

Shipping - Global

Shipping & supply chain high frequency tracker #50

Industry Overview

Tracking the high frequency shipping data

This report contains our favorite charts to track the shipping cycle. New to this version is data tracking Panama Canal drought disruptions which shows a negligible impact for container shipping but building congestion for bulk. Our checks suggest slowing upward momentum in container spot rates with capacity being added and the end of the seasonal peak looming. Tanker has seen rates fall to below P&L breakeven on seasonality, OPEC+ cuts, a pullback in Chinese imports and Russian exports shifting to the dark fleet - but forward markets continue to anticipate a better 4Q23-1Q24. And dry bulk rates are bouncing along the bottom – but the worst has passed for vessels returning from congestion and seasonality should support a better Sept-Nov ahead.

Container: Rate momentum slows, Panama risk overplayed

US imports are tracking above 2019 levels in August 2023 with retailers returning to normal stocking patterns. Panama Canal drought issues are having a very small impact in container with only 0.2-0.3% of the global fleet stuck in congestion (scheduled container services are being prioritized, and unscheduled container loaders are waiting just 3-4 hours in August). And while liners continue to try to hike spot rates, upward momentum appears to have slowed with supply ramping on transpacific west coast routes in response to profitable rates and new deliveries weighing on Asia-North Europe rates.

Tanker: Demand pressuring rates during the slack season

Spot VLCC rates are languishing below P&L breakeven levels right now given tepid demand on OPEC+ production cuts and summer holiday seasonality. Higher oil prices have also impacted – disrupting Chinese imports and also driving Russian exports into the dark market with Urals US\$10/bbl above the G7 price cap. Forward curves suggest a pickup in VLCC rates towards US\$40k-50k/day into year-end – but the eventual rate inflection depends on winter stocking, Saudi production decision and Chinese imports.

Bulk: Watch Panama Canal & seasonality ahead

Small bulker rates are bouncing along the bottom averaging MoM flat in August 2023 as weak Chinese macro and easing congestion weigh. Supply pressure from port congestion has eased and we are watching supply disruptions from Panama Canal drought issues with bulk vessels waiting 12-13 days on average to transit right now. Forward curves suggest a US\$2-3k/day rate bounce for small bulker rates from September to November 2023 on improving seasonality into the winter - but China and global macro will be key.

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Equity
Global
Shipping

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Abbreviations

VLCC: Very Large Crude Carrier

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Refer to important disclosures on page 22 to 24.

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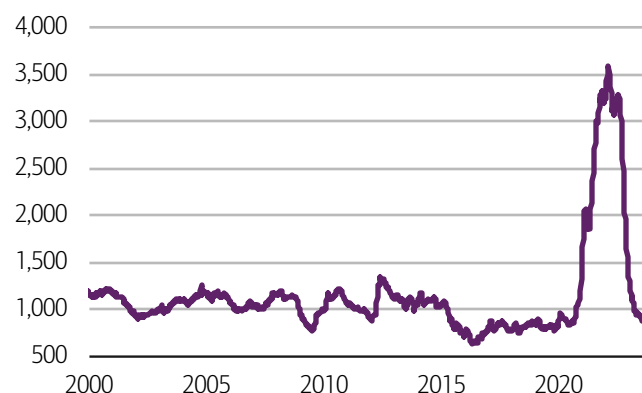
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Container shipping

Blended freight rates

Exhibit 1: China Containerized Freight Index, 2000-23

CCFI trending at 895



Source: Shanghai Shipping Exchange

Exhibit 2: CCFI quarterly average, 2022-23

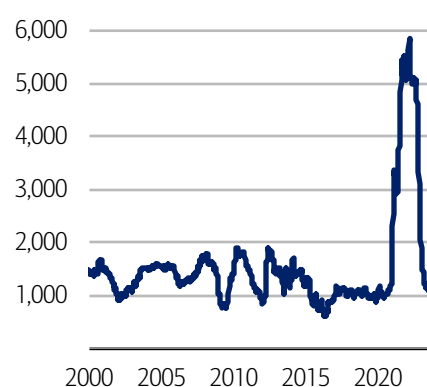
CCFI trending -7% QoQ lower so far in 3Q23

CCFI	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
CCFI	3,444	3,157	2,950	1,615	1,087	938	875
CCFI Europe	5,526	5,060	4,738	2,497	1,411	1,154	1,066
CCFI USWC	2,596	2,502	2,331	1,079	789	707	711
CCFI USEC	2,682	2,796	2,844	1,746	1,161	886	855
% YoY							
CCFI	75%	46%	-1%	-51%	-68%	-70%	-70%
CCFI Europe	77%	45%	-7%	-53%	-74%	-77%	-77%
CCFI USWC	95%	69%	13%	-53%	-70%	-72%	-69%
CCFI USEC	79%	59%	22%	-31%	-57%	-68%	-70%
% QoQ							
CCFI	5%	-8%	-7%	-45%	-33%	-14%	-7%
CCFI Europe	5%	-8%	-6%	-47%	-44%	-18%	-8%
CCFI USWC	12%	-4%	-7%	-54%	-27%	-10%	1%
CCFI USEC	6%	4%	2%	-39%	-34%	-24%	-4%

Source: Shanghai Shipping Exchange

Exhibit 3: CCFI Europe, 2000-23

CCFI Europe at 1,111

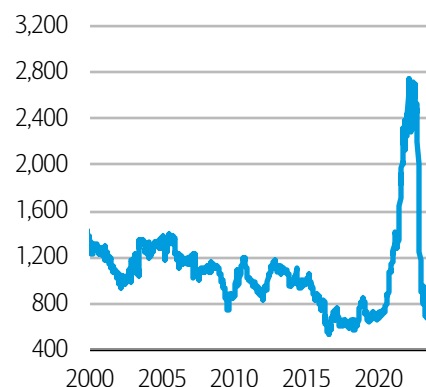


Source: Shanghai Shipping Exchange

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Exhibit 4: CCFI US west coast, 2000-23

CCFI US west coast at 777

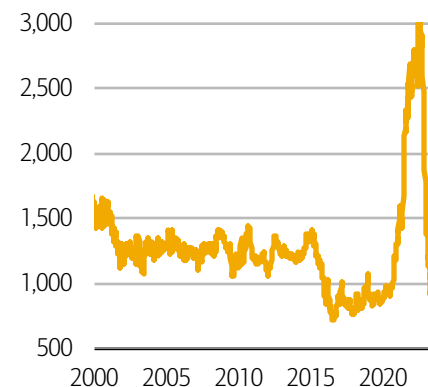


Source: Shanghai Shipping Exchange

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Exhibit 5: CCFI US east coast, 2000-23

CCFI east coast tracking at 905

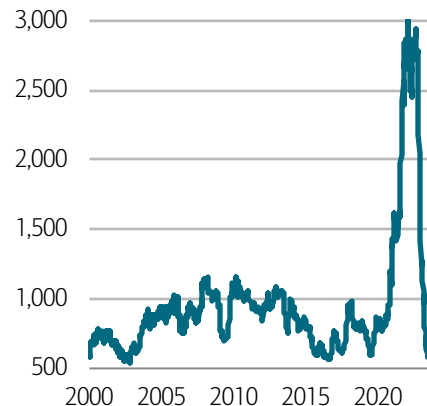


Source: Shanghai Shipping Exchange

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Exhibit 6: CCFI Mediterranean, 2000-23

CCFI Med tracking at 1,546

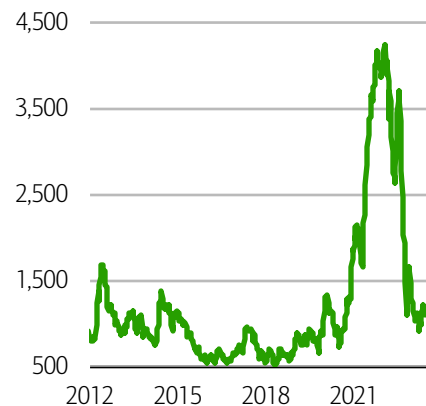


Source: Shanghai Shipping Exchange

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Exhibit 7: CCFI Middle East, 2012-23

CCFI Middle East at 904

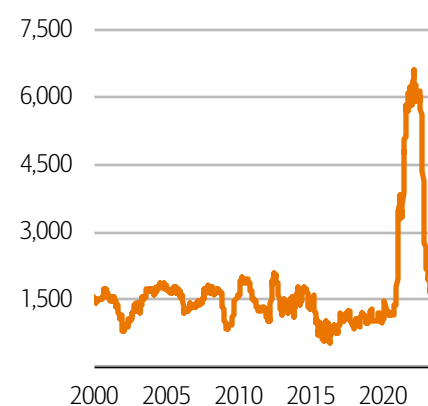


Source: Shanghai Shipping Exchange

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Exhibit 8: CCFI Singapore, 2000-23

CCFI Singapore at 527



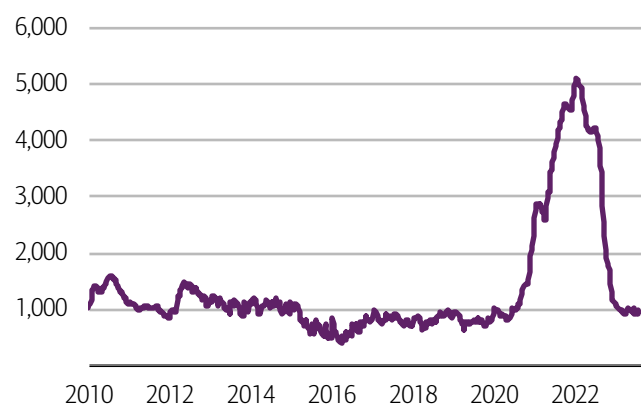
Source: Shanghai Shipping Exchange

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Spot freight rates

Exhibit 9: Shanghai Containerized Freight Index, 2010-23

SCFI at 1,014



Source: Shanghai Shipping Exchange

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Exhibit 10: SCFI quarterly average, 2022-23

SCFI trending +2% QoQ lower in 3Q23

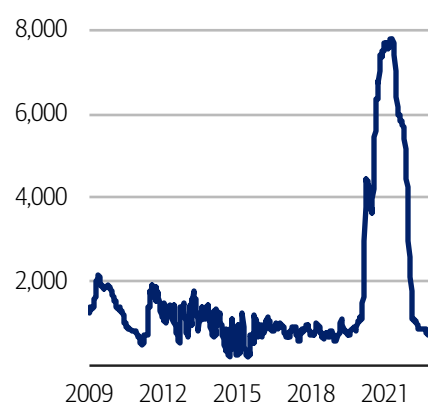
SCFI	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
SCFI	4,851	4,211	3,279	1,375	969	983	1,004
SCFI Europe	7,435	5,959	4,656	1,490	926	848	840
SCFI USWC	8,032	7,773	5,278	1,627	1,265	1,419	1,864
SCFI USEC	11,008	10,409	8,557	4,126	2,438	2,366	2,851
% YoY							
SCFI	74%	29%	-24%	-71%	-80%	-77%	-69%
SCFI Europe	81%	15%	-36%	-80%	-88%	-86%	-82%
SCFI USWC	100%	68%	-9%	-76%	-84%	-82%	-65%
SCFI USEC	130%	47%	-20%	-62%	-78%	-77%	-67%
% QoQ							
SCFI	3%	-13%	-22%	-58%	-30%	2%	2%
SCFI Europe	-3%	-20%	-22%	-68%	-38%	-8%	-1%
SCFI USWC	18%	-3%	-32%	-69%	-22%	12%	31%
SCFI USEC	2%	-5%	-18%	-52%	-41%	-3%	20%

Source: Shanghai Shipping Exchange

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Exhibit 11: SCFI Asia-Europe, 2009-23 (USD/TEU)

SCFI Europe at US\$802/TEU

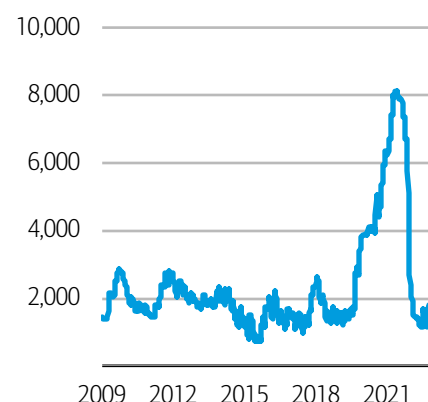


Source: Shanghai Shipping Exchange

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Exhibit 12: SCFI Asia-US west coast, 2009-23 (USD/FEU)

SCFI USWC at US\$2,006 /FEU

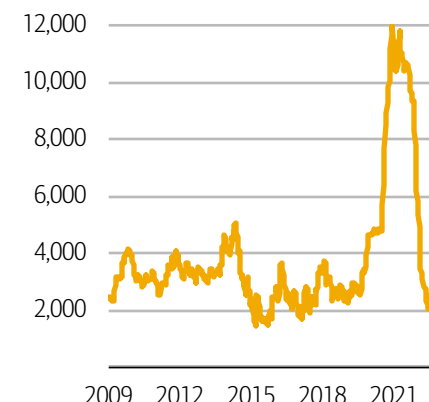


Source: Shanghai Shipping Exchange

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Exhibit 13: SCFI Asia-US east coast, 2009-23 (USD/FEU)

