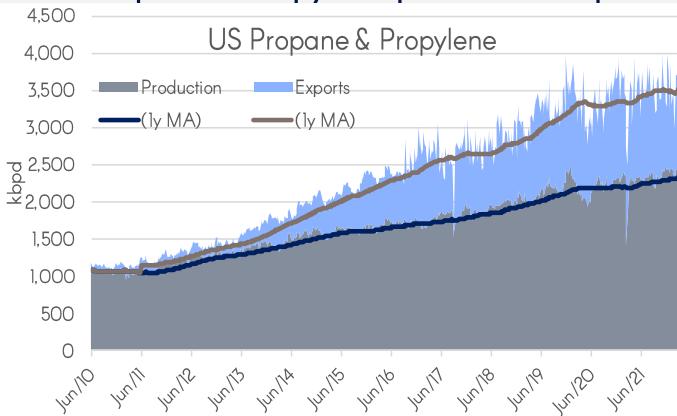
US Propane & Propylene exports



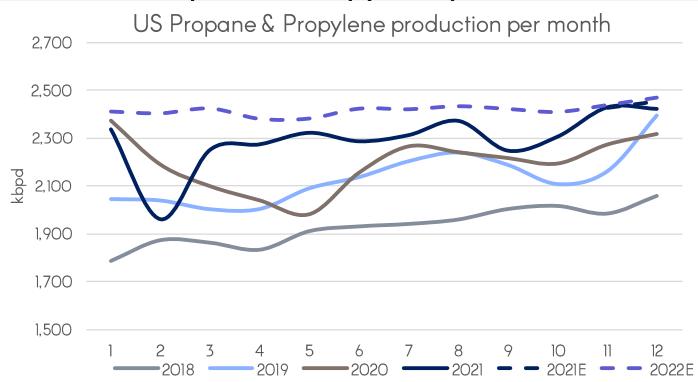
US Propane & Propylene exports



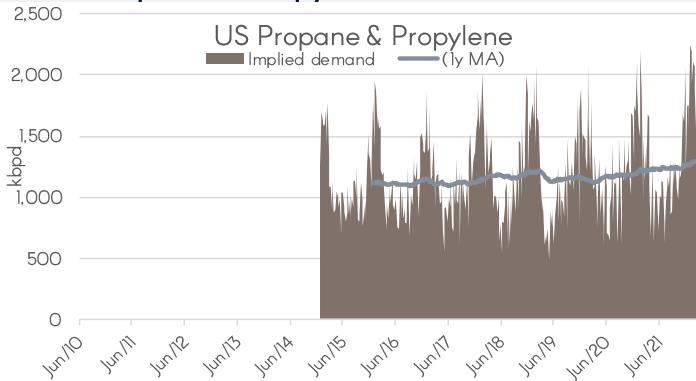
US Propane & Propylene production/exports



