

Shipping - Global

Shipping & supply chain high frequency tracker #55

Industry Overview

Tracking the high frequency shipping data

This report contains our favorite charts to track the shipping cycle. World container trade is improving and Panama Canal disruptions are tightening US east coast trades– but both don't look enough to offset heavy oversupply pressures in 2024 with more downside expected to earnings. Tanker rates remain seasonally elevated helped by strong US exports, but watch OPEC+ cuts from 1Q24 as well as tail risks from Venezuela and the oil curve. Dry bulk rates have positively surprised given strong Atlantic export demand and Panama Canal disruptions – and lingering Panama Canal issues into 1H24 could help soften the seasonal downturn for bulk rates into 1Q24. For more on canal disruption risks see: [Suez and Panama Canal disruption risks](#).

Container: Panama Canal helping tighten US East Coast

World trade continues to stabilize with US imports +10% YoY in November. US East Coast rates look well supported by worsening Panama Canal drought conditions which is prompting smaller liners to divert services to the Suez Canal. US West Coast rates face pressure from supply additions, but seasonality should turn more favorable given the pre-CNY mini peak in January 2024. And Europe spot rate hikes appear to be holding for now helped by discipline during annual contract negotiations.

Tanker: Watch OPEC cuts, Venezuela & the oil curve

VLCC tanker rates have been strong supported by US exports although OPEC+ +incremental voluntary cuts of 0.7mn b/d in 1Q24 could somewhat dampen VLCC rates. We note that freight forward agreements and six-month time charter rates imply VLCC rates holding at US\$30-40k/day through 1Q24 with time charter rates not really moving since the decision. We stay positive on the 2024 tanker outlook but watch volatility around Venezuela and the oil curve (small contango only for now which isn't enough to support oil storage demand which needs contango >US\$5/bbl).

Bulk: Surprise surge, 1Q could fall less than expected

Dry bulk rates have seen a surprise November surge helped by longer sailings driven by Panama Canal drought conditions and strong Atlantic export demand out of Brazil and West Africa. A seasonal correction looms into 1Q24 on CNY holiday disruptions and southern hemisphere cyclone season. But lingering Panama Canal disruptions during US grain export season could somewhat soften the seasonal downturn – noting that six month time charter rates have moved up in the past week particularly in the Atlantic.

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Equity
Global
Shipping

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Abbreviations

CNY: Chinese New Year

VLCC: Very Large Crude Carrier

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Refer to important disclosures on page 28 to 30.

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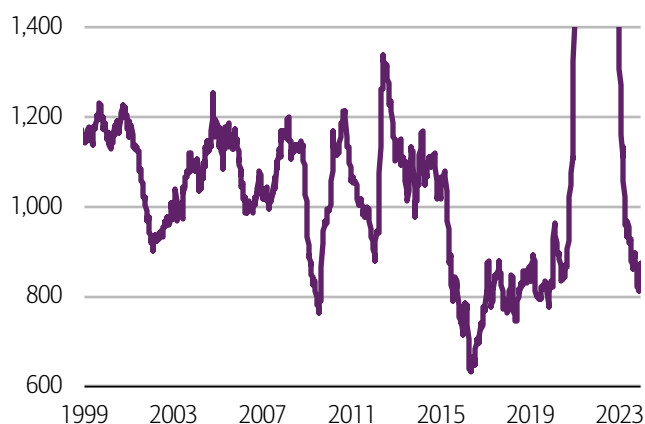
Timestamp: 07 December 2023 07:23AM EST

Container shipping

Blended freight rates

Exhibit 1: China Containerized Freight Index (CCFI), 1999-2023

WoW: -2.2% MoM: +3.6% YoY: +41% vs 2019: +4%



Source: Shanghai Shipping Exchange

Exhibit 2: CCFI quarterly average, 2022-23

CCFI trending -4% QoQ lower in middle of 4Q 2023

CCFI	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
CCFI	2,950	1,615	1,087	938	876	841
CCFI Europe	4,738	2,497	1,411	1,154	1,059	956
CCFI USWC	2,331	1,079	789	707	733	726
CCFI USEC	2,844	1,746	1,161	886	870	833
% YoY						
CCFI	-1%	-51%	-68%	-70%	-70%	-48%
CCFI Europe	-7%	-53%	-74%	-77%	-78%	-62%
CCFI USWC	13%	-53%	-70%	-72%	-69%	-33%
CCFI USEC	22%	-31%	-57%	-68%	-69%	-52%
% QoQ						
CCFI	-7%	-45%	-33%	-14%	-7%	-4%
CCFI Europe	-6%	-47%	-44%	-18%	-8%	-10%
CCFI USWC	-7%	-54%	-27%	-10%	4%	-1%
CCFI USEC	2%	-39%	-34%	-24%	-2%	-4%

Source: Shanghai Shipping Exchange

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Exhibit 3: CCFI Europe, 2023

MoM: +7.8% YoY: -55% vs 2019: +1%

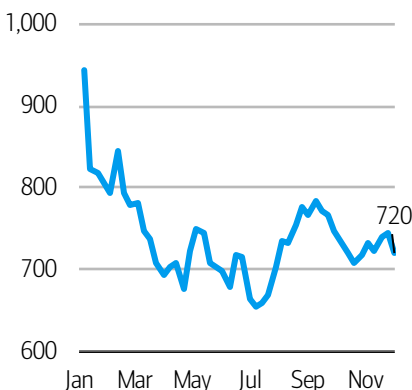


Source: Shanghai Shipping Exchange

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Exhibit 4: CCFI US West Coast, 2023

MoM: -1.8% YoY: -22% vs 2019: +5%

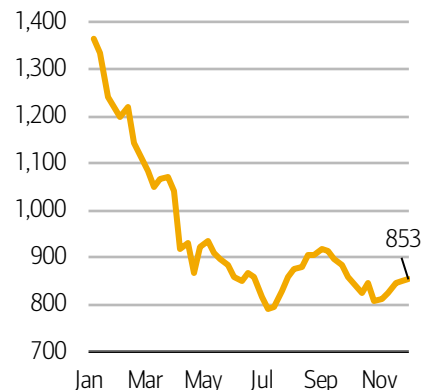


Source: Shanghai Shipping Exchange

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Exhibit 5: CCFI US East Coast, 2023

MoM: +5.1% YoY: -45% vs 2019: -4%

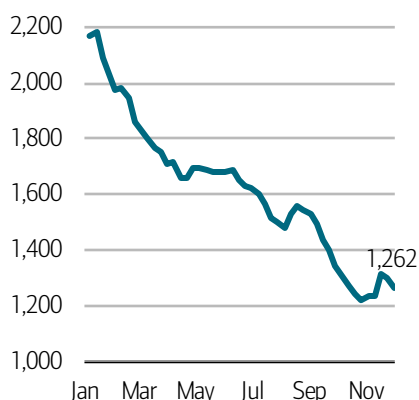


Source: Shanghai Shipping Exchange

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Exhibit 6: CCFI Mediterranean, 2023

MoM: +2.3% YoY: -47% vs 2019: +25%

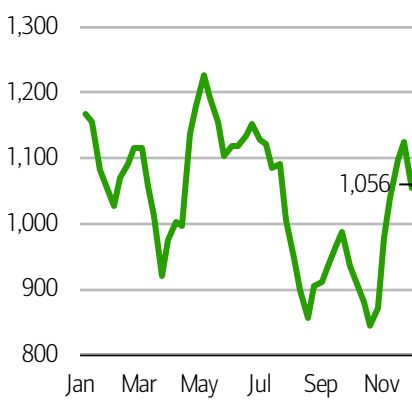


Source: Shanghai Shipping Exchange

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Exhibit 7: CCFI Middle East, 2023

MoM: +7.9% YoY: -28% vs 2019: +22%

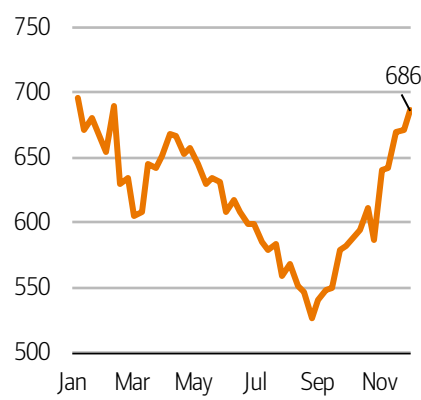


Source: Shanghai Shipping Exchange

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Exhibit 8: CCFI Singapore, 2023

MoM: +7.0% YoY: -16% vs 2019: -6%



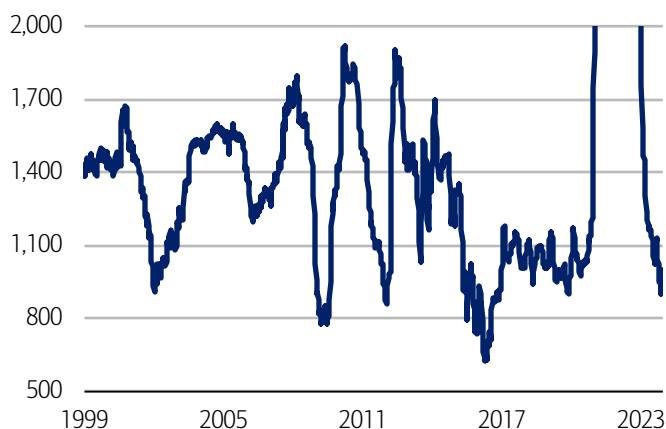
Source: Shanghai Shipping Exchange

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Long term blended freight rates

Exhibit 9: CCFI Europe, 1999-2023

CCFI Europe at 974

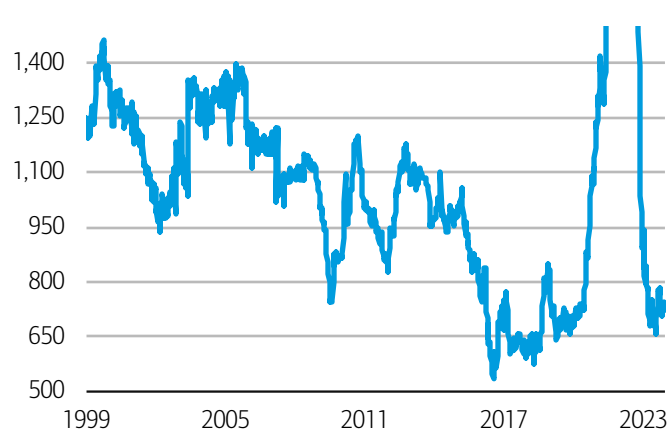


Source: Shanghai Shipping Exchange

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Exhibit 10: CCFI US west coast, 1999-2023

CCFI US west coast at 720

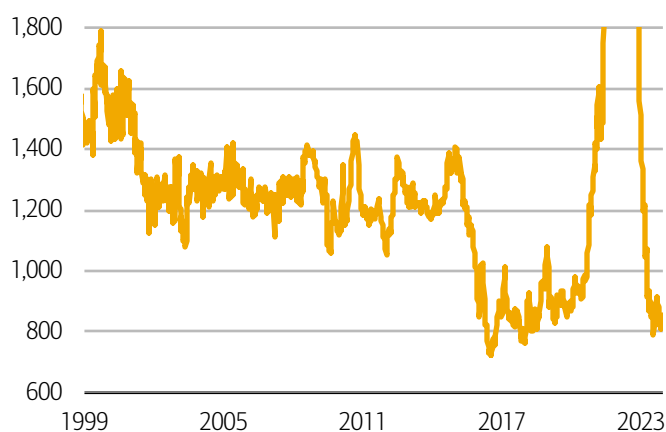


Source: Shanghai Shipping Exchange

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Exhibit 11: CCFI US east coast, 1999-2023

CCFI east coast tracking at 853

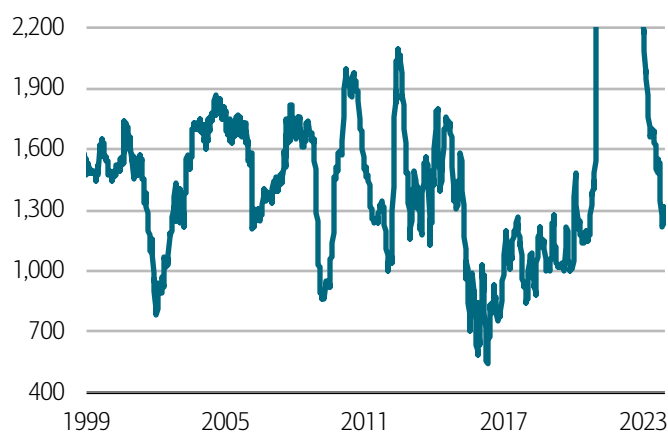


Source: Shanghai Shipping Exchange

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Exhibit 12: CCFI Mediterranean, 1999-2023

CCFI Med tracking at 1,262



Source: Shanghai Shipping Exchange

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Exhibit 13: CCFI Middle East, 2013-2023

CCFI Middle East at 1,056

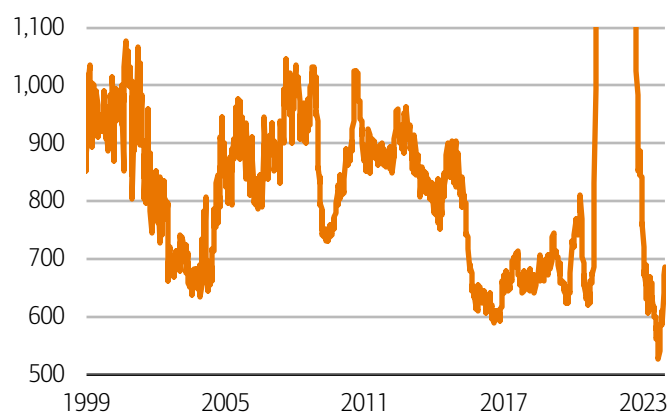


Source: Shanghai Shipping Exchange

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Exhibit 14: CCFI Singapore, 1999-2023

CCFI Singapore at 686



Source: Shanghai Shipping Exchange

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Spot freight rates

Exhibit 15: Shanghai Containerized Freight Index (SCFI), 2010-23

WoW: 1.8% MoM: -5.3% YoY: -14% vs 2019: 23%



Source: Shanghai Shipping Exchange

Exhibit 16: SCFI quarterly average, 2022-23

SCFI trending down YoY and flat QoQ in middle of 4Q 2023

SCFI	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
SCFI	3,279	1,375	969	983	986	990
SCFI Europe	4,656	1,490	926	848	776	716
SCFI USWC	5,278	1,627	1,265	1,419	1,884	1,789
SCFI USEC	8,557	4,126	2,438	2,366	2,768	2,336
% YoY						
SCFI	-24%	-71%	-80%	-77%	-70%	-28%
SCFI Europe	-36%	-80%	-88%	-86%	-83%	-52%
SCFI USWC	-9%	-76%	-84%	-82%	-64%	10%
SCFI USEC	-20%	-62%	-78%	-77%	-68%	-43%
% QoQ						
SCFI	-22%	-58%	-30%	2%	0%	0%
SCFI Europe	-22%	-68%	-38%	-8%	-9%	-8%
SCFI USWC	-32%	-69%	-22%	12%	33%	-5%
SCFI USEC	-18%	-52%	-41%	-3%	17%	-16%

Source: Shanghai Shipping Exchange

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Exhibit 17: SCFI Europe, 2023 (\$/TEU)

MoM: +13% YoY: -22% vs 2019: +11%

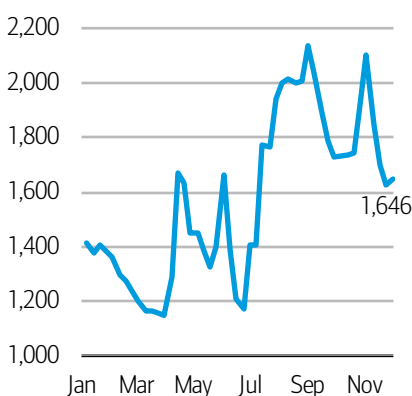


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 18: SCFI US West Coast, 2023 (\$/FEU)

MoM: -22% YoY: +15% vs 2019: +17%

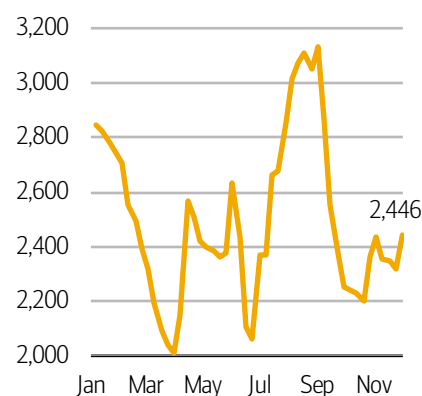


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 19: SCFI US East Coast, 2023 (\$/FEU)

