

# Transport Tracker

## Issue #1093, week ending October 4, 2023; Tech in focus after series of cyber events

Industry Overview

### Hoexter's Thought of the Week

Note that last week's Issue #1092 was our 21<sup>st</sup> consecutive year of never missing a week – we thank you for reading.

### Technology in focus after Estes Express' cyberattack

Cyberattacks and technology outages have been occurring more frequently within the Transports group, leading to system downtimes and occasionally significant operational impacts. On Monday (Oct 2), Estes Express, the 4<sup>th</sup> largest Less-than-Truckload (LTL) carrier with ~10% share, was impacted by a cyber-attack as its network saw massive disruption. Estes noted to us its daily volumes fell 70% in the aftermath of the attack (it expected to be up and running in 48 hours) given a technology outage in its electronic data interchange (EDI) (see our [Trucking Note](#)). In 3Q, Class I rail Norfolk Southern experienced two IT hardware outages that suspended its ability to dispatch and receive trains, leading to network congestion and a deterioration in its service product (see our move to [lower NSC to Neutral](#)). The cyber event challenged its fluidity as it worked to recover from its Feb East Palestine derailment, potentially leading to share shifts to peer rails. On Tuesday (Oct 3), Class I Canadian National noted a loss in its network signals, resulting a temporary halt in its passenger Via trains. It noted the operational impact was limited as it had multiple backup systems in place. On Feb 2021, freight forwarder Expeditors was impacted by a network event as its ability to ship freight was shut down for three weeks, leading to shipper litigation and lost volumes. LTL carrier Forward Air was also subject to a ransomware attack in Dec 2020 which suspended its operations, leading to \$7.5 mil in lost LTL revenues given its temporary service disruption. The recent series of cyber events follows FedEx's Sep 2017 cyberattack, which collapsed its TNT network in Europe, forcing all its European Express depots, hubs, and facilities to manual sorts for more than a month, leading to material share loss. Given the heightened shipper focus on service consistency post-COVID and rising sophistication of cybersecurity, we view the rising frequency of technology outages and operator loss to lead to increased technological investments.

### Truck rates stabilizing despite uptick in Class 8 orders

Spot dry-van trucking rates ex-fuel is \$1.25/mile, up 6% from the YTD trough at \$1.18/mi in early Sep and up 14% from COVID trough of \$1.10/mi in May 2020, yet still down 26% year-year. Rates also remain below historical carrier floor costs of \$1.50-\$1.60/mi. With Port of LA/LB (~moves a third of inbound vols) container import volume declines moderating to -3% year-year in August from -30% in February and rising trucker exits, we expect the truck rate backdrop to improve as demand picks up into freight peak season. Prelim. Sep Class 8 truck net orders (historically a leading indicator on truckload capacity) surged to 38k, from 20k in August and double the 20k industry replacement rate, yet down 29% year-year. We note that the sequential uptick is primarily due to seasonality as manufacturers open 2024 order books and carriers move to order equipment early given past chip availability issues.

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### Key Data This Week:

- **Week 39 Rail Carloads: Up 0.1% Y-Y vs Week 38: +1.0% Y-Y**

(Second consecutive uptick)

- **Dry Van spot rates ex-fuel = \$1.25/mile vs \$1.23 last week**, down 24% from \$1.64 on Dec 31, 2022. Spot rates with fuel were \$1.84 vs. \$1.83 last week, and down 19% from \$2.28 on Dec 31, 2022.

-- **DAT Load to Truck Ratio – 2.98 for week of October 1, up 19% sequentially** from 2.50 last wk.

- **Truck Activity: August Loads – 2.1% Y-Y vs July's -1.0% Y-Y**

- **ISM Manufacturing Index in September: 49.0, +1.4 pts vs 47.6** in August (Manufacturing Sector contracted for the 11<sup>th</sup> month)

- **Prelim. September Class 8 Net Orders at 37.8k vs 19.5k** in August

- **Top 10 Ports in August: -11.5% Y-Y, LA/LB -3.4% Y-Y vs July's -10%**

**Exhibit 1: Airfreight & Surface Transportation**

Rails, Trucks, Airfreight, Other Transports Summary Valuation Table

Rating	Company	Price 10/04/23	Mkt Cap. (\$ bil.)	P/E '24e EPS	1-Wk Perf	Price Perf YTD %
B-2-7	Canadian National Railway (CNI)	106.45	69.6	17.5x	-2%	-10%
B-1-7	Canadian Pacific Kansas City (CP)	73.08	68.1	22.1x	-1%	-2%
B-1-7	CSX Corp. (CSX)	30.85	61.9	15.4x	2%	0%
B-2-7	Norfolk Southern Corp. (NSC)	192.96	43.8	14.8x	-2%	-22%
B-1-7	Union Pacific Corp. (UNP)	202.27	123.3	18.1x	0%	-2%
NR	Grupo México Trans (GMXT*MM)(3)	MXN 40.61	9.9	--	1%	7%
<b>Rail Avg (ex GMXT for P/E)</b>						
<b>Intermodal / Container Lessors:</b>						
B-1-7	J.B. Hunt Transport Svcs (JBHT)	187.32	19.4	20.0x	1%	7%
NR	Hub Group (HUBG)	79.16	2.5	11.9x	1%	0%
NR	Textainer (TGH)	35.55	1.5	6.5x	-4%	15%
RSTR	Triton International (TRTN)	79.55	4.4	--	0%	16%
<b>Intermodal Average</b>						
<b>Less-than-Truckload (LTL) Carriers:</b>						
C-3-7	ArcBest Corp. (ARCB)	98.91	2.4	9.4x	-1%	41%
B-1-7	Old Dominion Freight Line (ODFL)	403.16	44.1	29.4x	1%	42%
B-1-9	Saia Inc. (SAIA)	404.73	10.7	25.5x	3%	93%
B-2-7	TFI International (TFII)	121.99	10.5	13.9x	-4%	22%
C-1-9	XPO, Inc. (XPO)	74.30	8.6	22.5x	6%	123%
NR	Yellow Corp (YELLQ)	1.41	0.1	--	-8%	-44%
<b>LTL Average</b>						
<b>Truckload (TL) Carriers:</b>						
B-1-7	Knight-Swift Transportation (KNX)	48.78	7.9	14.6x	-2%	-7%
B-1-7	Schneider National (SNDR)	26.77	4.7	12.5x	-2%	14%
B-1-7	Werner Enterprises (WERN)	38.29	2.4	13.7x	-1%	-5%
NR	Covenant Logistics (CVLG)	43.61	0.6	9.0x	1%	26%
NR	Heartland Express (HTLD)	14.45	1.1	18.6x	-3%	-6%
NR	Marten Transport (MRTN)	19.18	1.6	16.3x	-3%	-3%
NR	P.A.M. Transport (PTSI)	21.02	0.5	11.7x	-2%	-19%
NR	Universal Logistics Holdings (ULH)	23.87	0.6	--	-2%	-29%
<b>TL Average</b>						
<b>Autonomous trucks</b>						
NR	TuSimple (TSP)	1.31	0.3	--	-14%	-20%
NR	Aurora Innovation (AUR)	2.28	3.4	--	-4%	88%
<b>Autonomous trucks Average</b>						
<b>Airfreight Companies:</b>						
B-1-7	FedEx Corp. (FDX)	260.05	65.4	13.8x	-1%	50%
B-2-7	UPS (UPS)	153.72	131.3	14.7x	1%	-12%
NR	Deutsche Post (DHL GY) (2)	€ 37.97	49.4	--	-1%	8%
<b>Airfreight Average</b>						
<b>Freight Forwarders / Logistics:</b>						
B-3-7	C.H. Robinson Worldwide (CHRW)	85.51	10.0	18.8x	-1%	-7%
C-1-9	RXO (RXO)	19.46	2.3	28.4x	-2%	-7%
NR	Landstar System (LSTR)	176.12	6.3	20.5x	-2%	8%
NR	Expeditors International (EXPD)	115.34	17.1	22.7x	1%	11%
B-3-8	Kuehne + Nagel Int'l (KINGF) (2)	CHF 258.00	33.9	27.4x	0%	20%
B-1-7	DSV Panalpina A/S (DSV DC) (2)	DKK 1,271.0	39.0	2.8x	-2%	16%
NR	Forward Air Corp. (FWRD)	70.90	1.8	14.3x	8%	-32%
NR	Ryder System, Inc. (R)	100.88	4.6	8.5x	-4%	21%
NR	Air Transport Services Group (ATSG)	21.00	1.5	10.0x	1%	-19%
NR	Fortress Transportation (FTAI)	33.44	3.3	15.9x	-7%	95%
B-3-7	World Kinect (WKC)	21.27	1.3	10.0x	-7%	-22%
<b>Freight Forwarder Avg.</b>						
<b>Rail Equipment:</b>						
C-3-7	The Greenbrier Companies (GBX)	38.40	1.2	12.0x	-5%	15%
NR	Freightcar America Inc. (RAIL)	2.65	0.0	8.8x	0%	-17%
NR	GATX Corporation (GATX)	105.42	3.7	14.9x	-3%	-1%
NR	Koppers Holdings Inc. (KOP)	37.96	0.8	8.0x	-5%	35%
NR	Trinity Industries Inc. (TRN)	21.24	1.7	11.1x	-14%	-28%
B-2-7	Wabtec Corp. (WAB)	105.00	18.8	16.3x	-2%	5%
<b>Rail Equipment Avg.(ex-RAIL)</b>						
<b>Transport Average</b>						
<b>S&amp;P 500</b>						
		4,263.75		19.7x	0%	11%

Source: BoFA Global Research estimates, Bloomberg, and First Call Estimates (for stocks not covered by BoFA Global Research).

Covered by: (2) Muneeba Kayani, (3) Carlos Peyrelongue - NR: Not Rated.

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**Exhibit 2: Marine Matters**

Crude, Product, Container, Dry Bulk, LNG, Jones Act Summary Valuation Table

Rating	Company	Price 10/04/23	Mkt Cap. (\$ bil.)	P/E '24e EPS or Yield	1-Wk Perf	Price Perf YTD
<b>Marine Matters</b>						
<b>Tanker Companies</b>						
C-2-7	Teekay Tankers, Ltd. (TNK)	37.74	1.3	0.0%	-9%	22%
NR	Teekay Shipping Corp. (TK)	5.77	0.5	--	-8%	27%
NR	Euronav (EURN)	€ 13.91	3.2	18.7%	-17%	-11%
NR	DHT Maritime (DHT)	9.51	1.5	22.3%	-5%	7%
NR	Frontline Ltd. (FRO)	17.36	3.9	15.1%	-5%	43%
NR	Tsakos Energy Navigation (TNP)	19.28	0.6	--	-6%	14%
NR	Nordic American Tanker (NAT)	3.85	0.8	13.8%	-4%	26%
NR	Ship Finance Limited (SFL)	10.65	1.3	9.6%	-4%	16%
NR	KNOT Offshore Partners (KNOP)	5.98	0.2	--	-11%	-38%
<b>Tanker Average</b>						
				13.2%	-8%	12%
<b>Product Tankers</b>						
C-2-7	Scorpio Tankers (STNG)	48.85	2.6	2.0%	-10%	-9%
NR	Capital Products (CPLP)	13.84	0.3	4.3%	1%	1%
NR	Ardmore Shipping (ASC)	11.85	0.5	7.4%	-9%	-18%
<b>Product Tankers Average</b>						
				4.6%	-6%	-9%
<b>LNG / LPG</b>						
NR	Golar LNG (GLNG)(4)	22.06	2.3	--	-7%	-3%
NR	Dynagas LNG Partners (DLNG)	2.58	0.1	15.5%	-2%	-2%
NR	StealthGas (GASS)	4.80	0.2	--	-5%	79%
<b>LNG / LPG Average</b>						
				15.5%	-4%	25%
<b>Container Ship Lessors</b>						
NR	Costamare (CMRE)	9.15	1.1	5.0%	-3%	-1%
NR	Danaos (DAC)	64.58	1.3	4.6%	-3%	23%
NR	Global Ship Lease (GSL)	17.52	0.6	8.6%	-4%	5%
<b>Container Average</b>						
				6.1%	-3%	9%
<b>Dry Bulk</b>						
NR	Navios Maritime L.P. (NMM)	22.15	0.7	3.4x	-5%	-15%
NR	Safe Bulkers, Inc. (SB)	3.12	0.3	5.0x	-5%	7%
NR	Diana Shipping (DSX)	3.32	0.4	6.0x	-6%	-15%
NR	Eagle Bulk Shipping (EGLE)	41.91	0.4	9.4x	-1%	-16%
NR	Navios Maritime (NM)	1.87	0.0	--	-1%	7%
NR	Eneti Inc (NETI)	9.49	0.4	--	-8%	-6%
NR	Golden Ocean Group (GOGL)	7.67	1.5	10.1x	-3%	-12%
C-1-7	Pacific Basin Shipping (PCFBF)(1)	HKD 2.21	1.5	5.1x	-3%	-16%
<b>U.S. Dry Bulk Average</b>						
				6.5x	-4%	-8%
<b>Jones Act Carrier/Other</b>						
B-1-9	Kirby Corp. (KEX)	81.58	4.9	16.3x	-2%	27%
NR	Matson Inc. (MATX)	88.91	3.1	12.8x	-1%	42%
NR	Tidewater Inc. (TDW)	63.55	3.3	8.0x	-13%	72%
<b>Jones Act Carrier/Other Average</b>						
				12.4x	-5%	47%
<b>Container Shipping / Diversified Companies</b>						
B-2-8	AP Moeller-Maersk (AMKBF) (2)	DKK 12,740	31.2	--	2%	-18%
B-2-8	COSCO Shipping Holding Co (CICOF)(1)	HK\$7.66	7.8	--	-3%	-4%
C-3-8	K-Line (KAKKF)(1)	¥5,043.00	8.5	14.1x	-7%	81%
B-3-8	Mitsui O.S.K. Lines (MSLOF)(1)	¥3,879.00	9.4	7.3x	-14%	18%
B-3-8	NYK Line (NYUKF)(1)	¥3,783.00	13.0	9.3x	-9%	22%
NR	Wan Hai Lines (WHILF)	TWD 46.35	4.0	--	-4%	-42%
NR	Yang Ming Marine (YMGXF)	TWD 44.55	4.8	--	-3%	-32%
C-2-8	Evergreen Marine Corp (EVGQF)(2)	TWD 110.00	7.2	--	-5%	-33%
NR	Hapag Llyod ADR (HLAG GY)(2)	€ 169.10	31.2	29.1x	-4%	-5%
C-3-9	ZIM Integrated Shipping Svcs (ZIM)	9.58	1.2	--	-6%	-44%
<b>Container &amp; Diversified Average</b>						
				10.2x	-5%	-6%
<b>Shipping Mkt Cap / Shipping Avg</b>						
				115.0	-5%	8%
<b>S&amp;P 500</b>						
		4,263.75		19.7x	0%	11%

Source: BoFA Global Research estimates, Bloomberg, (for stocks not covered by BoFA Global Research)

Covered by: (1) Nathan Gee, (2) Muneeba Kayani, (4) Chase Mulvehill

NR: Not Rated.

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**Airfreight and Surface Transportation Weekly Movers**

**Best:** FWRD (+8%) XPO (+6%) SAIA (+3%)  
**Worst:** TRN (-14%) TSP (-14%) YELLQ (-8%)

**Marine Transportation Weekly Movers**

**Best:** AMKBF (+2%) CPLP (+1%) EGLE (-1%)  
**Worst:** EURN (-17%) MSLOF (-14%) TDW (-13%)



## Upcoming Calendar of Events

Oct 4-6	Northeast Rail Shippers Assoc (NEARS) Meeting; Portland
Oct 10-11	Pacific Northwest Rail Shippers Assoc (PNWARS) Meeting; Seattle
Mar 3-6, '24	Rail Equipment Finance (REF) Conference, La Quinta
Mar 3-6, '24	TPM'24 – Transpacific Maritime Conference, Long Beach
<b>May 14-16, '24 BofA's 31<sup>st</sup> Annual Transport, Airline, &amp; Industrials Conf, NYC</b>	

## BofA Global Research Reports

Title: Subtitle	Primary Author	Date Published
<a href="#">Trucking: Estes Express cyber-attack is the next LTL seminal moment?</a>	Ken Hoexter	03 Oct 2023
<a href="#">NSC: Lower to Neutral: Service setback again, costs too high; PO to \$215</a>	Ken Hoexter	02 Oct 2023
<a href="#">CSX: 3Q vols better than expected; Ops ready for top line growth; PO \$38</a>	Ken Hoexter	29 Sept 2023
<a href="#">UPS: Challenging macro a near-term overhang; PO \$167</a>	Ken Hoexter	28 Sept 2023
<a href="#">XPO: COO sees path to best OR, cost savings; raise PO to \$88</a>	Ken Hoexter	28 Sept 2023
<a href="#">Transport Tracker: Issue #1092, week ending Sept. 27, 2023</a>	Ken Hoexter	27 Sept 2023

## Company News

**Norfolk Southern** experienced a data center outage on the evening of September 29, which suspended its dispatching, train starts, and terminal operating systems until Sep 30 morning. The company expects to see service impacts to its operations over the next two weeks as it works to mitigate congestion caused by the outage.

**Estes**, the 4th largest LTL carrier with about 10% share, noted it had been hit by a cyber-attack, which led to a massive network disruption. Estes Business Development Manager noted that the company was only able to move 10,000-20,000 shipments that day, down from its normal 50,000-60,000 daily shipments, a 70%+ decline, given the cyber-attack. It noted all electronic data interchange (EDI) with its major customers had been shut off as it worked to restore its operations.

**Flexport's** CFO Kenny Wagers and Jennifer Boden, a human-resources executive, are leaving the company. CEO Dave Clark, a former Amazon.com senior executive, had resigned last month, along with several of his top deputies. Stuart Leung, Flexport's head of finance, is expected to be named CFO.

**UPS** agreed to acquire MNX Global Logistics, a global time-critical logistics provider with capabilities in radio-pharmaceuticals and temperature-controlled logistics.

**Triton International Ltd** completed its acquisition by Brookfield Infrastructure Partners L.P., which did so through its subsidiary Brookfield Infrastructure Corporation and its institutional partners. The company will continue to operate under the Triton name, maintain its global presence, and be led by CEO Brian Sondey and its current executive leadership team.

**J.B. Hunt** acquired the brokerage operations of **BNSF Logistics**, a subsidiary of BNSF Railway. As a result, an unspecified number of employees are expected to lose their jobs due to duplicate roles within the companies.

**The International Longshore and Warehouse Union (ILWU)**, which represents dockworkers at ports along the Pacific coast of the United States and Canada, filed for Chapter 11 bankruptcy protection just before midnight on September 30. The bankruptcy filing was precipitated by a massive damage award and ongoing litigation in a long-running dispute between ILWU Local 8, the union chapter in Portland, Oregon, and terminal operator ICTSI Oregon.

## Shipping

**Costamare** elected Class I director Konstantinos Zacharatos to hold office for a term ending at the annual meeting of stockholders in 2026.



## Week 39 Rail Carload Data: Up 0.1% Y-Y

**Key Takeaways – Up 0.1% (from +1.0% last week):** Total carloads for week 39 of 2023 were up 0.1% year-over-year to 627,890, moderating from last week's 1.0% increase (or 616,315 carloads). Class I rails were up for the second consecutive week, following a period of 32 consecutive declines. Carload growth was above the past 10-week average of -3.4%. 3Q23 carloads compared vs a 2.6% increase in 3Q22 and are set to comp vs a 1.8% increase in 4Q22. Coal was up (+3.2%), improving from last week's 0.4% increase. Nat Gas prices were up 11%, to \$2.95/MMBtu, from \$2.66/MMBtu last week. The absolute level of coal carloads was 62k, above both last week's and the past 10-week avg of 59k. Chemical volumes were up 3.1%, moderating from last week's 4.1% increase. This was the fifth consecutive uptick for Chemical's. Grain (-1.6%) was down, moderating from last week's 7.5% decrease. This was the 20th decline in the last 21 weeks for Grain carloads. Petroleum (+2.3%) was up, moderating from last week's 5.1% increase. Intermodal (-3.3%) was down, in line with last week's 1.1% decrease. Intermodal was down for the 45th time in the past 48 weeks, while absolute volumes were 284k, above the 282k last week, and the 273k past 10-week avg. Auto (+4.7%) was up, decelerating from last week's 21.6% increase. This was Auto's 79th consecutive uptick.