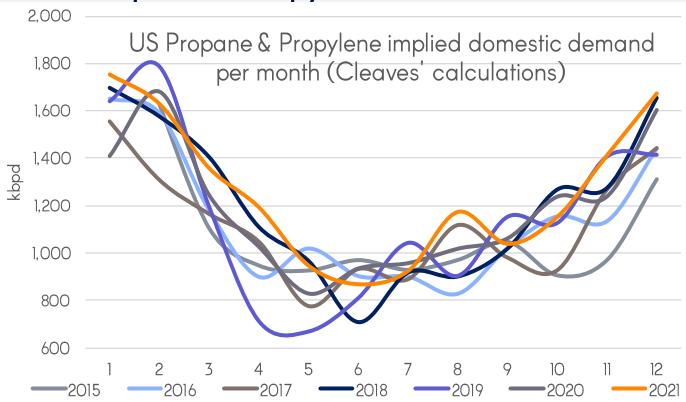
US Propane & Propylene production



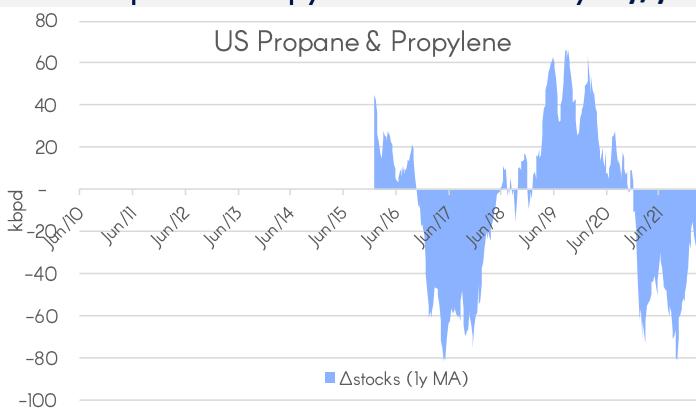
US Propane & Propylene: Domestic demand



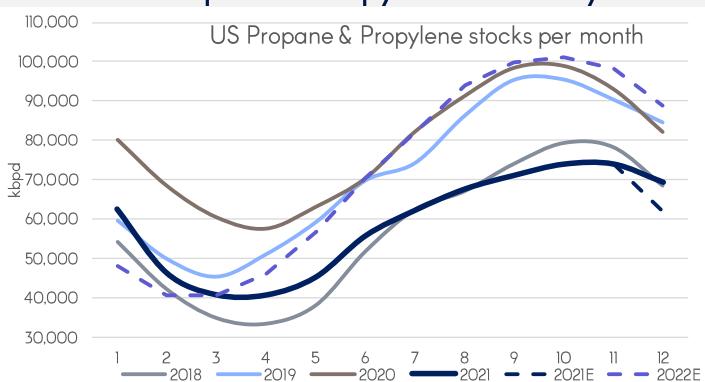
US Propane & Propylene: Domestic demand



US Propane & Propylene: Net inventory Δ y/y



US Propane & Propylene: Inventory



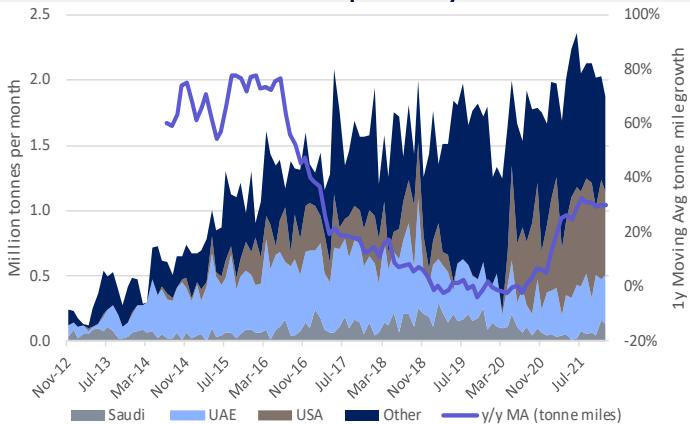


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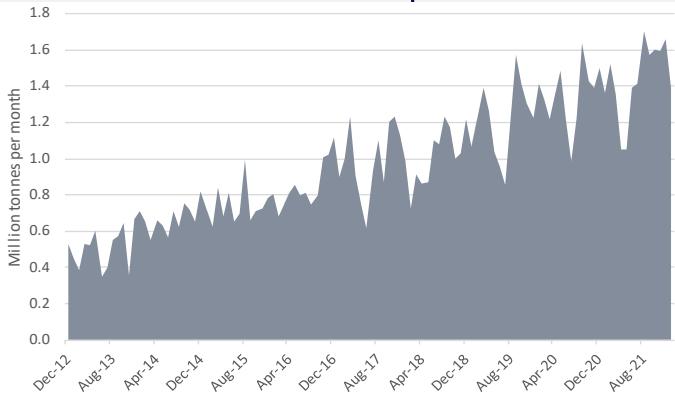
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$$f(\lambda) = a_0 + \beta_1 \lambda^{\tau}, R^2 \approx 1$$

