

Airfreight - Global

Air Cargo Watch #12 – Peak season arriving

Industry Overview

Monthly Air Cargo Watch to track the airfreight industry

Our monthly Air Cargo Watch includes high frequency airfreight data to check the pulse of the industry. Air cargo demand is seeing a seasonal (but not cyclical) upturn for now, but oversupply remains the problem with passenger belly capacity still set to return in the upcoming winter 2023-24 season and with freighter supply discipline elusive with the industry still profitable. Air cargo freight rates are off the bottom and should remain well supported into 4Q23 (we forecast +10% QoQ cargo yields for the Taiwanese airlines), but we're not convinced the worst is over with supply likely to offset normalizing demand in 2024 (watch the tech inventory cycle) and keep rates pressured.

Demand: Seasonal and not cyclical tailwinds for now

Air cargo demand appears to be bouncing along the bottom with world trade volumes close to flat YoY from August to October 2023, soft volumes from tech and high fashion categories as well as volumes shifting back to ocean (air freight rates are 60x ocean vs 30x average). Demand has seen the start of a seasonal upturn from September supported by holiday demand and tech product launches that should support shipments through 4Q23. But key to 2024 air cargo demand recovering will be the restart of tech inventory restocking.

Supply: More pressure coming into 2024

Air cargo supply continues to grow around 10% YoY with surging belly capacity on international flight restoration and limited supply discipline from freighters for now (freighter capacity still +2% YoY higher). We see more pressure ahead from further restoration of passenger flights in the upcoming winter 2023-24 season (belly capacity only back to 90% of 2019), while freighter supply discipline could remain elusive until rates turn loss-making particularly with new freighters getting delivered.

Rates: Seasonality + fuel driving rates higher

Air cargo freight rates bottomed in early September and have sequentially moved higher, sustaining at 30%-35% above 2019 levels in the past month. We attribute the uptick to demand seasonality around the end of year peak as well as the imposition of fuel surcharges given rapid moves higher in jet fuel in 3Q23. Seasonality should remain supportive for rates in 4Q23, but we're not convinced that air cargo freight rates have passed the cyclical bottom with downside pressure into 2024 on new supply pressure.

Airlines: Cargo loads slightly improved in September

Asian airline cargo load factors improved slightly MoM in September 2023 although they remain far below COVID peaks. September cargo yields for China Airlines & EVA ramped to 29%/33% above 2019 levels respectively (up from 23%/24% in August) – and our models assume +10% QoQ cargo yield strength into 4Q23 for the Taiwanese airlines.

24 October 2023

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Refer to important disclosures on page 18 to 20.

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Timestamp: 24 October 2023 02:44AM EDT

Airfreight rates

Exhibit 1: Weekly Global Baltic Airfreight Index

Baltic Airfreight index now at 2,089 down -41% YTD YoY

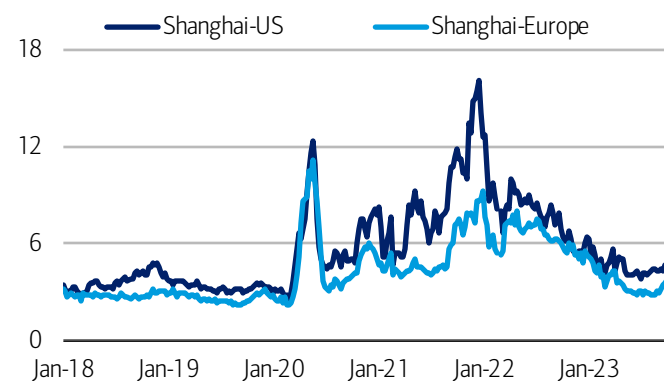


Source: TAC

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Exhibit 2: Baltic Airfreight Shanghai to US and Europe (US\$/kg)

Shanghai-Europe +44% and Shanghai-US +60% vs 2019 in the latest week



Source: TAC

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Exhibit 3: Key airfreight rates overview table, % change on 4Q23 data

Global rates are up 8% QoQ in 4Q23 so far

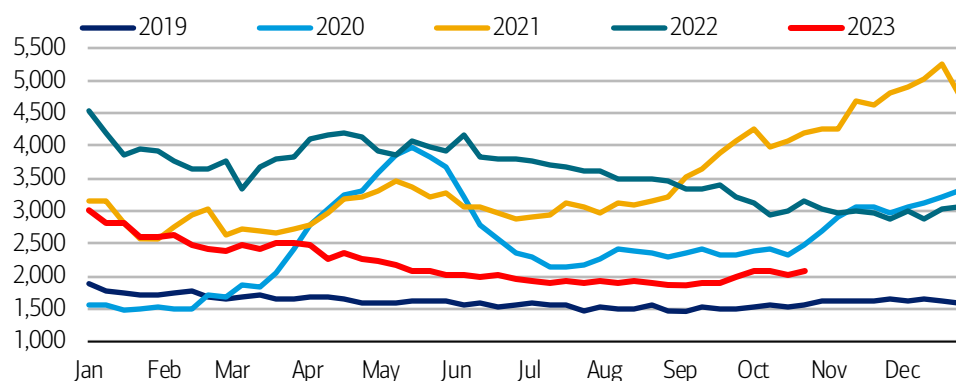
	Baltic Airfreight - Global	BAF- HK	BAF- Shanghai	BAF- Singapore	BAF- London	BAF- Chicago	Shanghai- Europe	Shanghai- US	HK- Europe	HK- US	HK- SE Asia	London- US	Singapore- SE Asia
1Q21	2,803	2,828	5,165	423	2,547	1,702	4.5	6.1	4.3	5.6	1.8	4.9	1.8
2Q21	3,136	3,545	5,867	425	2,755	1,672	4.5	7.7	4.6	8.0	1.8	5.5	1.9
3Q21	3,284	3,724	6,521	412	2,664	1,702	5.0	8.5	4.8	8.5	2.0	5.0	1.8
4Q21	4,562	5,230	9,898	417	2,928	2,322	7.8	12.8	7.5	11.6	2.5	4.9	1.8
1Q22	3,844	4,300	7,373	484	2,771	2,151	6.4	9.0	6.0	9.3	2.3	4.5	2.1
2Q22	3,995	4,226	7,717	564	2,890	2,424	7.2	8.9	6.1	8.9	2.3	4.2	2.5
3Q22	3,529	3,909	6,845	600	2,340	2,312	6.6	7.7	6.3	7.7	2.3	3.5	2.6
4Q22	3,002	3,288	5,477	528	2,210	1,973	5.5	5.9	5.7	6.1	2.1	3.3	2.3
1Q23	2,591	2,736	4,542	495	1,877	1,958	4.3	5.0	4.5	5.2	1.9	2.7	2.2
2Q23	2,148	2,742	3,777	425	1,512	1,436	3.3	4.4	3.8	4.9	1.8	1.9	1.9
3Q23	1,905	3,067	3,577	351	1,090	1,230	3.0	4.3	3.7	4.6	1.6	1.2	1.5
4Q23	2,066	3,443	4,304	286	957	1,238	3.9	5.0	4.1	5.2	1.6	1.1	1.3
QoQ	8%	12%	20%	-18%	-12%	1%	28%	17%	11%	14%	1%	-15%	-18%
YoY	-31%	5%	-21%	-46%	-57%	-37%	-29%	-15%	-28%	-15%	-25%	-68%	-46%
YTD YoY	-41%	-29%	-44%	-26%	-45%	-34%	-46%	-44%	-34%	-41%	-23%	-53%	-26%
vs 2019	29%	88%	45%	33%	5%	1%	38%	50%	33%	46%	49%	0%	33%

Source: TAC, BofA Global Research

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Exhibit 4: Weekly Global Baltic Airfreight Index by year, 2019-23

Latest weekly rate index trending slightly higher



Source: TAC, BofA Global Research

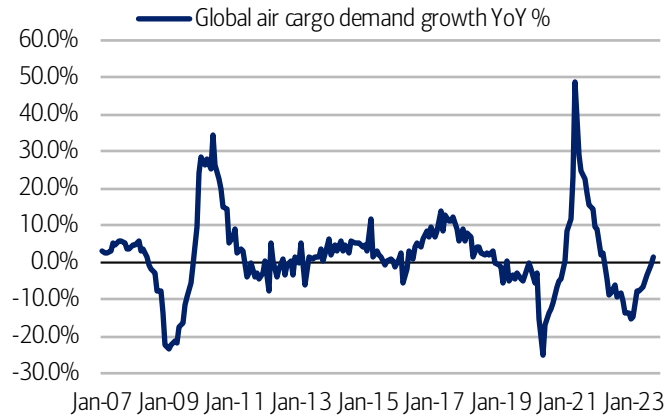
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Airfreight demand

Global cargo traffic

Exhibit 5: Monthly global air cargo demand growth YoY %

Demand was up 1.5% YoY in August compared to -0.8% YoY in July

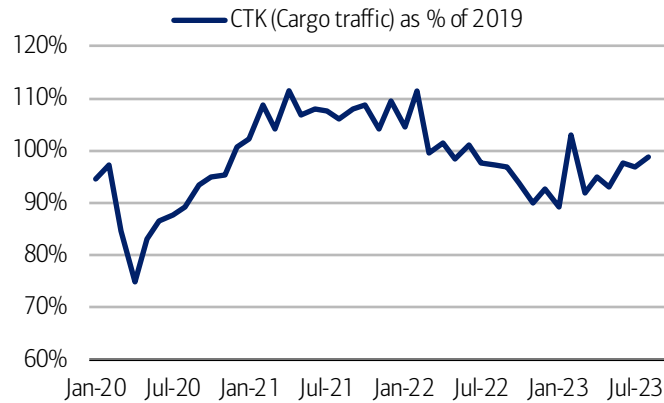


Source: BofA Global Research estimates, IATA

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Exhibit 7: Air cargo demand (CTK) as % of 2019 levels

Demand was at 99% of 2019 levels in August, improved from 97% in July

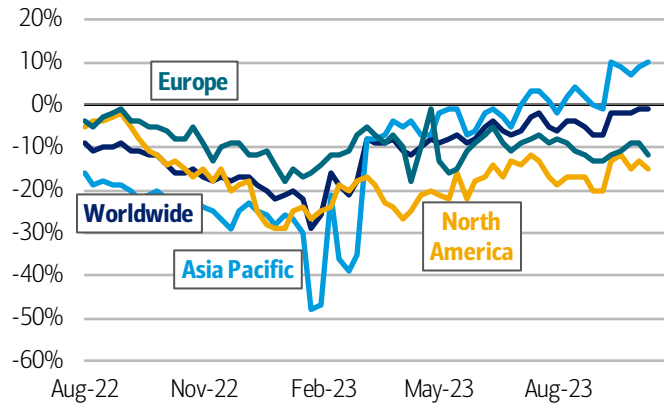


Source: BofA Global Research estimates

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Exhibit 9: Weekly cargo chargeable weight, YoY % since Aug 2022