SCFI USEC at US\$3,052/FEU

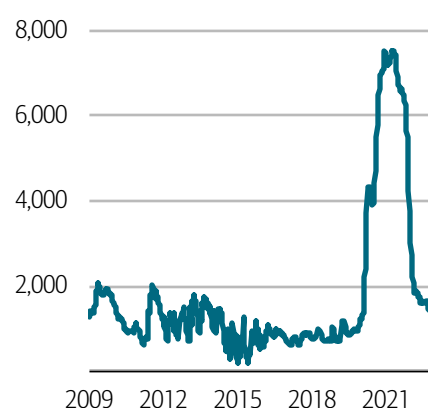


Source: Shanghai Shipping Exchange

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Exhibit 14: SCFI Asia-Mediterranean, 2009-23 (USD/TEU)

SCFI Med at US\$1,455 /TEU

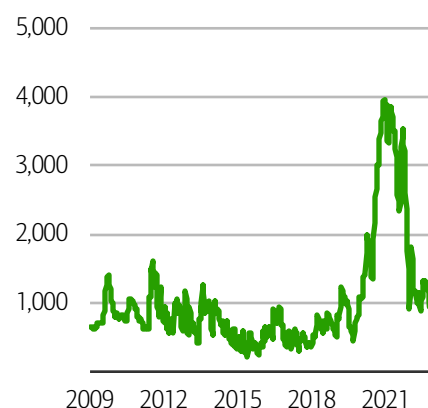


Source: Shanghai Shipping Exchange

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Exhibit 15: SCFI Asia-Middle East, 2009-23 (USD/TEU)

SCFI Middle East US\$914/TEU

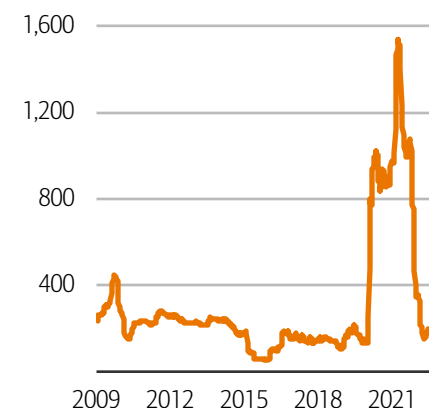


Source: Shanghai Shipping Exchange

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Exhibit 16: SCFI Asia-Singapore, 2009-23 (USD/TEU)

SCFI Singapore at US\$140 /TEU



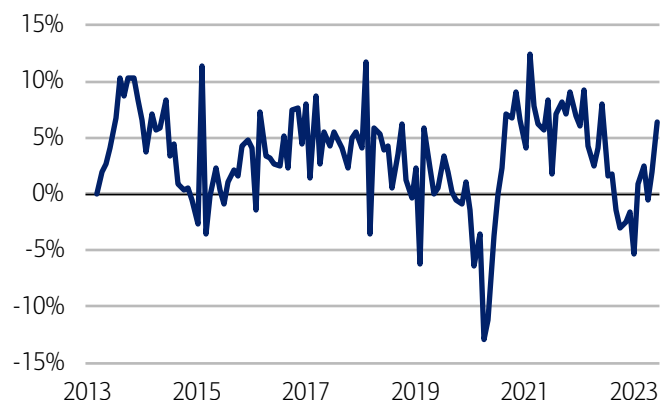
Source: Shanghai Shipping Exchange

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World trade trends

Exhibit 17: Global container volume growth (YoY %)*

World trade 6.3% above 2019 levels in June

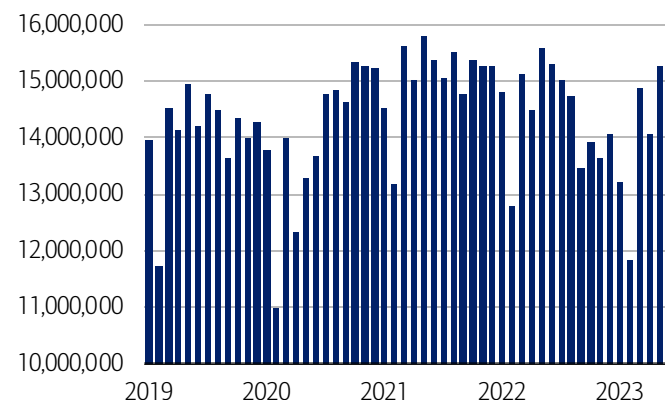


Source: CTS. * 2021 data compared to 2019

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Exhibit 18: Global monthly container volumes (TEU), 2019-23

World trade seasonally rebounded in May-June 2023

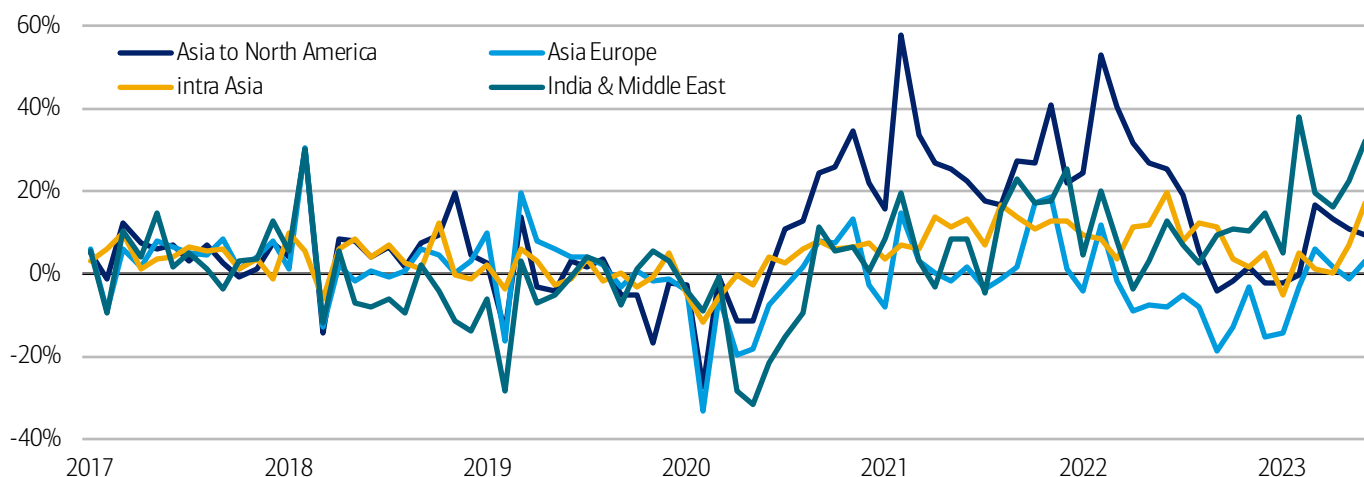


Source: CTS

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Exhibit 19: Container volumes by route (% YoY, 2017-23*)

Key trade lane volumes are all above 2019 levels



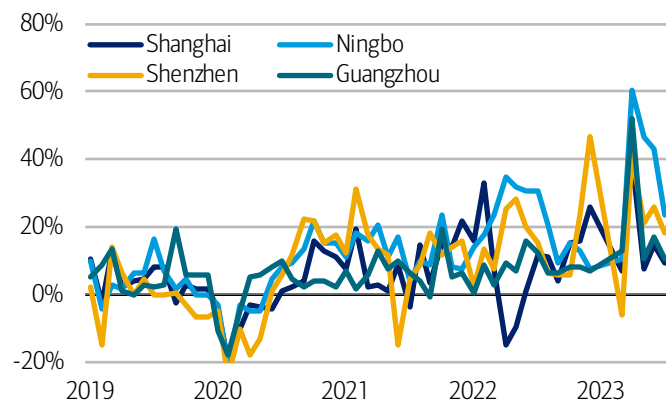
Source: CTS *2021-23 relative to 2019 levels

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Chinese trade trends

Exhibit 20: Chinese monthly port data (% YoY, 2019-23)

Strong Ningbo July monthly port numbers came down but still strong

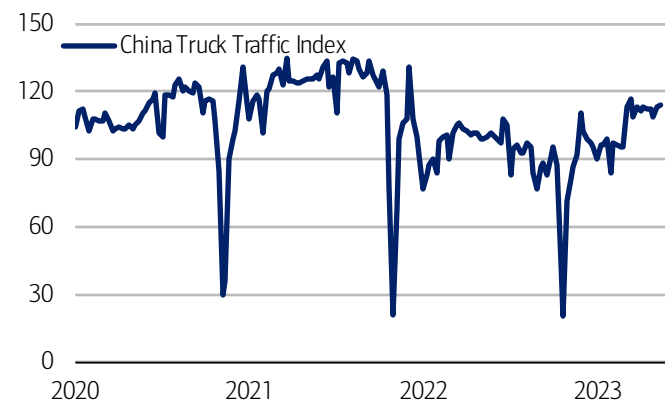


Source: Company reports

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Exhibit 21: China truck traffic index, 2020-23

China trucking demand has been stable since May holiday rebound



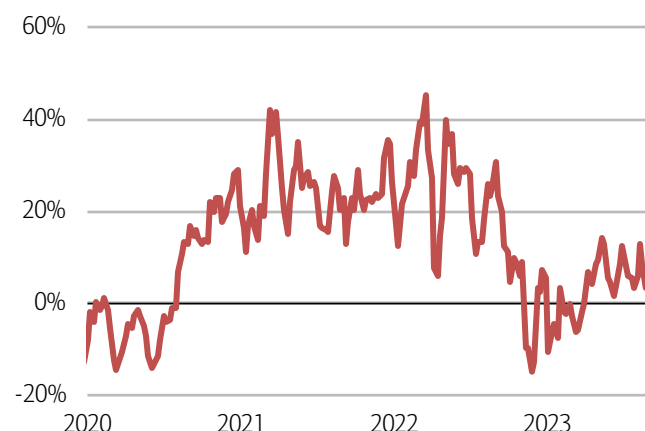
Source: G7

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US high frequency container volumes

Exhibit 22: US weekly container imports vs 2019 levels

US weekly imports trending +3% above 2019 levels in end of Aug

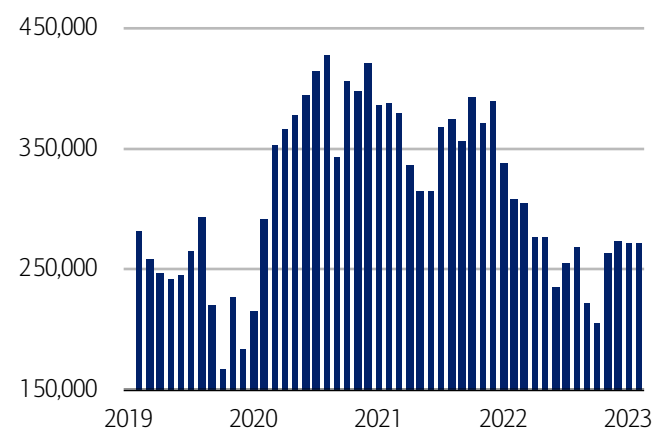


Source: PIERIS

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Exhibit 24: US furniture monthly imports (TEU), 2019-23

US furniture imports around 272k TEU/month in July

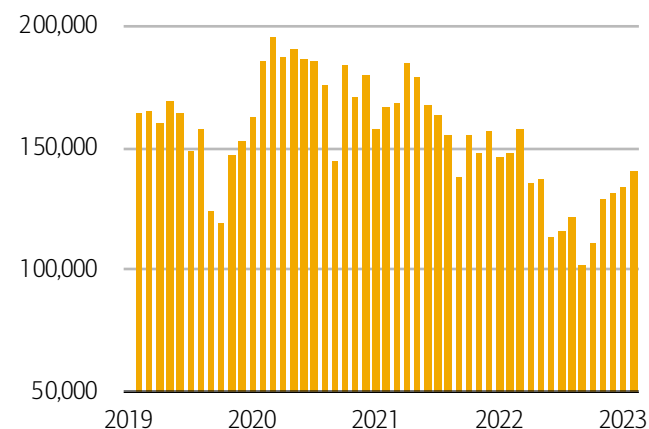


Source: PIERIS

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Exhibit 26: US electronic monthly imports (TEU), 2019-23

US electronics imports trending at 140k TEU/month in July

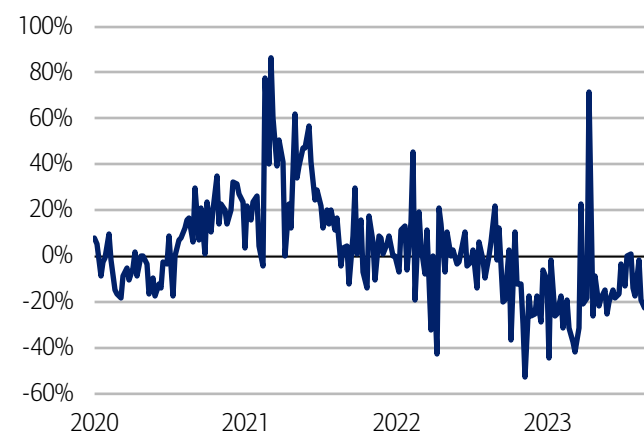


Source: PIERIS

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

US weekly imports -22% YoY in late Aug

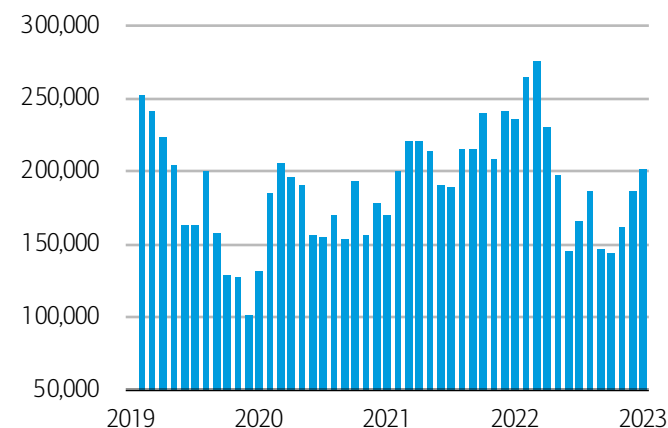


Source: PIERIS

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Exhibit 25: US apparel & footwear monthly imports (TEU), 2019-23

