

Shipping - Global

Shipping & supply chain high frequency tracker #45

Industry Overview

Tracking the high frequency shipping data

This report contains our favorite charts to track the shipping cycle. Container shipping spot rates are expected to drift lower ahead with limited pricing power seen amidst heavy supply pressures and risks of a more muted seasonal peak. Tanker markets face near-term pressure from cyclical and seasonal headwinds, but tanker's positive fundamental setup remains unchanged given low future supply growth and longer distance flows. And dry bulk data show a seasonal and cyclical recovery inflection off the bottom, while forward curves are pointing to a seasonally stronger 2H23 ahead.

Container: Still drifting lower with mixed peak outlook

World trade remains soft with US imports still trending -20% YoY lower as inventory destocking continues. Container spot rates are expected to drift lower with the market struggling to repeat the success of 15 April rate hikes given limited discipline (idling at just 1.3%), while transpacific contract repricing (done at or slightly below P&L breakeven) is likely to weigh on the CCFI in the coming months. Looking ahead, the world trade outlook for 2H23 remains unclear. While some liners are optimistic on demand given seasonality and easing destocking, we see risk that the peak season could underwhelm given building macro uncertainties.

Tanker: Near term headwinds & positive setup remains

Crude tanker markets remain pressured by cyclical and seasonal factors. VLCC rates are back to breakeven with the data showing building tanker oversupply in the Middle East caused by OPEC+ production cuts. VLCC forward curves suggest P&L losses into 3Q23 on summer seasonality. But the positive fundamental setup for tanker is unchanged with the data showing China ramping its crude imports on reopening, Russian exports continuing to flow and low future supply with an orderbook less than 2.5% of fleet.

Bulk: A Seasonally stronger 2H23 awaits

The worst of seasonality and the macro cycle has passed for dry bulk for now. Key fundamental reads such as time charter rates and vessel values are showing a clear pickup off the bottom. Forward curves point to a firming of spot rates into 2H23 for dry bulk rates (supra & handy rates to US\$13.5-14.5k/day), but watch volatility from Chinese policy (steel production caps) and global macro ahead.

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Equity
Global
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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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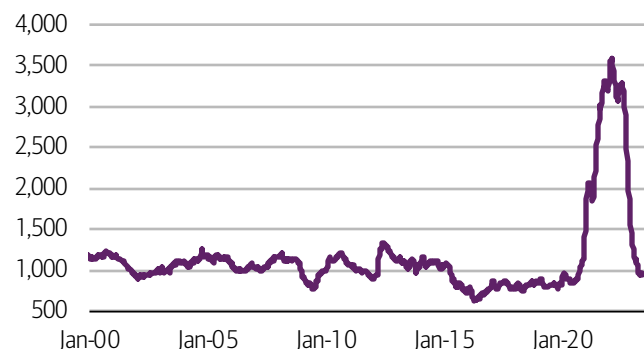
Timestamp: 22 May 2023 12:06AM EDT

Container shipping

Blended freight rates

Exhibit 1: China Containerized Freight Index, 2000-23

CCFI holding at 946



Source: Shanghai Shipping Exchange

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Exhibit 2: CCFI quarterly average, 2022-23

CCFI still trending -12% QoQ lower so far in 2Q23

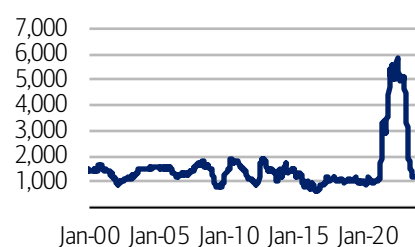
| CCFI | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 |
|-------------|-------|-------|-------|-------|-------|-------|
| CCFI | 3,444 | 3,157 | 2,950 | 1,615 | 1,087 | 952 |
| CCFI Europe | 5,526 | 5,060 | 4,738 | 2,497 | 1,411 | 1,176 |
| CCFI USWC | 2,596 | 2,502 | 2,331 | 1,079 | 789 | 717 |
| CCFI USEC | 2,682 | 2,796 | 2,844 | 1,746 | 1,161 | 912 |
| % YoY | | | | | | |
| CCFI | 75% | 46% | -1% | -51% | -68% | -70% |
| CCFI Europe | 77% | 45% | -7% | -53% | -74% | -77% |
| CCFI USWC | 95% | 69% | 13% | -53% | -70% | -71% |
| CCFI USEC | 79% | 59% | 22% | -31% | -57% | -67% |
| % QoQ | | | | | | |
| CCFI | 5% | -8% | -7% | -45% | -33% | -12% |
| CCFI Europe | 5% | -8% | -6% | -47% | -44% | -17% |
| CCFI USWC | 12% | -4% | -7% | -54% | -27% | -9% |
| CCFI USEC | 6% | 4% | 2% | -39% | -34% | -21% |

Source: Shanghai Shipping Exchange

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Exhibit 3: CCFI Europe, 2000-23

CCFI Europe at 1,165

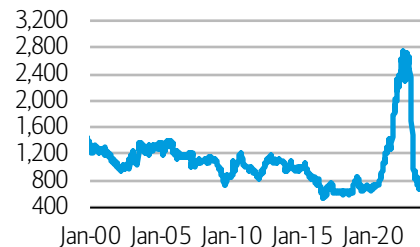


Source: Shanghai Shipping Exchange

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Exhibit 4: CCFI, US west coast, 2000-23

CCFI US west coast at 708

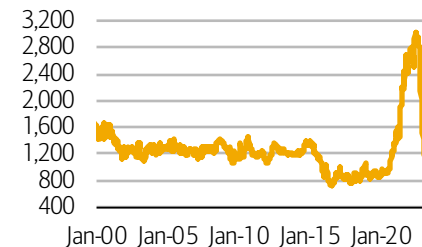


Source: Shanghai Shipping Exchange

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Exhibit 5: CCFI US east coast, 2000-23

CCFI east coast tracking at 897

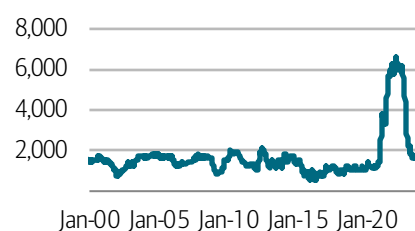


Source: Shanghai Shipping Exchange

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Exhibit 6: CCFI Mediterranean, 2000-23

CCFI Med tracking at 1,681

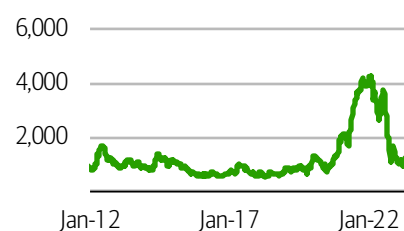


Source: Shanghai Shipping Exchange

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Exhibit 7: CCFI Middle East, 2000-23

CCFI Middle East at 1,156

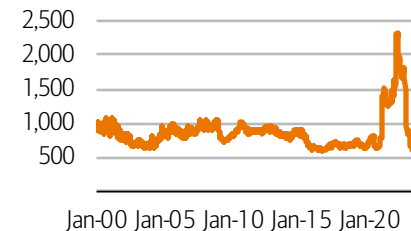


Source: Shanghai Shipping Exchange

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Exhibit 8: CCFI Singapore, 2000-23

CCFI Singapore at 634



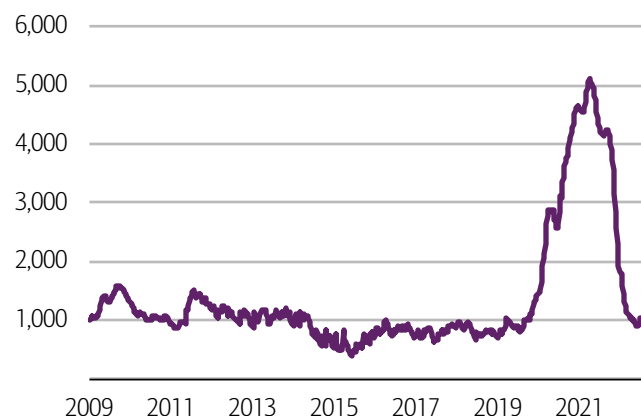
Source: Shanghai Shipping Exchange

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Spot freight rates

Exhibit 9: Shanghai Containerized Freight Index, 2009-23

SCFI down to 946



Source: Shanghai Shipping Exchange

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Exhibit 10: SCFI quarterly average, 2022-23

SCFI trending QoQ higher in 2Q23 on April transpacific hikes

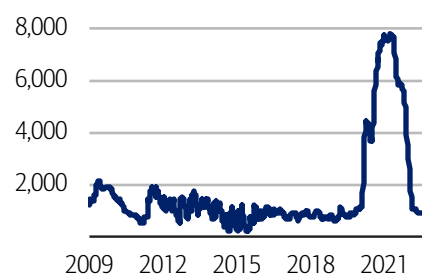
| SCFI | 1Q22 | 2Q22 | 3Q22 | 4Q22 | 1Q23 | 2Q23 |
|-------------|--------|--------|-------|-------|-------|-------|
| SCFI | 4,851 | 4,211 | 3,279 | 1,375 | 969 | 997 |
| SCFI Europe | 7,435 | 5,959 | 4,656 | 1,490 | 926 | 875 |
| SCFI USWC | 8,032 | 7,773 | 5,278 | 1,627 | 1,265 | 1,459 |
| SCFI USEC | 11,008 | 10,409 | 8,557 | 4,126 | 2,438 | 2,397 |
| % YoY | | | | | | |
| SCFI | 74% | 29% | -24% | -71% | -80% | -76% |
| SCFI Europe | 81% | 15% | -36% | -80% | -88% | -85% |
| SCFI USWC | 100% | 68% | -9% | -76% | -84% | -81% |
| SCFI USEC | 130% | 47% | -20% | -62% | -78% | -77% |
| % QoQ | | | | | | |
| SCFI | 3% | -13% | -22% | -58% | -30% | 3% |
| SCFI Europe | -3% | -20% | -22% | -68% | -38% | -6% |
| SCFI USWC | 18% | -3% | -32% | -69% | -22% | 15% |
| SCFI USEC | 2% | -5% | -18% | -52% | -41% | -2% |

Source: Shanghai Shipping Exchange

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

SCFI Europe at US\$869/TEU

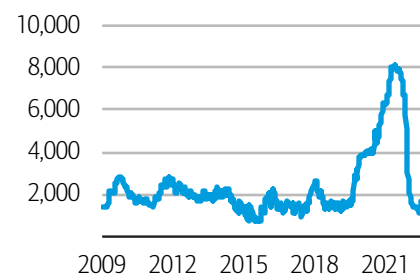


Source: Shanghai Shipping Exchange

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Exhibit 12: SCFI: Asia to US west coast, 2009-22 (USD/FEU)

SCFI USWC at US\$1,329 /FEU

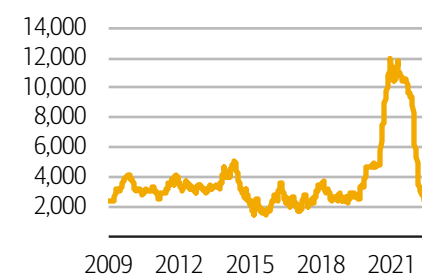


Source: Shanghai Shipping Exchange

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Exhibit 13: SCFI: Asia to US east coast, 2009-22 (USD/FEU)