MoM: +0.5% YoY: -29% vs 2019: -9%



Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 20: SCFI Mediterranean, 2023 (\$/TEU)

MoM: +2.4% YoY: -31% vs 2019: +73%

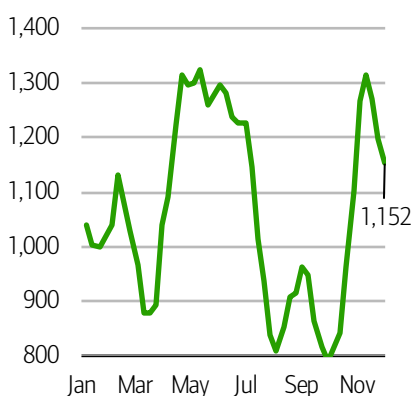


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 21: SCFI Middle East, 2023 (\$/TEU)

MoM: -9% YoY: -3% vs 2019: +38%

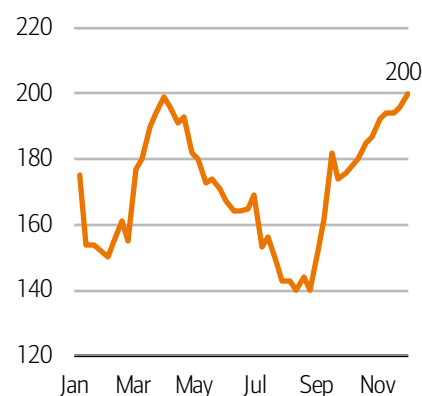


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 22: SCFI Singapore, 2023 (\$/TEU)

MoM: +4.2% YoY: -16% vs 2019: +27%



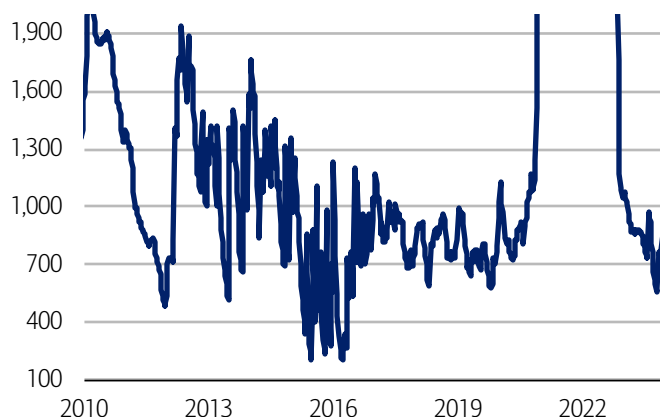
Source: Shanghai Shipping Exchange. \$=USD

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Long term spot freight rates

Exhibit 23: SCFI Asia-Europe, 2010-23 (USD/TEU)

SCFI Europe at US\$851/TEU

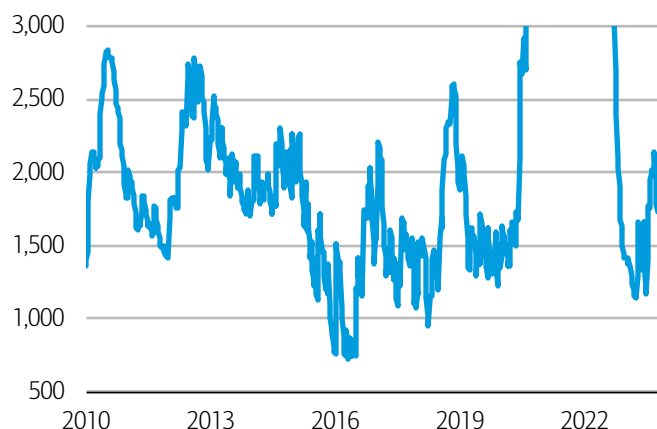


Source: Shanghai Shipping Exchange

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Exhibit 24: SCFI Asia-US west coast, 2010-23 (USD/FEU)

SCFI USWC at US\$1,646 /FEU

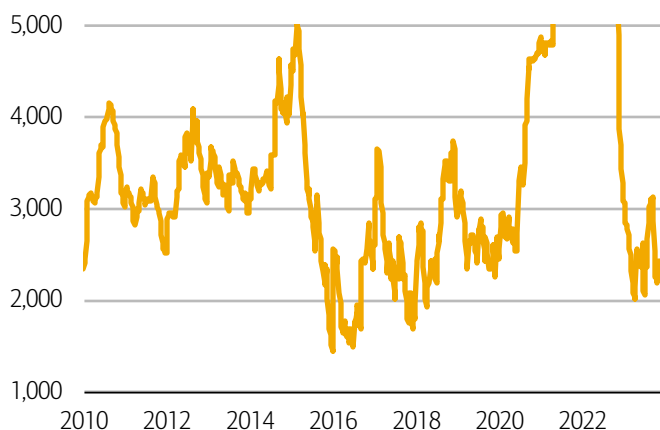


Source: Shanghai Shipping Exchange

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Exhibit 25: SCFI Asia-US east coast, 2010-23 (USD/FEU)

SCFI USEC at US\$2,446/FEU

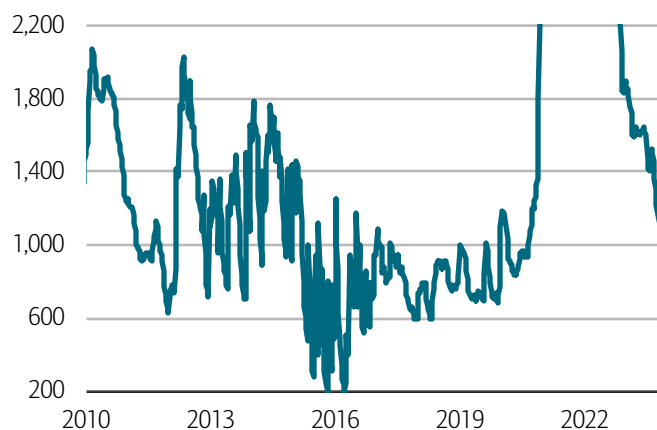


Source: Shanghai Shipping Exchange

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Exhibit 26: SCFI Asia-Mediterranean, 2010-23 (USD/TEU)

SCFI Med at US\$1,260 /TEU

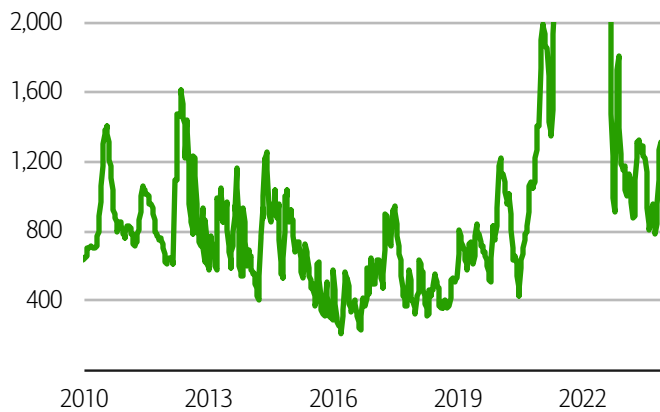


Source: Shanghai Shipping Exchange

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Exhibit 27: SCFI Asia-Middle East, 2010-23(USD/TEU)

SCFI Middle East US\$1,152/TEU



Source: Shanghai Shipping Exchange

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Exhibit 28: SCFI Asia-Singapore, 2010-23 (USD/TEU)

SCFI Singapore at US\$200 /TEU



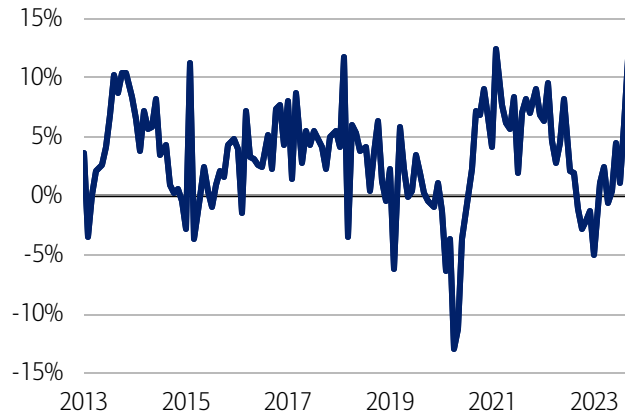
Source: Shanghai Shipping Exchange

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World trade trends

Exhibit 29: Global container volume growth (YoY %), 2013-24

World container trade up 13% YoY

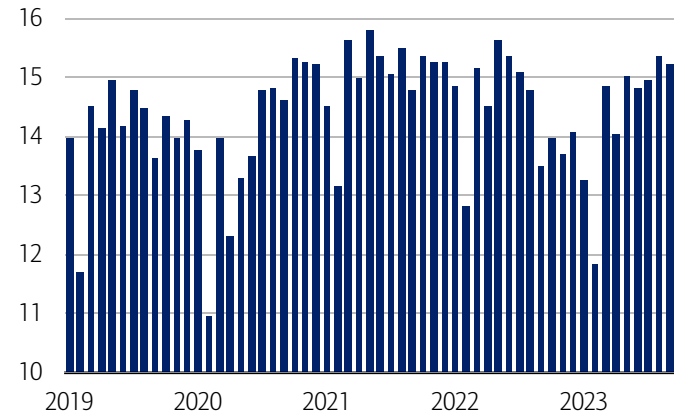


Source: Bloomberg

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Exhibit 30: Global monthly container volumes (mn TEU), 2019-23

World trade has been firm since May 2023

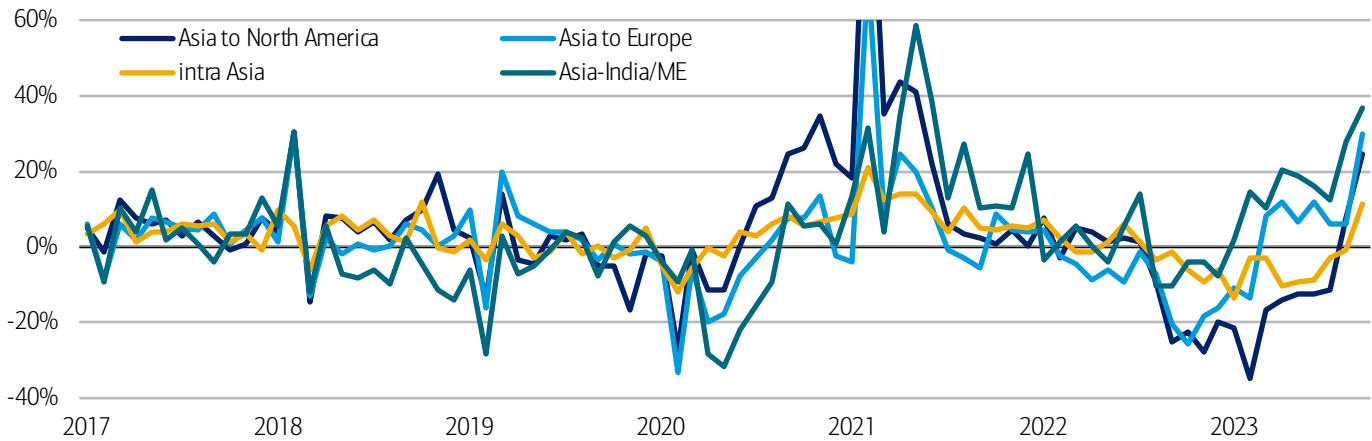


Source: Bloomberg

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Exhibit 31: Container volumes by route (% YoY), 2017-23

Key trade lane volumes all picked up



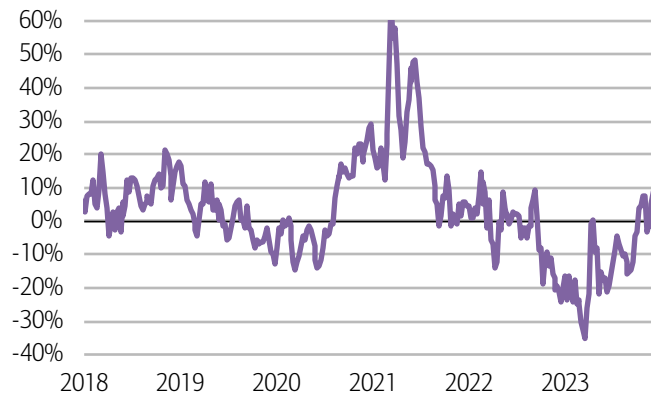
Source: Bloomberg

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US high frequency container volumes

Exhibit 32: US weekly container imports 4w MA (% YoY), 2018-23

US weekly imports trending up and moved back to positive in November

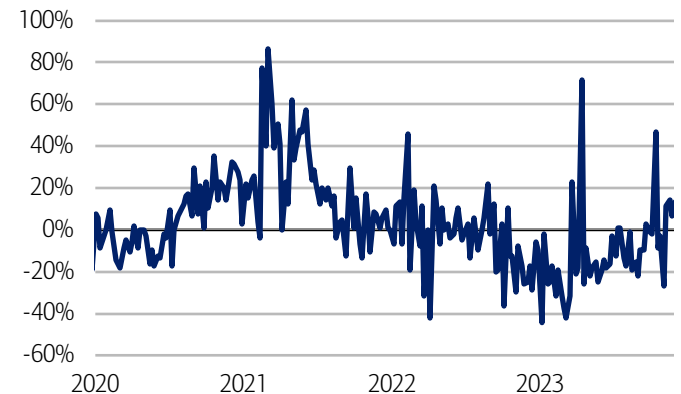


Source: PIERS

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Exhibit 33: US weekly container imports (% YoY), 2020-23

US weekly imports up ~14% YoY in November

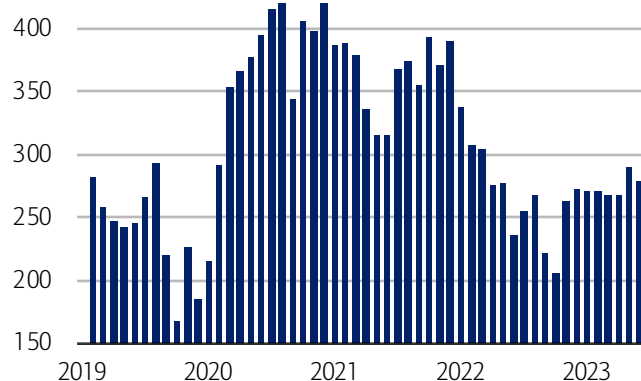


Source: PIERS

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Exhibit 34: US furniture monthly imports (TEU), 2019-23

US furniture imports slightly below 280k TEU /month

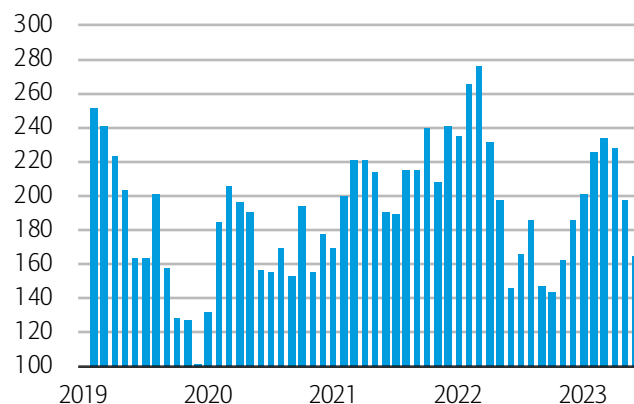


Source: PIERIS

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Exhibit 35: US apparel & footwear monthly imports (TEU), 2019-23

US apparel & footwear imports just below 165k TEU / month

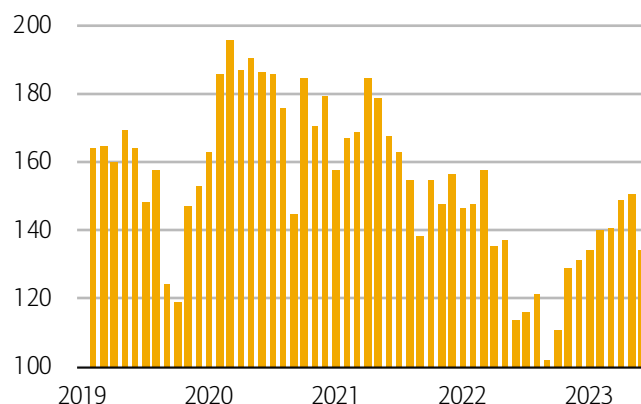


Source: PIERIS

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Exhibit 36: US electronic monthly imports (TEU), 2019-23