US apparel & footwear imports above 226k TEU in July

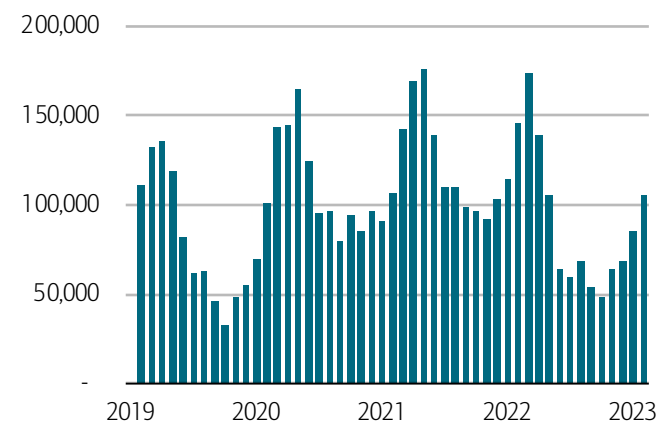


Source: PIERIS

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Exhibit 27: US toy & leisure monthly imports (TEU), 2019-23

US toy & leisure imports at 106k TEU in July



Source: PIERIS

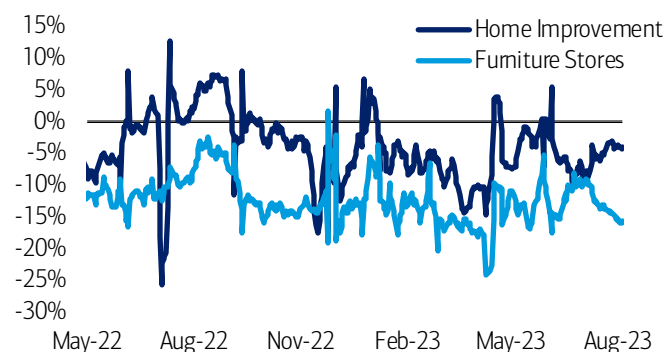
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US consumer reads

For more on BAC card spending data, and a detailed explanation of the methodology, disclaimers, and limitations in connection with such data see our note: [BofA on USA](#)

Exhibit 28: 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 Aug 5

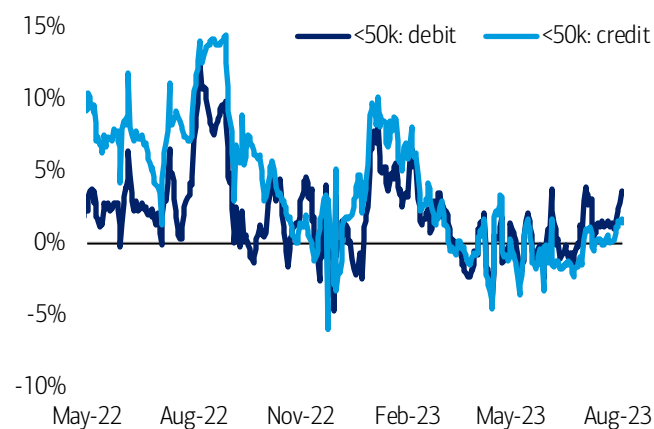


Source: BAC internal data

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Exhibit 30: 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)

Lower-income debit card spending growth outpaced credit card spending growth on a y/y basis in the week ending Aug 5

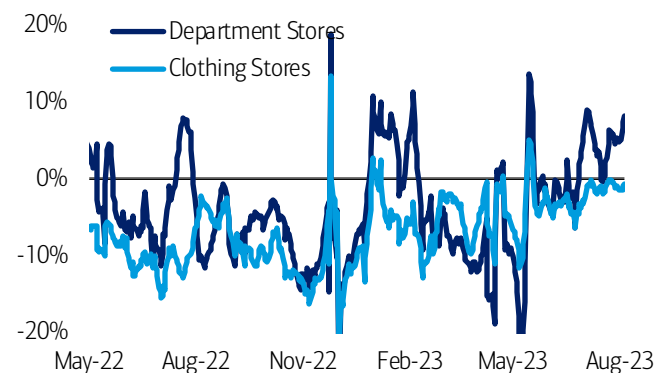


Source: BAC internal data

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Exhibit 29: 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 for the last year



Source: BAC internal data

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Exhibit 31: Aggregated monthly card spending per HH by major category (%m/m, SA)

Card spending was strong in most categories in July

	Jul-23	Jun-23	May-23	Apr-23	Mar-23	Feb-23
Gas	1.5%	-0.3%	-3.3%	0.9%	-4.8%	0.9%
Furniture	-1.7%	-0.5%	1.3%	-0.5%	-3.0%	-1.9%
Home improvement	0.2%	-0.8%	1.0%	0.2%	-2.0%	0.0%
Clothing	0.9%	-1.2%	1.1%	-0.4%	0.2%	-2.1%
Grocery	-0.3%	0.3%	1.3%	-0.3%	0.4%	0.2%
General Merchandise	1.5%	-0.4%	1.1%	0.6%	-5.0%	-0.1%
Restaurants	0.6%	0.1%	0.1%	0.3%	-0.3%	0.1%
Lodging	-1.5%	0.1%	0.4%	-0.7%	-2.0%	0.1%
Airlines	1.7%	-2.9%	-0.4%	-4.2%	0.9%	-0.7%
Total online retail (card not present)	1.6%	0.4%	-0.1%	1.0%	-1.5%	0.9%

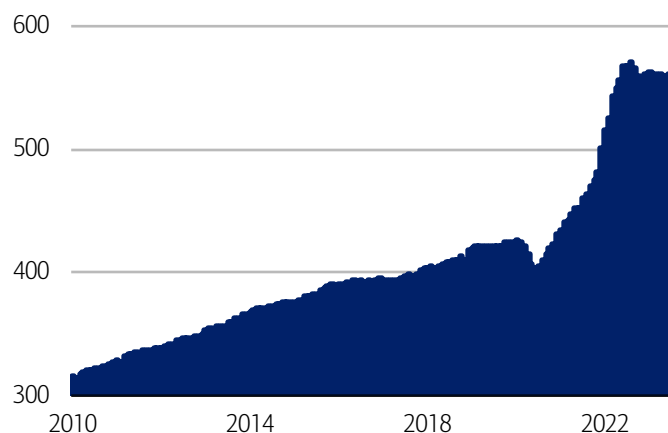
Source: BAC internal data. Card not present is largely online but could include purchases made over the phone.

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US retail inventory levels

Exhibit 32: US retail (ex-auto) inventories (US\$bn), 2010-23

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

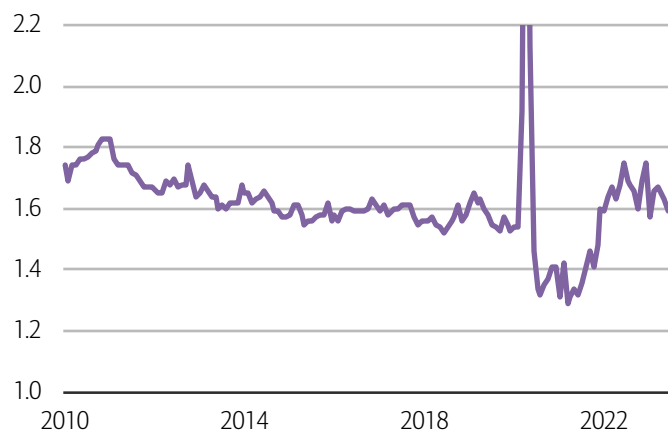


Source: Bloomberg

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Exhibit 34: Furniture – adjusted inventory to sales, 2010-23

Furniture inventory-to-sales is above pre-COVID levels

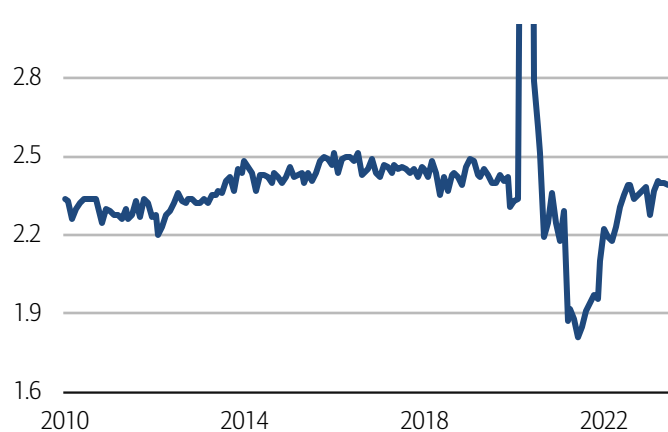


Source: Bloomberg

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Exhibit 36: Clothing – adjusted inventory to sales, 2010-23

Clothing inventory to sales nearly back to pre-COVID levels

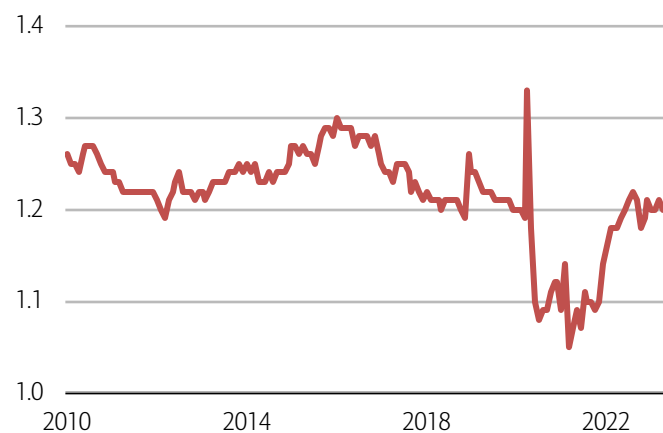


Source: Bloomberg

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Exhibit 33: US retail (ex-auto) inventory to sales ratio, 2010-23

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

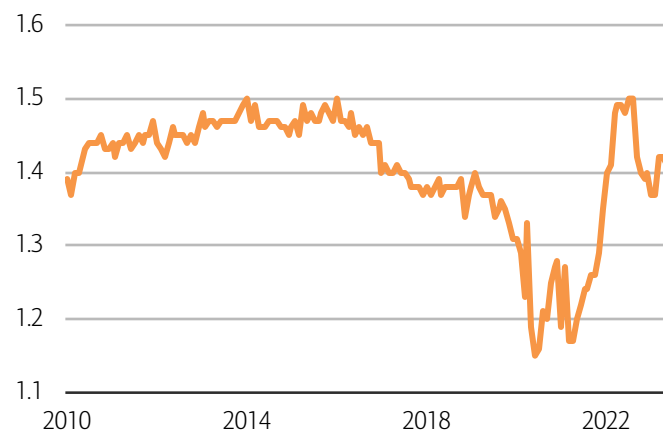


Source: Bloomberg

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Exhibit 35: General merchandise – adjusted inventory to sales, 2010-23

General merchandise inventory-to-sales is back to above 2019 levels

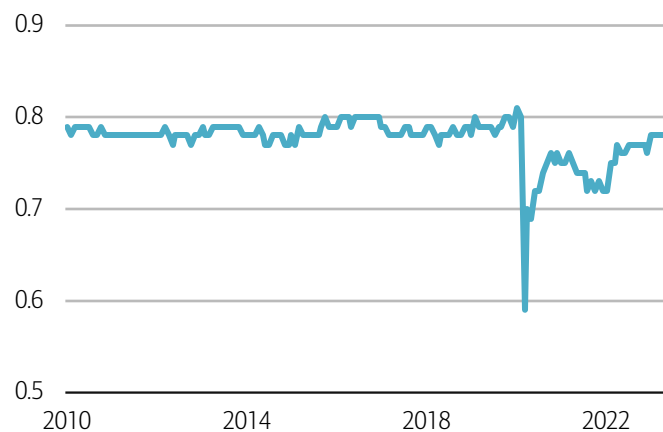


Source: Bloomberg

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Exhibit 37: Food & Beverage – adjusted inventory to sales, 2010-23

Food & beverage inventory to sales still below pre-COVID levels



Source: Bloomberg

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Port congestion & idling

Exhibit 38: Global port congestion - % of fleet, 2020-23

Port congestion at 5.4% of fleet

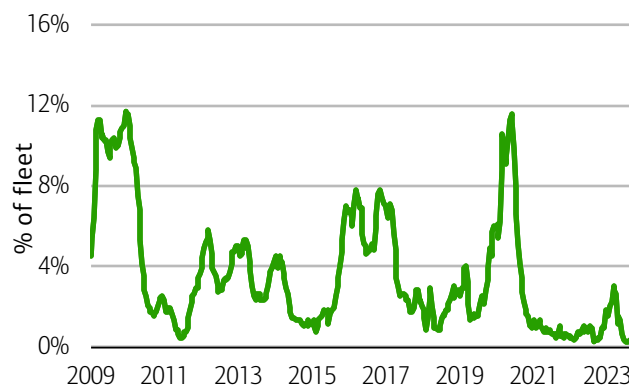


Source: Linerlytica

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Exhibit 39: Global container vessel idling rate (%), 2009-23

Idling rate down to 0.4% of the fleet



Source: Linerlytica, Alphaliner

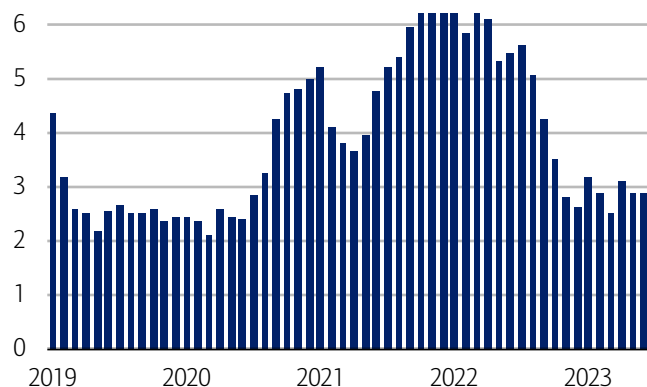
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US inland congestion trackers

Below shows how quickly container boxes move from the terminal yard to inland transport at Port of LA/Long Beach.