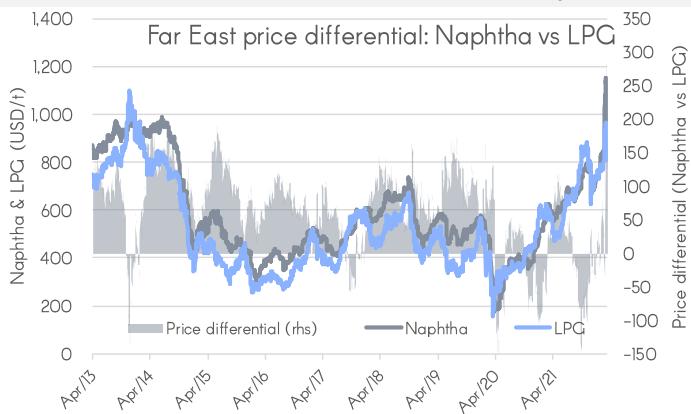
Chinese LPG imports by source



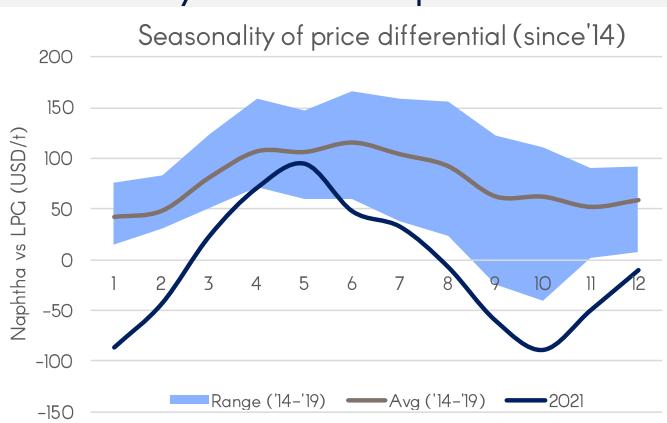
Indian LPG imports



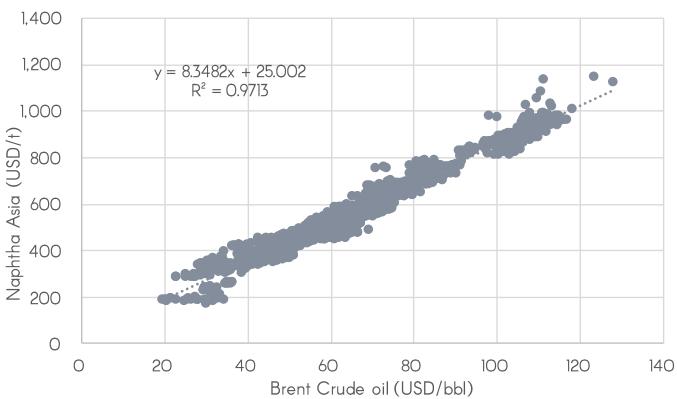
Far Eastern feedstock switch occurs ~\$50–100



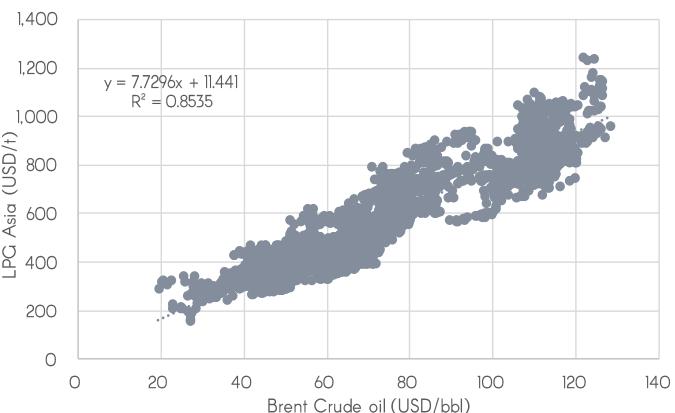
Seasonality of Far Eastern price differential