**Overall Carloads:** Week 39 carloads were up 0.1% y-y, as increases at CSX (+4.6%), NS (+2.0%), and UP (+0.8%) more than offset decreases at CN (-6.6%) and CPKC (-4.9%). Quarter-to-date, carloads were down -3.9% year-over-year, as all rails declined, led by: CN (-9.6%), CPKC (-5.0%), UP (-2.4%), CSX (-2.2%), and NS (-2.0%). Carloads closed the quarter down 3.9%, below our -2.9% full quarter target for the Class I rails on average. The avg. carrier was below our target (-160 bps), with CSX the best flat with our tgt. (-2.7% vs. our -2.7%), vs CN the worst at -510 bps (-9.9% vs. our -4.8%).

**Revenue Ton Miles:** Week 39 RTMs: CN's RTMs are down 5.3% y-y 3QTD. CPKC's RTM are up 2.3% y-y 3QTD.

**Specifics: Intermodal carloads (45.4% of total)** were down 3.3% year-over-year, as decreases at CN (-17.9%) and CPKC (-10.9%) more than offset increases at UP (+0.9%), CSX (+1.2%), and NS (+3.3%). **Coal carloads (10.0% of total)** were up 3.2% year-over-year, as increases at CPKC (+14.8%), CN (+11.9%), CSX (+4.5%), and NS (+0.8%) more than offset a decrease at UP (-5.3%). **Chemical carloads (8.7% of total)** were up 3.1% year-over-year, as increases at NS (+24.6%), CN (+15.2%), UP (+4.5%), and CSX (+0.5%) more than offset a decrease at CPKC (-19.4%). **Grain carloads (4.2% of total)** were down 1.6% year-over-year, as decreases at NS (-18.4%), CSX (-3.9%), CN (-1.6%), and UP (-1.5%) more than offset an increase at CPKC (+5.3%). **Petroleum carloads (3.5% of total)** were up 2.3% year-over-year, as increases at UP (+36.8%) and CSX (+11.8%) more than offset decreases at CPKC (-0.3%), CN (-3.7%), and NS (-27.2%). **Auto carloads (5.2% of total)** were up 4.7% year-over-year, as increases at CN (+17.3%), CSX (+14.5%), and CPKC (+0.3%) more than offset decreases at NS (-1.9%) and UP (-2.0%).

### Exhibit 3: Carloads Week 39 2023 vs. 2022; and 3QTD volumes

Week 39 Rail Carload Data: Up 0.1% Y-Y

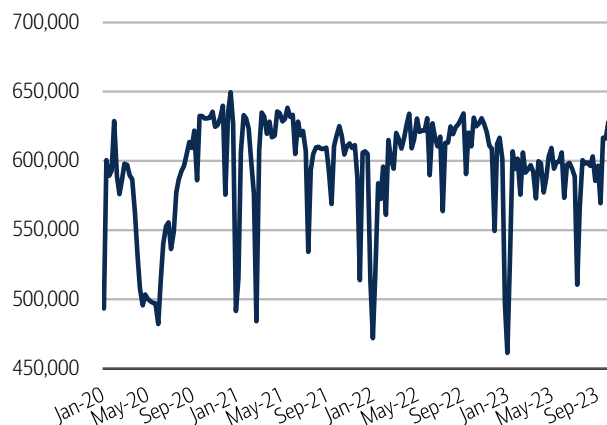
	% of total	2023 Wk 39	2022 Wk 39	% Δ	3Q23 QTD	% Δ
Intermodal	45.4%	284,963	294,564	-3.3%	3,488,661	-7.5%
Coal	10.0%	62,670	60,699	3.2%	765,395	-2.2%
Chemicals	8.7%	54,856	53,232	3.1%	706,530	0.0%
Auto	5.2%	32,512	31,067	4.7%	409,943	11.5%
Grain	4.2%	26,621	27,052	-1.6%	263,089	-8.1%
Forest Prod.	3.3%	20,806	21,556	-3.5%	261,739	-9.9%
Petrol. Prod.	3.5%	21,893	21,410	2.3%	268,639	-2.6%
<b>Total Carloads</b>		<b>627,890</b>	<b>631,082</b>	<b>0.1%</b>	<b>7,685,573</b>	<b>-3.9%</b>

Source: BofA Global Research and AAR

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**Exhibit 4: Total Weekly Carload Volumes**

Total volumes were 627,890 for Week 39



Source: BofA Global Research and Association of American Railroads.

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**Exhibit 5: Total Weekly Carload Growth Y-o-Y**

Total volume growth was +0.1% y-y for Week 39



Source: BofA Global Research and Association of American Railroads.

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**Exhibit 6: Total Quarterly Carload Growth Y-o-Y**

Total Carloads forecast down -2.9% in 3Q23

	2Q19a	3Q19a	4Q19a	1Q20a	2Q20a	3Q20a	4Q20a	1Q21a	2Q21a	3Q21a	4Q21a	1Q22a	2Q22a	3Q22a	4Q22a	1Q23a	2Q23a	3Q23e
<b>BNSF</b>	-3.6%	-2.5%	-6.2%	-5.2%	-17.9%	-8.3%	2.6%	4.8%	24.5%	4.4%	-3.1%	-3.3%	-5.6%	-5.0%	-9.2%	-10.3%	-11.1%	--
<b>CNI</b>	2.1%	0.4%	-7.3%	-5.9%	-15.9%	-5.9%	7.1%	7.2%	13.5%	-0.9%	-10.0%	-5.9%	0.3%	2.9%	2.5%	0.5%	-7.1%	-4.8%
<b>CPKC</b>	--	--	--	--	--	--	--	-1.1%	19.6%	-0.5%	-5.7%	-4.0%	0.1%	10.1%	7.5%	5.7%	-2.3%	-1.8%
<b>CSX</b>	-3.9%	-5.3%	-6.6%	-1.1%	-20.5%	-3.0%	3.9%	1.0%	26.6%	2.7%	-1.8%	-2.0%	0.2%	1.5%	-1.8%	-0.8%	-3.0%	-2.7%
<b>NSC</b>	-3.8%	-5.8%	-9.2%	-11.4%	-25.6%	-7.0%	-1.2%	2.9%	25.5%	-0.3%	-3.6%	-4.5%	-3.3%	-2.1%	-1.3%	-0.1%	-5.6%	-2.3%
<b>UNP</b>	-4.0%	-8.1%	-11.1%	-7.0%	-19.6%	-4.0%	2.9%	-0.7%	21.9%	0.0%	-3.9%	4.1%	-1.4%	3.2%	0.8%	-1.4%	-1.8%	-3.0%
<b>Total</b>	-2.4%	-4.1%	-7.7%	-1.2%	-16.2%	-1.9%	6.9%	2.5%	22.3%	1.2%	-4.4%	-2.4%	-2.1%	0.8%	-1.5%	-2.2%	-5.6%	-2.9%

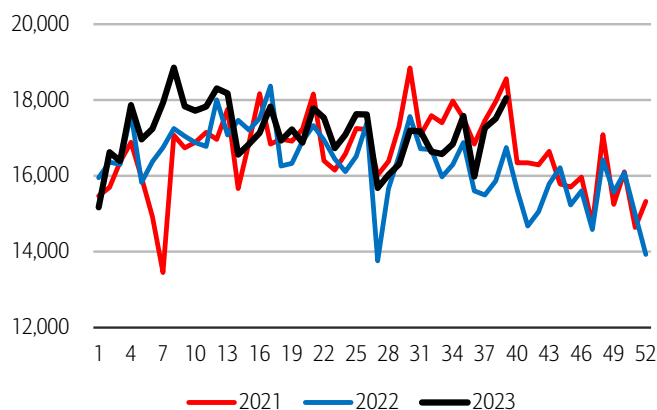
Source: BofA Global Research and Association of American Railroads.

Note: The total for 3Q23 is an average of the estimates; CPKC Reinstated data from 2020.

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**Selected Segments Weekly Carloads****Exhibit 7: Metal Carloads**

Metal Carloads were 18,050 in Week 39, up 7.8% Y-Y

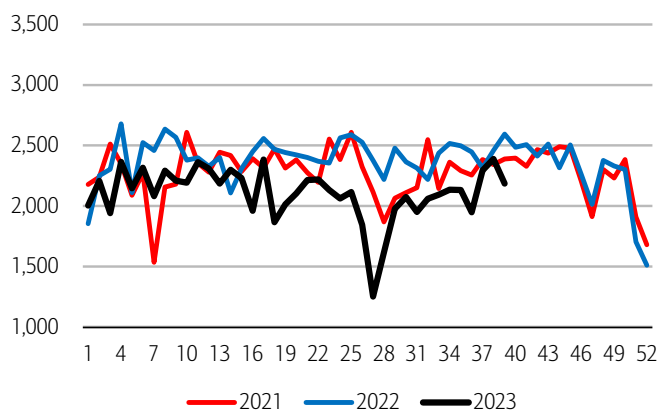


Source: BofA Global Research and Company data.

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**Exhibit 8: Forest Product Carloads**

Forest Product Carloads were 2,185 in Week 39, down 15.8% Y-Y



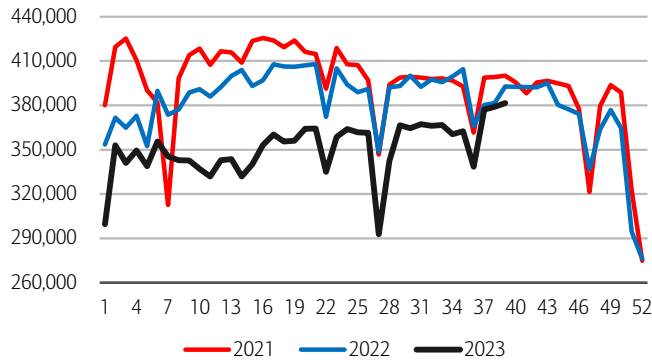
Source: BofA Global Research and Company data.

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## Selected Segments Weekly Carloads

### Exhibit 9: Intermodal Carloads

Intermodal Carloads were 381,603 in Week 39, down 2.8% Y-Y

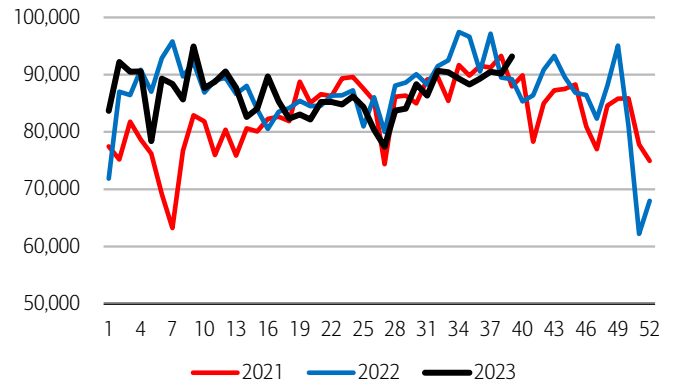


Source: BofA Global Research and Company data.

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### Exhibit 10: Coal Carloads

Coal Carloads were 93,168 in Week 39, up 4.5% Y-Y

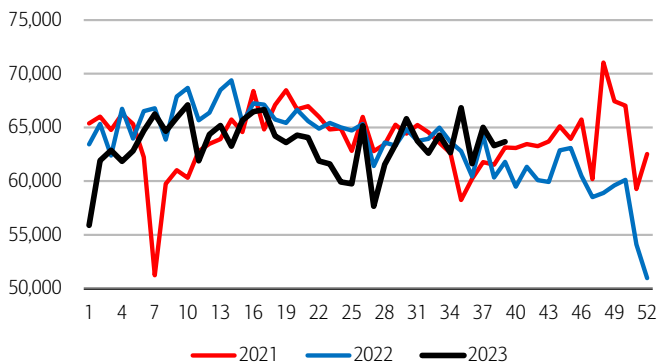


Source: BofA Global Research and Company data.

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### Exhibit 11: Chemical Carloads

Chemical Carloads were 63,666 in Week 39, up 3% Y-Y

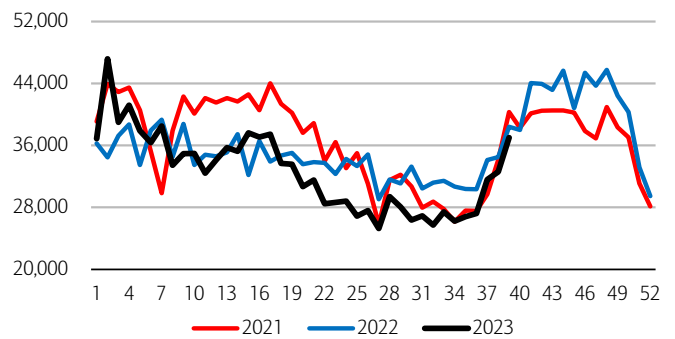


Source: BofA Global Research and Company data.

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### Exhibit 12: Grain Carloads

Grain Carloads were 36,995 in Week 39, down 3.7% Y-Y

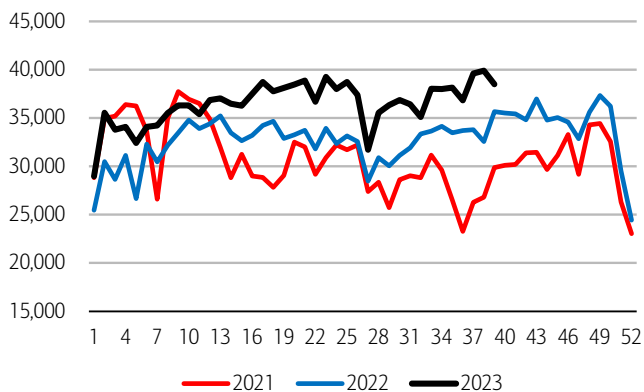


Source: BofA Global Research and Company data.

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### Exhibit 13: Auto Carloads

Auto Carloads were 38,494 in Week 39, up 8% Y-Y

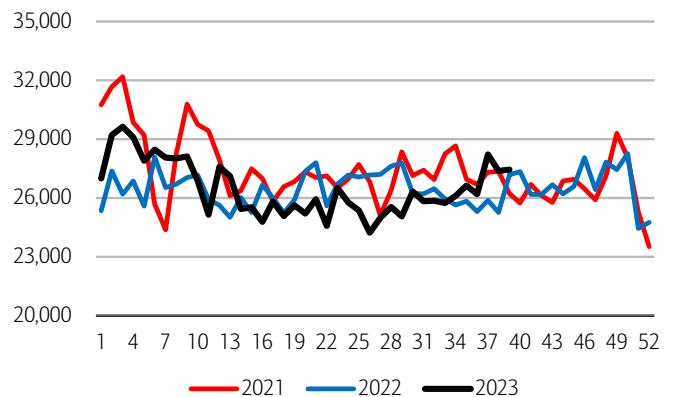


Source: BofA Global Research and Company data.

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### Exhibit 14: Petroleum Products Carloads

Petroleum Products Carloads were 27,451 in Week 39, up 1% Y-Y



Source: BofA Global Research and Company data.

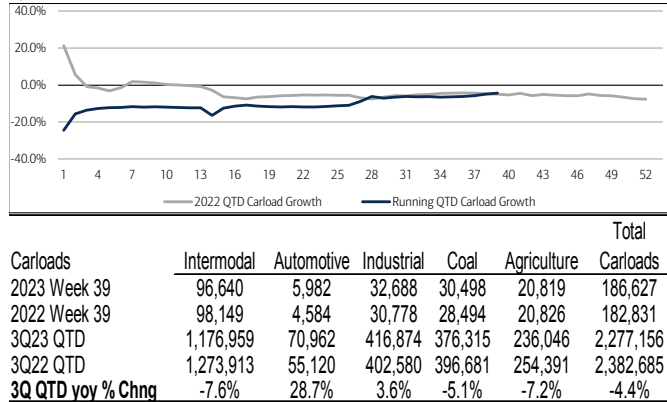
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## Selected Segments Weekly Carloads

### Exhibit 15: BNSF Carloads

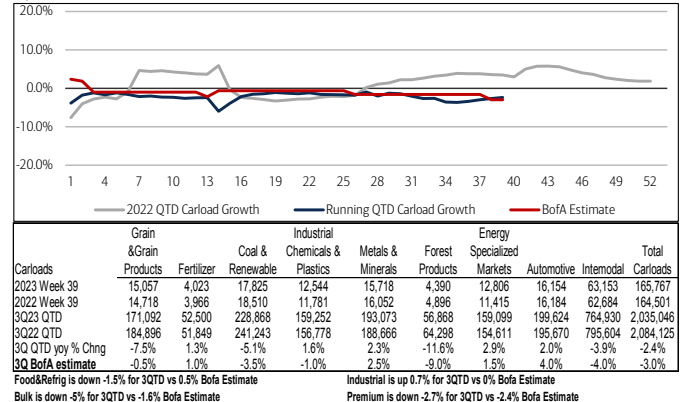
QTD Carloads are -4.4%



Source: BofA Global Research estimates, Association of American Railroads, and Company reports  
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### Exhibit 16: Union Pacific Carloads

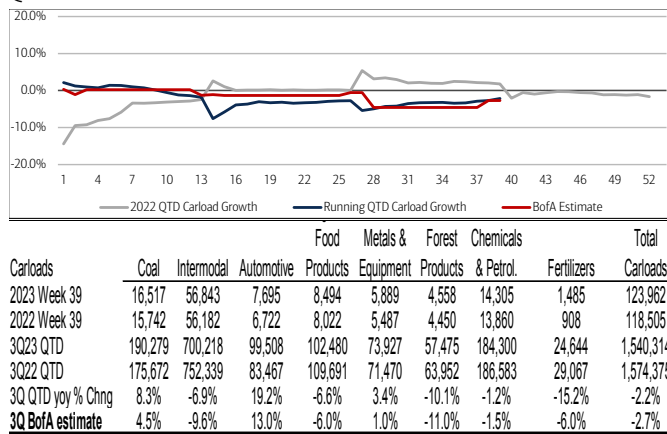
QTD Carloads are -2.4% vs. BofAe -3.0%



Source: BofA Global Research estimates, Association of American Railroads, and Company reports  
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### Exhibit 17: CSX Carloads

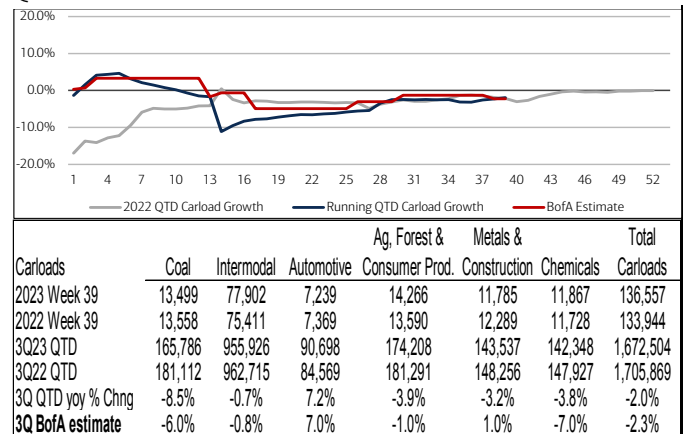
QTD Carloads are -2.2% vs. BofAe -2.7%



Source: BofA Global Research estimates, Association of American Railroads, and Company reports  
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### Exhibit 18: NSC Carloads

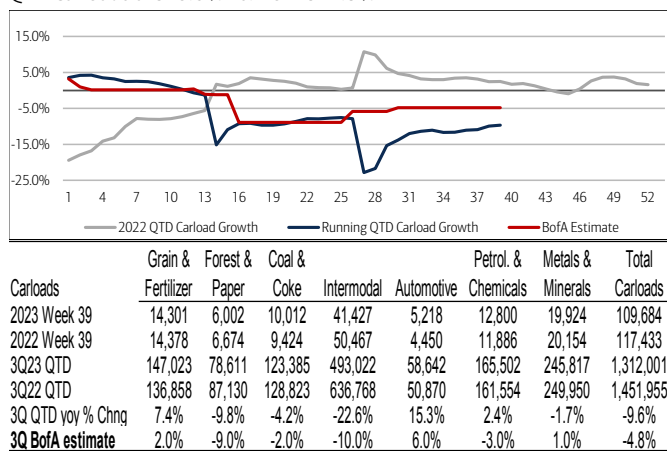
QTD Carloads are -2.0% vs. BofAe -2.3%



Source: BofA Global Research estimates, Association of American Railroads, and Company reports  
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### Exhibit 19: CNI Carloads

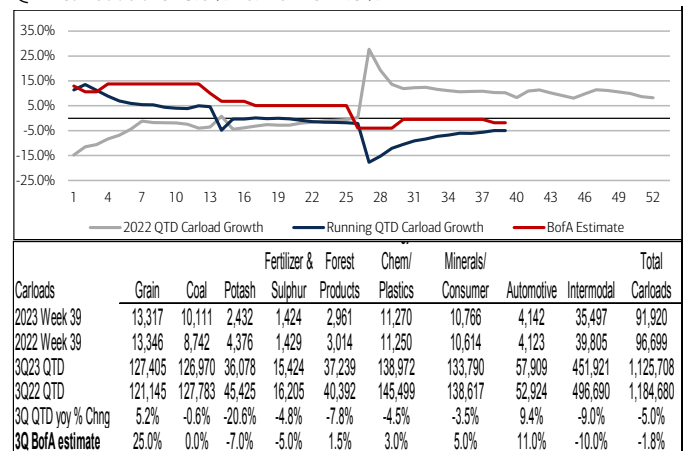
QTD Carloads are -9.6% vs. BofAe -4.8%



Source: BofA Global Research estimates, Association of American Railroads, and Company reports  
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### Exhibit 20: CPKC Carloads

QTD Carloads are -5.0% vs. BofAe -1.8%



Source: BofA Global Research estimates, Association of American Railroads, and Company reports  
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## Diesel Fuel Prices: +0.2% sequentially

Diesel fuel prices were up 0.2% from last week, to \$4.59 for week 39 of 2023. Prices were above the \$4.00 level for the tenth consecutive week, yet this was the 12<sup>th</sup> downtick over the last 13 weeks. The 3Q23 average for on-highway diesel closed at \$4.24/gallon, down 18% y-y from \$5.15 in 3Q22, yet up 7% y-y sequentially from 2Q23's \$3.94. The 4Q23 average will comp against a \$5.07 avg. in 4Q22.