Exhibit 40: US West Coast ports – average box dwell time (days)

Boxes are waiting at terminal yards for 2.9 days before pickup

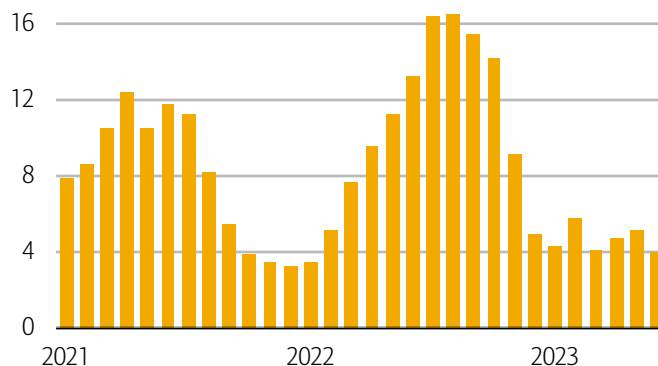


Source: PMSA

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Exhibit 41: US West Coast ports – average rail box dwell time (days)

Boxes are waiting at terminal yards for 4.0 days before rail pickup up



Source: PMSA

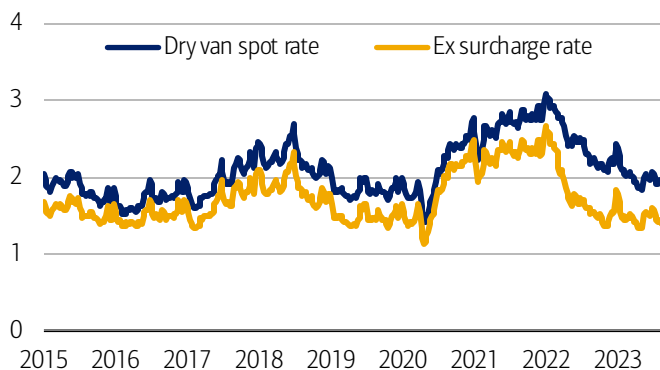
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US trucking & Panama Canal congestion

Below shows US spot trucking rates and truck supply proxied by truck driver employees:

Exhibit 42: Spot trucking rates (US\$/mile), 2015-23

Spot trucking rates slowly coming back up in Jul 2023

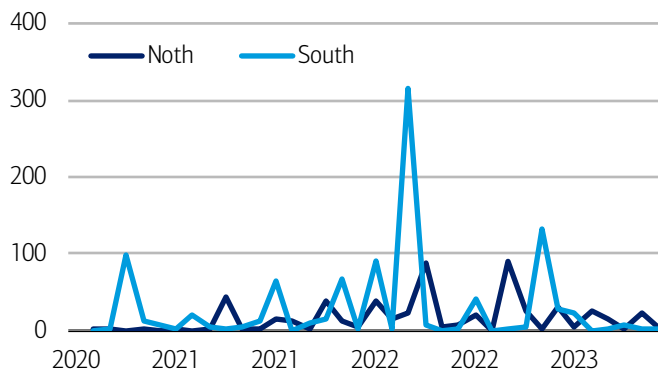


Source: Bloomberg

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Exhibit 43: Panama Canal unscheduled container waiting time (hours)

Unscheduled container ships waiting 3-4 hours, no wait for scheduled ships



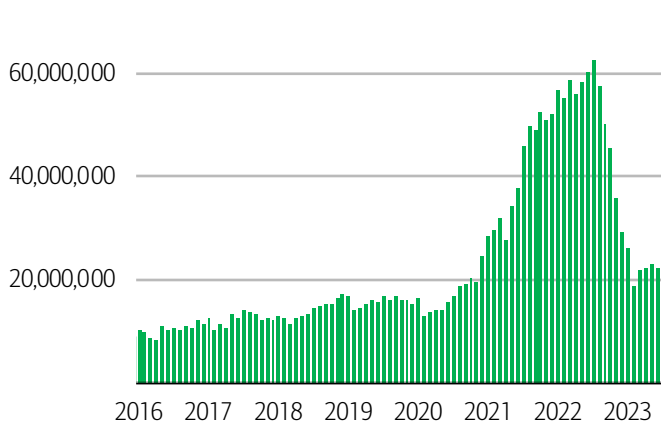
Source: Panama Canal Authority

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Container liner monthly revenue

Exhibit 44: Evergreen – monthly revenue (NT\$k)

Evergreen July monthly revenues: -63% YoY, +6% MoM

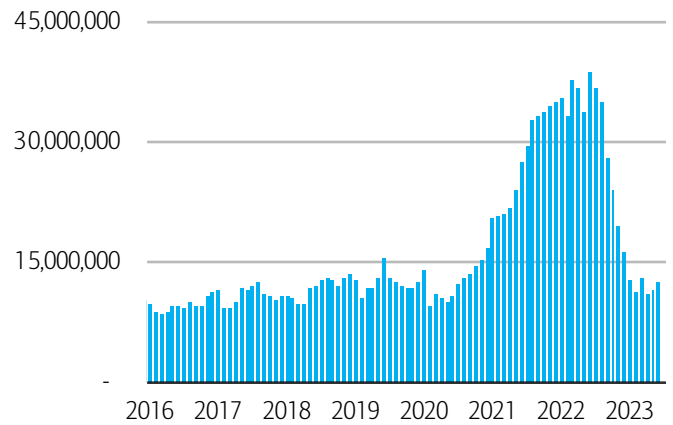


Source: Company reports

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Exhibit 45: Yang Ming – monthly revenue (NT\$k)

Yang Ming July monthly revenues: -69% YoY, -8% MoM



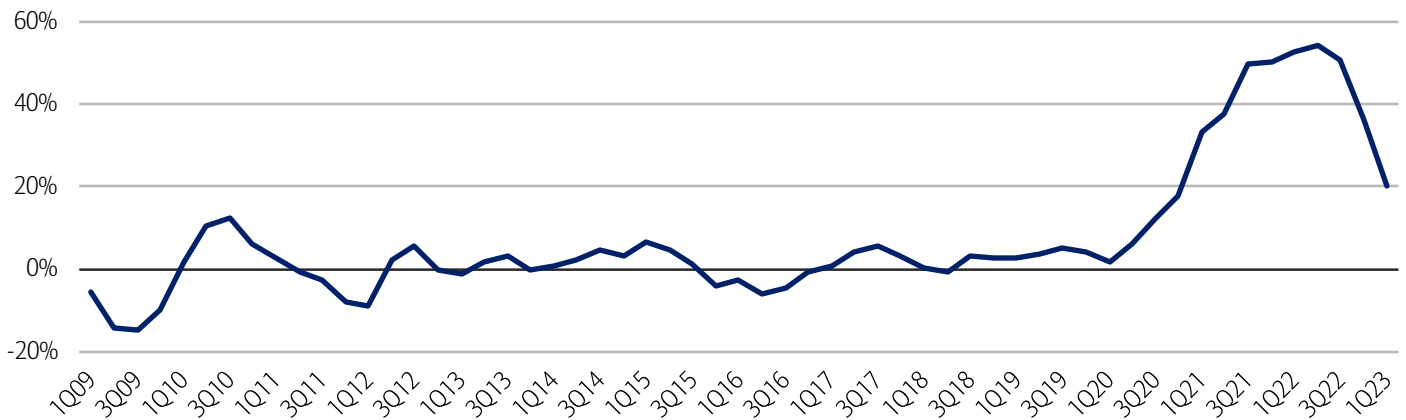
Source: Company reports

BofA GLOBAL RESEARCH

Container liner average EBIT margins

Exhibit 46: Container liner average quarterly EBIT margin, 2009-23

1Q23 operating profit margin of ~20%



Source: Linerlytica

BofA GLOBAL RESEARCH

Vessel supply-side trends

Exhibit 47: Container shipping orderbook to fleet, 1996-2023

Container shipping orderbook stands at around 28% of fleet right now

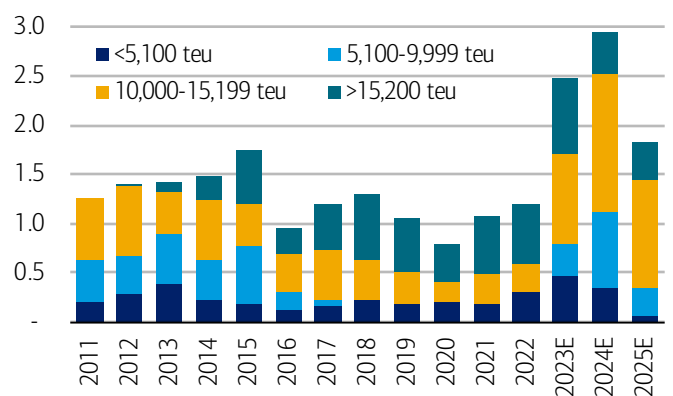


Source: Clarksons

BofA GLOBAL RESEARCH

Exhibit 48: Delivery by vessel size (mn TEU), 2011-2025E

Deliveries to ramp again in 2023 with ~2.5mn TEU for delivery

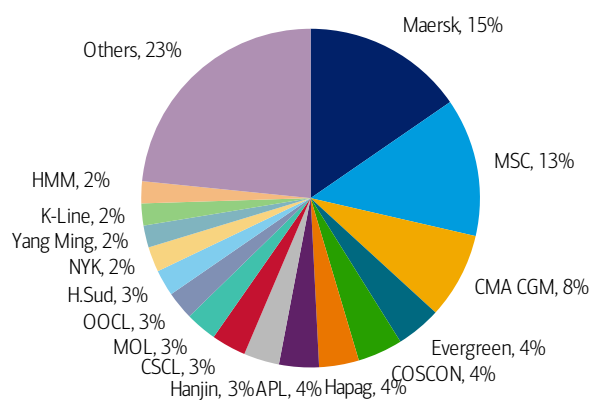


Source: Alphaliner

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Exhibit 49: Container liner capacity share in 2013

Top 16 carriers in 2013 = 77% market share

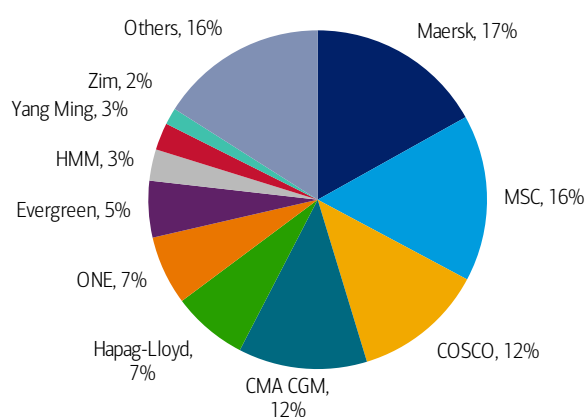


Source: Alphaliner

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Exhibit 50: Container liner capacity share in 2021

Top 10 carriers in 2021 = 85% market share

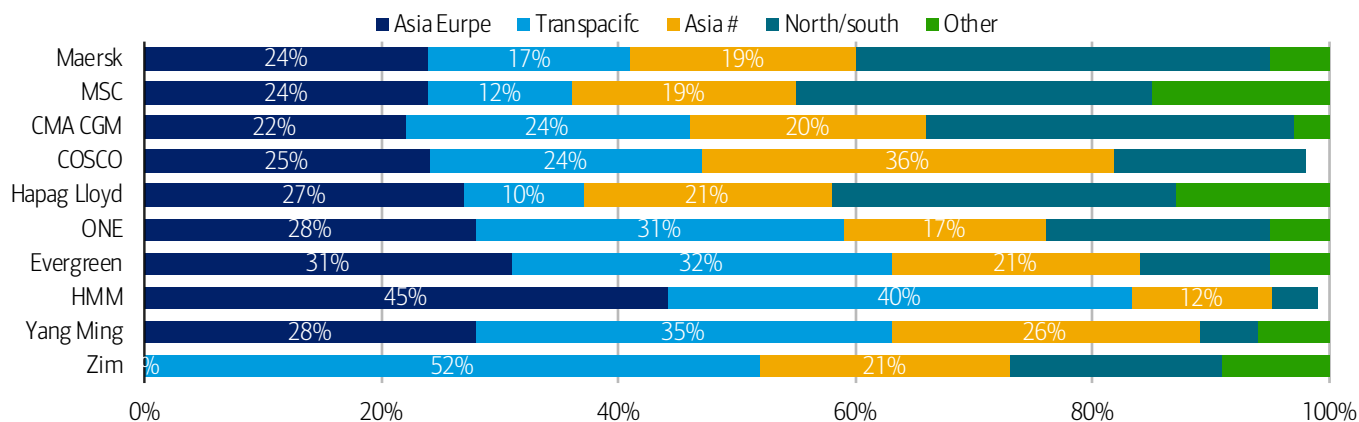


Source: Alphaliner

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Exhibit 51: Container liner capacity by route