SCFI USEC at US\$2,365 /FEU

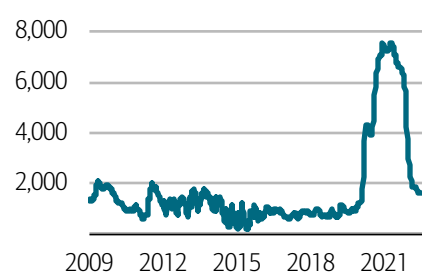


Source: Shanghai Shipping Exchange

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Exhibit 14: Asia-Mediterranean, 2009-22 (USD/TEU)

SCFI Med at US\$1,628 /TEU

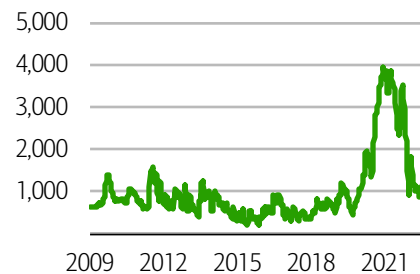


Source: Shanghai Shipping Exchange

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Exhibit 15: SCFI: Asia-Middle East, 2009-22 (USD/TEU)

SCFI Middle East US\$1,261 /TEU

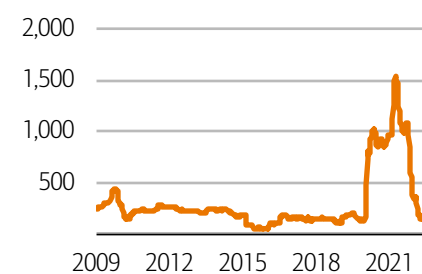


Source: Shanghai Shipping Exchange

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Exhibit 16 SCFI: Asia-Singapore, 2009-22 (USD/TEU)

SCFI Singapore at US\$174 /TEU



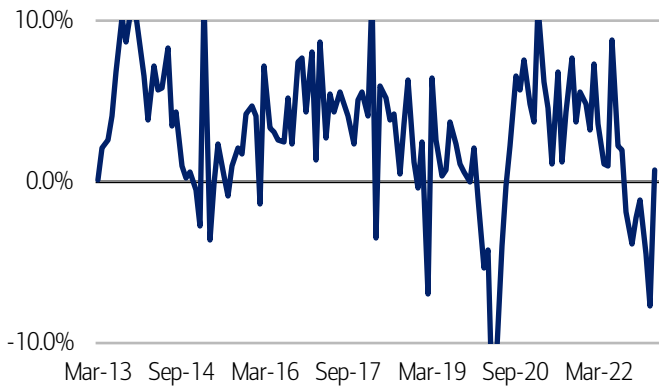
Source: Shanghai Shipping Exchange

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World trade trends

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

World trade back to slightly above 2019 levels in March 2023

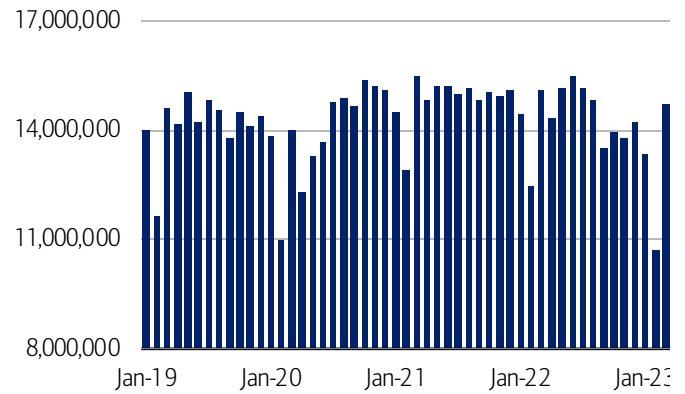


Source: CTS, BofA Global Research estimates, # 2021 data compared to 2019

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

World trade rebounded in March 2023

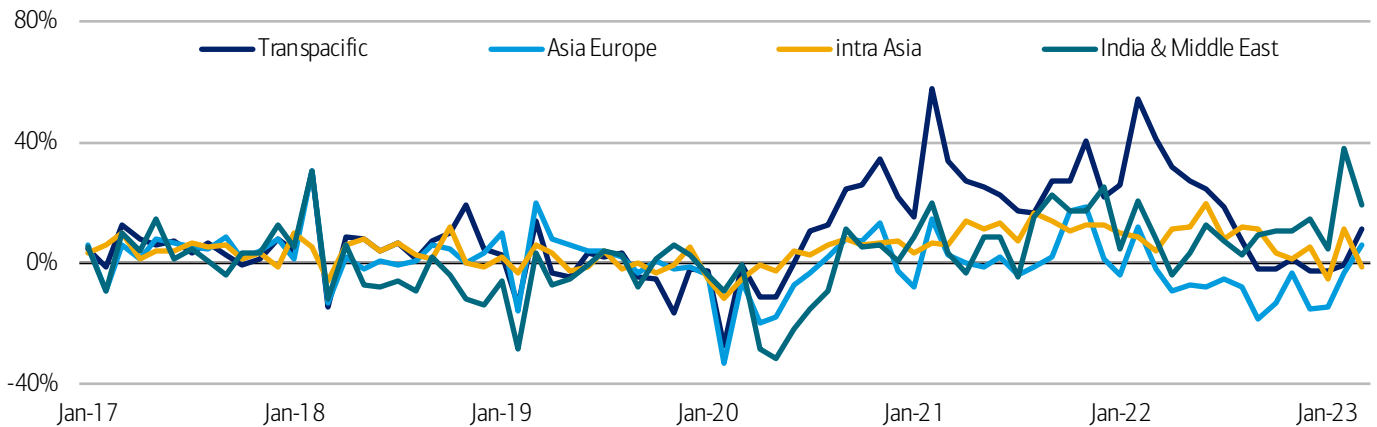


Source: CTS, BofA Global Research estimates

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

Transpacific volumes slightly above 2019 levels



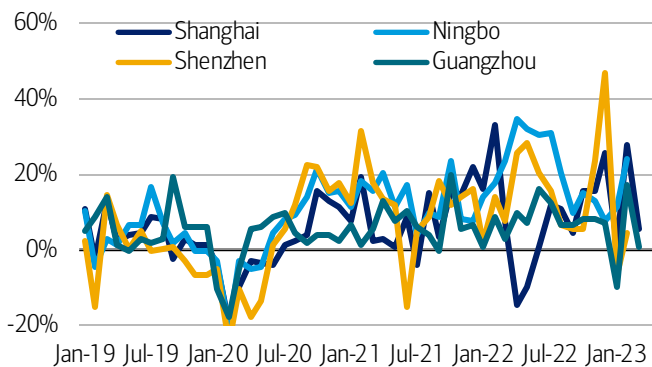
Source: CTS # 2021-23 relative to 2019 levels

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Chinese trade trends

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

Strong Ningbo March monthly port numbers

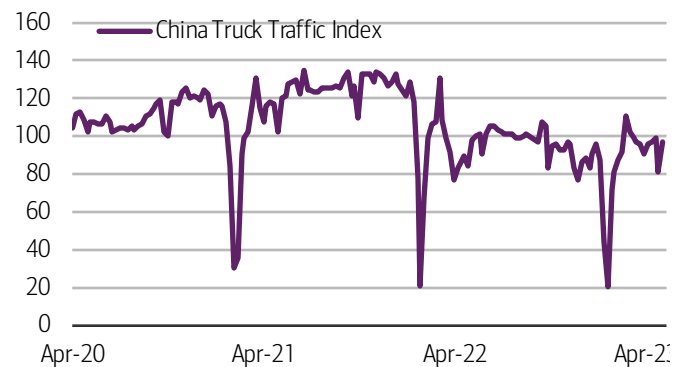


Source: Company reports

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Exhibit 21: China truck traffic index, 2020-23

China trucking demand rebounding 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 above 2019 levels in April-May 2023

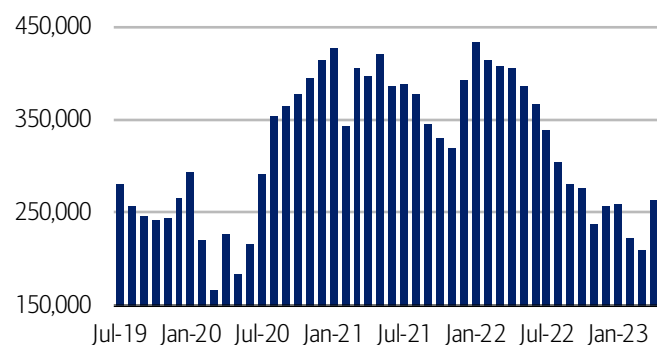


Source: PIERIS

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

US furniture imports around 210k TEU/month in April

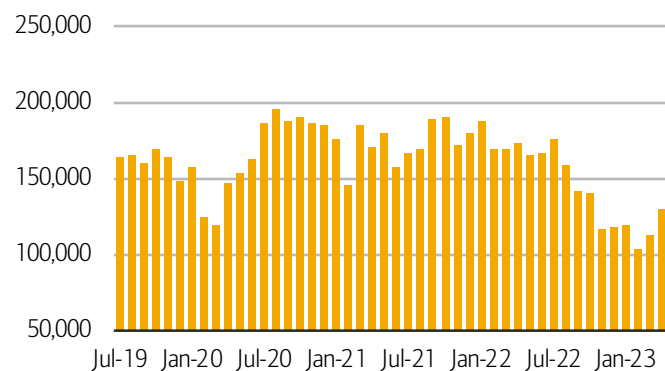


Source: PIERIS

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

US electronics imports trending at 130k TEU/month in April

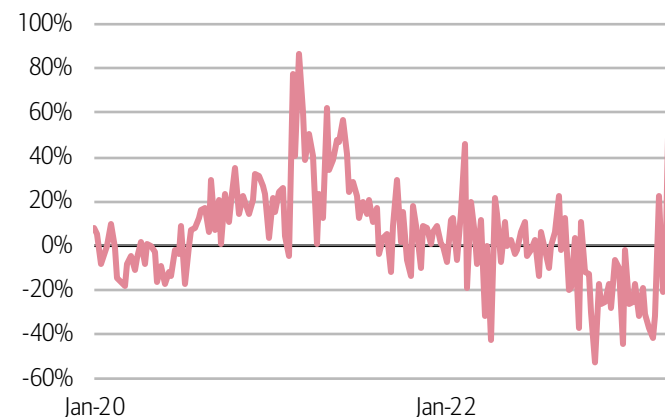


Source: PIERIS

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

US weekly imports around -18% YoY lower in April & May 2023

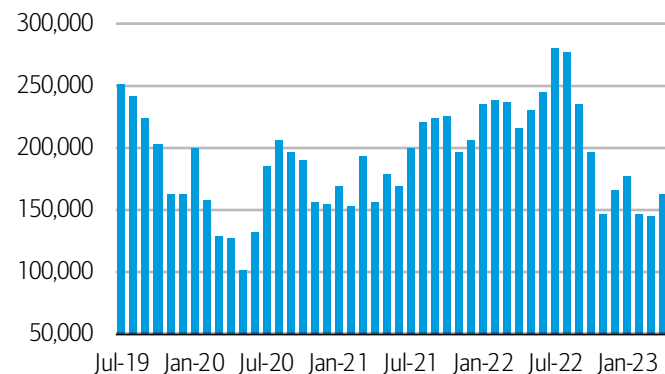


Source: PIERIS

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

US apparel & footwear imports above 150k TEU in April

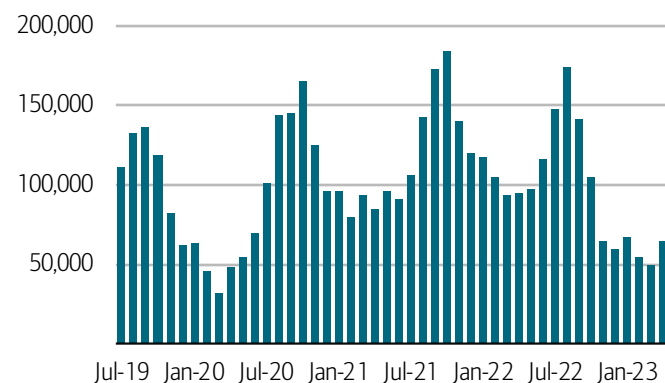


Source: PIERIS

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

US toy & leisure imports at 65k TEU in April



Source: PIERIS

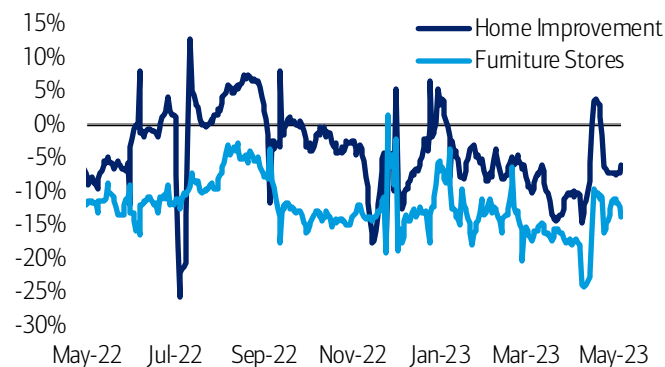
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US consumer reads