**WTI crude oil** futures closed at \$89.32, down 1.3% from last week's \$90.39. This was the second consecutive downtick. The 3Q23 average was \$82.08, down 10% from 3Q22's \$91.62 average, but up 11% from 2Q23's \$73.63. We target \$88 and \$80 for 4Q23 and 2023.

**Brent crude oil** futures closed at \$90.92, down 3.2% from last week's \$93.96. The 3Q23 average was \$85.92, down 13% from the 3Q22 average of \$97.70, yet up 10% sequentially from 2Q23's average of \$77.84.

**The Brent to WTI gap** is \$1.69, down from last week's \$3.57, as it closed at the lowest level YTD. The current spread is down 72% from the 4Q22 avg. of \$6.03.

**Natural Gas** futures closed at \$2.95 on October 3<sup>rd</sup>, up 11% from last Tuesday. Nat Gas remains just below \$3.00 for the 36<sup>th</sup> consecutive week. The 3Q23 average was \$2.67, down 66% from the 3Q22 average of \$7.83.

### Exhibit 21: Fuel surcharges

Surcharges were mixed across the board (TL, LTL, Air)

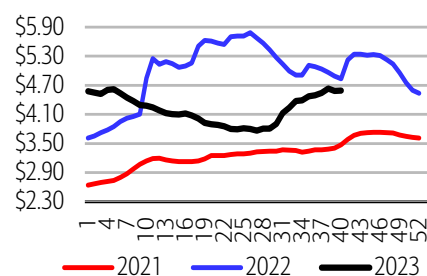
	<b>Week 37</b> <b>9/13/23</b>	<b>Week 38</b> <b>9/20/23</b>	<b>Week 39</b> <b>9/27/23</b>
ARCB - LTL	38.0%	38.9%	38.4%
XPO - LTL	38.8%	39.3%	40.3%
ARCB - TL	76.0%	77.8%	76.8%
XPO - TL	77.5%	78.5%	80.5%
FDX - Express	18.00%	18.00%	18.75%
UPS - Express	21.50%	21.25%	22.00%
FDX - Ground	16.00%	16.25%	16.50%
UPS - Ground	15.50%	15.50%	15.75%
	<b>Aug-23</b>	<b>Sep-23</b>	<b>Oct-23</b>
UP (standard)	\$0.35	\$0.36	\$0.46
y-y % change	-53%	-47%	-22%
UP (coal)	\$0.35	\$0.36	\$0.46
y-y % change	-53%	-47%	-22%
CSX	\$0.46	\$0.48	\$0.60
y-y % change	-51%	-45%	-21%
KCS	\$0.42	\$0.44	\$0.56
y-y % change	-54%	-48%	-22%

Source: BofA Global Research and company reports.

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### Exhibit 22: National Diesel Fuel Prices

Diesel fuel prices: \$4.59 for week 39 of 2023

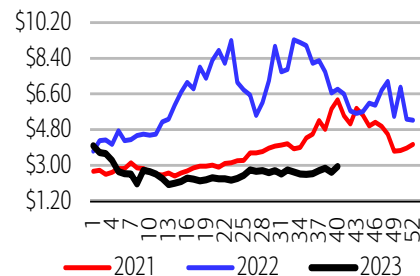


Source: BofA Global Research, DOE, Bloomberg

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### Exhibit 23: US Nat Gas Price Per MMBtu.

Futures closed at \$2.95 on October 3<sup>rd</sup>

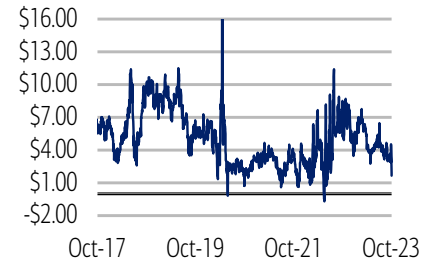


Source: BofA Global Research, DOE, Bloomberg

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### Exhibit 24: Brent to WTI Spread

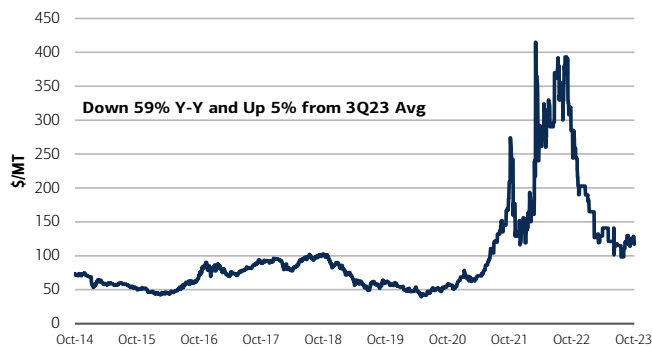
The Brent to WTI gap is \$1.69



Source: BofA Global Research, DOE, Bloomberg

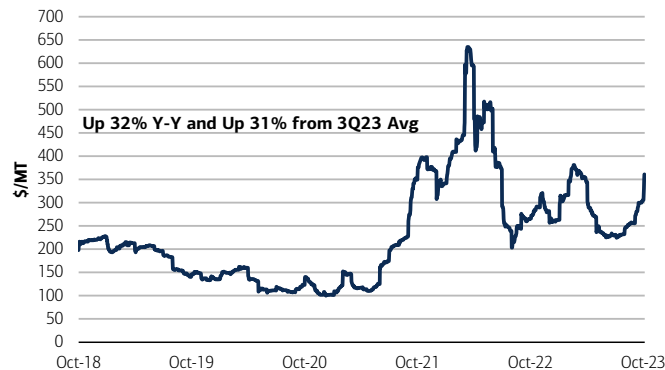
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**Exhibit 25: Thermal Coal, Europe Coal 6000kcal CIF ARA Forward**Price = \$126.00 on October 4<sup>th</sup>

Source: BofA Global Research and Bloomberg.

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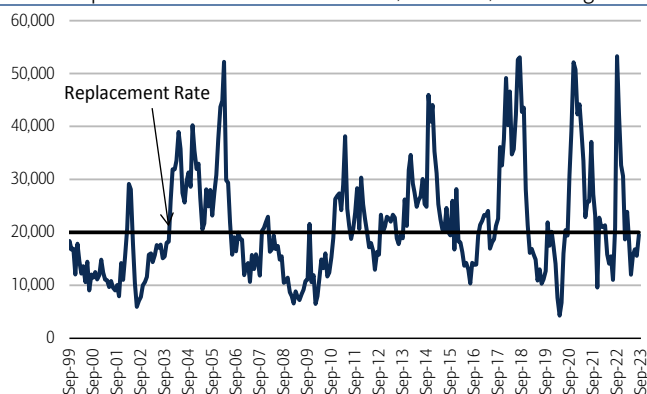
**Exhibit 26: Australian Premium Coking Coal Futures**Price = \$303.50 on October 4<sup>th</sup>

Source: BofA Global Research and Bloomberg.

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**Exhibit 27: Class 8 Truck net orders**

Prelim. September Class 8 Net Orders at 37,800 vs 19,513 in August

Source: BofA Global Research estimates and American Commercial Transportation Research (ACT)  
BofA GLOBAL RESEARCH**Prelim. September Class 8 Net Orders at 37,800 (from 19,513 in June)**

Preliminary Class 8 Net Orders were 37,800 in September, significantly above the 20k replacement level for just the second time YTD. Despite the strong level of orders, it remains down 29% on a year-over-year basis, as September 2022 provided a tough baseline with a historical max of Class 8 Orders set at 53,271, more than 2.0x the replacement level. On a sequential basis, orders accelerated 94% from the 25% increase in August. Orders are now up 51% from the past 12 month average.

**Exhibit 28: Class 8 Truck net orders**

Final Class 8 Net Orders at 19,513 in August (Preliminary was 19,000)

**August Class 8 Final Net Orders 19,513****CLASS 8 NET ORDERS**

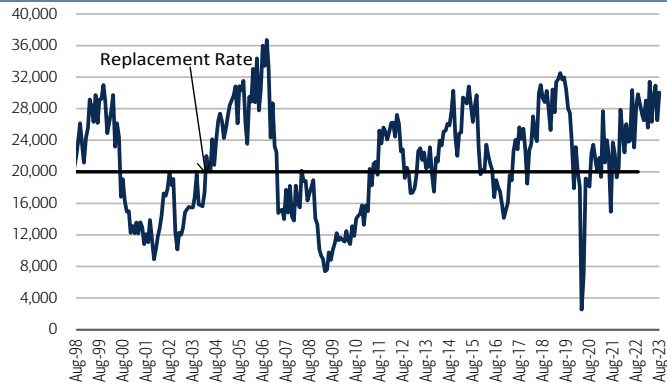
	2018	2019	2020	2021	2022	2023
JAN	49,136	16,105	17,204	42,307	21,041	18,624
FEB	40,271	16,854	14,040	44,190	21,006	23,790
MAR	46,593	15,783	7,632	40,049	21,301	19,010
APR	34,735	14,859	4,251	33,353	15,820	12,016
MAY	35,721	10,886	6,690	23,072	14,081	15,623
JUN	42,213	12,979	16,010	25,824	15,444	16,773
JUL	52,618	10,298	20,359	25,876	11,025	15,573
AUG	53,040	11,119	19,389	37,096	20,892	19,513
SEP	42,781	12,692	30,768	27,323	53,271	
OCT	43,526	21,864	39,089	23,391	42,359	
NOV	28,114	17,483	52,104	9,902	32,630	
DEC	21,381	20,073	50,760	30,651	30,623	
Year Total	490,129	180,995	278,296	353,034	299,493	140,991

Source: American Commercial Transportation Research (ACT)

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**Exhibit 29: Class 8 Truck production**

Class 8 Truck Production at 30,074 in August

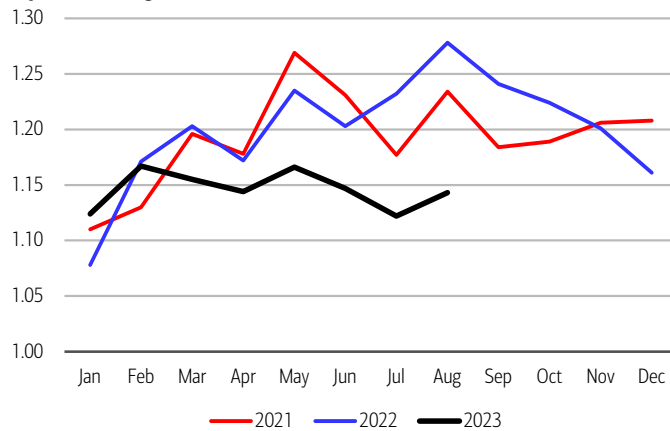


Source: BofA Global Research estimates and American Commercial Transportation Research (ACT)  
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## Class 8 Truck Production at 30,074 Up 13% Sequentially

**Exhibit 30: Cass Freight Shipments Index**

July's Cass Freight Index: -10.6% Y-Y, +1.9% M-M



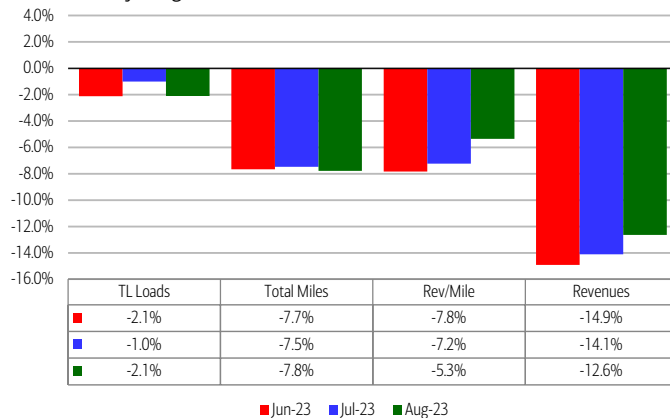
Source: Cass Information Systems, Inc.

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## Cass Freight Index: -10.6% Y-Y, +1.9% M-M

**Exhibit 31: Truck Activity**

Truck Activity: August Loads -2.1% Y-Y



Source: American Trucking Association

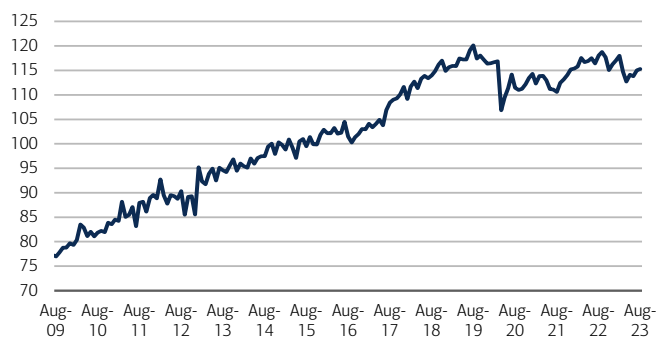
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## Truck Activity: August Loads -2.1% Y-Y

Total truck loads decreased 2.1% year-over-year in August, to a 105.6 index, deteriorating from July's 1.0% decrease, according to the American Trucking Association (ATA). On a y-y basis, the loads index was down for the sixth consecutive month. Total revenues were down 12.6% year-over-year, moderating from July's 14.1% decrease, and Revenue per mile was down 5.3%, moderating from the 7.8% decrease in July. The Rev/Mile index was down for the seventh consecutive month. Total miles were down 7.8% year-over-year, in line with last month's 7.5% decrease. DAT's seasonally adjusted Spot loads index was up 7% sequentially (to 202.4 from 189.7), yet down 41% year-over-year. Within Less-Than-Truckload (LTL), tonnage was down 9.9% year-over-year, moderating from July's 10.9% decrease, while the overall LTL revenue was down 5.2%, moderating from last month's 11.9% decrease. This was the ninth consecutive decline for this index (first single digit decline since February). At the same time, Revenue per ton was up 5.2% in August, reversing July's 0.8% decrease.

**Exhibit 32: Historical ATA Truck Tonnage Index**

Preliminary August Truck Tonnage: -2.3% Y-Y, +0.3% M-M



Source: American Trucking Association

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**Exhibit 33: Historical ATA Truck Tonnage Index**

July Truck Tonnage: -1.2% Y-Y, +1.1% M-M

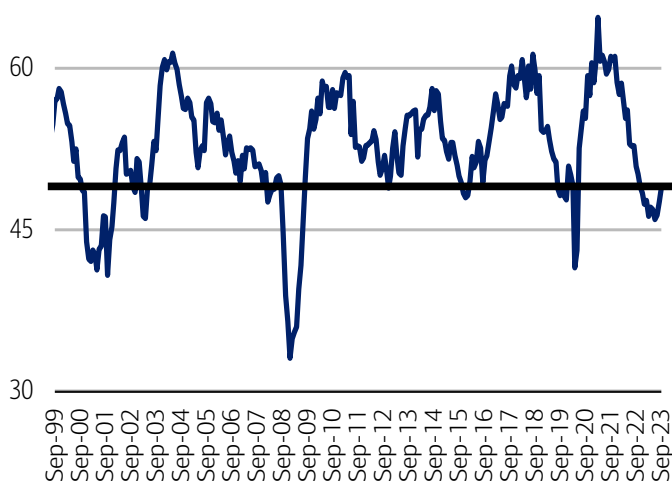
	2017	2018	2019	2020	2021	2022	2023
JAN	103.2	109.5	116.1	117.0	114.2	115.5	117.0
FEB	104.2	111.9	116.1	116.9	112.5	116.1	118.0
MAR	103.5	112.7	116.7	117.9	114.5	118.8	114.7
APR	104.3	111.9	117.6	107.3	113.7	116.5	112.7
MAY	105.0	113.3	117.4	109.7	112.9	117.1	114.1
JUN	103.7	113.8	117.1	111.1	111.3	117.5	113.8
JUL	106.9	113.0	118.3	113.1	110.6	115.8	115.0
AUG	108.2	113.7	119.7	110.9	110.8	118.2	
SEP	108.8	114.7	117.3	111.0	112.7	119.1	
OCT	109.2	116.0	117.9	111.1	113.1	117.6	
NOV	109.9	116.8	116.9	111.8	113.8	114.8	
DEC	111.6	114.7	116.1	113.1	114.9	116.2	
Avg.	106.5	113.5	117.3	112.6	112.9	116.8	115.0

Source: American Trucking Association

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**Exhibit 34: ISM Manufacturing Index**

September ISM Manufacturing Index 49.0, +1.4 pts



Source: BofA Global Research and Bloomberg.

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**Prelim. August Truck Tonnage: -2.3% Y-Y, +0.3% M-M****July Truck Tonnage: -1.2% Y-Y, +1.1% M-M****ISM Manufacturing Index 49.0, +1.4 pts**

**Increased to 49.0 from 47.6:** The Institute of Supply Management's Manufacturing Index was 49.0 in September, up 1.4 points from August's report, as this was the biggest sequential uptick since Sept. 2021. Economic activity in the manufacturing sector contracted for the eleventh consecutive month, yet the overall economy expanded weakly after nine months of contraction according to ISM. Prices Index (-4.6 to 43.8) indicates decreasing raw materials prices for the fifth consecutive month, while Production Index (+2.5 to 52.0) indicates growth. New orders Index (+2.4 to 49.2) indicates order contractions for the 13th consecutive month, and the Employment Index (+2.7 to 48.5) indicated growth after three months of contraction. Exports Index (+0.9 to 47.4) indicates contraction, and the Imports Index (+0.2 to 48.2) indicates contraction for the eleventh consecutive month. Customer Inventories Index (-1.6 to 47.1) indicates levels are perceived as too low, and Backlog of orders Index (-1.7 to 42.4) indicates contraction for the twelfth consecutive month. The ISM had 5 upticks and 3 downticks in September, 5 upticks, 2 downticks and 1 flat post in August, 6 upticks and 2 downticks in July, and 3 upticks and 5 downticks in June.

**Exhibit 35: BofA Truckload Diffusion Indicator**Demand Indicator at 50.0 from 52.4 (bi-weekly Issue #292 on Sept. 21<sup>st</sup>)

Source: BofA Global Research estimates

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**Exhibit 36: Shippers' 6-12 months outlook for freight demand**

L-T Demand Indicator at 57.3, down 1 pt sequentially



Source: BofA Global Research estimates

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**Exhibit 37: Shippers' view of inventory levels**

Inventory Indicator at 53.1, up 1% sequentially from last issue.



Source: BofA Global Research estimates

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**BofA TRUCK SHIPPER SURVEY****Survey Says: Demand (50.0)**

This week, our proprietary bi-weekly **BofA Truckload Demand Indicator** for shippers' 0- to 3-month freight demand outlook **decreased to 50.0 from 52.4 last survey**, down 5% sequentially. The Demand Indicator remains at or above 50 for the fifth consecutive issue (10 weeks) after 19 of 21 issues below that level (38 of 42 weeks). It is also flat year-year. The Indicator remains below its 60 all-time average for the 38th consecutive survey and below the 54.2 average level in the '12, '15, '19 Freight Recession periods. Rail carloads fell 1% yr-yr this week (week 37 2023), its 32nd consecutive downtick, but its thinnest decline since week 8. Dry van spot rates ex-fuel are \$1.23/mile, down 27% YTD, but up from last week's \$1.21 trough. Shippers' short-term Positive outlooks were 27% of respondents, up from 24% last survey; Neutral outlooks were 48%, down from 59% last issue, and Negative outlooks were 25%, from 17% last survey. In the week of Sep 21st, we surveyed 48 shippers for views on demand, supply, pricing, and inventory.

