

Shipping - Global

Shipping & supply chain high frequency tracker #49

Industry Overview

Tracking the high frequency shipping data

This report contains our favorite charts to track the shipping cycle. Container spot rates look set for more positive momentum on transpacific during the peak, although Asia Europe hikes appear to be reversing and a seasonal downturn looms beyond the peak. Tanker rates are bouncing along the bottom with seasonal upside into the winter, although we are watching Black Sea export disruptions. And smaller dry bulk rates continue to languish, although the worst has passed around easing congestion and demand should build off the lows supporting better rates ahead.

Container: Fading rates beyond the seasonal strength

Stabilizing global macro and normalizing inventories have helped support global container volumes and US container imports recover to above 2019 levels. But congestion levels continue to trend lower (now below 6% of fleet), while supply discipline remains more temporary with idle rates below 0.5%. Transpacific spot rates are set for further positive momentum in August on seasonal demand and blank sailings, but Asia-Europe spot rates are likely to fade on ramping supply. But new delivery pressures continue to mount, and a seasonal downturn in demand into 4Q23 is likely to pressure spot which is back to profitable levels on all trades including the transpacific.

Tanker: Watching Russian Black Sea exports

Spot VLCC rates are trending around P&L breakeven levels as the summer holiday lull, European refinery maintenance and Saudi production cuts weigh. Forward curves suggest VLCC rates should recover to US\$40-50k/day into 4Q23 on seasonality and stabilizing Chinese macro. But key to watch is the 0.5mn b/d of Russian Black Sea exports following drone attacks—although it is unclear how much of an impact this volume could impact public tanker markets with much of this oil likely shifting to the dark fleet with Russian crude prices above the G7 price cap.

Bulk: Still looking for the bottom in freight rates

Smaller handysize freight rates are struggling to find a bottom through July and the first week of August given muted Chinese demand and the summer lull impacting developed market demand. But congestion looks to have largely normalized back to pre-COVID levels (see Exhibit 91), while bulk demand should seasonally build off the low helped by grain shipments and winter restocking flows. Forward curves suggest a sequential improvement of US\$3-4k/day into the 4Q23 for supra & handy rates.

08 August 2023

Equity
Global
Shipping

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Abbreviations

CCFI: China Containerized Freight Index

VLCC: Very Large Crude Carrier

ILWU: International Longshore and
Warehouse Union

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Refer to important disclosures on page 21 to 23.

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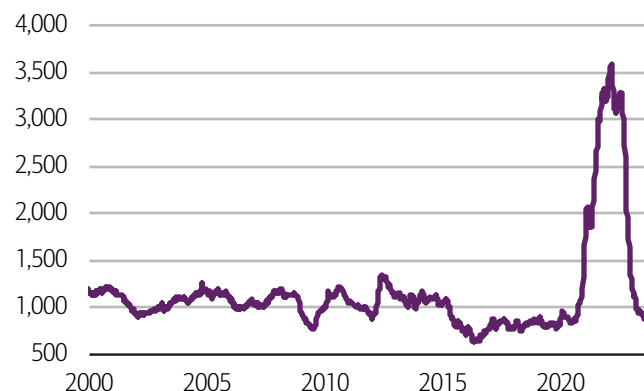
Timestamp: 08 August 2023 04:26AM EDT

Container shipping

Blended freight rates

Exhibit 1: China Containerized Freight Index, 2000-23

CCFI trending at 864



Source: Shanghai Shipping Exchange

Exhibit 2: CCFI quarterly average, 2022-23

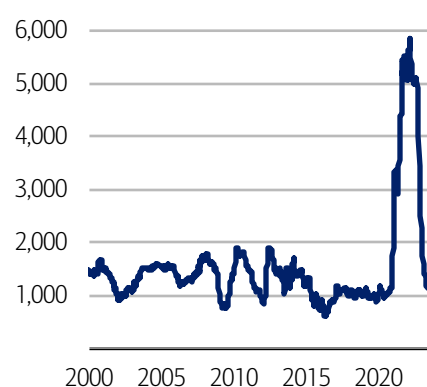
CCFI trending -7% QoQ lower so far in 3Q23

| CCFI | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 |
|--------------|-------|-------|-------|-------|-------|-------|-------|
| CCFI | 3,444 | 3,157 | 2,950 | 1,615 | 1,087 | 938 | 870 |
| CCFI Europe | 1,169 | 1,208 | 1,179 | 1,129 | 993 | 872 | 813 |
| CCFI USWC | 5,526 | 5,060 | 4,738 | 2,497 | 1,411 | 1,154 | 1,048 |
| CCFI USEC | 2,596 | 2,502 | 2,331 | 1,079 | 789 | 707 | 672 |
| % YoY | | | | | | | |
| CCFI | 75% | 46% | -1% | -51% | -68% | -70% | -71% |
| CCFI Europe | 34% | 31% | 25% | 6% | -15% | -28% | -31% |
| CCFI USWC | 77% | 45% | -7% | -53% | -74% | -77% | -78% |
| CCFI USEC | 95% | 69% | 13% | -53% | -70% | -72% | -71% |
| % QoQ | | | | | | | |
| CCFI | 5% | -8% | -7% | -45% | -33% | -14% | -7% |
| CCFI Europe | 9% | 3% | -2% | -4% | -12% | -12% | -7% |
| CCFI USWC | 5% | -8% | -6% | -47% | -44% | -18% | -9% |
| CCFI USEC | 12% | -4% | -7% | -54% | -27% | -10% | -5% |

Source: Shanghai Shipping Exchange

Exhibit 3: CCFI Europe, 2000-23

CCFI Europe at 1,027

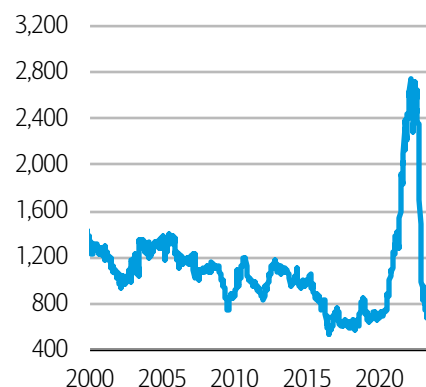


Source: Shanghai Shipping Exchange

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Exhibit 4: CCFI US west coast, 2000-23

CCFI US west coast at 736

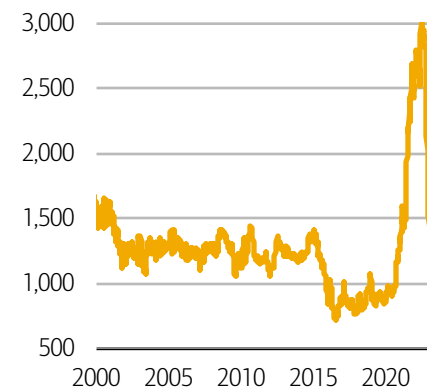


Source: Shanghai Shipping Exchange

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Exhibit 5: CCFI US east coast, 2000-23

CCFI east coast tracking at 874

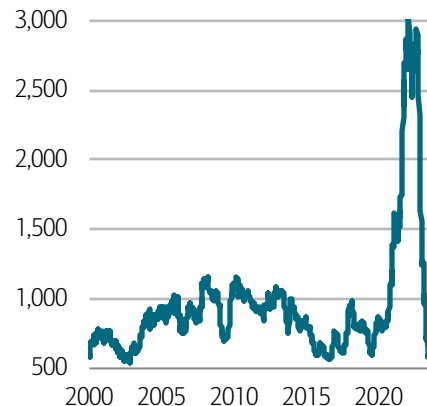


Source: Shanghai Shipping Exchange

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Exhibit 6: CCFI Mediterranean, 2000-23

CCFI Med tracking at 1,484



Source: Shanghai Shipping Exchange

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Exhibit 7: CCFI Middle East, 2012-23

CCFI Middle East at 948

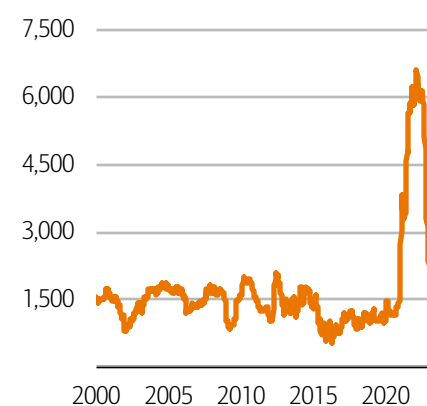


Source: Shanghai Shipping Exchange

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Exhibit 8: CCFI Singapore, 2000-23

CCFI Singapore at 569



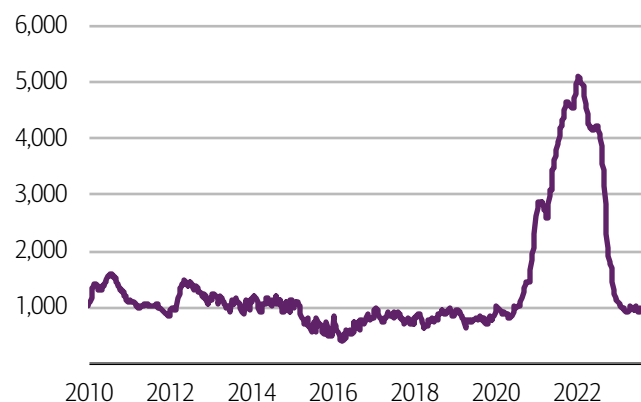
Source: Shanghai Shipping Exchange

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Spot freight rates

Exhibit 9: Shanghai Containerized Freight Index, 2010-23

SCFI at 1,039



Source: Shanghai Shipping Exchange

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Exhibit 10: SCFI quarterly average, 2022-23

SCFI trending -1% QoQ lower in 3Q23

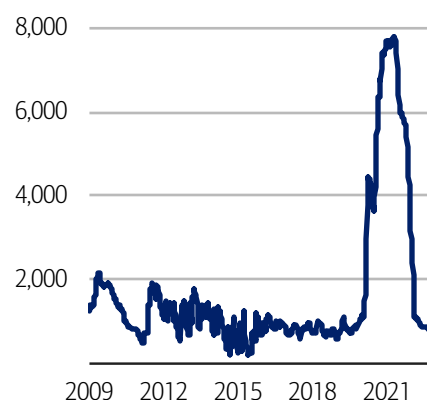
| SCFI | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 |
|--------------|--------|--------|-------|-------|-------|-------|-------|
| SCFI | 4,851 | 4,211 | 3,279 | 1,375 | 969 | 983 | 977 |
| SCFI Europe | 7,435 | 5,959 | 4,656 | 1,490 | 926 | 848 | 799 |
| SCFI USWC | 8,032 | 7,773 | 5,278 | 1,627 | 1,265 | 1,419 | 1,721 |
| SCFI USEC | 11,008 | 10,409 | 8,557 | 4,126 | 2,438 | 2,366 | 2,640 |
| % YoY | | | | | | | |
| SCFI | 74% | 29% | -24% | -71% | -80% | -77% | -70% |
| SCFI Europe | 81% | 15% | -36% | -80% | -88% | -86% | -83% |
| SCFI USWC | 100% | 68% | -9% | -76% | -84% | -82% | -67% |
| SCFI USEC | 130% | 47% | -20% | -62% | -78% | -77% | -69% |
| % QoQ | | | | | | | |
| SCFI | 3% | -13% | -22% | -58% | -30% | 2% | -1% |
| SCFI Europe | -3% | -20% | -22% | -68% | -38% | -8% | -6% |
| SCFI USWC | 18% | -3% | -32% | -69% | -22% | 12% | 21% |
| SCFI USEC | 2% | -5% | -18% | -52% | -41% | -3% | 12% |