US electronics imports trending around 135k TEU /month

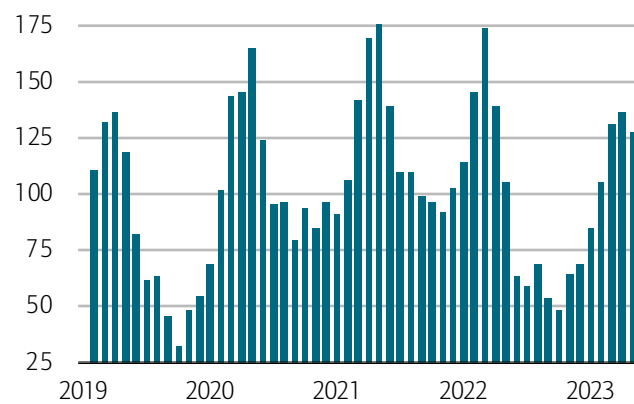


Source: PIERIS

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Exhibit 37: US toy & leisure monthly imports (TEU), 2019-23

US toy & leisure imports slightly above 80k TEU



Source: PIERIS

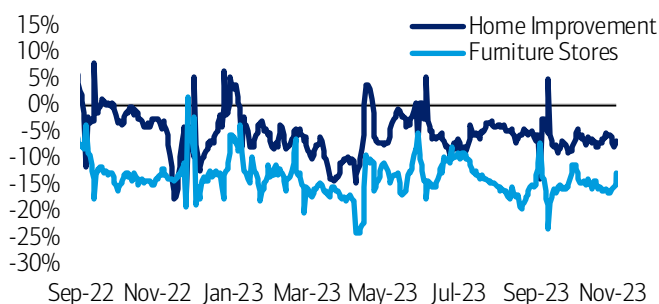
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US consumer reads

For more on BAC US aggregated credit and debit spending data, and detailed explanation of methodology, disclaimers, & limitations in connection with such data see: [BofA on USA](#)

Exhibit 38: Spending per HH at home improvement and furniture stores, based on BAC aggregated card data (y/y % change of the 7-day ma of spending levels)

Furniture and home improvement spending growth remained negative on a y/y basis in the week ending Nov 4

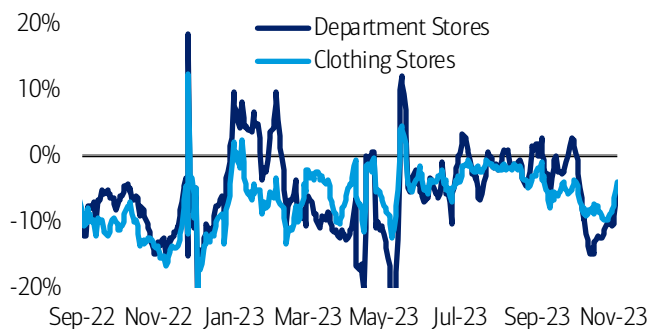


Source: BAC internal data

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Exhibit 39: Spending per HH at department and clothing stores, based on BAC aggregated card data (y/y % change of the 7-day ma of spending levels)

Y/y clothing spending growth has largely been negative this year

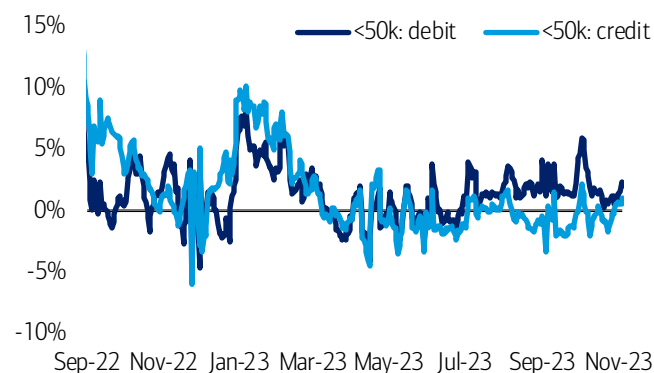


Source: BAC internal data

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Exhibit 40: Total credit card and total debit card spending per HH for lower-income group (y/y % change of the 7-day ma of spending levels), based on BAC aggregated card data

Lower-income debit card spending growth significantly outpaced credit card spending growth on a y/y basis in the week ending Nov 4



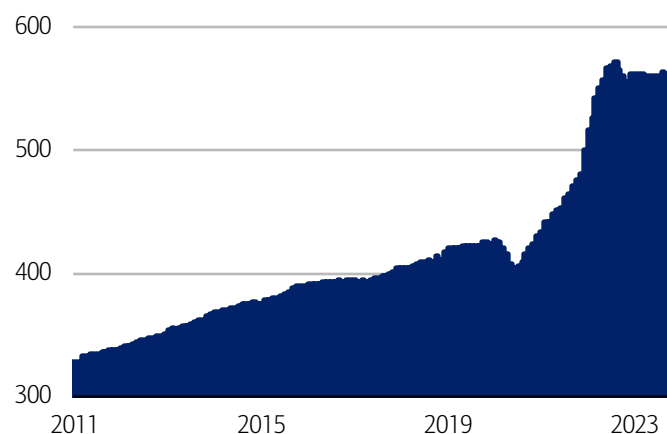
Source: BAC internal data

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US retail inventory levels

Exhibit 42: US retail (ex-auto) inventories (US\$bn), 2011-23

Retail inventories have been stable, still well above pre-COVID levels



Source: Bloomberg

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Exhibit 41: Aggregated monthly card spending per HH by major category (%m/m, SA), based on BAC US card data

Card spending in October was a mixed bag across categories

	Oct-23	Sep-23	Aug-23	Jul-23	Jun-23	May-23
Gas	-1.9%	2.1%	6.0%	1.6%	-0.1%	-3.2%
Furniture	-1.5%	-1.5%	-2.6%	-2.6%	-0.5%	1.1%
Home improvement	0.5%	-1.3%	-1.0%	0.0%	-0.9%	1.0%
Clothing	-1.6%	-1.4%	-1.9%	0.7%	-1.6%	1.2%
Grocery	0.9%	-0.3%	0.1%	-0.3%	0.3%	1.3%
General Merchandise	0.2%	0.1%	-0.5%	0.9%	-0.7%	0.9%
Department Store	-1.1%	-0.3%	-2.7%	0.2%	-1.3%	0.2%
Restaurants	0.4%	0.1%	-0.4%	0.5%	0.0%	0.0%
Lodging	0.1%	-0.2%	-0.8%	-1.6%	0.0%	0.3%
Airlines	-2.8%	-0.5%	-1.2%	1.2%	-1.4%	0.9%
Total online retail (card not present)	-0.3%	0.7%	-0.5%	1.6%	0.4%	-0.2%

Source: BAC internal data. Card not present is largely online but could include purchases made over the phone.

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Exhibit 43: US retail (ex-auto) inventory to sales ratio, 2011-23

Retail adjusted inventories to sales at 1.2x back to historical average

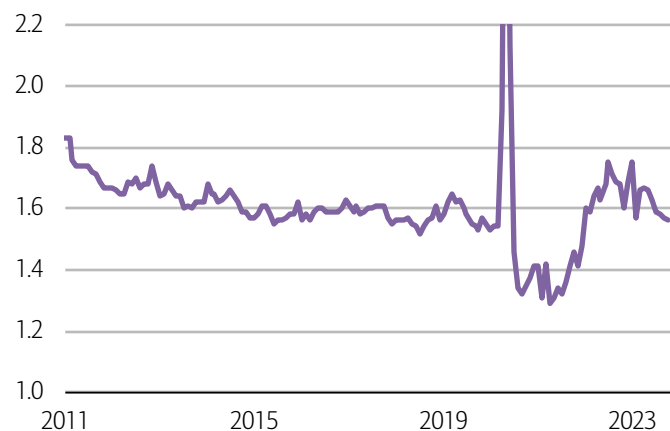


Source: Bloomberg

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Exhibit 44: Furniture – adjusted inventory to sales, 2011-23

Furniture inventory-to-sale closer to historical range

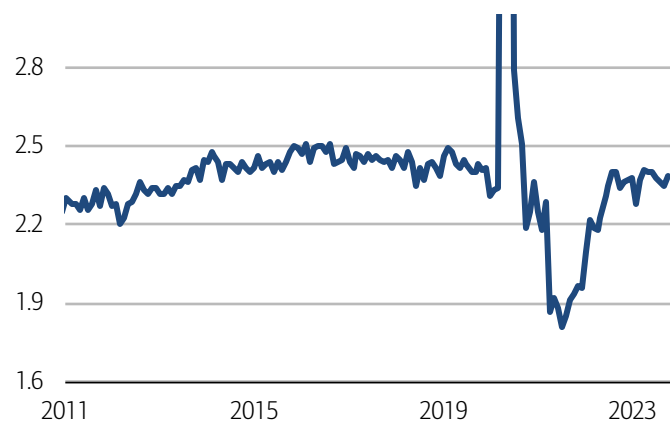


Source: Bloomberg

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Exhibit 46: Clothing – adjusted inventory to sales, 2011-23

Clothing inventory to sales returning to historical range

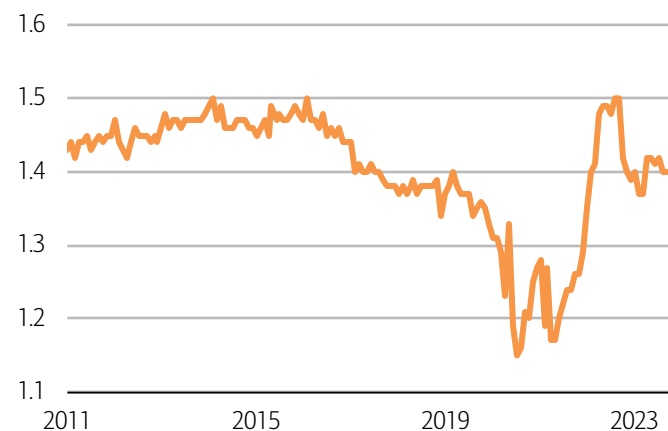


Source: Bloomberg

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Exhibit 45: General merchandise – adjusted inventory to sales, 2011-23

General merchandise inventory-to-sales returned to pre-COVID level

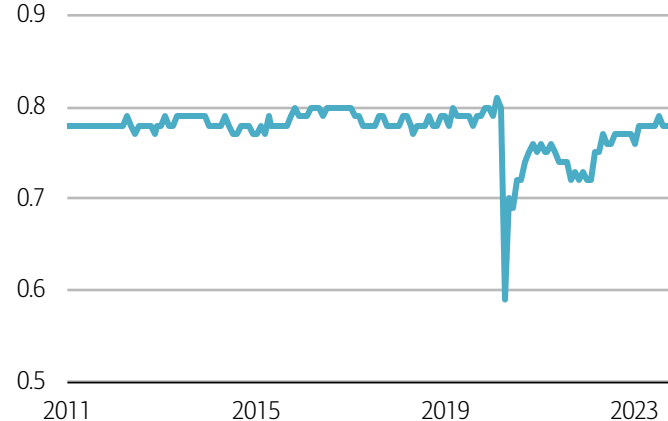


Source: Bloomberg

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Exhibit 47: Food & Beverage – adjusted inventory to sales, 2011-23

Food & beverage inventory to sales still slightly below historical level



Source: Bloomberg

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Idling & port congestion

Exhibit 48: Global port congestion - % of fleet, 2021-23

Port congestion slightly up but still around 6%



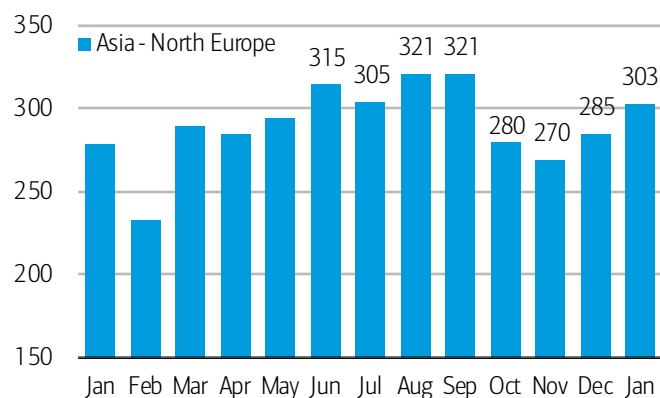
Source: Linerlytica

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Weekly sailing capacity on key routes

Exhibit 50: Weekly vessel capacity, Asia to North Europe (k TEU), 2023

Weekly capacity trended lower in November but up again from December

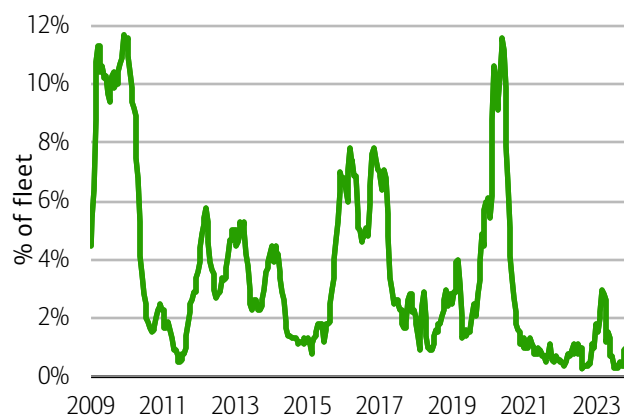


Source: Linerlytica

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Exhibit 49: Global container vessel idling rate (%), 2009-23

Idling rate well below 1% of the fleet

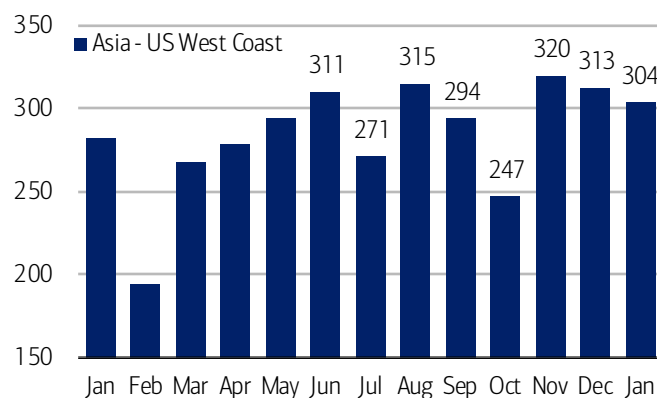


Source: Linerlytica, Alphaliner

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Exhibit 51: Weekly vessel capacity, Asia to US west coast (k TEU), 2023

Capacity remains over 300k TEU/week between November and January



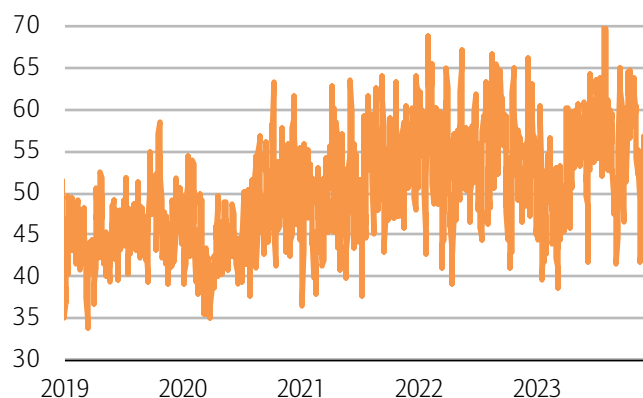
Source: Linerlytica

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Panama Canal congestion

Exhibit 52: Panama Canal containership transit 7 day MA (k TEU/day)

Transit slowly coming down in November and currently just above 50k

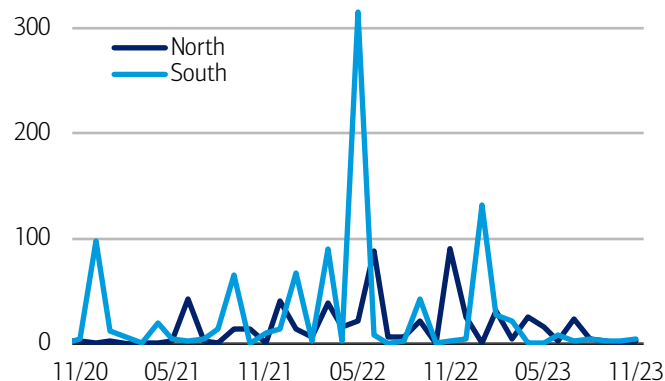


Source: Clarksons

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Exhibit 53: Panama Canal unscheduled container waiting time (hours)