Container liner capacity deployment by route

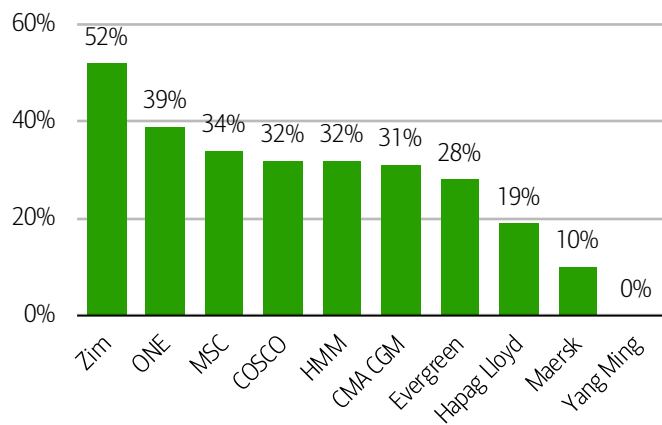


Source: Alphaliner. *Asia includes Middle East, India, Australia

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Exhibit 52: Container liners – orderbook to fleet

Larger orderbooks for Zim, ONE, and MSC

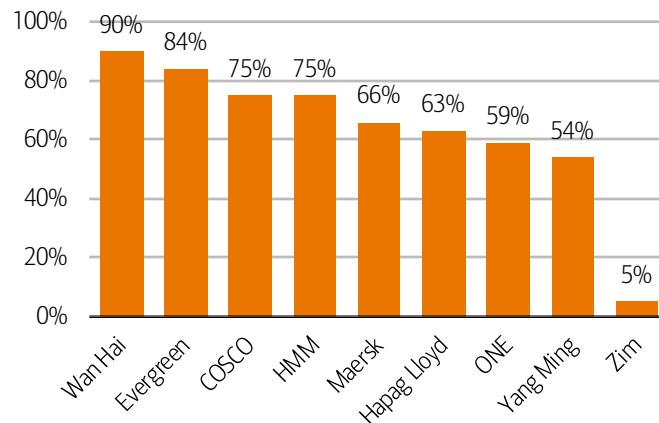


Source: Linerlytica

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Exhibit 53: 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 54: Average containership charter rate (US\$/day), 2008-23

Average charter rates at ~US\$22K/day



Source: Clarksons

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Container vessel speeds & scrapping

Exhibit 56: Container vessel average sailing speed (knots), 2013-23

Container vessels now sailing below 14 knots



Source: Clarksons

BofA GLOBAL RESEARCH

Exhibit 55: Singapore bunker price (US\$/tonne), 2016-23

VLSFO is at ~US\$624/tonne

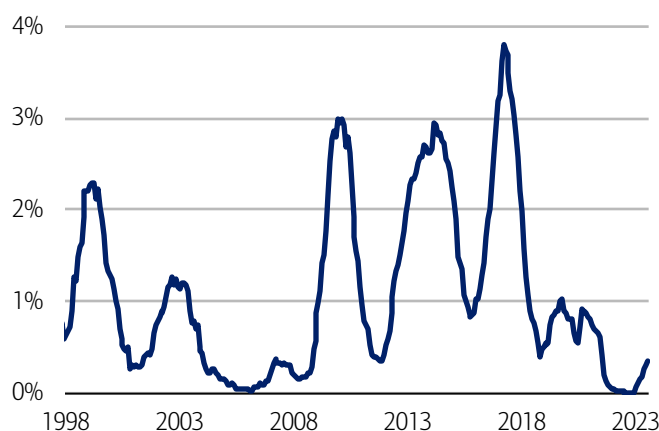


Source: Clarksons

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Exhibit 57: Container scrap rate (%) – 1998-2023

Scrapping rate down to below 0.5% of fleet



Source: Clarksons

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Container shipping - demand & supply outlook

Exhibit 58: 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%	-0.5%	2.7%	2.7%
New vessel deliveries	8.6%	9.4%	4.7%	5.9%	6.1%	4.7%	3.7%	4.5%	4.4%	8.5%	9.7%	6.1%
Demolition	-2.1%	-0.1%	-2.9%	-2.0%	-0.2%	-0.9%	-0.7%	-0.1%	-0.1%	-1.0%	-1.5%	-2.5%
Net Slot Capacity Growth	6.5%	9.4%	1.7%	3.9%	5.9%	3.9%	3.0%	4.4%	4.3%	7.5%	8.2%	3.6%
Impact of change in idle rate	1.4%	-0.7%	-3.5%	2.9%	1.6%	-1.3%	-2.9%	5.2%	0.0%	-2.2%	-2.0%	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%	6.5%	4.3%	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%	11.8%	10.5%	3.6%
Effective Demand / Supply balance	-2.6%	-7.4%	+4.7%	-0.1%	-2.3%	-0.1%	+1.1%	+2.3%	+1.3%	-12.3%	-7.8%	-0.8%

Source: BofA Global Research estimates, Linerlytica

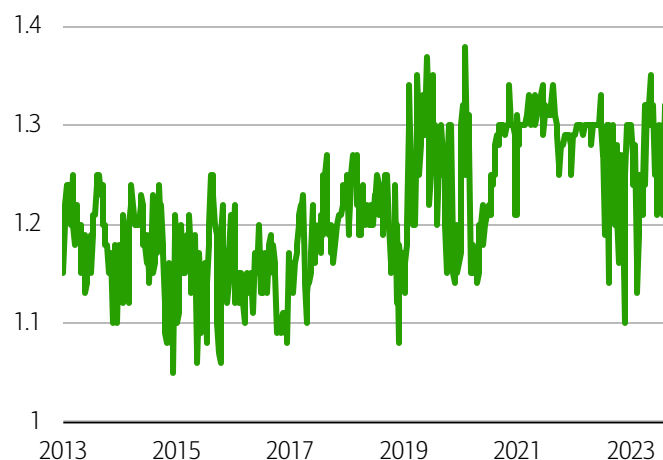
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Tanker shipping

Freight rates

Exhibit 59: VLCC supply vs demand in Middle East #, 2013-23

VLCC supply vs demand in Middle East #

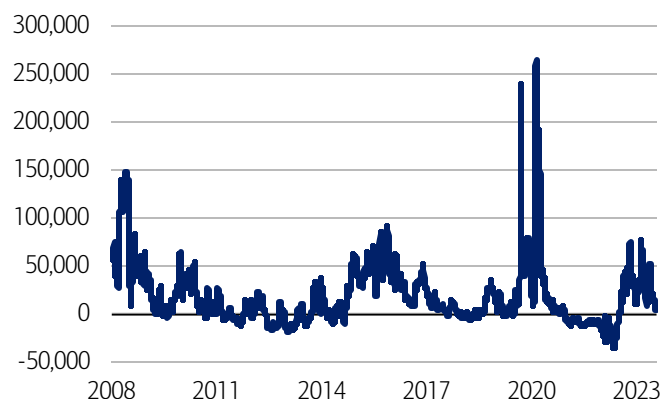


Source: Bloomberg. # 1 indicates equal number of VLCC supply vs demand for next 30 days, 1.1 indicates 10% surplus of VLCC relative to demand in coming 30 days.

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Exhibit 61: VLCC freight rates (US\$/day), 2008-23

Baltic VLCC rates back down to US\$5k per day in end of August

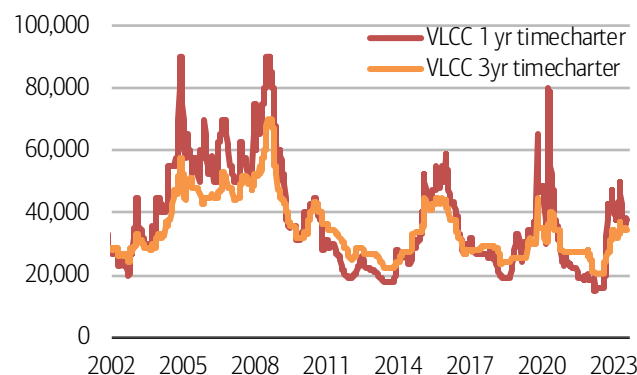


Source: Clarksons

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Exhibit 63: VLCC time charter rates (US\$/day), 2002-23

One year VLCC time charter rates holding around US\$38k per day



Source: Clarksons

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Exhibit 60: Average quarterly tanker rates (US\$/day), 2022-23

Average quarterly tanker rates

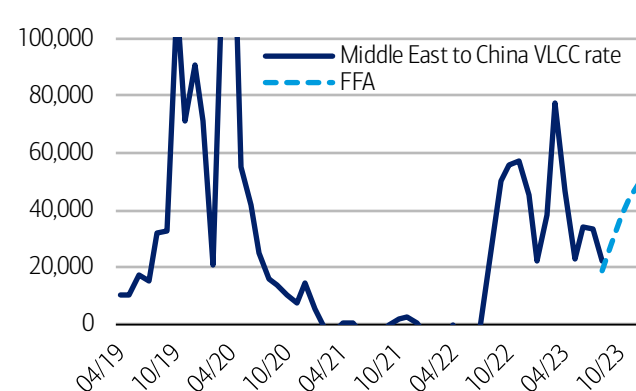
Date	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
VLCC	-21,670	9,747	42,823	34,498	25,984	13,733
Suezmax	21,742	21,742	21,742	21,742	21,742	21,742
Aframax	21,860	21,860	21,860	21,860	21,860	21,860
MR	9,749	9,749	9,749	9,749	9,749	9,749
LR2	20,292	20,292	20,292	20,292	20,292	20,292
% YoY						
VLCC	185%	-199%	-633%	-295%	-220%	41%
Suezmax	-10658%	-1959%	1937%	244%	38%	-58%
Aframax	1418%	7427%	964%	197%	28%	-50%
MR	390%	586%	428%	199%	-24%	-41%
LR2	32%	67%	135%	149%	78%	-9%
% QoQ						
VLCC	22%	-145%	339%	-19%	-25%	-47%
Suezmax	65%	41%	76%	-16%	-34%	-57%
Aframax	63%	30%	70%	-18%	-30%	-49%
MR	246%	18%	4%	-30%	-12%	-8%
LR2	33%	25%	37%	9%	-5%	-36%

Source: Clarksons, Note: 3Q23 data is average of Jul and Aug data

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Exhibit 62: VLCC freight forward agreement rates (US\$/day)

Forward curve at US\$43.5k/day into 4Q23

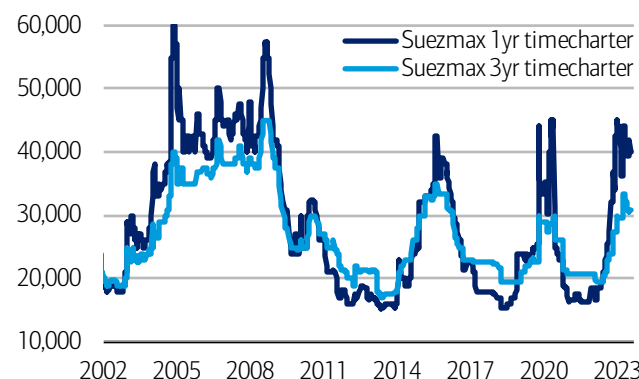


Source: Clarksons, Baltic Exchange

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Exhibit 64: Suezmax time charter rates (US\$/day), 2002-23

One year Suezmax time charter rates around US\$39k per day

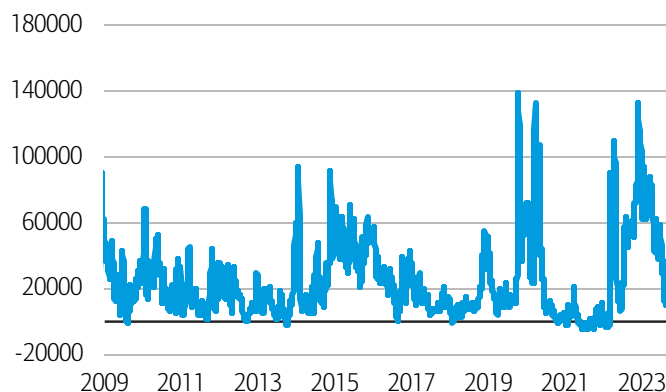


Source: Clarksons

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Exhibit 65: Suezmax freight rates (US\$/day), 2009-2023

Baltic Suezmax spot down to below US\$15k per day

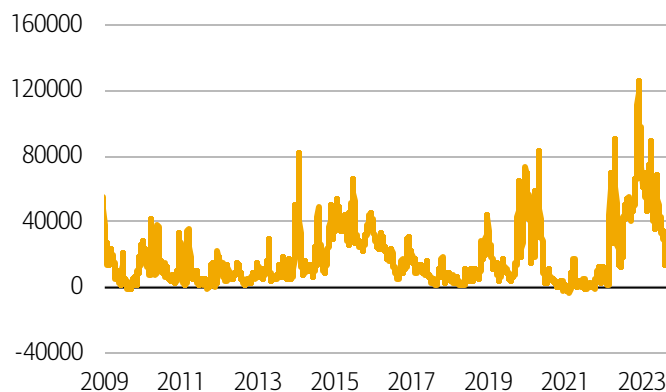


Source: Clarksons

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Exhibit 66: Aframax freight rates (US\$/day), 2009-23