Source: Shanghai Shipping Exchange

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

SCFI Europe at US\$947/TEU

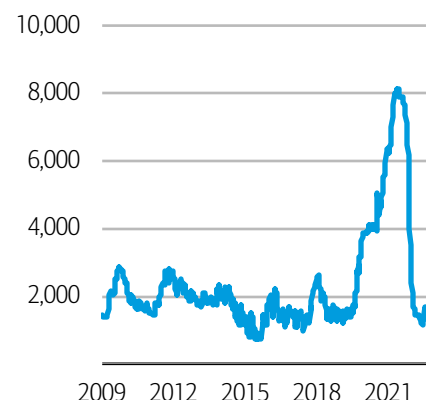


Source: Shanghai Shipping Exchange

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

SCFI USWC at US\$2,002 /FEU

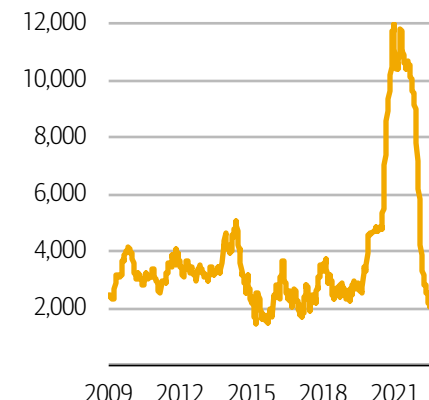


Source: Shanghai Shipping Exchange

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

SCFI USEC at US\$3,013 /FEU

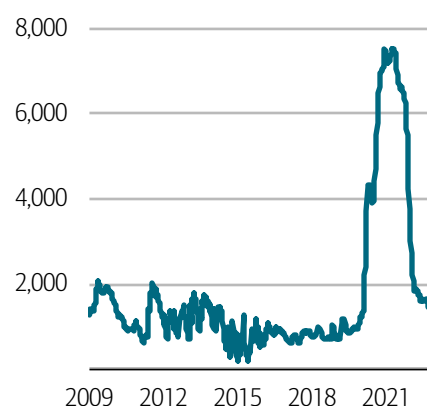


Source: Shanghai Shipping Exchange

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

SCFI Med at US\$1,529 /TEU

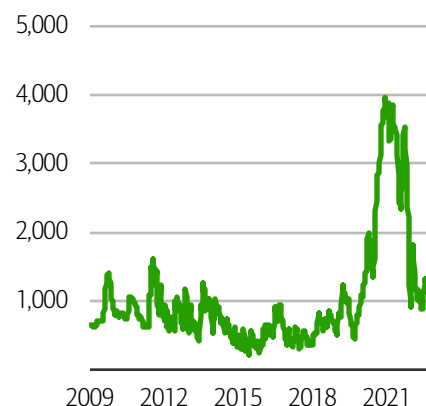


Source: Shanghai Shipping Exchange

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

SCFI Middle East US\$809/TEU

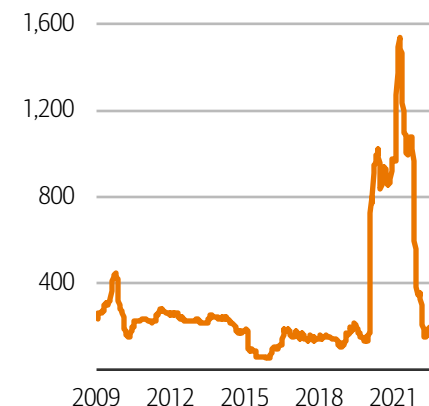


Source: Shanghai Shipping Exchange

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

SCFI Singapore at US\$143 /TEU



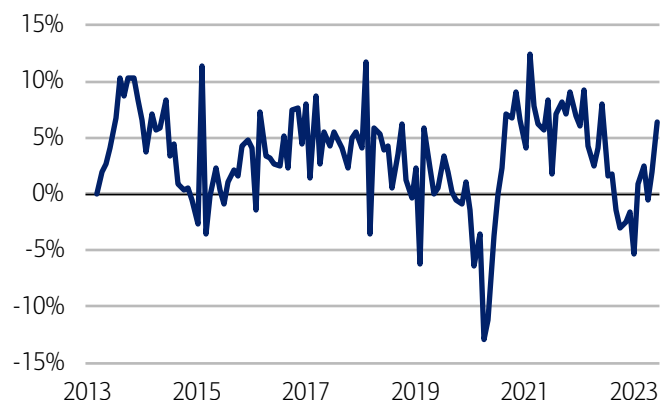
Source: Shanghai Shipping Exchange

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World trade trends

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

World trade 6.3% above 2019 levels in June

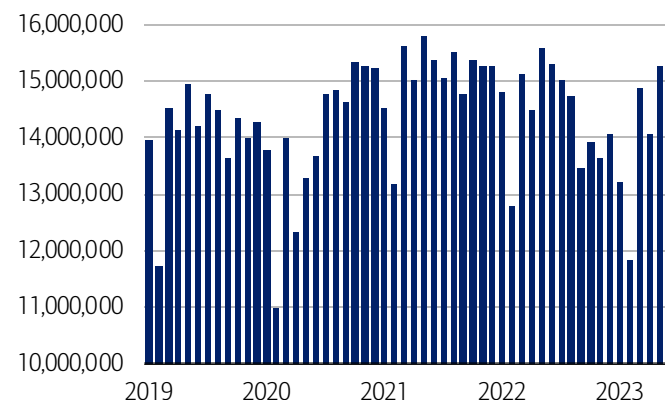


Source: CTS. * 2021 data compared to 2019

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

World trade seasonally rebounded in May-June 2023

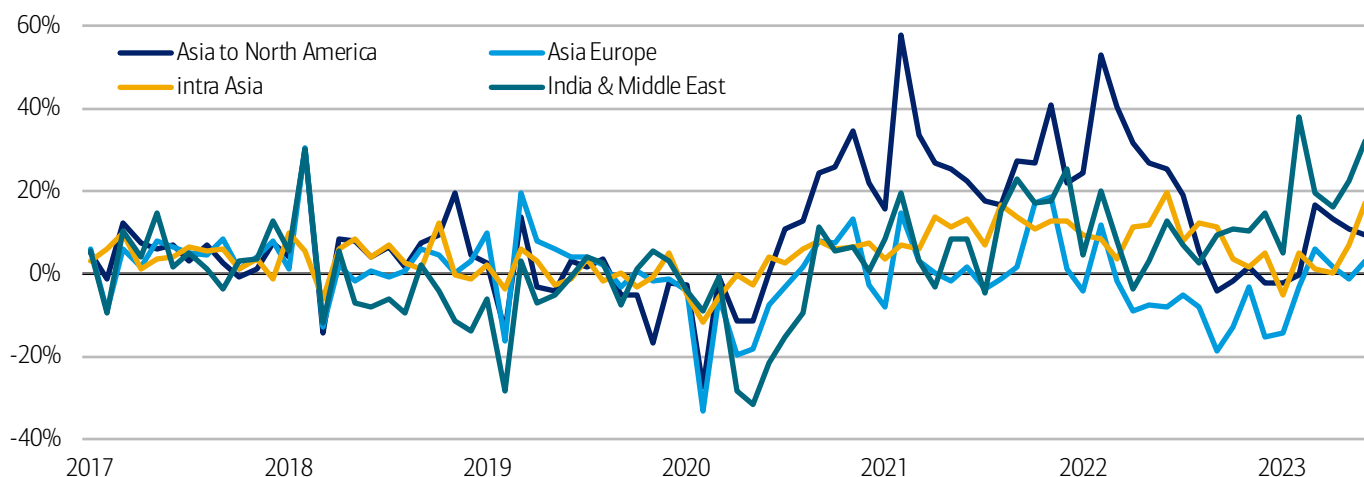


Source: CTS

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

Transpacific volumes above 2019 levels



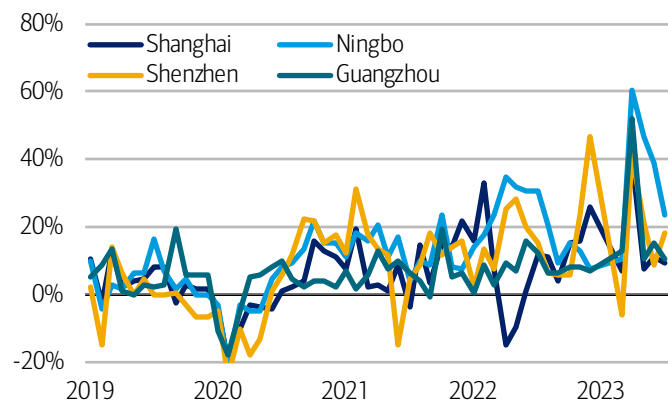
Source: CTS *2021-23 relative to 2019 levels

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Chinese trade trends

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

Strong Ningbo July monthly port numbers



Source: Company reports

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Exhibit 21: China truck traffic index, 2020-23

China trucking demand rebound after May holidays



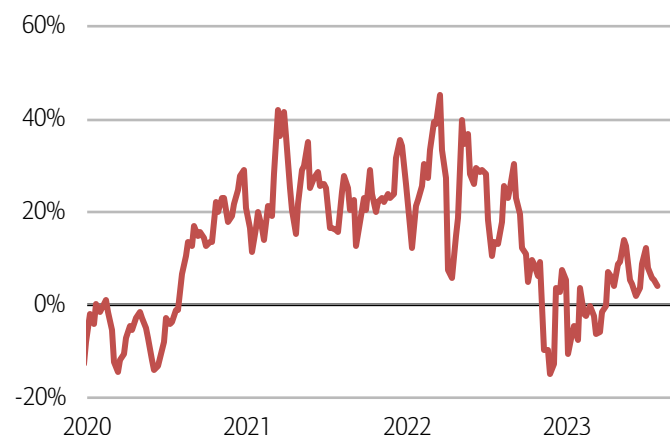
Source: G7

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US high frequency container volumes