Global demand was down by -1% to -2% YoY between mid-Sep and mid-Oct

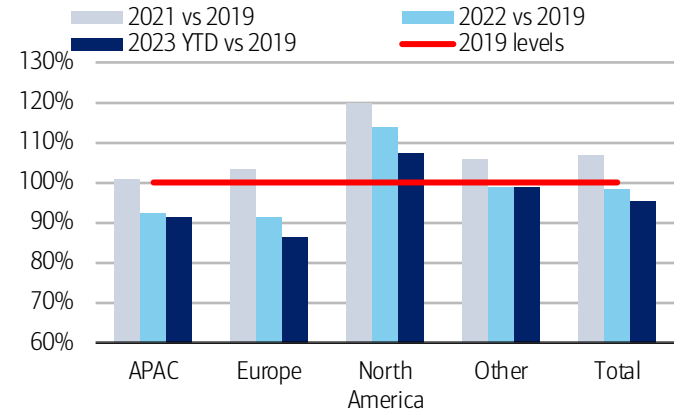


Source: WorldACD, BofA Global Research

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Exhibit 6: Air cargo demand (CTK) vs 2019 levels by major regions

2022 demand was 2% below 2019 levels, YTD2023 so far at -5% vs 2019

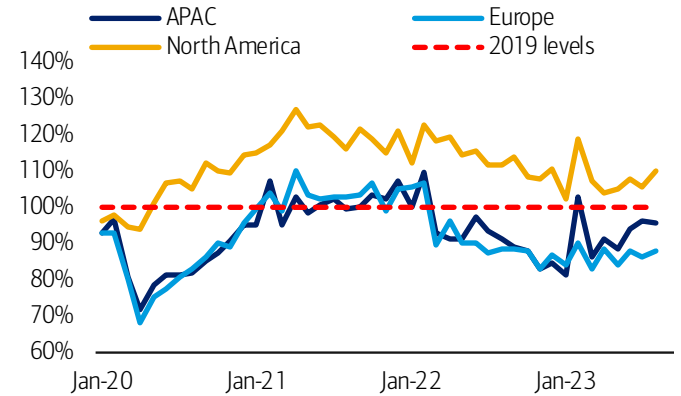


Source: IATA, BofA Global Research. YTD up to February 2023

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Exhibit 8: Monthly air cargo demand by major regions vs 2019 levels

Demand from North America continues to be strong at 110% of 2019 levels

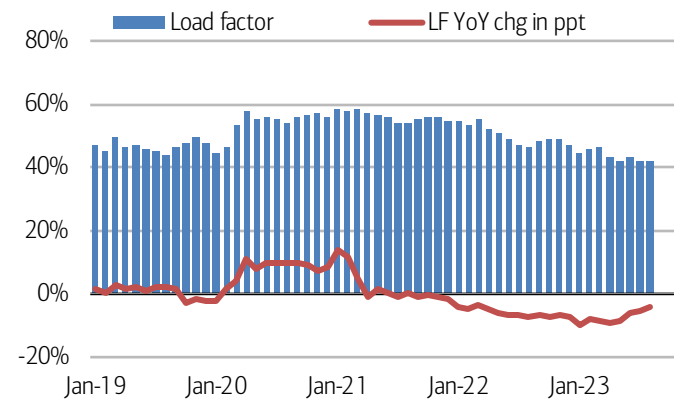


Source: IATA, BofA Global Research

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Exhibit 10: Global cargo load factor and YoY changes in ppts

Load factor remained at 42.2% in August, same as July

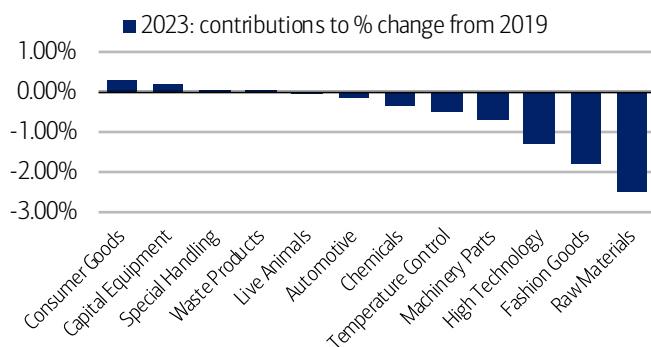


Source: IATA, BofA Global Research estimates

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Exhibit 11: China air cargo: Growth by industry v. 2019, 7M2023

Capital equipment & consumer goods made positive contributions YTD2023

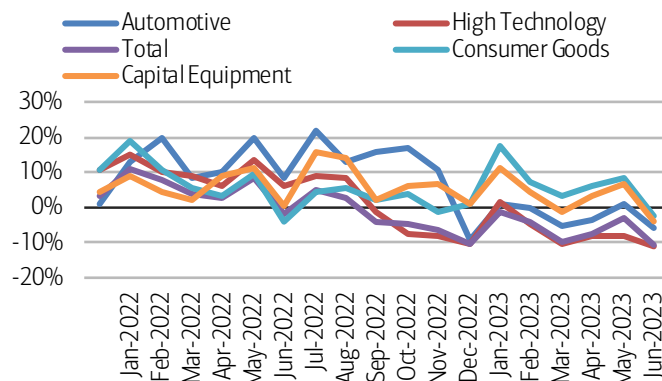


Source: Company report

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Exhibit 12: China monthly air cargo trade: % change from 2019 levels

Capital equipment & consumer goods made positive contributions YTD2023



Source: Company report

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Leading demand indicators**Exhibit 13: Global air cargo demand yoy growth v. ISM new orders**

ISM new orders lead air cargo demand by 3 months with 0.65 correlations



Source: BofA Global Research, Bloomberg

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Exhibit 14: Air cargo demand v. US inventory-to-sales ratio (inverted)

I/S ratios lead air cargo demand by 3 months with -0.56 correlations

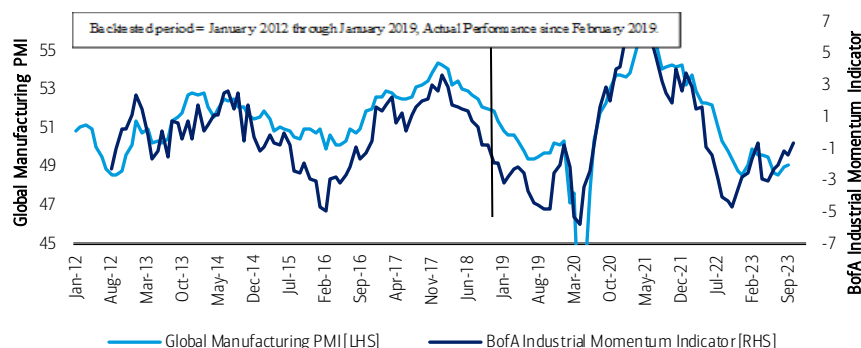


Source: BofA Global Research, Bloomberg

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Industry demand data[Global Industrials: BofA Industrial Momentum Indicator holds steady](#)**Exhibit 15: BofA Industrial Momentum Indicator vs Global Manufacturing PMI**

BofA Industrial Momentum Indicator typically leads Global Manufacturing PMI

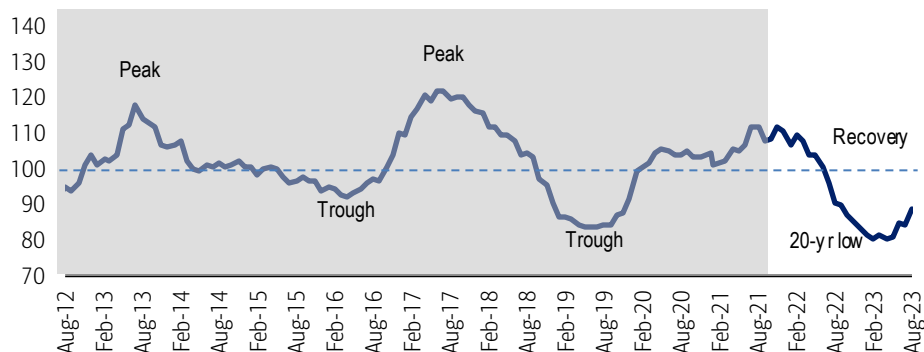


Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The indicator identified as BofA Industrial Momentum Indicator above 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 purposes, without the prior written consent of BofA Global Research. This indicator was not created to act as a benchmark

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[Global Memory Tech: HBM and global memory forecasts raised due to SK Hynix](#)
Exhibit 16: BofA Memory Indicator is derived from YoY change in price/exports/billings

August indicator recovered well vs July due to NAND (spot price, billings) and Korea's semis exports



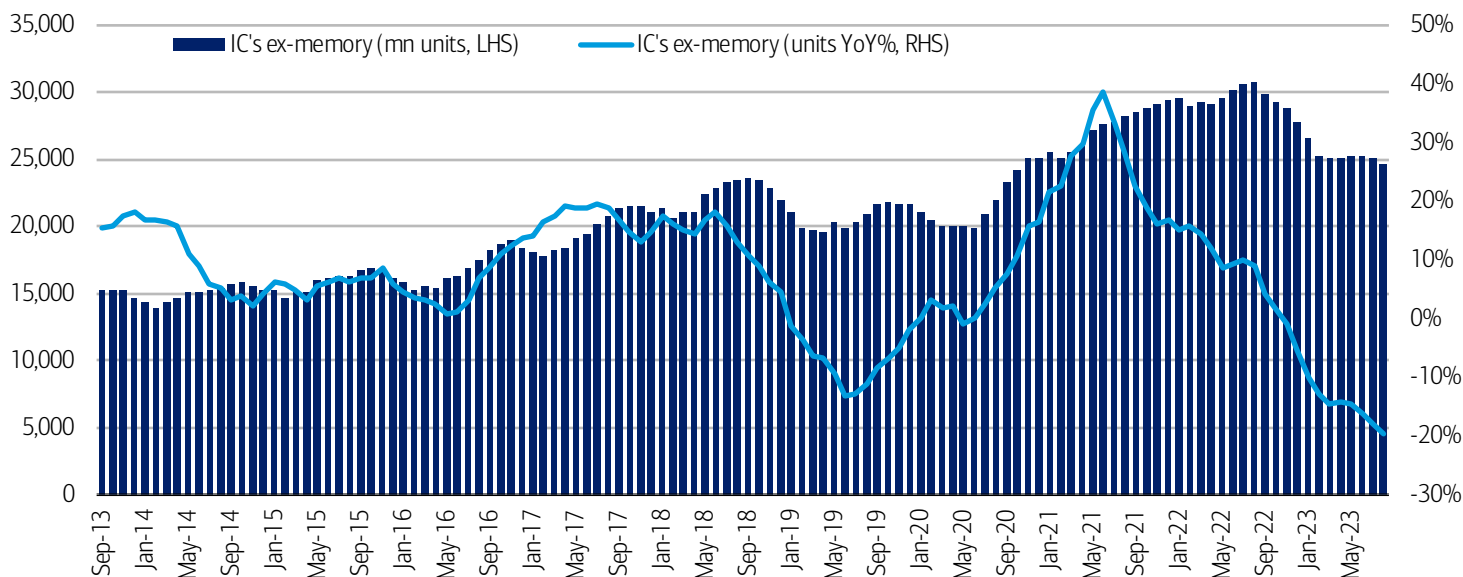
Source: DRAMeXchange, WSTS, MoTIE Korea, BofA Global Research

The shaded area represents backtested results from January 1991 to March 2021. The unshaded area represents actual performance since April 2021. This performance is backtested up to March-2021, and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of a particular strategy over the time period indicated. No representation is being made that any actual portfolio is likely to have achieved returns similar to those shown herein. Disclaimer: The BofA Memory Indicator 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.