Correlation: Far East naphtha vs Brent Crude



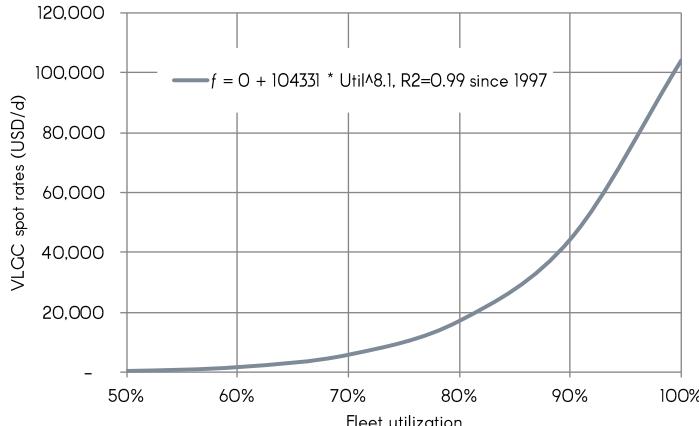
Correlation: Far East LPG vs Brent Crude



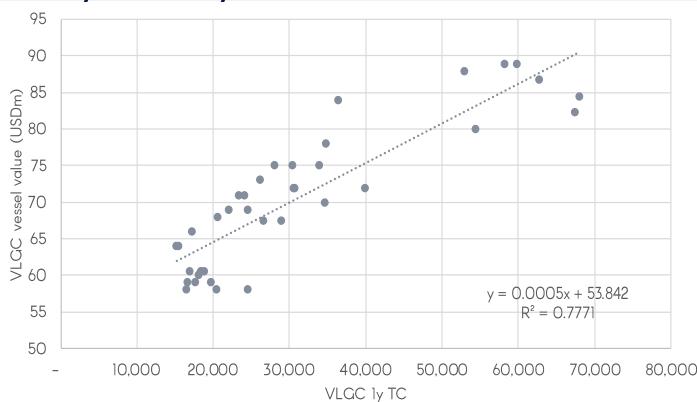


Market Fundamentals

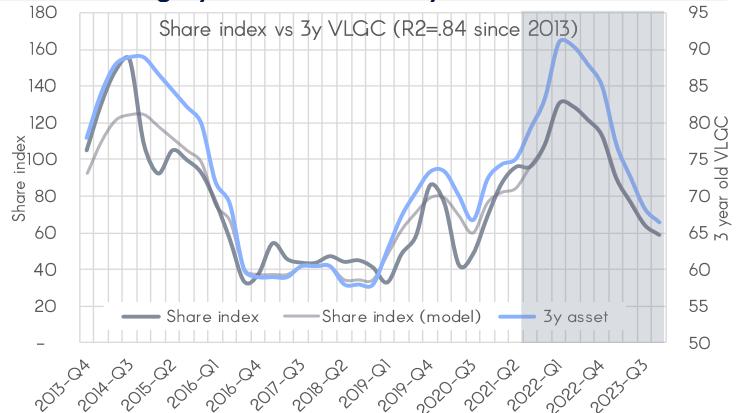
Econometrics: Spot rates vs fleet utilization



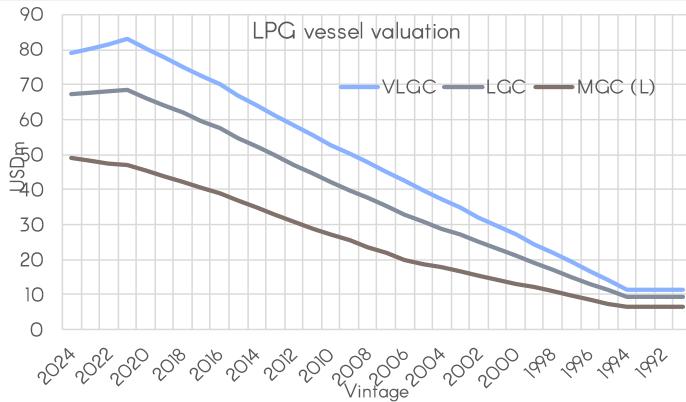
ly TC vs 3y VLGC value (since 2009)



