

Shipping - Global

Shipping & supply chain high frequency tracker #54

Industry Overview

Tracking the high frequency shipping data

This report contains our favorite charts to track the shipping cycle. Container remains extremely volatile with spot rates again under pressure from capacity additions. Forward curves suggest tanker rates should hold at elevated levels through the winter with possible upside risks around stricter enforcement of Russian price caps. Dry bulk looks to be passing the seasonal peak with forward curves pointing to a correction particularly into 1Q24. And car carrier has seen spot rates and vessel charter rates sequentially strengthen helped by ramping Chinese exports and higher port congestion.

Container: Spot rate roller coaster continues

US container imports are holding at 5% above 2019 in 1H November although imports are trending YoY lower again with softer imports on the lagged impact of Chinese October holidays. Momentum around November hikes appears to be faltering with spot rate hikes starting to reverse as liners add more capacity particularly on transpacific, although pre-CNY demand seasonality should help in January 2024.

Tanker: Elevated rates holding through the winter

Tanker exports in October-November have been supported by ramping Middle East and US exports on refinery maintenance. While this boost should ease, watch support from winter seasonality (restocking + operational disruptions) and easing restrictions on Venezuela (helping smaller tankers). VLCC forward rates and time charter rates suggest spot can hold around US\$40-50k/day in the coming months and watch possible stricter enforcement of the Russian price cap which might boost demand for legal tankers.

Bulk: Seasonal dip looms from here

Dry bulk rates are passing through the seasonal peak. Forward rates suggesting capesize rates expected to see softening from here while forward curves have supra and handy rates holding at current levels before a 1Q24 dip, while six month time charters continue to suggest a less negative outlook for supra & handy. Congestion remains elevated in Brazil given heavy export demand and heavy October rains in southern Brazil, while Panama Canal bulk congestion has somewhat eased given alternative routings.

Car carrier: Sequentially tightening in Sept/Oct

Car carrier markets remain extremely tight with spot car carrier rates and time charter rates moving sequentially higher in the past month. The data shows sequential strengthening in Chinese auto exports in recent months, while port congestion remains elevated given Australian quarantine issues and Panama Canal delays.

16 November 2023

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 26 to 28.

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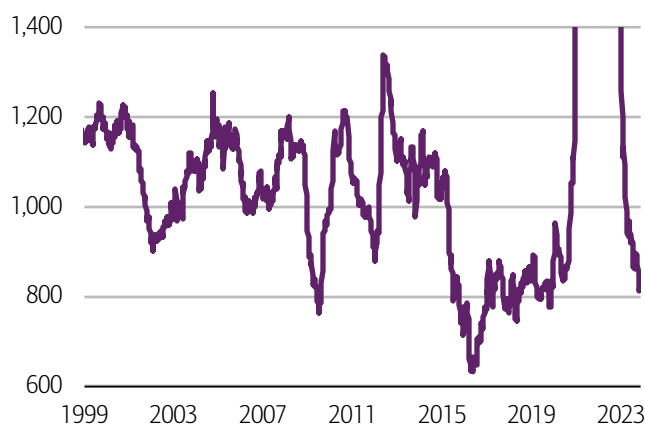
Timestamp: 16 November 2023 06:30AM EST

Container shipping

Blended freight rates

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

WoW: +1.9% MoM: +2.9% YoY: -51% vs 2019: +4%



Source: Shanghai Shipping Exchange

Exhibit 2: CCFI quarterly average, 2022-23

CCFI trending -6% QoQ lower in middle of 4Q 2023

CCFI	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
CCFI	2,950	1,615	1,087	938	876	824
CCFI Europe	4,738	2,497	1,411	1,154	1,059	937
CCFI USWC	2,331	1,079	789	707	733	721
CCFI USEC	2,844	1,746	1,161	886	870	823
% YoY						
CCFI	-1%	-51%	-68%	-70%	-70%	-49%
CCFI Europe	-7%	-53%	-74%	-77%	-78%	-62%
CCFI USWC	13%	-53%	-70%	-72%	-69%	-33%
CCFI USEC	22%	-31%	-57%	-68%	-69%	-53%
% QoQ						
CCFI	-7%	-45%	-33%	-14%	-7%	-6%
CCFI Europe	-6%	-47%	-44%	-18%	-8%	-12%
CCFI USWC	-7%	-54%	-27%	-10%	4%	-2%
CCFI USEC	2%	-39%	-34%	-24%	-2%	-5%

Source: Shanghai Shipping Exchange

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Exhibit 3: CCFI Europe, 2023

MoM: +2.9% YoY: -65% vs 2019: +4%

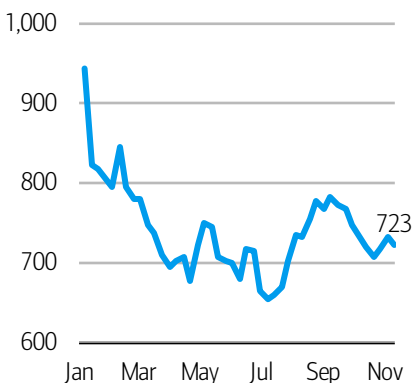


Source: Shanghai Shipping Exchange

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Exhibit 4: CCFI US West Coast, 2023

MoM: +0.2% YoY: -35% vs 2019: +6%

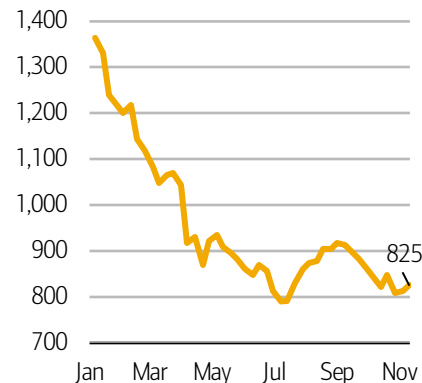


Source: Shanghai Shipping Exchange

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Exhibit 5: CCFI US East Coast, 2023

MoM: +0.2% YoY: -65% vs 2019: -6%

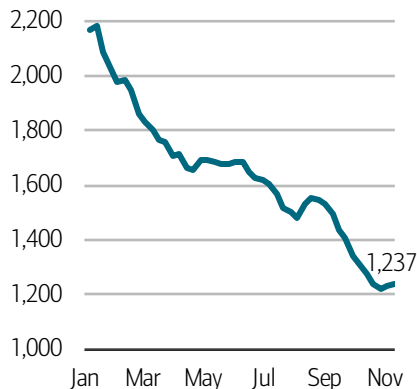


Source: Shanghai Shipping Exchange

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Exhibit 6: CCFI Mediterranean, 2023

MoM: -2.9% YoY: -55% vs 2019: +23%

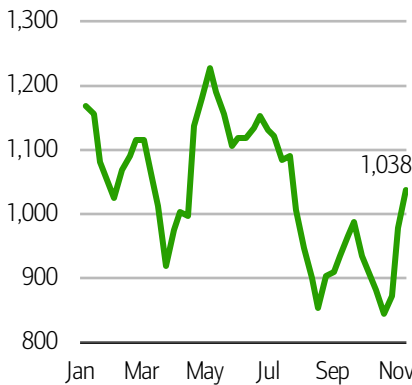


Source: Shanghai Shipping Exchange

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Exhibit 7: CCFI Middle East, 2023

MoM: +17.8% YoY: -32% vs 2019: +18%

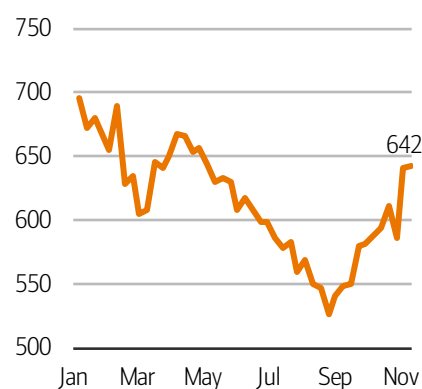


Source: Shanghai Shipping Exchange

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Exhibit 8: CCFI Singapore, 2023

MoM: +8.1% YoY: -23% vs 2019: -5%



Source: Shanghai Shipping Exchange

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Spot freight rates

Exhibit 9: Shanghai Containerized Freight Index (SCFI), 2010-23

WoW: -3.5% MoM: +15.6% YoY: -29% vs 2019: 23%



Source: Shanghai Shipping Exchange

Exhibit 10: 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	984
SCFI Europe	4,656	1,490	926	848	776	678
SCFI USWC	5,278	1,627	1,265	1,419	1,884	1,868
SCFI USEC	8,557	4,126	2,438	2,366	2,768	2,315
% YoY						
SCFI	-24%	-71%	-80%	-77%	-70%	-28%
SCFI Europe	-36%	-80%	-88%	-86%	-83%	-55%
SCFI USWC	-9%	-76%	-84%	-82%	-64%	15%
SCFI USEC	-20%	-62%	-78%	-77%	-68%	-44%
% QoQ						
SCFI	-22%	-58%	-30%	2%	0%	0%
SCFI Europe	-22%	-68%	-38%	-8%	-9%	-13%
SCFI USWC	-32%	-69%	-22%	12%	33%	-1%
SCFI USEC	-18%	-52%	-41%	-3%	17%	-16%

Source: Shanghai Shipping Exchange

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Exhibit 11: SCFI Europe, 2023 (\$/TEU)

MoM: +28.5% YoY: -51% vs 2019: -1%

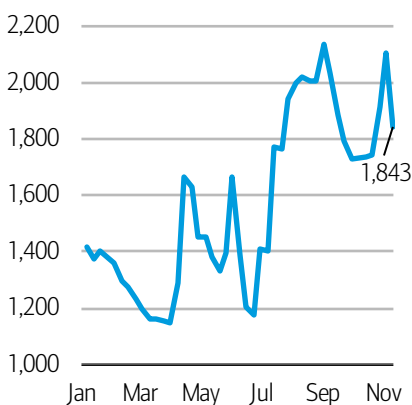


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 12: SCFI US West Coast, 2023 (\$/FEU)

MoM: +6.2% YoY: +13% vs 2019: +20%

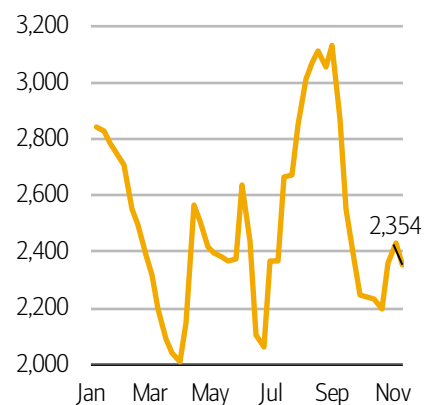


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 13: SCFI US East Coast, 2023 (\$/FEU)

MoM: +5.6% YoY: -44% vs 2019: -9%



Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 14: SCFI Mediterranean, 2023 (\$/TEU)

MoM: +6.4% YoY: -43% vs 2019: +64%

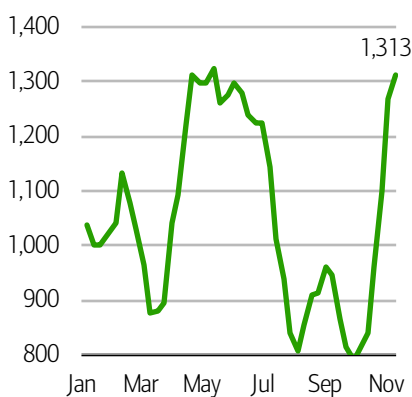


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 15: SCFI Middle East, 2023 (\$/TEU)

MoM: +56.2% YoY: -20% vs 2019: +70%

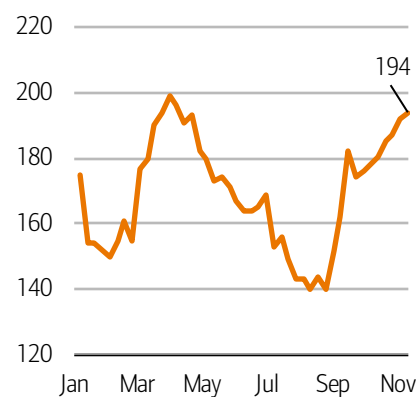


Source: Shanghai Shipping Exchange. \$=USD

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Exhibit 16: SCFI Singapore, 2023 (\$/TEU)

MoM: +7.7% YoY: -44% vs 2019: +29%



Source: Shanghai Shipping Exchange. \$=USD

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Long term blended freight rates

Exhibit 17: CCFI Europe, 1999-2023

CCFI Europe at 953

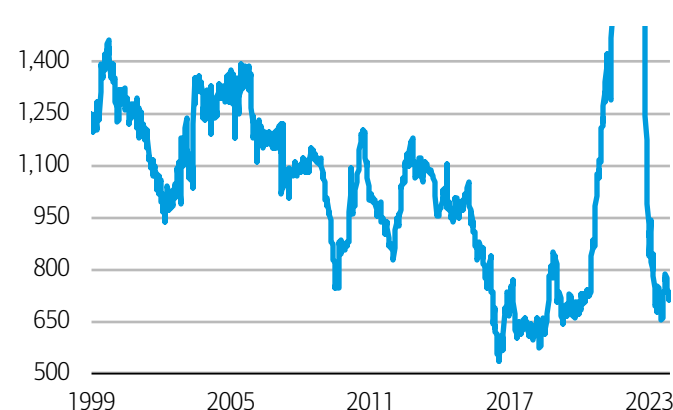


Source: Shanghai Shipping Exchange

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Exhibit 18: CCFI US west coast, 1999-2023