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[Global Semiconductors: Semis grow MoM, yet down 7% YoY as inventory digestion continues](#)
Exhibit 17: IC ex-memory unit trends over the last 10 years (3mma)

IC ex-memory units down 19.6% YoY in August '23



Source: SIA, BofA Global Research

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Ocean vs air shipping

Exhibit 18: Vessel capacity stuck in congestion (% of fleet), 2020-23

Congestion rebounded slightly to 5.9% of world supply now

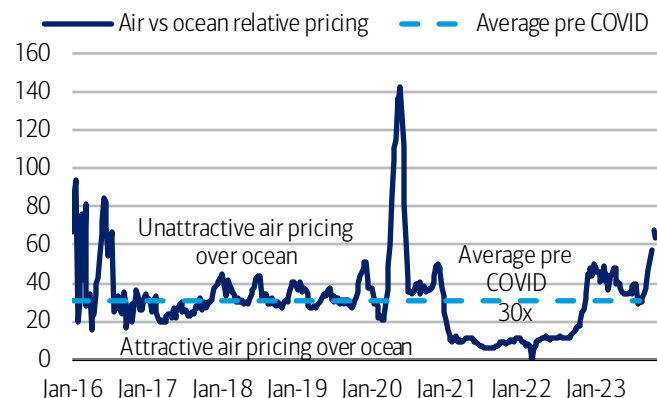


Source: Linerlytica

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Exhibit 19: Airfreight relative pricings to ocean, China-Europe route

Airfreight relative pricing surged to ~60x in October

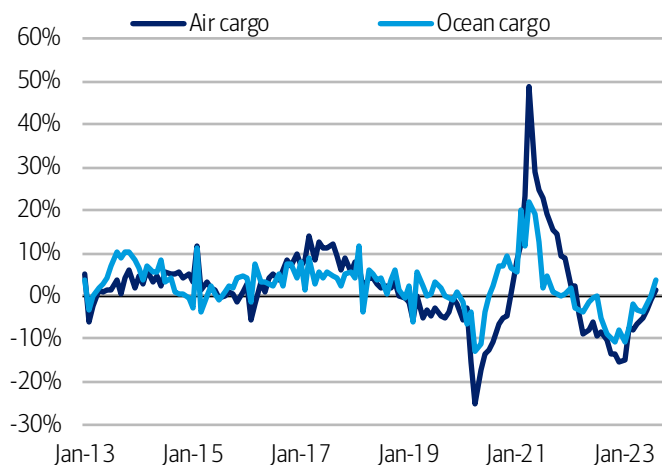


Source: BofA Global Research estimates, Bloomberg

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Exhibit 20: Air and ocean cargo demand growth YoY %, 2013-23

Air cargo and ocean demand both grew yoy in August

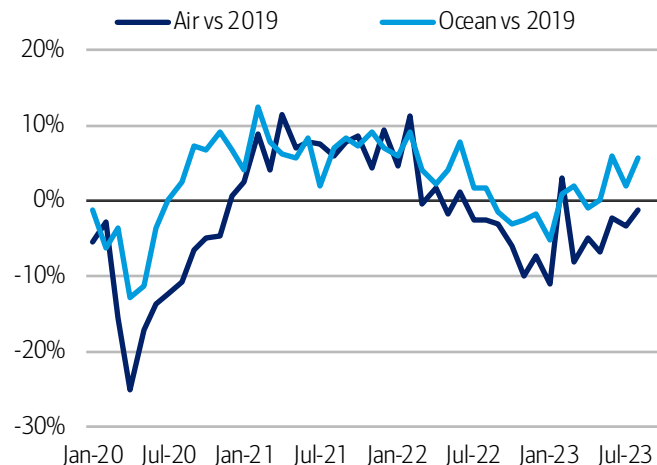


Source: Bloomberg, IATA, BofA Global Research estimates

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Exhibit 21: Air and ocean demand compared to 2019 levels

Air cargo demand is -1% below 2019 vs ocean at +6% in August



Source: Bloomberg, IATA, BofA Global Research estimates

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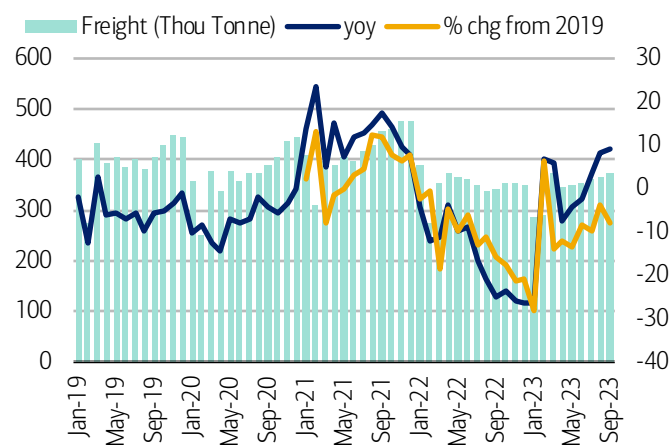
Airport cargo traffic

Asian airports

Key cargo hubs in the region (Hong Kong, Shanghai, Singapore, Beijing, Taipei, Seoul):

Exhibit 22: Hong Kong – airport cargo traffic ('000 tonne) and % chg

September cargo traffic was -8% down from 2019 levels, +9% YoY

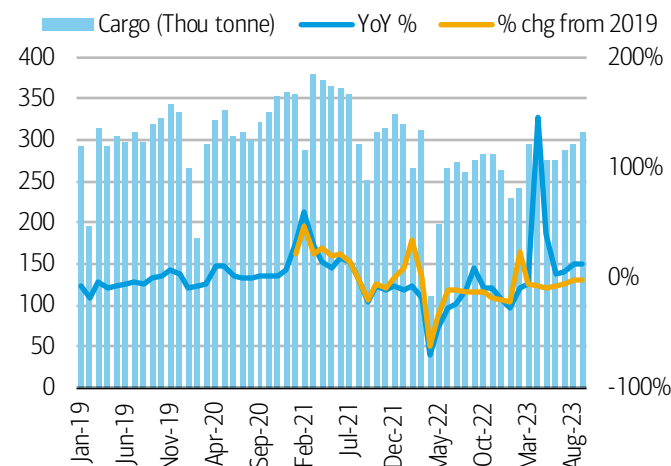


Source: BofA Global Research, company report

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Exhibit 23: Shanghai PVG – airport cargo traffic ('000 tonne) and % chg

September cargo traffic was -2.5% down from 2019 levels, +12% YoY

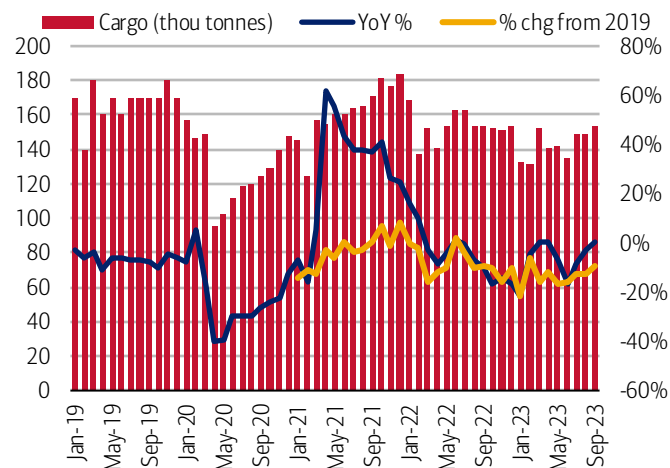


Source: BofA Global Research, company report

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Exhibit 24: Singapore – airport cargo traffic ('000 tonne) and % chg

September cargo traffic were -9% of 2019 levels, flat YoY

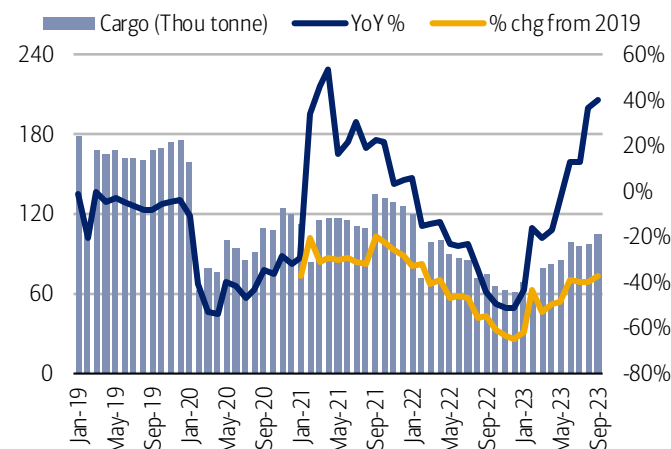


Source: BofA Global Research, company report

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Exhibit 25: Beijing PEK – airport cargo traffic ('000 tonne) and % chg

September cargo traffic was -37% down from 2019 levels, +40% YoY

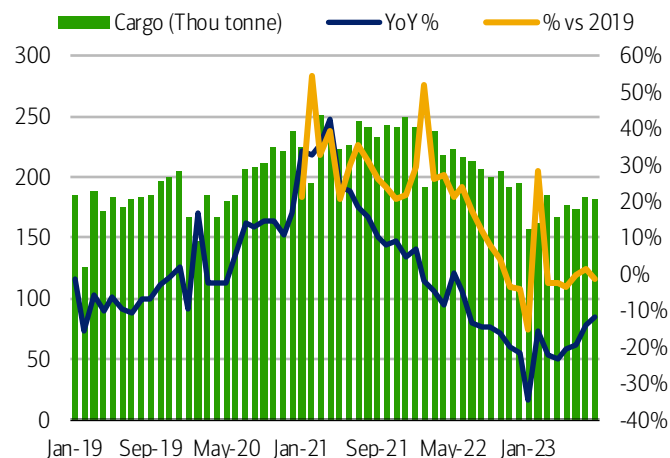


Source: BofA Global Research, company report

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Exhibit 26: Taipei – airport cargo traffic ('000 tonne) and % chg

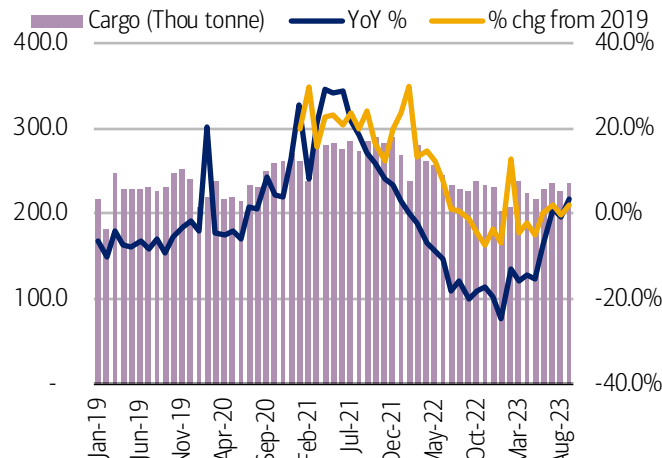
August cargo traffic was -1.5% down from 2019 levels, -12% YoY