No wait for unscheduled and scheduled ships in October/November



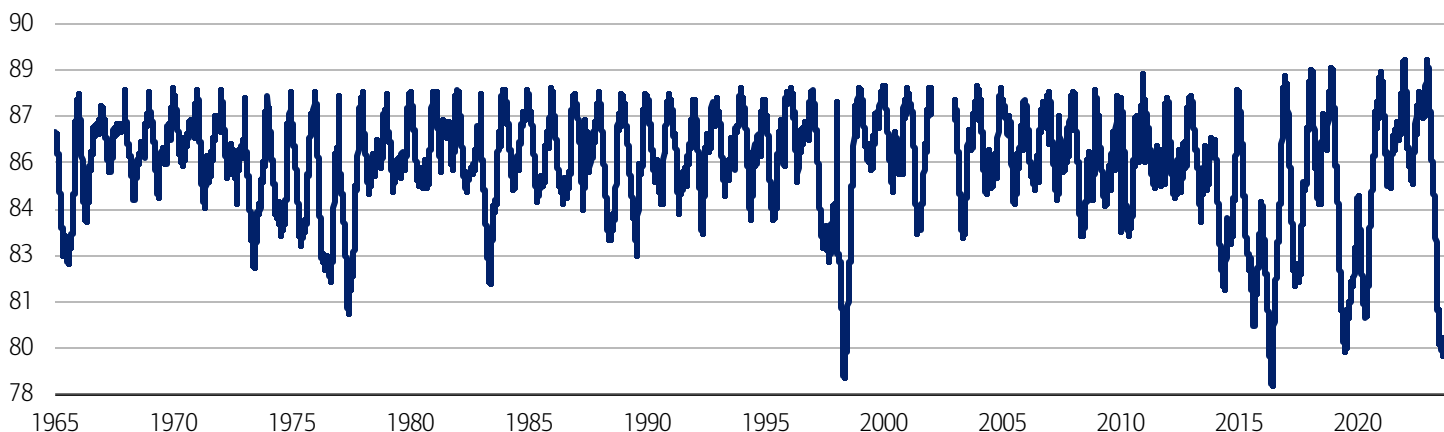
Source: Panama Canal Authority

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Panama Gatun lake water level

Exhibit 54: Panama Gatun lake water level historical (ft), 1965-2023

Water level in summer 2023 dropped 3rd lowest level since 1965 dipping below 80feet. Slow recovery but still well below historical average



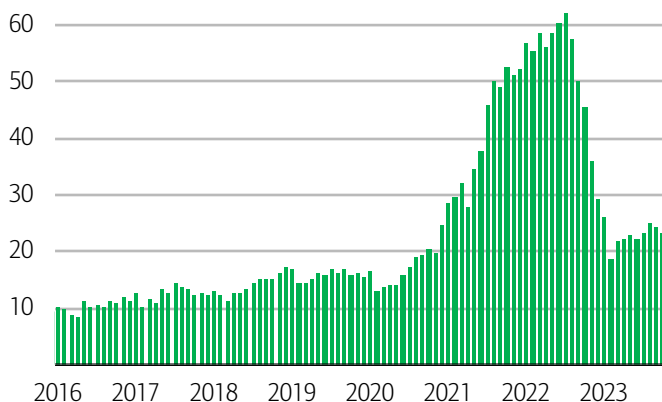
Source: Panama Canal Authority. Note: no data available during 2002.

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Container liner monthly revenue

Exhibit 55: Evergreen – monthly revenue (NT\$ bn)

Evergreen October monthly revenues: -49% YoY, -5% MoM

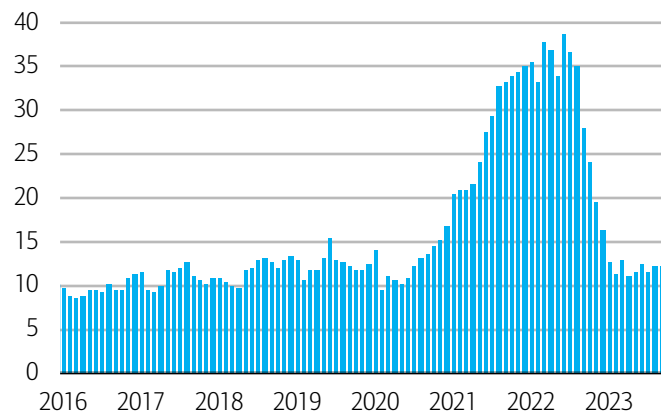


Source: Company reports

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Exhibit 56: Yang Ming – monthly revenue (NT\$ bn)

Yang Ming October monthly revenues: -53% YoY, -7% MoM



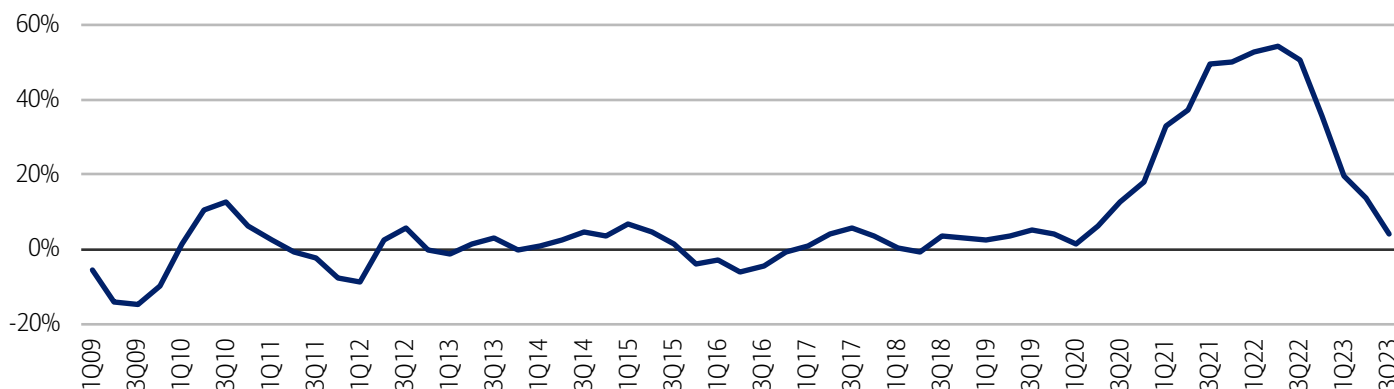
Source: Company reports

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Container liner average EBIT margins

Exhibit 57: Container liner average quarterly EBIT margin, 2009-23

3Q23 operating profit margin of 4%



Source: Linerlytica

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Vessel supply-side trends

Exhibit 58: Container shipping orderbook to fleet, 1996-2023

Container shipping orderbook stands at around 25% of fleet

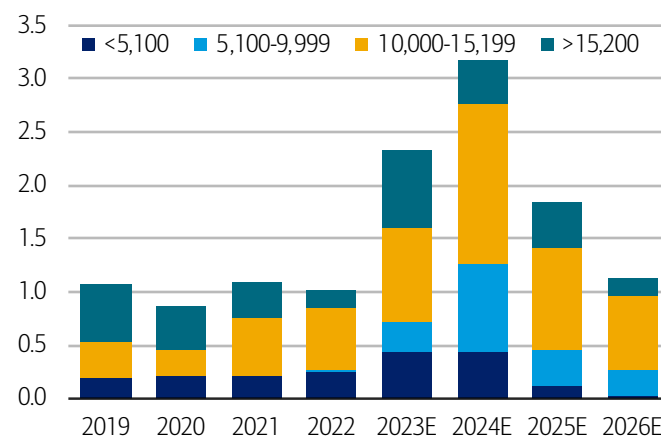


Source: Clarksons

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Exhibit 59: Delivery by vessel size (mn TEU), 2019-2026E

Deliveries ramping into 2024 with ~3.2mn TEU for delivery

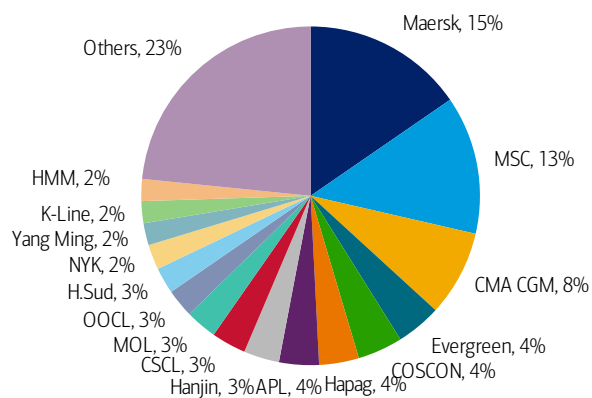


Source: Linerlytica

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Exhibit 60: Container liner capacity share in 2013

Top 10 carriers in 2013 = ~60% market share

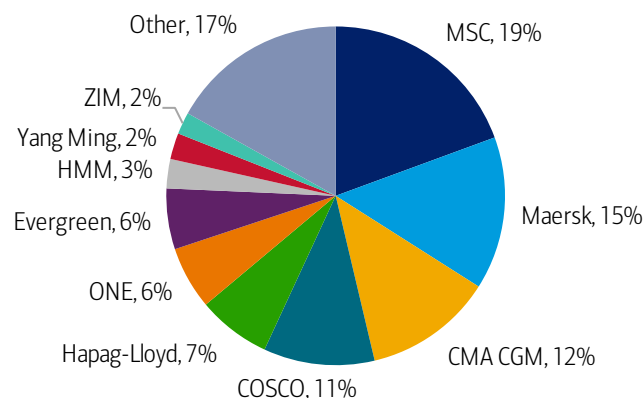


Source: Alphaliner

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Exhibit 61: Container liner capacity share in 2023

Top 10 carrier in 2023 = ~83% market share

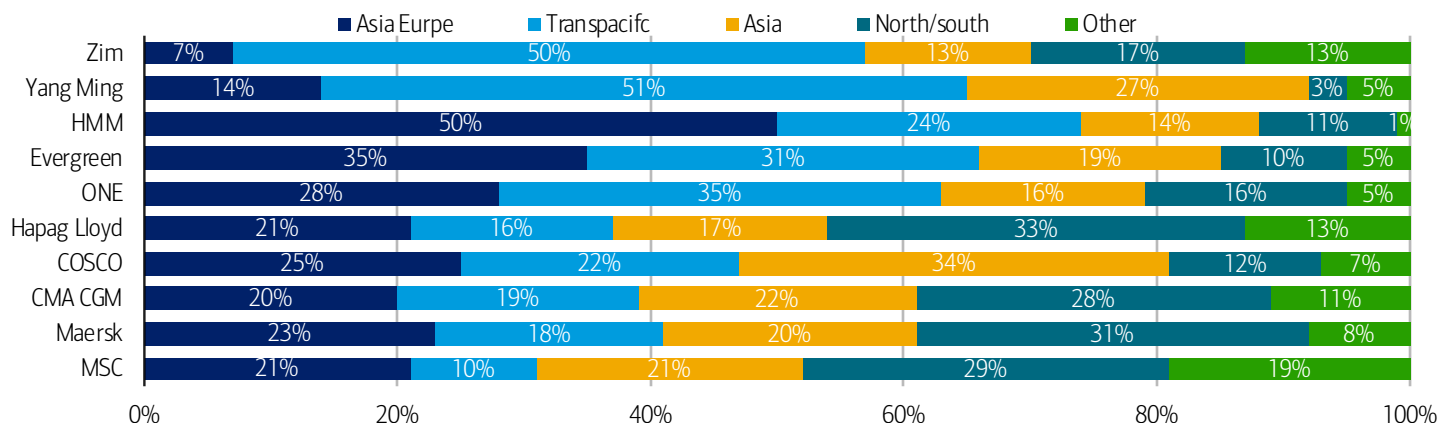


Source: Linerlytica

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Exhibit 62: Container liner capacity by route

Container liner capacity deployment by route

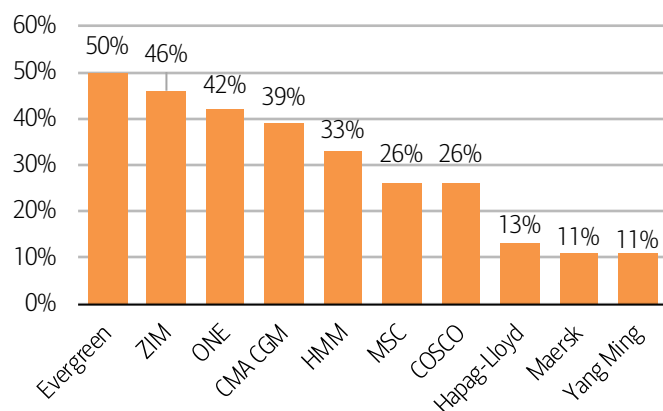


Source: Alphaliner. *Asia includes Middle East, India

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Exhibit 63: Container liners – orderbook to fleet

Larger orderbooks for Evergreen, ZIM, and ONE

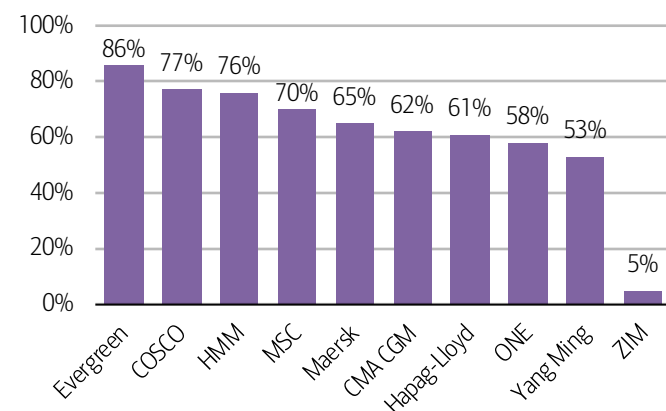


Source: Linerlytica

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Exhibit 64: Container liners – % of fleet which is owned/finance lease

Liners own or finance lease more than half their fleet on average

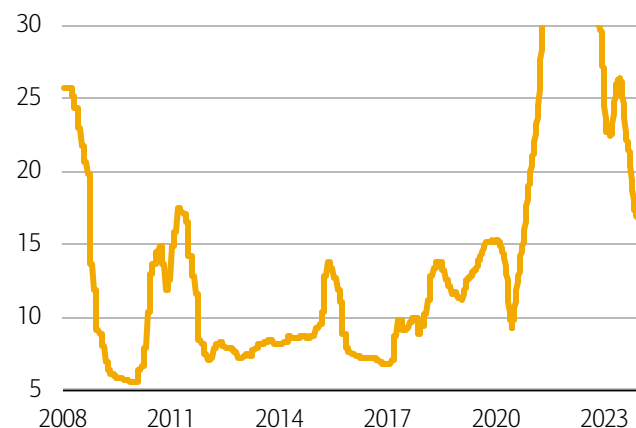


Source: Linerlytica

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Container shipping costs**Exhibit 65: Average containership charter rate (US\$ k/day), 2008-23**

Average charter rates now around US\$17K/day

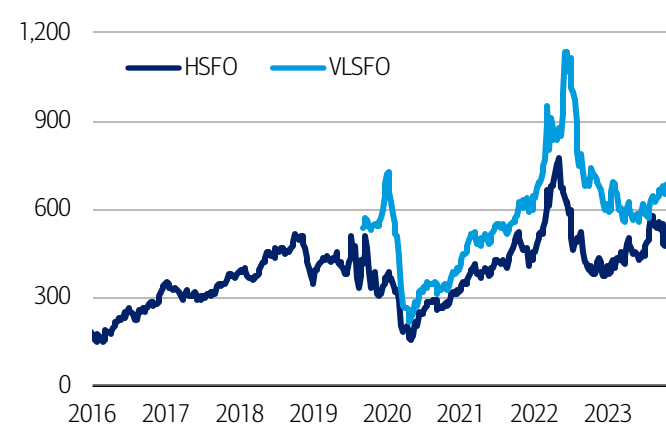


Source: Clarksons

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Exhibit 66: Singapore bunker price (US\$/ton), 2016-23

VLSFO ~US\$650/ton and HSFO ~US\$475/ton



Source: Clarksons

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Container vessel speeds & scrapping

Exhibit 67: Container vessel average sailing speed (knots), 2013-23

Container vessels sailing speed below 14 knots

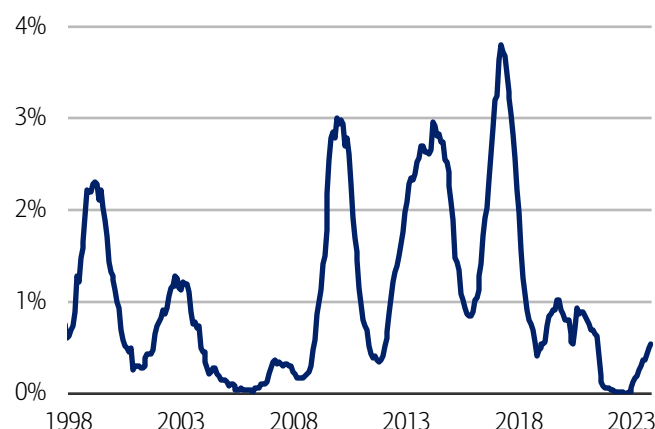


Source: Clarksons

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Exhibit 68: Container scrap rate (% of fleet), 1998-2023