CCFI US west coast at 723

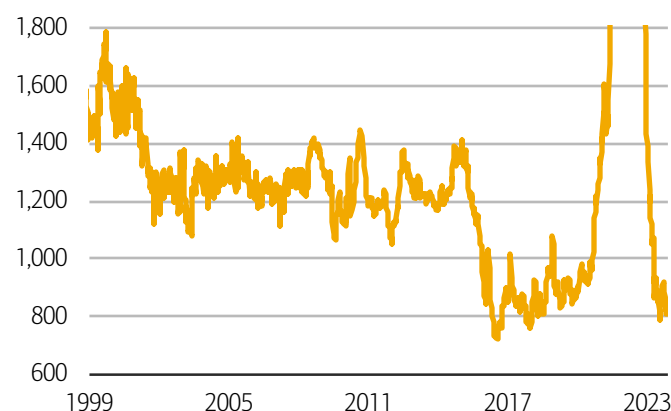


Source: Shanghai Shipping Exchange

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Exhibit 19: CCFI US east coast, 1999-2023

CCFI east coast tracking at 825

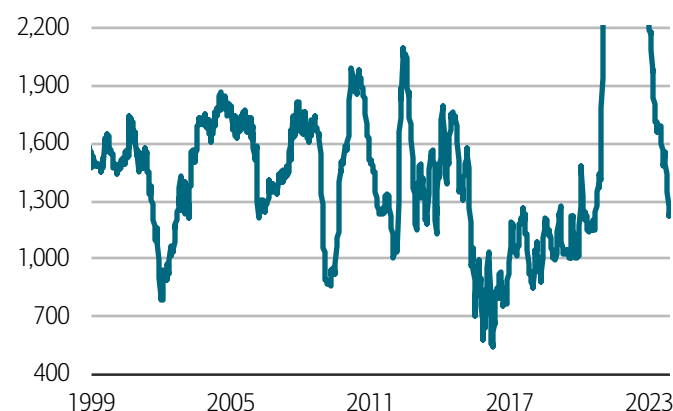


Source: Shanghai Shipping Exchange

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Exhibit 20: CCFI Mediterranean, 1999-2023

CCFI Med tracking at 1,237



Source: Shanghai Shipping Exchange

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Exhibit 21: CCFI Middle East, 2013-23

CCFI Middle East at 1,038

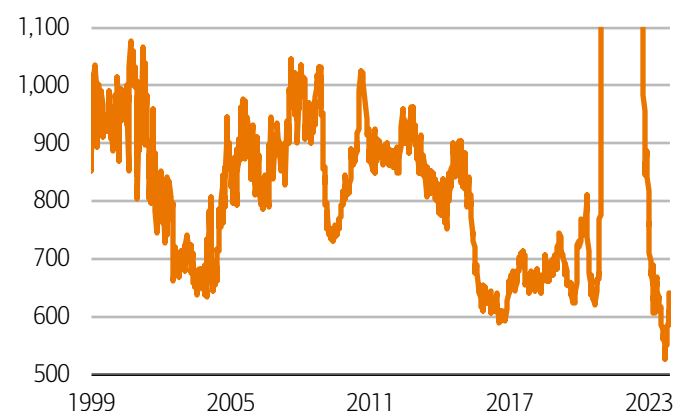


Source: Shanghai Shipping Exchange

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Exhibit 22: CCFI Singapore, 1999-2023

CCFI Singapore at 642



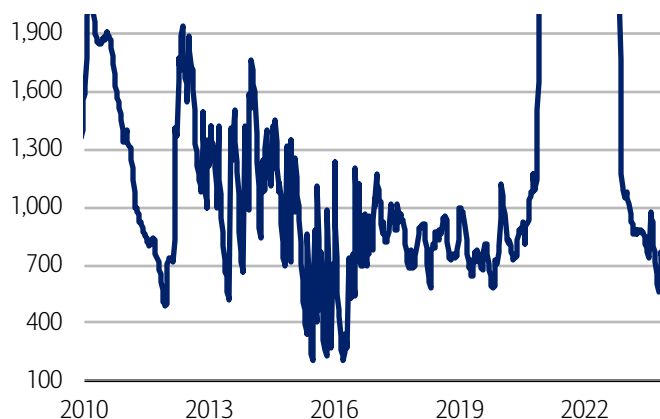
Source: Shanghai Shipping Exchange

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Long term spot freight rates

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

SCFI Europe at US\$722/TEU

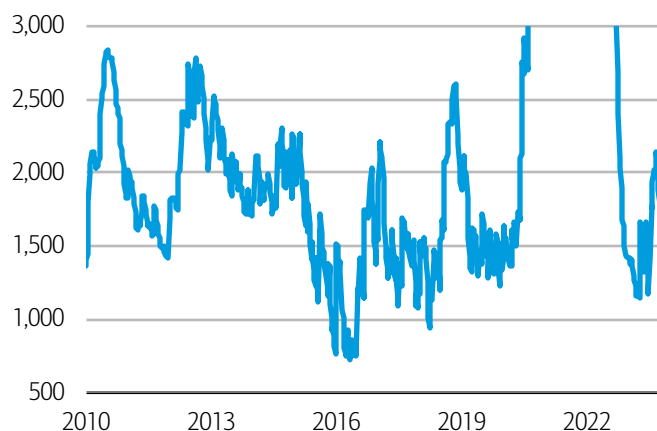


Source: Shanghai Shipping Exchange

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

SCFI USWC at US\$1,843 /FEU

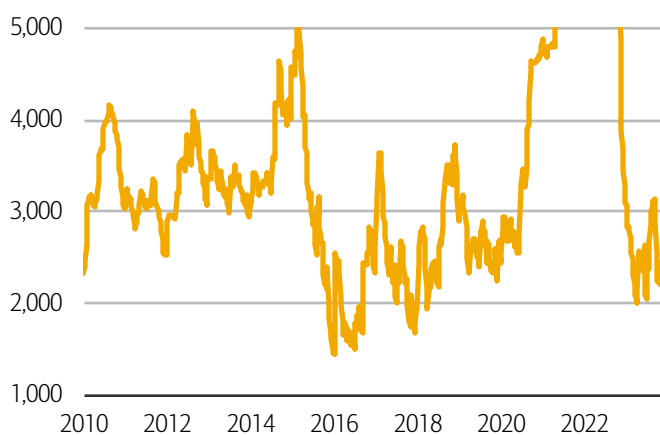


Source: Shanghai Shipping Exchange

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

SCFI USEC at US\$2,354/FEU

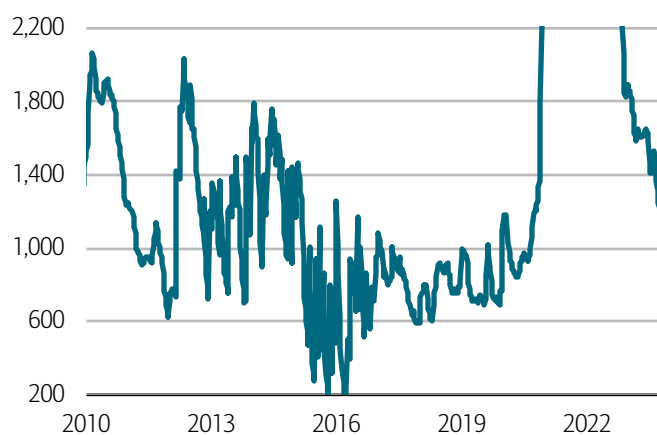


Source: Shanghai Shipping Exchange

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

SCFI Med at US\$1,184 /TEU

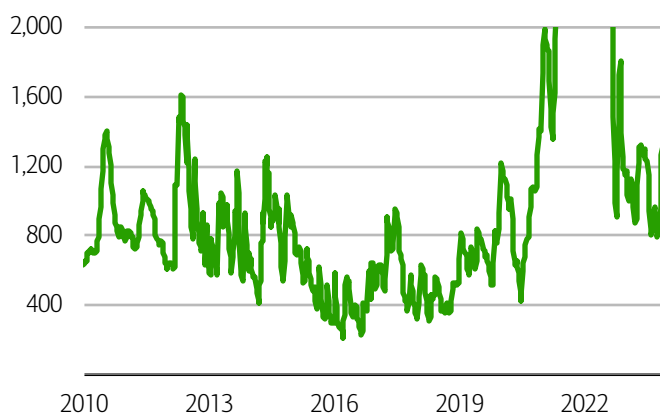


Source: Shanghai Shipping Exchange

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

SCFI Middle East US\$1,313/TEU

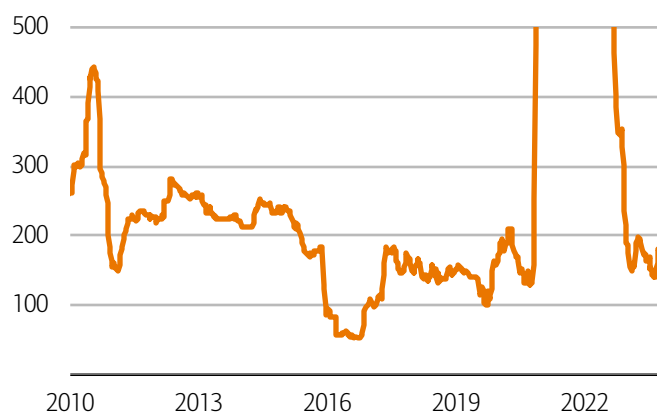


Source: Shanghai Shipping Exchange

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

SCFI Singapore at US\$194 /TEU



Source: Shanghai Shipping Exchange

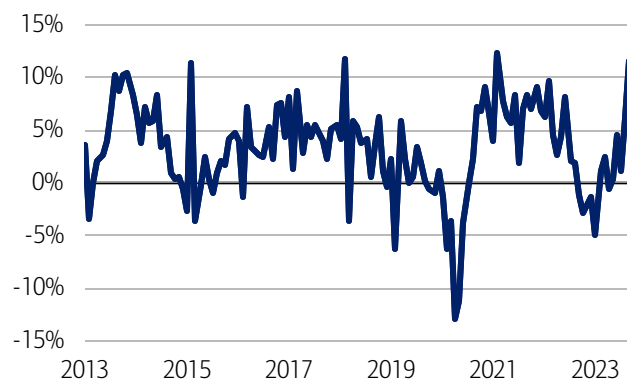
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World trade trends

Exhibit 29: Global container volume growth (YoY %)*

World trade 11.6% above 2019 levels in September

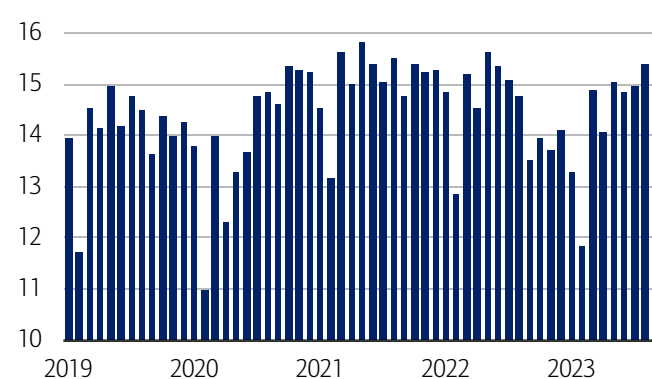


Source: CTS. * 2021 data compared to 2019

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

World trade has been firm since May 2023

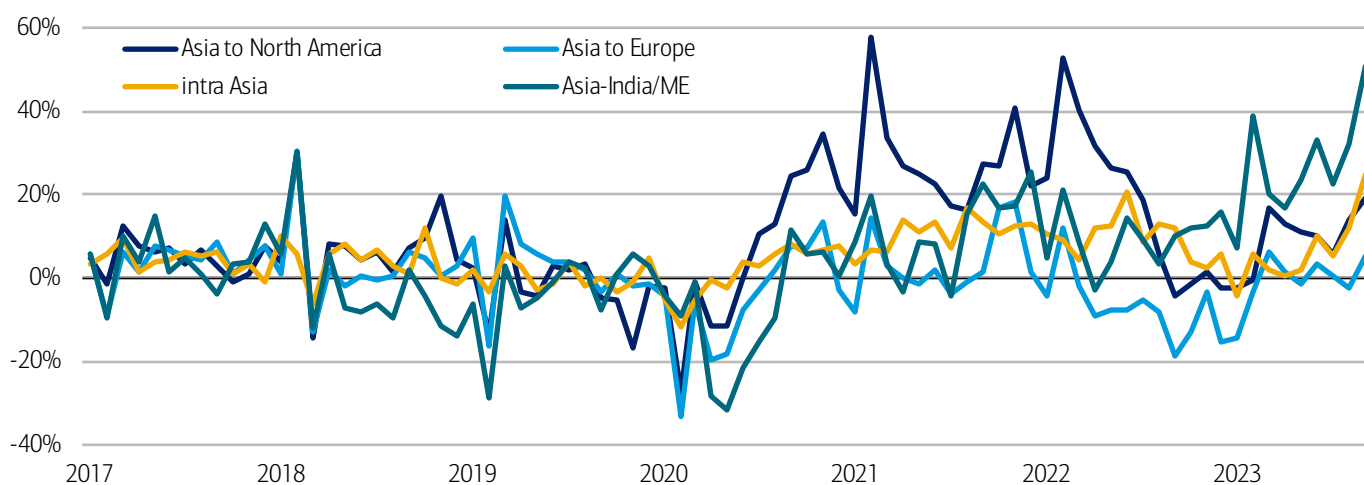


Source: CTS

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

Key trade lane volumes all picked up in November



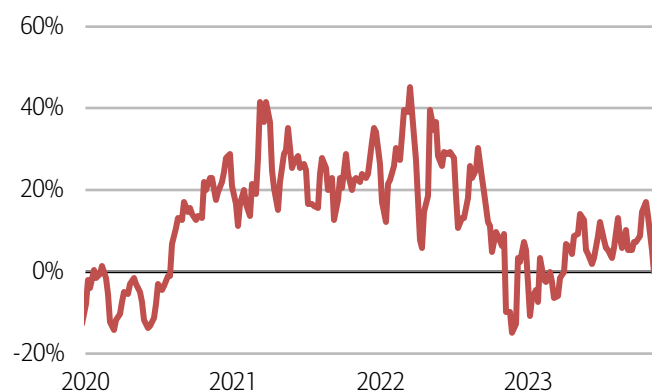
Source: CTS *2021-23 relative to 2019 levels

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US high frequency container volumes