Exhibit 22: US weekly container imports vs 2019 levels

US weekly imports trending +4% above 2019 levels in end of July

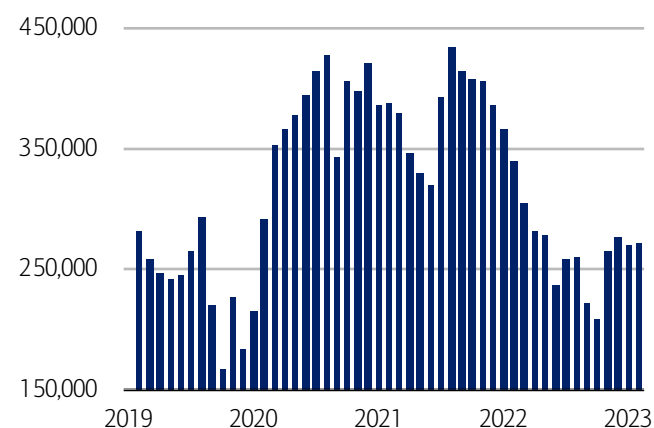


Source: PIERIS

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

US furniture imports around 271k TEU/month in July

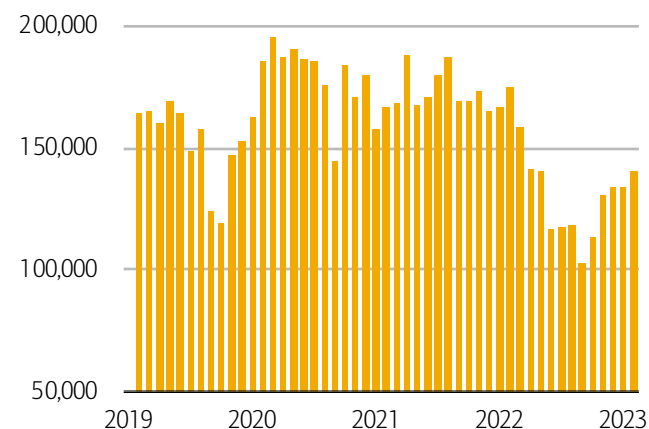


Source: PIERIS

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

US electronics imports trending at 141k TEU/month in July



Source: PIERIS

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

US weekly imports turned YoY negative in late July

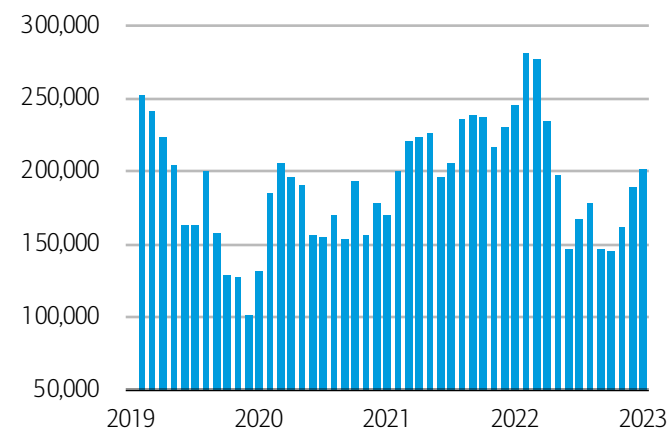


Source: PIERIS

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

US apparel & footwear imports above 226k TEU in July

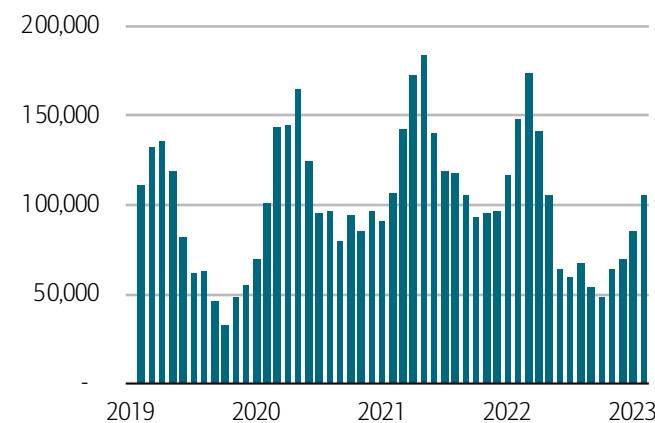


Source: PIERIS

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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

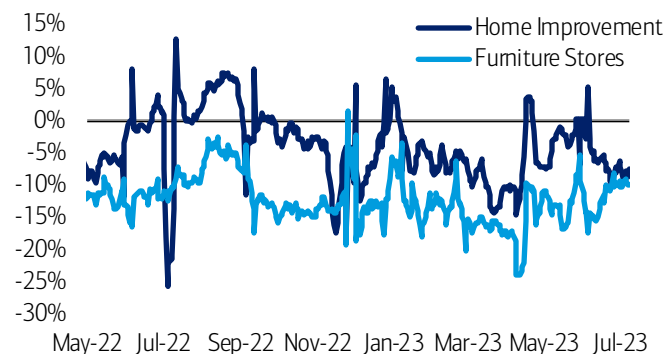
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US consumer reads

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 Jul 8

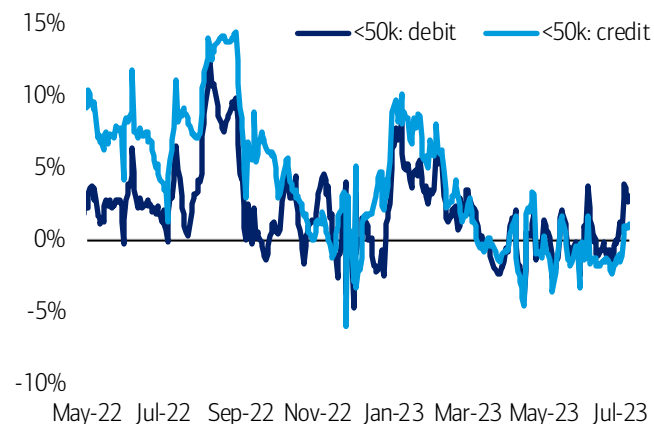


Source: BAC internal data

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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 Jul 8

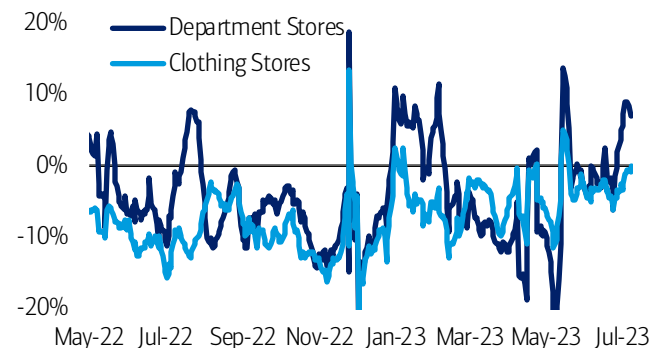


Source: BAC internal data

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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 decelerated in most categories in June

| | Jun-23 | May-23 | Apr-23 | Mar-23 | Feb-23 | Jan-23 |
|--|--------|--------|--------|--------|--------|--------|
| Gas | -0.5% | -3.4% | 0.7% | -4.8% | 0.8% | -0.1% |
| Furniture | -0.8% | 0.8% | -1.1% | -2.7% | -1.5% | 0.5% |
| Home improvement | -0.7% | 1.0% | 0.2% | -2.0% | 0.1% | -0.1% |
| Clothing | -1.4% | 1.0% | -0.4% | 0.1% | -2.0% | 4.8% |
| Grocery | 0.3% | 1.3% | -0.3% | 0.4% | 0.2% | -0.3% |
| General Merchandise | -0.5% | 1.0% | 0.6% | -5.1% | -0.1% | 5.2% |
| Department Store | 1.0% | 1.9% | 0.8% | -2.0% | 0.0% | 1.1% |
| Restaurants | 0.0% | -0.1% | 0.2% | -0.7% | -0.1% | 1.6% |
| Lodging | 0.1% | 0.5% | -0.8% | -2.1% | 0.4% | -2.6% |
| Airlines | -3.1% | -0.4% | -4.2% | 0.9% | -0.7% | 8.9% |
| Total online retail (card not present) | 0.2% | -0.3% | 1.0% | -1.5% | 0.8% | 0.2% |

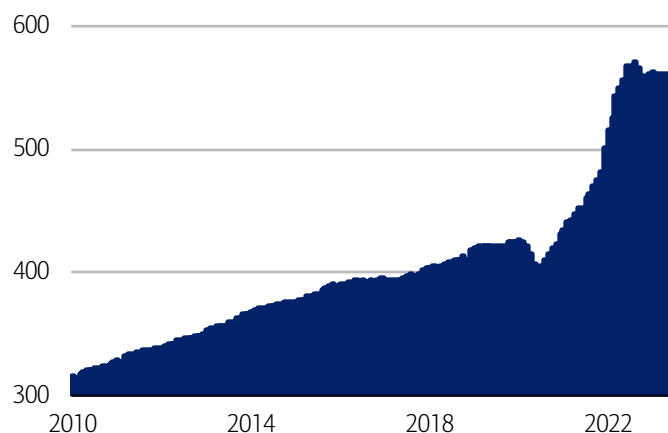
Source: BAC internal data. Card not present is largely online but could include purchases made over the phone.

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US retail inventory levels

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

Retail inventories slightly came down but still well above pre-COVID levels

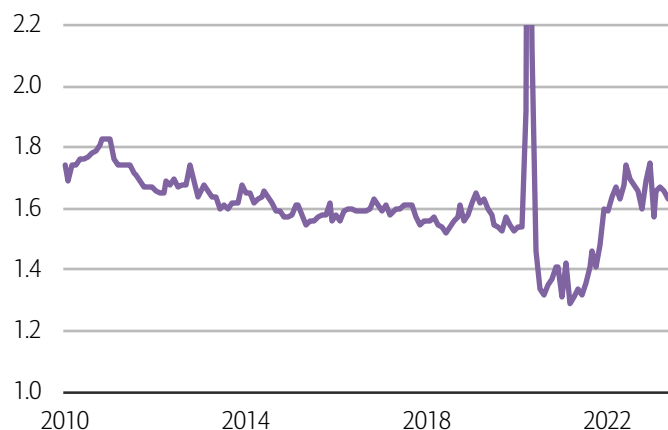


Source: Bloomberg

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Exhibit 34: Furniture – adjusted inventory to sales, 2018-23

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

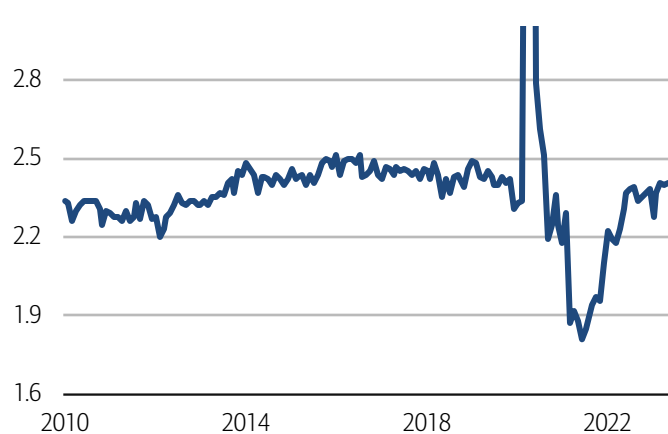


Source: Bloomberg

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Exhibit 36: Clothing – adjusted inventory to sales, 2018-23

Clothing inventory to sales nearly back to pre-COVID levels

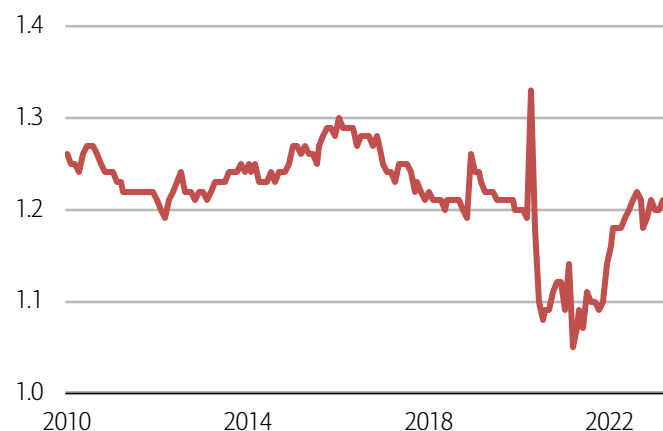


Source: Bloomberg

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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

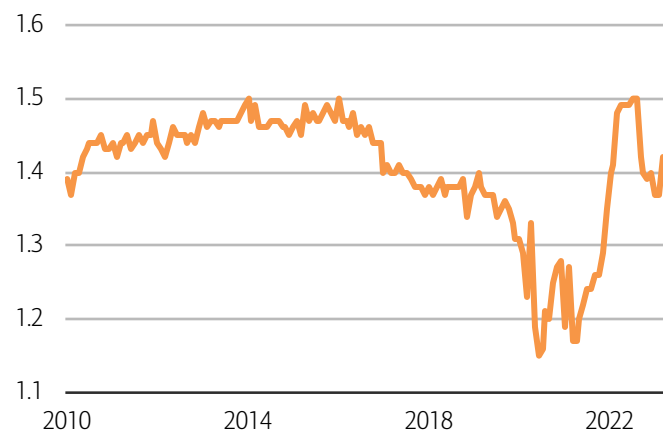


Source: Bloomberg

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Exhibit 35: General merchandise – adjusted inventory to sales, 2018-23