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 was deeply negative on a y/y basis in the week ending May 6

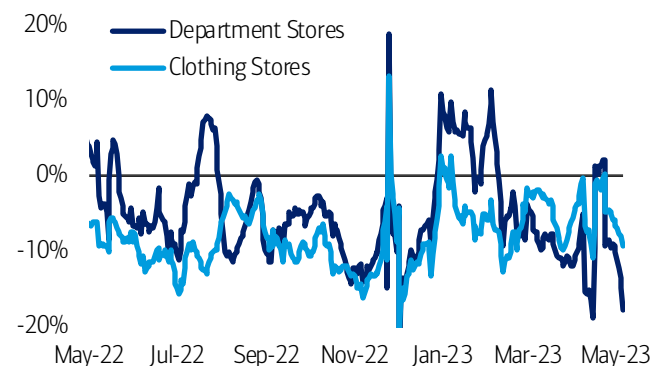


Source: BAC internal data

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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

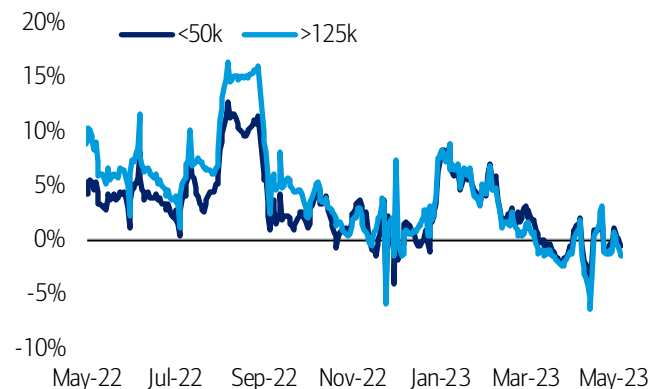


Source: BAC internal data

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Exhibit 30: Total card spending per HH by income group (y/y % change of the 7-day ma of spending levels)

Total card spending growth for lower-income HHs (-0.5% y/y) outpaced higher income HHs (-1.4% y/y) in the week ending May 6



Source: BAC internal data

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

Spending was generally tepid in April

| | Apr-23 | Mar-23 | Feb-23 | Jan-23 | Dec-22 | Nov-22 |
|--|--------|--------|--------|--------|--------|--------|
| Gas | 0.3% | -4.0% | 1.0% | 0.2% | -3.9% | -3.0% |
| Furniture | -1.4% | -3.0% | -1.5% | 0.6% | -5.5% | 2.5% |
| Home improvement | 0.1% | -2.2% | 0.3% | -0.3% | -0.6% | -2.3% |
| Clothing | -0.5% | 0.1% | -2.0% | 4.7% | -6.0% | 2.5% |
| Grocery | -0.4% | 0.0% | -0.2% | -0.3% | -1.1% | 0.3% |
| General Merchandise | -0.1% | -0.5% | -0.2% | 3.0% | -0.3% | -1.1% |
| Department Store | 0.5% | -2.3% | 0.4% | 0.6% | -1.7% | -1.7% |
| Restaurants | 0.3% | -0.4% | 0.1% | 0.8% | 0.3% | -0.5% |
| Lodging | -0.8% | -2.1% | 0.3% | -2.4% | 2.2% | 1.3% |
| Airlines | -3.5% | -0.2% | -0.8% | 8.8% | -0.8% | -1.2% |
| Total online retail (card not present) | 1.0% | -1.5% | 0.6% | 0.3% | -1.0% | -2.2% |

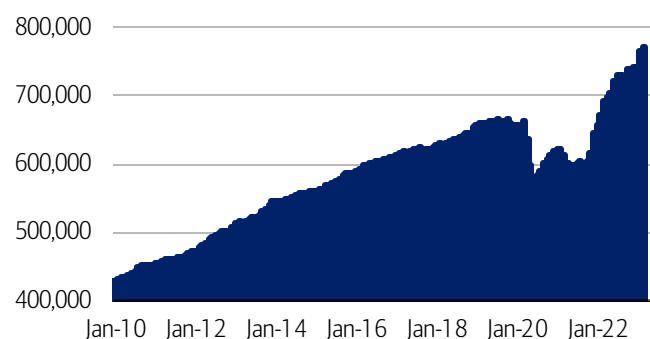
Source: BAC internal data. Card not present is largely online but could include purchases made over the phone.

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US retail inventory levels

Exhibit 32: US retail inventories (US\$mn), 2010-23

Retail inventories are above pre-COVID levels

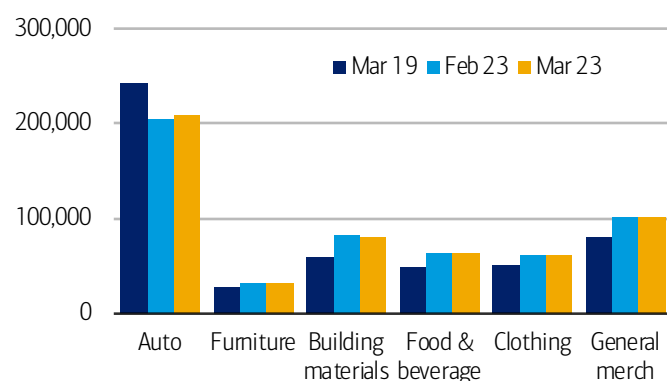


Source: US Census Bureau

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Exhibit 34: US retail inventories (US\$mn), 2019-23

Clothing and furniture inventories above 2019 levels

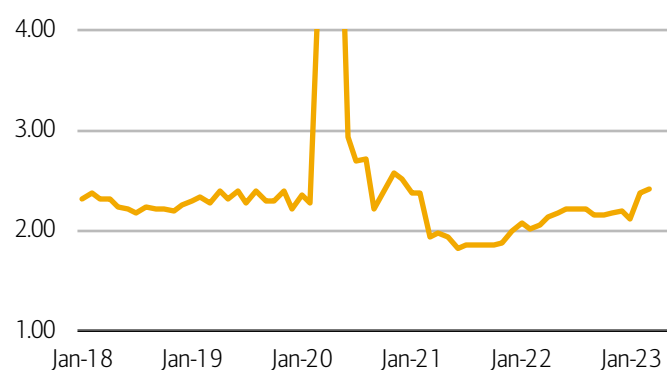


Source: US Census Bureau

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

Clothing inventory to sales now above pre-COVID levels



Source: US Census Bureau

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Exhibit 33: US retail inventory to sales ratio, 2010-23

Retail adjusted inventories to sales at 1.23x below averages of 1.4x

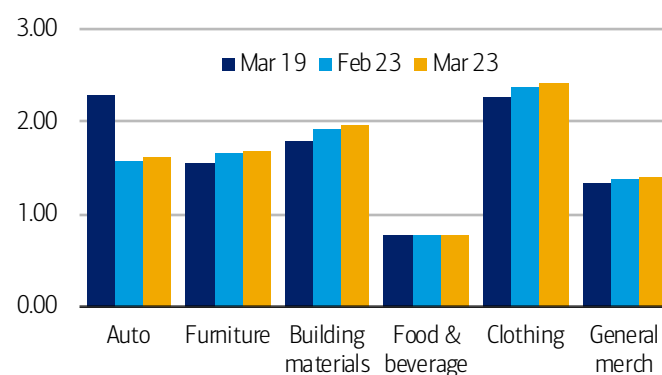


Source: US Census Bureau

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Exhibit 35: US retail inventory to sales (x), 2019-23

Clothing and furniture inventory to sales are above 2019 levels

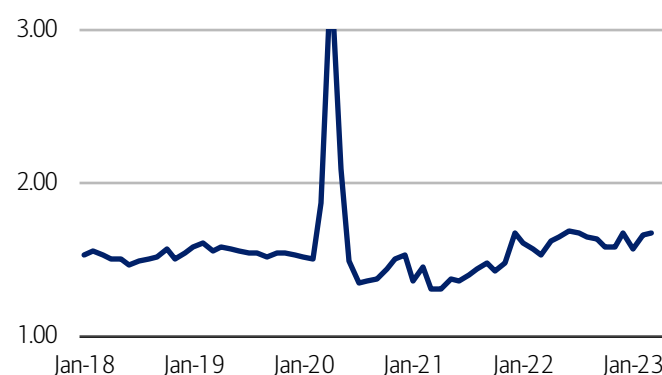


Source: US Census Bureau

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Exhibit 37: Furniture – adjusted inventory to sales, 2018-23

Furniture inventory to sales also above pre-COVID levels



Source: US Census Bureau

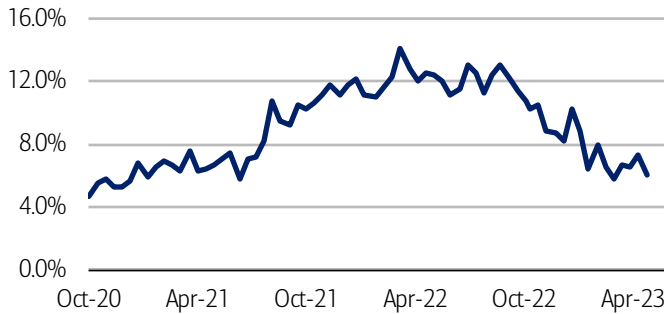
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Port congestion & idling

Below charts show port congestion measures globally:

Exhibit 38: Port congestion - % of fleet, 2020-23

Port congestion at to 6% of fleet

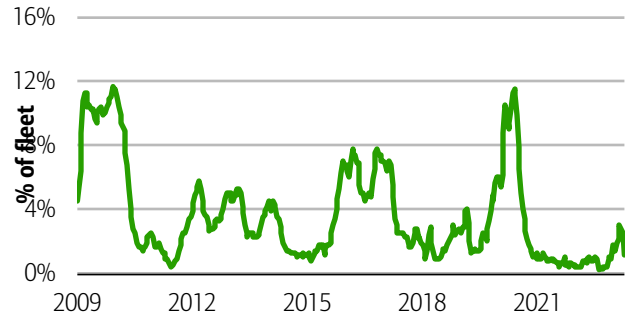


Source: Linerlytica

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

Idling rate down to 1.3% of the fleet



Source: Linerlytica, Alphaliner

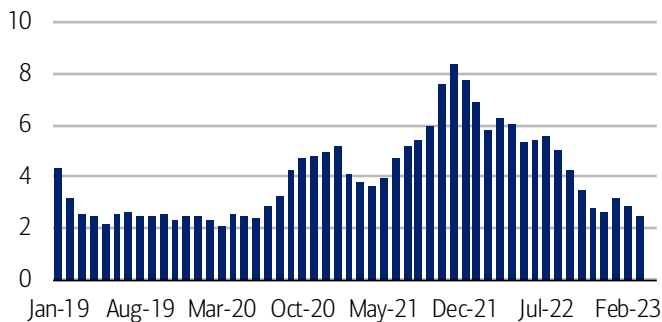
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US inland congestion trackers

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 2.5 days before pickup

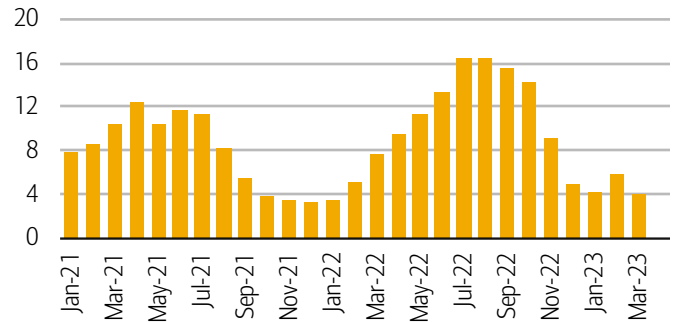


Source: PMSA

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

Boxes are waiting at terminal yards for 4.1 days before rail pickup up



Source: PMSA

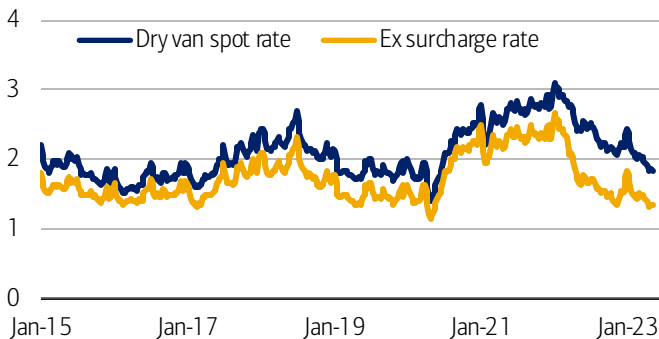
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US trucking spot rates

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 dipping again into May 2023

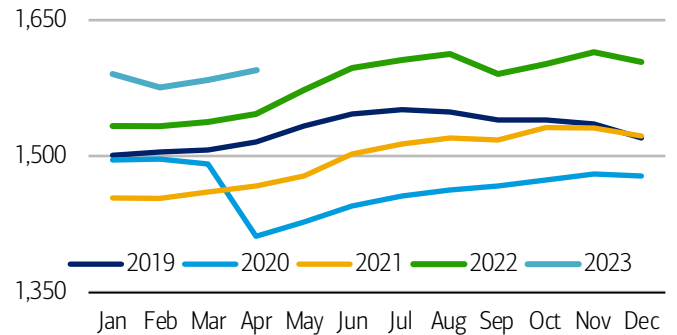


Source: Truckstop.com

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

US employees in truck transport are above pre-COVID levels



Source: St Louis Fed

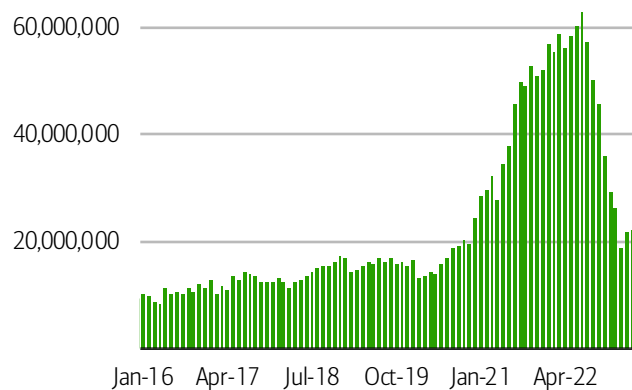
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Container liner monthly revenue

Mixed reads for Taiwanese April monthly revenues:

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

Evergreen April monthly revenues: -60% YoY, +2% MoM

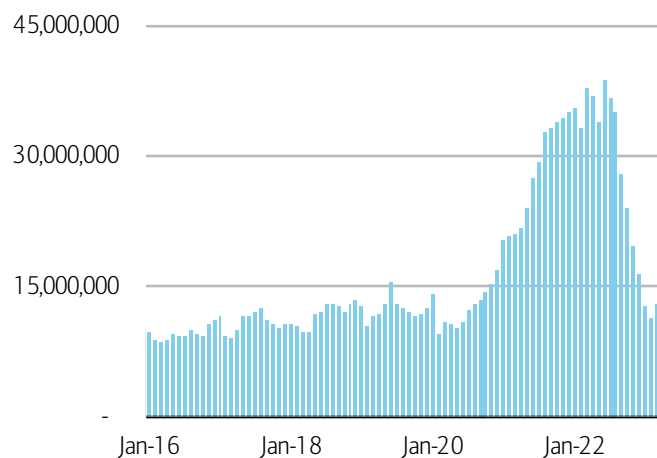


Source: Company reports

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

Yang Ming April monthly revenues: -70% YoY, -15% MoM



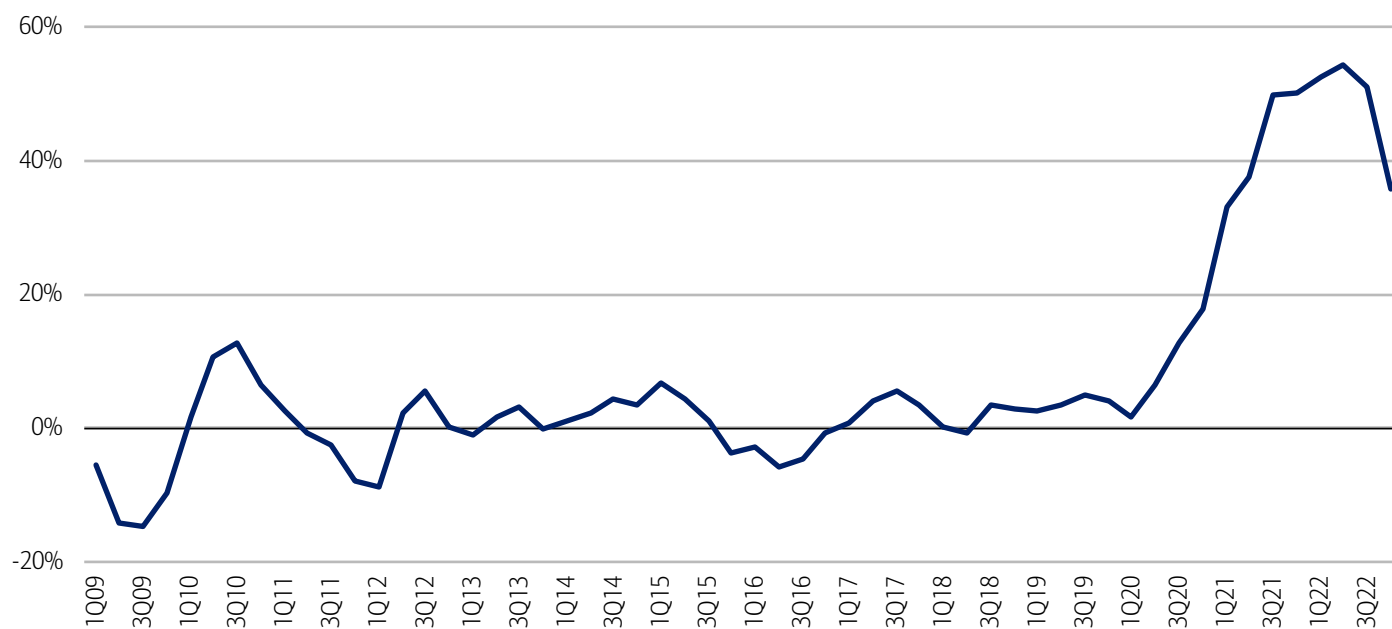
Source: Company reports

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Container liner average EBIT margins

Exhibit 46: Container liner average quarterly EBIT margin, 2009-22

4Q22 average EBIT margins at ~36%



Source: Linerlytica

BofA GLOBAL RESEARCH

Vessel supply-side trends

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

Container shipping orderbook stands at around 28-29% of fleet right now

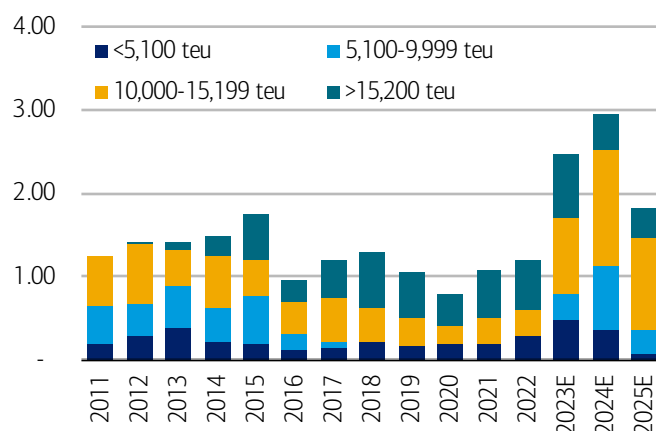


Source: Clarksons

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Exhibit 48: Delivery by vessel size (mn TEU), 2011-2023E

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

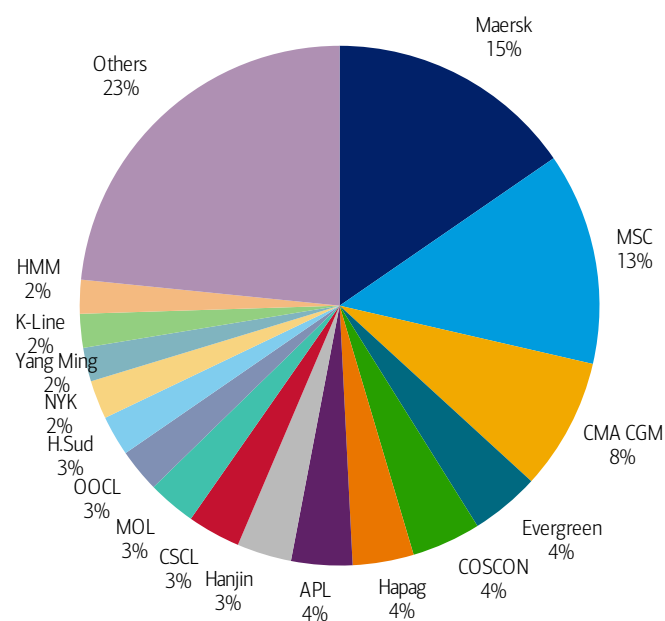


Source: Alphaliner

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Exhibit 49: Container liner capacity share in 2013