Exhibit 32: US weekly container imports vs 2019 levels

US weekly imports trending slightly above 2019 levels in early November



Source: PIERS

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

US weekly imports up 5.4% YoY in early November

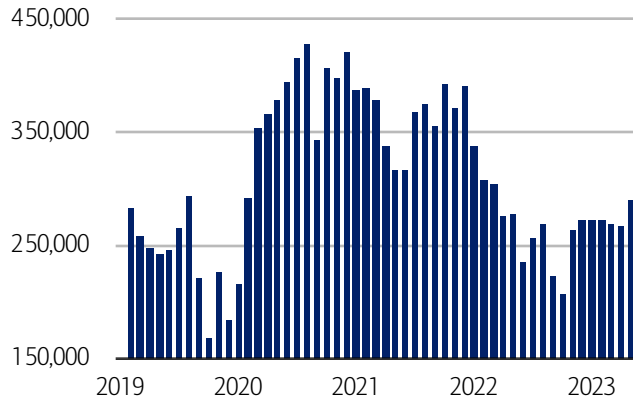


Source: PIERS

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

US furniture imports around 290k TEU/month in October

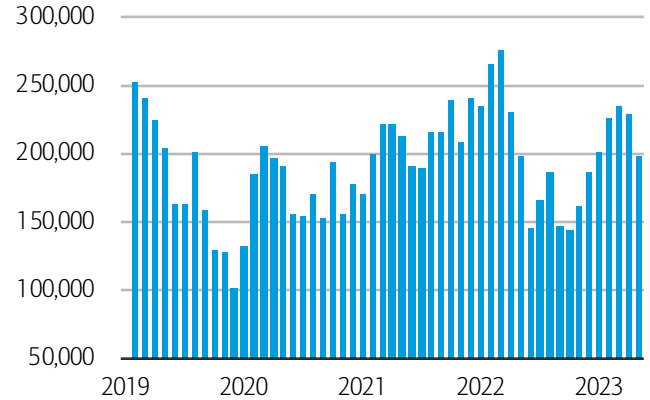


Source: PIERIS

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

US apparel & footwear imports near 198k TEU in October

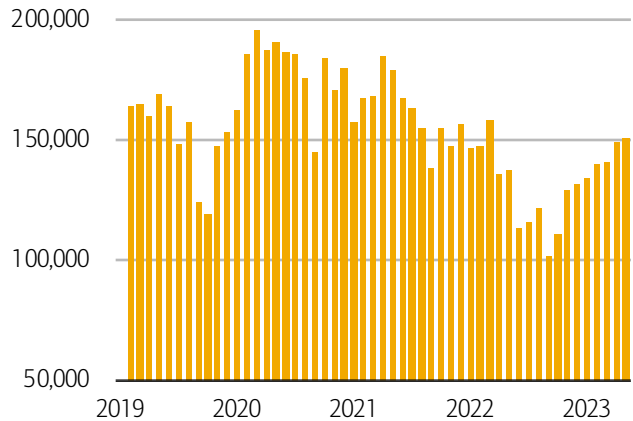


Source: PIERIS

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

US electronics imports trending at 150k TEU/month in October

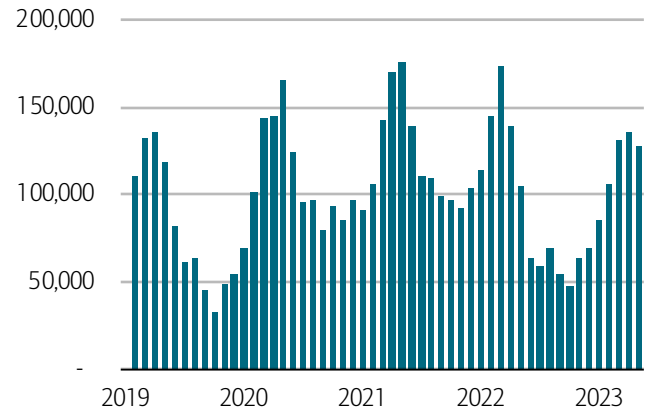


Source: PIERIS

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

US toy & leisure imports at 128k TEU in October



Source: PIERIS

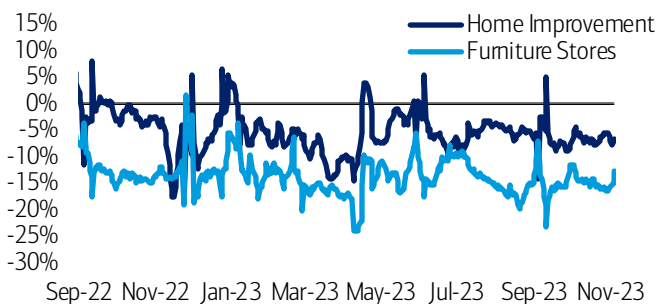
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US consumer reads

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 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

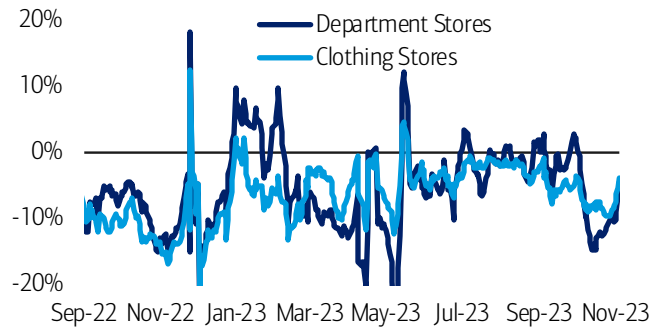


Source: BAC internal data

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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

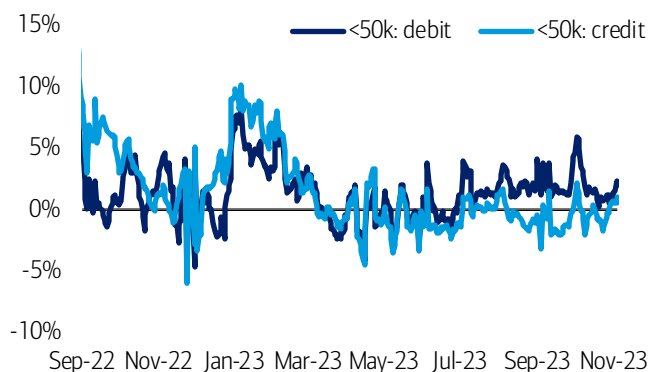


Source: BAC internal data

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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)

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

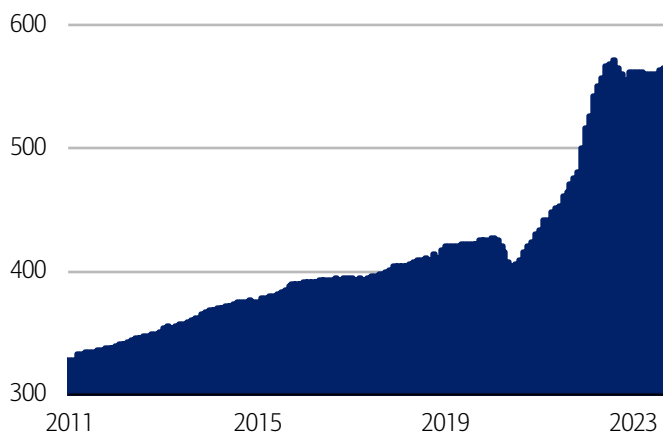


Source: BAC internal data

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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

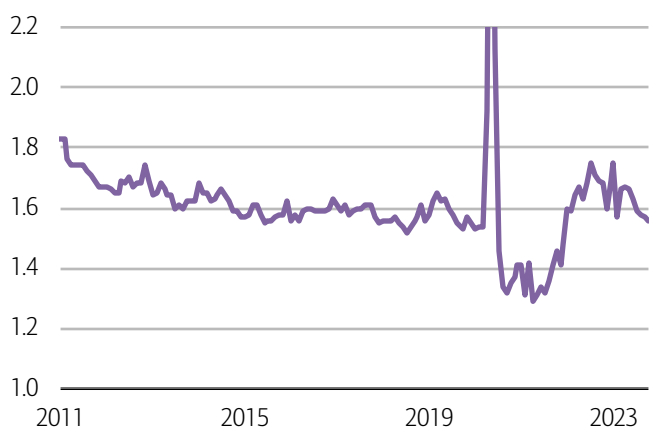


Source: Bloomberg

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

Furniture inventory-to-sale reaching closer to 2019 level



Source: Bloomberg

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Exhibit 41: Aggregated monthly card spending per HH by major category (%m/m, SA)

Card spending in October was a mixed bag across categories

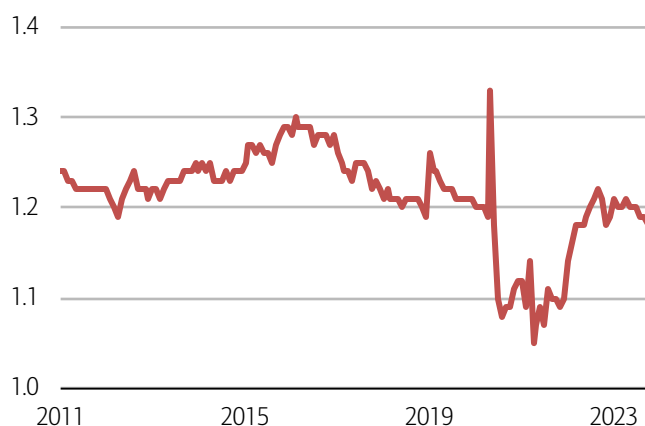
	Oct-23	Sep-23	Aug-23	Jul-23	Jun-23	May-23
Gas	-1.9%	2.1%	6.0%	1.6%	-0.1%	-3.2%
Furniture	-1.5%	-1.5%	-2.6%	-2.6%	-0.5%	1.1%
Home improvement	0.5%	-1.3%	-1.0%	0.0%	-0.9%	1.0%
Clothing	-1.6%	-1.4%	-1.9%	0.7%	-1.6%	1.2%
Grocery	0.9%	-0.3%	0.1%	-0.3%	0.3%	1.3%
General Merchandise	0.2%	0.1%	-0.5%	0.9%	-0.7%	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

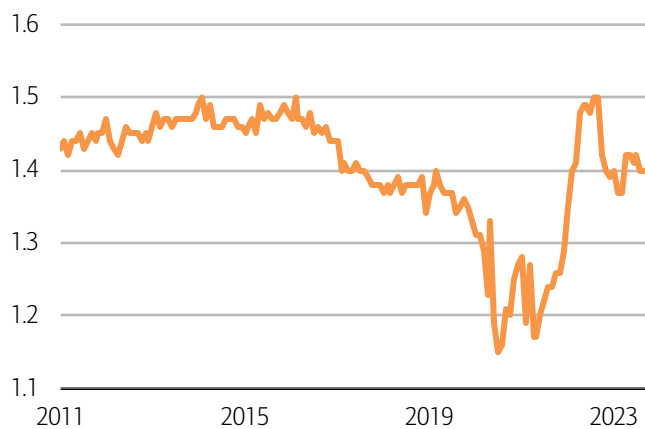


Source: Bloomberg

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

General merchandise inventory-to-sales still slightly above 2019

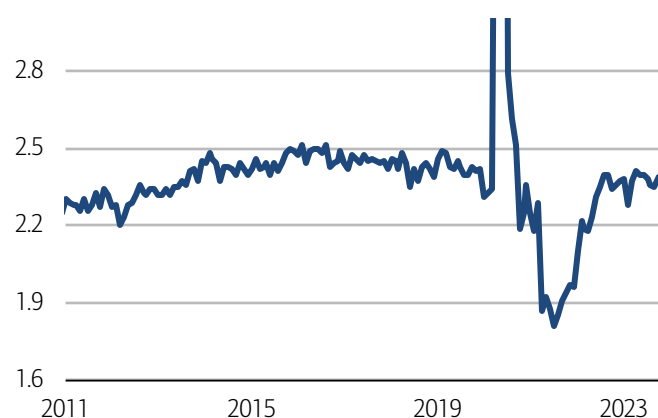


Source: Bloomberg

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

Clothing inventory to sales look more normal back to 2019 levels

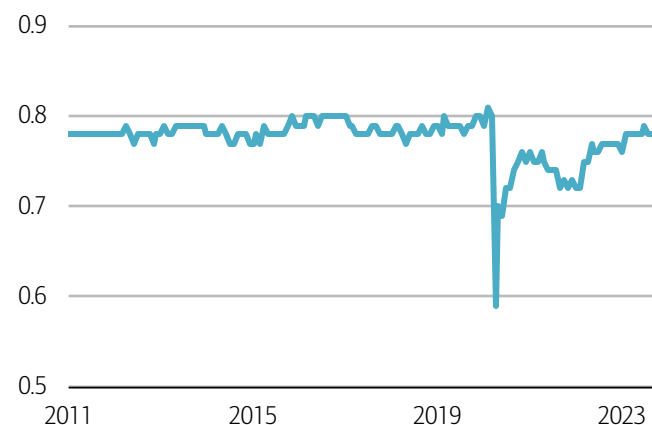


Source: Bloomberg

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

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



Source: Bloomberg

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Idling & port congestion**Exhibit 48: Global port congestion - % of fleet, 2020-23**

