

Airfreight - Global

Air Cargo Watch #7 – Worsening oversupply to pressure rates further

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. Demand declines have slowed, consistent with some leading indicators bouncing off the bottom, but the demand outlook looks set to weaken again in April and we see more seasonal weakness in May-June 2023. Oversupply is deteriorating with supply rising at 8% YoY in March led by the return of belly capacity. We expect worsening oversupply in 2Q23 to drive cargo margin close to breakeven levels.

Demand: Decline narrowed but still not out of the wood

Demand declines have slowed to -7-8% YoY in Feb-Mar from -15% in Jan, in line with our earlier data that some leading indicators are bouncing off the bottom. That said, the bounce looks temporary and indicators like BofA Industrial Momentum saw renewed weakness. In addition, high-frequency demand data looks set to weaken again in April so far led by Europe. By sector, high-tech products demand, falling -25% YoY in China in 2M23, was the largest drag in Chinese air cargo trade data (-6% YoY), while capital equipment, machinery parts and consumer goods saw decent YoY growth.

Supply: Steady rise in belly capacity outpacing demand

Air cargo supply continued to grind higher at 98% of 2019 levels in March by our estimates, rising c.9% YoY. This was driven by the return of widebody belly capacity to 80% of 2019 levels in March on easing supply constraints and Asian reopening policies, while freighter capacity was stable at 22% above 2019 levels. We expect belly capacity will continue to normalize in the coming months, in particular with Chinese international belly capacity growing from just c.10% of 2019 levels in 1Q23 to c.45% in 2Q-3Q23 per our timetabled seat data.

Rates: Sharper decline seen in April and likely in 2Q

After a muted -3% MoM decline in March, the global airfreight index looks to see renewed pressure in April with -5% MoM so far, putting the index at 44% above 2019 levels. Our checks suggest the oversupply is likely to drive more weakness ahead especially going into May and June which are the traditional slack months. We estimate cargo operating margin, based on Singapore Airlines data, could fall to mid-teens% in 1Q23 (Mar-Q) from >30% in 4Q22, and a potential breakeven quarter in 2Q23.

Airlines: Cargo yield decline in line with index

Taiwanese airlines March cargo yield has come down in line with the global index at on average 44% above 2019 levels. On the other hand, March passenger traffic has recovered to 93% of 2019 levels for EVA while CAL lagged at 76%. Passenger yields for the Taiwanese airlines have come down to c.25% above 2019 levels, which we believe will continue to fall with rising competition from regional airlines restoring capacity and new entrant Starlux Airlines.

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Refer to important disclosures on page 22 to 24.

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Timestamp: 25 April 2023 10:44PM EDT

26 April 2023

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Airfreight

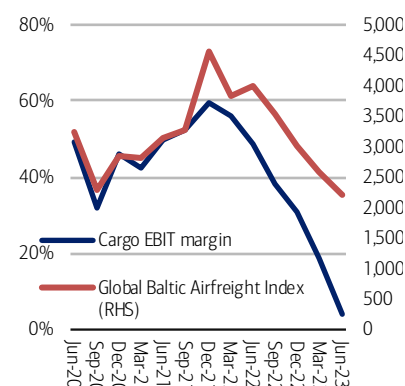
Gary Tsang >>
Research Analyst
Merrill Lynch (Singapore)
+65 6678 0402
gary.tsang@bofa.com

Nathan Gee, CFA >>
Research Analyst
Merrill Lynch (Singapore)
+65 6678 0418
nathan.gee@bofa.com

Ken Hoexter
Research Analyst
BofAS
+1 646 855 1498
ken.hoexter@bofa.com

Muneeba Kayani >>
Research Analyst
MLI (UK)
+44 20 7996 5208
muneeba.kayani@bofa.com

Exhibit 1: BofA estimated cargo margin
Road to normalization potentially in 2Q23



Source: BofA Global Research estimates, company report

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CAL: China Airlines

EVA: EVA Airways

Airfreight rates

Exhibit 2: Weekly Global Baltic Airfreight Index

Baltic Airfreight index now at 2,266 down -45% YoY

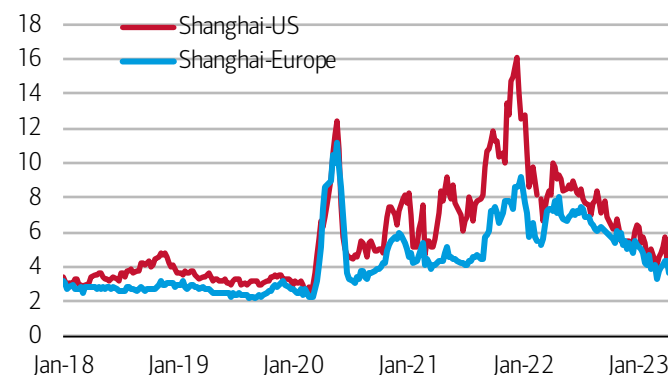


Source: TAC

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Exhibit 3: Baltic Airfreight Shanghai to US and Europe (US\$/kg)