**Inventory view ticks up**

**The Rate Indicator**, or shipper view on truck rates, fell to 45.8 from 46.3, down 1% sequentially, as expectations of future rate increases moderated a touch. The Inventory Indicator increased to 53.1 from 52.4 last issue, as inventory views rose from its 52-week low last issue. **The Truck Capacity Indicator**, which measures shippers' views of available truckload capacity, increased to 64.6 from 56.1 last survey, as shippers see tighter capacity.

**Rates view moderates**

With respect to rates, 23% of shippers expect rates to fall, from 17% last issue, 63% expect flat pricing, from 73% last issue, and 15% expect rates to rise, down from 10% last issue. On capacity, 31% expect capacity to rise, down from 32% last issue, 67% expect capacity to remain flat, up from 49% last issue, and 2% expect capacity to be lower, down from 20% last issue. **SHIPPER COMMENTS:** An Industrial Shipper noted that in its 30 years of experience in the industry, it believes we are near or just coming out of the bottom. It noted that its linehaul rates are at pre-pandemic levels and are starting to follow the prior year's seasonality. A Consumer Shipper expects higher linehaul rates. It noted that fuel is already causing a slight increase in freight standards. (See survey for additional commentary).

**Exhibit 38: Shippers' view of Trucking rates over the next 3 months**

Rate Indicator at 45.8, -1pt sequentially

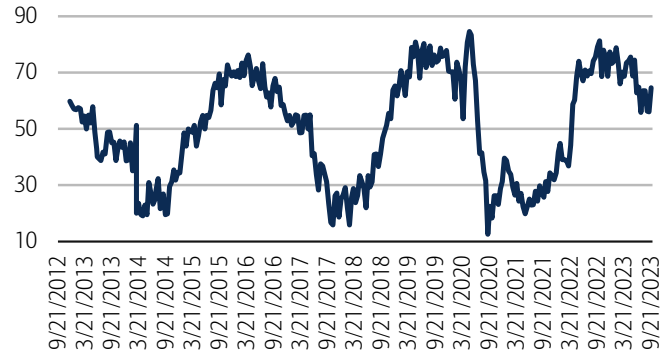


Source: BofA Global Research estimates.

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**Exhibit 39: Shippers' view of Capacity over the next 3 months**

Capacity Indicator flat at 64.6, above its historic 50 avg



Source: BofA Global Research estimates.

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**Exhibit 40: BofA Truckload 0-3 month Demand (Diffusion) Indicator**

Diffusion indicator month-by-month levels

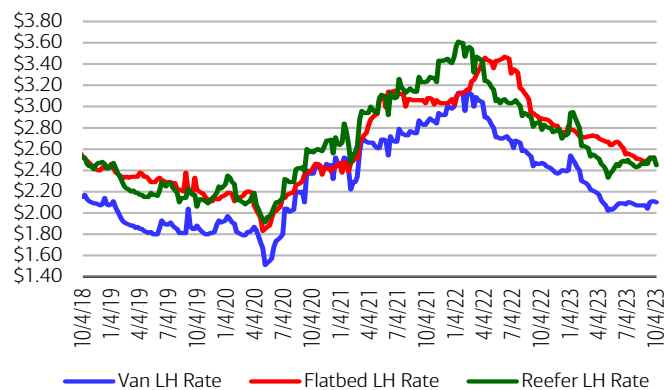
	2019		2020		2021		2022		2023
Jan	1/3	55.1	1/2	52.3	1/14	63.8	1/13	75.0	1/12 47.5
	1/17	58.1	1/16	54.1	1/28	63.8	1/27	70.0	1/26 51.3
Feb	1/31	56.7	1/30	54.6	2/11	67.5	2/10	69.5	2/9 45.1
	2/14	53.7	2/13	53.1	2/25	68.8	2/24	71.9	2/23 47.6
Mar	2/28	59.2	2/27	51.3	3/11	72.9	3/10	70.3	3/9 46.9
	3/14	60.1	3/12	46.1	3/25	68.8	3/24	69.2	3/23 48.3
Apr	3/28	59.2	3/26	43.5	4/8	73.0	4/7	64.1	4/6 49.5
	4/11	61.2	4/9	37.2	4/22	75.7	4/21	58.0	4/20 44.4
	4/25	58.3	4/23	33.3	5/6	77.6	5/5	57.5	5/4 49.5
May	5/9	56.6	5/7	37.8	5/20	78.3	5/19	55.0	5/18 44.3
	5/23	52.5	5/21	46.2	6/3	78.3	6/2	58.5	6/1 42.6
Jun	6/6	61.1	6/4	54.6	6/17	78.1	6/16	54.0	6/15 47.9
	6/20	52.5	6/18	56.4	7/1	75.7	6/30	55.5	6/29 49.4
Jul	7/4	52.3	7/2	59.3	7/15	70.9	7/14	50.9	7/13 47.1
	7/18	50.6	7/16	62.5	7/29	74.3	7/28	53.9	7/27 50.0
Aug	8/1	52.6	7/30	59.1	8/12	73.0	8/11	50.0	8/10 55.2
	8/15	51.9	8/13	63.5	8/26	73.0	8/25	54.5	8/24 51.0
Sep	8/29	55.0	8/27	71.1	9/9	73.6	9/8	51.6	9/7 52.4
	9/12	51.9	9/10	75.8	9/23	75.0	9/22	50.0	9/21 50.0
Oct	9/26	55.6	9/24	78.1	10/7	69.4	10/6	47.6	10/5
	10/10	48.7	10/8	73.3	10/21	68.3	10/20	45.6	10/19
	10/24	53.8	10/22	70.0	11/4	76.6	11/3	42.4	11/2
Nov	11/7	55.7	11/5	72.5	11/18	67.7	11/17	50.4	11/16
	11/21	51.3	11/19	69.9	12/2	69.7	12/1	47.8	11/30
Dec	12/5	52.3	12/3	63.8	12/16	68.6	12/15	47.2	12/14
	12/19	51.9	12/17	66.3	12/30	66.7	12/29	49.4	12/28
			12/31	67.7					

Source: BofA Global Research estimates

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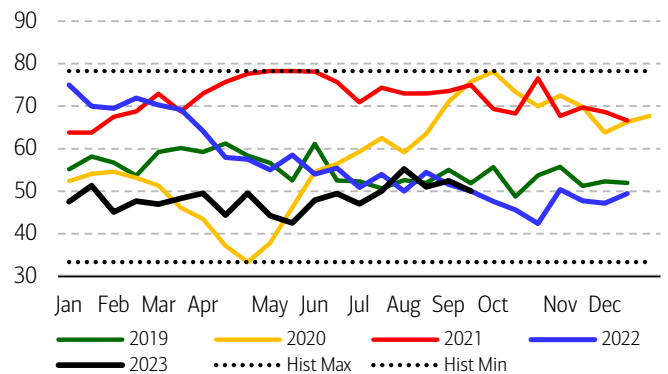
**Exhibit 42: Month-to-Date Run Rate**

Van Rate = \$2.10 Flatbed Rate = \$2.52 &amp; Reefer Rate = \$2.45



Source: DAT (Dial-A-Truck)

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**Exhibit 41: Demand (Diffusion) Indicator for 0-3-month demand outlook on stack basis (2019-2023)**Demand Indicator to 50.0 (bi-weekly Issue #292 on September 21<sup>st</sup>)

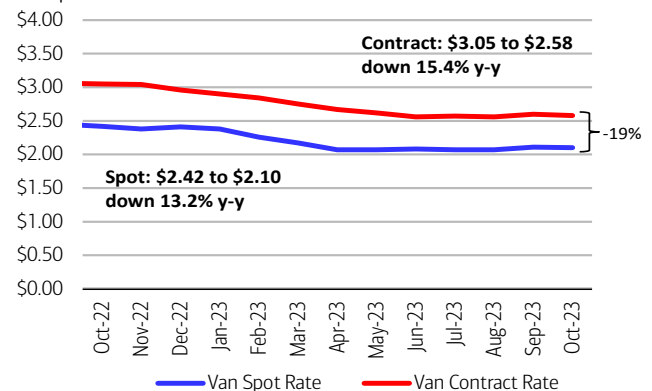
Source: BofA Global Research estimates

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Disclaimer: The indicator identified as BofA Truckload Diffusion Indicator in this report is intended to be an indicative metric only and may not be used for reference purposes or as a measure of performance for any financial instrument or contract, or otherwise relied upon by third parties for any other purpose, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark.

**Exhibit 43: Monthly Van Spot Rate vs. Contract Rate**

Van Spot Rate = \$2.10 &amp; Contract Rate = \$2.58

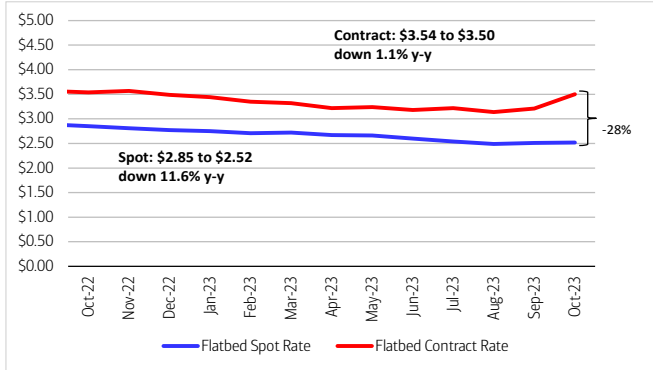


Source: DAT (Dial-A-Truck)

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**Exhibit 44: Monthly Flatbed Spot Rate vs. Contract Rate**

Flatbed Spot Rate = \$2.52 &amp; Contract Rate = \$3.50

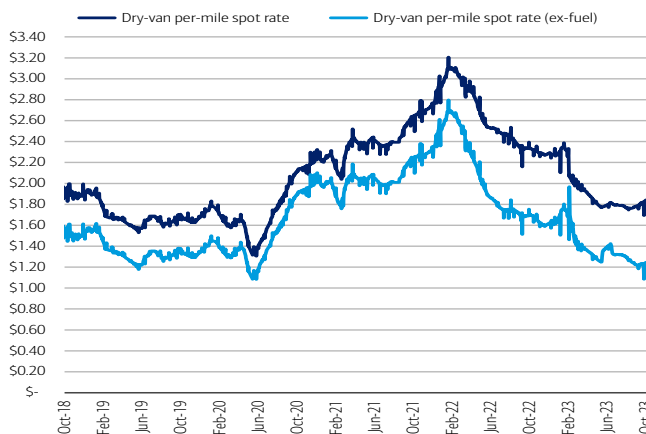


Source: DAT (Dial-A-Truck)

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**Exhibit 46: Truckstop.com Spot Rates**

Dry-Van Spot = \$1.84 Dry-Van (ex-fuel) = \$1.25

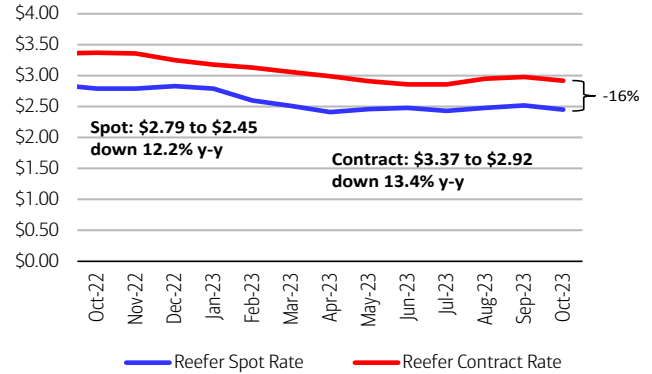


Source: Truckstop.com, Bloomberg

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**Exhibit 45: Monthly Reefer Spot Rate vs. Contract Rate**

Reefer Spot Rate = \$2.45 &amp; Contract Rate = \$2.92



Source: DAT (Dial-A-Truck)

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**TruckStop Spot Rates: Dry-Van Spot = \$1.84, Dry-Van (ex-fuel) = \$1.25**

Truckstop.com's Dry van spot rates ex-fuel were \$1.25/mi for the week ending October 4, from \$1.23/mi the prior week (Sept 27) and are down 24% YTD (from \$1.64/mi on Dec 31).

Truckstop.com's Dry van spot rates (fuel included) were \$1.84/mi for the week ending October 4, from \$1.83/mi the prior week (Sept 27) and are down 19% YTD (from \$2.28/mi on Dec 31).

Fuel represented \$0.60/mi, up from last week's \$0.59/mi and down from \$0.64 on Dec 31.

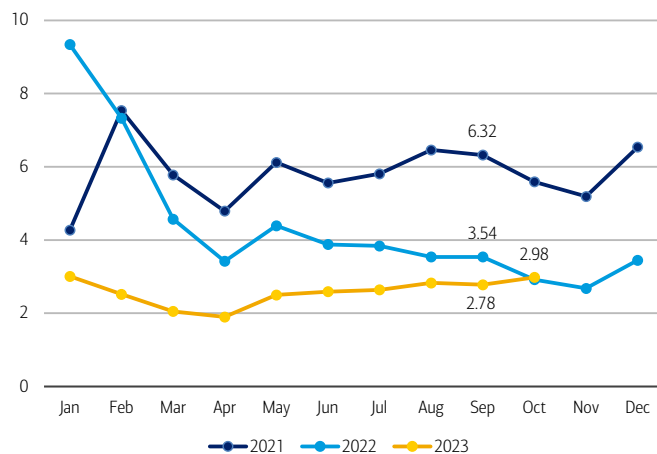
**DAT Spot Dry-Van Load/Truck Ratio = 2.98**

**Weekly Update:** DAT's (Dial-a-Truck) dry-van spot load-to-truck ratio was 2.98 for the week ended October 1, up from 2.50 the prior week (September 24), and down from 3.77 (-21%) a year prior.

**Monthly Update:** DAT's (Dial-a-Truck) dry-van spot load-to-truck ratio was 2.78 on average for the month of September, down from 2.83 in August, and down from 3.54 (-21%) a year prior. The September load-to-truck ratio declined sequentially, after four consecutive upticks. If constant, the ratio will be up y-y in October for the first time since January 2022.

**Exhibit 47: Van Load to Truck Ratio**

September Load-to-Truck Ratio on average was 2.78, down 2.0% M-M



Source: DAT (Dial-A-Truck), Bloomberg

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**Exhibit 48: Top 10 US Ports Loaded Volumes**

Top 10 Ports in August: -11.5% Y-Y, LA/LB -3.4% Y-Y

Top 10 U.S. Ports	2023 TEU's	2023 YTD Chg %	Jun-23 Y-O-Y %	Jul-23 Y-O-Y %	Jun-23 TEU's	Jul-23 TEU's
Los Angeles (18%)	3,743,742	-16%	-19%	10%	474,581	558,212
Long Beach (16%)	3,222,095	-23%	-26%	-17%	361,220	418,838
<b>Total LA/LB (35% of total US)</b>	6,965,837	-19%	-22%	-3.4%	835,801	977,050
New York (17%)	3,476,108	-18%	-5%	-15%	472,334	454,946
Savannah (13%)	2,454,697	-15%	-10%	-26%	335,865	303,962
Houston (11%)	2,069,058	0%	8%	-13%	283,803	259,668
Norfolk (9%)	1,506,966	-9%	-2%	n/a	230,517	-
Seaport Alliance (5%)	1,020,299	-19%	-2%	-16%	126,282	126,166
Charleston (7%)	1,268,537	-8%	5%	-4%	161,604	158,666
Oakland (5%)	1,023,841	-16%	17%	-13%	136,181	135,254
Maryland (1%)	456,767	1%	-4%	n/a	66,677	-
<b>Total Top 10 (91.5% of US)</b>	<b>20,242,110</b>	<b>-14.8%</b>	<b>-9.1%</b>	<b>-11.5%</b>	<b>4</b>	<b>2,415,712</b>
Vancouver	1,518,279	-13%	-28%	-19%	152,108	191,577
Prince Rupert	333,211	-27%	-17%	-51%	35,318	34,257

**Source:** Ports of Los Angeles, Long Beach, New York, Savannah, Norfolk, Oakland, Houston, Charleston, Vancouver, Maryland, and BofA Global Research estimates

**Note:** Due to Maryland's and Norfolk reporting schedule, YTD Chg% does not include its numbers.

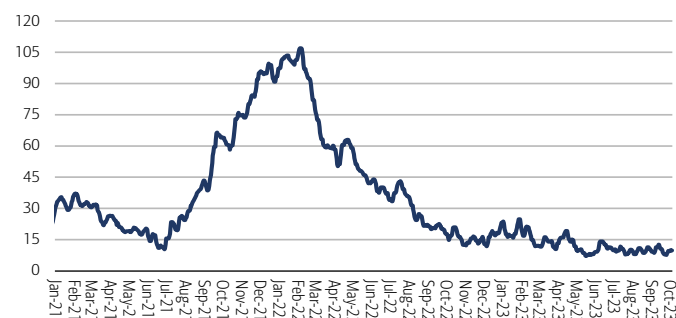
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**Top 10 Ports in August: -11.5% Y-Y, LA/LB -3.4% Y-Y**

August container volumes are down 11.5% year-year, accelerating down from July's 9.9% decline at 8 of the 10 largest US ports that have reported volumes to-date (Maryland and Norfolk not incl.). Of the 4 largest US ports, half, or 2 posted sequential declines, with the West Coast continuing a rebound, while the East Coast experienced sequential downticks: Port of LA (Aug: 558.2k, up from Jul: 474.5k) and Port of LB (418.8k, up from 361.2k). New York (454.9k, down from 472.3k) and Savannah (303.9k, down from 335.8k). Of the 8 of 10 ports reporting to date, only one posted an uptick: Los Angeles (+10%). Oakland pulled back from July's uptick as it was down for the ninth time over the last ten months. The Port of LA posted its first double digit increase since June 2021, and it was positive for just the second time over the last 18 months. Port of Long Beach's volume was down for the 14th consecutive month, yet up sequentially (+16%). The Port of Savannah declined significantly (-26%) from its historical peak of loaded TEUs in August 2022 (410.1k). New York was down for the 11th consecutive month, dropping -15% Y-Y. Inclusive of August declines, overall loaded container volumes year-to-date are down 14.8% (excluding Maryland and Norfolk). For the Canadian ports, Vancouver was down 19%, while Prince Rupert had its worst historical performance on a y-y basis (-51%).

**Port of LA/Long Beach – Ships in queue – 0 on 10/04/23 (from 0 a week prior)****Exhibit 49: Port of Los Angeles/Long Beach Vessels waiting to dock**

On one-week moving average, vessels at anchor and loitering (given new queue system) were 9.8 on 10/04/23 (vs 8.8 on 9/27/23). On day-of-basis: 12 vs 11 (includes 12 vs 11 vessels at dock), or 0 vs 0 in queue alone.