Top 16 carriers in 2013 = 77% market share

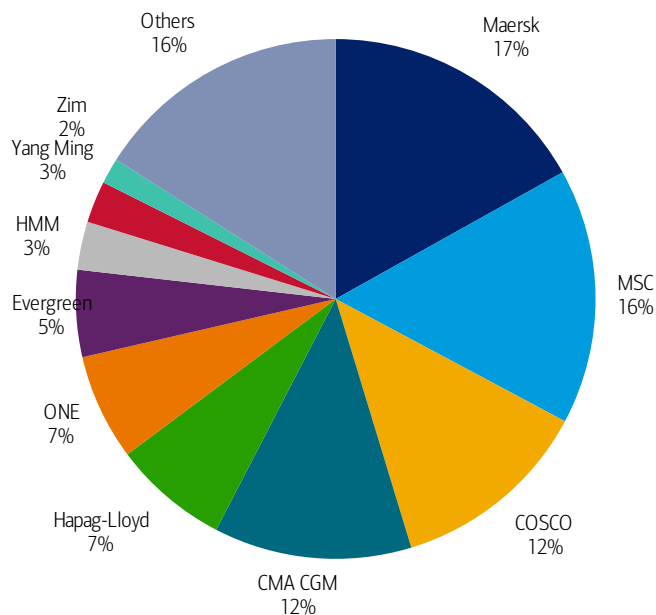


Source: Alphaliner

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Exhibit 50: Container liner capacity share in 2021

Top 10 carriers in 2021 = 85% market share

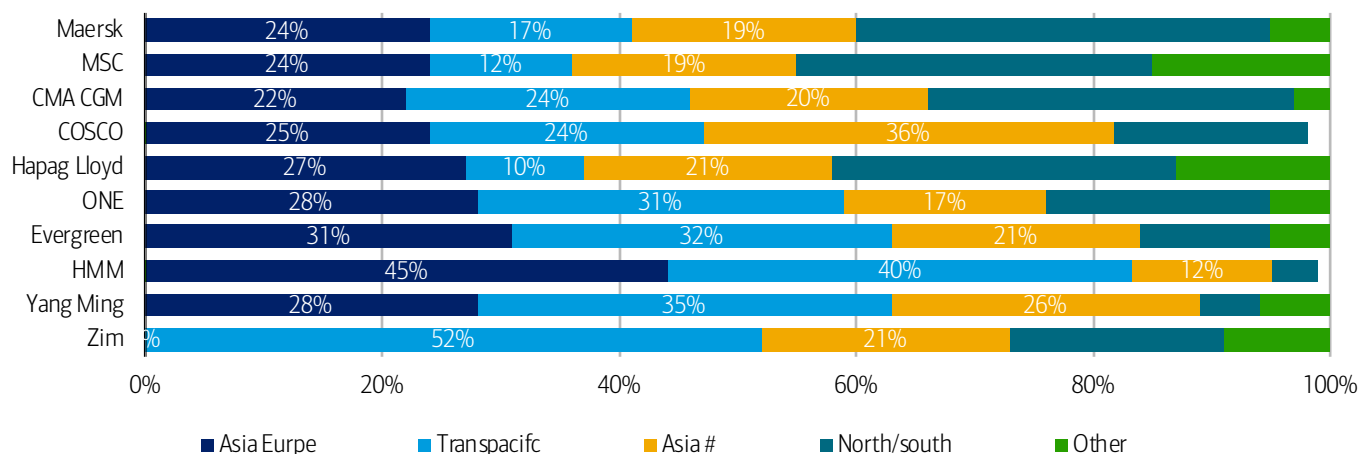


Source: Alphaliner

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Exhibit 51: Container liner capacity by route

Container liner capacity deployment by route

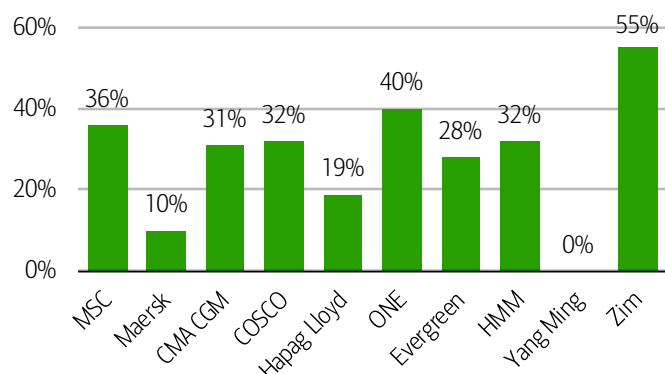


Source: Alphaliner # Asia includes Middle East, India, Australia

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Exhibit 52: Container liners – orderbook to fleet

Larger orderbooks for Zim, Evergreen and MSC

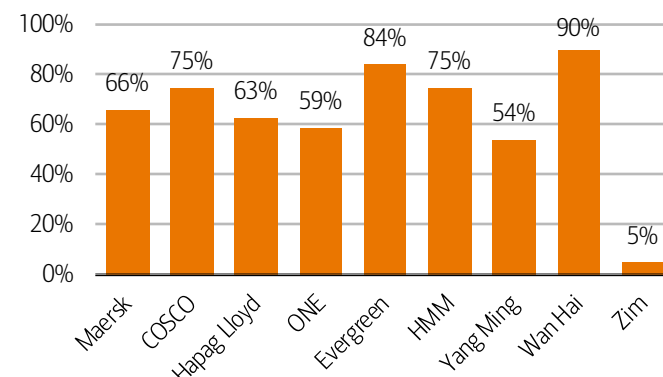


Source: Linerlytica

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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

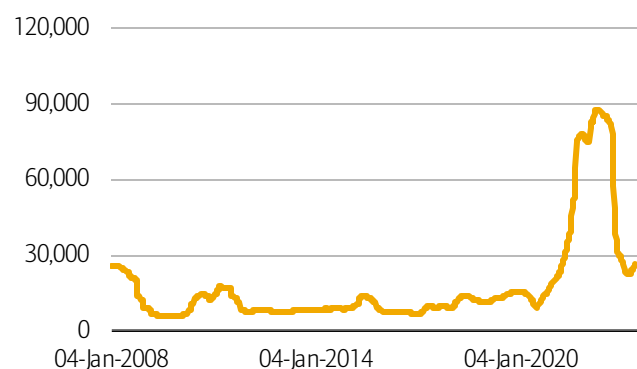


Source: Linerlytica

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

Average charter rates are bouncing off the bottom

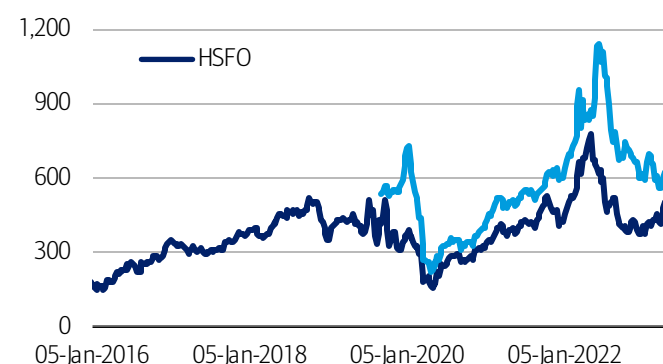


Source: Clarksons

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

VLSFO is at ~US\$572/tonne



Source: Clarksons

BofA GLOBAL RESEARCH



Container vessel sailing speeds

Exhibit 56: Container vessel average sailing speed (knots), 2012-23

Container vessels now sailing below 14 knots

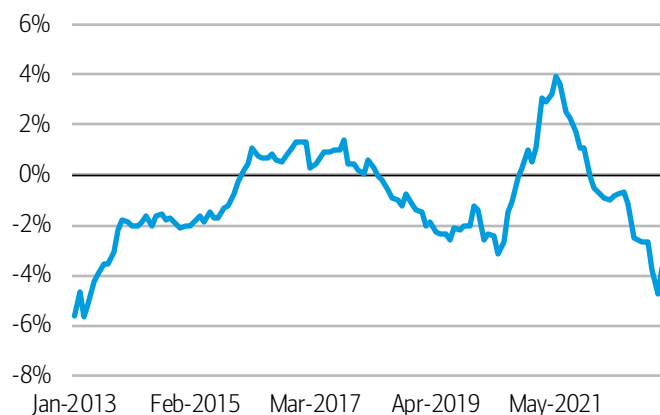


Source: Clarksons

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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

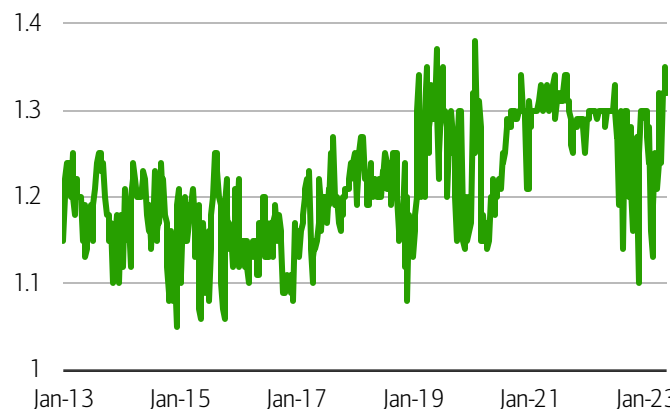
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Tanker shipping

Freight rates

Exhibit 59: VLCC supply vs demand in Middle East #

VLCC supply vs demand in Middle East #



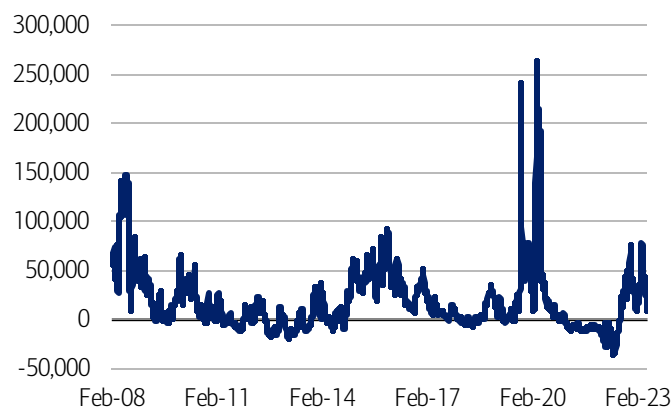
Source: Bloomberg

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 to around P&L breakeven for now



Source: Clarksons

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

Average quarterly tanker rates

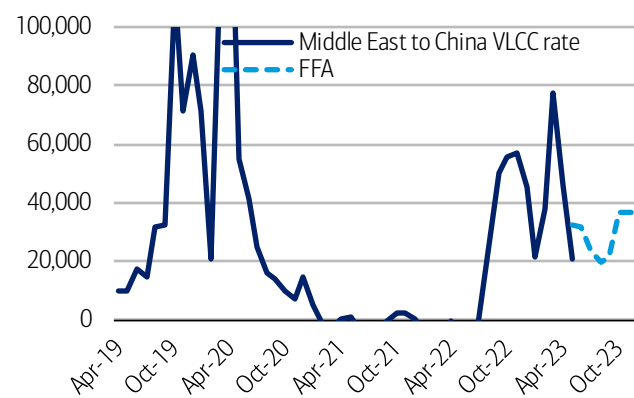
| Date | 3Q22 | 4Q22 | 1Q23 | 2Q23 |
|---------|--------|--------|--------|--------|
| VLCC | 9,747 | 42,823 | 34,498 | 28,978 |
| Suezmax | 50,411 | 88,602 | 74,764 | 54,367 |
| Aframax | 46,440 | 78,728 | 64,833 | 49,649 |
| MR | 39,878 | 41,411 | 29,143 | 27,680 |
| LR2 | 33,821 | 46,192 | 50,462 | 52,167 |
| % YoY | | | | |
| VLCC | -199% | nm | -295% | -234% |
| Suezmax | -1959% | nm | 244% | 52% |
| Aframax | 7427% | nm | 197% | 39% |
| MR | 586% | nm | 199% | -18% |
| LR2 | 67% | nm | 149% | 93% |
| % QoQ | | | | |
| VLCC | -145% | 339% | -19% | -16% |
| Suezmax | 41% | 76% | -16% | -27% |
| Aframax | 30% | 70% | -18% | -23% |
| MR | 18% | 4% | -30% | -5% |
| LR2 | 25% | 37% | 9% | 3% |