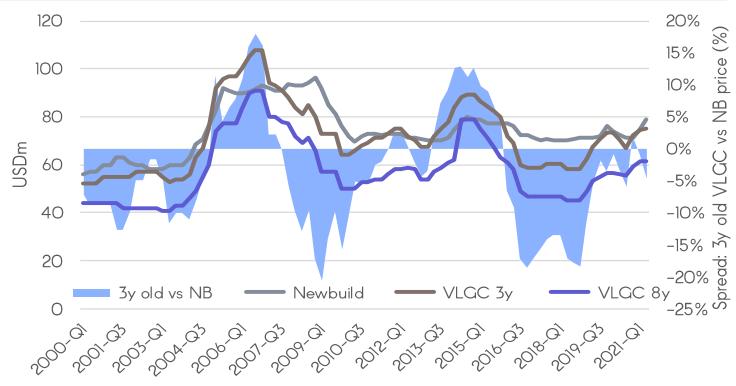
Shares highly correlated w 3y old vessel values



Cleaves' asset valuation overview



Historical asset values





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

Market Overview

Annual view

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Base case	37,347	23,031	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	35,353	46,943	34,304	27,540
VLCG, spot ^a (TCE/d)												8,359	10,164	23,273	23,829	17,677	23,472	17,152	13,770
LGC, spot ^a (TCE/d)																			
VLCG, 5y ^a (USDm)	105	92	83	71	67	73	71	73	88	83	65	60	59	69	71	75	77	70	67
LGC, 5y ^a (USDm)											48	49	48	56	58	62	63	58	55

High case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Base case	37,347	23,031	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	37,596	64,876	60,311	54,923
VLCG, spot ^a (TCE/d)												8,359	10,164	23,273	23,829	18,798	32,438	30,156	27,461
LGC, spot ^a (TCE/d)																			
VLCG, 5y ^a (USDm)	105	92	83	71	67	73	71	73	88	83	65	60	59	69	71	77	89	85	80
LGC, 5y ^a (USDm)											48	49	48	56	58	63	73	70	66

Low case

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Base case	37,347	23,031	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	33,508	34,144	19,508	13,048
VLCG, spot ^a (TCE/d)												8,359	10,164	23,273	23,829	16,754	17,072	9,754	8,000
LGC, spot ^a (TCE/d)																			
VLCG, 5y ^a (USDm)	105	92	83	71	67	73	71	73	88	83	65	60	59	69	71	74	69	62	60
LGC, 5y ^a (USDm)											48	49	48	56	58	61	57	51	49