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

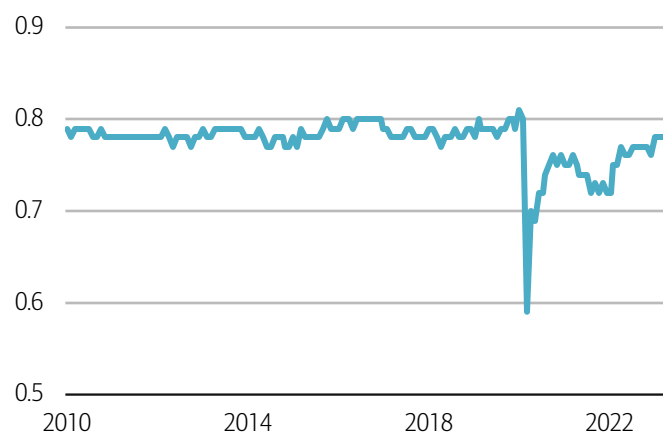


Source: Bloomberg

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Exhibit 37: Food & Beverage – adjusted inventory to sales, 2018-23

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 5.7% of fleet

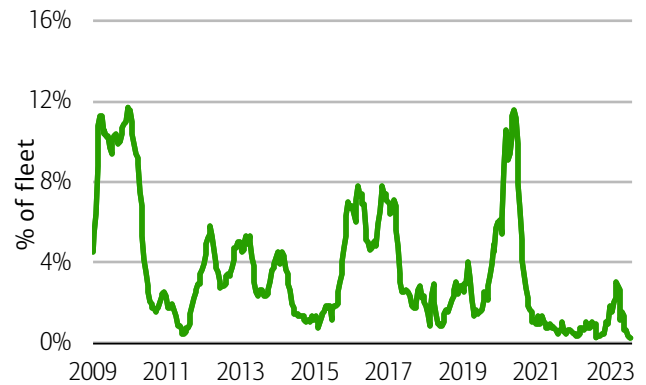


Source: Linerlytica

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

Idling rate down to 0.3% of the fleet



Source: Linerlytica, Alphaliner

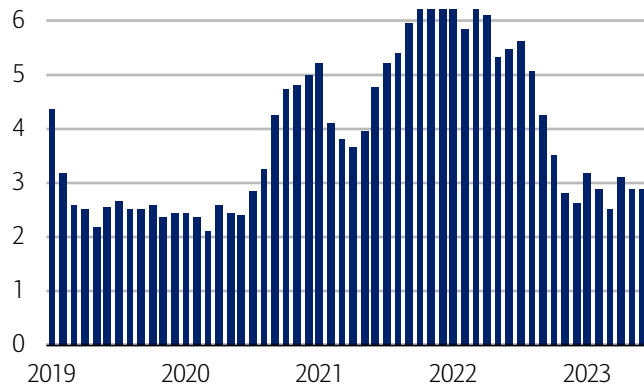
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US inland congestion trackers

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

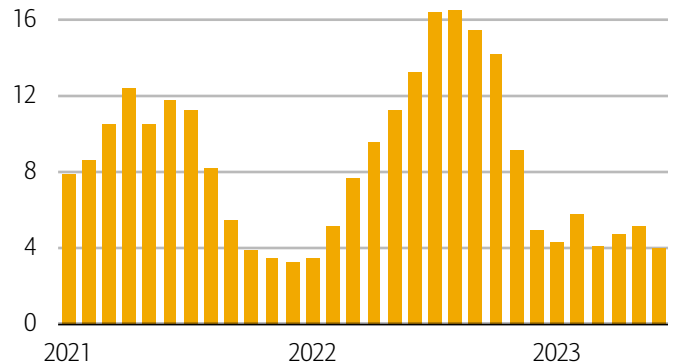


Source: PMSA

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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

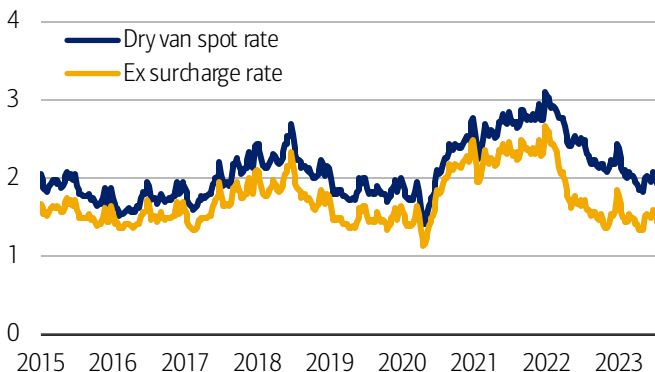
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US trucking spot rates

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

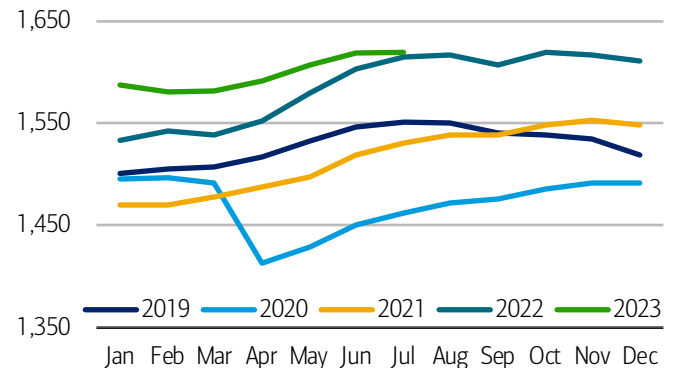


Source: Bloomberg

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Exhibit 43: US truck driver employees (thousands), 2019-23

US employees in truck transport are above pre-COVID levels



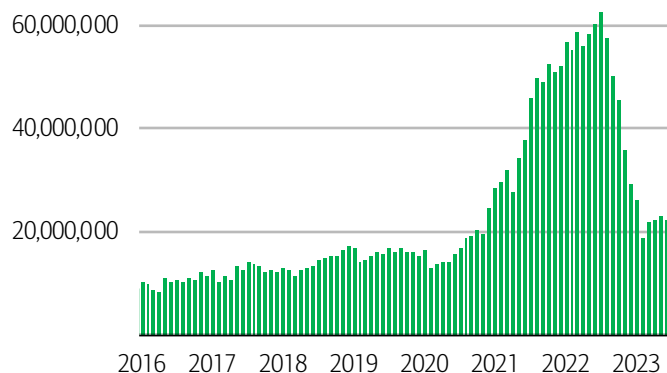
Source: Bloomberg

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Container liner monthly revenue

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

Evergreen June monthly revenues: -63% YoY, -3% MoM

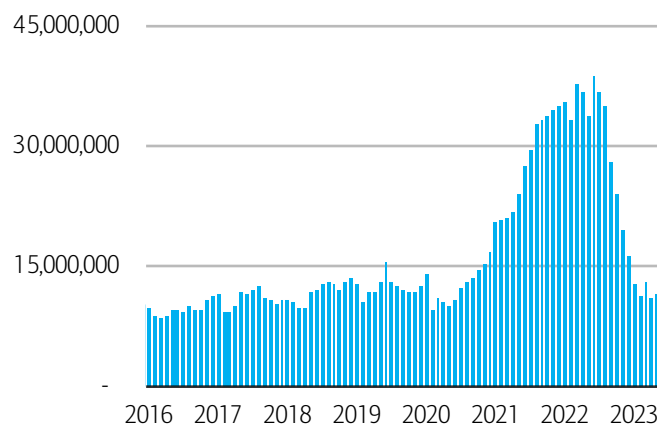


Source: Company reports

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

Yang Ming June monthly revenues: -68% YoY, +7% MoM



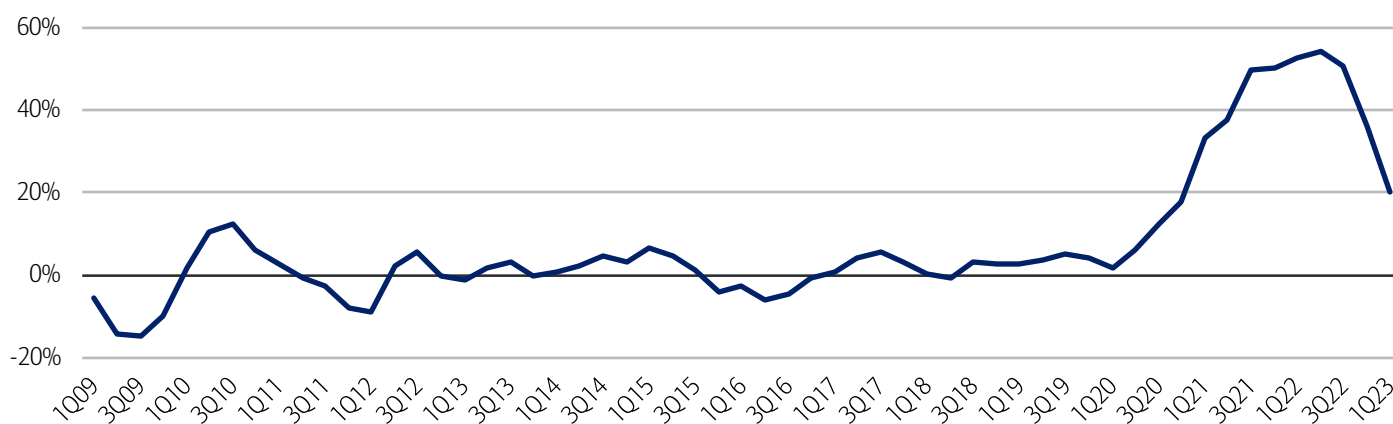
Source: Company reports

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Container liner average EBIT margins

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

1Q23 operating profit margin of ~20%



Source: Linerlytica

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Vessel supply-side trends

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

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

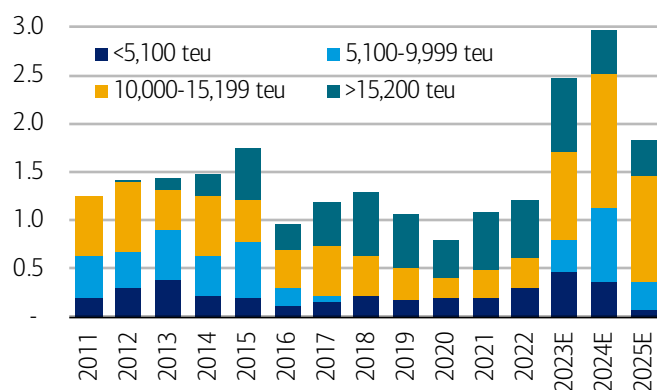


Source: Clarksons

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

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

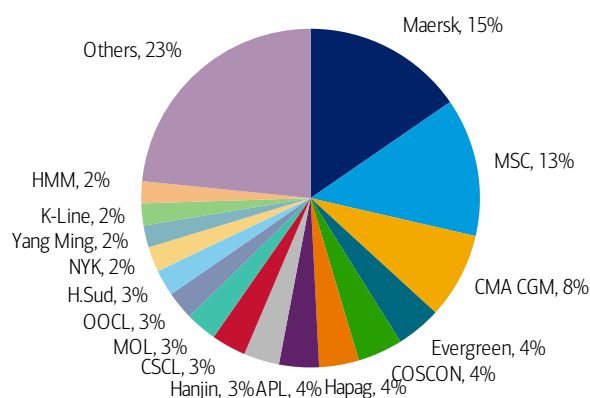


Source: Alphaliner

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Exhibit 49: Container liner capacity share in 2013