Port congestion at 5.6% of fleet

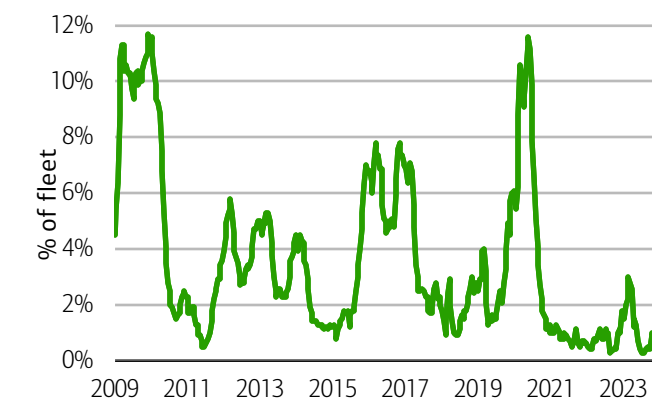


Source: Linerlytica

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

Idling rate slightly up to 0.8% of the fleet

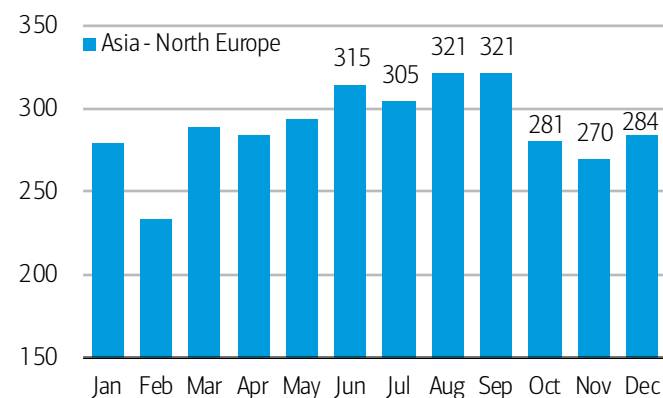


Source: Linerlytica, Alphaliner

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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 into November but up again in December

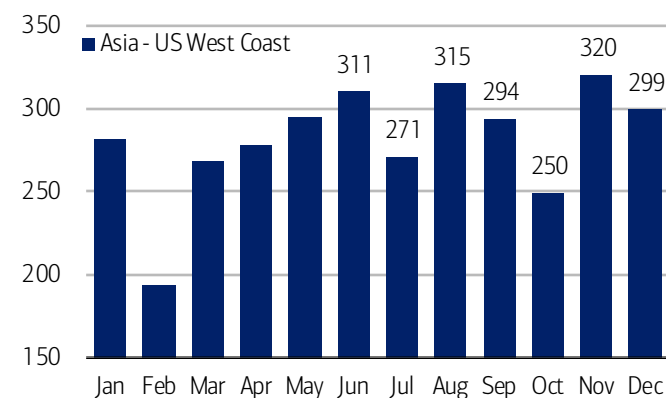


Source: Linerlytica

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

Capacity remains over 300,000 TEU/week in November / December



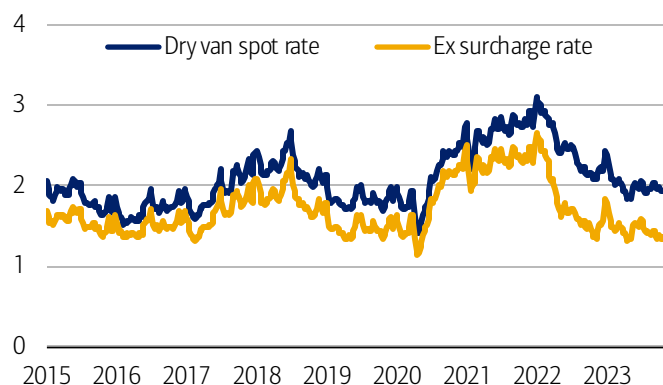
Source: Linerlytica

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US trucking & Panama Canal congestion

Exhibit 52: Spot trucking rates (US\$/mile), 2015-23

Spot trucking rates steadily coming down in November

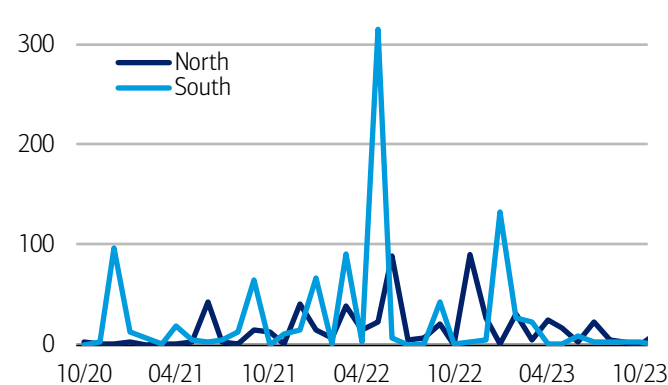


Source: Bloomberg

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

No wait for unscheduled and scheduled ships in October/November



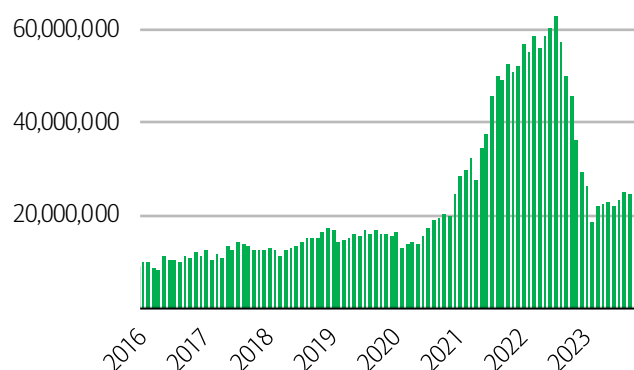
Source: Panama Canal Authority

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Container liner monthly revenue

Exhibit 54: Evergreen – monthly revenue (NT\$)

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

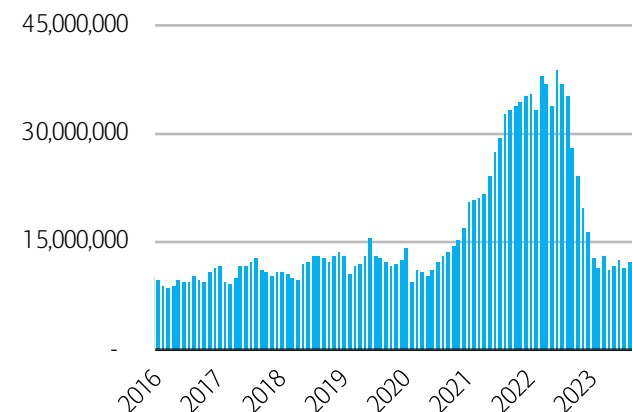


Source: Company reports

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Exhibit 55: Yang Ming – monthly revenue (NT\$)

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



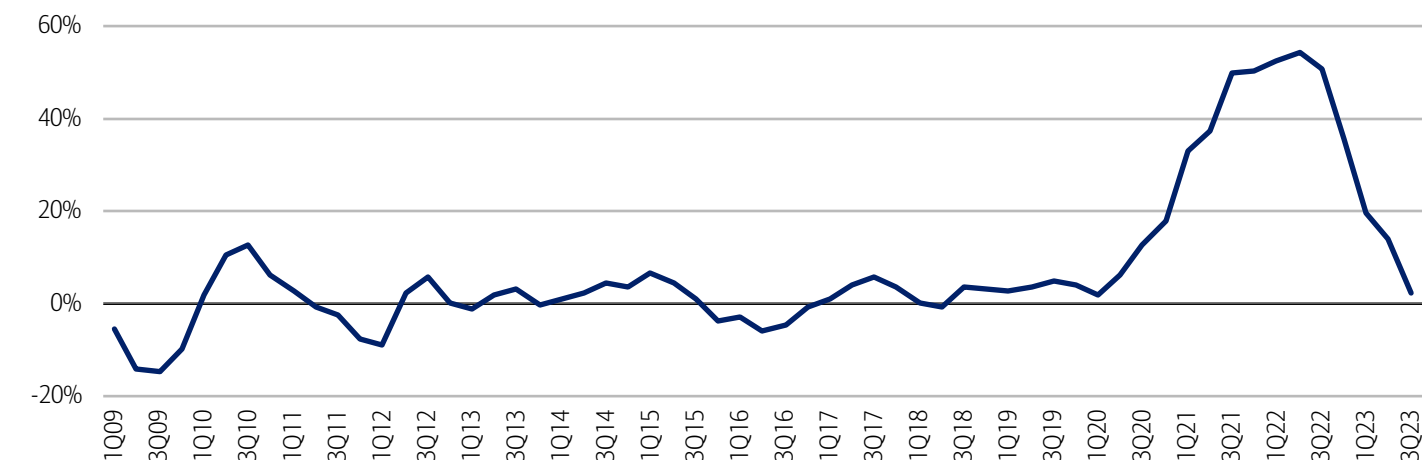
Source: Company reports

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Container liner average EBIT margins

Exhibit 56: Container liner average quarterly EBIT margin, 2009-23

3Q23 operating profit margin continue to decline



Source: Linerlytica

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Vessel supply-side trends

Exhibit 57: Container shipping orderbook to fleet, 1996-2023

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

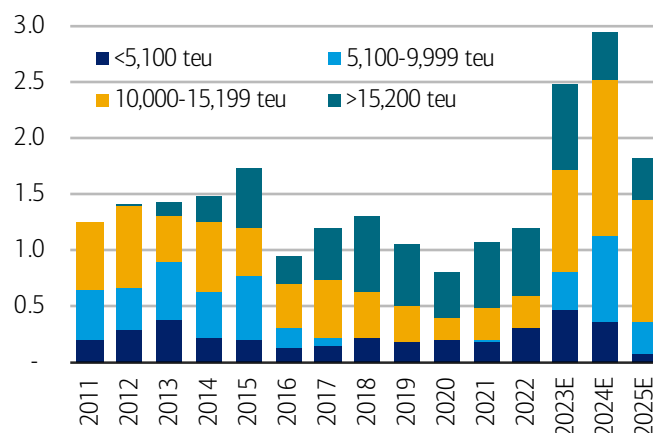


Source: Clarksons

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Exhibit 58: Delivery by vessel size (mn TEU), 2011-2025E

Deliveries ramping into 2024 with ~ 2.9mn TEU for delivery

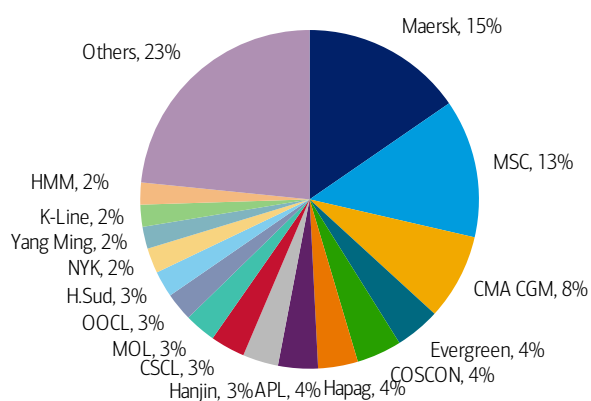


Source: Alphaliner

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Exhibit 59: Container liner capacity share in 2013

Top 16 carriers in 2013 = 77% market share

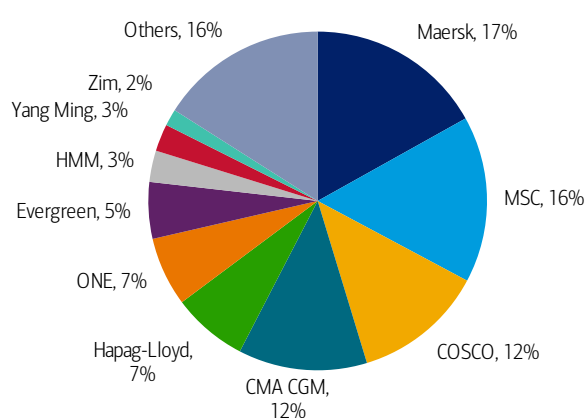


Source: Alphaliner

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Exhibit 60: Container liner capacity share in 2021

Top 10 carriers in 2021 = 85% market share

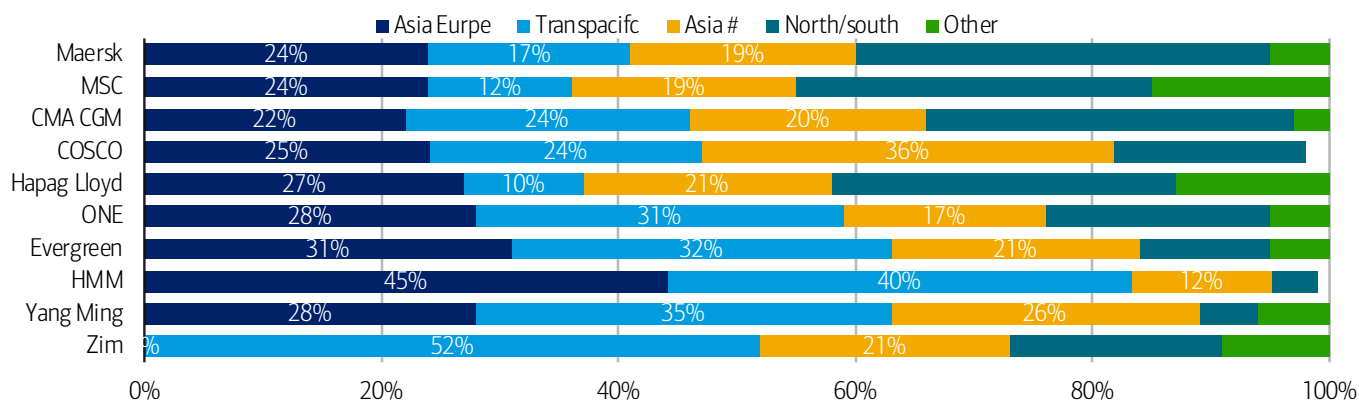


Source: Alphaliner

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Exhibit 61: Container liner capacity by route

Container liner capacity deployment by route

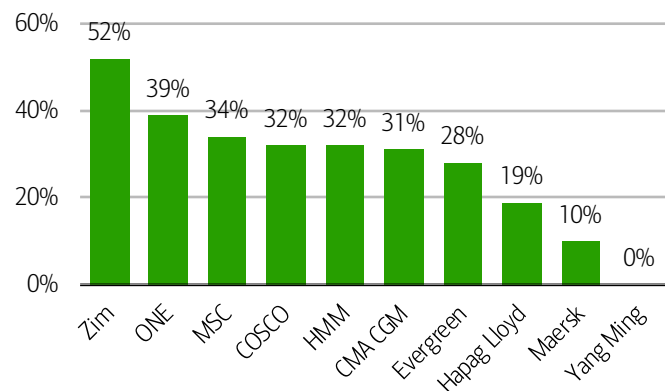


Source: Alphaliner. *Asia includes Middle East, India, Australia

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Exhibit 62: Container liners – orderbook to fleet