Source: Clarksons

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

Forward curve dipping to US\$20/day into 3Q

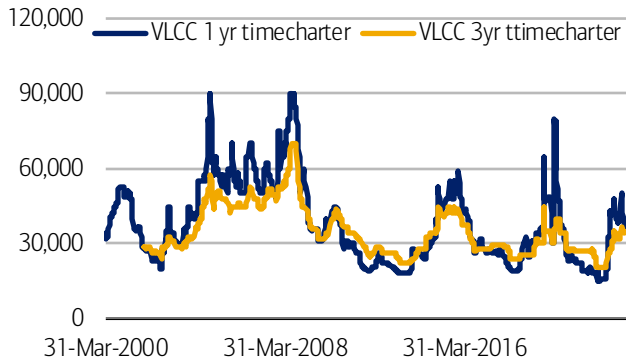


Source: Clarksons, Baltic Exchange

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Exhibit 63: VLCC time charter rates (US\$/day), 2000-23

One year VLCC time charter rates holding around US\$37k per day

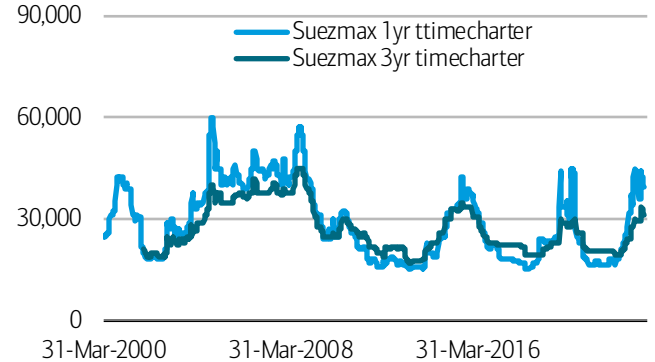


Source: Clarksons

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Exhibit 64: Suezmax time charter rates (US\$/day), 2000-23

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

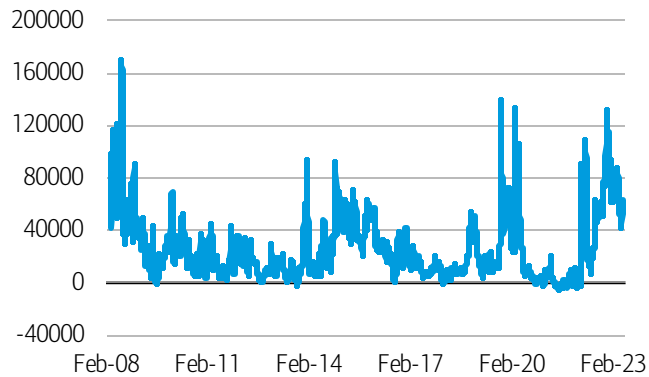


Source: Clarksons

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Exhibit 65: Suezmax freight rates (US\$/day), 2008-23

Baltic Suezmax spot down to below US\$60k per day

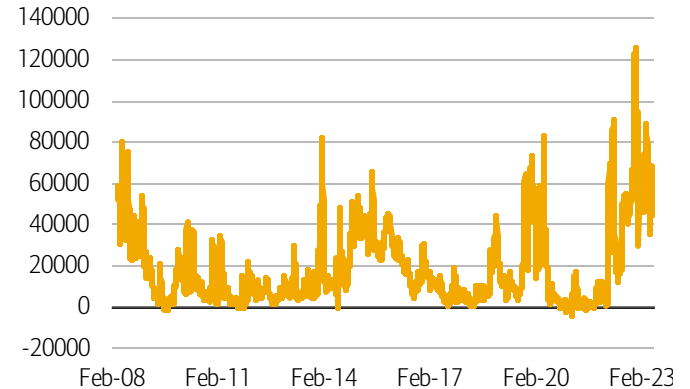


Source: Clarksons

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Exhibit 66: Aframax freight rates (US\$/day), 2008-23

Aframax rates down to US\$70k per day

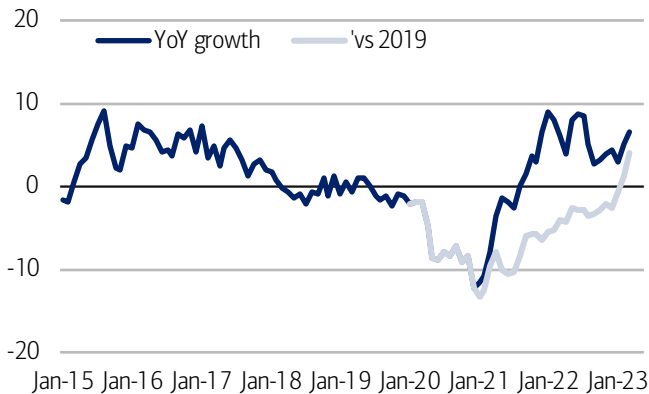


Source: Clarksons

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Crude tanker demand**Exhibit 67: Seaborne crude oil volumes (% YoY), 2015-23**

Seaborne crude tanker volumes recovering to pre COVID levels

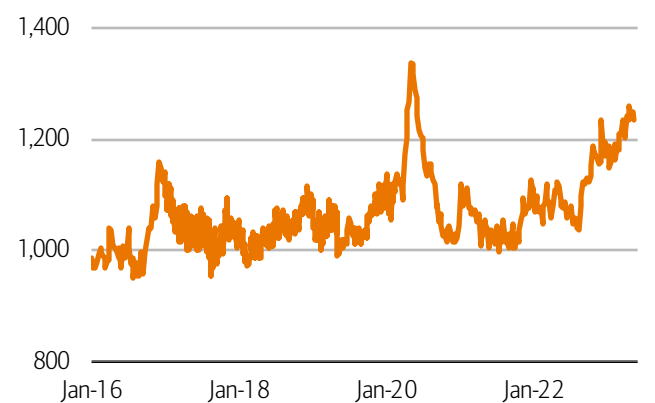


Source: Clarksons

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

Crude tanker demand remains robust given tanker transit times

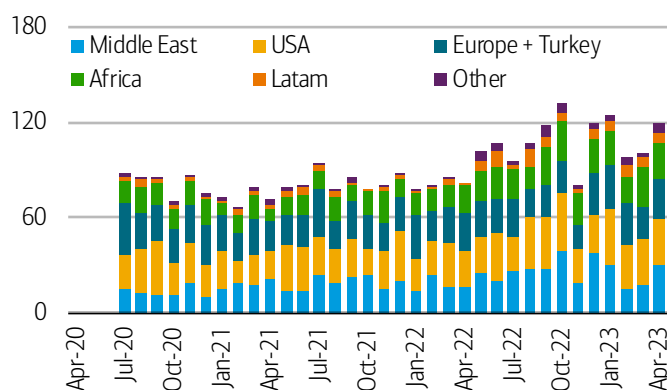


Source: Bloomberg

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Exhibit 69: Western Europe seaborne monthly crude imports from non-Russian producers (mn bbl per month)

European imports from non-Russia back to normal

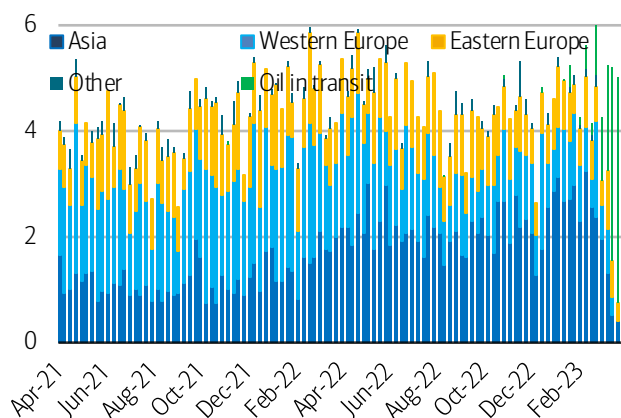


Source: Vortexa

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Exhibit 71: Russian seaborne crude exports (k b/d), 2023

Total Russian crude exports still very robust

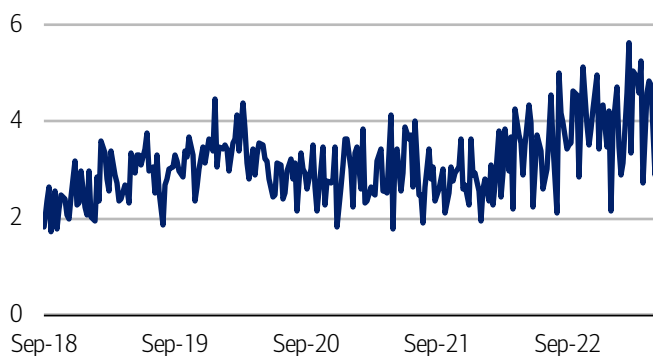


Source: Vortexa

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Exhibit 73: US crude exports (mn b/d)

US crude exports down from March 2023 peaks

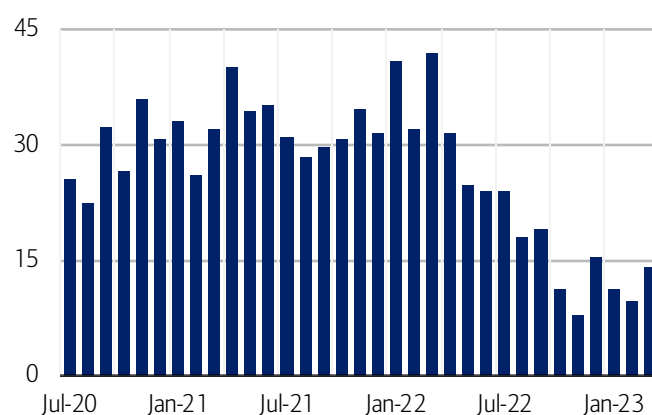


Source: Bloomberg

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Exhibit 70: Western Europe seaborne crude imports from Russia (mn bbl per month)

European imports from Russia trending lower

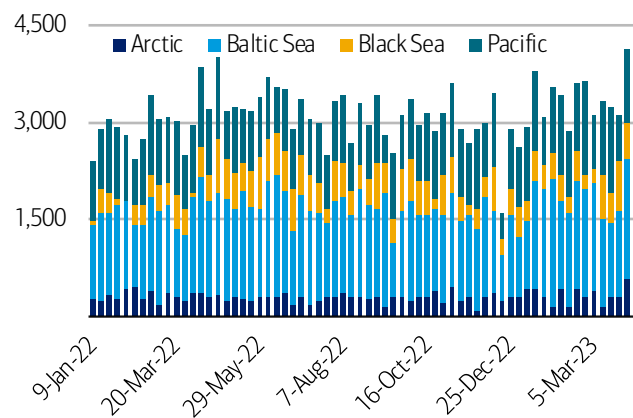


Source: Vortexa

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Exhibit 72: Russian crude by port (k b/d), 2023