Quarterly view

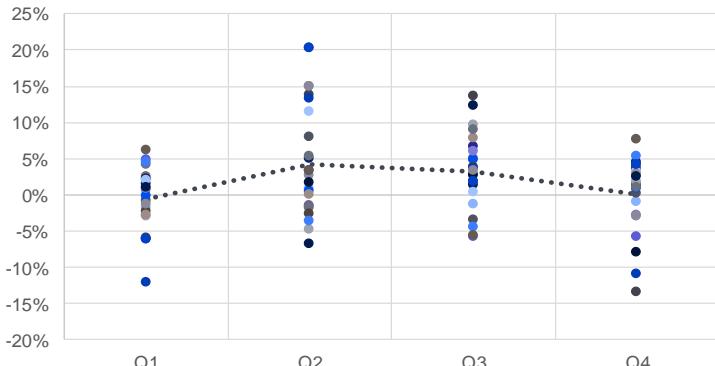
	2Q20	3Q20	4Q20	1Q21	2Q21	3Q21	4Q21	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23	1Q24	2Q24	3Q24	4Q24
Base case	33,381	39,680	66,926	43,434	35,499	25,242	37,238	32,687	55,154	43,252	56,681	30,013	42,750	28,781	35,673	20,906	32,367	24,330	32,558
VLCG, spot ^a (TCE/d)																			
LGC, spot ^a (TCE/d)	16,690	19,840	33,463	21,717	17,750	12,621	18,619	16,343	27,577	21,626	28,340	15,007	21,375	14,391	17,837	10,453	16,184	12,165	16,279
VLCG, 5y ^a (USDm)	70	67	72	74	75	75	76	79	78	77	75	72	71	69	69	68	68	67	66
LGC, 5y ^a (USDm)	58	55	59	61	62	62	65	64	63	61	59	58	57	56	56	55	55	54	



Seasonality

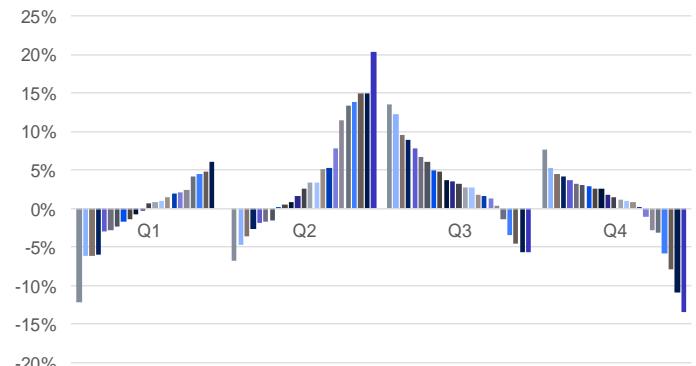
Historically strong demand growth in 2Q/3Q