Larger orderbooks for Zim, ONE, and MSC

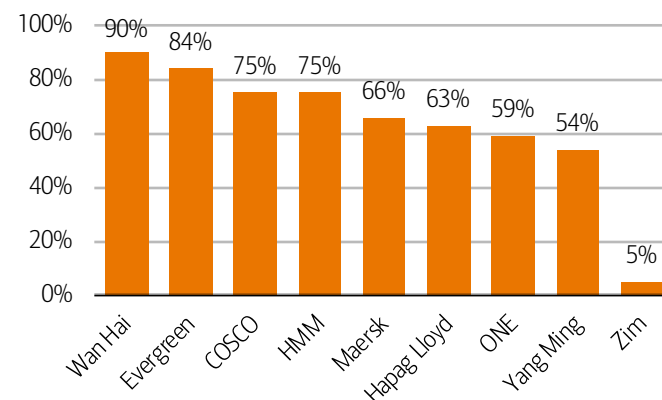


Source: Linerlytica

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Exhibit 63: 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 64: Average containership charter rate (US\$/day), 2008-23**

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



Source: Clarksons

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Exhibit 65: Singapore bunker price (US\$/tonne), 2016-23

VLSFO ~US\$670/tonne and HSFO ~US\$450/tonne

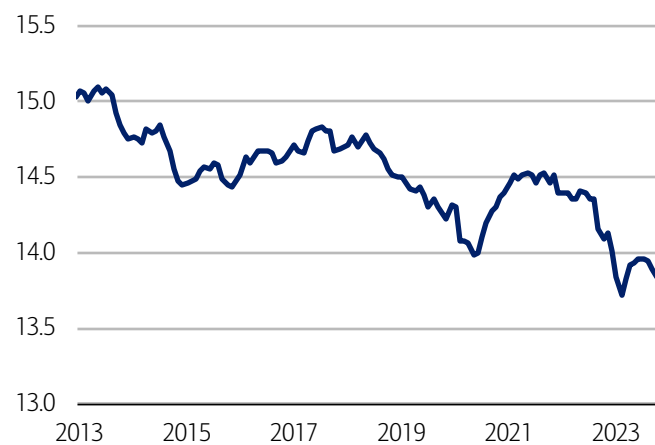


Source: Clarksons

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Container vessel speeds & scrapping**Exhibit 66: Container vessel average sailing speed (knots), 2013-23**

Container vessels now sailing below 14 knots

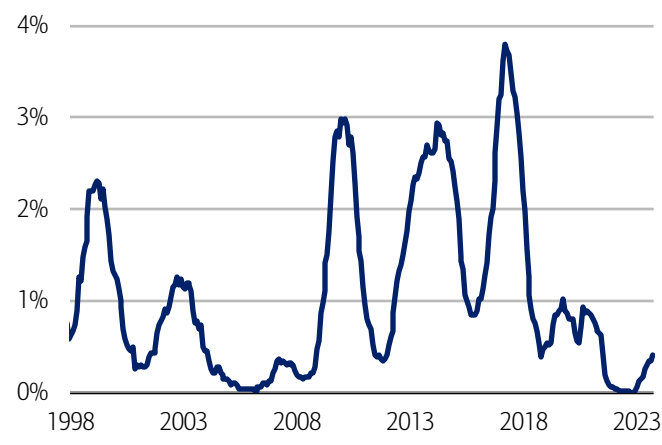


Source: Clarksons

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Exhibit 67: 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 68: 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 69: Average quarterly tanker rates (US\$/day), 2022-23

Average quarterly tanker rates

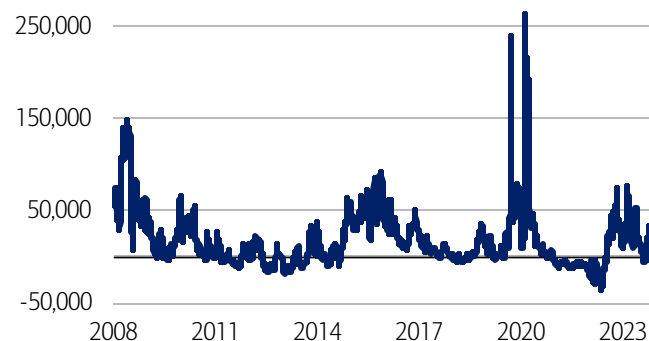
Date	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
VLCC	9,747	42,823	34,498	25,984	8,747	20,386
Suezmax	21,742	21,742	21,742	21,742	21,742	21,742
Aframax	21,860	21,860	21,860	21,860	21,860	21,860
MR	9,749	9,749	9,749	9,749	9,749	9,749
LR2	20,292	20,292	20,292	20,292	20,292	20,292
% YoY						
VLCC	-199%	-633%	-295%	-220%	-10%	-52%
Suezmax	-1959%	1937%	244%	38%	-65%	-35%
Aframax	7427%	964%	197%	28%	-60%	-27%
MR	586%	428%	199%	-24%	-38%	-43%
LR2	67%	135%	149%	78%	-2%	-15%
% QoQ						
VLCC	-145%	339%	-19%	-25%	-66%	133%
Suezmax	41%	76%	-16%	-34%	-64%	224%
Aframax	30%	70%	-18%	-30%	-59%	204%
MR	18%	4%	-30%	-12%	-4%	-4%
LR2	25%	37%	9%	-5%	-31%	18%

Source: Clarksons, Note: 4Q23 data is average of Oct, Nov data

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Exhibit 71: VLCC freight rates (US\$/day), 2008-23

Baltic VLCC rates making recovery in November

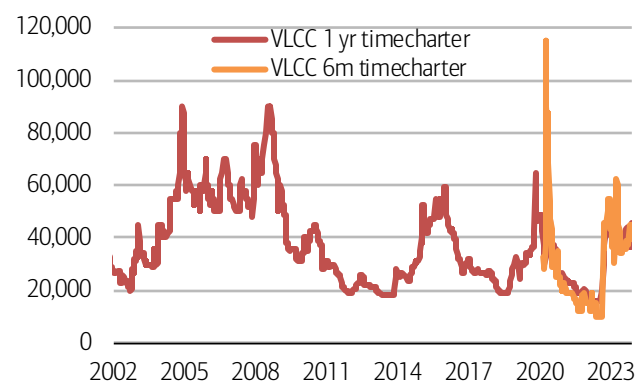


Source: Clarksons

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Exhibit 73: VLCC time charter rates (US\$/day), 2002-23

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

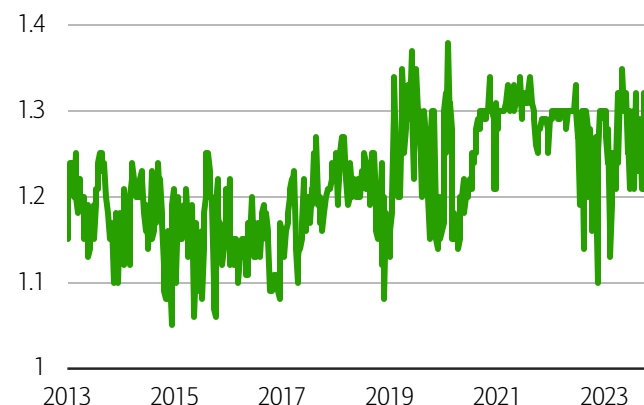


Source: Clarksons

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Exhibit 70: VLCC supply vs demand in Middle East #, 2013-23

VLCC supply vs demand in Middle East #

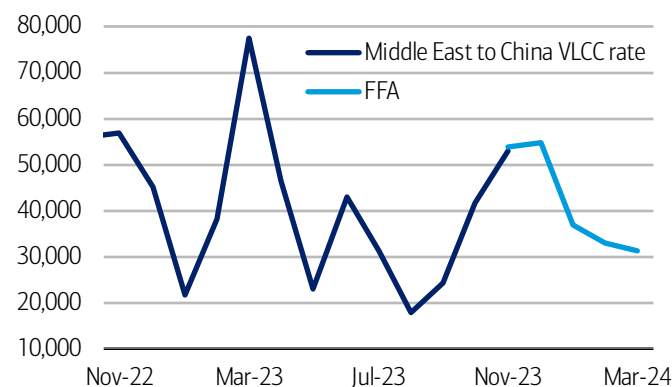


Source: Bloomberg, # 1 indicates equal number of VLCC supply vs demand for next 30 days, 1.1 indicates 10% surplus of VLCC relative to demand in coming 30 days.

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Exhibit 72: VLCC freight forward agreement rates (US\$/day)

Forward curve at ~US\$34k/day into 1Q24

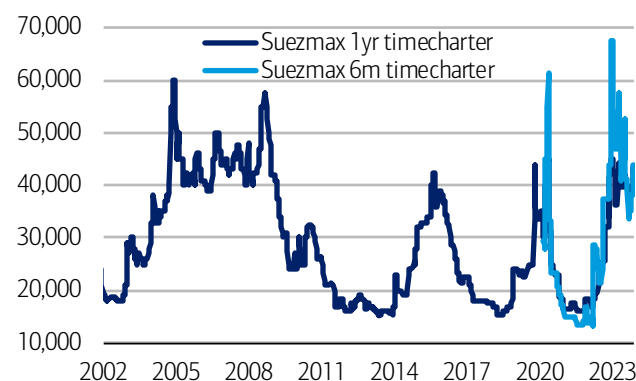


Source: Clarksons, Baltic Exchange

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

One year Suezmax timecharter rates around US\$44k per day



Source: Clarksons

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Crude oil demand

Exhibit 75: Seaborne crude oil volumes (% YoY), 2015-23

Seaborne crude tanker volumes recovering to pre COVID levels

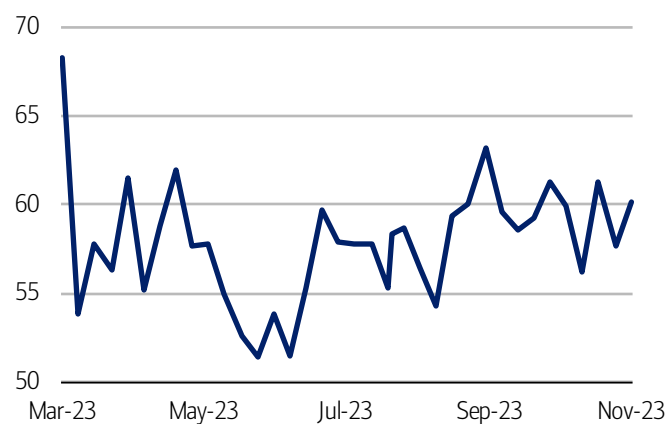


Source: Clarksons

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Exhibit 77: Global weekly crude oil exports (mn b/d), 2023

Global crude oil exports staying robust

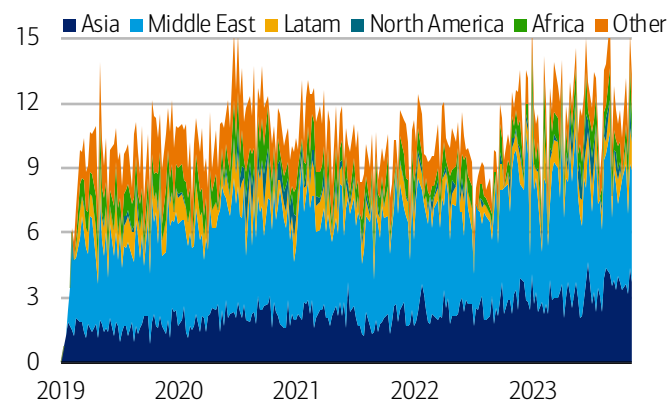


Source: Bloomberg

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Exhibit 79: Chinese weekly crude imports (mn b/d), 2019-23

Chinese imports down from the peak

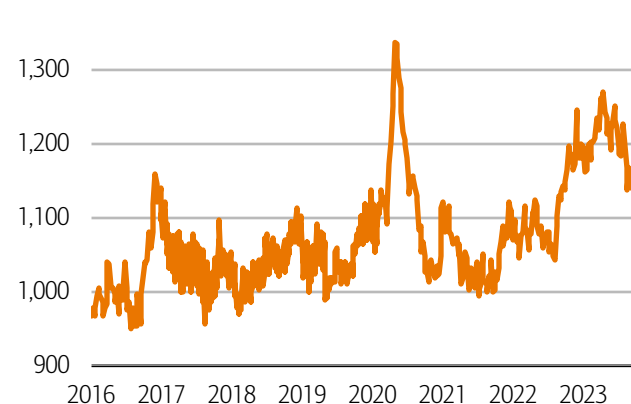


Source: Bloomberg

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Exhibit 76: Crude tanker barrels on the water (mn bbl), 2016-23

Crude tanker demand has come off the peaks

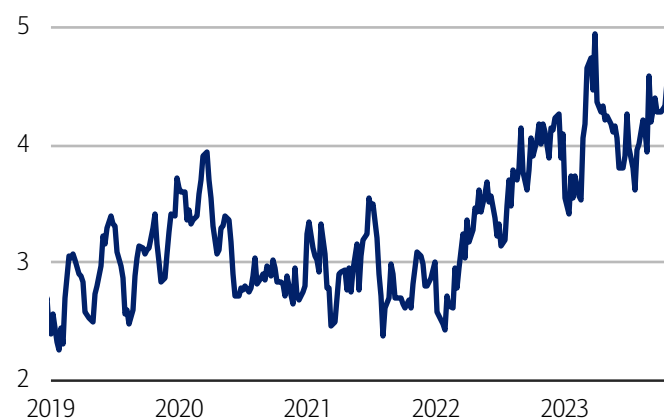


Source: Clarksons

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Exhibit 78: US crude exports (mn b/d) – 4w MA, 2019-23