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Exhibit 27: Seoul – airport cargo traffic ('000 tonne) and % chg

September cargo traffic was 2% up from 2019 levels, +3.5% YoY



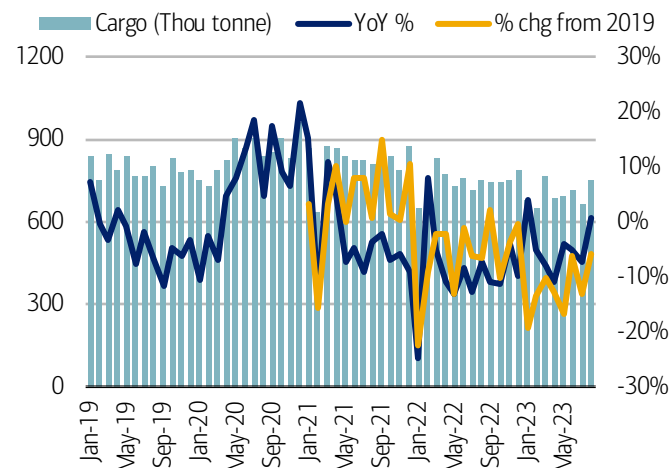
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US airports

Key cargo hubs for FedEx (Memphis) and UPS (Louisville):

Exhibit 28: Memphis – airport cargo traffic ('000 tonne) and % chg

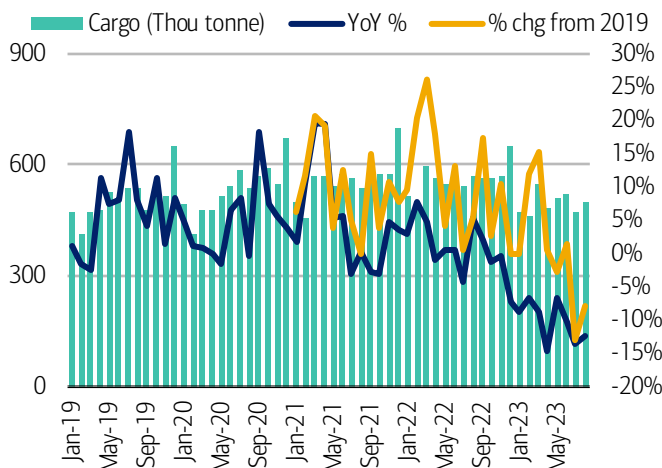
August cargo traffic was -6% down from 2019 levels, +1% YoY



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Exhibit 29: Louisville – airport cargo traffic ('000 tonne) and % chg

August cargo traffic was -8% down from 2019 levels, -13% YoY

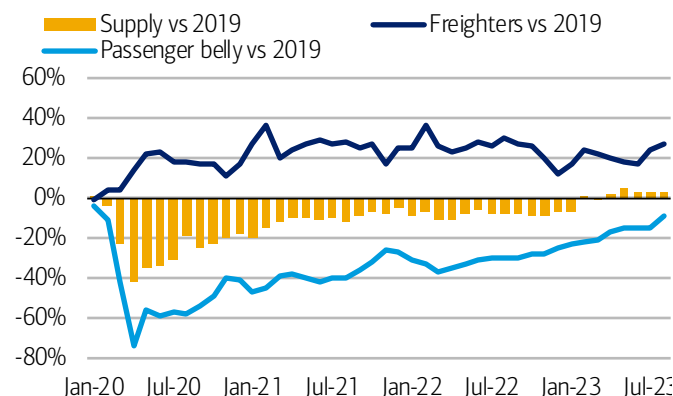


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Airfreight supply

Exhibit 30: Global airfreight capacity vs 2019, freighters & belly

Airfreight capacity is above 2019 levels in August 2023



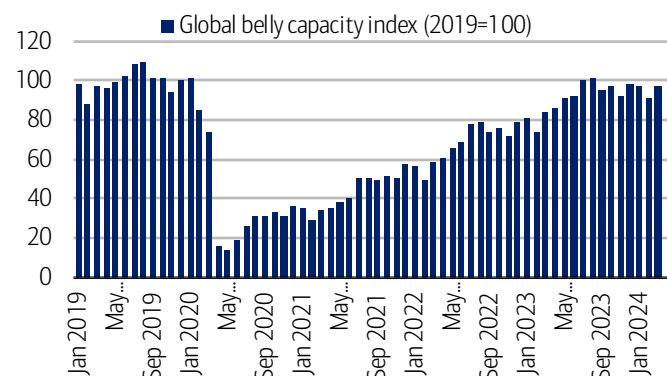
Source: BofA Global Research estimates, IATA

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Belly capacity

Exhibit 32: Payload adjusted global bellyhold capacity index, 2019=100

Belly cargo capacity rising to 98% of 2019 levels in 2024

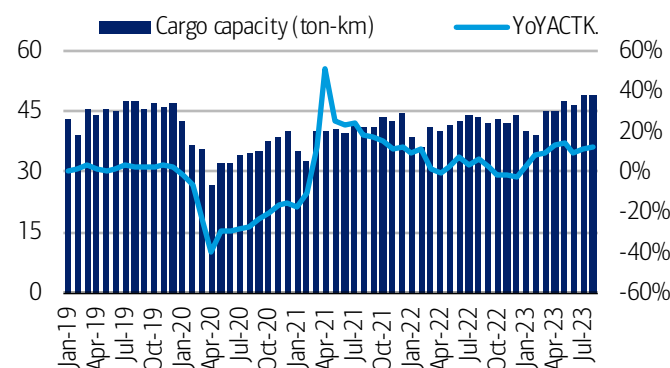


Source: BofA Global Research estimates, Dii, Boeing, Airbus

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Exhibit 31: Global airfreight capacity (mn ton-km)

Global supply was up +12.2% YoY in August 2023

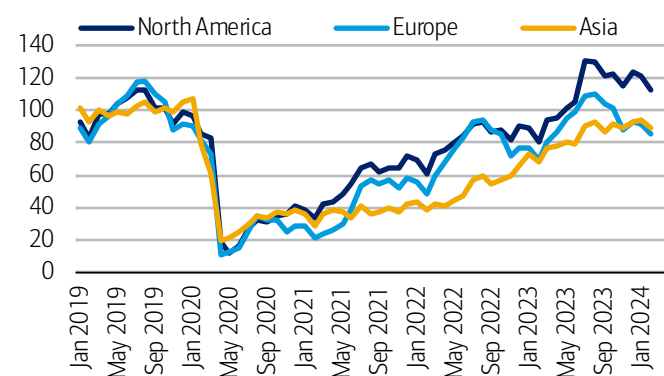


Source: IATA, BofA Global Research estimates

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Exhibit 33: Payload adjusted belly capacity by region, 2019=100

Belly capacity return led by North America



Source: BofA Global Research estimates, Dii, Boeing, Airbus

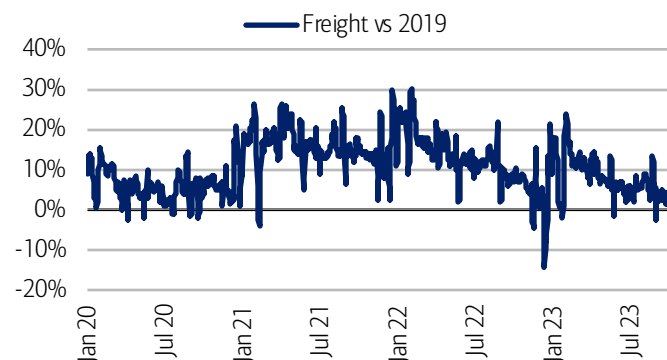
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Freighter

BofA Commercial Aerospace: Global Commercial Flight cycles vs 2019 fell WoW

Exhibit 34: Global dedicated freighter flights tracked 7 day avg. YoY %

This excludes commercial aircraft used as freighter. It has become progressively weaker through 2022-23

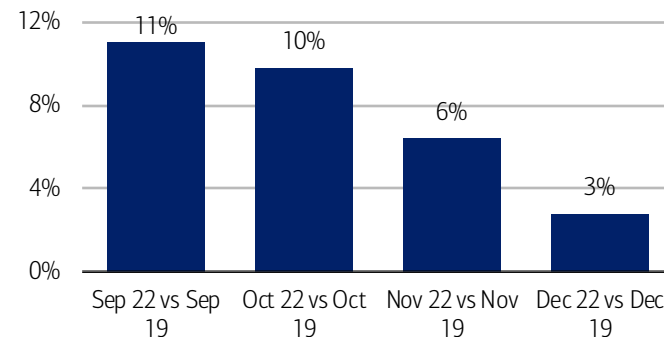


Source: BofA Global Research, Flightradar24

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Exhibit 35: Freight landings Sep – Dec 2022 vs 2019

Monthly average number of landings vs 2019 levels have cooled off since September 2022



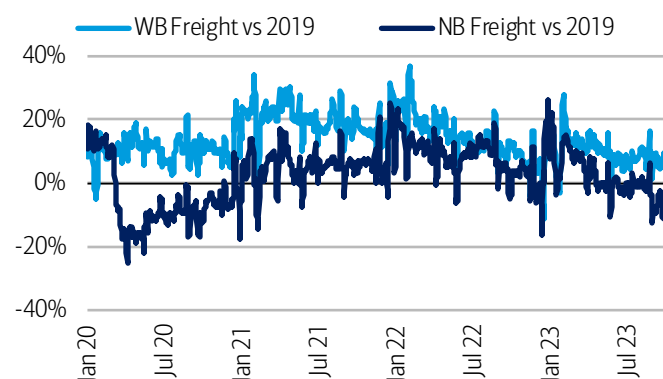
Source: BofA Global Research, Flightradar24

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Exhibit 36: Narrowbody vs Widebody dedicated freighter flights tracked 7 day avg. YoY %

Narrowbody and Widebody freight have converged through 3Q22

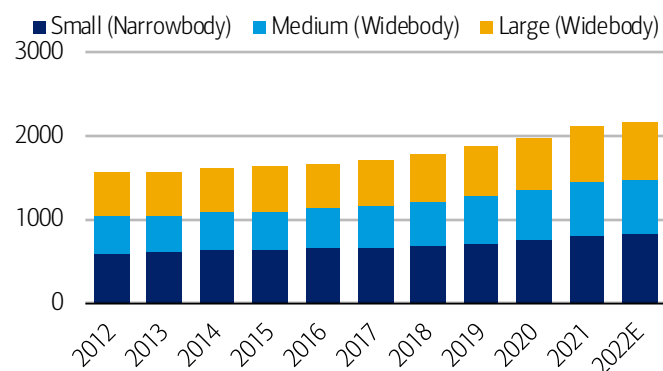


Source: BofA Global Research, Flightradar24

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Exhibit 38: Number of global freighter fleet from major OEMs