Russian exports moving even higher into April-May 2023

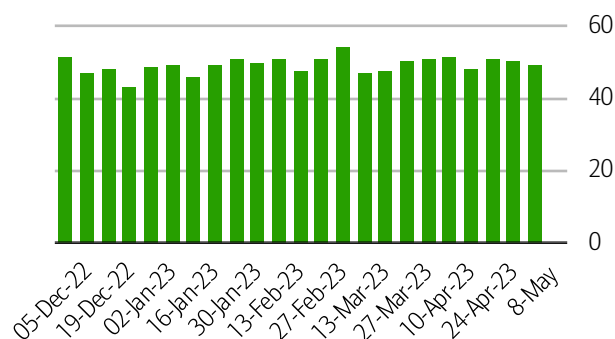


Source: Vortexa

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Exhibit 74: Weekly crude oil exports (mn b/d), 2022-23

Global crude oil exports staying robust

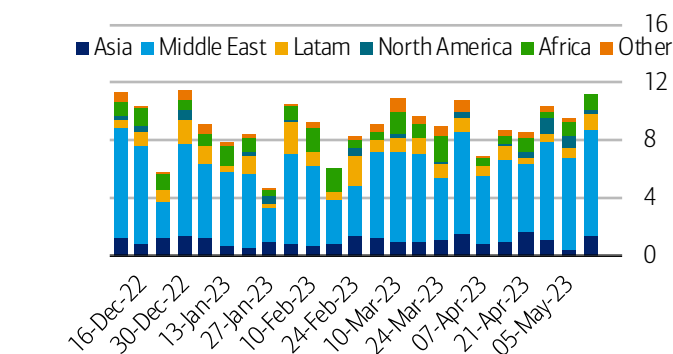


Source: Vortexa

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Exhibit 75: Chinese weekly imports (mn b/d), 2022-23

Chinese imports firming into April/May 2023 #



Source: Vortexa

BofA GLOBAL RESEARCH

Exhibit 76: Chinese crude imports (mn b/d)

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 down below 2.5%

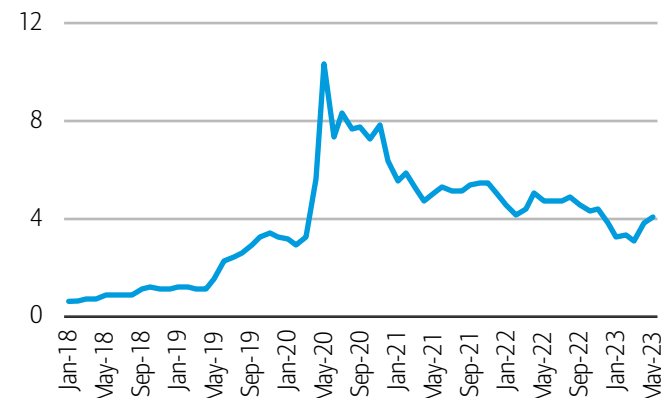


Source: Clarksons

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

Tanker storage up to 4% of fleet



Source: Clarksons

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Crude tanker demand & supply**Exhibit 79: 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

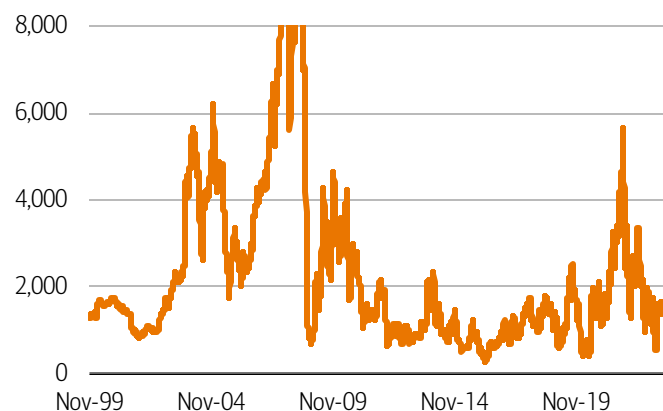
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Dry bulk shipping

Freight rates

Exhibit 80: Exhibit 91: Baltic Dry Index, 1999-2023

BDI at 1,384

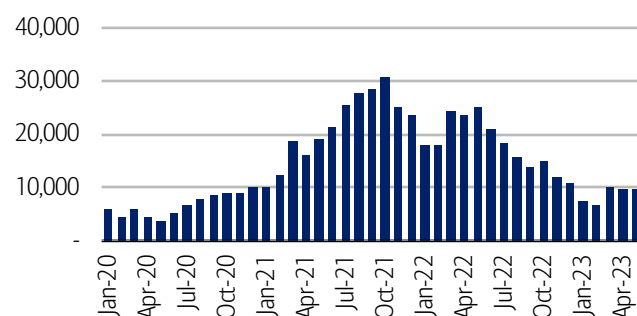


Source: Clarksons

BofA GLOBAL RESEARCH

Exhibit 82: Handysize spot monthly average (US\$/day), 2020-23 #

Spot handysize averaged US\$9.7k/day so far in May 2023



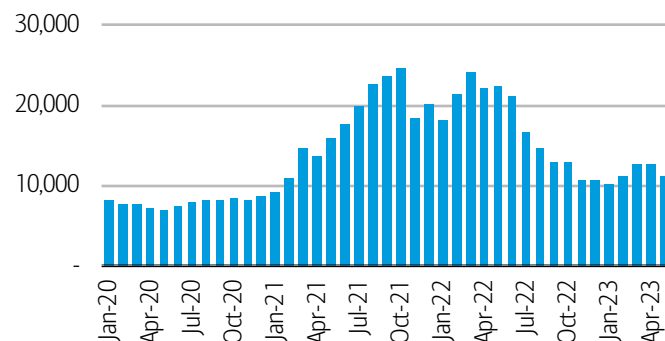
Source: Clarksons, BofA Global Research estimates

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

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Exhibit 84: Handysize 1yr TC monthly average (US\$/day), 2020-23 #

1yr time charter handysize averaged US\$11.2k/day in May 2023



Source: Clarksons, BofA Global Research estimates

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

BofA GLOBAL RESEARCH

Handysize & Supramax FFA outlook

Exhibit 81: Baltic average rates (US\$/day), 2022-23

Dry bulk quarterly average rates

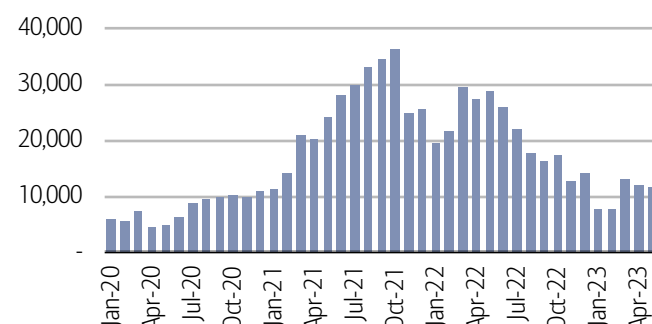
| Date | 2022 | 3Q22 | 4Q22 | 1Q23 | 2023 |
|--------------|--------|--------|--------|--------|--------|
| BDI | 2,530 | 1,870 | 1,523 | 1,011 | 1,506 |
| Capesize | 21,599 | 16,906 | 14,906 | 9,144 | 17,417 |
| Panamax 82 | 28,901 | 18,402 | 16,050 | 10,169 | 14,457 |
| Supramax 58 | 27,566 | 21,396 | 14,837 | 9,702 | 12,533 |
| Handysize 38 | 26,618 | 21,514 | 15,028 | 11,326 | 11,626 |
| % YoY | | | | | |
| BDI | -9% | -50% | -56% | -49% | -40% |
| Capesize | -31% | -60% | -65% | -38% | -19% |
| Panamax 82 | 12% | -45% | -45% | -56% | -50% |
| Supramax 58 | 8% | -38% | -51% | -61% | 0% |
| Handysize 38 | 18% | -33% | -52% | -53% | -56% |
| % QoQ | | | | | |
| BDI | 28% | -26% | -19% | -34% | 49% |
| Capesize | 46% | -22% | -12% | -39% | 90% |
| Panamax 82 | 24% | -36% | -13% | -37% | 42% |
| Supramax 58 | 10% | -22% | -31% | -35% | 29% |
| Handysize 38 | 11% | -19% | -30% | -25% | 3% |

Source: Clarksons

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Exhibit 83: Supramax spot monthly average (US\$/day), 2020-23 *

Spot supramax averaged US\$11.6k/day so far in May 2023



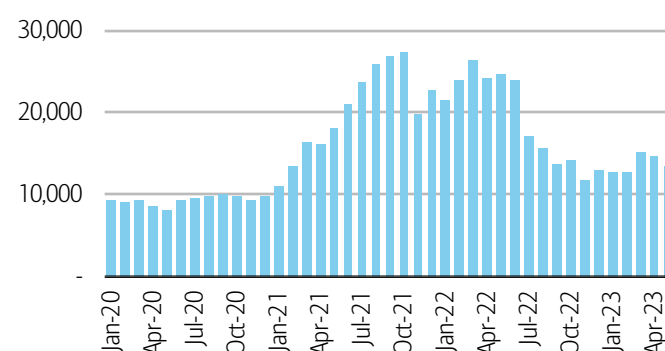
Source: Clarksons, BofA Global Research estimates

* Commission adjusted to be comparable to PacBasin achieved rates

BofA GLOBAL RESEARCH

Exhibit 85: Supramax 1yr TC monthly average (US\$/day), 2020-23 *

1yr time charter supramax averaging US\$13.4k/day in May 2023



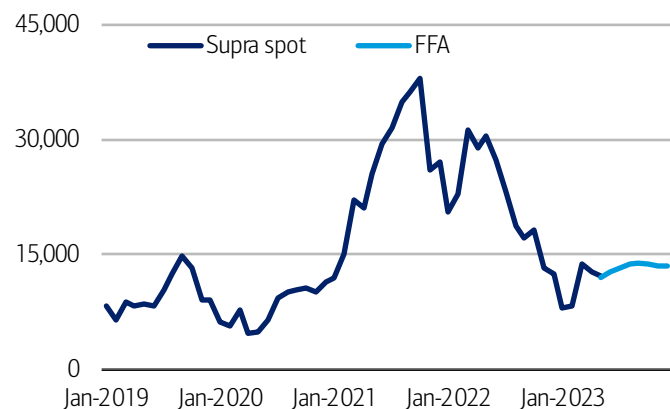
Source: Clarksons, BofA Global Research estimates

* Commission adjusted to be comparable to PacBasin achieved rates

BofA GLOBAL RESEARCH

Exhibit 86: Supramax - Freight Forward Agreement, 2019-23

Supra forward curves pointing to healthy rates ahead

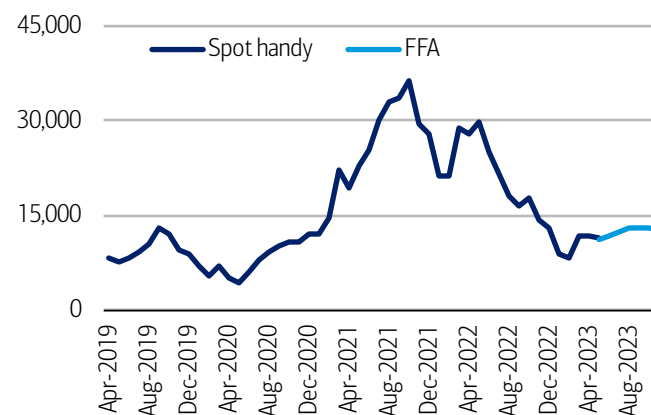


Source: Bloomberg

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Exhibit 87: Handysize - Freight Forward Agreement, 2019-23