US crude oil exports started to recover after summer 2023

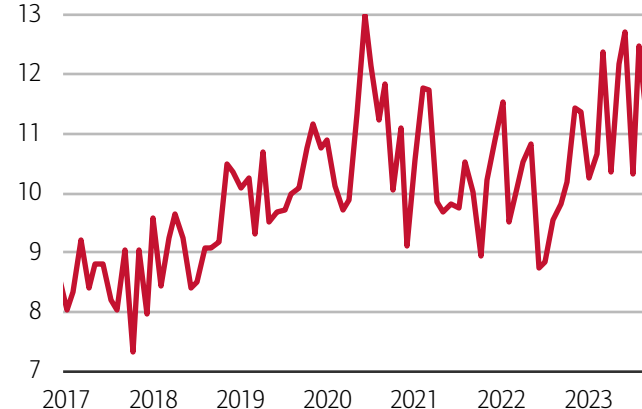


Source: Bloomberg

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Exhibit 80: Chinese crude imports (mn b/d), 2017-23

China crude imports staying volatile

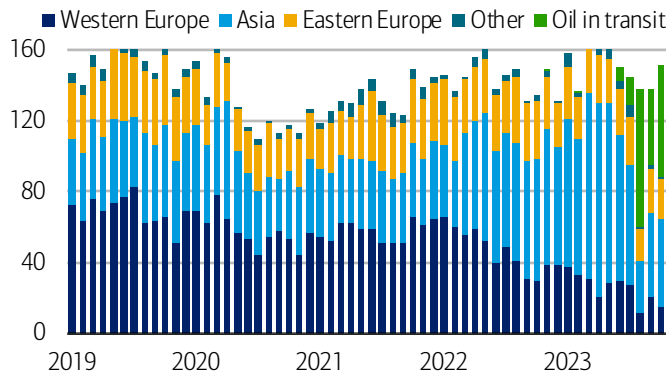


Source: Bloomberg

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Exhibit 81: Russian seaborne crude exports (mn bbl / month), 2019-23

Total Russian crude exports still robust

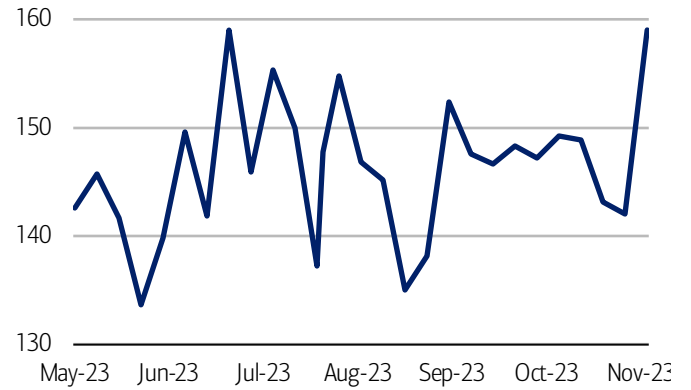


Source: Bloomberg

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Exhibit 82: Middle east crude exports (mm bbl / week), 2023

Middle East exports picked up in November on refinery outages

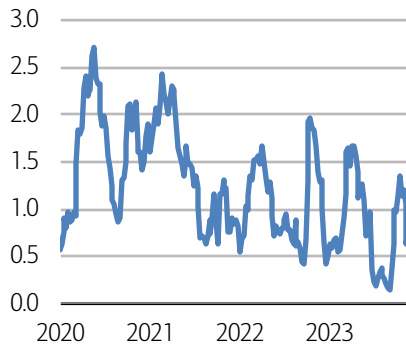


Source: Bloomberg

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Oil refinery outage**Exhibit 83: Refinery outage: Europe & Mediterranean (k bbl / day)**

Outage around 0.8k bbl/day at early November

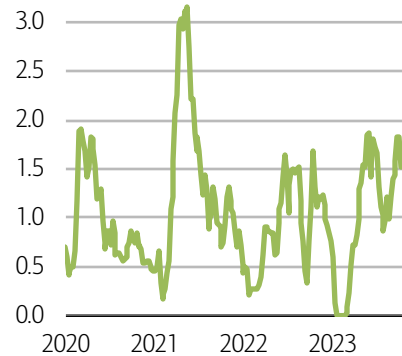


Source: Bloomberg

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Exhibit 84: Refinery outage: Asia (k bbl / day)

Outage around 0.8k bbl/day at early November

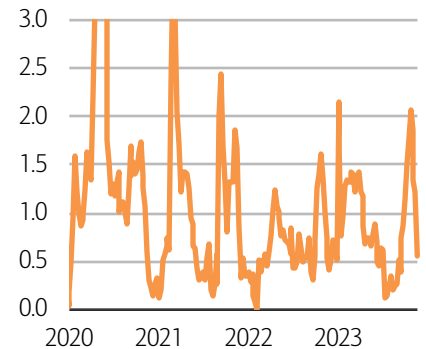


Source: Bloomberg

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Exhibit 85: Refinery outage: North America (k bbl / day)

Reduction in North American outages in Nov



Source: Bloomberg

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Tanker supply

Exhibit 86: Crude tanker orderbook as % of fleet, 1996-23

Crude tanker orderbook to fleet ~4%



Source: Clarksons

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Exhibit 87: Crude tanker storage as % of fleet, 2018-23

Tanker storage now around 2.5% of fleet

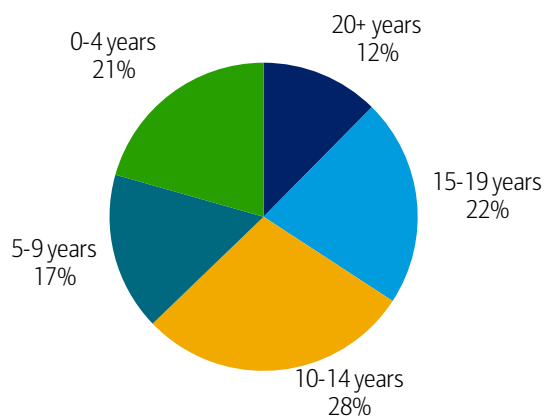


Source: Clarksons

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Exhibit 88: Crude tanker – age distribution, 2023

34% of fleet is older than 15 years

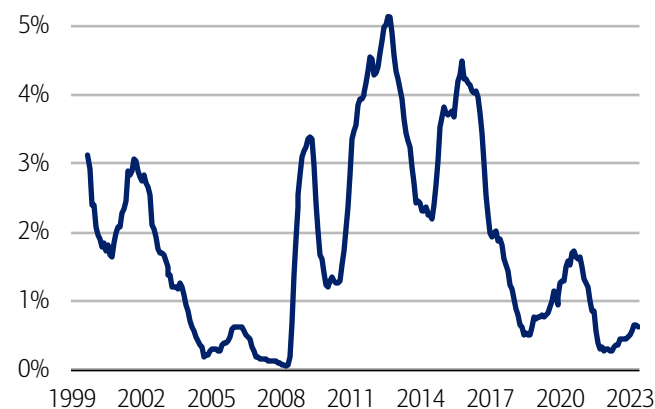


Source: Clarksons

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Exhibit 89: Tanker scrap rate (%) – 1999-2023

Scraping rate down to still around 0.65% of fleet



Source: Clarksons

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Crude tanker demand & supply

Exhibit 90: 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
Scraping 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%
Scraping 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 91: Baltic Dry Index, 2002-23

BDI at around 1,700

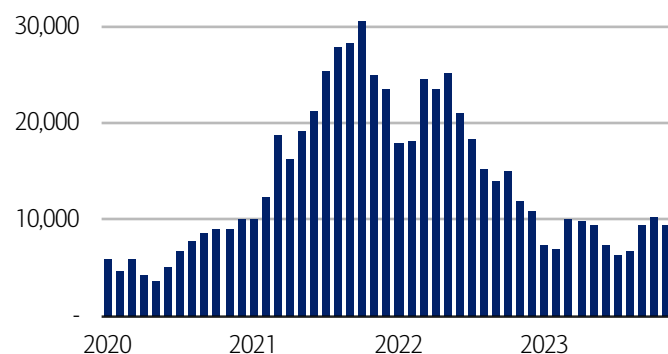


Source: Clarksons

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Exhibit 93: Handysize spot monthly average (US\$/day), 2020-23*

Spot handysize averaged US\$9.5k/day in November



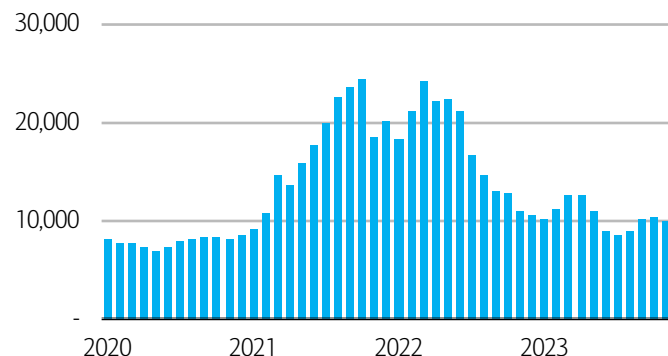
Source: Clarksons, BofA Global Research estimates

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

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Exhibit 95: Handysize 1yr TC monthly average (US\$/day), 2020-23*

1yr time charter handysize averaging US\$10.0k/day in November



Source: Clarksons, BofA Global Research estimates

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

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Exhibit 92: Baltic average rates (US\$/day), 2022-23

Dry bulk quarterly average rates

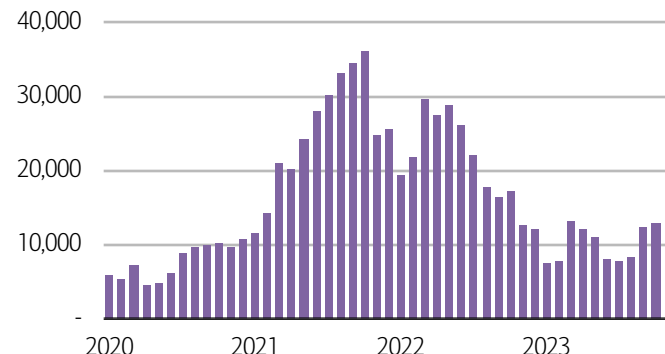
Date	2Q22	3Q22	4Q22	1Q23	2Q23	3Q23	4Q23
BDI	2,530	1,870	1,523	1,011	1,313	1,194	1,777
Capesize	21,599	16,906	14,906	9,144	15,561	13,407	23,733
Panamax 82	28,901	18,402	16,050	11,326	12,248	11,890	14,156
Supramax 58	27,566	21,396	14,837	10,171	10,763	10,028	13,300
Handysize 38	26,618	21,514	15,028	9,702	10,414	8,863	11,950
% YoY							
BDI	-9%	-50%	-56%	-49%	-48%	-36%	17%
Capesize	-31%	-60%	-65%	-38%	-28%	-21%	59%
Panamax 82	12%	-45%	-45%	-51%	-58%	-35%	-12%
Supramax 58	8%	-38%	-51%	-60%	0%	0%	0%
Handysize 38	18%	-33%	-52%	-60%	-61%	-59%	-20%
% QoQ							
BDI	28%	-26%	-19%	-34%	30%	-9%	49%
Capesize	46%	-22%	-12%	-39%	70%	-14%	77%
Panamax 82	24%	-36%	-13%	-29%	8%	-3%	19%
Supramax 58	10%	-22%	-31%	-31%	6%	-7%	33%
Handysize 38	11%	-19%	-30%	-35%	7%	-15%	35%

Source: Clarksons

BofA GLOBAL RESEARCH

Exhibit 94: Supramax spot monthly average (US\$/day), 2020-23 *

Spot supramax averaged US\$11.5k/day in November



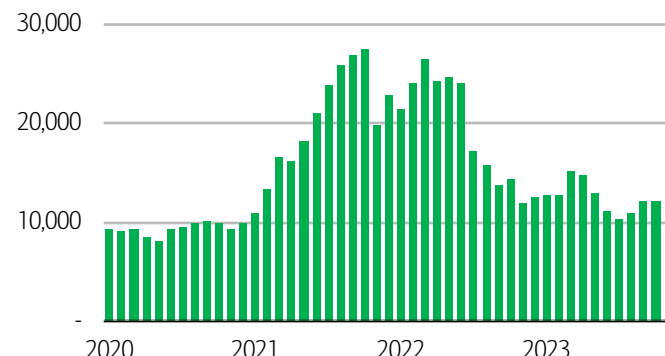
Source: Clarksons, BofA Global Research estimates

* Commission adjusted to be comparable to PacBasin achieved rates

BofA GLOBAL RESEARCH

Exhibit 96: Supramax 1yr TC monthly average (US\$/day), 2020-23 *

1yr time charter supramax averaging US\$11.5k/day in November



Source: Clarksons, BofA Global Research estimates

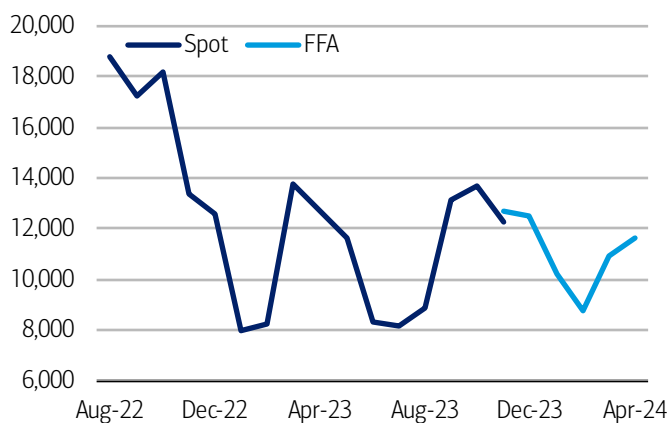
*Size and commission adjusted to be comparable to PacBasin average handy rates

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Handysize & Supramax FFA outlook