Fleet growth is at 3.2% CAGR since 2012

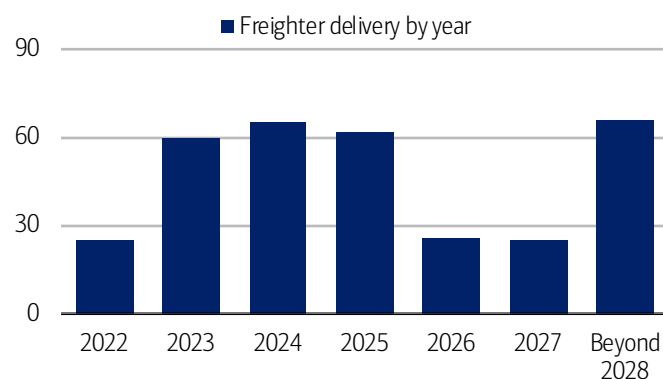


Source: Trade and Transport Group, BofA Global Research. Note excluding smaller feeder

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Exhibit 40: Number of freighter deliveries by year

Deliveries will reach 60-65 freighters per year in 2023-25

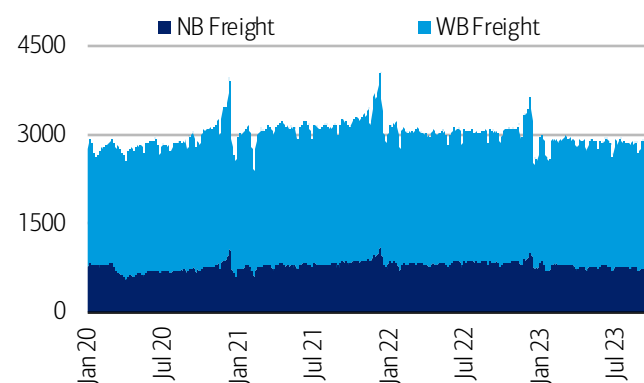


Source: Cirium, BofA Global Research estimates

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Exhibit 37: Narrowbody vs Widebody dedicated freighter flights daily

Freight cycles typically peak around the holiday period in December

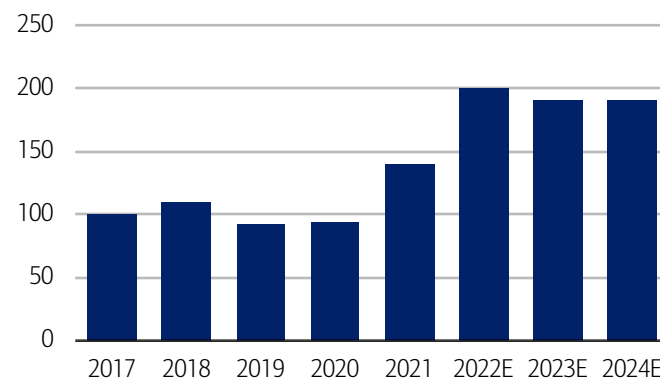


Source: BofA Global Research, Flightradar24

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Exhibit 39: Number of freighter jet conversions from passenger

Annual conversions planned has doubled in 2022-24E vs pre-COVID



Source: Cirium, BofA Global Research estimates

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Exhibit 41: Annual freighter retirement as % of in service fleet

About 3.5% retirement rate a year through the cycle

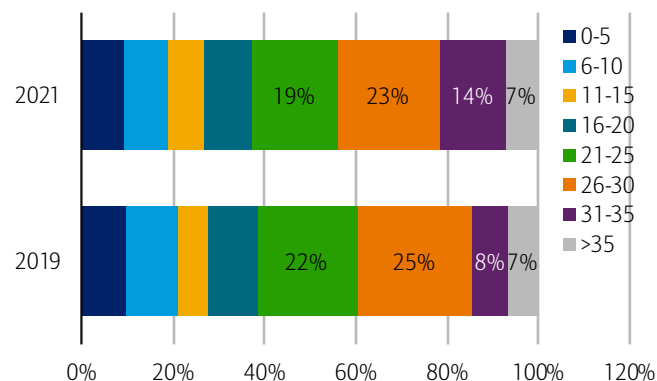


Source: Cirium, BofA Global Research estimates

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Exhibit 42: Age of freighters by year, 2019 and 2021

The share of fleet with age over 30 years is higher at 21% in 2021

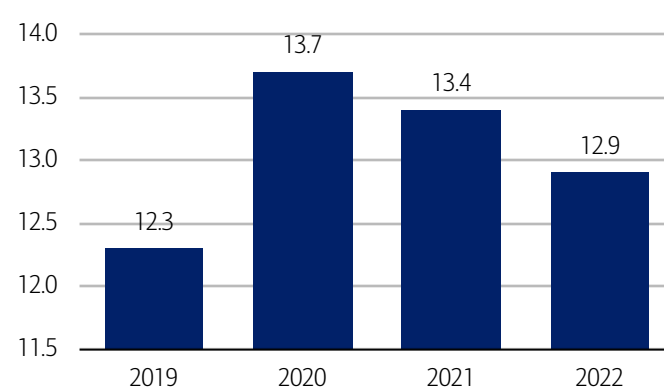


Source: Xeneta, BofA Global Research estimates

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Exhibit 43: Large freighter hours flown per day

Utilization hours not far from 2019 levels



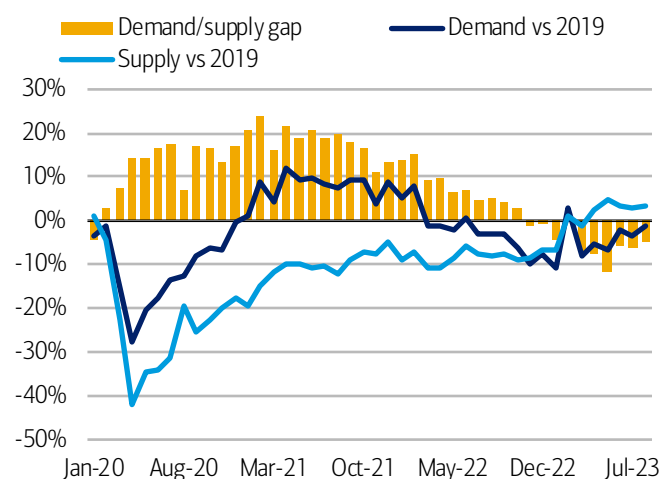
Source: Xeneta, BofA Global Research estimates

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Demand/supply balance

Exhibit 44: Global airfreight demand and supply vs 2019 levels and demand-supply gap

Balance has flipped to negative since November 2022

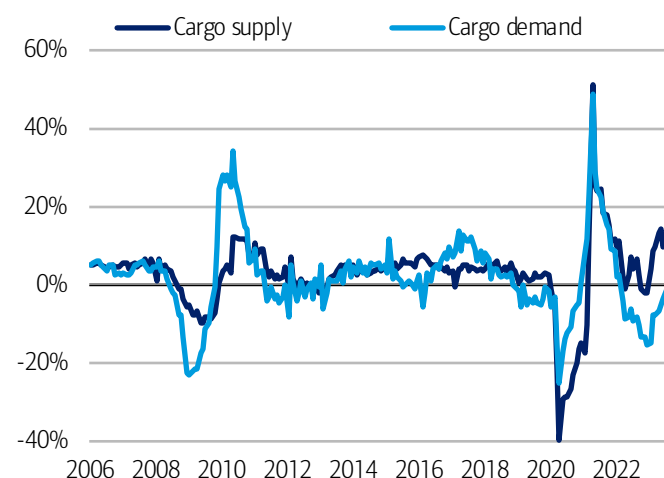


Source: IATA, BofA Global Research estimates

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Exhibit 45: Global airfreight demand and supply growth YoY

YoY cargo demand and supply worsening further



Source: IATA, BofA Global Research estimates

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BofA demand/supply model

We expect air cargo to remain in oversupply in 2023-24:

Exhibit 46: Global air cargo annual supply & demand balance

We see demand-supply turning negative in 2022-24E

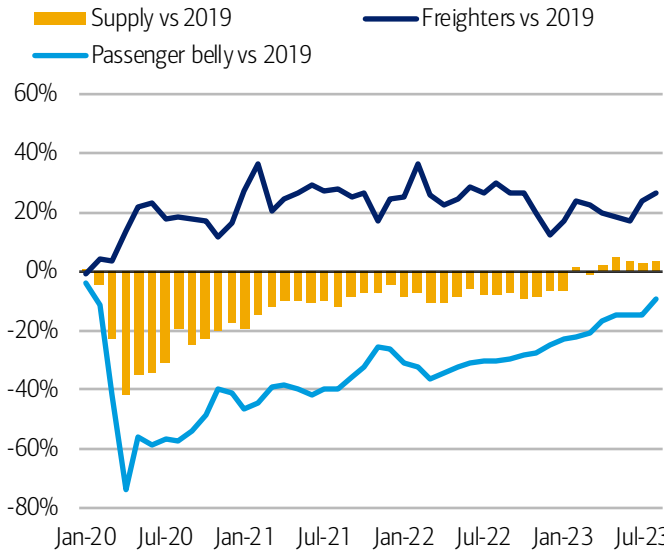
YoY %	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Demand (FTK)	20.8%	-0.7%	-1.0%	1.9%	4.5%	3.4%	3.8%	10.1%	3.7%	-3.3%	-8.9%	17.5%	-8.0%	-3.8%	3.2%
Capacity (AFTK)	8.9%	4.1%	1.1%	3.1%	3.7%	6.1%	5.3%	3.8%	5.2%	2.1%	-20.9%	12.8%	2.9%	7.3%	7.8%
Demand/supply balance	11.9%	-4.8%	-2.0%	-1.2%	0.8%	-2.7%	-1.5%	6.3%	-1.5%	-5.4%	12.0%	4.7%	-10.9%	-11.1%	-4.6%

Source: BofA Global Research estimates, IATA

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Exhibit 47: Global airfreight capacity vs 2019, freighters & belly

Airfreight capacity is close to 2019 levels now

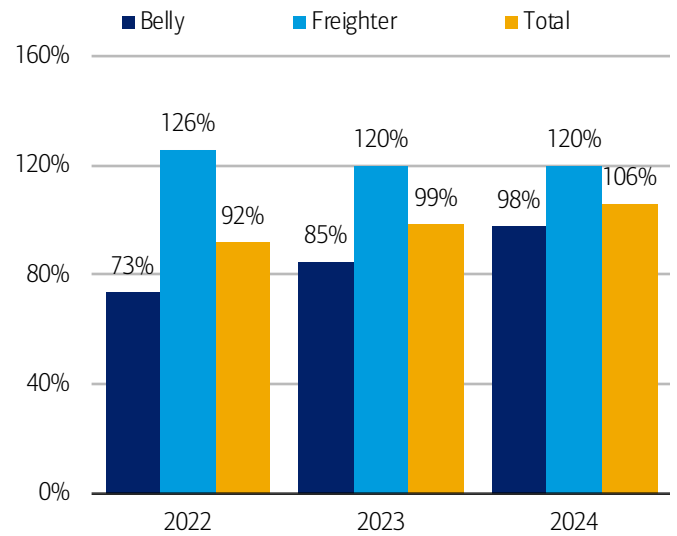


Source: BofA Global Research estimates, IATA

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Exhibit 48: Air cargo capacity by segment, as % of 2019 levels