Implied q/q demand growth since 1997

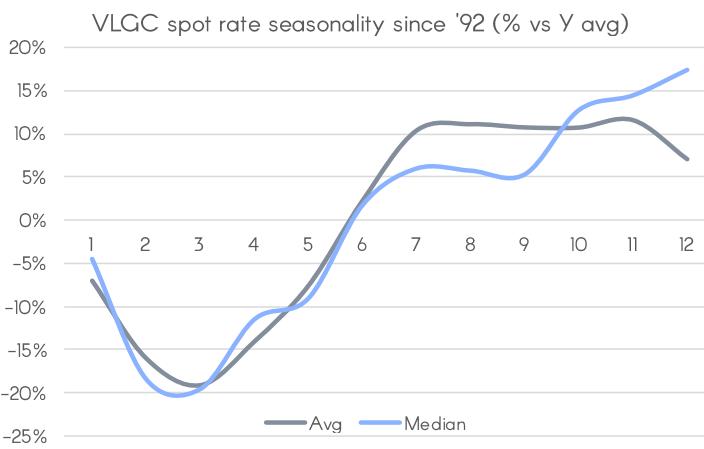


Historically strong demand growth in 2Q/3Q

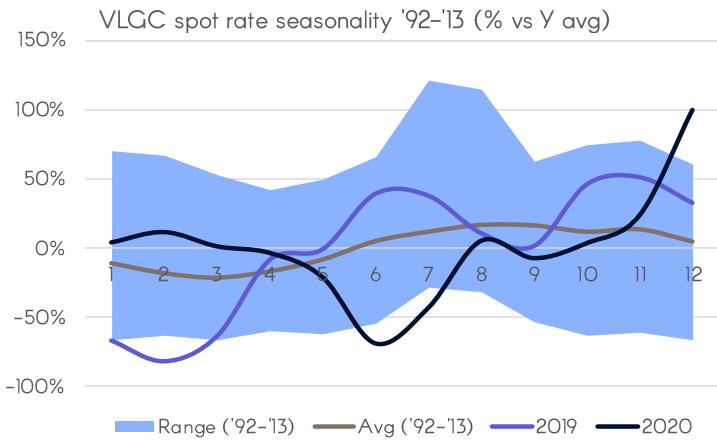
Implied q/q demand growth since 1997



Historical VLGC spot rate seasonality



Historical VLGC spot rate seasonality





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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																	
AGAS NO	199	182	158		150	126	99		100	70	37		90	51	18		
BWLPG NO	558	395	318		417	259	182		277	121	43		226	87	20		
LPG US	367	253	203		236	148	98		169	80	30		156	66	10		
Average	374	276	226		268	178	126		182	90	37		157	68	16		
Median	367	253	203		236	148	99		169	80	37		156	66	18		

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	871	997	941		142	141	113		1,046	1,171	1,087		594	611	616		
BWLPG NO	1,558	1,444	1,329		404	424	456		2,337	2,242	2,160		1,504	1,524	1,522		
LPG US	1,259	1,279	1,217		244	246	264		1,593	1,613	1,570		991	1,006	1,009		
Average	1,230	1,240	1,162		264	270	277		1,659	1,676	1,606		1,030	1,047	1,049		
Median	1,259	1,279	1,217		244	246	264		1,593	1,613	1,570		991	1,006	1,009		

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	140	107	79		-25	-75	73		28	-1	-29		30,660	24,686	18,847	25,410	
BWLPG NO	379	225	158		441	201	134		190	19	32		30,955	24,895	20,983	18,151	
LPG US	223	134	77		195	47	71		115	2	18		33,204	26,766	21,723	21,269	
Average	247	155	105		204	58	93		111	7	7		31,606	25,449	20,518	21,610	
Median	223	134	79		195	47	73		115	2	18		30,955	24,895	20,983	21,269	

Company Financials (quarterly estimates)

Profit & Loss

P&L	TCE Revenue				EBITDA				EBIT				Net Profit				
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	
USDm																	
AGAS NO	37	55	46		25	43	34		13	30	22		15	26	18		
BWLPG NO	107	161	133		71	126	98		36	91	63		23	69	46		
LPG US	65	106	86		34	70	54		18	54	37		14	50	34		
Average	70	108	89		43	80	62		22	58	41		18	49	32		
Median	65	106	86		34	70	54		18	54	37		15	50	34		

Balance Sheet

BS	Property & Equip. (incl. NBs)				Liquidity				Total Assets				Total Equity				
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	
USDm																	
AGAS NO	815	810	813		138	150	140		986	993	987		549	567	572		
BWLPG NO	1,634	1,609	1,584		300	352	359		2,309	2,335	2,318		1,386	1,443	1,455		
LPG US	1,290	1,279	1,268		99	201	207		1,478	1,570	1,564		899	942	951		
Average	1,246	1,233	1,222		179	234	236		1,591	1,633	1,623		945	984	993		
Median	1,290	1,279	1,268		138	201	207		1,478	1,570	1,564		899	942	951		

Cash Flow

CF	Net Operational CF				Free Cash Flow				Net Cash Flow				TCE/d		Cash B/E		
	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	4Q21	1Q22	2Q22	3Q22	1Q22	2Q22	1Q22	2Q22	
USDm																	
AGAS NO	28	39	30		-43	31	14		23	12	-10		31,426	44,447	42,250	21,466	
BWLPG NO	74	111	85		165	101	76		85	51	8		31,186	47,778	28,526	20,673	
LPG US	31	67	51		23	61	45		-30	103	6		32,091	51,834	22,671	24,814	
Average	44	72	55		48	64	45		26	55	1		31,567	48,020	31,149	22,318	
Median	31	67	51		23	61	45		23	51	6		31,426	47,778	28,526	21,466	



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Current recommendations of the Research Department (updated 15/03/2022)

Recommendation Percent

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HOLD	18%
SELL	0%

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