Exhibit 97: Supramax - Freight Forward Agreement, 2023-24

Supra forward curves pointing down from here

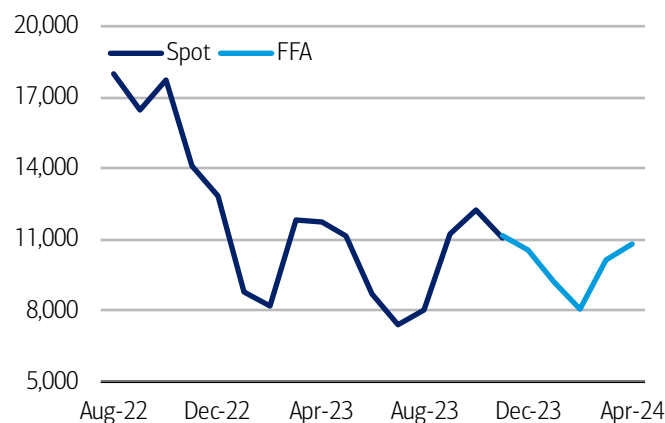


Source: Bloomberg

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Exhibit 98: Handysize - Freight Forward Agreement, 2023-24

Handy forward curves point to down from here



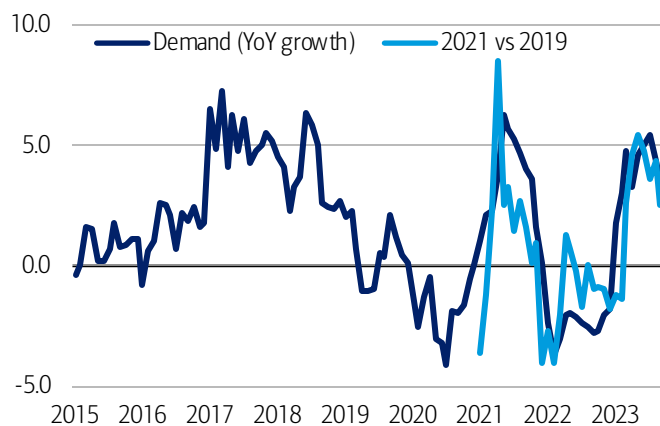
Source: Bloomberg

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Dry bulk demand reads

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

Dry bulk demand above 2019 levels since May 2023

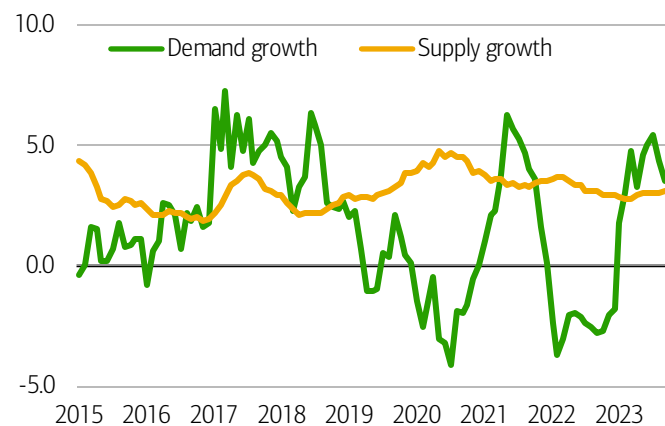


Source: Clarksons

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Exhibit 100: Bulk monthly demand & supply growth (% YoY), 2015-23

Bulk demand growth rebound vs supply growth of +3.5% YoY



Source: Clarksons

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Exhibit 101: Iron ore demand growth (% YoY), 2015-23

Iron ore demand trending at above 2019 levels since May 2023

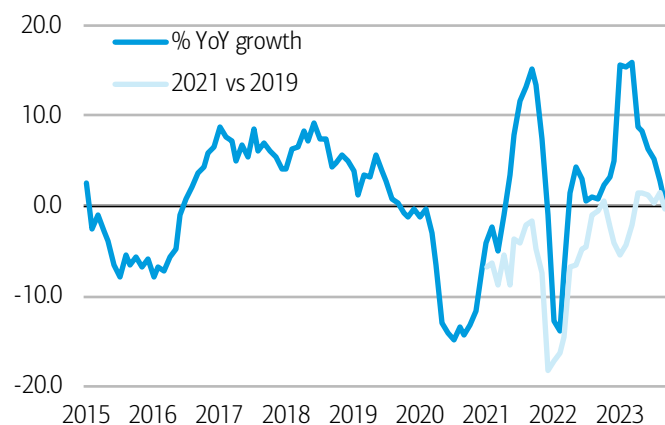


Source: Clarksons

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Exhibit 102: Coal demand growth (% YoY), 2015-23

Coal demand growth trending in-line with 2019 levels

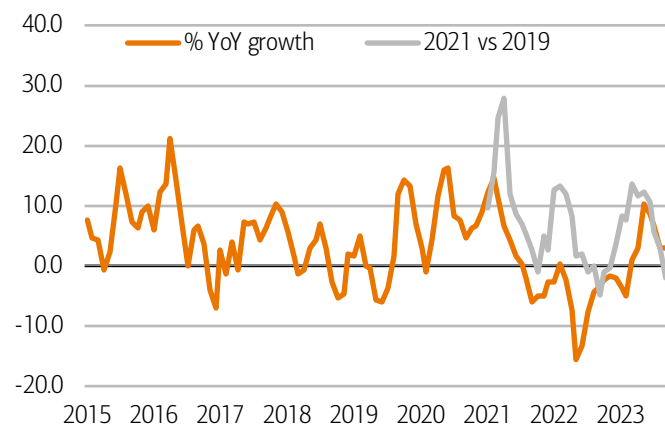


Source: Clarksons

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Exhibit 103: Grain demand growth (% YoY), 2015-23

Grain demand at above 2019 levels since May 2023



Source: Clarksons

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

Minor bulk demand growth trending slightly above 2019 levels

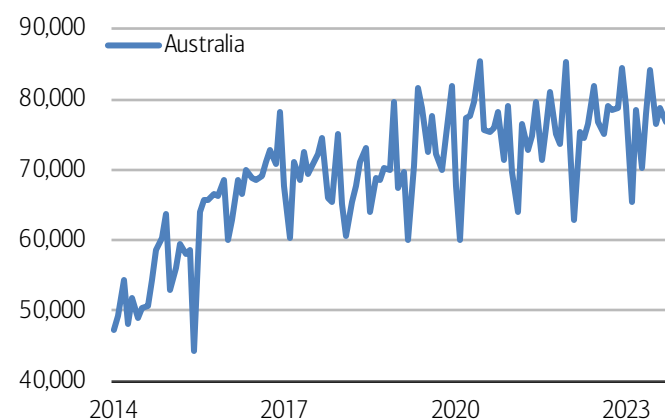


Source: Clarksons

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Exhibit 105: Australia iron ore monthly shipments (bn tn), 2014-23

Australian iron ore exports recovering off cyclone disruptions

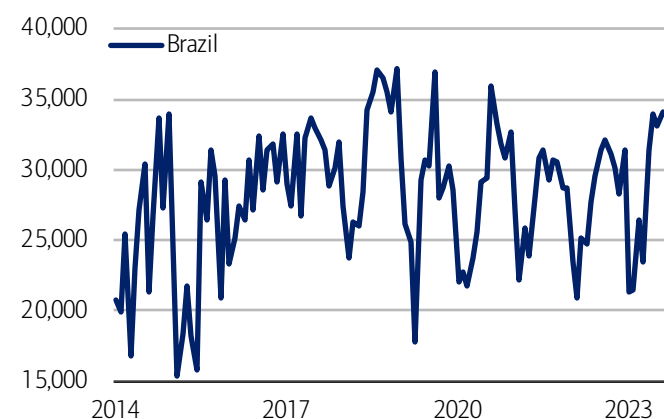


Source: Marcura

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Exhibit 106: Brazil iron ore monthly shipments (bn tn), 2014-23

Brazil iron ore exports relatively stable

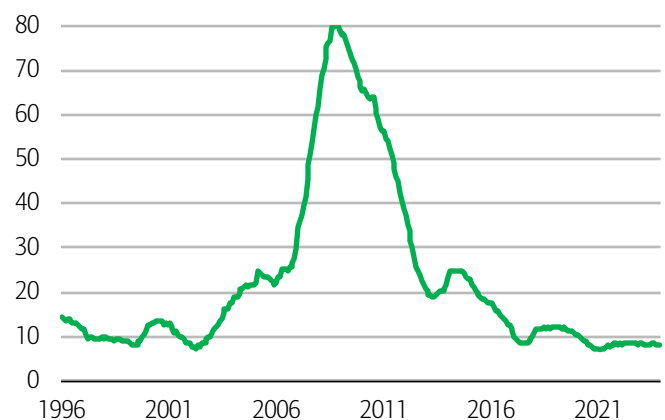


Source: Marcura

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Vessel supply**Exhibit 107: Dry bulk orderbook to fleet (%), 1996-2023**

Orderbook to fleet down to around 8.0%

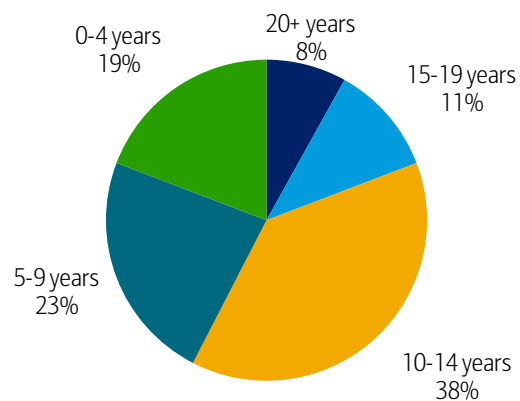


Source: Clarksons

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Exhibit 108: Dry bulk vessel age distribution, 2023

19% of fleet is older than 15 years



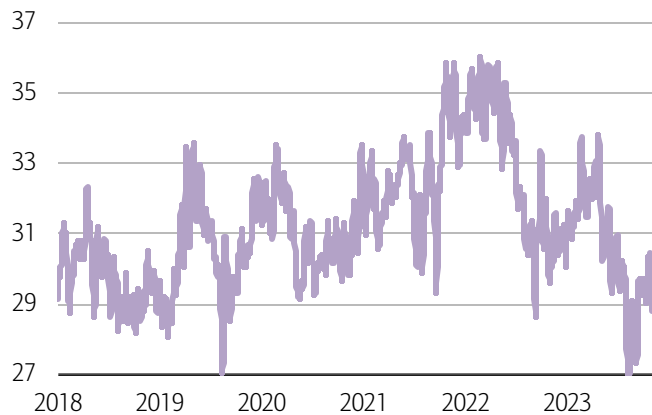
Source: Clarksons

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Port congestion

Exhibit 109: Daily dry bulk fleet at port (anchor or berth) (%) 2018-23

~30% of dry bulk fleet at port

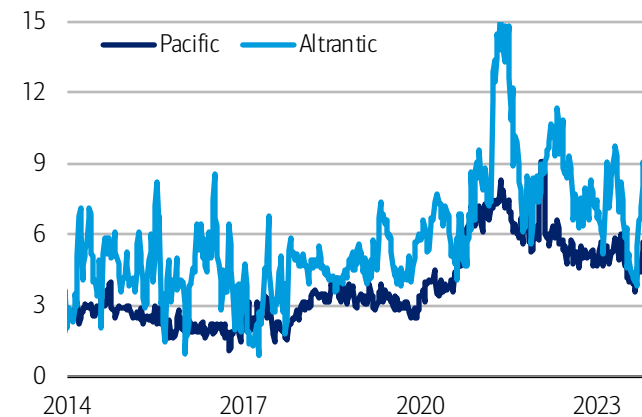


Source: Clarksons

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Exhibit 111: Port congestion by region (# of days), 2014-23

Pacific ports congestion now below 6 days



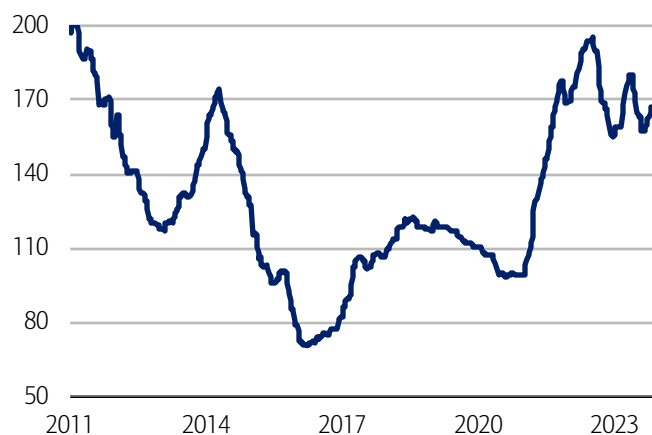
Source: Refinitiv

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Bulk carrier price & scrap rate

Exhibit 113: Bulk carrier secondhand vessel price index, 2010-23

Secondhand vessel prices started to slowly recover in October

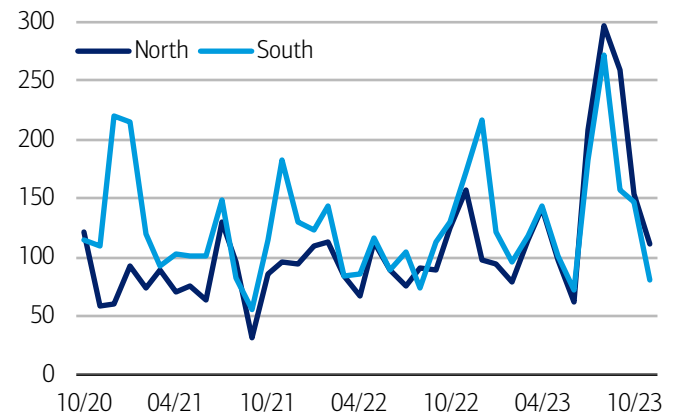


Source: Clarksons

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Exhibit 110: Panama Canal bulker waiting time (hours), 2020-23

Bulk vessel congestion easing with average 3-5 day wait time

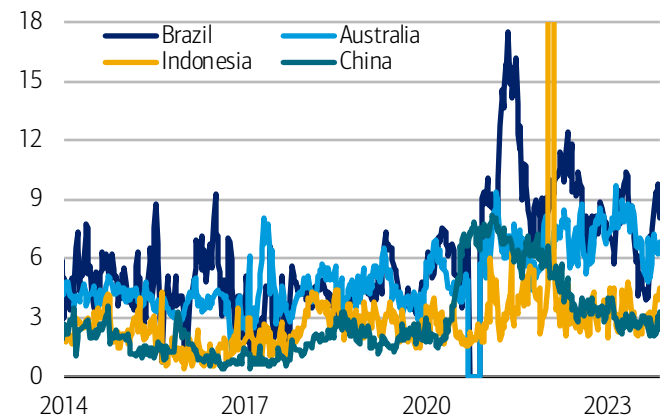


Source: Panama Canal Authority Note: Sept data up to 16th daily average.