Top 16 carriers in 2013 = 77% market share

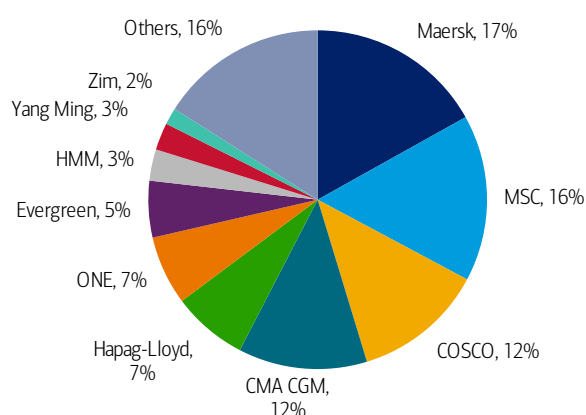


Source: Alphaliner

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Exhibit 50: Container liner capacity share in 2021

Top 10 carriers in 2021 = 85% market share

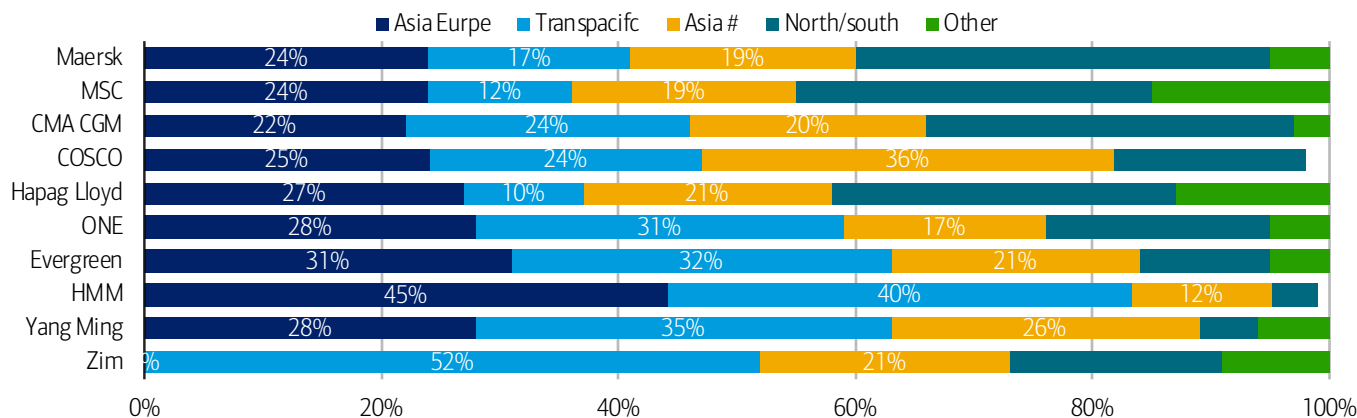


Source: Alphaliner

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Exhibit 51: Container liner capacity by route

Container liner capacity deployment by route

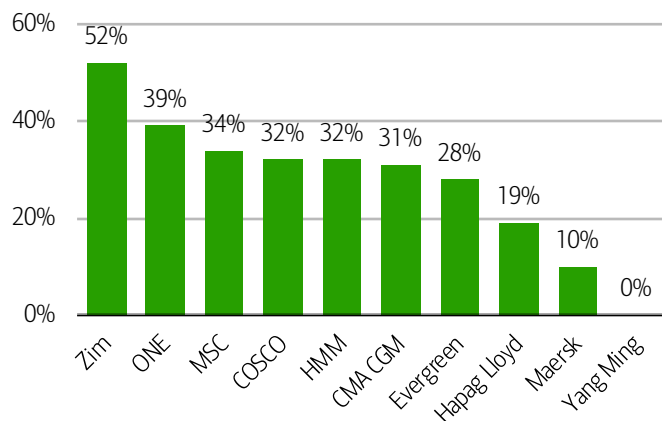


Source: Alphaliner. *Asia includes Middle East, India, Australia

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Exhibit 52: Container liners – orderbook to fleet

Larger orderbooks for Zim, One, and MSC

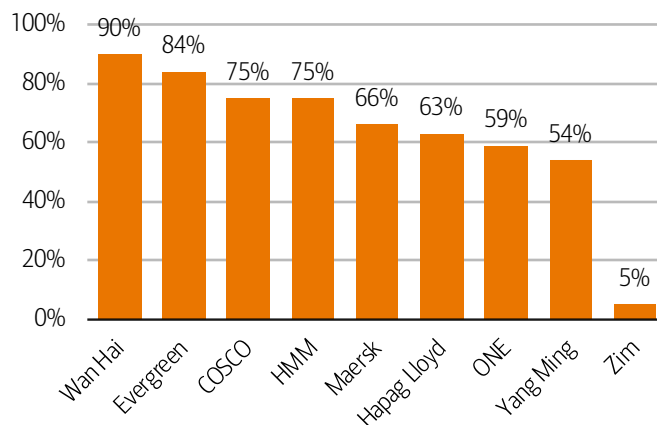


Source: Linerlytica

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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



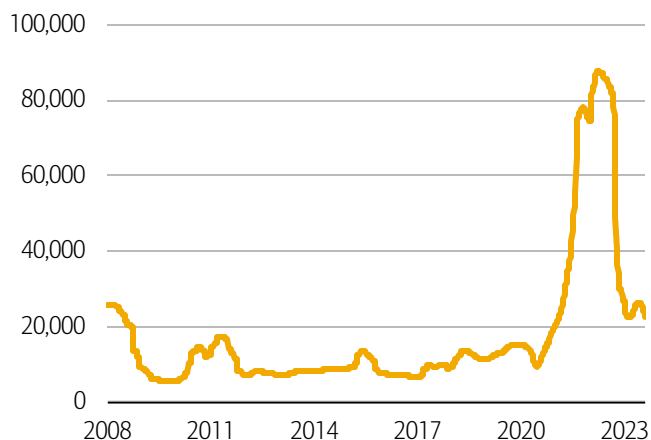
Source: Linerlytica

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Container shipping costs

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

Average charter rates at ~US\$23K/day



Source: Clarksons

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Container vessel sailing speeds

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

Container vessels now sailing below 14 knots



Source: Clarksons

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

VLSFO is at ~US\$630/tonne

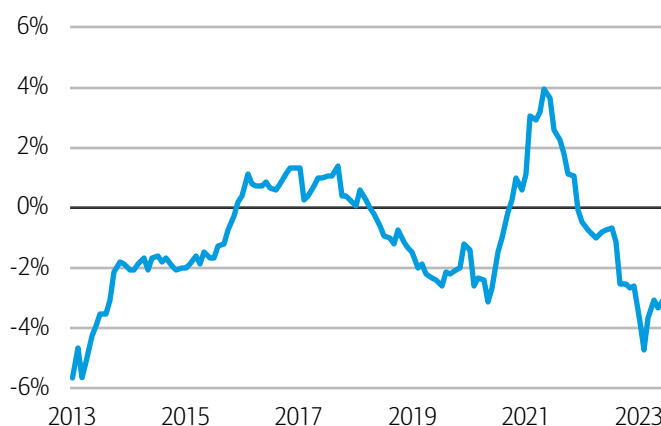


Source: Clarksons

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Exhibit 57: Container vessel speeds (% YoY growth), 2013-23

Vessel speed still slower YoY



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% | 8.7% | 9.5% | 6.1% |
| Demolition | -2.1% | -0.1% | -2.9% | -2.0% | -0.2% | -0.9% | -0.7% | -0.1% | -0.1% | -1.0% | -2.6% | -2.6% |
| Net Slot Capacity Growth | 6.5% | 9.4% | 1.7% | 3.9% | 5.9% | 3.9% | 3.0% | 4.4% | 4.3% | 7.7% | 6.9% | 3.5% |
| 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% | 12.0% | 9.2% | 3.5% |
| Effective Demand / Supply balance | -2.6% | -7.4% | +4.7% | -0.1% | -2.3% | -0.1% | +1.1% | +2.3% | +1.3% | -12.5% | -6.5% | -0.8% |

Source: BofA Global Research estimates, Linerlytica

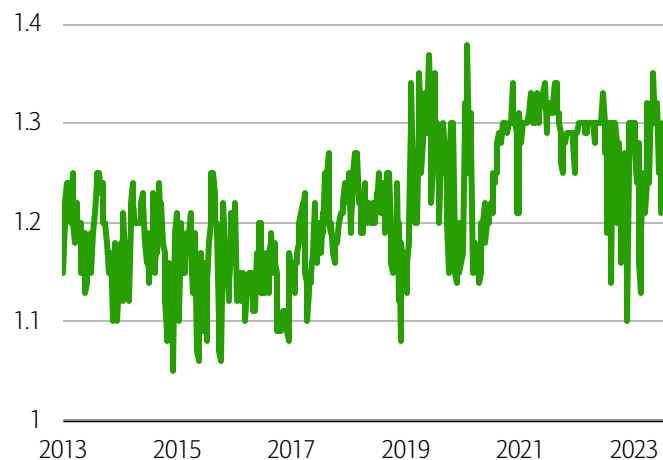
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Tanker shipping

Freight rates

Exhibit 59: VLCC supply vs demand in Middle East #

VLCC supply vs demand in Middle East #

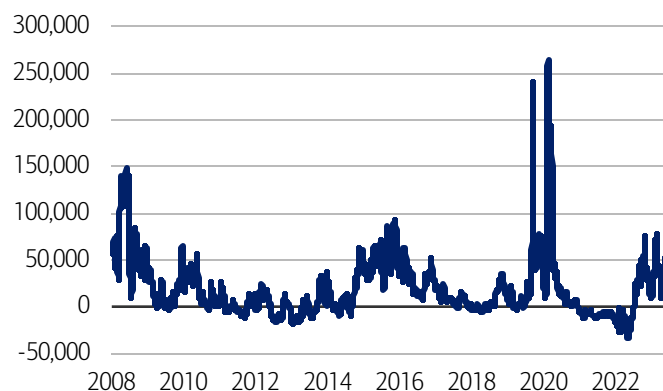


Source: Bloomberg. # 1 indicates equal number of VLCC supply vs demand for next 30 days, 1.1 indicates 10% surplus of VLCC relative to demand in coming 30 days.