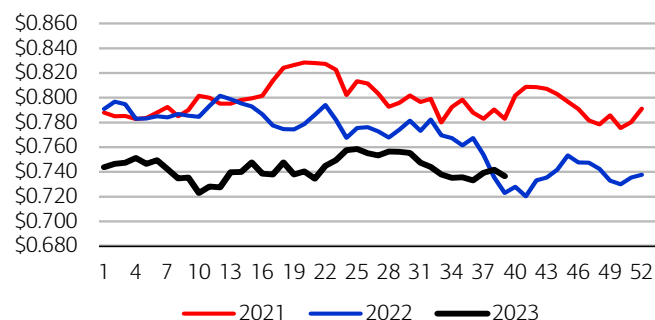


**Source:** BofA Global Research and Port of LA/Long Beach

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**Canadian Dollar and Mexican Peso FX Rates****Exhibit 50: Price of 1 Canadian Dollar in US\$**

1 CAD = 0.737 US\$

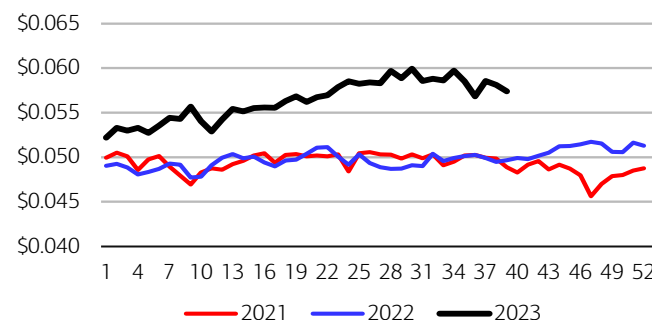


**Source:** Bloomberg

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**Exhibit 51: Price of 1 Mexican Peso in US\$**

1 MXN = 0.057 US\$



**Source:** Bloomberg

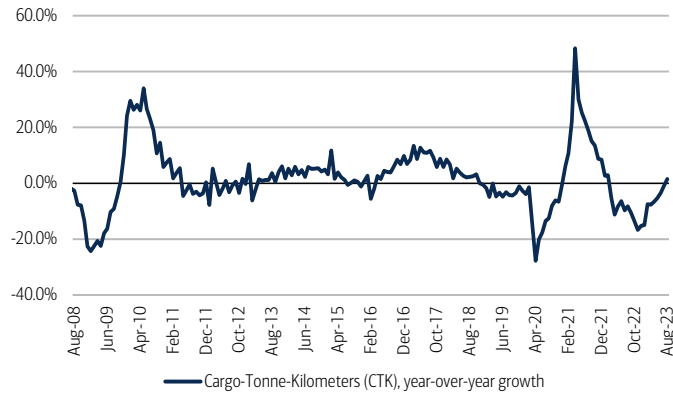
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**Exhibit 52: IATA Volume year-over-year growth**

IATA Freight Vols: +1.5% Y-Y in August, North America -1.2%



Source: International Air Transport Association

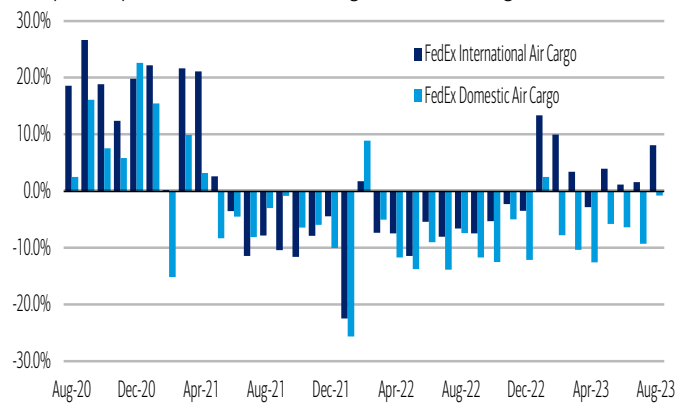
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**IATA Freight Vols: +1.5% Y-Y in August, North America -1.2%**

Total air freight volumes (both domestic and international) as reported by global air freight carriers to the International Air Transport Association (IATA) were up 1.5% year-over-year in August, reversing July's 0.8% decrease. This was the first annual growth in volumes since February 2022. IATA remarked that this improvement stems from a low baseline in 2022, as the comparison with pre-pandemic volumes remains negative (-1.3%). The North American region didn't breakthrough as the overall industry did, as its internal trade lanes remain down, and posted its 18th downtick in the past 37 months. Three regions posted y-y increases: Latin America (+6.2%), Asia Pacific (+4.9%), and Middle East (+1.4%). Three regions posted y-y declines: Africa (-4.7%), North America (-1.2%), and Europe (-0.2%).

**Exhibit 53: FedEx Air Cargo Volumes at Memphis International Airport**

Memphis Airport FDX Domestic Air Cargo Volumes in August: -0.8% Y-Y

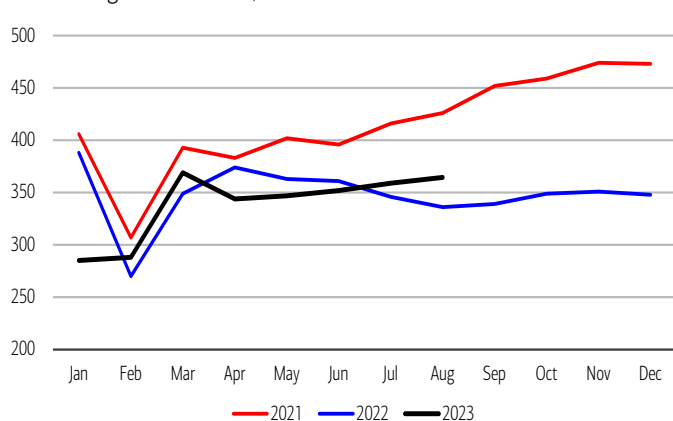


Source: BofA Global Research and Memphis International Airport Statistics

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**Memphis Airport FDX Air Cargo Volumes in August: -0.8% Y-Y****Exhibit 54: Hong Kong Airport cargo (000 tons)**

HKIA in August: +8.5% Y-Y, +1.5% M-M



Source: Hong Kong International Airport

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**Hong Kong Airport: +8.5% Y-Y, +1.5% M-M**

## Rail Performance Measures

**Overall Takeaway:** The 3 main service level metrics had a mixed performance on a year-over-year basis at the major Class I rails, as Velocity deteriorated, while Cars-On-Line and Dwell Time improved. The deterioration in Velocity ends a 21 week period of y-y improvements on metrics overall. On a sequential basis, performance deteriorated as Velocity, Dwell Time, and Cars-On-Line all posted downticks. CNI (+0.5%) posted the only uptick in velocity this week, reversing last week's 1.5% decrease. CPKC (-2.3%) trailed the group this week, reversing last week's 2.3% increase. BNSF has not reported yet.

**Velocity** (avg. speed of rail network, faster is better): Deteriorated sequentially (-0.7%) and deteriorated year-over-year (-0.6%).

**Cars-on-Line** (fewer cars-on-line is better): Deteriorated sequentially (+0.3%) and improved year-over-year (-0.6%).

**Terminal Dwell** (lower is better): Deteriorated sequentially (+0.4%) and improved year-over-year (-1.5%).

### Exhibit 55: Rail Performance Metrics

Service levels had a mixed performance on a year-over-year basis, and deteriorated sequentially

#### Rail Performance Measures

##### Velocity (avg. speed of rail network, faster is better)

	2023	2023	2022			% Seq Chg	% y-y Chg
(miles per hour)	Week 39	Week 38	Week 39	% Seq Chg	% y-y Chg		
CNI	19.7	19.6	19.9	0.5%	-1.0%		
CPKC	17.1	17.5	18.2	-2.3%	-6.0%		
CSX	18.3	18.3	16.9	0.0%	8.3%		
NSC	20.6	20.8	21.4	-1.0%	-3.7%		
UNP	24.1	24.3	24.0	-0.8%	0.4%		
BNSF (1)	26.7	26.7	26.5	0.0%	0.8%	Slower -0.7%	Slower -0.6%
Average	20.0	20.1	20.1	-0.7%	-0.6%		

##### Cars On Line (fewer cars-on-line is better)

	2023	2023	2022			% Seq Chg	% y-y Chg
(no. of cars)	Week 39	Week 38	Week 39	% Seq Chg	% y-y Chg		
CNI	81,784	80,182	85,103	2.0%	-3.9%		
CPKC	98,324	97,527	92,161	0.8%	6.7%		
CSX	124,377	125,382	134,097	-0.8%	-7.2%		
NSC	168,780	168,417	167,209	0.2%	0.9%		
UNP	308,553	307,743	308,094	0.3%	0.1%		
BNSF (1)	243,915	243,915	248,353	0.0%	-1.8%	Worse 0.3%	Better -0.6%
Average	156,364	155,850	157,333	0.3%	-0.6%		

##### Terminal Dwell Time (lower is better)

	2023	2023	2022			% Seq Chg	% y-y Chg
(time in hours)	Week 39	Week 38	Week 39	% Seq Chg	% y-y Chg		
CNI	6.8	7.0	7.0	-2.9%	-2.9%		
CPKC	10.3	10.8	9.5	-4.6%	8.4%		
CSX	9.4	9.3	10.3	1.1%	-8.7%		
NSC	23.4	22.6	23.5	3.5%	-0.4%		
UNP	23.3	23.2	24.0	0.4%	-2.9%		
BNSF (1)	24.5	24.5	25.8	0.0%	-5.0%	Worse 0.4%	Better -1.5%
Average	14.6	14.6	14.9	0.4%	-1.5%		

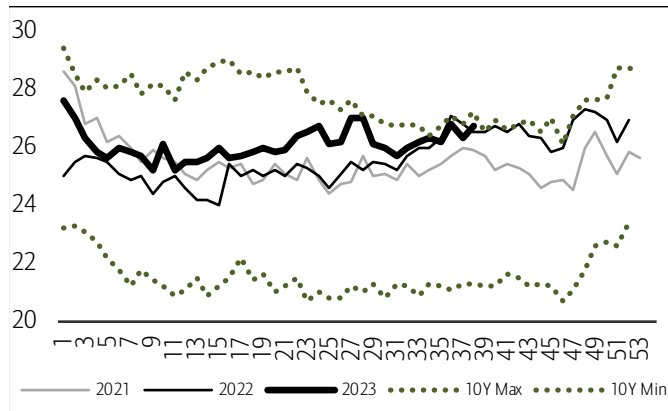
(1): Due the BNSF reporting schedule the reported data is delayed by one week and not included on the averages.

Source: BofA Global Research, company reports

## Weekly Rail Velocity Monitor

### Exhibit 56: BNSF Velocity

BNSF velocity was 26.7 mph for week 38

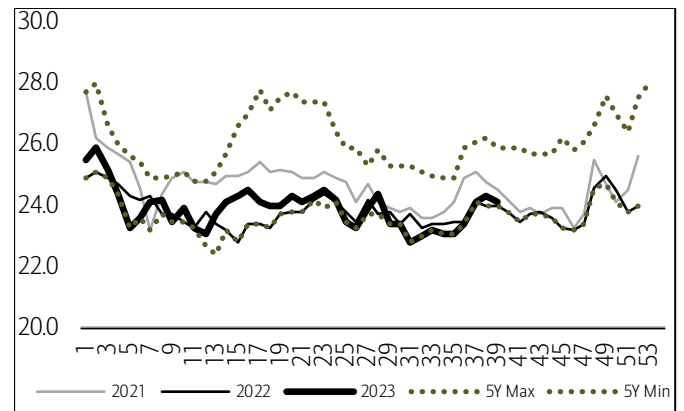


Source: Company reports, and Association of American Railroads.

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### Exhibit 57: Union Pacific Velocity

UNP velocity was 24.1 mph for week 39



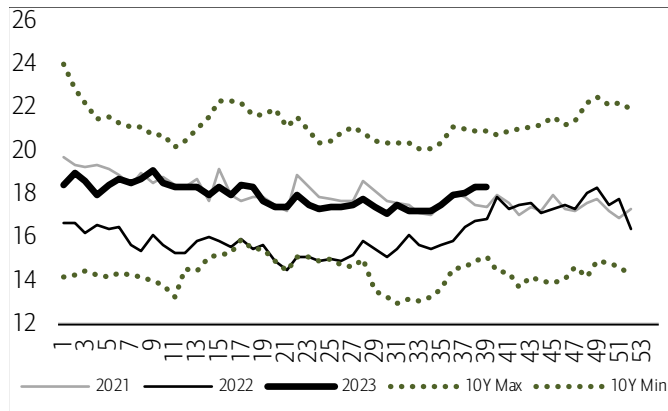
Source: Company reports, and Association of American Railroads.

UNP restated performance metrics, historical data available from 03/24/17

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### Exhibit 58: CSX Velocity

CSX velocity was 18.3 mph for week 39

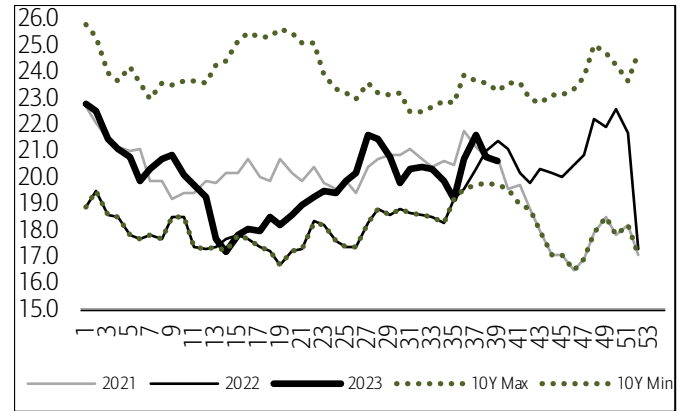


Source: Company reports, and Association of American Railroads.

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### Exhibit 59: Norfolk Southern Velocity

NSC velocity was 20.6 mph for week 39

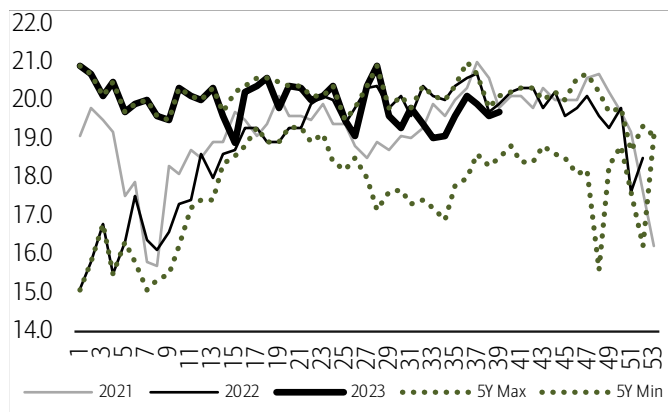


Source: Company reports, and Association of American Railroads.

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### Exhibit 60: Canadian National Velocity

CNI velocity was 19.7 mph for week 39



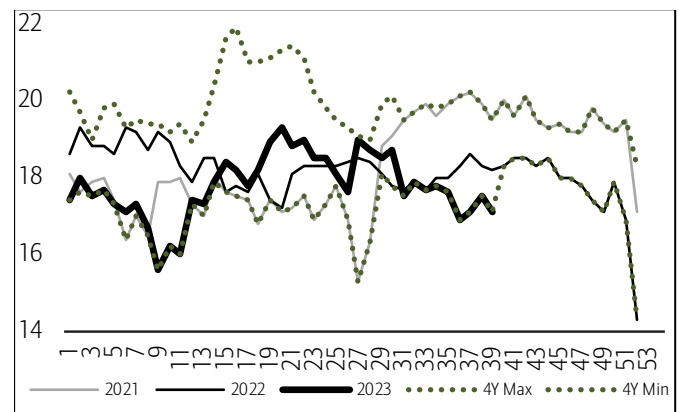
Source: Company reports, and Association of American Railroads.

CNI restated performance metrics, historical data available from 2017

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### Exhibit 61: Canadian Pacific Kansas City Velocity

CPKC velocity was 17.1 mph for week 39



Source: Company reports, and Association of American Railroads.

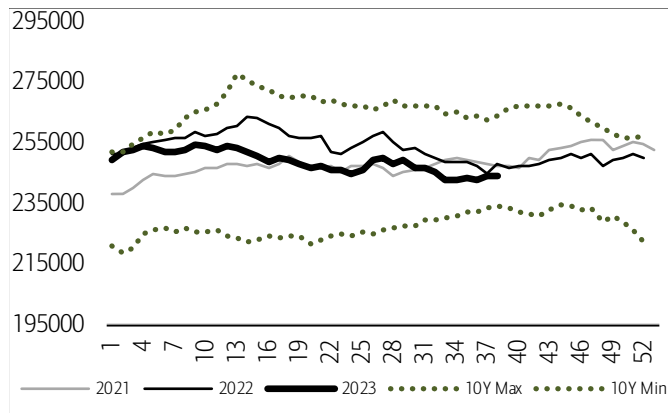
CPKC restated performance metrics, historical data available from 2020

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## Weekly Cars On-Line Monitor

### Exhibit 62: BNSF Cars-On-Line

BNSF cars on line were 243,915 for week 38

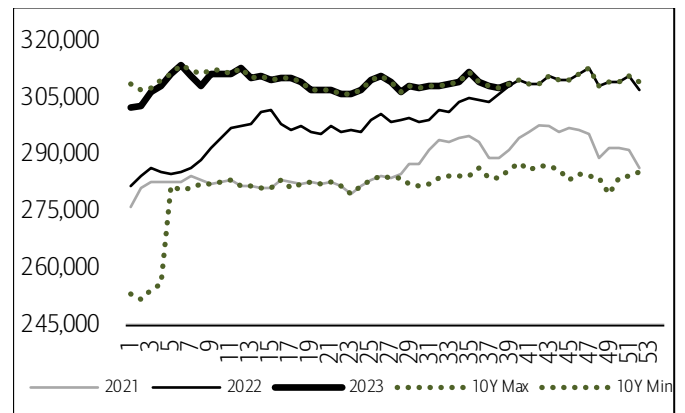


Source: Company reports, and Association of American Railroads.

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### Exhibit 63: Union Pacific Cars-On-Line

UNP cars on line were 308,553 for week 39



Source: Company reports, and Association of American Railroads.

UNP restated performance metrics, historical data available from 03/24/17

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### Exhibit 64: CSX Cars-On-Line

CSX cars on line were 124,377 for week 39

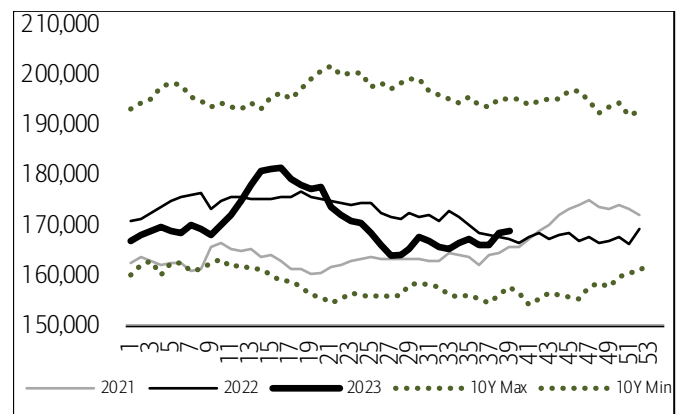


Source: Company reports, and Association of American Railroads.

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### Exhibit 65: Norfolk Southern Cars-On-Line

NSC cars on line were 168,780 for week 39

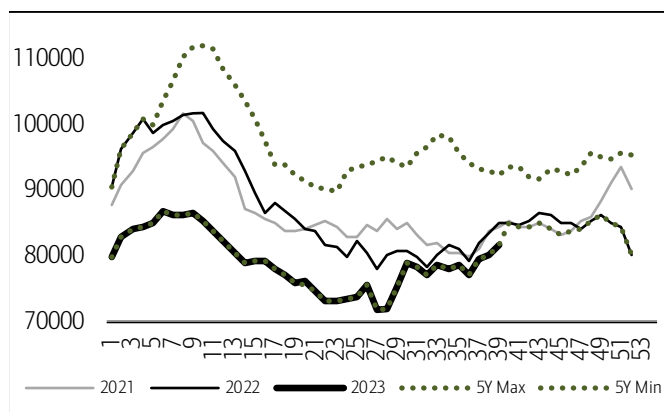


Source: Company reports, and Association of American Railroads.

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### Exhibit 66: Canadian National Cars-On-Line

CNI cars on line were 81,784 for week 39



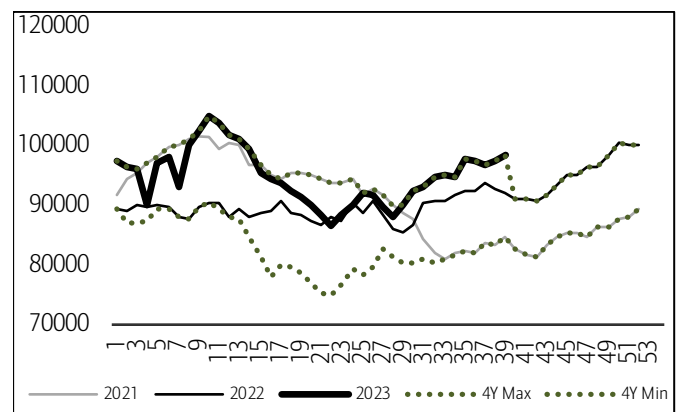
Source: Company reports, and Association of American Railroads.

CNI restated performance metrics, historical data available from 2017

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### Exhibit 67: Canadian Pacific Kansas City Cars-On-Line

CPKC cars on line were 98,324 for week 39



Source: Company reports, and Association of American Railroads.