Aframax rates down below US\$17k per day



Source: Clarksons

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Exhibit 67: Seaborne crude oil volumes (% YoY), 2015-23

Seaborne crude tanker volumes recovering to pre COVID levels

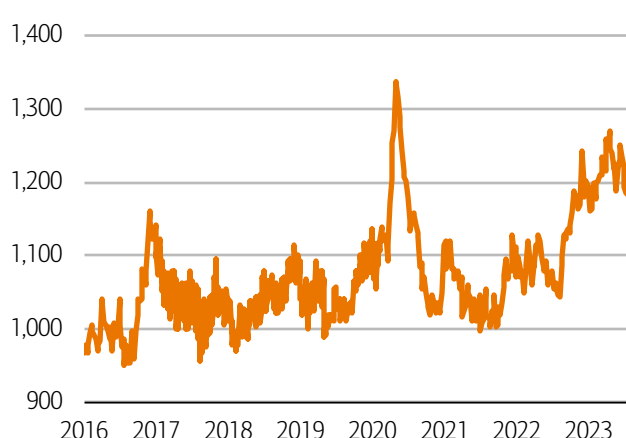


Source: Clarksons

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Exhibit 68: Crude tanker barrels on the water (mn bbl), 2016-23

Crude tanker demand has come off the peaks

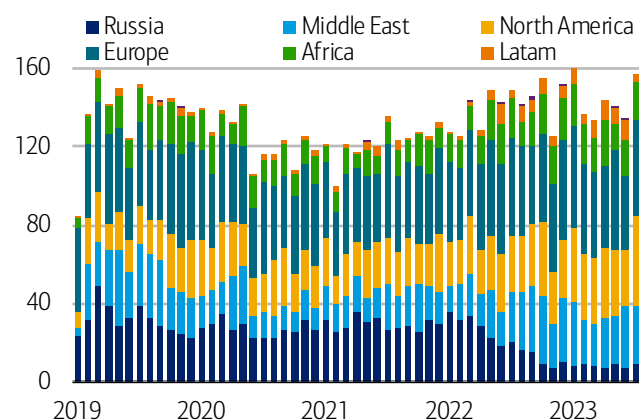


Source: Clarksons

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Exhibit 69: Western Europe seaborne monthly crude imports from non-Russian producers (mn bbl / month), 2019-23

European imports from non-Russia back to normal

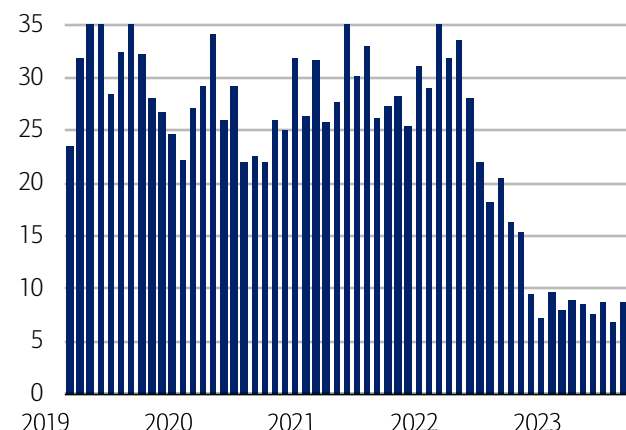


Source: Bloomberg

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Exhibit 70: Western Europe seaborne crude imports from Russia (mn bbl / month), 2019-23

European imports from Russia continue to stay low

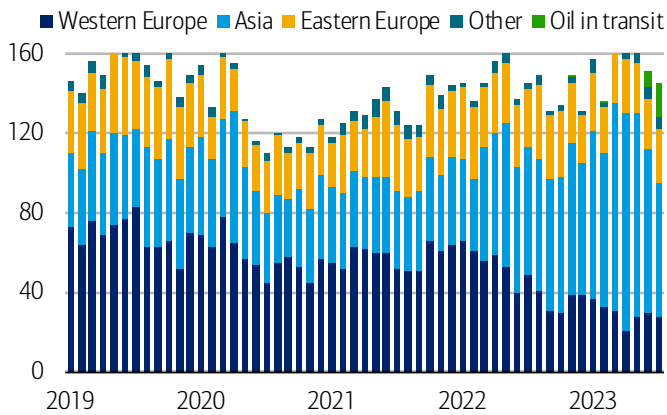


Source: Bloomberg

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Exhibit 71: Russian seaborne crude exports (mn bbl / month), 2019-23

Total Russian crude exports still robust

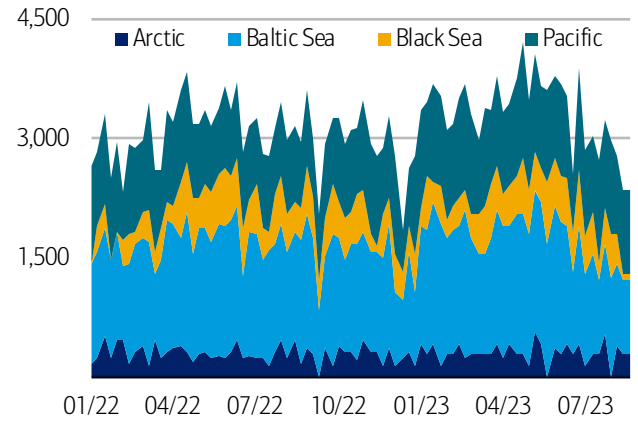


Source: Bloomberg

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Exhibit 72: Russian crude by port (k b/d), 2022-23

Russian exports started to move lower in end of Aug

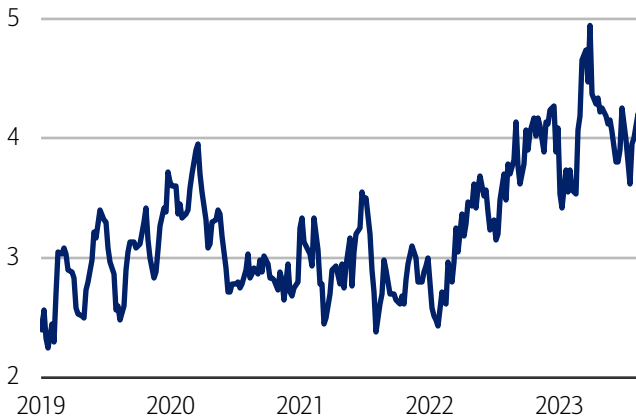


Source: Bloomberg

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Exhibit 73: US crude exports (mn b/d) – 4w MA, 2019-23

US crude oil exports down from the peaks of 1Q23

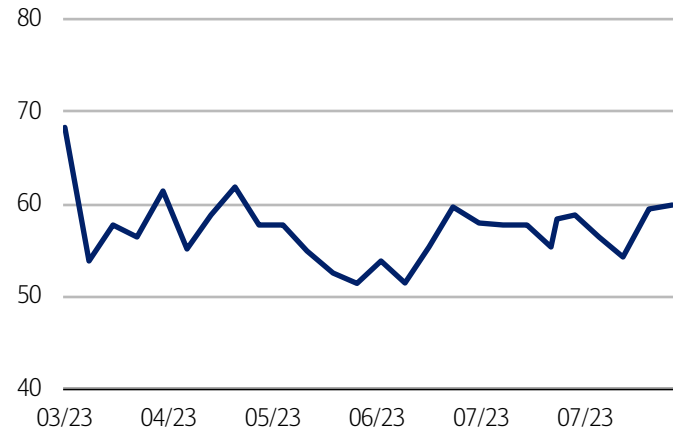


Source: Bloomberg

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Exhibit 74: Weekly crude oil exports (mn b/d), 2023

Global crude oil exports staying robust

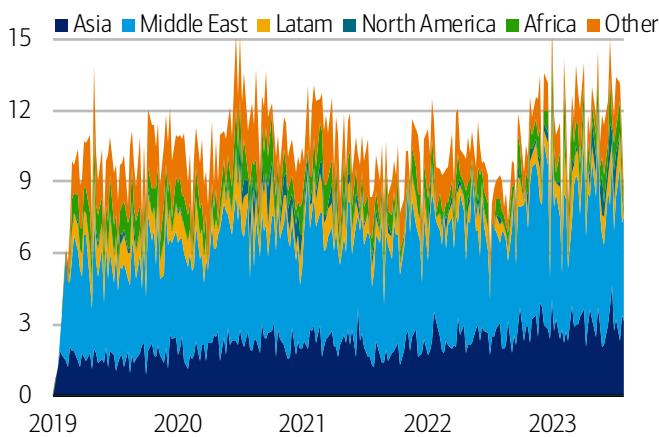


Source: Bloomberg

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Exhibit 75: Chinese weekly crude imports (mn b/d), 2019-23

Chinese imports started to slow at end of July

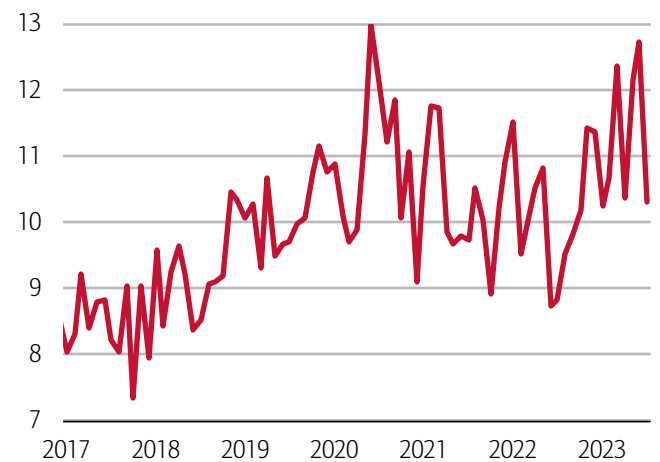


Source: Bloomberg

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Exhibit 76: Chinese crude imports (mn b/d), 2017-23

China crude imports rebounding since March



Source: Bloomberg

BofA GLOBAL RESEARCH

Tanker supply

Exhibit 77: Crude tanker orderbook as % of fleet, 1996-23

Crude tanker orderbook to fleet below 4%

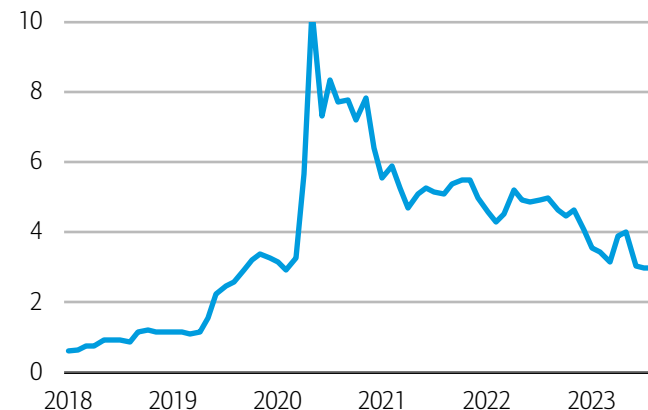


Source: Clarksons

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Exhibit 78: Crude tanker storage as % of fleet, 2018-23

Tanker storage now 3.0% of fleet

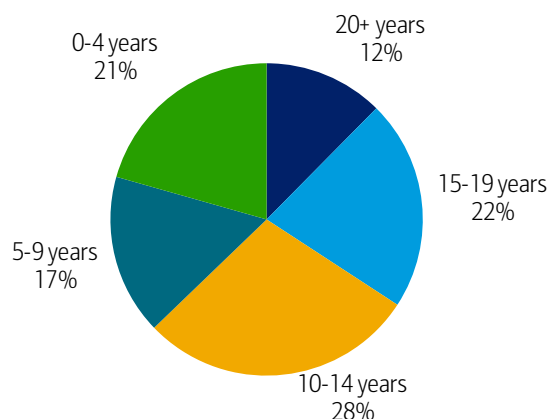


Source: Clarksons

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Exhibit 79: Crude tanker – age distribution, 2023

34% of fleet is older than 15 years

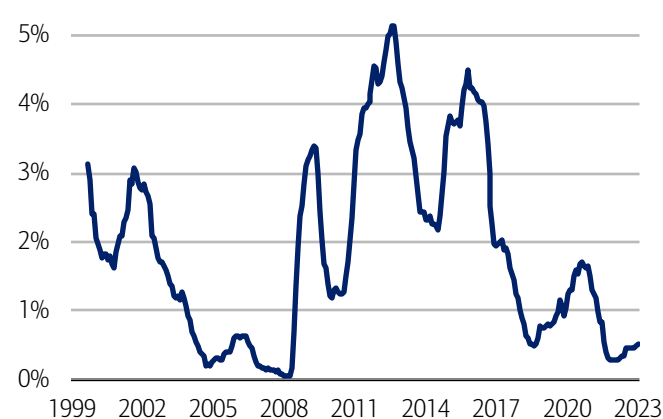


Source: Clarksons

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Exhibit 80: Tanker scrap rate (%) – 1999-2023

Scraping rate down to around 0.5% of fleet



Source: Clarksons

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Crude tanker demand & supply