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

Baltic VLCC rates back down to US\$10k per day in August

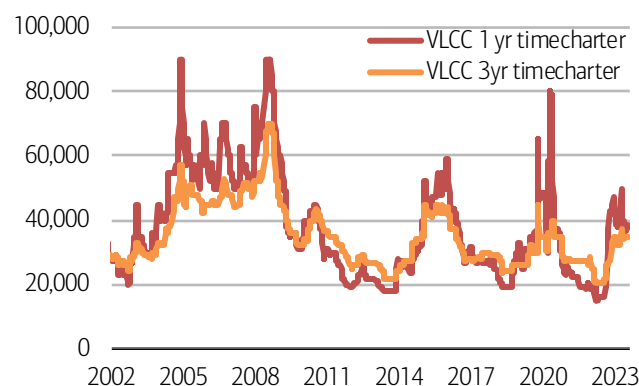


Source: Clarksons

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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

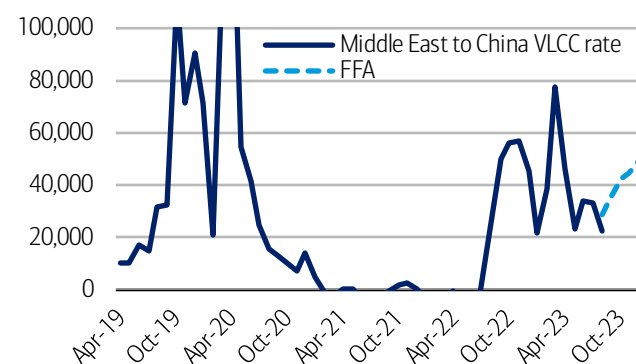
| Date | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 |
|--------------|---------|---------|--------|--------|--------|--------|
| VLCC | -17,700 | -21,670 | 9,747 | 42,823 | 34,498 | 25,984 |
| Suezmax | 21,742 | 21,742 | 21,742 | 21,742 | 21,742 | 21,742 |
| Aframax | 21,860 | 21,860 | 21,860 | 21,860 | 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 | 181% | 185% | -199% | -633% | -295% | nm |
| Suezmax | 267% | -10658% | -1959% | 1937% | 244% | 38% |
| Aframax | 329% | 1418% | 7427% | 964% | 197% | 28% |
| MR | 54% | 390% | 586% | 428% | 199% | -24% |
| LR2 | 8% | 32% | 67% | 135% | 149% | 78% |
| % QoQ | | | | | | |
| VLCC | 120% | 22% | -145% | 339% | -19% | -25% |
| Suezmax | 400% | 65% | 41% | 76% | -16% | -34% |
| Aframax | 196% | 63% | 30% | 70% | -18% | -30% |
| MR | 24% | 246% | 18% | 4% | -30% | -12% |
| LR2 | 3% | 33% | 25% | 37% | 9% | -5% |

Source: Clarksons

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

Forward curve at US\$45k/day into 4Q23

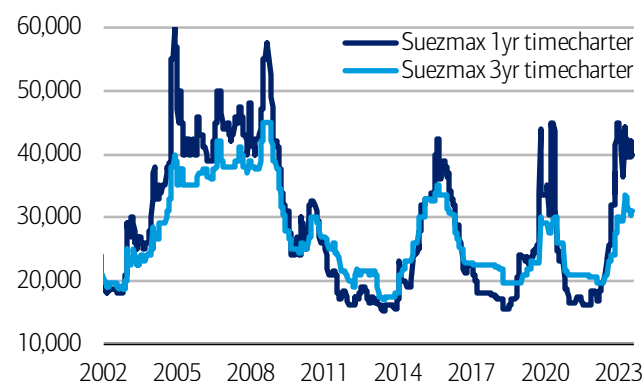


Source: Clarksons, Baltic Exchange

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

One year Suezmax time charter rates around US\$40k per day

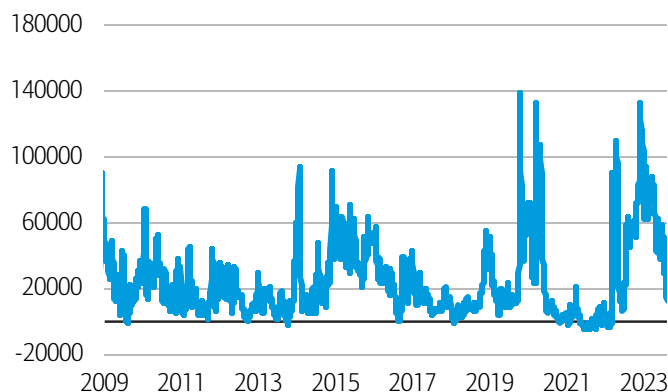


Source: Clarksons

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

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

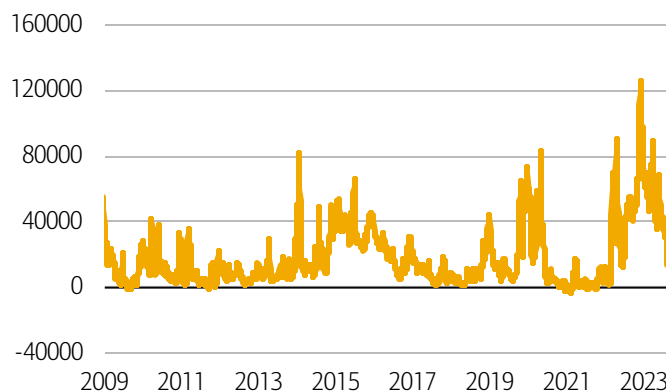


Source: Clarksons

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

Aframax rates down below US\$15k 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

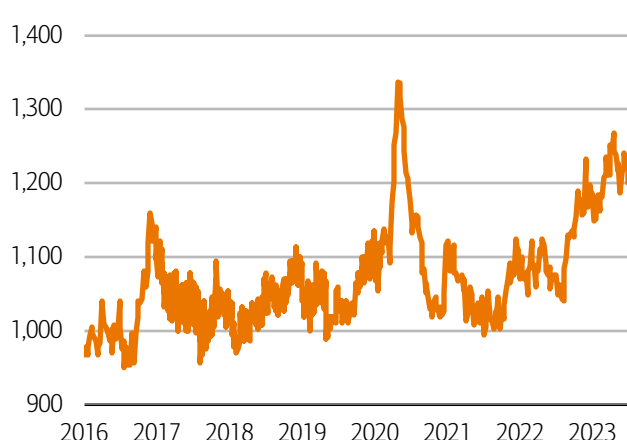


Source: Clarksons

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

Crude tanker demand has come off the peaks

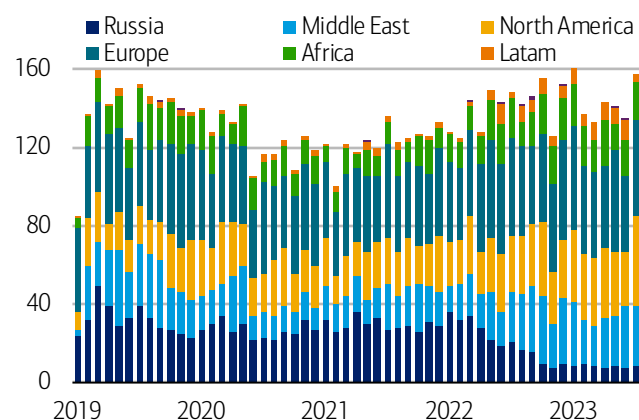


Source: Clarksons

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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

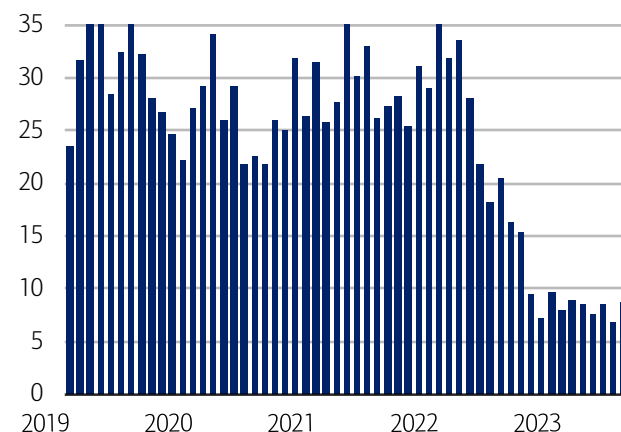


Source: Bloomberg

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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 lower

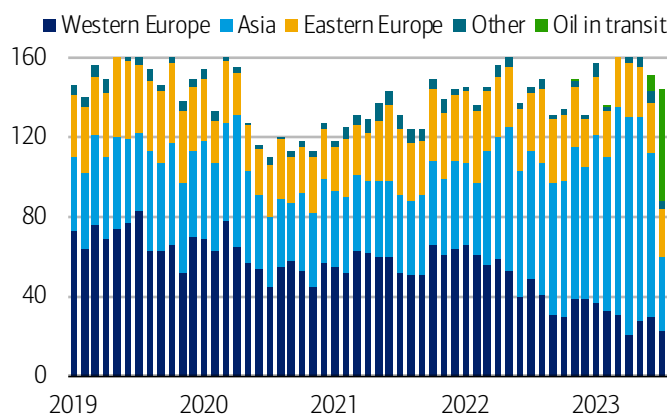


Source: Bloomberg

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

Total Russian crude exports still robust

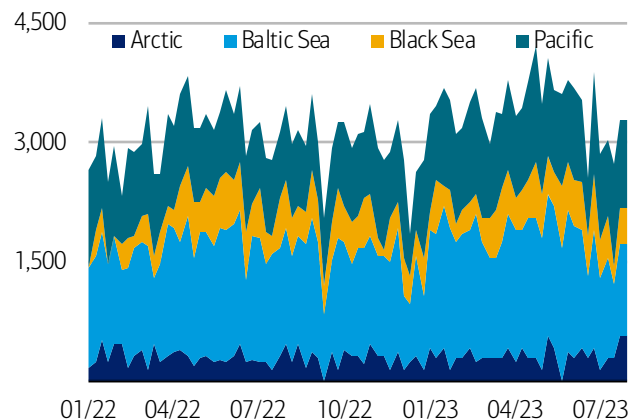


Source: Bloomberg

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

Russian exports moving even higher into April-May 2023

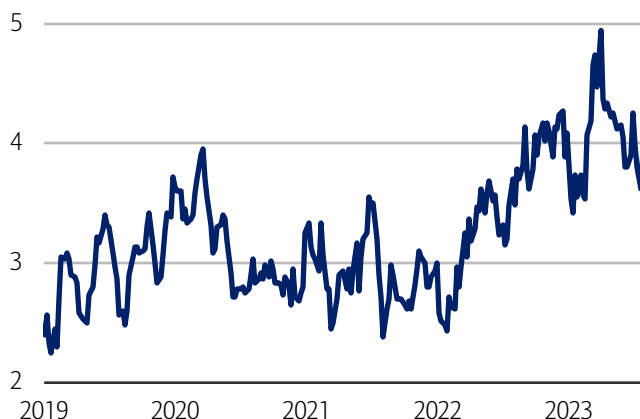


Source: Bloomberg

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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

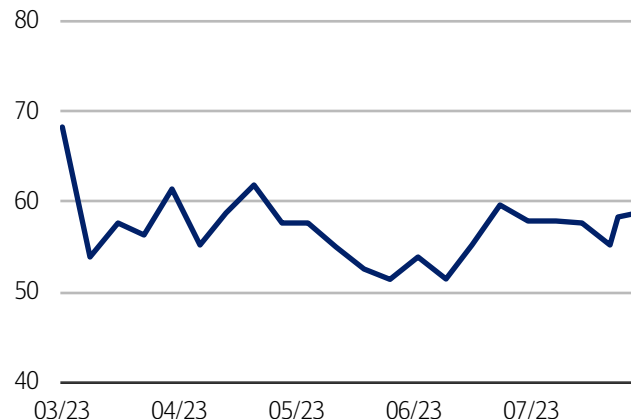


Source: Bloomberg

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

Global crude oil exports staying robust

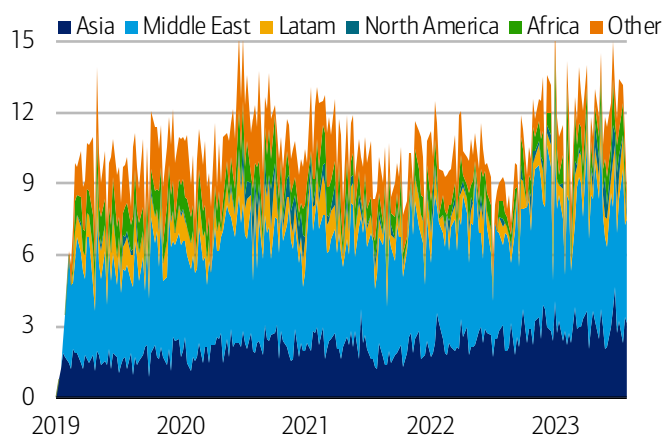


Source: Bloomberg

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

Chinese imports firming into April / May 2023

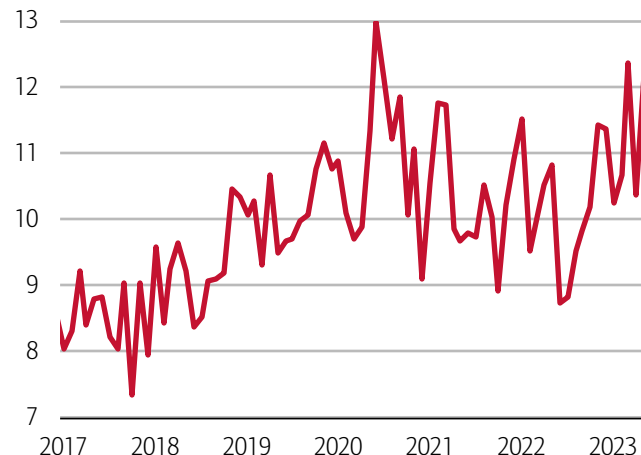


Source: Bloomberg

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

China crude imports rebounding since March



Source: Bloomberg

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Tanker supply

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

Crude tanker orderbook to fleet below 4%

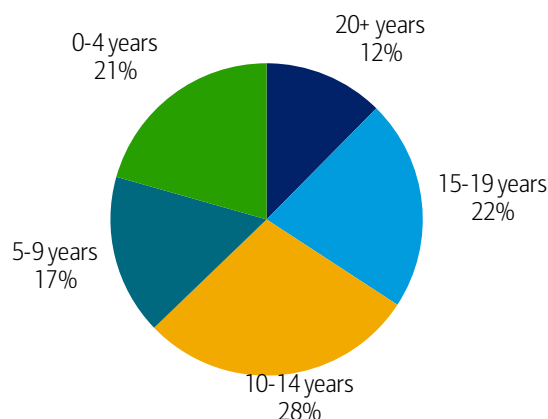


Source: Clarksons

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Exhibit 79: Crude tanker – age distribution, 2023