We see global capacity to reach 93%/99%/106% of 2019 levels in 2022/23/24

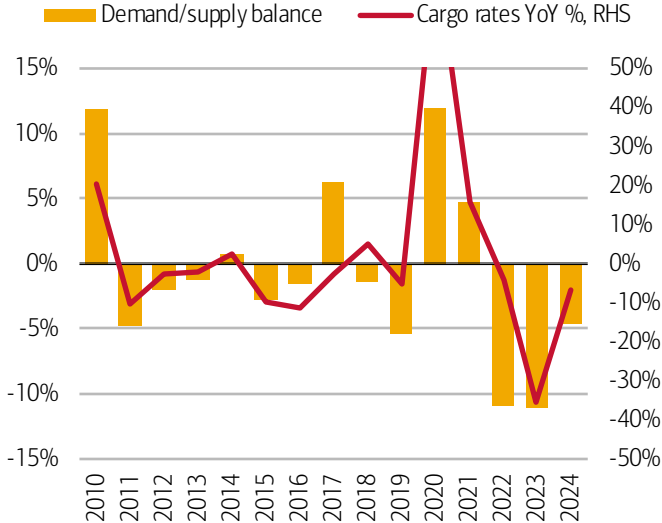


Source: BofA Global Research estimates

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Exhibit 49: Global air cargo balance and cargo yield YoY %

Cargo balance drives cargo yield with high correlation at 0.77

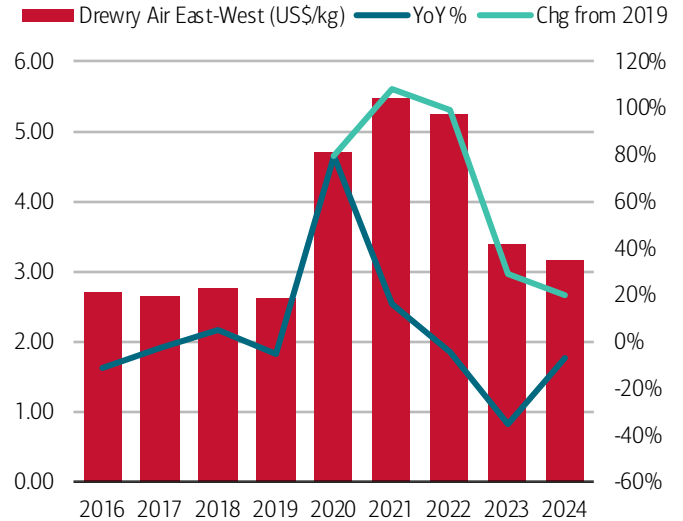


Source: IATA, BofA Global Research estimates

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Exhibit 50: Global air cargo yield and % change

We expect cargo yield to continue to normalize in 2023-24

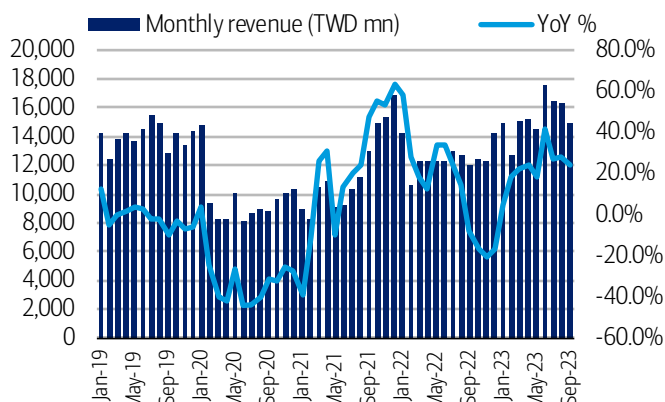


Source: Drewry, IATA, BofA Global Research estimates

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Airlines operating data

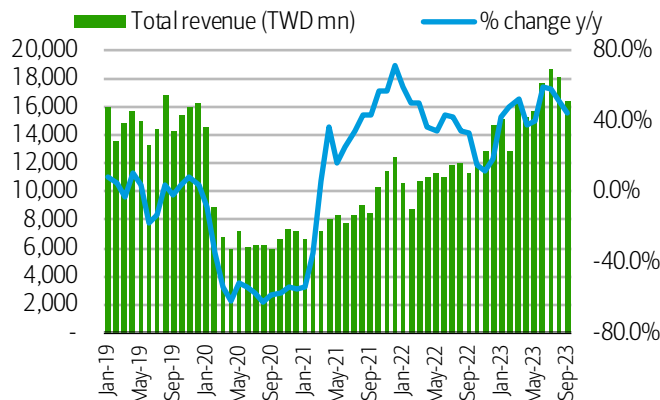
Exhibit 51: China Airlines – monthly revenue (TWD mn) and YoY %
September revenue +24.2% YoY



Source: BofA Global Research, company report

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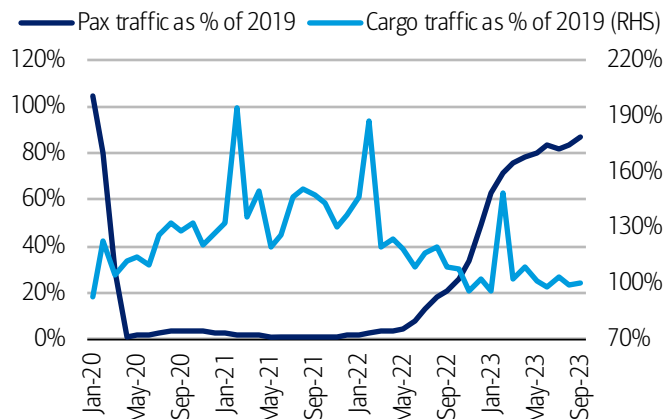
Exhibit 52: EVA Air – monthly revenue (TWD mn) and YoY %
September revenue +44.8% YoY



Source: BofA Global Research, company report

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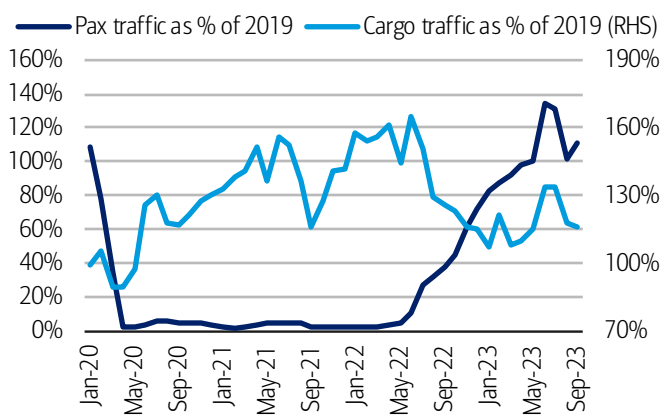
Exhibit 53: CAL passenger (RPK) and cargo (FTK) traffic as % of 2019
September pax traffic at 87% of 2019 levels & cargo traffic at 100%



Source: BofA Global Research, company report

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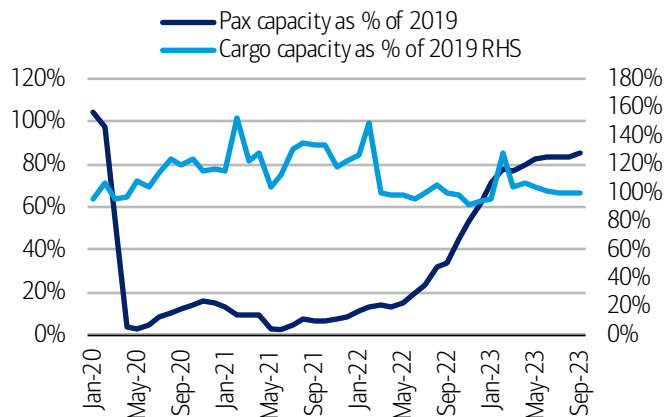
Exhibit 54: EVA passenger (RPK) and cargo (FTK) traffic as % of 2019
September pax traffic at 112% of 2019 levels & cargo at 116%



Source: BofA Global Research, company report

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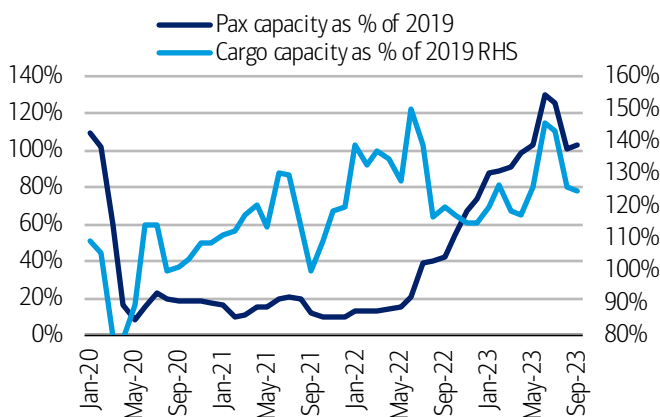
Exhibit 55: CAL passenger and cargo capacity as % of 2019
September pax capacity at 85% of 2019 levels & cargo at 99%



Source: BofA Global Research, company report

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Exhibit 56: EVA passenger and cargo capacity as % of 2019
September pax capacity at 102% of 2019 levels & cargo at 125%

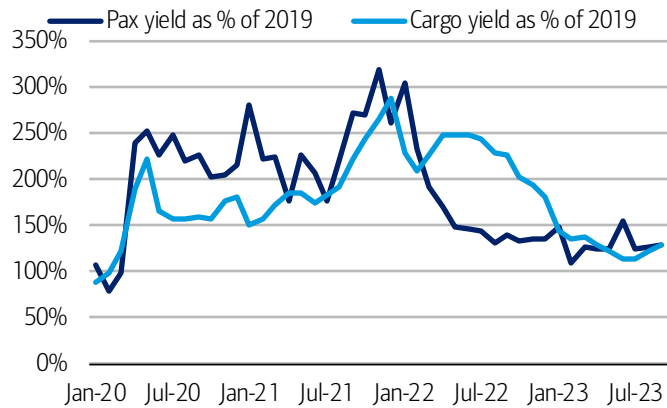


Source: BofA Global Research, company report

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Exhibit 57: CAL passenger and cargo yields as % of 2019 levels

September pax yield at 130% of 2019 levels & cargo yield at 129%

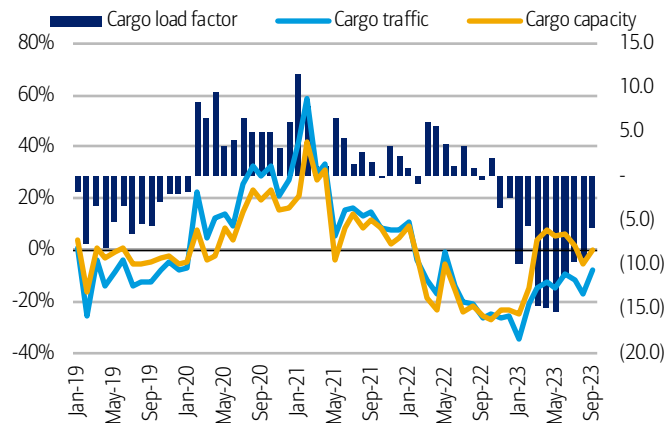


Source: BofA Global Research, company report

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Exhibit 59: CAL cargo traffic, capacity growth, loads YoY chg (RHS)