Scrapping rate around 0.5% of fleet



Source: Clarksons

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Container shipping - demand & supply outlook

Exhibit 69: Container shipping demand & supply outlook, 2014-25E

Container shipping faces heavy oversupply into 2023-24

	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
Demand growth (TEU)	5.3%	1.3%	3.0%	6.6%	5.2%	2.5%	-0.7%	6.7%	0.8%	0.3%	3.4%	3.0%
New vessel deliveries	8.6%	9.4%	4.7%	5.9%	6.1%	4.7%	3.7%	4.5%	4.4%	7.9%	10.1%	6.4%
Demolition	-2.1%	-0.1%	-2.9%	-2.0%	-0.2%	-0.9%	-0.7%	-0.1%	-0.1%	-1.0%	-1.5%	-1.5%
Net Slot Capacity Growth	6.5%	9.4%	1.7%	3.9%	5.9%	3.9%	3.0%	4.4%	4.3%	6.9%	8.6%	4.9%
Impact of change in idle rate	1.4%	-0.7%	-3.5%	2.9%	1.6%	-1.3%	-2.9%	5.2%	0.0%	-0.4%	0.0%	0.0%
Impact of change in congestion	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-1.9%	-5.2%	-4.8%	5.8%	1.8%	0.0%
"In service" capacity growth (TEU)	7.9%	8.7%	-1.7%	6.7%	7.5%	2.6%	-1.8%	4.4%	-0.5%	12.2%	10.4%	4.9%
Effective Demand / Supply balance	-2.6%	-7.4%	+4.7%	-0.1%	-2.3%	-0.1%	+1.1%	+2.3%	+1.3%	-11.9%	-7.0%	-1.9%

Source: BofA Global Research estimates, Linerlytica

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Tanker shipping

Freight rates

Exhibit 70: Average quarterly tanker rates (US\$/day), 2022-23

Average quarterly tanker rates up QoQ but down YoY

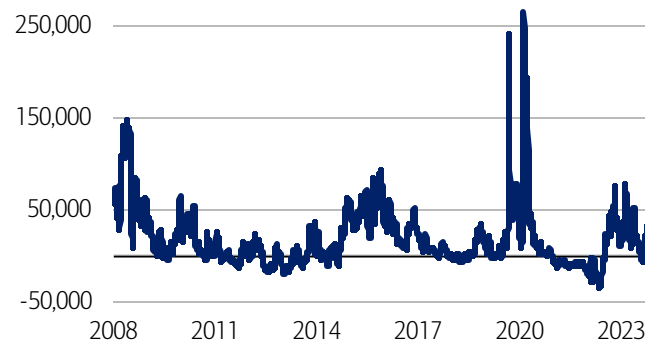
Date	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
VLCC	9,747	42,823	34,498	25,984	8,747	21,980
Suezmax	50,411	88,602	74,764	49,350	17,655	49,916
Aframax	46,440	78,728	64,833	45,616	18,800	45,840
MR	39,878	41,411	29,143	25,574	24,610	24,794
LR2	33,821	46,192	50,462	48,135	33,058	39,417
% YoY						
VLCC	-199%	-633%	-295%	-220%	-10%	-49%
Suezmax	-1959%	1937%	244%	38%	-65%	-44%
Aframax	7427%	964%	197%	28%	-60%	-42%
MR	586%	428%	199%	-24%	-38%	-40%
LR2	67%	135%	149%	78%	-2%	-15%
% QoQ						
VLCC	-145%	339%	-19%	-25%	-66%	151%
Suezmax	41%	76%	-16%	-34%	-64%	183%
Aframax	30%	70%	-18%	-30%	-59%	144%
MR	18%	4%	-30%	-12%	-4%	1%
LR2	25%	37%	9%	-5%	-31%	19%

Source: Clarksons, Note: 4Q23 numbers are average of Oct, Nov, and Dec data

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Exhibit 72: VLCC freight rates (US\$/day), 2008-23

Baltic VLCC rates making recovery in November/December

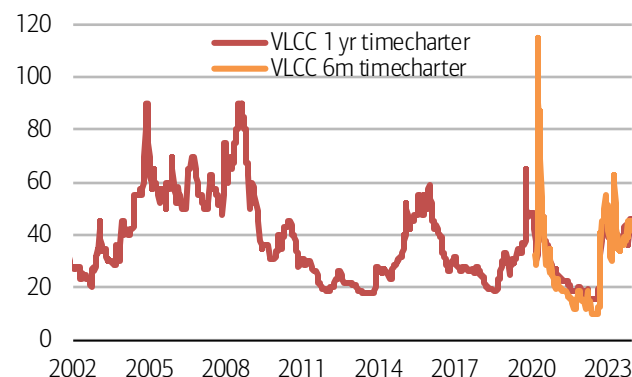


Source: Clarksons

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Exhibit 74: VLCC time charter rates (US\$ k/day), 2002-23

One year VLCC time charter rates around US\$45k per day

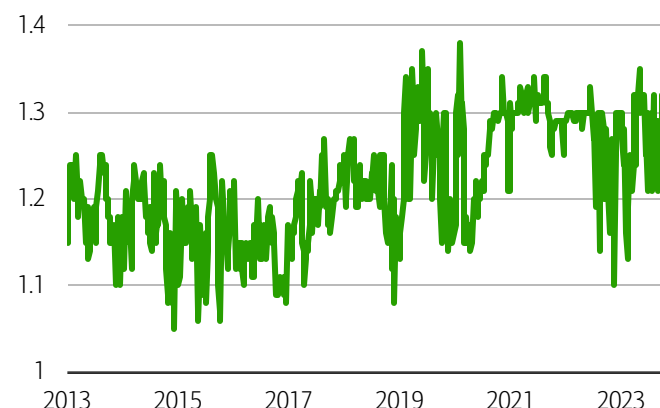


Source: Clarksons

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Exhibit 71: VLCC supply vs demand in Middle East #, 2013-23

VLCC supply vs demand in Middle East #

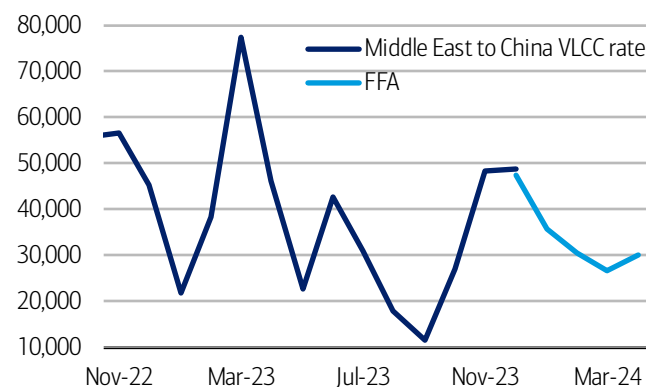


Source: Bloomberg, # 1 indicates equal number of VLCC supply vs demand for next 30 days, 1.1 indicates 10% surplus of VLCC relative to demand in coming 30 days.

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Exhibit 73: VLCC freight forward agreement rates (US\$/day)

Forward curve at ~US\$30k/day into 1Q24



Source: Clarksons, Baltic Exchange

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Exhibit 75: Suezmax time charter rates (US\$ k/day), 2002-23

One year Suezmax time charter rates around US\$43k per day



Source: Clarksons

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Crude oil demand

Exhibit 76: Seaborne crude oil volumes (% YoY), 2015-23

Seaborne crude tanker volumes recovering



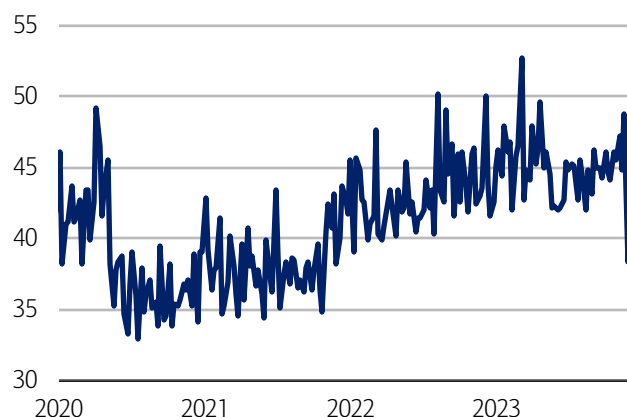
Source: Clarksons

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Crude oil exports

Exhibit 78: Global weekly crude oil exports (mn b/d), 2020-23

Global crude oil exports above 50mn b/d

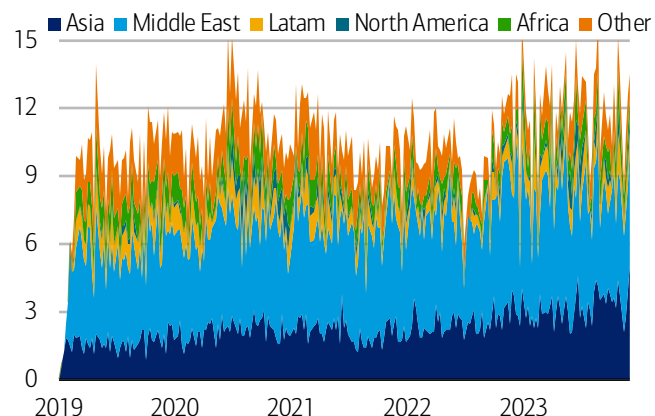


Source: Bloomberg

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Exhibit 80: Chinese weekly crude imports (mn b/d), 2019-23

Chinese imports remain high

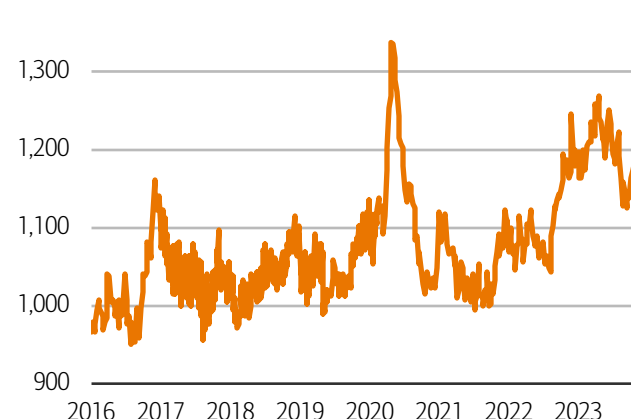


Source: Bloomberg

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Exhibit 77: Crude tanker barrels on the water (mn bbl), 2016-23

Crude tanker demand has come off the peaks

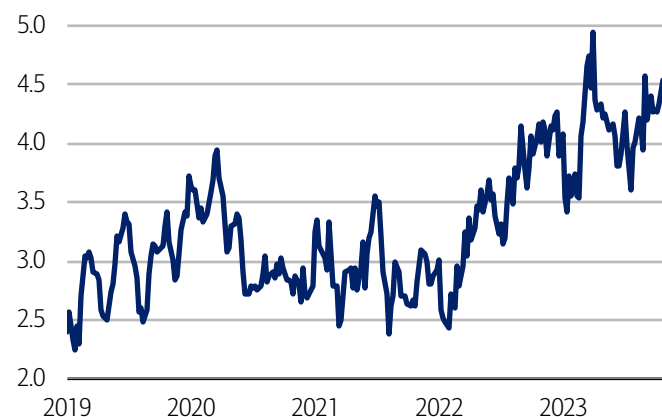


Source: Clarksons

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Exhibit 79: US crude exports (mn b/d) – 4w MA, 2019-23

US crude oil exports started to recover after summer 2023

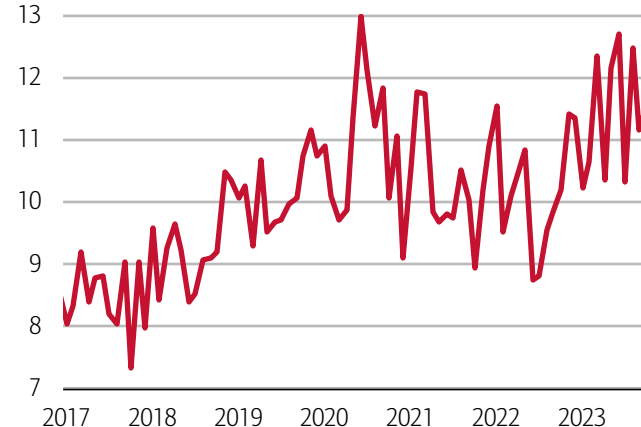


Source: Bloomberg

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Exhibit 81: Chinese crude imports (mn b/d), 2017-23

China crude imports still trending up

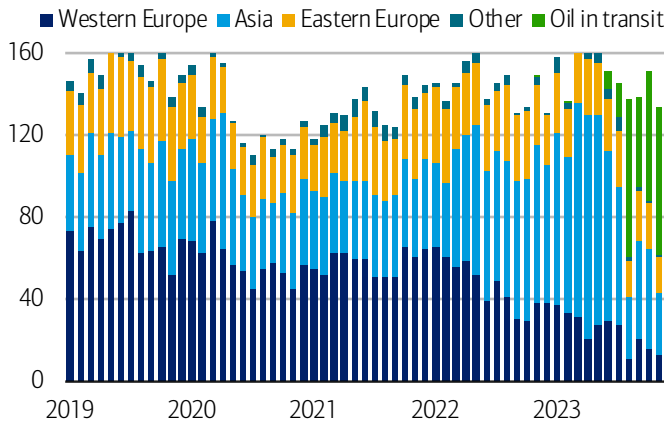


Source: Bloomberg

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Exhibit 82: Russian seaborne crude exports (mn bbl / month), 2019-23

Total Russian crude exports still robust

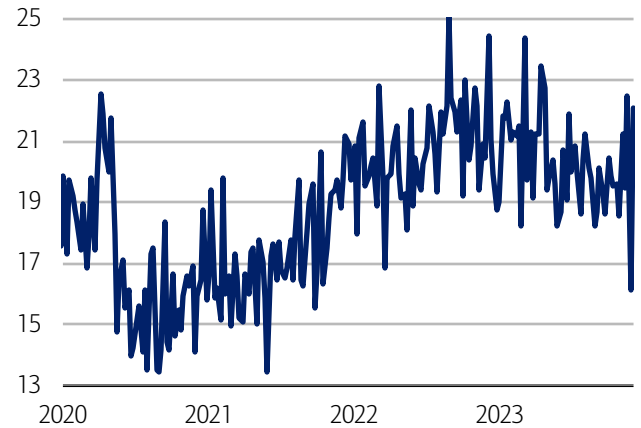


Source: Bloomberg

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Exhibit 83: Middle east crude exports (mn bbl / week), 2020-23

Middle East exports came down but still remain relatively high

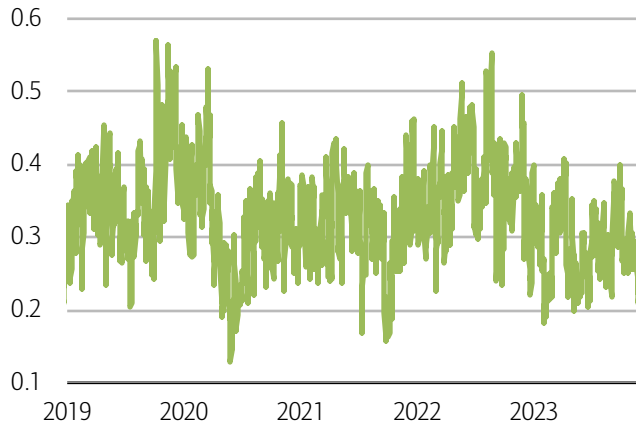


Source: Bloomberg

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Panama and Suez Canal transit volume and congestion**Exhibit 84: Panama Canal oil tanker transit 7day MA (mn DWT/day)**

Some recovery in early December but still at lower end of historical range

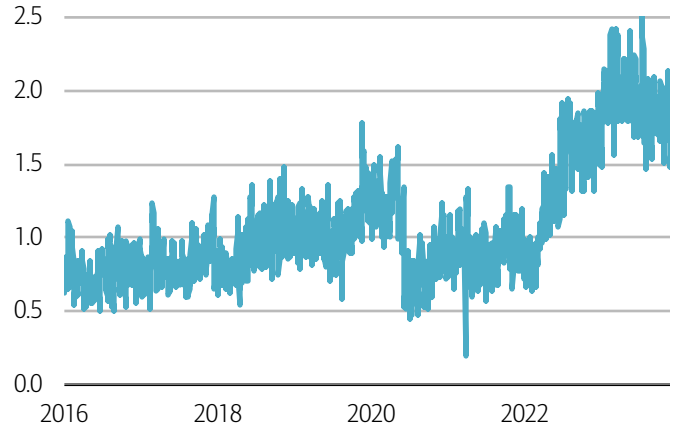


Source: Clarksons

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Exhibit 85: Suez Canal oil tanker transit 7day MA (mn DWT/day)