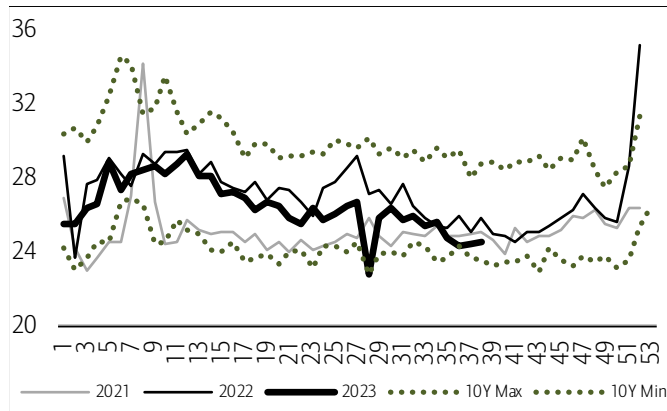
CPKC restated performance metrics, historical data available from 2020

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## Weekly Dwell Time Monitor

### Exhibit 68: BNSF Dwell Time

BNSF dwell time was 24.5 hrs for week 38

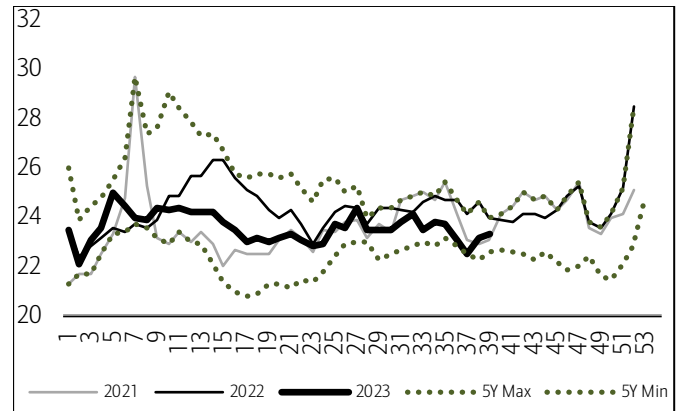


Source: Company reports, and Association of American Railroads.

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### Exhibit 69: Union Pacific Dwell Time

UNP dwell time was 23.3 hrs for week 39



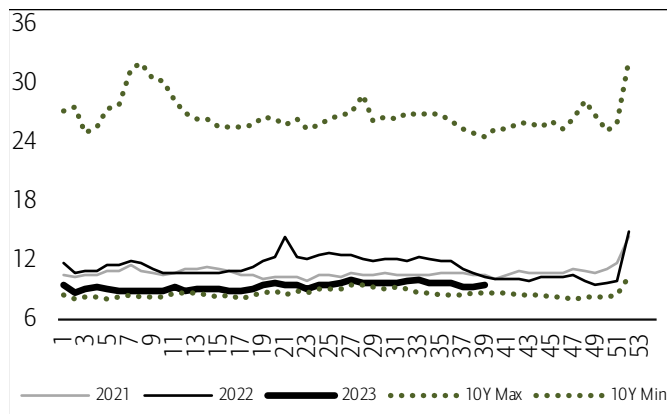
Source: Company reports, and Association of American Railroads.

UNP restated performance metrics, historical data available from 03/24/17

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### Exhibit 70: CSX Dwell Time

CSX dwell time was 9.4 hrs for week 39

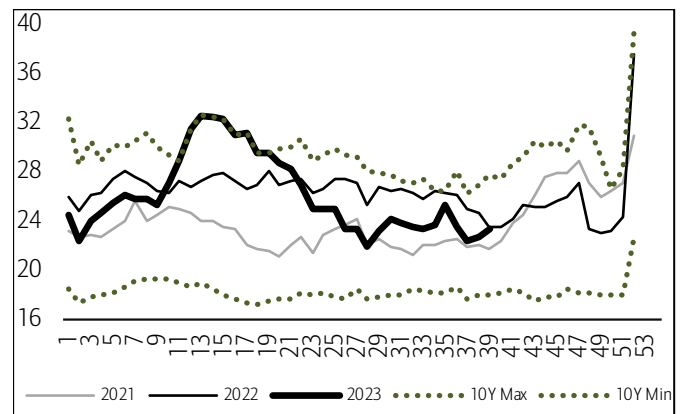


Source: Company reports, and Association of American Railroads.

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### Exhibit 71: Norfolk Southern Dwell Time

NSC dwell time was 23.4 hrs for week 39

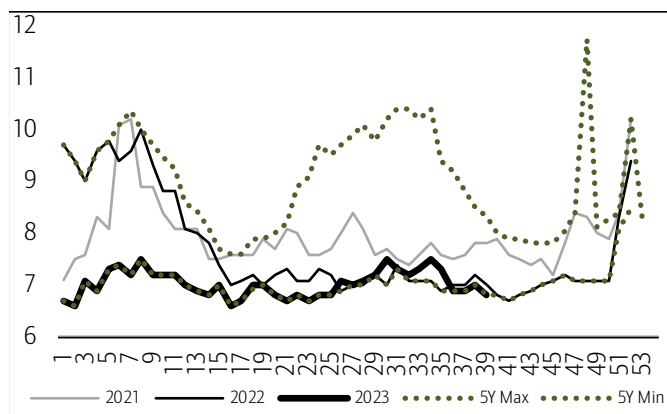


Source: Company reports, and Association of American Railroads.

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### Exhibit 72: Canadian National Dwell Time

CNI dwell time was 6.8 hrs for week 39



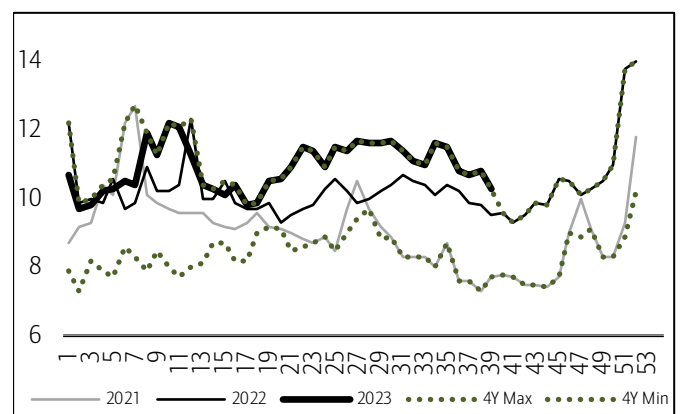
Source: Company reports, and Association of American Railroads.

CNI restated performance metrics, historical data available from 2017

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### Exhibit 73: Canadian Pacific Kansas City Dwell Time

CPKC dwell time was 10.3 hrs for week 39



Source: Company reports, and Association of American Railroads.

CPKC restated performance metrics, historical data available from 2020

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## Less-than-Truckload Data Update and Rail Employment

### Exhibit 74: Less-than-Truckload Tons/Day Y-Y%

LTL Tons/Day is down 0.5% on avg y-y in August (among peers that disclose)

	ODFL	YELL	ARCB	SAIA	XPO
Aug-22	-0.9%	-15.7%	8.0%	0.4%	
Sep-22	-5.4%	-15.8%	-1.3%	-4.1%	
Oct-22	-6.5%	-23.9%	-3.9%	-3.0%	
Nov-22	-8.6%	-24.8%	-3.0%	-7.7%	
Dec-22	-11.5%	-27.1%	-9.4%	-13.2%	
Jan-23	-7.8%	-17.2%	1.6%	-3.7%	2.8%
Feb-23	-12.4%	1.3%	2.1%	-7.6%	-2.0%
Mar-23	-15.8%	-16.9%	4.3%	-5.2%	-5.5%
Apr-23	-14.5%	-16.4%	1.3%	-1.1%	-2.0%
May-23	-14.4%	-16.3%	2.0%	-2.0%	-2.3%
Jun-23	-13.3%	-18.3%	-0.2%	-2.2%	-4.0%
Jul-23	-11.1%		-5.2%	3.4%	4.2%
Aug-23	-6.0%		-6.0%	6.8%	3.1%

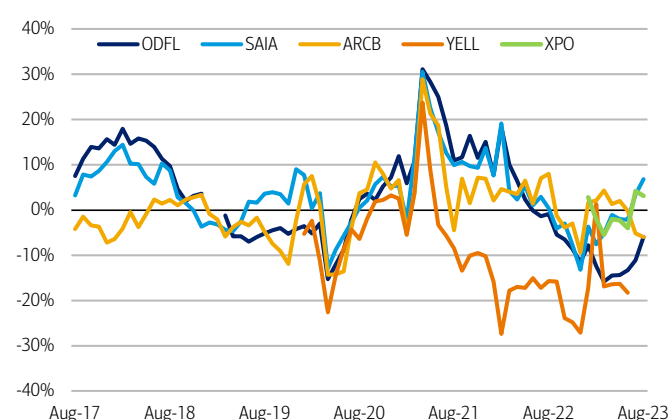
No data provided (BofA quarterly average)

Source: BofA Global Research estimates and company reports

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### Exhibit 75: Less-than-Truckload Tons/Day Y-Y%

LTL Tons/Day is down 0.5% on avg y-y in August (among peers that disclose)



Source: BofA Global Research estimates and company reports

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### Exhibit 76: Less-than-Truckload Shipments/Day Y-Y%

Shipments/Day is up 3.2% on avg y-y in August (among peers that disclose)

	ODFL	YELL	ARCB	SAIA	XPO	FDX
Aug-22	-2.7%	-14.2%	5.0%	-1.9%		-7.0%
Sep-22	-6.9%	-13.3%	2.6%	-4.5%		-8.0%
Oct-22	-7.5%	-20.8%	1.7%	-4.4%		-8.0%
Nov-22	-7.3%	-23.2%	4.0%	-8.6%		-11.0%
Dec-22	-10.9%	-25.0%	-3.2%	-12.3%		-11.0%
Jan-23	-5.9%	-18.1%	7.1%	-4.0%	5.0%	-10.0%
Feb-23	-10.1%	-2.5%	9.5%	-7.6%	1.1%	-14.0%
Mar-23	-12.9%	-19.3%	7.3%	-9.4%	-0.5%	-19.0%
Apr-23	-11.8%	-15.4%	4.7%	-5.7%	3.1%	-17.0%
May-23	-11.4%	-13.8%	2.0%	-4.2%	1.8%	-17.0%
Jun-23	-11.2%	-16.4%	5.4%	-1.8%	0.9%	-16.0%
Jul-23	-8.5%		1.4%	6.0%	8.8%	-14.0%
Aug-23	-1.2%		3.0%	14.2%	8.1%	-8.0%

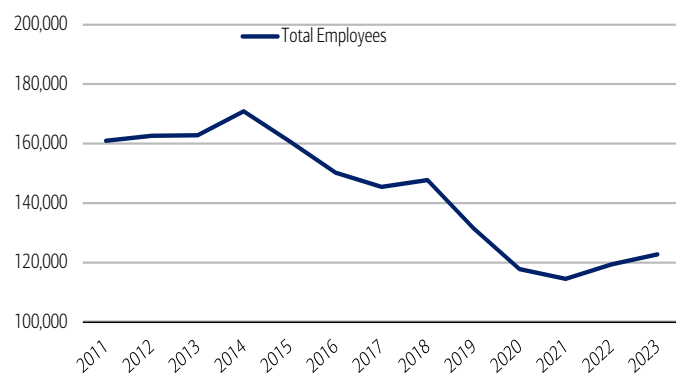
No data provided (BofA quarterly average)

Source: BofA Global Research estimates and company reports

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### Exhibit 77: STB employment data

August STB employment: 122,792, up 5.0% Y-Y



Source: STB

BofA GLOBAL RESEARCH

### Exhibit 78: STB quarter to date data vs BofAe labor estimates

Data as of August 2023

	2023 3Q Avg #	3Q chg. %	BofAe	Diff	3Q Vols e
UNP	33,748	3.6%	3.0%	0.6%	-3.0%
CSX	18,871	6.6%	4.4%	2.1%	-2.7%
NSC	20,487	7.6%	4.5%	3.1%	-2.3%
CN	6,551	3.6%	5.6%	-2.0%	-4.8%
CP	2,959	4.1%	1.5%	2.6%	-1.8%
KSU	2,952	2.1%	-	-	-
BNSF	37,237	4.5%	-	-	-
<b>Total</b>	<b>122,804</b>	<b>5.0%</b>	-	-	-

Note: Monthly average quarter-to-date

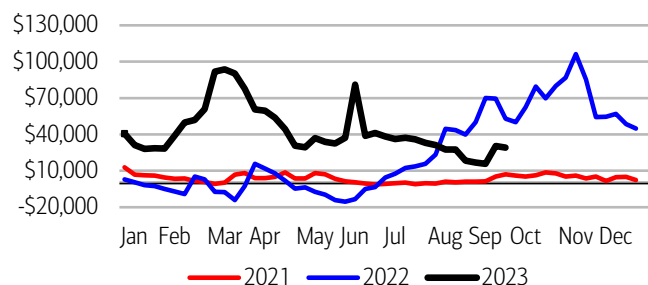
Source: STB, BofA Global Research estimates

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## Weekly Shipping Rates

### Exhibit 79: VLCC Spot Rates

VLCC Spot Rates at \$29,087 as of 9/29/2023

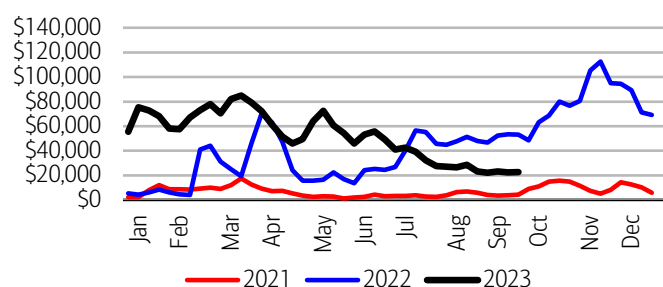


Source: BofA Global Research and Clarksons

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### Exhibit 81: Suezmax Spot Rates

Suezmax Spot Rates at \$22,693 as of 9/29/2023

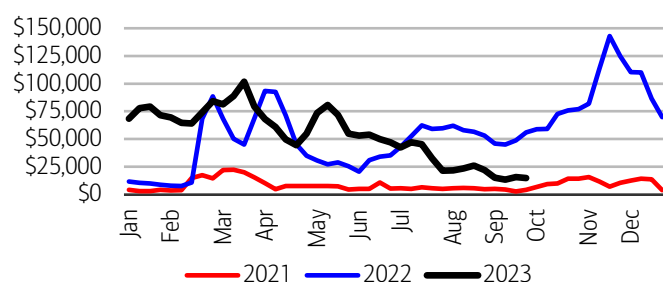


Source: BofA Global Research and Clarksons

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### Exhibit 83: Aframax Spot Rates

Aframax Spot Rates \$14,770 as of 9/29/2023

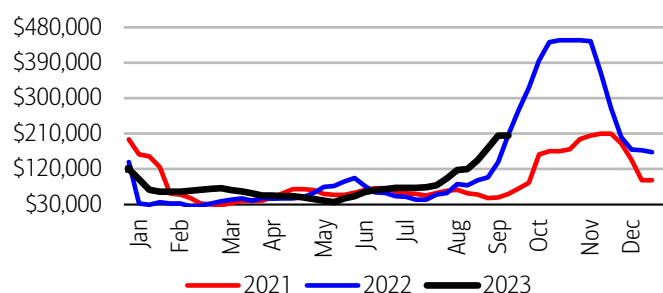


Source: BofA Global Research and Clarksons

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### Exhibit 85: LNG TFDE Spot Rates

LNG TFDE Spot Rates at \$205,000 as of 9/29/2023

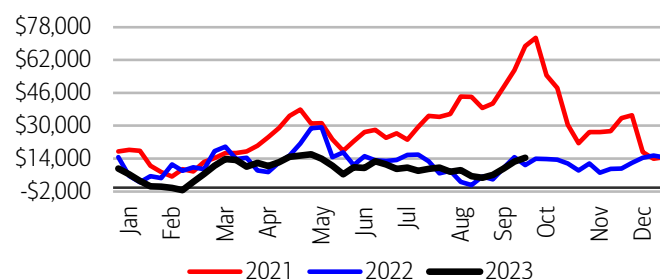


Source: BofA Global Research and Clarksons

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### Exhibit 80: Capesize spot Rates

Capesize Spot rates at \$14,348 as of 9/29/2023

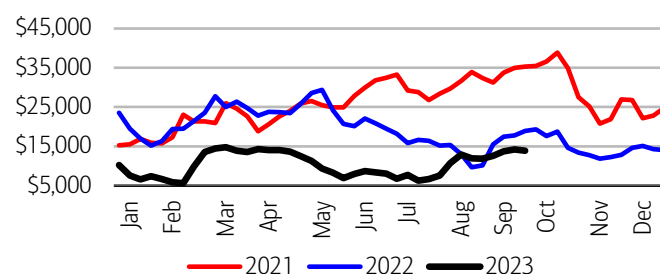


Source: BofA Global Research and Clarksons

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### Exhibit 82: Panamax Spot Rates

Panamax Spot Rates at \$13,890 as of 9/29/2023

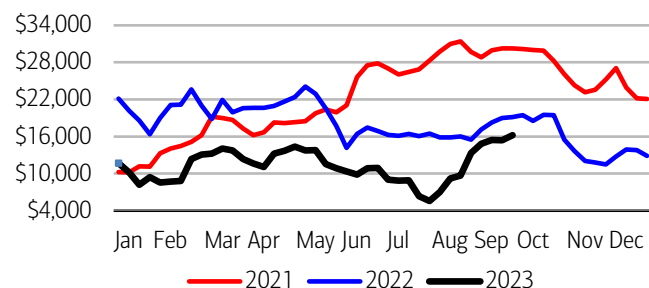


Source: BofA Global Research and Clarksons

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### Exhibit 84: Supramax Spot Rates

Supramax Spot Rates at \$16,231 as of 9/29/2023



Source: BofA Global Research and Clarksons

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### Exhibit 86: Yearly and Quarterly Gas Carrier Rate Data

LNG Carrier Rate was up 3QTD, yet down YTD

Gas Carrier	3QTD Average	2023 YTD Avg.	Orderbook % of Fleet
LNG TFDE	\$124,519	\$82,481	76%
% chg. Y-Y	28%	-38%	

Source: Clarkson

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**Exhibit 87: Yearly and Quarterly Tanker Rate Data**

Tanker Rates were down 3QTD, and mixed YTD

Tanker	3QTD Average	2023 YTD Avg.	Orderbook % of Fleet
VLCC	\$29,044	\$42,822	2%
% chg. Y-Y	-16%	79%	
Suezmax	\$29,099	\$52,215	5%
% chg. Y-Y	-39%	18%	
Aframax	\$26,137	\$54,004	11%
% chg. Y-Y	-52%	-4%	

Source: Clarkson

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**Exhibit 88: Yearly and Quarterly Dry Bulk Rate Data**

Dry Bulk Rates were down 3QTD and YTD

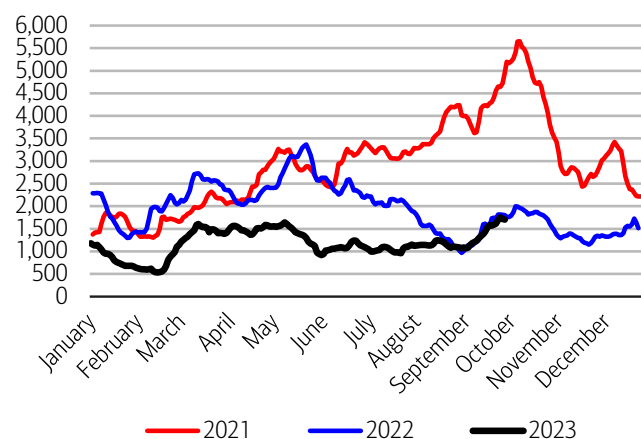
Dry Bulk	3QTD Average	2023 YTD Avg.	Orderbook % of Fleet
Capesize	\$8,729	\$8,792	5%
% chg. Y-Y	-6%	-26%	
Panamax	\$10,542	\$10,382	9%
% chg. Y-Y	-32%	-45%	
Supramax	\$10,743	\$11,279	8%
% chg. Y-Y	-36%	-37%	

Source: Clarkson

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**Exhibit 89: Baltic Dry Index**

Baltic Dry Index is at \$1,701 as of 9/29/2023



Source: Bloomberg

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**Exhibit 90: Shipping Rates**