34% of fleet is older than 15 years

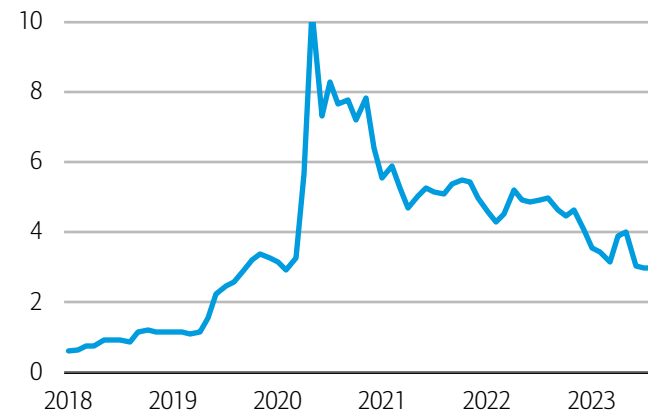


Source: Clarksons

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

Tanker storage now 3.0% of fleet

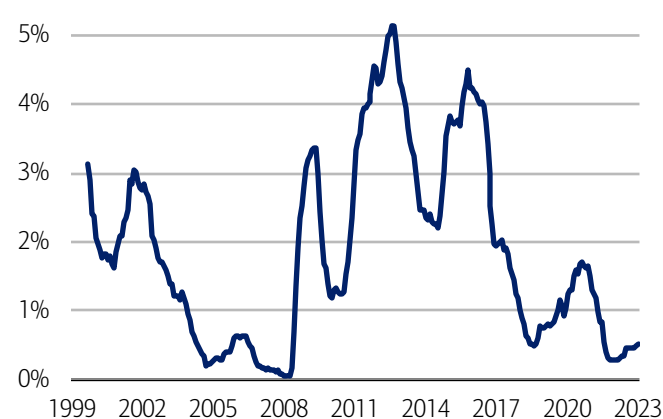


Source: Clarksons

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Exhibit 80: Bulkcarrier scrap rate (%) – 2000-2023

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

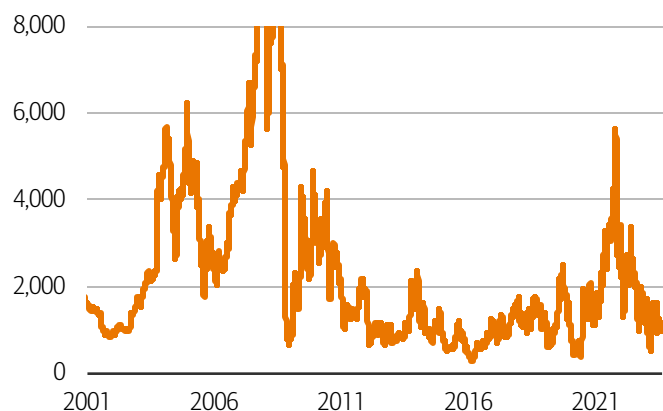
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Dry bulk shipping

Freight rates

Exhibit 82: Baltic Dry Index, 2001-23

BDI at around 1,150

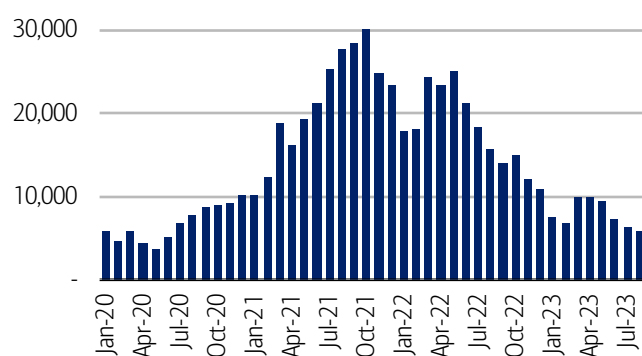


Source: Clarksons

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

Spot handysize averaged US\$6.0k/day so far in August



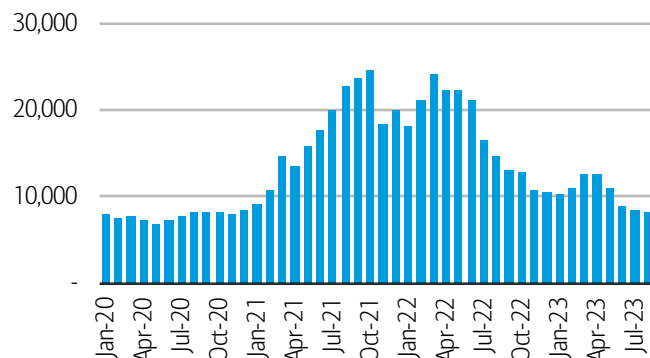
Source: Clarksons, BofA Global Research estimates

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

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

1yr time charter handysize averaging US\$8.2k/day in August



Source: Clarksons, BofA Global Research estimates

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

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

Dry bulk quarterly average rates

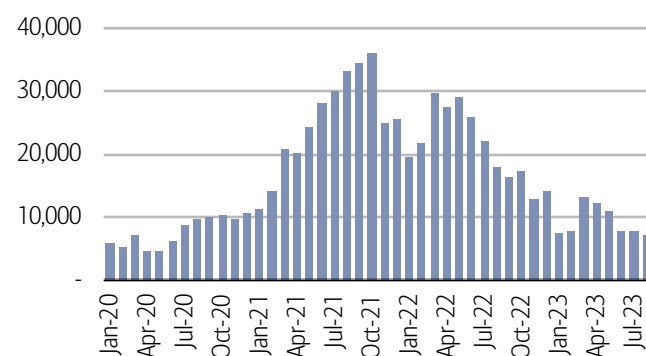
| Date | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 | 3Q23 |
|--------------|--------|--------|--------|--------|--------|--------|--------|
| BDI | 1,977 | 2,530 | 1,870 | 1,523 | 1,011 | 1,313 | 1,034 |
| Capesize | 14,746 | 21,599 | 16,906 | 14,906 | 9,144 | 15,561 | 12,893 |
| Panamax 82 | 23,218 | 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\$7.3k/day so far in August



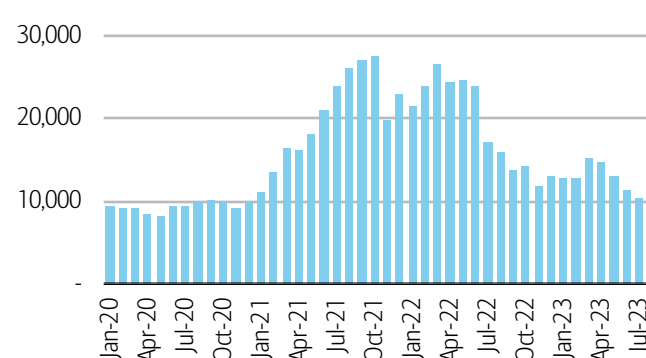
Source: Clarksons, BofA Global Research estimates

* Commission adjusted to be comparable to PacBasin achieved rates

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

1yr time charter supramax averaging US\$10.2k/day in July



Source: Clarksons, BofA Global Research estimates

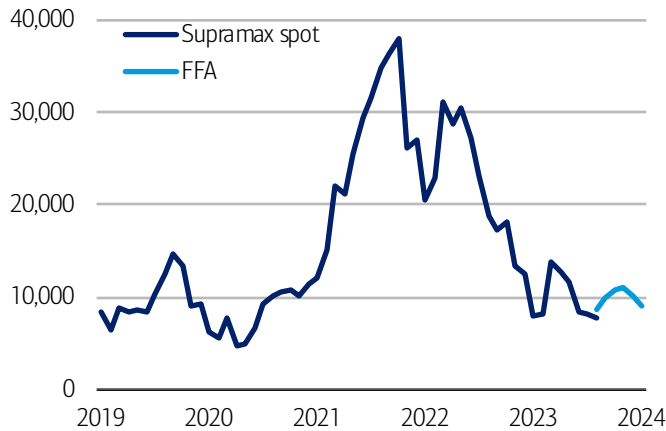
*Size and commission adjusted to be comparable to PacBasin average handy rates

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Handysize & Supramax FFA outlook

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

Supra forward curves pointing better 3Q

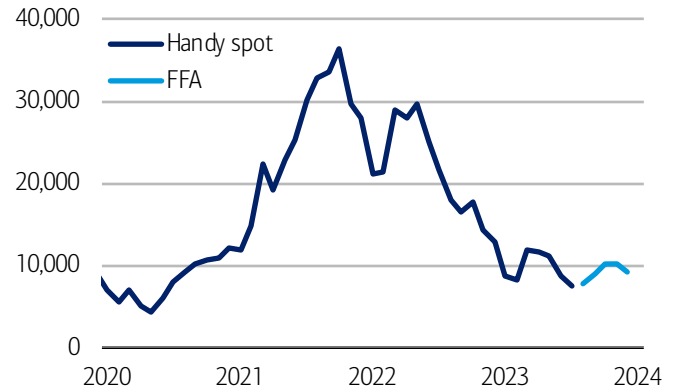


Source: Bloomberg

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

Handy forward curves point to a recovery into 2H23



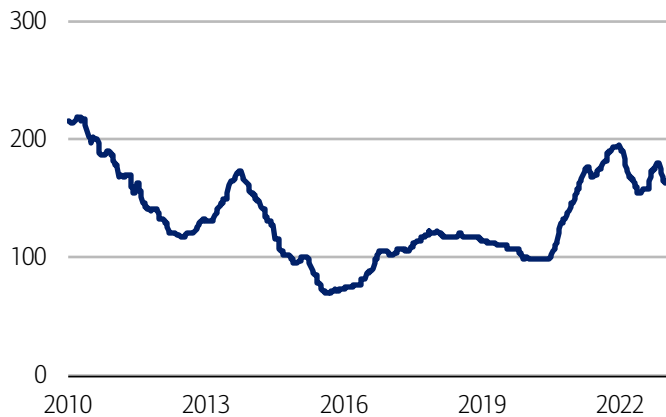
Source: Bloomberg

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Vessel values & port congestion