September cargo load factor at 67.5%, -6ppts for the month YoY

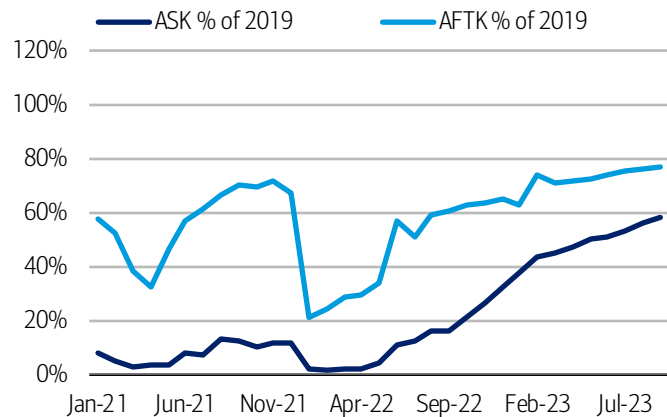


Source: BofA Global Research, company report

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Exhibit 61: Cathay Pacific passenger and cargo capacity as % of 2019

Sep pax capacity (ASK) at 58% of 2019 levels & cargo capacity (AFTK) at 77%

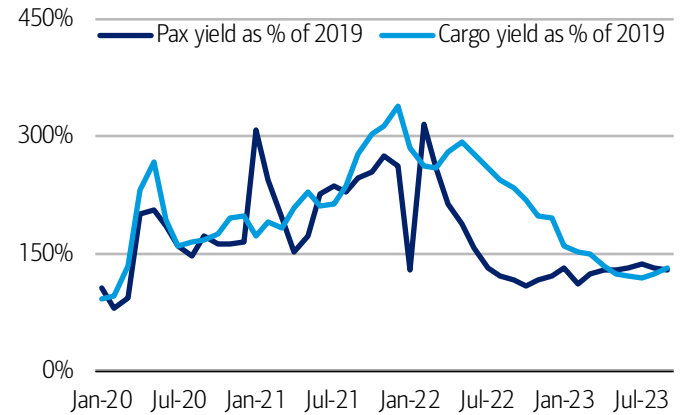


Source: BofA Global Research, company report

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Exhibit 58: EVA passenger and cargo yields as % of 2019 levels

September yield at 130% of 2019 levels & cargo yield at 133%

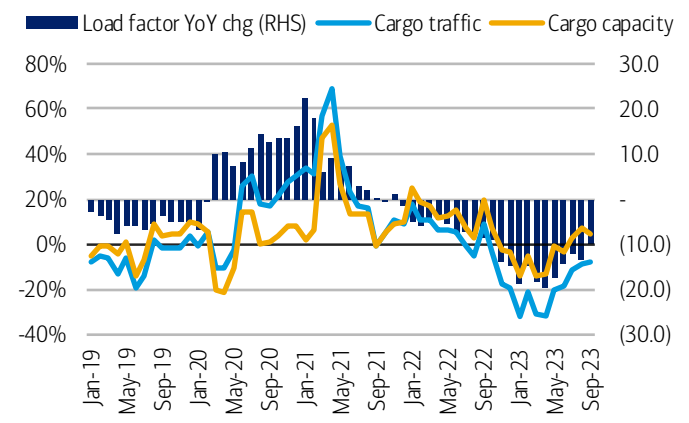


Source: BofA Global Research, company report

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Exhibit 60: EVA cargo traffic and capacity growth, loads YoY chg (RHS)

September cargo load factor at 73.9%, down -10ppts for the month YoY

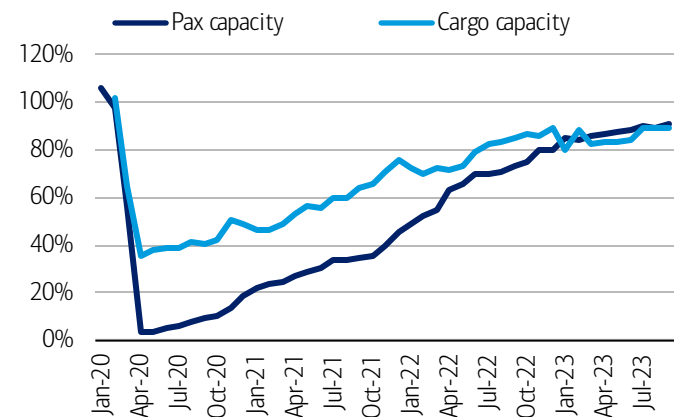


Source: BofA Global Research, company report

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Exhibit 62: Singapore Airlines pax & cargo capacity as % of 2019

September pax capacity at 91% of 2019 levels & cargo capacity at 89%

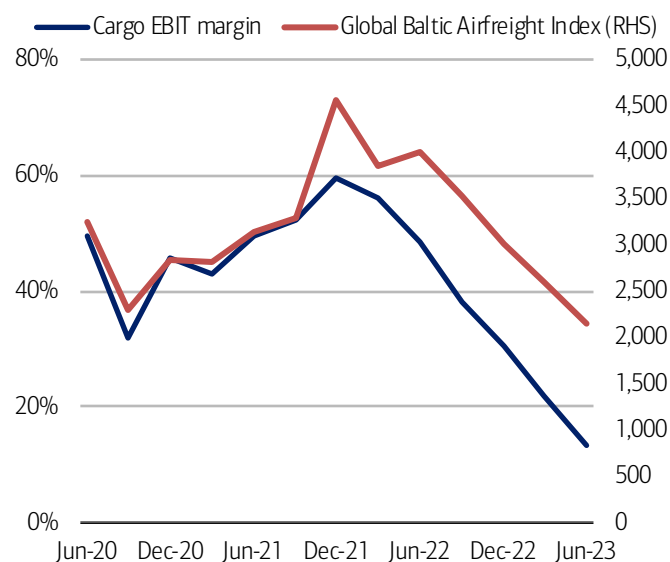


Source: BofA Global Research, company report

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Exhibit 63: Singapore Airlines quarterly cargo EBIT margin and Baltic Airfreight Index (RHS)

Jun-Q SIA cargo margin at 13%, down from 22% in Mar-Q

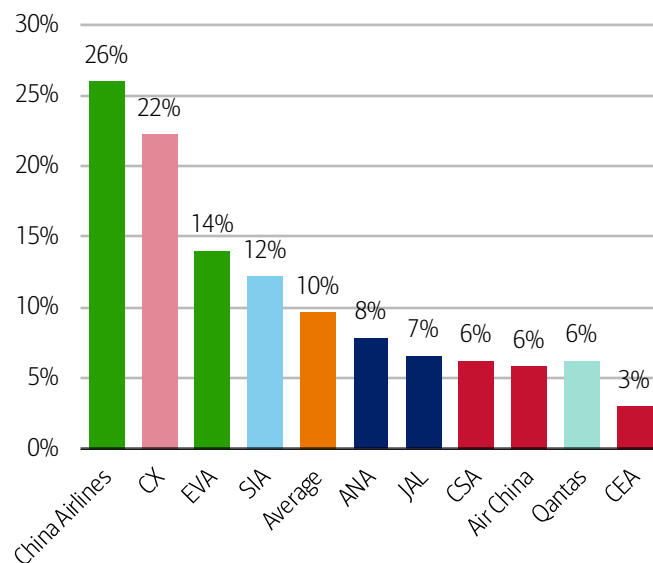


Source: BofA Global Research estimates, company report

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Exhibit 64: Asian airlines: Cargo as % of revenue in FY2019

China Airlines, Cathay Pacific and EVA are most exposed to cargo earnings

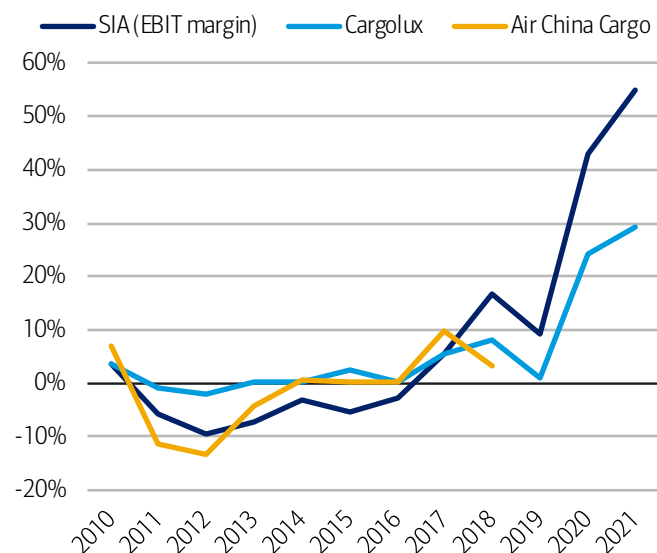


Source: BofA Global Research estimates, company report

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Exhibit 65: Cargo margins for selected airlines with disclosures

Cargo historically has been largely a breakeven business

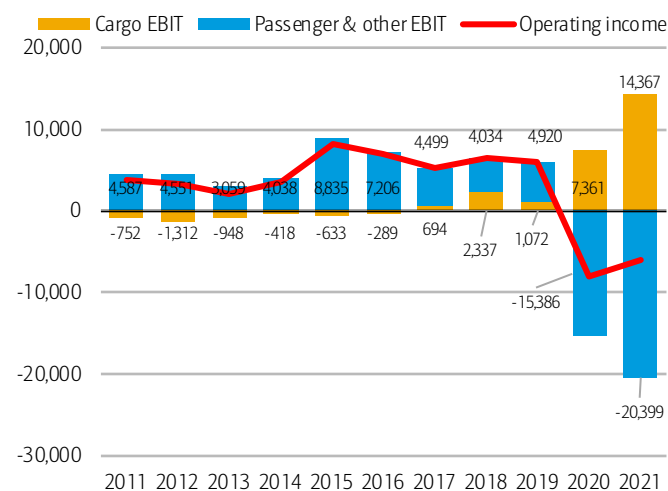


Source: BofA Global Research estimates, company report

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Exhibit 66: Asian airlines estimated EBIT breakdown by cargo and other segments, USD mn

We estimate cargo has contributed US\$14bn in operating profit in 2021, offsetting >70% of the losses in passenger and other businesses