Exhibit 81: 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%	5.6%	3.0%	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%	0.7%	0.8%
Demand / supply balance	-0.6%	+1.9%	-1.9%	-0.9%	+2.3%	-4.8%	-7.6%	-3.6%	+3.8%	+3.0%	+2.3%	+0.7%
Crude tanker fleet (mn dwt)	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025
Fleet, beginning	340	341	347	368	386	388	417	431	442	446	453	451
New delivery	9	8	21	28	21	28	17	17	9	11	3	5
Scrapping rate	(6)	(1.3)	(1.4)	(9)	(17)	(3)	(3)	(9)	(5)	(4)	(5)	(5)
Others	(2)	(0)	1	(0)	(2)	3	0	4	0	0	0	0
Fleet, Ending, Dwt mn **	341	347	368	386	388	417	431	442	446	453	451	451
Growth	0.4%	2.0%	5.8%	5.1%	0.6%	7.4%	3.3%	2.7%	0.9%	1.4%	-0.4%	0.1%
Floating storage adjustment	0.0%	-1.0%	0.1%	0.8%	0.6%	-1.4%	-2.4%	-2.8%	2.3%	1.2%	1.1%	0.7%
Effective supply growth	0.4%	1.0%	5.9%	5.9%	1.1%	6.0%	0.9%	-0.1%	3.2%	2.6%	0.7%	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%	1.0%	1.0%
Gross delivery rate	2.7%	2.5%	6.0%	7.6%	5.4%	7.2%	4.1%	3.9%	2.1%	2.4%	0.6%	1.1%

Source: Clarksons, BofA Global Research estimates

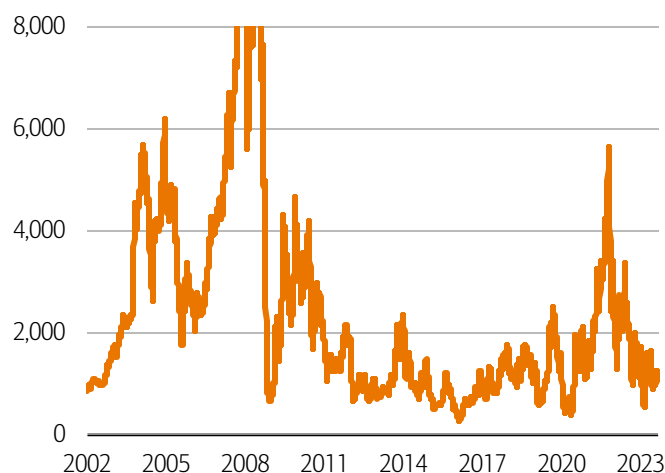
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Dry bulk shipping

Freight rates

Exhibit 82: Baltic Dry Index, 2002-23

BDI at around 1,110

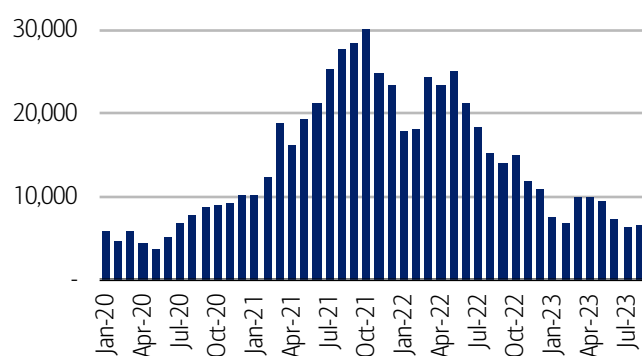


Source: Clarksons

BoFA GLOBAL RESEARCH

Exhibit 84: Handysize spot monthly average (US\$/day), 2020-23*

Spot handysize averaged US\$6.5k/day in August



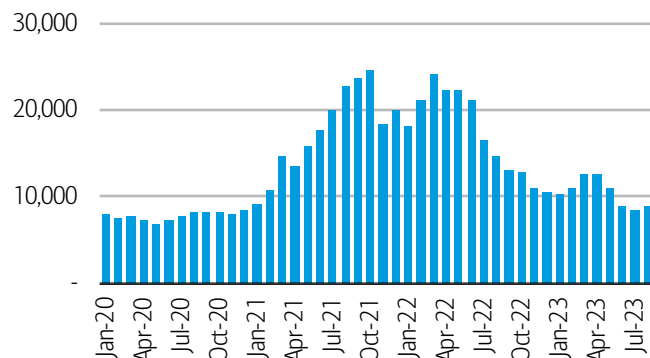
Source: Clarksons, BoFA Global Research estimates

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

BoFA GLOBAL RESEARCH

Exhibit 86: Handysize 1yr TC monthly average (US\$/day), 2020-23*

1yr time charter handysize averaging US\$9.0k/day in Aug



Source: Clarksons, BoFA Global Research estimates

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

BoFA GLOBAL RESEARCH

Exhibit 83: Baltic average rates (US\$/day), 2022-23

Dry bulk quarterly average rates

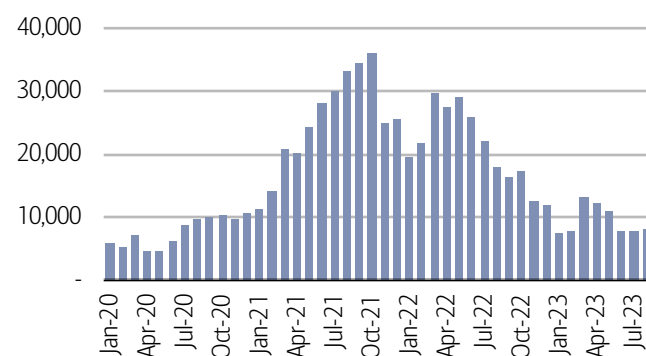
Date	1Q22	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23
BDI	1,977	2,530	1,870	1,523	1,011	1,313	1,034
Capesize	14,746	21,599	16,906	14,906	9,144	15,561	12,893
Panamax 82	23,218	28,901	18,402	16,050	11,326	12,248	9,138
Supramax 58	25,156	27,566	21,396	14,837	10,171	10,763	8,150
Handysize 38	24,084	26,618	21,514	15,028	9,702	10,414	7,504
% YoY							
BDI	14%	-9%	-50%	-56%	-49%	-48%	-45%
Capesize	-14%	-31%	-60%	-65%	-38%	-28%	-24%
Panamax 82	27%	12%	-45%	-45%	-51%	-58%	-50%
Supramax 58	51%	8%	-38%	-51%	-60%	0%	0%
Handysize 38	45%	18%	-33%	-52%	-60%	-61%	-65%
% QoQ							
BDI	-43%	28%	-26%	-19%	-34%	30%	-21%
Capesize	-65%	46%	-22%	-12%	-39%	70%	-17%
Panamax 82	-20%	24%	-36%	-13%	-29%	8%	-25%
Supramax 58	-17%	10%	-22%	-31%	-31%	6%	-24%
Handysize 38	-23%	11%	-19%	-30%	-35%	7%	-28%

Source: Clarksons

BoFA GLOBAL RESEARCH

Exhibit 85: Supramax spot monthly average (US\$/day), 2020-23 *

Spot supramax averaged US\$8.0k/day in August



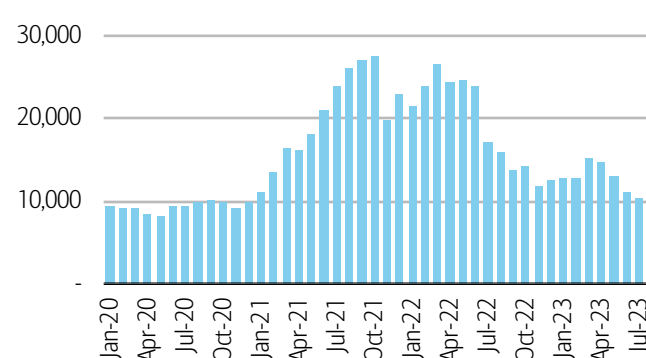
Source: Clarksons, BoFA Global Research estimates

* Commission adjusted to be comparable to PacBasin achieved rates

BoFA GLOBAL RESEARCH

Exhibit 87: Supramax 1yr TC monthly average (US\$/day), 2020-23 *

1yr time charter supramax averaging US\$10.8k/day in Aug



Source: Clarksons, BoFA Global Research estimates

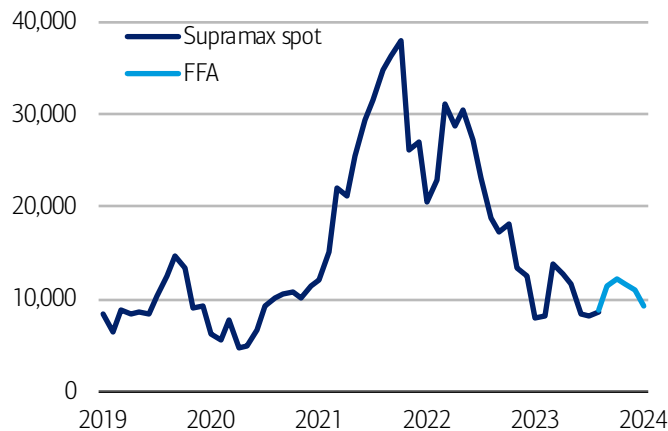
*Size and commission adjusted to be comparable to PacBasin average handy rates

BoFA GLOBAL RESEARCH

Handysize & Supramax FFA outlook

Exhibit 88: Supramax - Freight Forward Agreement, 2019-23

Supra forward curves pointing better 3Q

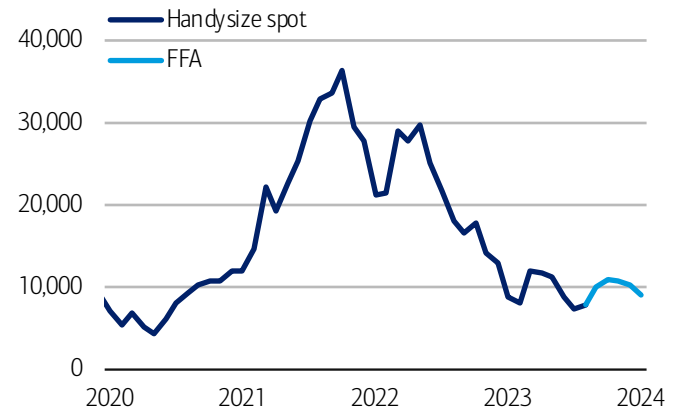


Source: Bloomberg

BofA GLOBAL RESEARCH

Exhibit 89: Handysize - Freight Forward Agreement, 2020-23

Handy forward curves point to a recovery into 2H23



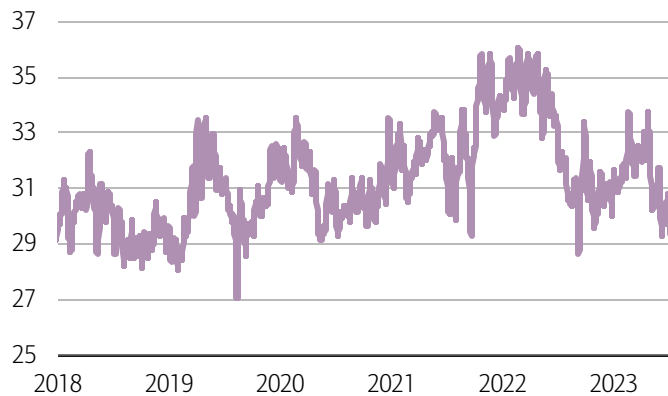
Source: Bloomberg

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Vessel values & port congestion

Exhibit 90: Daily dry bulk fleet at port (anchor or berth) (%)

~28% of dry bulk fleet at port

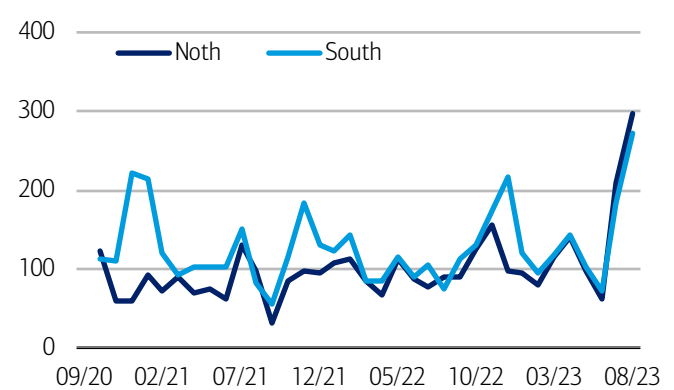


Source: Clarksons

BofA GLOBAL RESEARCH

Exhibit 91: Panama Canal bulker waiting time (hours), 2020-23

Bulk vessel congestion building with average 12-13 day wait time



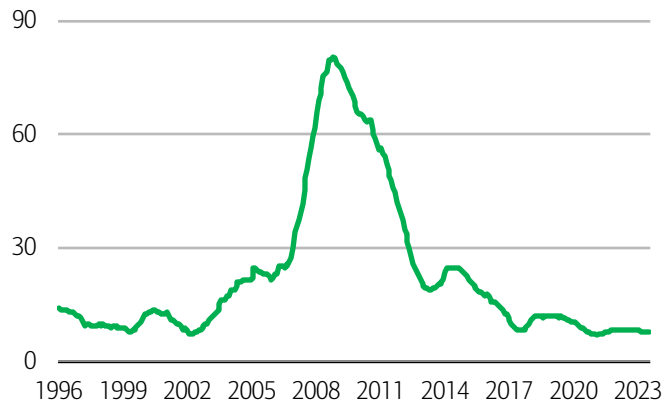
Source: Panama Canal Authority

BofA GLOBAL RESEARCH

Vessel supply

Exhibit 92: Dry bulk orderbook to fleet (%), 1996-2023

Orderbook to fleet down to around 7.7%

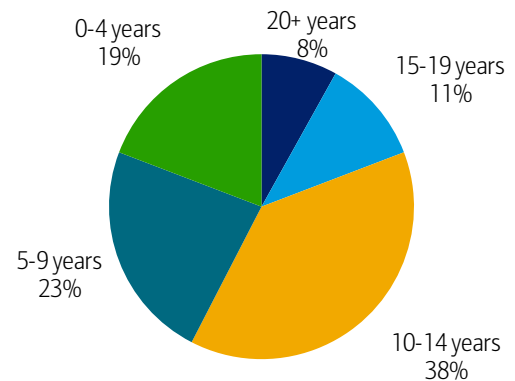


Source: Clarksons

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Exhibit 93: Dry bulk vessel age distribution, 2023