Remain well above 2016-22 historical average

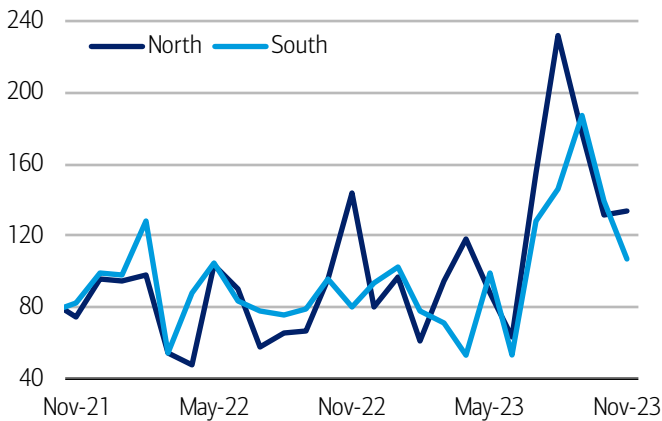


Source: Clarksons

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Exhibit 86: Panama Canal tanker waiting time (hours), 2021-23

4-6 day waiting time for both north and south bound for tankers

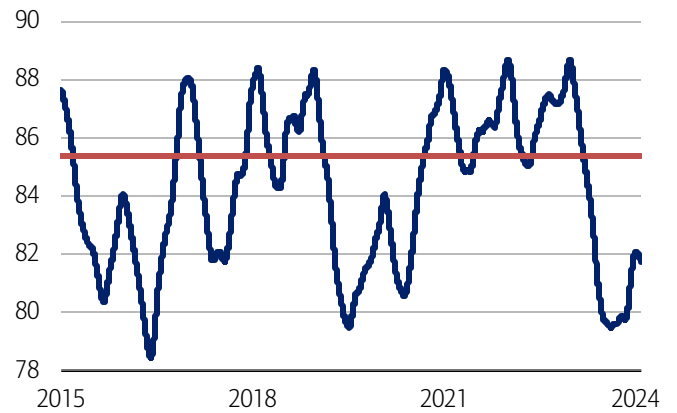


Source: Panama Canal Authority

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Exhibit 87: Panama Gatun lake water level 30D MA (ft)

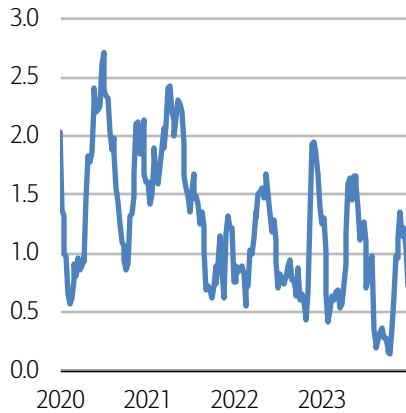
Water level expected to see some improvement in coming weeks

Source: Panama Canal Authority. Note: Est is Panama Canal Authority. Red line is historical avg
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Oil refinery outage

Exhibit 88: Europe (k bbl/ day)

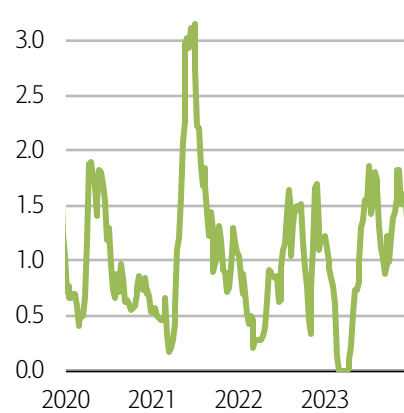
Outage around 0.8k bbl/day at early November



Source: Bloomberg. Note: Europe include Mediterranean
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Exhibit 89: Asia Pacific (k bbl/ day)

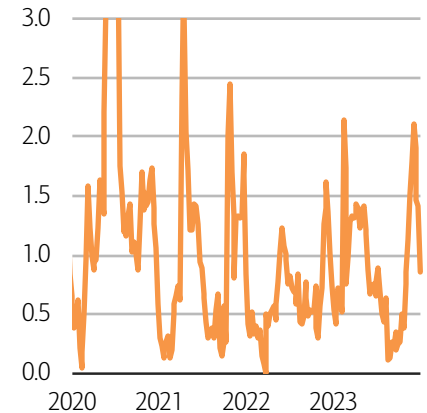
Outage around 0.8k bbl/day at early November



Source: Bloomberg. Note: Asia Pacific includes Japan & China
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Exhibit 90: North America (k bbl/ day)

Reduction in North American outages in Nov



Source: Bloomberg
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Tanker supply

Exhibit 91: Crude tanker orderbook as % of fleet, 1996-23

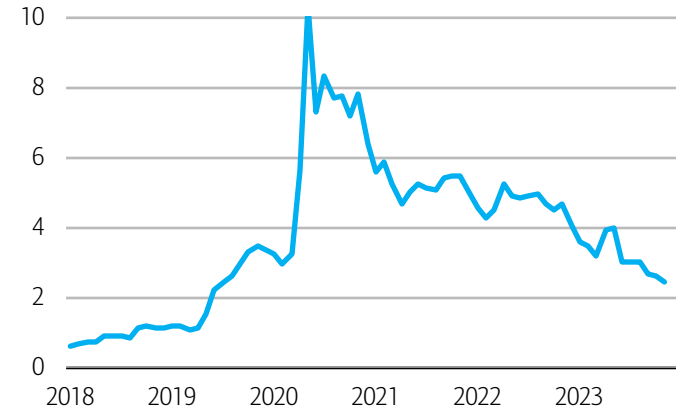
Crude tanker orderbook to fleet ~4%



Source: Clarksons
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Exhibit 92: Crude tanker storage as % of fleet, 2018-23

Tanker storage now around 2.5% of fleet

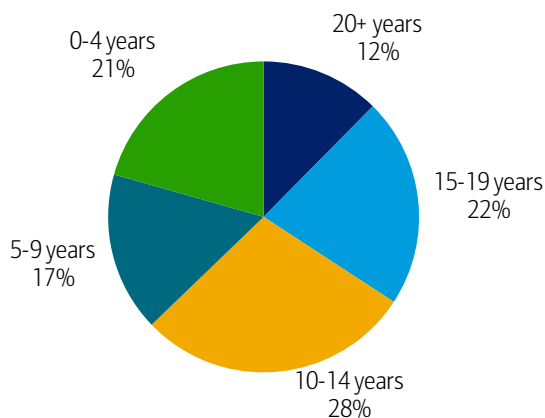


Source: Clarksons
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Tanker age and scrap rate

Exhibit 93: Crude tanker – age distribution, 2023

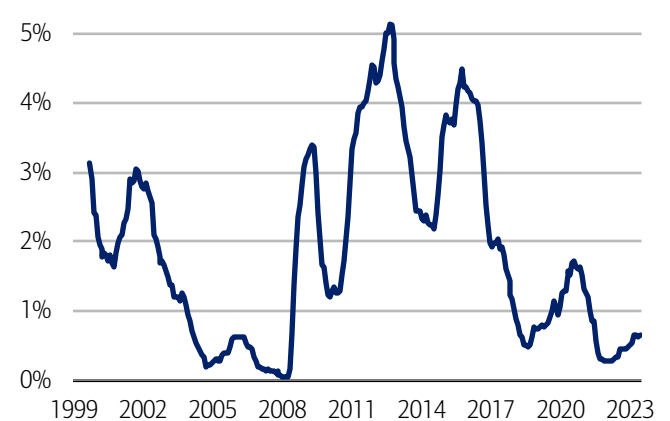
34% of fleet is older than 15 years



Source: Clarksons
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Exhibit 94: Tanker scrap rate (%) – 1999-2023

Scrapping rate down to still around 0.65% of fleet



Source: Clarksons
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Crude tanker demand & supply

Exhibit 95: Crude tanker demand & supply growth forecasts (% YoY), 2014-25E

Crude tanker market fundamentals look positive in the years ahead

Crude tanker	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
Demand Growth	-0.2%	2.9%	4.0%	5.0%	3.4%	1.1%	-6.7%	-3.7%	7.0%	6.8%	5.0%	1.5%
Effective Fleet Growth	0.4%	1.0%	5.9%	5.9%	1.1%	6.0%	0.9%	-0.1%	3.2%	2.6%	0.4%	0.8%
Demand / supply balance	-0.6%	+1.9%	-1.9%	-0.9%	+2.3%	-4.8%	-7.6%	-3.6%	+3.8%	+4.2%	+4.6%	+0.7%
Crude tanker fleet (mn dwt)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Fleet, beginning	339.5	340.8	347.5	367.6	386.3	388.5	417.0	430.7	442.4	446.4	452.6	454.2
New delivery	9.3	8.4	20.8	27.8	20.9	28.2	17.1	16.6	9.3	10.7	3.2	5.0
Scrapping rate	(6.0)	(1.3)	(1.4)	(9.0)	(17.1)	(2.6)	(3.4)	(9.0)	(5.3)	(4.5)	(1.6)	(1.6)
Others	(2.1)	(0.4)	0.7	(0.2)	(1.7)	3.0	0.0	4.0	0.0	0.0	0.0	0.0
Fleet. Ending, Dwt mn **	341	347	368	386	388	417	431	442	446	453	454	458
Growth	0.4%	2.0%	5.8%	5.1%	0.6%	7.4%	3.3%	2.7%	0.9%	1.4%	0.4%	0.8%
Floating storage adjustment	0.0%	-1.0%	0.1%	0.8%	0.6%	-1.4%	-2.4%	-2.8%	2.3%	1.2%	0.0%	0.0%
Effective supply growth	0.4%	1.0%	5.9%	5.9%	1.1%	6.0%	0.9%	-0.1%	3.2%	2.6%	0.4%	0.8%
Delivery ratio	58%	72%	59%	91%	68%	91%	100%	87%	90%	100%	100%	100%
Scrapping rate	1.8%	0.4%	0.4%	2.4%	4.4%	0.7%	0.8%	2.1%	1.2%	1.0%	0.4%	0.4%
Gross delivery rate	2.7%	2.5%	6.0%	7.6%	5.4%	7.2%	4.1%	3.9%	2.1%	2.4%	0.7%	1.1%

Source: Clarksons, BofA Global Research estimates

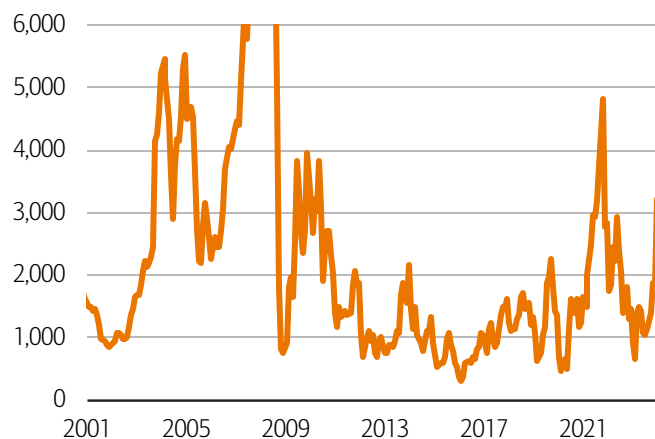
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Dry bulk shipping

Freight rates

Exhibit 96: Baltic Dry Index, 2002-23

BDI bounced back and now above 3,200

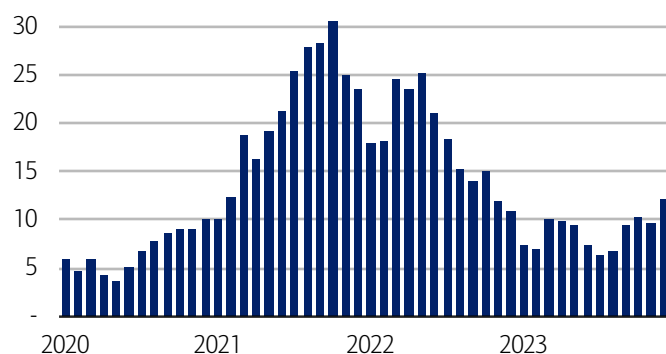


Source: Clarksons

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Exhibit 98: Handysize spot monthly average (US\$ k/day), 2020-23*

Spot handysize averaged ~US\$12k/day in December



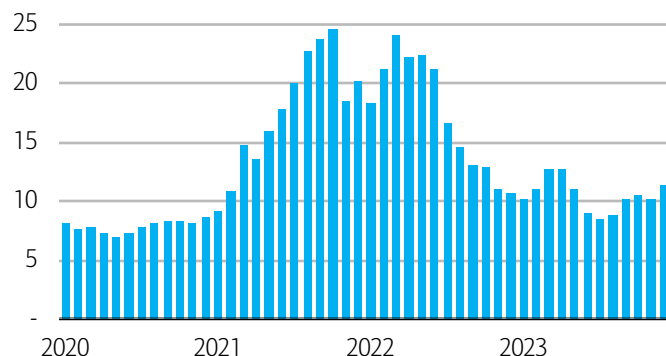
Source: Clarksons, BofA Global Research estimates

*Size and commission adjusted to be comparable to PacBasin average handy rates

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Exhibit 100: Handysize 1yr TC monthly average (US\$ k/day), 2020-23*

1yr time charter handysize averaging ~US\$11.5k/day in December



Source: Clarksons, BofA Global Research estimates

*Size and commission adjusted to be comparable to PacBasin average handy rates

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Exhibit 97: Baltic average rates (US\$/day), 2022-23

Dry bulk quarterly average rates up both QoQ and YoY

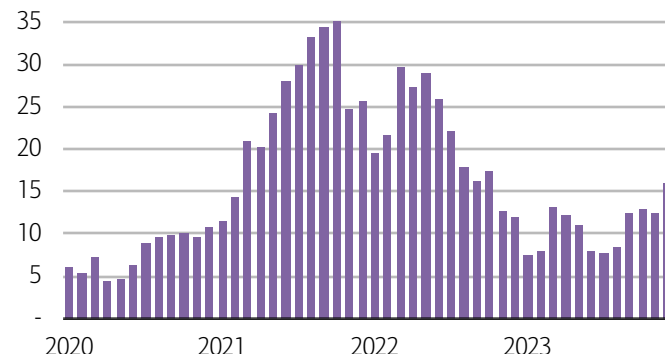
Date	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
BDI	1,870	1,523	1,011	1,313	1,194	1,937
Capesize	16,906	14,906	9,144	15,561	13,407	26,150
Panamax 82	18,402	16,050	11,326	12,248	11,890	15,599
Supramax 58	21,396	14,837	10,171	10,763	10,028	13,638
Handysize 38	21,514	15,028	9,702	10,414	8,863	11,981
% YoY						
BDI	-50%	-56%	-49%	-48%	-36%	27%
Capesize	-60%	-65%	-38%	-28%	-21%	75%
Panamax 82	-45%	-45%	-51%	-58%	-35%	-3%
Supramax 58	-38%	-51%	-60%	0%	0%	0%
Handysize 38	-33%	-52%	-60%	-61%	-59%	-20%
% QoQ						
BDI	-26%	-19%	-34%	30%	-9%	62%
Capesize	-22%	-12%	-39%	70%	-14%	95%
Panamax 82	-36%	-13%	-29%	8%	-3%	31%
Supramax 58	-22%	-31%	-31%	6%	-7%	36%
Handysize 38	-19%	-30%	-35%	7%	-15%	35%

Source: Clarksons

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Exhibit 99: Supramax spot monthly average (US\$ k/day), 2020-23 *

Spot supramax averaged ~US\$16k/day in December



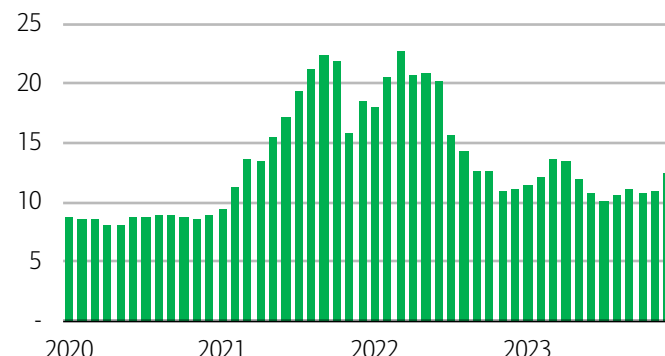
Source: Clarksons, BofA Global Research estimates

* Commission adjusted to be comparable to PacBasin achieved rates

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Exhibit 101: Supramax 1yr TC monthly average (US\$ k/day), 2020-23 *