Shipping Rates ended the 3Q23 down year-over-year

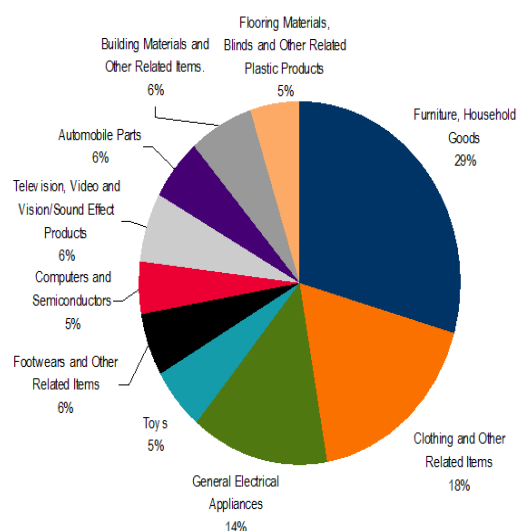
	Current Wk 09/29/23	Prior Wk 09/22/23	YOY Wk 09/30/22	Seq % Change	YOY % Change
<b>Vessel Type</b>					
VLCC	\$29,087	\$30,380	\$52,939	-4.3%	-45.1%
Suezmax	\$22,693	\$22,438	\$53,068	1.1%	-57.2%
Aframax	\$14,770	\$15,473	\$55,856	-4.5%	-73.6%
LNG TFDE	\$188,750	\$205,000	\$270,000	-7.9%	-30.1%
Baltic Dry Index	1,701	1,593	1,757	6.8%	-3.2%

Source: Bloomberg and Clarkson

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**Exhibit 91: Container Breakdown by Commodity**

Furniture, Household &amp; Goods represents almost 30%

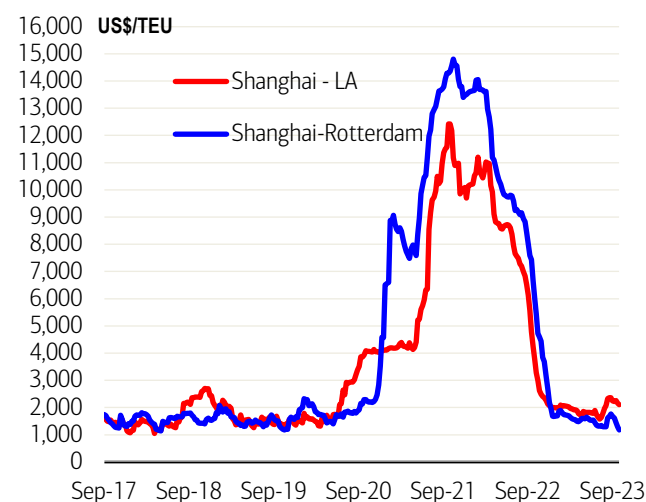


Source: OOCL, BofA Global Research estimates

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**Exhibit 92: Container Rates – Shanghai Containerized Freight Index (SCFI)**

Shanghai – Rotterdam stabilized at mid-year mark



Source: Chinese Shipping, and BofA Global Research

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**Exhibit 93: Railroads Comp Sheet**

Data as of 10/04/23

										EPS							EBITDA (\$ bil)			Forward EV/EBITDA								
			Share	Shares	Mkt Cap	Net Debt	EV			BofA	BofA	BofA	Cons.	Forward	P/E				Forward	EV/EBITDA								
QRQ				Out.																								
Company	Ticker	Price		(mil.)	(\$ bil.)	(\$ bil.)	(\$ bil.)			2022a	2023e	2024e	2024e	2022a	2023e	2024e	2022a	2023e	2024e	2022a	2023e	2024e						
Canadian																												
National	CNI	B-2-7	\$106.45	654	\$69.6	\$12.2	\$81.8	\$5.75	\$5.27	\$5.74	\$5.98	18.5x	20.2x	18.6x	\$6.61	\$6.18	\$6.55	12.4x	13.2x	12.5x								
Canadian Pacific	CP	B-1-7	\$73.08	932	\$68.1	\$17.4	\$85.5	\$2.89	\$2.84	\$3.30	\$3.39	25.3x	25.7x	22.1x	\$4.92	\$5.07	\$5.67	17.4x	16.9x	15.1x								
CSX Corporation	CSX	B-1-7	\$30.85	2006	\$61.9	\$16.9	\$78.8	\$1.91	\$1.80	\$2.00	\$2.02	16.2x	17.1x	15.4x	\$7.42	\$7.05	\$7.40	10.6x	11.2x	10.6x								
Norfolk Southern	NSC	B-2-7	\$192.96	227	\$43.8	\$14.6	\$58.4	\$13.60	\$11.90	\$13.00	\$13.39	14.2x	16.2x	14.8x	\$6.12	\$5.36	\$5.83	9.5x	10.9x	10.0x								
Union Pacific	UNP	B-1-7	\$202.27	609	\$123.3	\$32.5	\$155.7	\$11.23	\$9.95	\$11.15	\$11.58	18.0x	20.3x	18.1x	\$12.26	\$11.27	\$12.21	12.7x	13.8x	12.8x								
													18.4x	19.9x	17.8x				12.5x	13.2x	12.2x							
2023Q4EPS										Revenue		2023Q2		Net														
		est.	Δ to	EPS Growth			YoY		Growth		Op.	Debt/		ROIC			Total Return (w/reinvested dividends)					Dividend						
Company		BofA	Cons.	Street	1yr	3yr	5yr	2Q2023	1yr	5yr	Ratio	EBITDA		1yr			1 week					YTD	1yr	3yr	5yr	Annual	Yield	
Canadian																												
National		\$1.35	\$1.43	-5%	20%	11%	12%	18%	13%	3%	61%	1.9x		9.6%			-2%		-9%	-6%	2%	5%				\$3.17	2.2%	
Canadian Pacific		\$0.88	\$0.86	3%	7%	8%	35%	65%	36%	15%	64%	3.7x		12.1%			-1%		-1%	2%	7%	12%				\$0.77	0.8%	
CSX Corporation		\$0.42	\$0.45	-7%	15%	88%	20%	19%	8%	6%	60%	2.3x		9.3%			2%		1%	11%	8%	6%				\$0.44	1.4%	
Norfolk Southern		\$3.00	\$2.98	1%	-12%	15%	6%	14%	7%	3%	67%	2.9x		7.6%			-2%		-20%	-12%	-1%	3%				\$5.40	2.8%	
Union Pacific		\$2.49	\$2.59	-4%	5%	11%	9%	14%	6%	3%	62%	2.9x		10.5%			0%		0%	1%	3%	7%				\$5.20	2.6%	
												63%	2.7x		10%			-1%		-6%	-1%	4%	6%					

Source: BofA Global Research estimates, Company reports, Bloomberg (for stocks not covered by BofA Global Research)

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**Exhibit 94: Intermodal/Container Lessors Comp Sheet**

Data as of 10/04/23

								EPS							EBITDA (\$ bil)			Forward EV/EBITDA				
		Share	Shares	Mkt Cap	Net Debt	EV		BofA	BofA	BofA	Cons	Forward	P/E				Forward	EV/EBITDA				
QRQ		Price	Out.																			
Company	Ticker		(mil.)	(\$ bil.)	(\$ bil.)	(\$ bil.)		2022a	2023e	2024e	2024e	2022a	2023e	2024e	2022a	2023e	2024e	2022a	2023e	2024e		
J.B. Hunt																						
Transp.	JBHT	B-1-7	\$187.32	103	\$19.4	\$1.1	\$20.5	\$9.79	\$7.50	\$9.35	\$8.91	19.1x	25.0x	20.0x	\$2.06	\$1.82	\$2.09	10.0x	11.3x	9.8x		
Textainer Group	TGH	n/a	\$35.55	41	\$1.5	\$5.0	\$6.4	n/a	\$4.79	n/a	\$5.45	5.8x	7.4x	6.5x	\$0.75	\$0.66	\$0.66	8.6x	9.7x	9.7x		
Hub Group Inc	HUBG	n/a	\$79.16	31	\$2.5	\$0.2	\$2.7	n/a	\$6.04	n/a	\$6.64	7.5x	13.1x	11.9x	\$0.62	\$0.42	\$0.42	4.3x	6.5x	6.5x		
												10.8x	15.2x	12.8x				7.6x	9.1x	8.7x		
2023Q4EPS								2023Q2		Net		ROIC		Total Return (w/reinvested dividends)					Dividend			
		est.	Δ to	EPS Growth			YoY	Revenue Growth		Op.	Debt/								Dividend			
Company		BofA	Cons.	Street	1yr	3yr	5yr	2Q2023	1yr	5yr	Ratio	EBITDA	1yr	1 week	YTD	1yr	3yr	5yr	Annual	Yield		
J.B. Hunt																						
Transp.		\$2.00	\$2.03	-2%	-8%	26%	10%	22%	-1%	10%	91%	0.6x	12%	1%	8%	12%	15%	10%	\$1.68	0.9%		
Textainer Group		n/a	\$1.16		18%	118%	636%	7%	0%	9%	51%	6.9x	6%	-4%	18%	28%	37%	24%	\$1.20	3.4%		
Hub Group Inc		n/a	\$1.53		-7%	70%	62%	26%	-4%	6%	94%	0.3x	18%	1%	0%	10%	16%	12%	--	--		
												79%	2.6x	12%	-1%	8%	17%	22%	15%			

Source: BofA Global Research estimates, Company reports, Bloomberg (for stocks not covered by BofA Global Research)

BofA GLOBAL RESEARCH

**Exhibit 95: Less-than-Truckload (LTL) Comp Sheet**

Data as of 10/04/23

		Share		Shares	Mkt	Cap	Net Debt	EV	EPS				Forward		P/E	EBITDA (\$ bil)			Forward			EV/EBITDA		
	QRQ			Out.					BofA	BofA	BofA	Cons.												
Company	Ticker	Price		(mil.)	(\$ bil.)	(\$ bil.)	(\$ bil.)		2022a	2023e	2024e	2024e	2022a	2023e	2024e	2022a	2023e	2024e	2022a	2023e	2024e			
Arcbest Corp	ARCB	C-3-7		24	\$2.4	\$0.0	\$2.4		\$13.63	\$6.90	\$10.50	\$9.27	7.3x	14.3x	9.4x		\$0.58	\$0.34	\$0.46	4.2x	7.2x	5.3x		
Old Dominion	ODFL	B-1-7		109	\$44.1	\$0.0	\$44.1		\$12.18	\$11.10	\$13.70	\$13.29	33.1x	36.3x	29.4x		\$2.10	\$1.95	\$2.30	21.0x	22.6x	19.2x		
Saia Inc	SAIA	B-1-9		27	\$10.7	-\$0.1	\$10.6		\$13.40	\$12.95	\$15.85	\$15.86	30.2x	31.3x	25.5x		\$0.63	\$0.63	\$0.75	17.0x	16.8x	14.2x		
TFI Int'l	TFII	B-2-7		86	\$10.5	\$1.4	\$11.9		\$8.02	\$6.75	\$8.75	\$8.25	15.2x	18.1x	13.9x		\$1.13	\$0.91	\$1.05	10.5x	13.1x	11.4x		
XPO, Inc.	XPO	C-1-9		116	\$8.6	\$2.9	\$11.5		\$3.53	\$2.50	\$3.30	\$3.41	21.0x	29.7x	22.5x		\$0.66	\$0.61	\$0.69	17.5x	19.1x	16.7x		
Yellow Corp	YELLQ	n/a		52	\$0.1	\$1.5	\$1.6		\$0.75	--	-\$3.81	(\$3.81)	1.9x	--	--		\$0.35	--	--	4.4x	--	--		
													18.1x	25.9x	20.2x				12.4x	15.8x	13.3x			
2023Q4EPS										2023Q2		ROIC		Total Return (w/reinvested dividends)					Dividend					
Company		est.	Δ to	EPS Growth			YoY	Revenue Growth		Op.	Net Debt/		1yr	1 week			YTD	1yr	3yr	5yr	Annual	Yield		
	BofA	Cons.	Street	1yr	3yr	5yr	202023	1yr	5yr	Ratio	EBITDA													
Arcbest Corp	\$1.99	\$1.56	28%	-25%	108%	413%	34%	-1%	11%	95%	0.2x		7.2%	-1%	42%	26%	47%	17%		\$0.48	0.5%			
Old Dominion	\$2.95	\$2.82	5%	6%	35%	21%	19%	0%	9%	72%	0.0x		18.7%	1%	43%	48%	30%	32%		\$1.60	0.4%			
Saia Inc	\$3.08	\$3.20	-4%	-1%	48%	34%	22%	4%	12%	83%	-0.2x		11.9%	3%	93%	97%	46%	41%		--	--			
TFI Int'l	\$1.84	\$1.78	3%	-9%	62%	114%	22%	-11%	23%	89%	1.2x		10.9%	-4%	23%	24%	43%	--		\$1.40	1.1%			
XPO, Inc.	\$0.61	\$0.55	11%	-2%	86%	n/a	7%	1%	-5%	92%	4.0x		--	6%	123%	155%	35%	14%		--	--			
Yellow Corp	n/a	n/a		n/a	n/a	n/a	2%	-8%	-1%	97%	4.4x		12.2%	-8%	-44%	--	--	--		--	--			
													88%	1.6x			12.2%	-1%	47%	70%	40%	26%		

Source: BofA Global Research estimates, Company reports, Bloomberg (for stocks not covered by BofA Research)

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**Exhibit 96: Airfreight Comp Sheet**

Data as of 10/04/23

			Share	Share	Mkt Cap	Net Debt	EV	EPS				Forward P/E			EBITDA (\$ bil)			Forward EV/EBITDA			
Company	Ticker	QRQ	Price	Out.																	
				(mil.)	(\$ bil.)	(\$ bil.)	(\$ bil.)	2022a	2023e	2024e	Cons.	2022a	2023e	2024e	2022a	2023e	2024e	2022a	2023e	2024e	
Fedex Corp	FDX	B-1-7	\$260.05	251	\$65.4	\$13.4	\$78.8	\$14.96	\$18.80	\$23.25	\$18.16	17.4x	13.8x	11.2x	\$9.55	\$12.47	\$12.47	8.3x	7.2x	6.3x	
United Parcel-B	UPS	B-2-7	\$153.72	723	\$131.3	\$16.0	\$147.3	\$12.95	\$9.35	\$10.45	\$10.31	11.9x	16.4x	14.7x	\$16.97	\$15.27	\$15.27	8.7x	10.5x	9.6x	
												14.6x	15.1x	12.9x				8.5x	8.8x	8.0x	
2023Q4EPS est.			Δ to Street	EPS Growth			YoY		Revenue Growth		2023Q2 Op. Ratio	Net Debt/EBITDA	ROIC		Total Return (w/reinvested dividends)					Dividend	
Company	BoFA	Cons.		1yr	3yr	5yr	2Q2023	1yr	5yr				1yr	1 week	YTD	1yr	3yr	5yr	Annual	Yield	
Fedex Corp	\$4.72	\$4.15	14%	-18%	94%	10%	-4%	-6%	5%	92%	3.3x		5%	-1%	53%	67%	2%	3%	\$5.04	1.9%	
UPS	\$3.06	\$3.00	2%	-10%	257%	10%	3%	-4%	5%	87%	1.1x		15%	1%	-9%	-6%	0%	9%	\$6.48	4.2%	
												89%	2.2x	10%	0%	22%	31%	1%	6%		

Source: BoFA Global Research estimates, Company reports, Bloomberg.

Note: FedEx fiscal calendar ends May 31. Fiscal year 2024 goes from June 1, 2023 - to - May 31, 2024. Quarter estimates correspond to 2024 and year metrics correspond to 2023, 2024, and 2025.

BoFA GLOBAL RESEARCH

**Exhibit 97: Truckload Carriers Comp Sheet**

Data as of 10/04/23

		QRQ	Share	Shares	Mkt Cap	Net Debt	EV	EPS				Forward P/E		EBITDA (\$ bil)			Forward EV/EBITDA					
Company	Ticker	Price		Out. (mil.)	(\$ bil.)	(\$ bil.)	(\$ bil.)	BoFA	BoFA	BoFA	Cons.	2022a	2023e	2024e	2022a	2023e	2024e	2022a	2023e	2024e		
Knight Transportation	KNX	B-1-7	\$48.78	161	\$7.9	\$2.1	\$9.9	\$5.10	\$2.10	\$3.35	\$3.14	9.6x	23.2x	14.6x	\$1.77	\$1.15	\$1.45	5.6x	8.7x	6.8x		
Schneider National	SNDR	B-1-7	\$26.77	94	\$4.7	(\$0.0)	\$4.7	\$2.63	\$1.85	\$2.15	\$2.13	10.2x	14.5x	12.5x	\$0.97	\$0.80	\$0.90	4.9x	5.9x	5.3x		
Werner Enterprises	WERN	B-1-7	\$38.29	63	\$2.4	\$0.6	\$3.0	\$3.71	\$2.40	\$2.80	\$2.91	10.3x	16.0x	13.7x	\$0.61	\$0.52	\$0.56	5.0x	5.8x	5.4x		
Covenant Transport	CVLG	n/a	\$43.61	11	\$0.6	\$0.2	\$0.8	n/a	n/a	n/a	\$4.87	7.4x	10.2x	9.0x	\$0.15	\$0.12	\$0.12	5.4x	6.6x	6.6x		
Heartland Express	HTLD	n/a	\$14.45	79	\$1.1	\$0.3	\$1.5	n/a	n/a	n/a	\$0.78	10.2x	31.7x	18.6x	\$0.25	\$0.26	\$0.26	5.8x	5.6x	5.6x		
Marten Transport	MRTN	n/a	\$19.18	81	\$1.6	(\$0.1)	\$1.5	n/a	n/a	n/a	\$1.18	14.4x	19.2x	16.3x	\$0.25	\$0.22	\$0.22	5.9x	6.7x	6.7x		
Pam Transport	PTSI	n/a	\$21.02	22	\$0.5	\$0.1	\$0.6	n/a	n/a	n/a	\$1.80	4.8x	14.0x	11.7x	\$0.20	\$0.12	\$0.12	2.8x	4.7x	4.7x		
Universal Logistics	ULH	n/a	\$23.87	26	\$0.6	\$0.4	\$1.0	n/a	n/a	n/a	n/a	3.7x	--	--	\$0.32	--	--	3.2x	--	--		
												8.8x	18.4x	13.7x				4.8x	6.3x	5.9x		
2023Q4EPS est.												2023Q2 Op. Ratio		ROIC		Total Return (w/reinvested dividends)					Dividend	
Company	BoFA	Cons.	Δ to Street	1yr	3yr	5yr	YoY 2Q2023	1yr	5yr	Net Debt/ EBITDA	1yr	1 week	YTD	1yr	3yr	5yr	Annual	Yield				
Knight Transportation	\$0.53	\$0.50	6%	-40%	42%	13%	24%	-6%	6%	93%	1.5x	-2%	-6%	-3%	6%	9%	\$0.56	1.1%				
Schneider National	\$0.44	\$0.43	2%	-7%	49%	20%	18%	-6%	4%	92%	-0.1x	-2%	16%	24%	7%	5%	\$0.36	1.3%				
Werner Enterprises	\$0.74	\$0.64	15%	-14%	19%	9%	20%	9%	6%	94%	1.1x	0%	-4%	-2%	-3%	5%	\$0.56	1.5%				
Covenant Transport	n/a	\$1.17		-18%	--	--	16%	-2%	9%	96%	0.0x	1%	27%	47%	36%	9%	\$0.44	1.0%				
Heartland Express	n/a	\$0.11		-19%	27%	41%	59%	98%	17%	95%	1.1x	-3%	-5%	-3%	-8%	-4%	\$0.08	0.6%				
Marten Transport	n/a	\$0.24		-4%	22%	13%	30%	8%	9%	90%	-0.3x	-3%	-2%	-4%	8%	10%	\$0.24	1.3%				
Pam Transport	n/a	\$0.30		-39%	162%	--	34%	8%	15%	93%	0.6x	-2%	-19%	-37%	29%	6%	--	--				
Universal Logistics	n/a	n/a		15%	73%	58%	15%	-8%	8%	91%	1.3x	-2%	-28%	-28%	6%	-6%	\$0.42	1.8%				
												93%	0.6x	12%	-2%	-3%	-1%	10%	4%			

Source: BoFA Global Research estimates, Company reports, Bloomberg (for stocks not covered by BoFA Global Research).