19% of fleet is older than 15 years

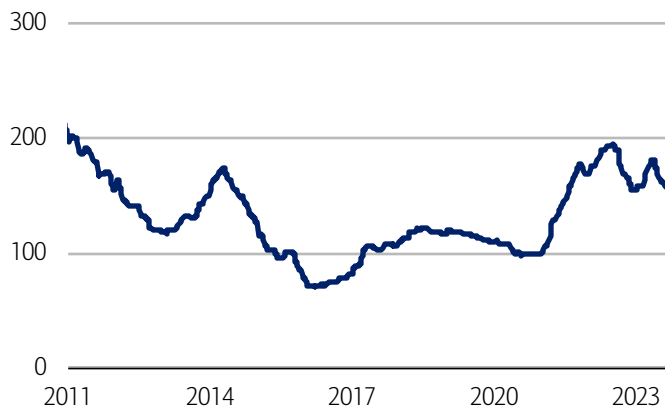


Source: Clarksons

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Exhibit 94: Bulk carrier secondhand vessel price index, 2010-23

Secondhand vessel prices started to come down again in July/Aug

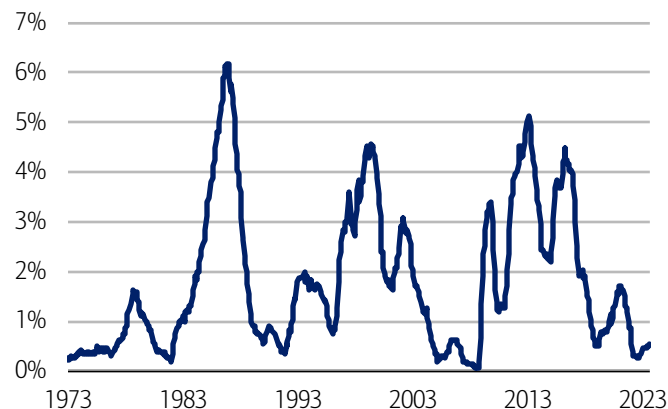


Source: Clarksons

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Exhibit 95: Bulkcarrier scrap rate (%) – 1973-2023

Scrapping rate down to around 0.5% of fleet

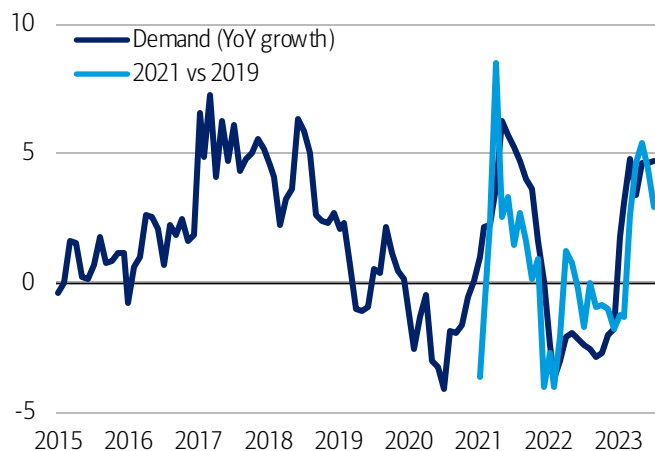


Source: Clarksons

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Dry bulk demand reads**Exhibit 96: Dry bulk demand growth (% YoY), 2015-23**

Dry bulk demand above 2019 levels starting in May 2023

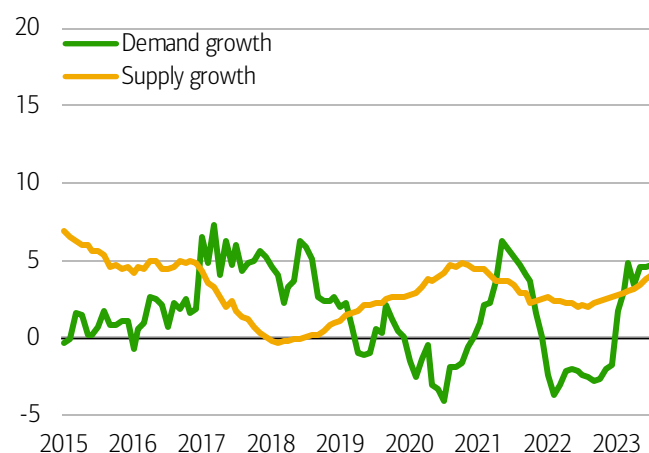


Source: Clarksons

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Exhibit 97: Bulk monthly demand & supply growth (% YoY), 2015-23

Bulk demand growth rebound vs supply growth of +3.0% YoY



Source: Clarksons

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Exhibit 98: Iron ore demand growth (% YoY), 2015-23

Iron ore demand trending at above 2019 levels starting in May 2023

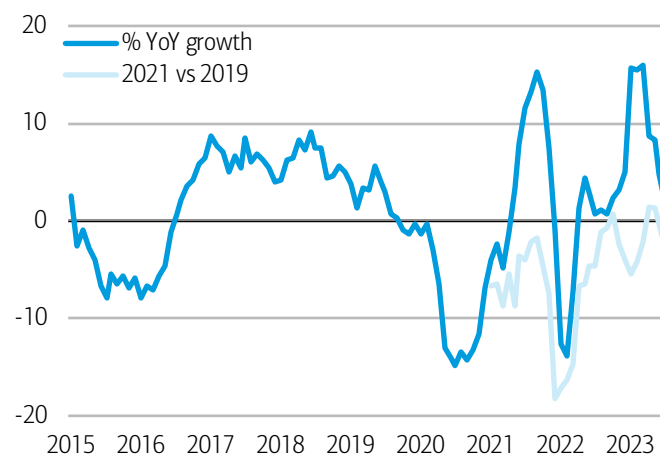


Source: Clarksons

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Exhibit 99: Coal demand growth (% YoY), 2015-23

Coal demand growth trending in-line with 2019 levels

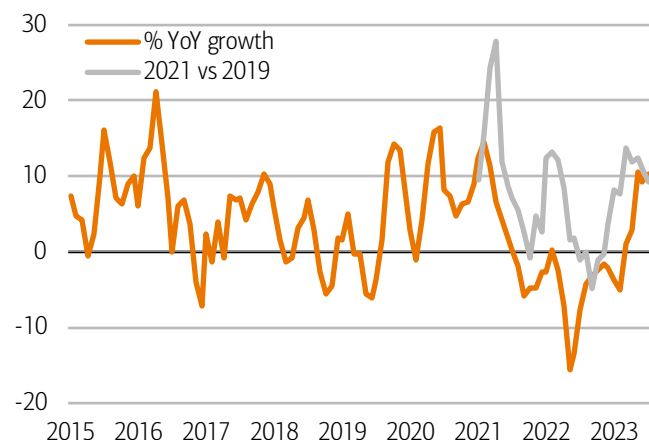


Source: Clarksons

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Exhibit 100: Grain demand growth (% YoY), 2015-23

Grain demand at above 2019 levels starting in May 2023



Source: Clarksons

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Exhibit 101: Minor bulk demand growth (% YoY), 2015-23

Minor bulk demand growth trending slightly below 2019 levels in May 2023

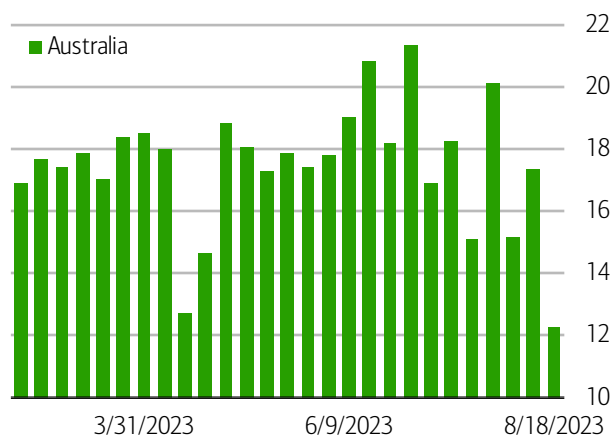


Source: Clarksons

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Exhibit 102: Australia iron ore shipments (mn tn), 2022-23

Australian iron ore exports recovering off cyclone disruptions

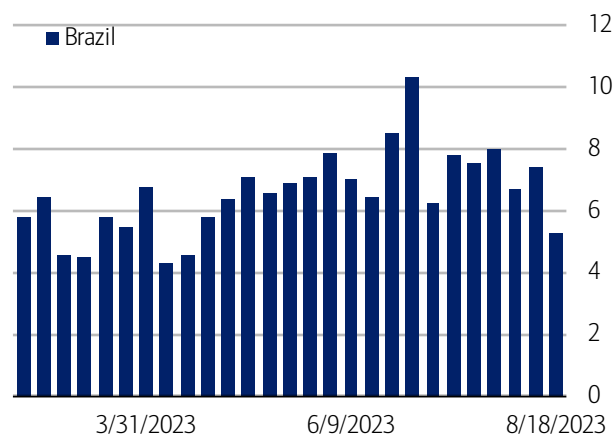


Source: Marcura

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Exhibit 103: Brazil iron ore shipments (mn tn), 2022-23

Brazil iron ore exports relatively stable

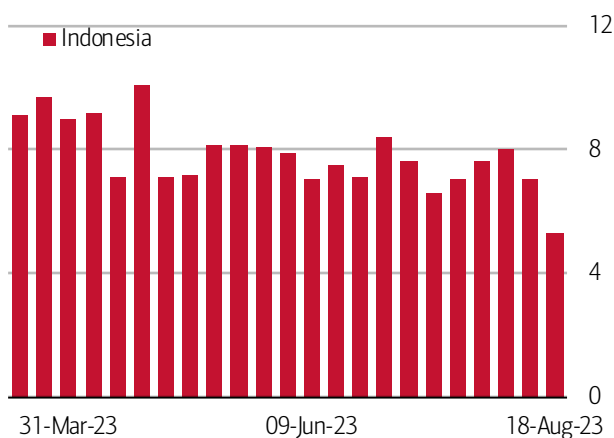


Source: Marcura

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Exhibit 104: Indonesian coal shipments (mn tn), 2022-23

Indonesian exports under some pressure

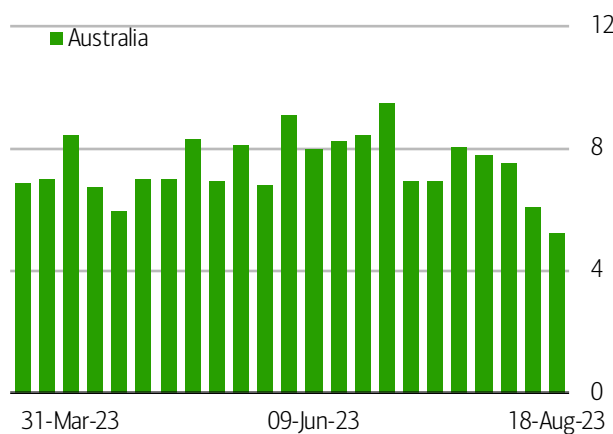


Source: Marcura

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Exhibit 105: Australian coal shipments (mn tn), 2022-23

Aussie coal shipments relatively stable



Source: Marcura

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Dry bulk demand & supply

Exhibit 106: 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%	2.5%	2.3%	2.0%
Fleet Growth	2.3%	3.1%	2.7%	3.0%	4.1%	3.9%	2.9%	2.3%	0.9%	1.0%
Demand / Supply Balance	0.0%	0.8%	0.7%	-2.2%	-4.1%	-0.4%	-4.7%	0.2%	1.4%	1.0%
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	999	1,009
New delivery	47	38	28	41	49	38	32	34	26	23
Demolition	(29)	(15)	(4)	(8)	(15)	(5)	(4)	(11)	(17)	(13)
Others	(0)	1	(1)	0	3	-	-	-	-	-
Fleet, Ending, Dwt mn	798	823	845	879	916	949	976	999	1,009	1,019
Growth	2.3%	3.1%	2.7%	4.0%	4.2%	3.6%	2.9%	2.3%	0.9%	1.0%
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%	2.3%	0.9%	1.0%
Gross delivery rate	6.1%	4.8%	3.4%	4.9%	5.6%	4.2%	3.3%	3.4%	2.6%	2.3%
Scrapping Rate	3.7%	1.8%	0.5%	0.9%	1.8%	0.6%	0.4%	1.1%	1.7%	1.3%

Source: BofA Global Research, Clarksons

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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 %yoy growth, the 2-year and 3-year %change by matching calendar days (Jan 1 '22 matched to Jan 1 '21, Jan 1, 2020 and Jan 1, 2019, respectively). The % change is calculated based on the 7-day moving average of spending levels.

Unless otherwise noted, the monthly subsector data are adjusted to control for seasonality and other factors.

The payroll and tax direct deposit data based on the BAC internal data is derived by anonymizing and aggregating direct deposit data from Bank of America consumer deposit accounts in the US and analyzing that data at a highly aggregated level.

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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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