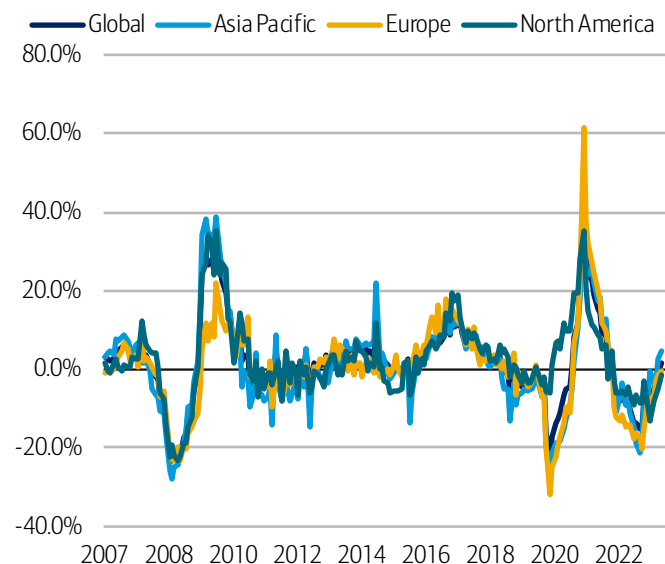
Source: BofA Global Research estimates, company report. Note airlines include Air China, CEA, CSA, JAL, ANA, EVA, China Airlines, CX and SIA

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Global airfreight market overview

Exhibit 67: Monthly air cargo demand growth YoY %

Cargo demand drives the cyclical nature of the industry, CAGR at ~3% pre-COVID

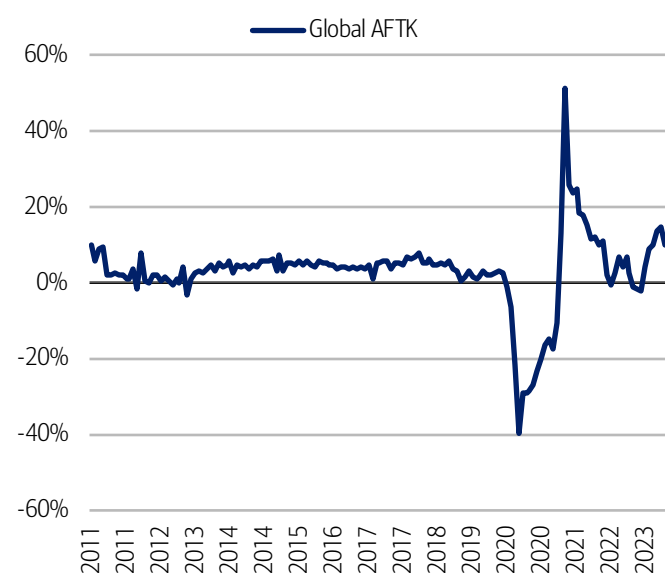


Source: IATA, BofA Global Research

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Exhibit 68: Monthly air cargo supply (AFTK) growth YoY %

Cargo supply has been relatively steady at 3-4% p.a. pre-COVID

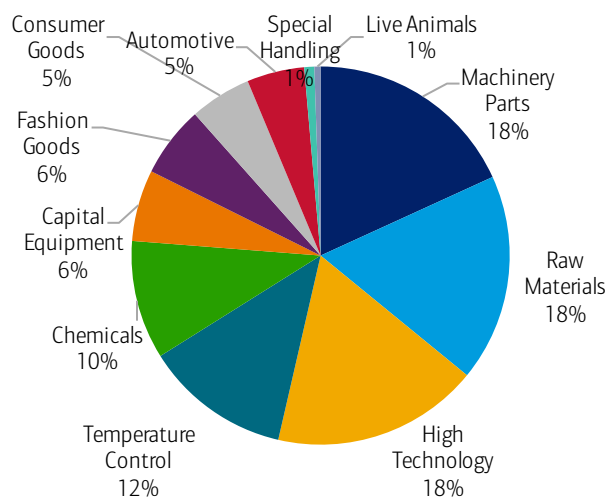


Source: IATA, BofA Global Research

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Exhibit 69: Global air cargo demand (metric tonne) by industry, 2022

Major industries are machinery parts, raw materials and high tech

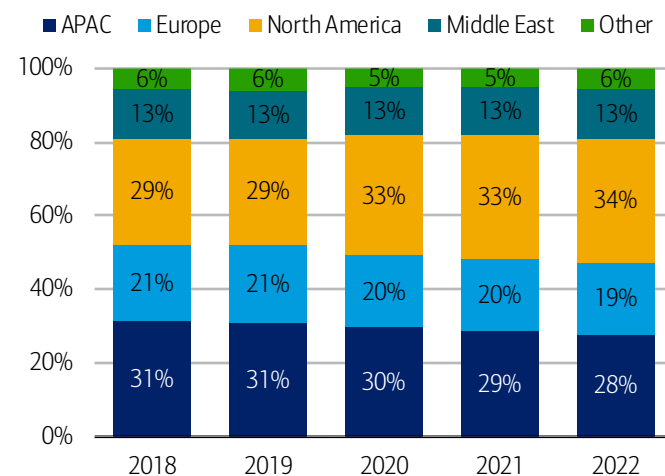


Source: BofA Global Research estimates

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Exhibit 70: Global air cargo demand by region

The share of North America has risen from 29% to 34% now

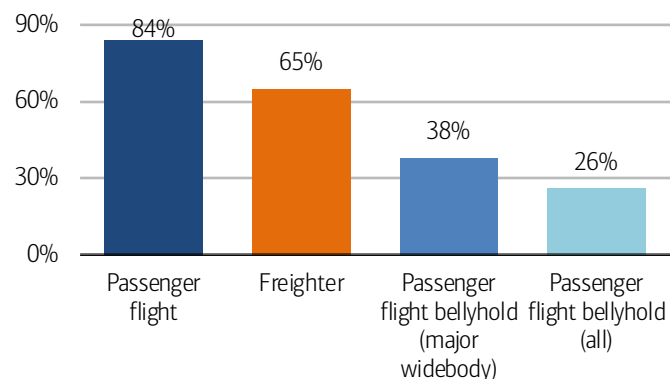


Source: IATA, BofA Global Research

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Exhibit 71: Seat/cargo load factors for different type of services, 2019

Freighter has higher cargo loads than bellyhold capacity

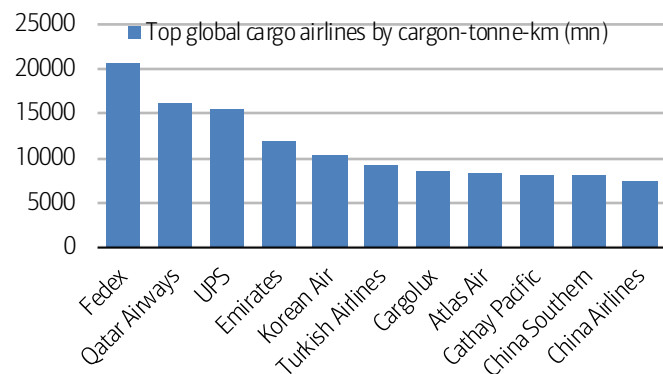


Source: IATA, Boeing

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Exhibit 73: Top global cargo airlines by cargo-tonne-km (mn), 2021

Fedex, Qatar and UPS the global top 3

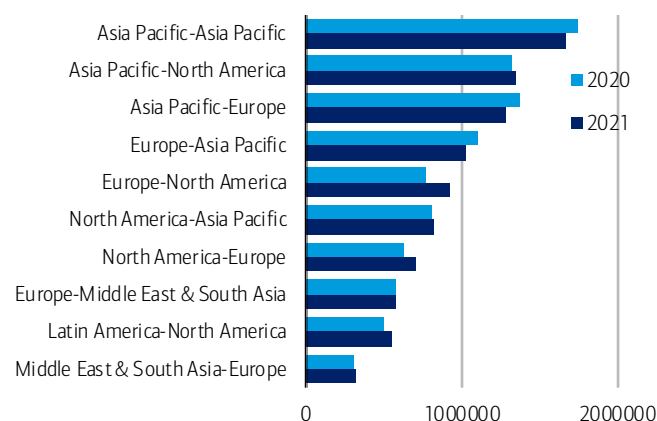


Source: IATA

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Exhibit 75: Global air cargo trade (metric ton) by trade lane

Trades among Asia, North America and Europe the top lanes

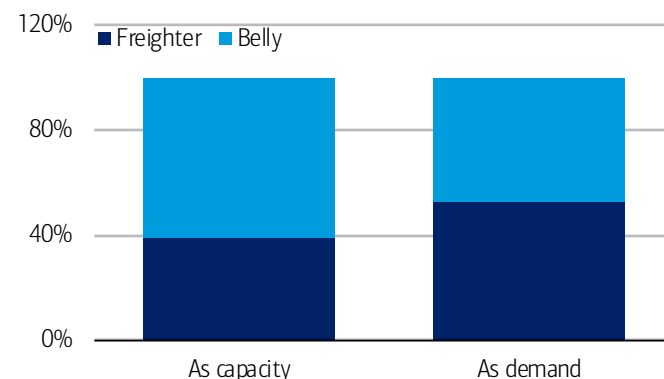


Source: IATA

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Exhibit 72: Capacity and demand breakdown by cargo fleet type, 2019

Freighter represented 39% of capacity but 53% of demand with higher loads

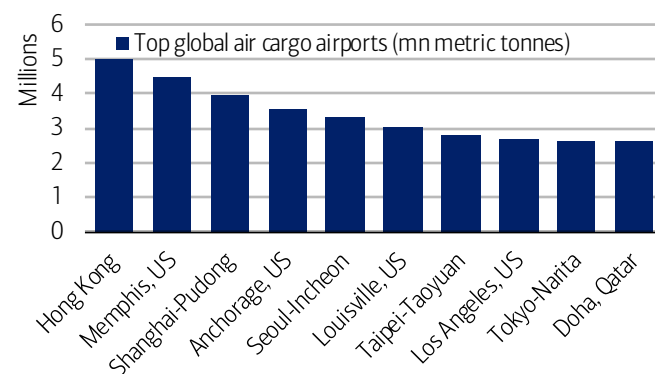


Source: IATA

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Exhibit 74: Top global air cargo airports (mn metric tonnes), 2021

Hong Kong, Memphis and Shanghai-Pudong the global top 3

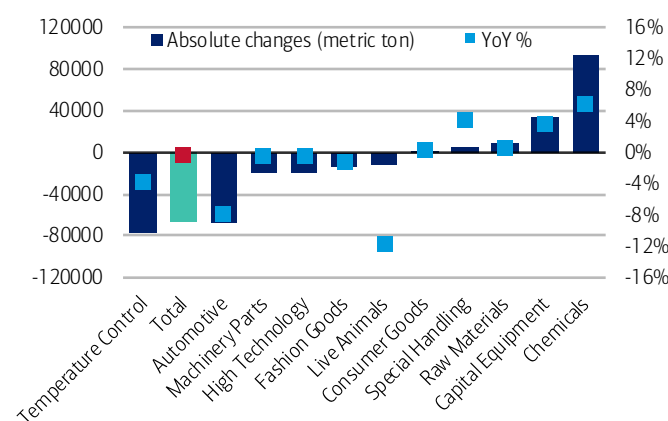


Source: ACI

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Exhibit 76: Air cargo demand (metric tonne) YoY changes by industry

Global demand growth is flattish YoY % year to date



Source: BofA Global Research estimates, IATA

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

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

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