1yr time charter supramax averaging ~US\$12.5k/day in December



Source: Clarksons, BofA Global Research estimates

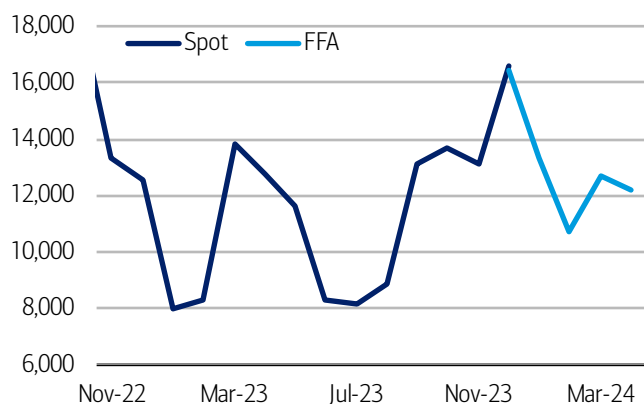
*Size and commission adjusted to be comparable to PacBasin average handy rates

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Handysize & Supramax FFA outlook

Exhibit 102: Supramax - Freight Forward Agreement, 2023-24

Supra forward curves pointing down from here

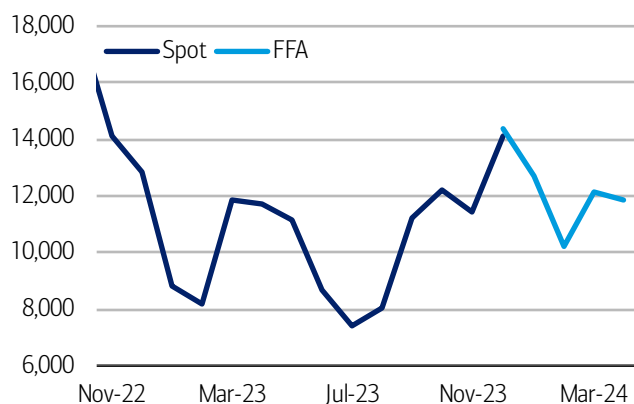


Source: Bloomberg

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Exhibit 103: Handysize - Freight Forward Agreement, 2023-24

Handy forward curves point to down from here



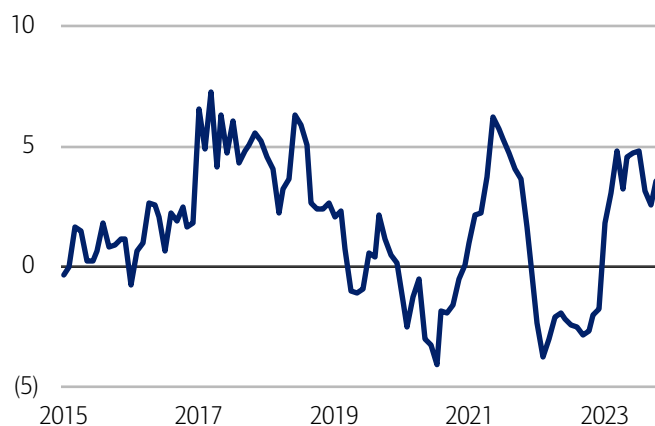
Source: Bloomberg

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Dry bulk demand reads

Exhibit 104: Dry bulk demand growth (% YoY), 2015-23

Dry bulk demand improved in 2023

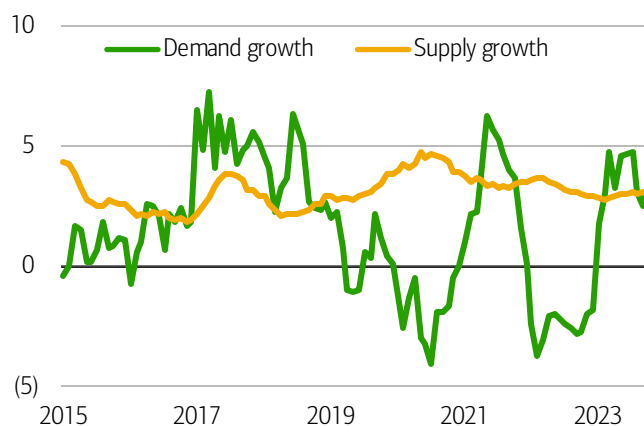


Source: Clarksons

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Exhibit 105: Bulk demand & supply growth (% YoY), 2015-23

Bulk demand growth above supply growth



Source: Clarksons

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Exhibit 106: Iron ore demand growth (% YoY), 2015-23

Iron ore demand growth remain above 5%

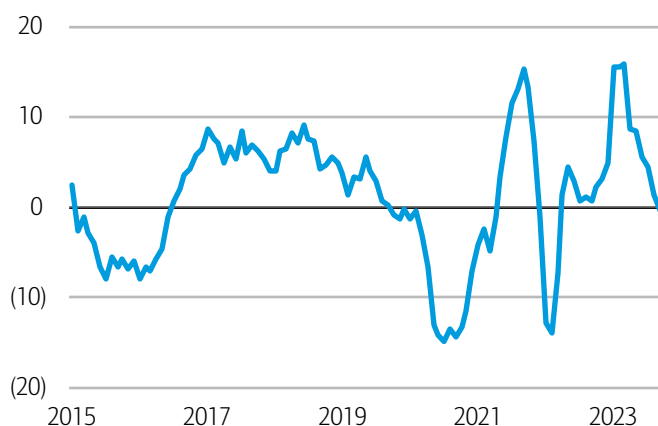


Source: Clarksons

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Exhibit 107: Coal demand growth (% YoY), 2015-23

Coal demand growth continue to decline

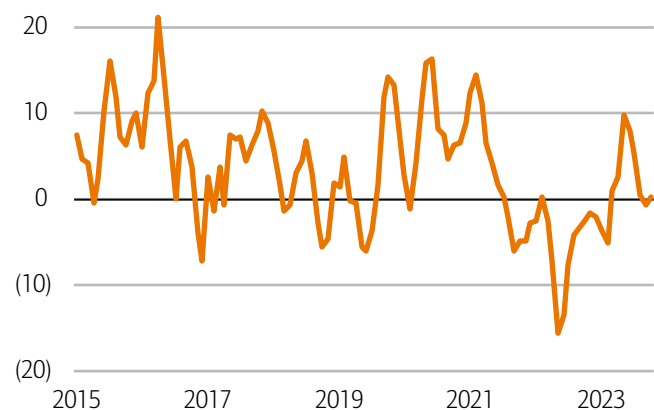


Source: Clarksons

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Exhibit 108: Grain demand growth (% YoY), 2015-23

Grain demand to show small sign of improvement

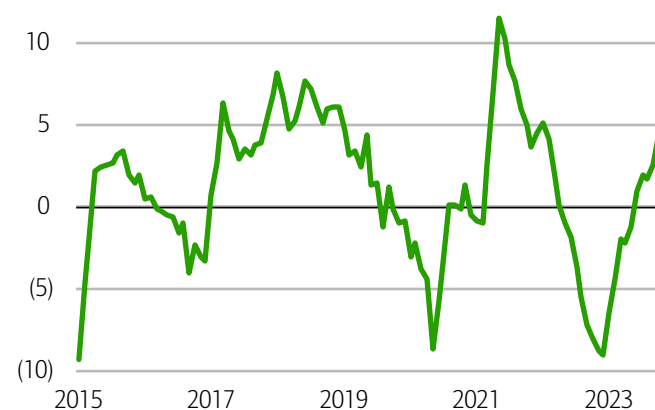


Source: Clarksons

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Exhibit 109: Minor bulk demand growth (% YoY), 2015-23

Minor bulk demand growth trending up

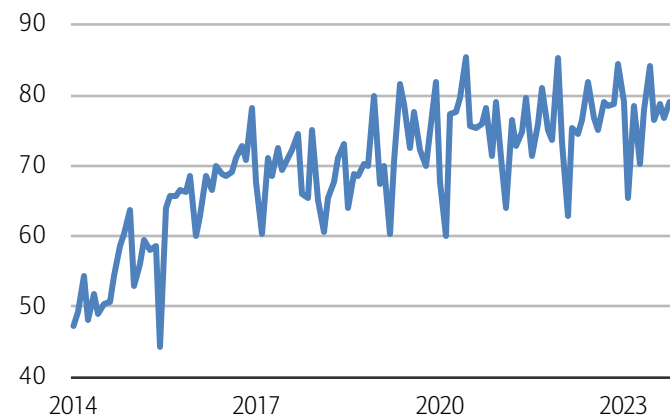


Source: Clarksons

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Iron ore monthly shipments**Exhibit 110: Australia iron ore monthly shipments (tn ton), 2014-23**

Australia iron ore exports recovering off cyclone disruptions

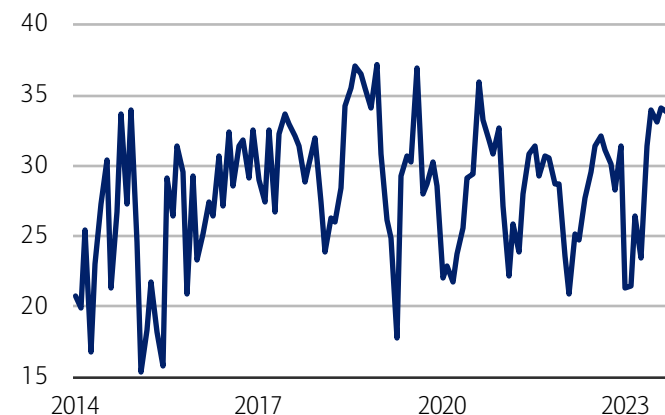


Source: Bloomberg

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Exhibit 111: Brazil iron ore monthly shipments (tn ton), 2014-23

Brazil iron ore exports relatively stable

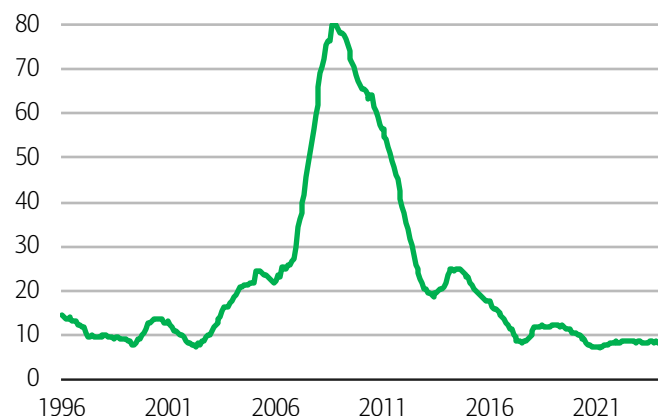


Source: Bloomberg

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Vessel supply**Exhibit 112: Dry bulk orderbook to fleet (%), 1996-2023**

Orderbook to fleet down to around 8.0%

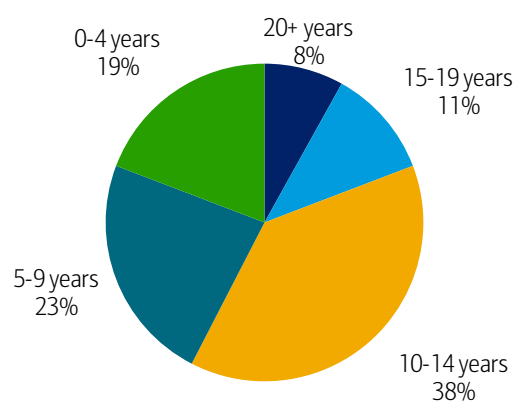


Source: Clarksons

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Exhibit 113: Dry bulk vessel age distribution, 2023

19% of fleet is older than 15 years



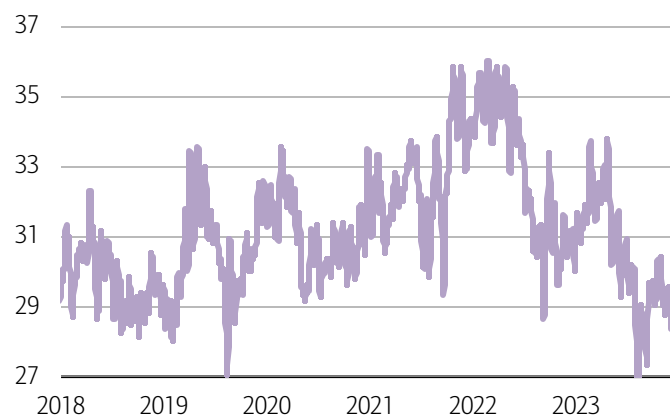
Source: Clarksons

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Port congestion

Exhibit 114: Daily dry bulk fleet at port (anchor or berth) (%), 2018-23

~30% of dry bulk fleet at port



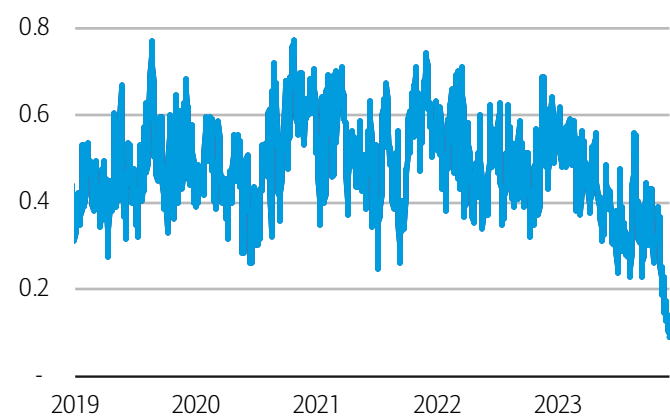
Source: Clarksons

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Panama and Suez Canal transit volume

Exhibit 116: Panama Canal bulk carrier transit 7day MA (mn DWT/day)

Transit started to come down in early November and now below 0.1mn



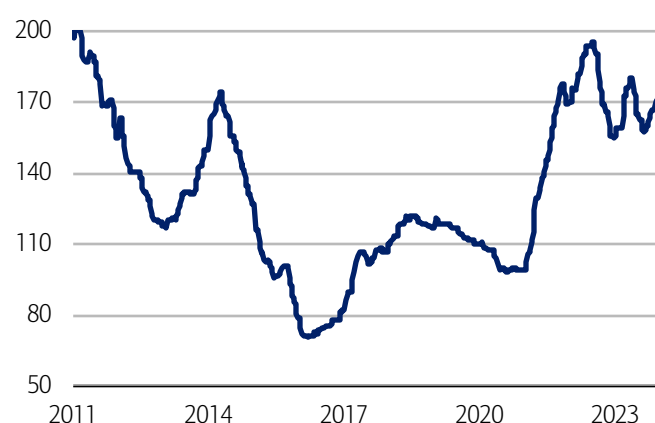
Source: Clarksons

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Bulk carrier price & scrap rate

Exhibit 118: Bulk carrier secondhand vessel price index, 2011-23

Secondhand vessel prices started come down but still at higher end

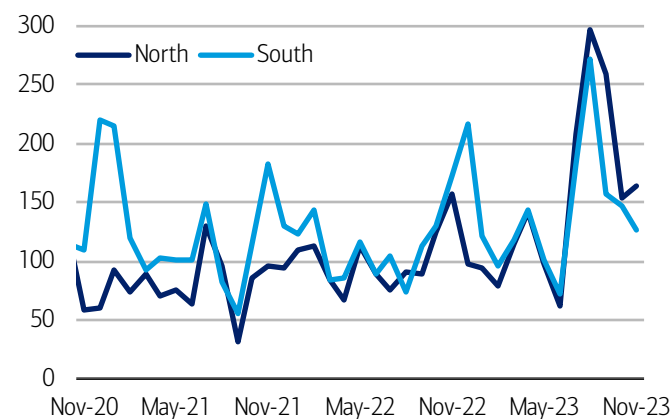


Source: Clarksons

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Exhibit 115: Panama Canal bulk carrier waiting time (hours), 2020-23

Bulk vessel congestion easing with average 5-7 day wait time

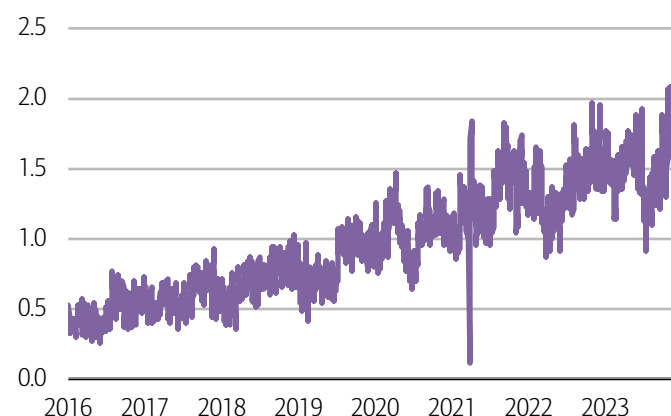


Source: Panama Canal Authority

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Exhibit 117: Suez Canal bulk carrier transit 7day MA (mn DWT/day)