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Exhibit 112: Port congestion by country (# of days), 2014-23

Chinese port congestion continue to decline reaching near Pre-COVID level

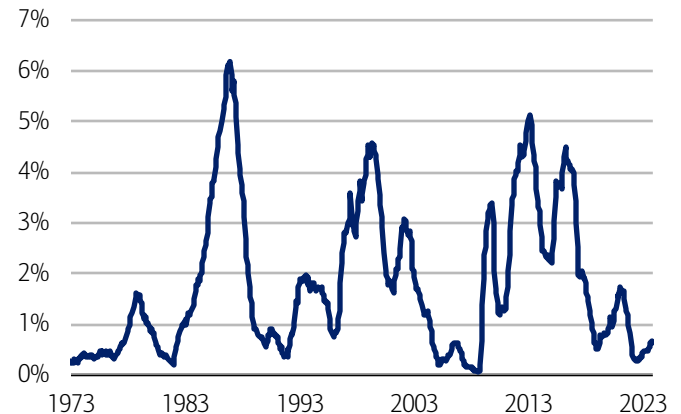


Source: Refinitiv

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Exhibit 114: Bulk carrier scrap rate (%) – 1973-2023

Scraping rate down to around 0.65% of fleet

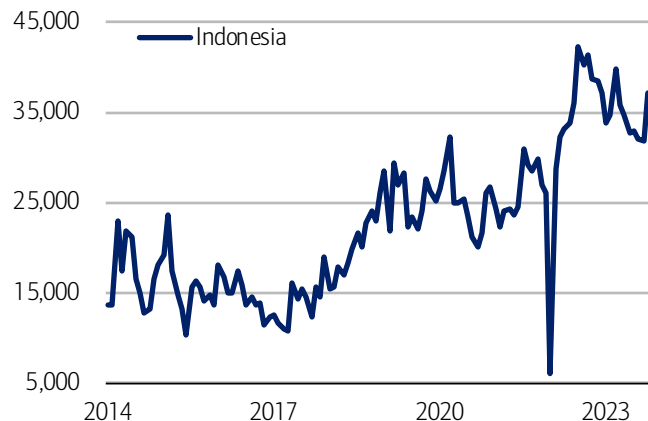


Source: Clarksons

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Exhibit 115: Indonesian coal monthly shipments (bn tn), 2014-23

Indonesian exports rebounding

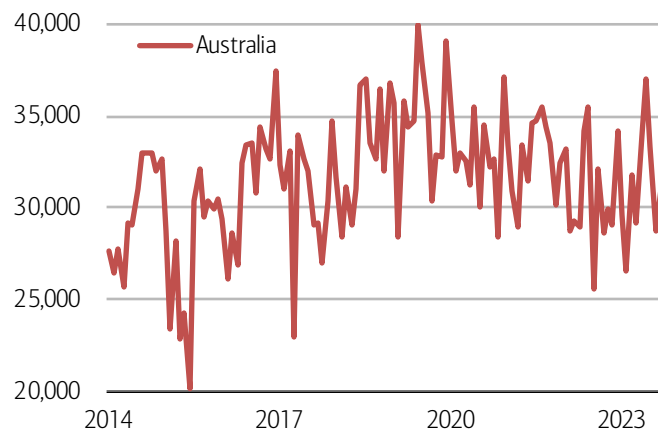


Source: Marcura

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Exhibit 116: Australian coal monthly shipments (bn tn), 2014-23

Aussie coal shipments came made a small recovery starting in September



Source: Marcura

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Dry bulk demand & supply**Exhibit 117: 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

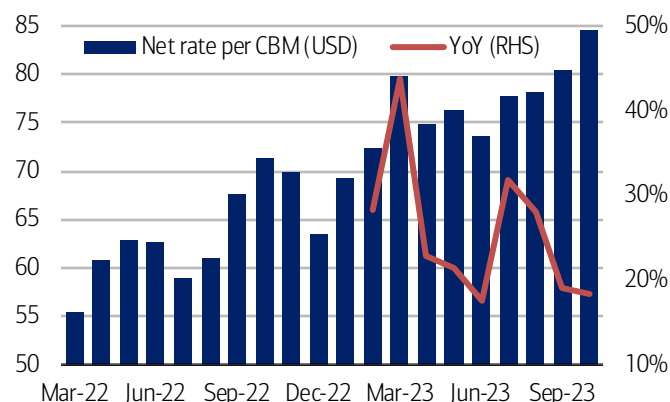
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Car carrier

Car carrier shipping freight rates

Exhibit 118: Hoegh Autoliners - Net rate per cbm (US\$)

Continue to increase in Oct now approaching US\$85



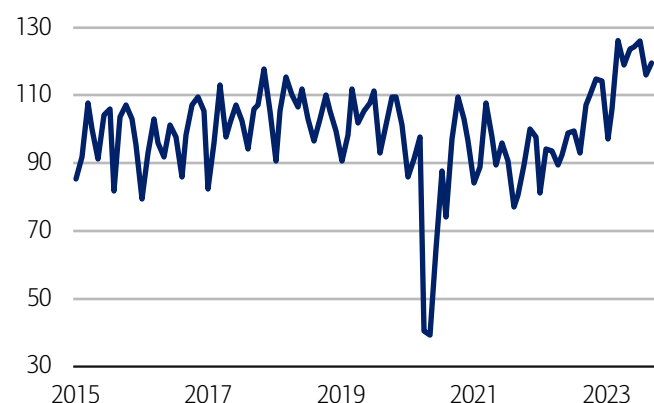
Source: hoeghautoliners

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Car carrier demand

Exhibit 120: Global seaborne car trade indicator, 2015-2023

Trending higher since September 2022



Source: Clarksons

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Car carrier supply & scrap

Exhibit 122: Pure car carrier orderbook % of fleet (%), 1995-2023

Orderbook now above 30% of fleet

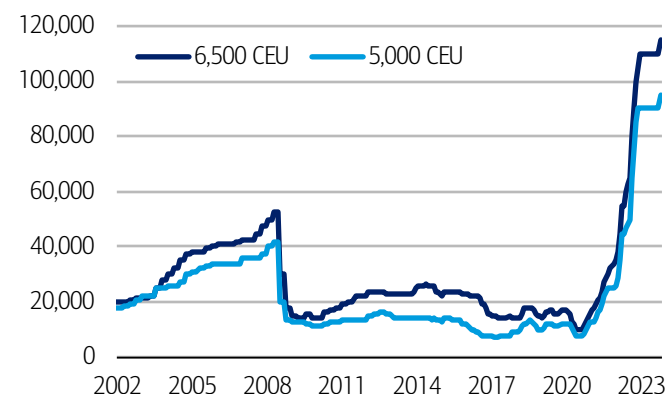


Source: Clarksons

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Exhibit 119: Car carrier 1 year time charter rate (US\$/day), 2002-2023

Rates rapidly increased starting in spring, 2021

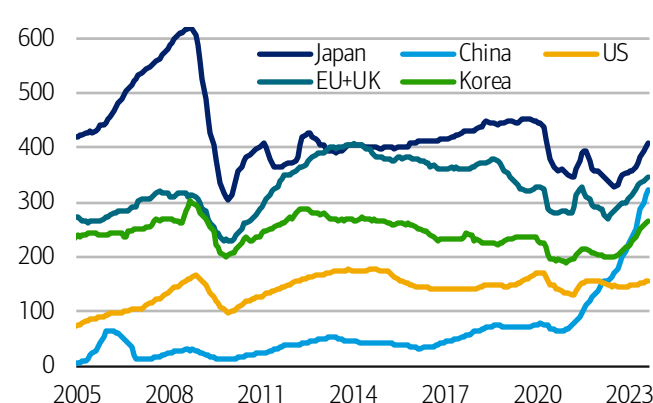


Source: Clarksons

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Exhibit 121: Global seaborne car exports TTM, ('000's) 2005-23

Chinese car export have drastically increased post-COVID

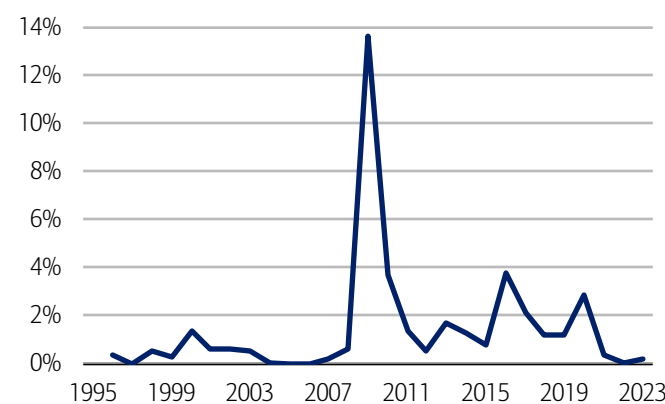


Source: Clarksons

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Exhibit 123: Car carrier scrap rate (%), 1995-2023

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



Source: Clarksons

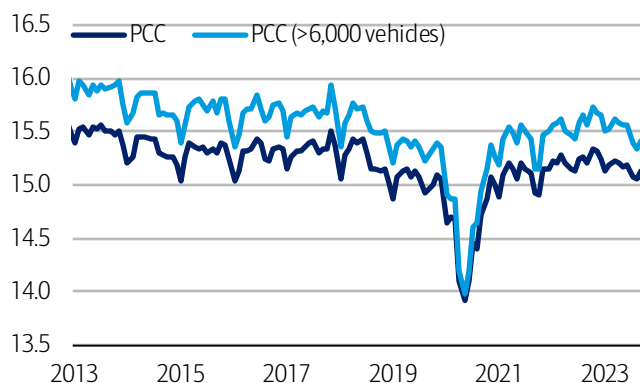
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Car carrier speed & secondhand price

Exhibit 124: Pure car carrier average speed (knots), 2013-23

Average speed has recovered back to Pre-COVID level and been stable

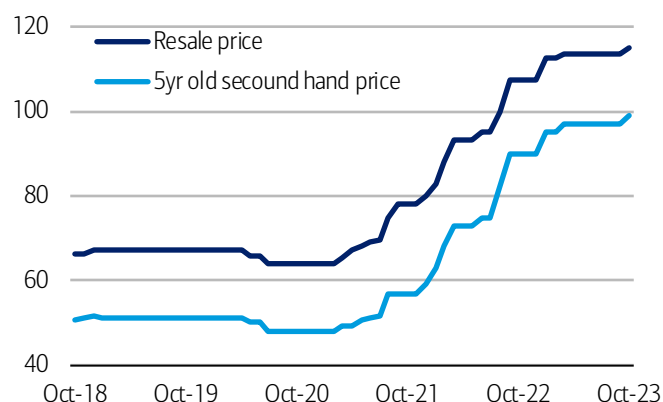


Source: Clarksons

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Exhibit 125: Pure car and truck carrier prices (US\$ mn), 2018-23

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 126: Car carrier demand & supply outlook

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

	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027
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%

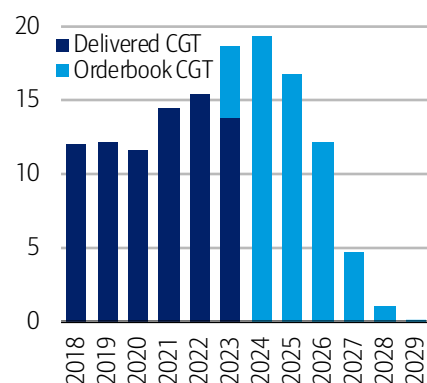
Source: Clarksons, BofA Global Research

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Shipyard vessel delivery schedule

Exhibit 127: China 2018-29E (mn CGT)

2024 orderbook around 20mn CGT

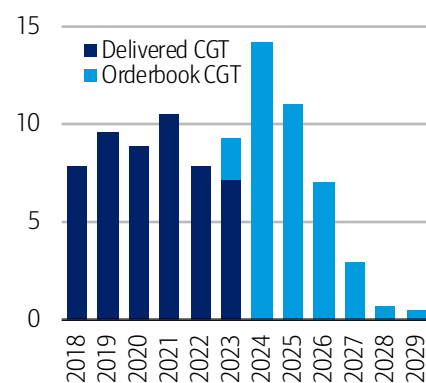


Source: Linterlytica

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Exhibit 128: Korea 2018-29E (mn CGT)

2024 orderbook just below 15mn CGT

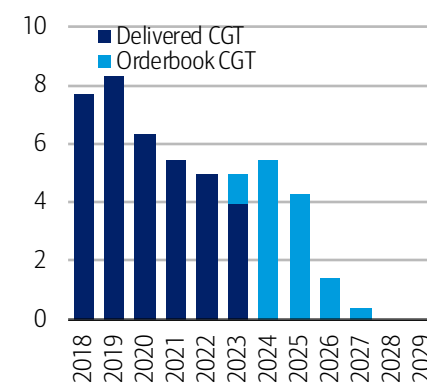


Source: Linterlytica

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Exhibit 129: Japan 2018-29E (mn CGT)

2024 orderbook around 5.5mn CGT



Source: Linterlytica

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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.

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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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