Handy forward curves point to a recovery into 2Q23

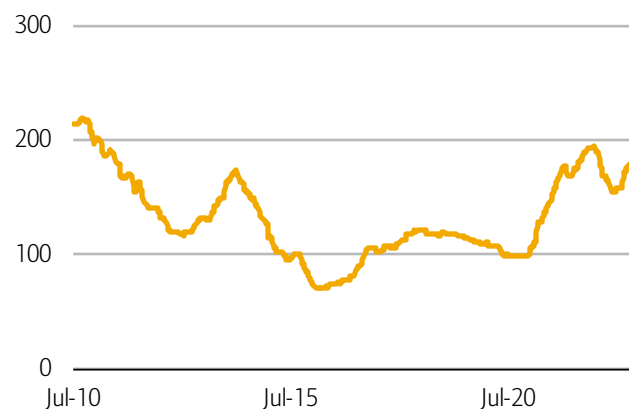


Source: Bloomberg

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Vessel values & port congestion**Exhibit 88: Bulk carrier secondhand vessel price index, 2010-23**

Secondhand vessel prices moved off the bottom since March 2023

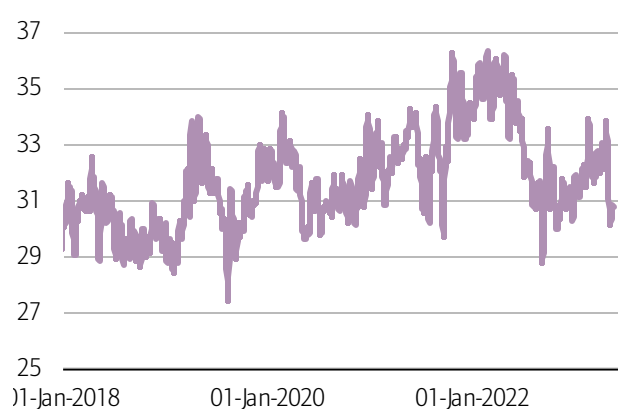


Source: Clarksons

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Exhibit 89: Daily dry bulk fleet at port (anchor or berth) (%)

~30.8% of dry bulk fleet at port



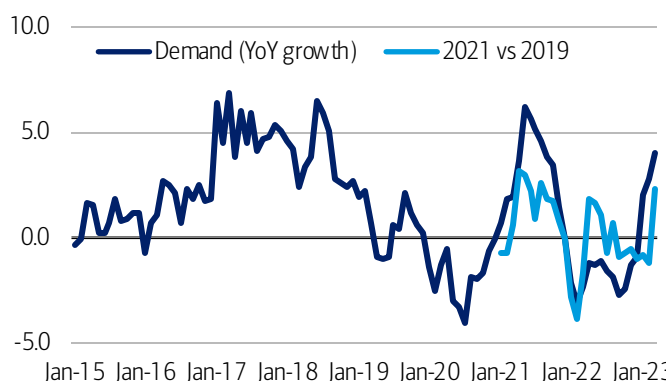
Source: Clarksons

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Dry bulk demand reads

Exhibit 90: Dry bulk demand growth (% YoY), 2015-23

Dry bulk demand above 2019 levels in March 2023

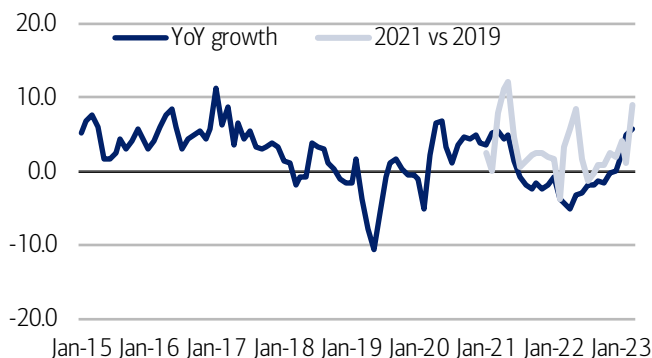


Source: Clarksons

BofA GLOBAL RESEARCH

Exhibit 92: Iron ore demand growth (% YoY), 2015-23

Iron ore demand trending at above 2019 levels in March 2023

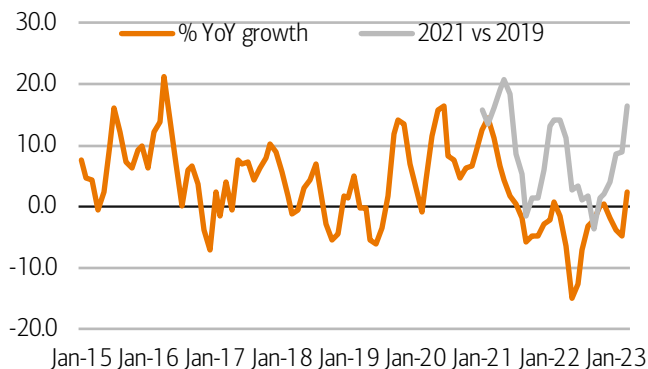


Source: Clarksons

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

Grain demand at above 2019 levels in March 2023

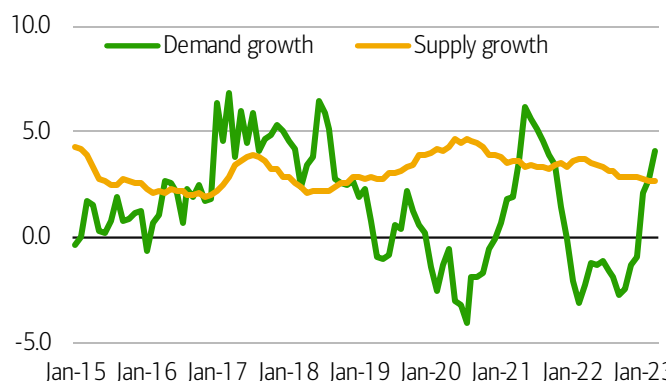


Source: Clarksons

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Exhibit 91: Bulk monthly demand & supply growth (% YoY), 2015-23

Bulk demand growth rebound vs supply growth of +2.1% YoY

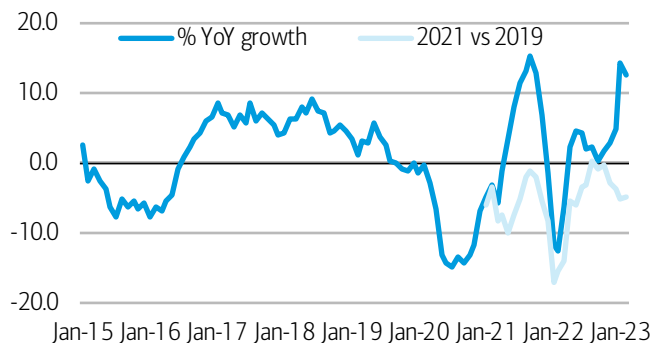


Source: Clarksons

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Exhibit 93: Coal demand growth (% YoY), 2015-23

Coal demand growth trending at below 2019 levels



Source: Clarksons

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Exhibit 95: Minor bulk demand growth (% YoY), 2015-23

Minor bulk demand growth trending below 2019 levels in March 2023

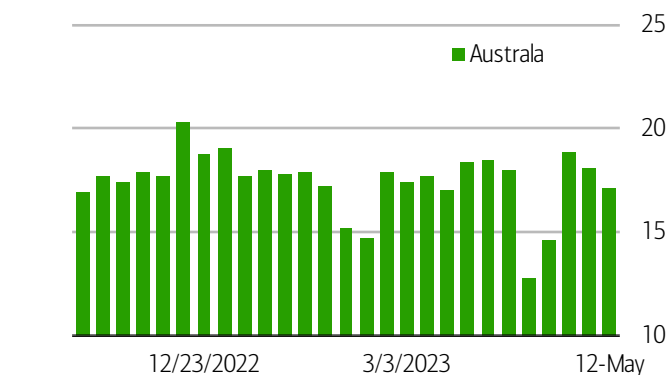


Source: Clarksons

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Exhibit 96: Australia iron ore shipments (mn tn), 2022-23

Australian iron ore exports recovering off cyclone disruptions

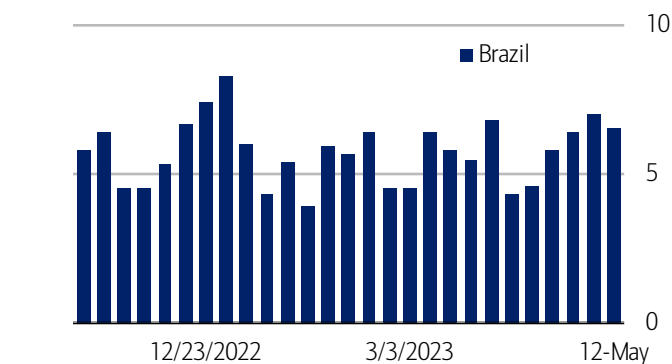


Source: Marcura

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Exhibit 97: Brazil iron ore shipments (mn tn), 2022-23

Brazil iron ore exports trending higher

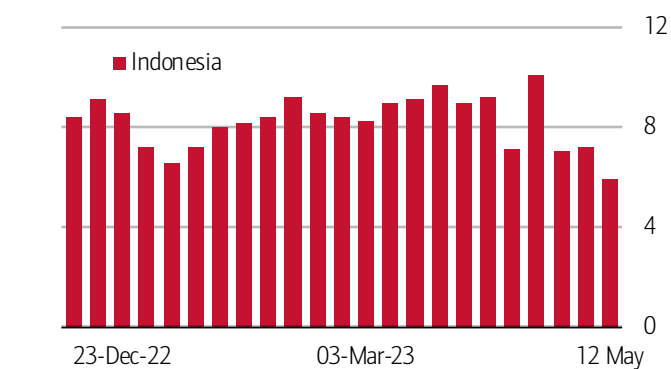


Source: Marcura

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Exhibit 98: Indonesian coal shipments (mn tn), 2022-23

Indonesian exports under some pressure

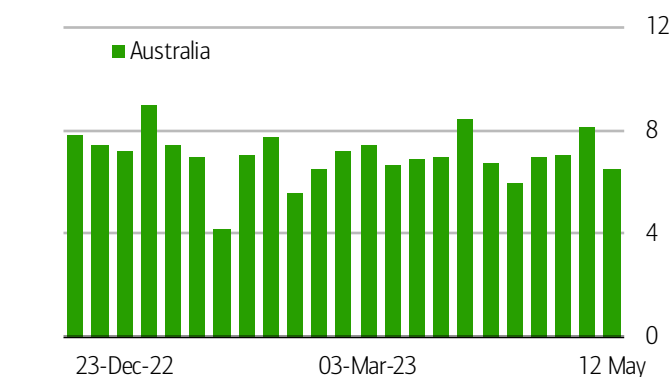


Source: Marcura

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Exhibit 99: Australian coal shipments (mn tn), 2022-23

Aussie coal shipments relatively stable



Source: Marcura

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Dry bulk demand & supply**Exhibit 100: 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 only. Spending from corporate cards are excluded.

Our methodology for calculating the growth rates for daily data: we calculate the %yoy growth, the 2-year and 3-year %change by matching calendar days (Jan 1 '22 matched to Jan 1 '21, Jan1, 2020 and Jan1, 2019, respectively). The % change is be calculated based on the 7-day moving average of spending levels.

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

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