Exhibit 90: Bulk carrier secondhand vessel price index, 2010-23

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

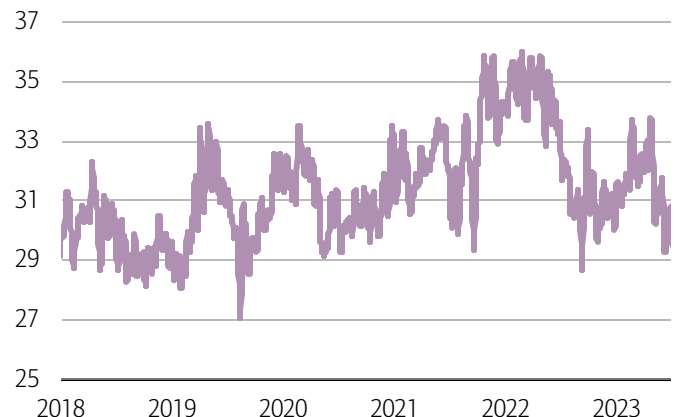


Source: Clarksons

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Exhibit 91: Daily dry bulk fleet at port (anchor or berth) (%)

~29% of dry bulk fleet at port



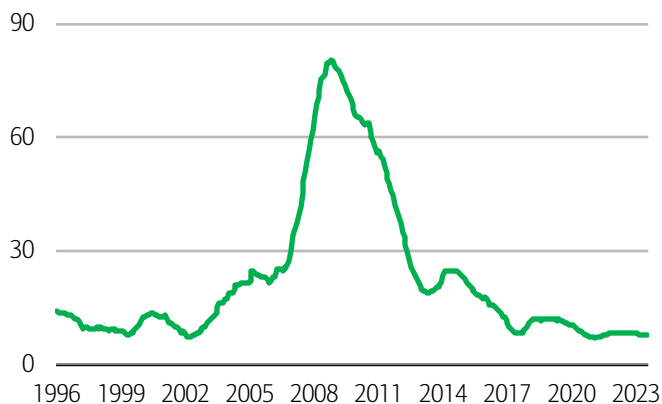
Source: Clarksons

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Vessel supply

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

Orderbook to fleet down to around 7.7%

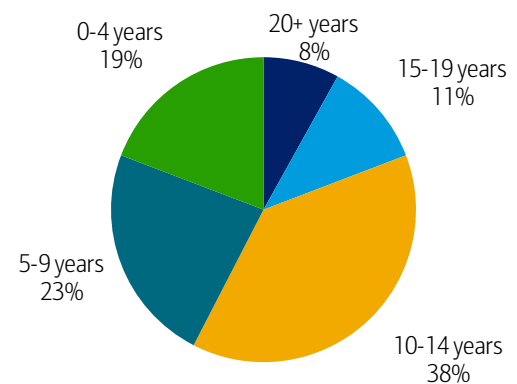


Source: Clarksons

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Exhibit 93: Dry bulk vessel age distribution, 2023

19% of fleet is older than 15 years



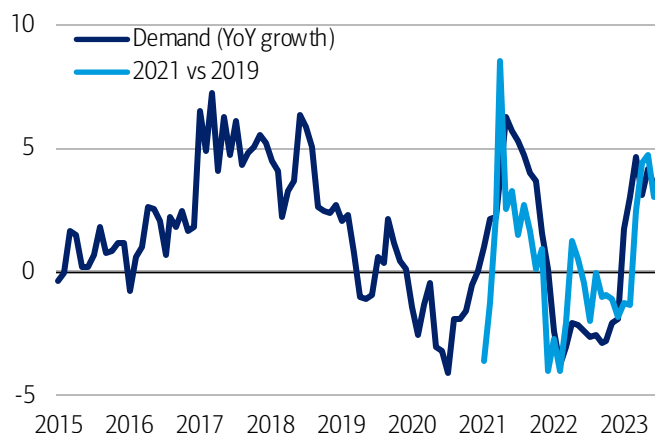
Source: Clarksons

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Dry bulk demand reads

Exhibit 94: Dry bulk demand growth (% YoY), 2015-23

Dry bulk demand above 2019 levels starting in May 2023

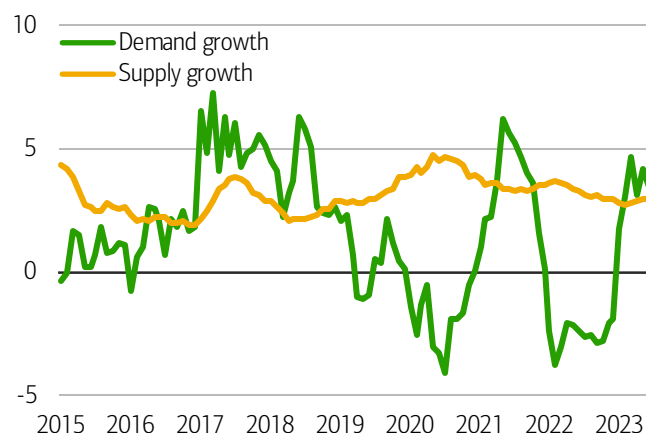


Source: Clarksons

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Exhibit 95: 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 96: Iron ore demand growth (% YoY), 2015-23

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

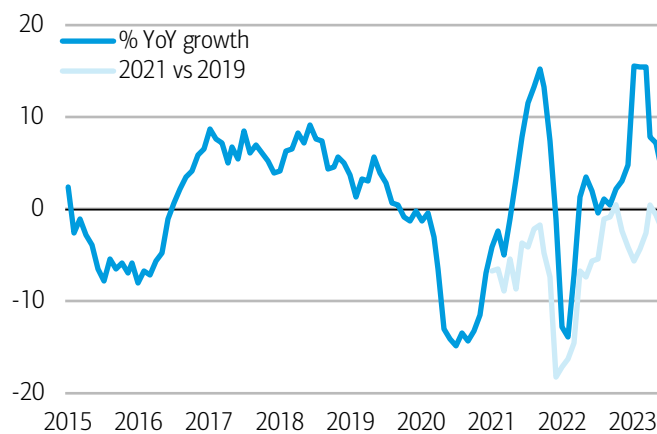


Source: Clarksons

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Exhibit 97: Coal demand growth (% YoY), 2015-23

Coal demand growth trending in-line with 2019 levels

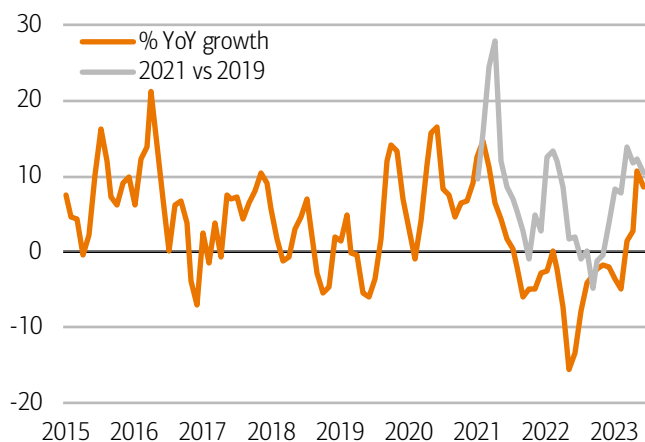


Source: Clarksons

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

Grain demand at above 2019 levels starting in May 2023



Source: Clarksons

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

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

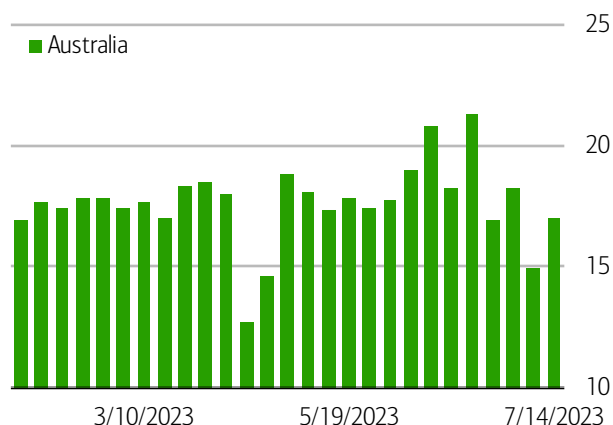


Source: Clarksons

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Exhibit 100: Australia iron ore shipments (mn tn), 2022-23

Australian iron ore exports recovering off cyclone disruptions

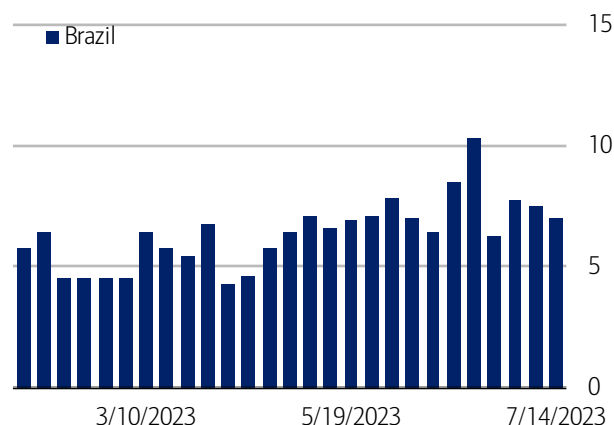


Source: Marcura

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Exhibit 101: Brazil iron ore shipments (mn tn), 2022-23

Brazil iron ore exports trending higher

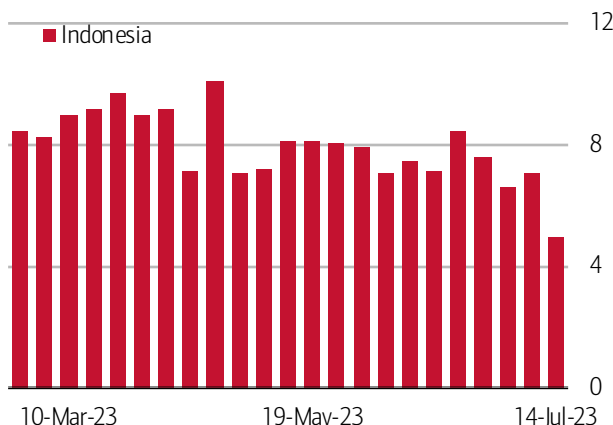


Source: Marcura

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Exhibit 102: Indonesian coal shipments (mn tn), 2022-23

Indonesian exports under some pressure

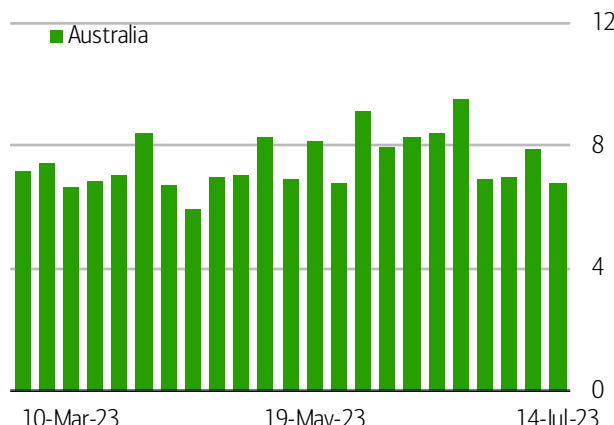


Source: Marcura

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Exhibit 103: Australian coal shipments (mn tn), 2022-23

Aussie coal shipments relatively stable



Source: Marcura

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Dry bulk demand & supply**Exhibit 104: Dry bulk shipping demand & supply growth (% YoY), 2014-25E**

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 (HHs) only. Spending from corporate cards is 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 matched to Jan 1, 2022, and Jan 1, 2019, respectively). The % change is calculated based on the 7-day moving average of spending levels

Disclosures

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

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

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