BoFA GLOBAL RESEARCH

**Exhibit 98: Freight Forwarding Comp Sheet**

Data as of 10/04/23

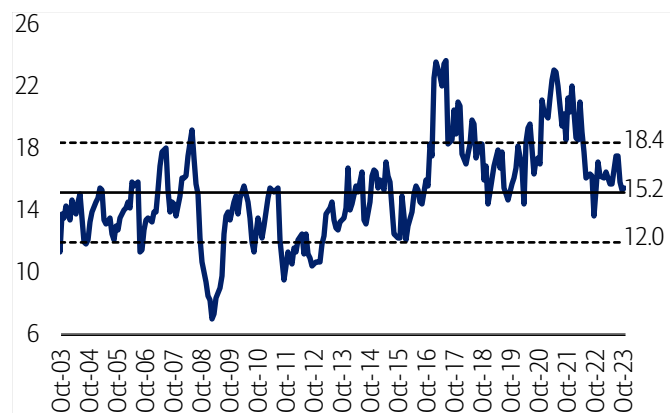
			Share	Shares	Mkt Cap	Net Debt	EV	EPS				Forward P/E			EBITDA (\$ bil)			Forward EV/EBITDA			
	QRQ			Out.				BofA	BofA	BofA	Cons.										
Company	Ticker	Price		(mil.)	(\$ bil.)	(\$ bil.)	(\$ bil.)	2022a	2023e	2024e	2024e	2022a	2023e	2024e	2022a	2023e	2024e	2022a	2023e	2024e	
CH Robinson	CHRW	B-3-7	\$85.51	116	\$10.0	\$1.5	\$11.5	\$6.29	\$7.50	\$3.80	\$4.29	11.4x	22.5x	18.8x	\$1.38	\$0.8	\$0.86	8.3x	15.3x	13.4x	
RXO Inc	RXO	C-1-9	\$19.46	117	\$2.3	\$0.3	\$2.6	\$1.43	\$1.59	\$0.25	\$0.69	12.2x	77.8x	27.8x	\$0.31	\$0.1	\$0.22	8.5x	19.0x	12.0x	
World Kinect	WKC	B-3-7	\$21.27	60	\$1.3	\$0.6	\$1.9	\$1.36	\$2.04	\$2.05	\$2.42	10.4x	10.4x	9.5x	\$0.38	\$0.4	\$0.41	4.9x	4.7x	4.6x	
Landstar System	LSTR	n/a	\$176.12	36	\$6.3	(\$0.3)	\$6.1	n/a	n/a	\$11.76	\$8.61	15.0x	23.1x	20.5x	\$0.63	\$0.4	\$0.42	9.6x	14.5x	14.5x	
Expeditors Intl	EXPD	n/a	\$115.34	148	\$17.1	(\$1.2)	\$15.9	n/a	n/a	\$8.83	\$5.09	13.1x	21.8x	22.7x	\$1.98	\$1.1	\$1.07	8.0x	14.8x	14.8x	
Forward Air Corp	FWRD	n/a	\$70.90	26	\$1.8	\$0.3	\$2.1	n/a	n/a	\$14.24	\$4.97	5.0x	--	--	\$0.32	\$0.2	\$0.24	6.5x	8.7x	8.7x	
												11.2x	31.1x	19.8x				7.6x	12.8x	11.3x	
2023Q4EPS est.			Δ to Street	EPS Growth			YoY	Revenue Growth		2023Q2 Op. Ratio	Net Debt/EBITDA	ROIC	Total Return (w/reinvested dividends)					Dividend			
Company	BofA	Cons.		1yr	3yr	5yr	2Q2023	1yr	5yr			1yr	1 week	YTD	1yr	3yr	5yr	Annual	Yield		
CH Robinson	\$1.00	\$0.93	8%	-44%	26%	10%	7%	-24%	5%	97%	1.9x	23%	-1%	-5%	-13%	-3%	0%	\$2.44	2.9%		
RXO Inc	\$0.05	\$0.06	-22%	--	--	--	2%	--	--	98%	--	--	-2%	13%	--	--	--	--	--		
World Kinect	\$0.63	\$0.56	13%	41%	-4%	--	88%	11%	31%	99%	1.4x	7%	-7%	-21%	-16%	1%	-4%	\$0.56	2.6%		
Landstar System	n/a	\$1.88		-22%	35%	42%	14%	-17%	11%	94%	-0.5x	38%	-2%	10%	19%	14%	11%	\$1.32	0.7%		
Expeditors Intl	n/a	\$1.28		-27%	41%	17%	3%	-33%	10%	89%	-0.8x	35%	1%	12%	28%	10%	11%	\$1.38	1.2%		
Forward Air Corp	n/a	\$1.14		-8%	124%	169%	19%	-2%	7%	92%	0.8x	20%	8%	-32%	-26%	7%	1%	\$0.96	1.4%		
												95%	0.5x	25%	0%	-4%	-2%	6%	4%		

Source: BoFA Global Research estimates, Company reports, Bloomberg (for stocks not covered by BoFA Research)

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**Exhibit 99: CSX forward P/E**

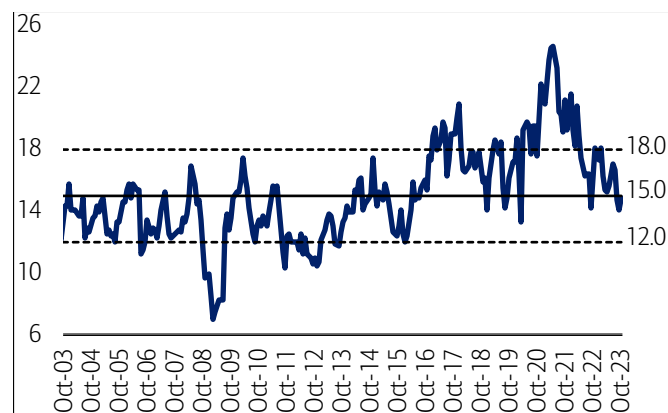
CSX Forward P/E is 15.4x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 100: NSC forward P/E**

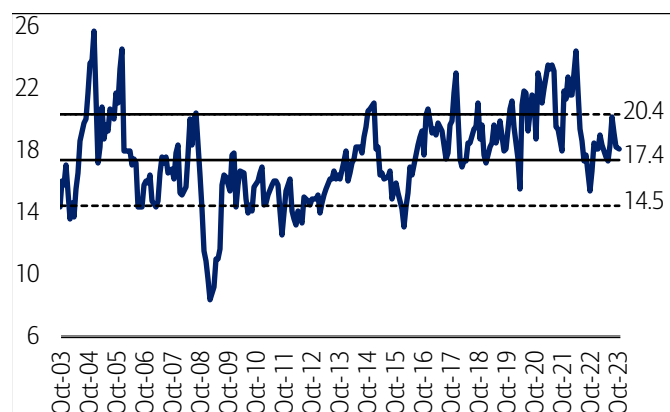
NSC Forward P/E is 14.8x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 101: UNP forward P/E**

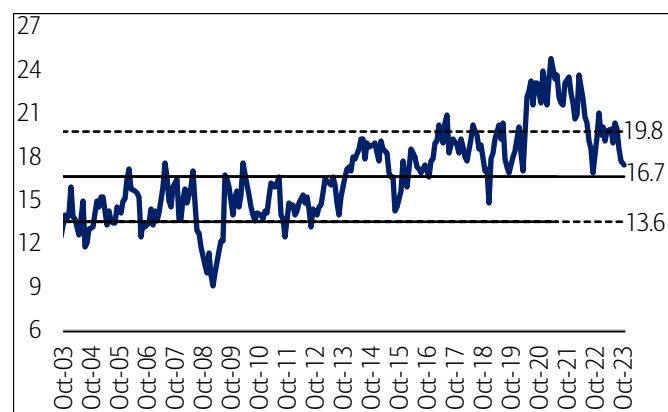
UNP Forward P/E is 18.1x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 102: CNI forward P/E**

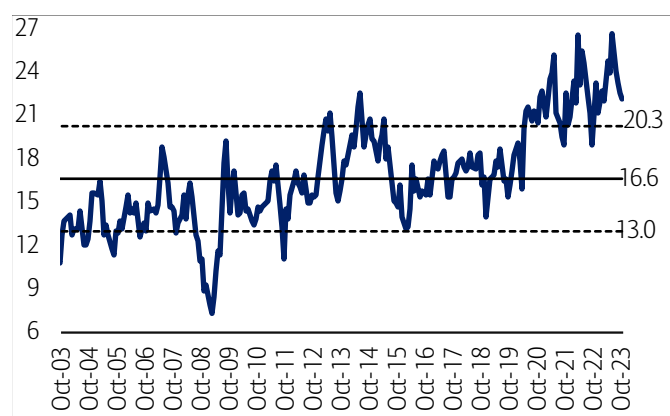
CNI Forward P/E is 17.5x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 103: CP forward P/E**

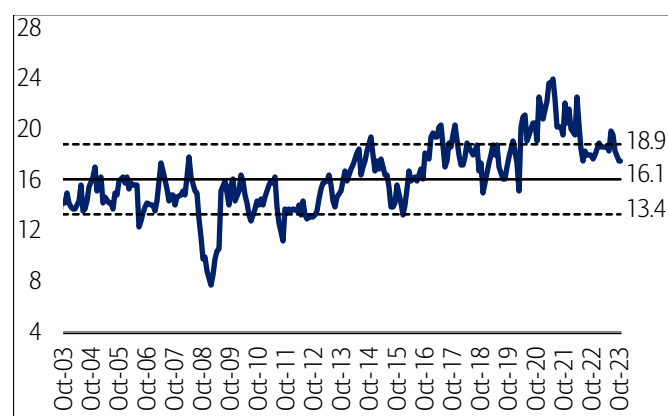
CP Forward P/E is 22.1x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 104: Rails Average forward P/E**

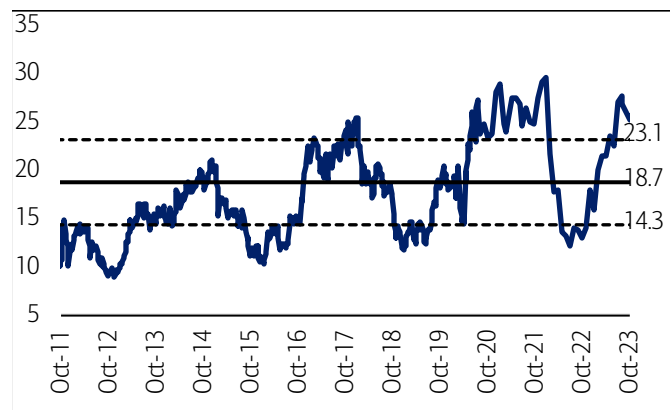
Rails Average Forward P/E is 17.6x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 105: SAIA forward P/E**

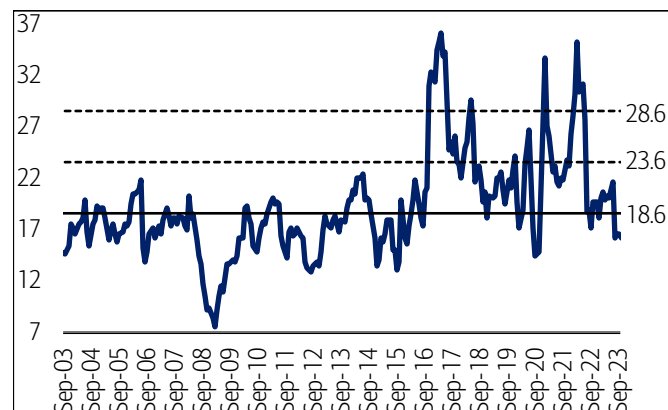
SAIA Forward P/E is 25.5x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 106: KEX forward P/E**

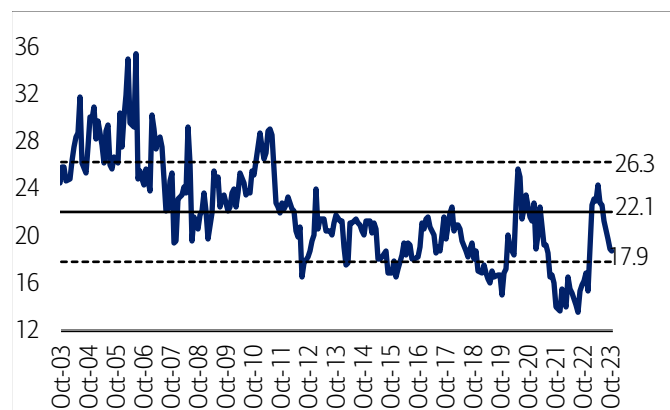
KEX Forward P/E is 16.3x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 107: CHRW forward P/E**

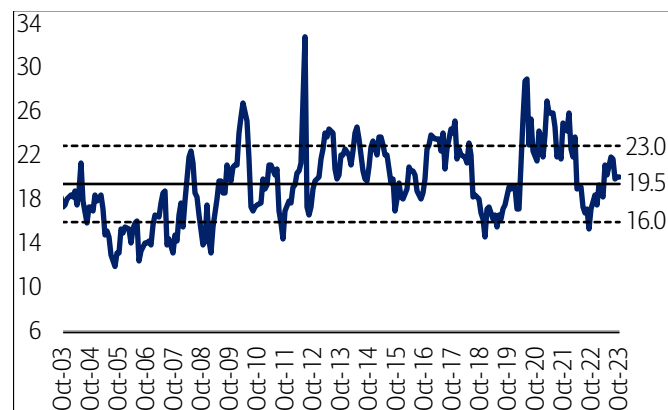
CHRW Forward P/E is 18.8x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 108: JBHT forward P/E**

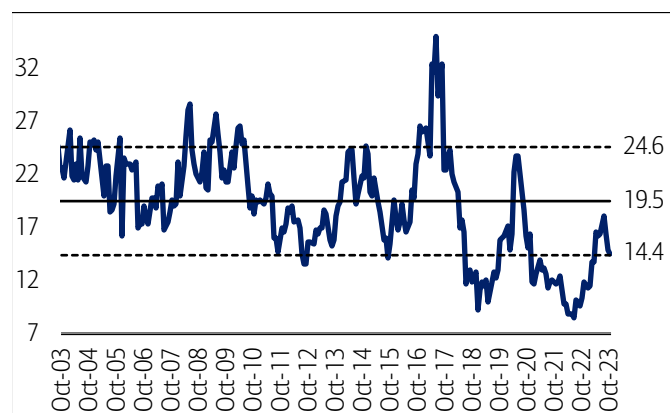
JBHT Forward P/E is 20.0x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 109: KNX forward P/E**

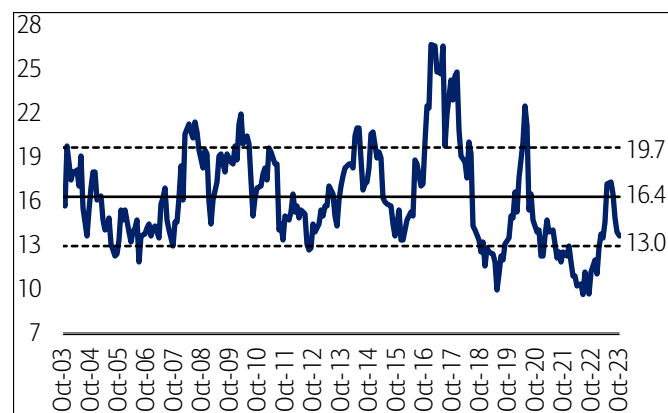
KNX Forward P/E is 14.6x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 110: WERN forward P/E**

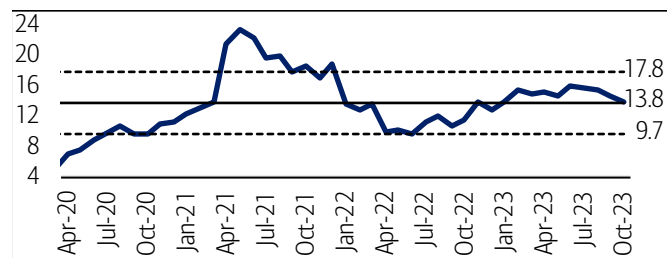
WERN Forward P/E is 13.7x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 111: TFII forward P/E**

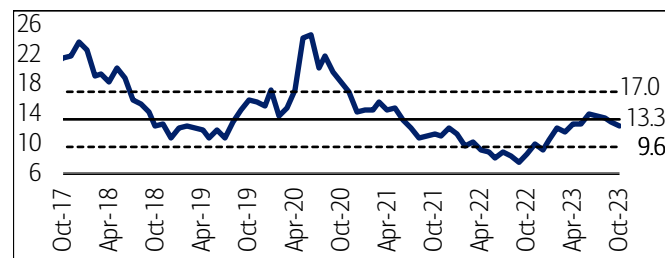
TFII Forward P/E is 13.9x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 112: SNDR forward P/E**

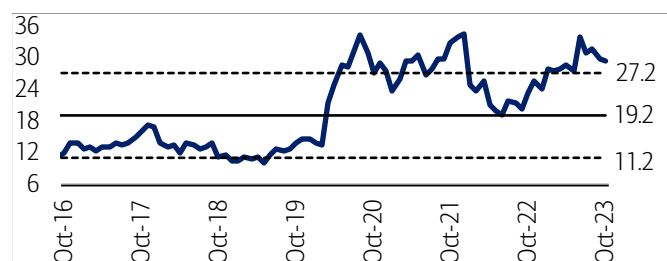
SNDR Forward P/E is 12.5x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 113: ODFL forward P/E**

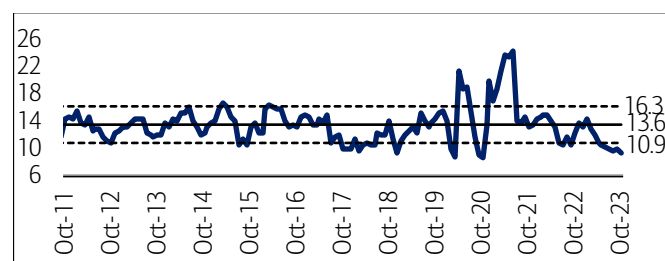
ODFL Forward P/E is 29.4x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 114: WKC forward P/E**

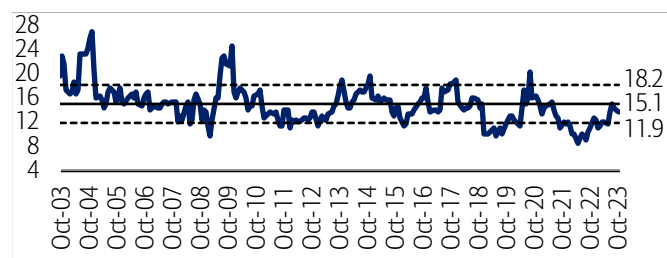
WKC Forward P/E is 10.2x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 115: FDX forward P/E**

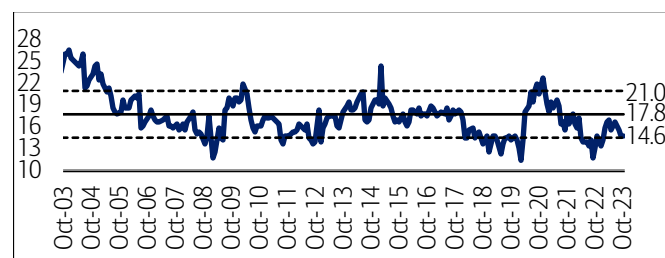
FDX Forward P/E is 13.8x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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**Exhibit 116: UPS forward P/E**

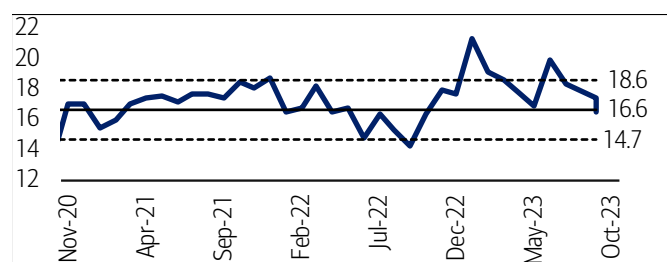
UPS Forward P/E is 14.7x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
BofA GLOBAL RESEARCH

**Exhibit 117: WAB forward P/E**

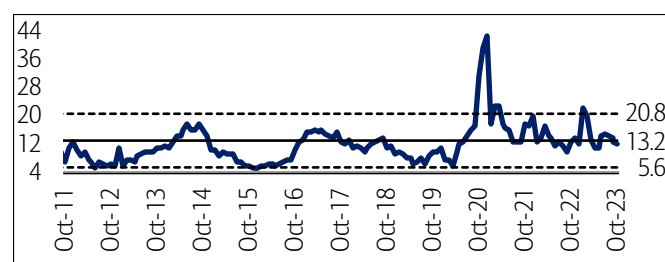
WAB Forward P/E is 16.3x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
BofA GLOBAL RESEARCH

**Exhibit 118: GBX forward P/E**

GBX Forward P/E is 12.0x



Source: BofA Global Research estimates, company reports, Bloomberg, Reuters, First Call, Factset.  
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# 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 <sup>R1</sup>
Buy	≥ 10%	≤ 70%
Neutral	≥ 0%	≤ 30%
Underperform	N/A	≥ 20%

<sup>R1</sup> 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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