Steadily rising and reached over 2mn in November

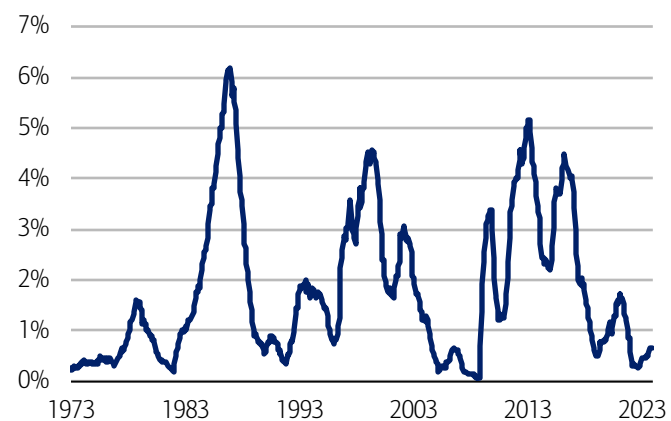


Source: Clarksons

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Exhibit 119: Bulk carrier scrap rate (%) – 1973-2023

Scrapping rate down to around 0.65% of fleet



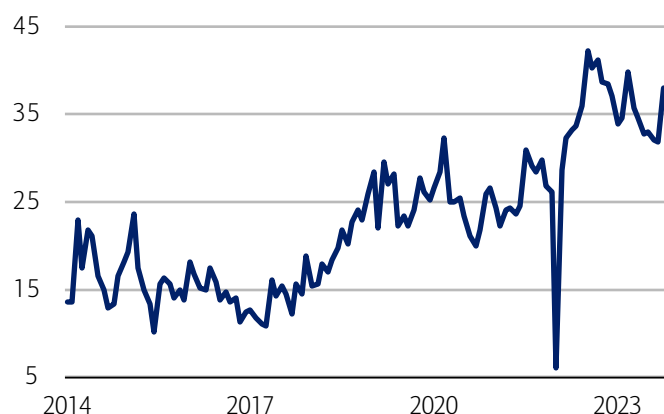
Source: Clarksons

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Coal monthly shipments

Exhibit 120: Indonesian coal monthly shipments (tn ton), 2014-23

Indonesian exports rebounding

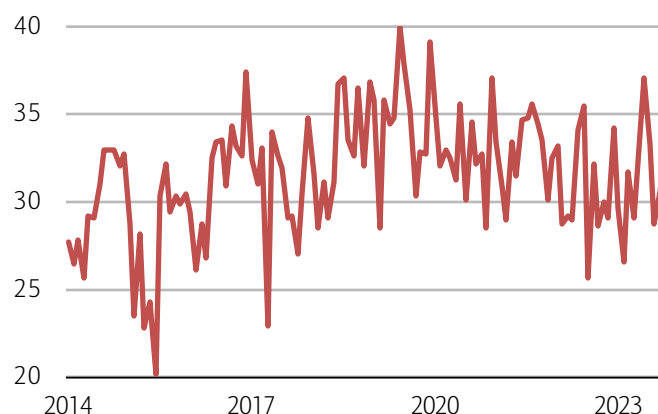


Source: Bloomberg

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Exhibit 121: Australian coal monthly shipments (tn ton), 2014-23

Aussie coal shipments came made a small recovery starting in September



Source: Bloomberg

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Dry bulk demand & supply

Exhibit 122: Dry bulk shipping demand & supply growth (% YoY), 2016-25E

Dry bulk demand/supply outlook

Dry Bulk	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
Demand	2.3%	3.9%	3.4%	0.7%	0.0%	3.5%	-1.8%	3.3%	1.8%	1.9%
Fleet Growth	2.3%	3.1%	2.7%	3.0%	4.1%	3.9%	2.9%	2.5%	1.7%	1.4%
Demand / Supply Balance	0.0%	0.8%	0.7%	-2.2%	-4.1%	-0.4%	-4.7%	0.8%	0.1%	0.5%
Dry Bulk Fleet, Dwt mn	2016	2017	2018	2019	2020	2021	2022	2023E	2024E	2025E
Fleet, beginning	780	798	823	845	879	916	949	976	1,001	1,018
New delivery	47	38	28	41	49	38	32	34	30	26
Demolition	(29)	(15)	(4)	(8)	(15)	(5)	(4)	(9)	(13)	(11)
Others	(0)	1	(1)	0	3	-	-	-	-	-
Fleet, Ending, Dwt mn	798	823	845	879	916	949	976	1,001	1,018	1,032
Growth	2.3%	3.1%	2.7%	4.0%	4.2%	3.6%	2.9%	2.5%	1.7%	1.4%
Adjustment factor				-1.0%	-0.1%	0.3%	0.0%	0.0%	0.0%	0.0%
Adjusted fleet growth				3.0%	4.1%	3.9%	2.9%	2.5%	1.7%	1.4%
Gross delivery rate	6.1%	4.8%	3.4%	4.9%	5.6%	4.2%	3.3%	3.5%	3.0%	2.5%
Scrapping Rate	3.7%	1.8%	0.5%	0.9%	1.8%	0.6%	0.4%	1.0%	1.3%	1.1%

Source: BofA Global Research, Clarksons

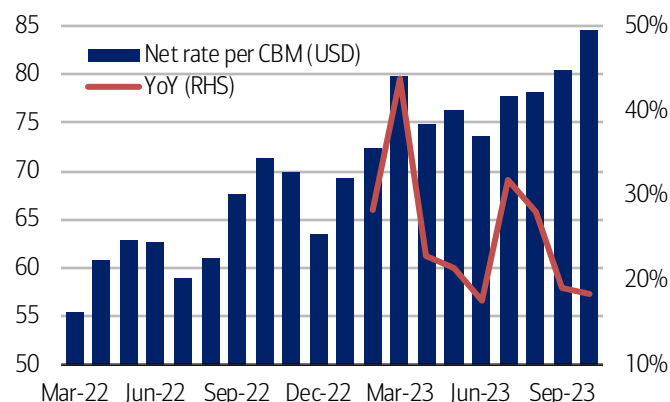
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Car carrier

Car carrier shipping freight rates

Exhibit 123: Hoegh Autoliners - net rate per cbm (US\$), 2022-23

Continue to increase in Oct now approaching US\$85



Source: hoeghautoliners

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Car carrier demand

Exhibit 125: Global seaborne car trade indicator, 2015-2023

Trending higher since September 2022



Source: Clarksons

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Car carrier supply & scrap

Exhibit 127: Pure car carrier orderbook % of fleet (%), 1995-2023

Orderbook now above 30% of fleet

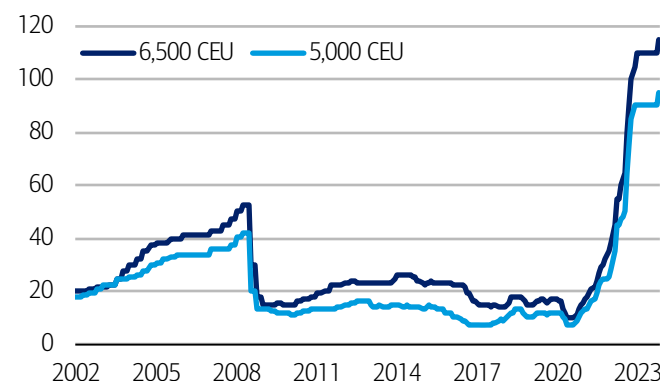


Source: Clarksons

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Exhibit 124: Car carrier 1 year time charter rate (US\$ k/day), 2002-23

Rates rapidly increased starting in spring, 2021

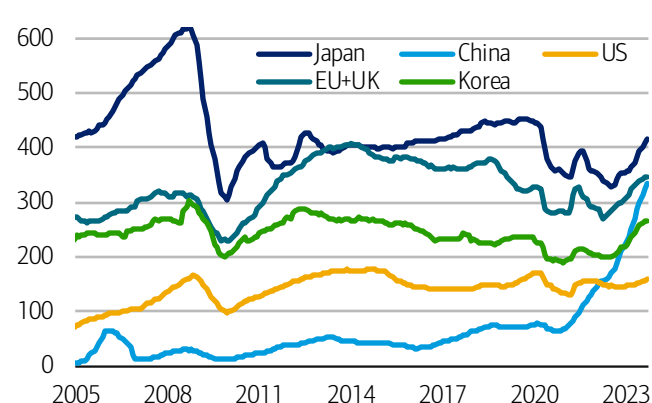


Source: Clarksons

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Exhibit 126: Global seaborne car exports TTM ('000's), 2005-23

Chinese car export have drastically increased post-COVID

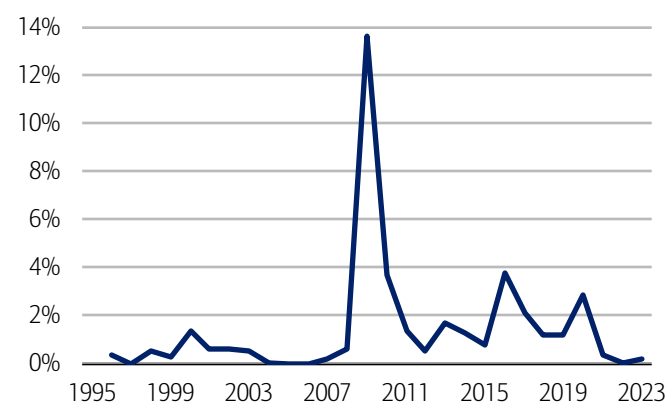


Source: Clarksons

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Exhibit 128: Car carrier scrap rate (%), 1995-2023

Scrap rate has been below 0.5% for the past couple of years



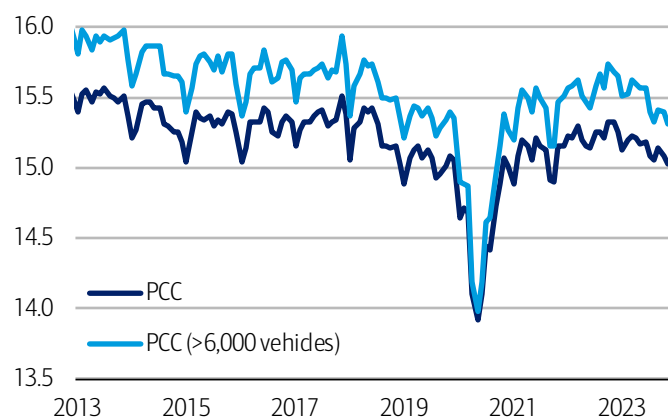
Source: Clarksons

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Car carrier speed & secondhand price

Exhibit 129: Pure car carrier average speed (knots), 2013-23

Average speed has been gradually slowing down

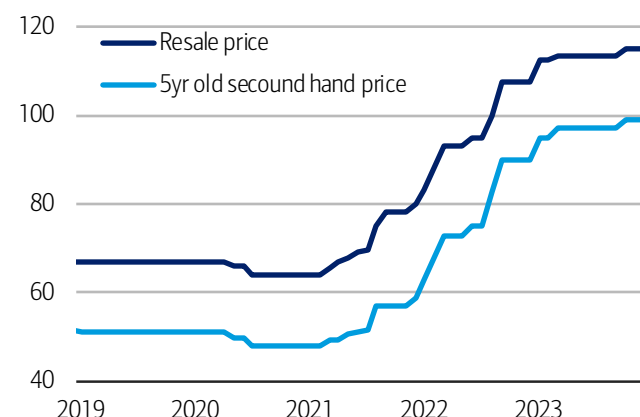


Source: Clarksons

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Exhibit 130: Pure car and truck carrier prices (US\$ mn), 2019-23

Both resale price and secondhand prices have increased since spring, 2021



Source: Clarksons. Note: Pure car and truck carrier size = 6,500 CEU

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Car carrier shipping - demand & supply outlook

Exhibit 131: Car carrier demand & supply outlook

Car carrier tightness set to unwind from 2024-25E as new deliveries arrive

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024E	2025E	2026E	2027E
Demand growth (% p.a.)	2.8%	-0.7%	1.5%	0.8%	4.8%	2.2%	-1.2%	-19.7%	7.3%	10.1%	8.8%	4.0%	3.7%	3.0%	3.2%
Net supply growth (% p.a.)	5.0%	1.6%	2.6%	3.1%	-0.3%	2.0%	1.2%	-0.6%	-1.6%	1.2%	1.8%	8.0%	9.9%	6.1%	0.7%
Demand/(supply) imbalance	-2.2%	-2.4%	-1.1%	-2.3%	5.2%	0.2%	-2.4%	-19.1%	8.9%	9.0%	7.0%	-4.0%	-6.2%	-3.1%	2.5%
Gross deliveries (% p.a.)	3.5%	4.0%	4.0%	3.6%	4.1%	2.4%	0.8%	1.4%	1.5%	0.5%	1.8%	8.5%	10.4%	6.6%	1.2%
Scrapping (% p.a.)	1.8%	1.3%	0.8%	3.9%	2.1%	1.2%	1.2%	2.8%	0.4%	0.0%	0.0%	0.5%	0.5%	0.5%	0.5%

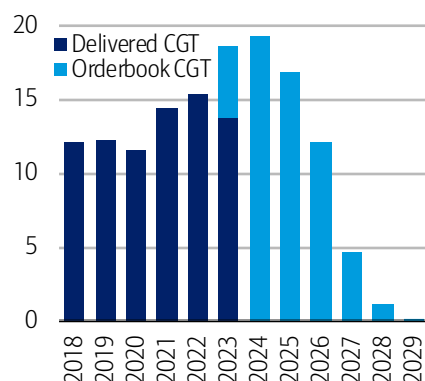
Source: Clarksons, BofA Global Research estimates

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Shipyard vessel delivery schedule

Exhibit 132: China 2018-29E (mn CGT)

2024 orderbook around 20mn CGT

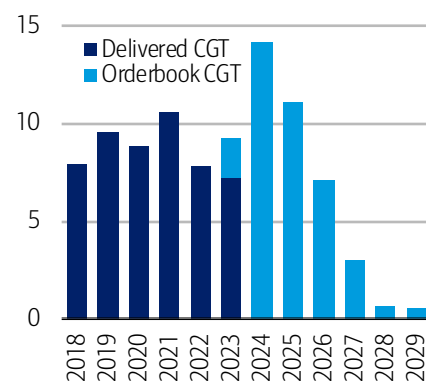


Source: Linerlytica

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Exhibit 133: Korea 2018-29E (mn CGT)

2024 orderbook just below 15mn CGT

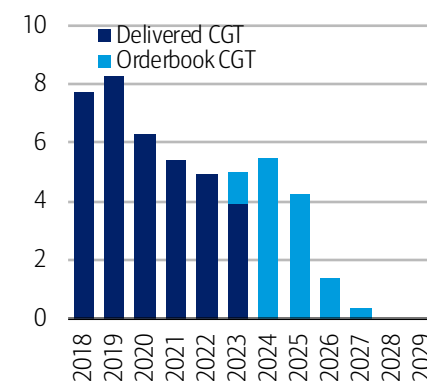


Source: Linerlytica

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Exhibit 134: Japan 2018-29E (mn CGT)

2024 orderbook around 5.5mn CGT



Source: Linerlytica

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Selected Bank of America (“BAC”) transaction data are used to inform the macroeconomic views expressed in this report and should be considered in the context of other economic indicators and publicly available information. In certain instances, the data may provide directional and/or predictive value. The data used are not comprehensive; they are based on aggregated and anonymized selections of BAC data and may reflect a degree of selection bias and limitations on the data available.

Methodology explained

Readers should be aware that although the BAC datasets utilized in our analysis represent a significant number of data points, they nevertheless present a degree of selection bias, including but not limited to income levels and geographies. In addition, the data is limited to debit and credit cards and does not include other payment methods such as cash or checks.

Data regarding merchants who receive payments are identified and classified by the Merchant Categorization Code (MCC) defined by financial services companies. The data are mapped using proprietary methods from the MCCs to the North American Industry Classification System (NAICS), which is also used by the Census Bureau, in order to classify spending data by subsector. Spending data may also be classified by other proprietary methods not using MCCs.

BAC data used in this report include spending from active US households only. Spending from corporate cards are excluded.

Our methodology for calculating the growth rates for daily data: we calculate the %y/y growth rate and the 4-year % change by matching calendar days (Jan 1 2023 is matched to Jan 1 2022, and Jan 1, 2019, respectively). The % change is calculated based on the 7-day moving average of spending levels.

Additional information about the methodology used to aggregate the data is available upon request.

Disclosures

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Investment rating	Total return expectation (within 12-month period of date of initial rating)	Ratings dispersion guidelines for coverage cluster ^{R1}
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

^{R1} Ratings dispersions may vary from time to time where BofA Global Research believes it better reflects the investment prospects of stocks in a Coverage Cluster.

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