Shanghai-Europe +45% and Shanghai-US +57% vs 2019 in the latest week



Source: TAC

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Exhibit 4: Key airfreight rates overview table, % change on 1Q23 data

Global rates are down -10% QoQ in 2Q23 so far

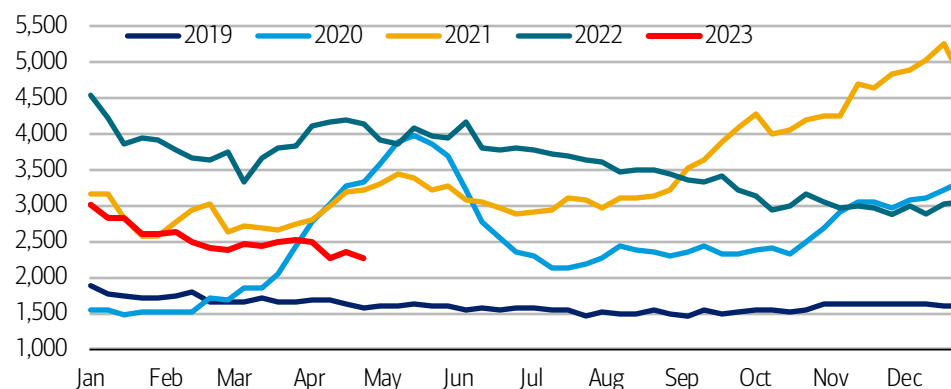
	Baltic Airfreight - Global	BAF-HK	BAF- Shanghai	BAF- Singapore	BAF- London	BAF- Chicago	Shanghai- Europe	Shanghai- US	HK- Europe	HK-US	HK-SE Asia	London- US	Singapore -SE Asia
1Q21	2,803	2,828	5,165	423	2,547	1,702	4.5	6.1	4.3	5.6	1.8	4.9	1.8
2Q21	3,136	3,545	5,867	425	2,755	1,672	4.5	7.7	4.6	8.0	1.8	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	2,344	2,506	4,250	493	1,739	1,567	3.8	4.8	3.9	5.0	1.8	2.3	2.2
QoQ	-10%	-8%	-6%	0%	-7%	-20%	-11%	-5%	-14%	-5%	-1%	-14%	0%
YoY	-41%	-41%	-45%	-13%	-40%	-35%	-47%	-46%	-36%	-44%	-20%	-45%	-13%
YTD YoY	-35%	-37%	-41%	-1%	-35%	-16%	-38%	-45%	-26%	-43%	-19%	-42%	-1%
vs 2019	46%	45%	53%	137%	73%	22%	51%	48%	48%	41%	58%	102%	137%

Source: TAC, BofA Global Research

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Exhibit 5: Weekly Global Baltic Airfreight Index by year, 2019-22

Latest weekly rate index still on a weakening trend



Source: TAC, BofA Global Research

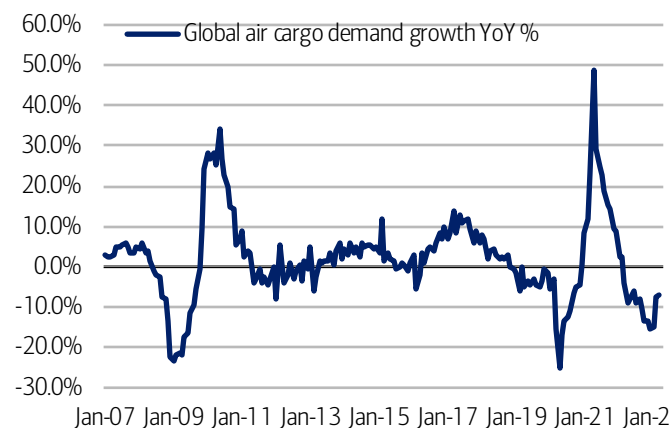
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Airfreight demand

Global cargo traffic

Exhibit 6: Monthly global air cargo demand growth YoY %

Demand was down -8% YoY in Feb and likely -7% in Mar

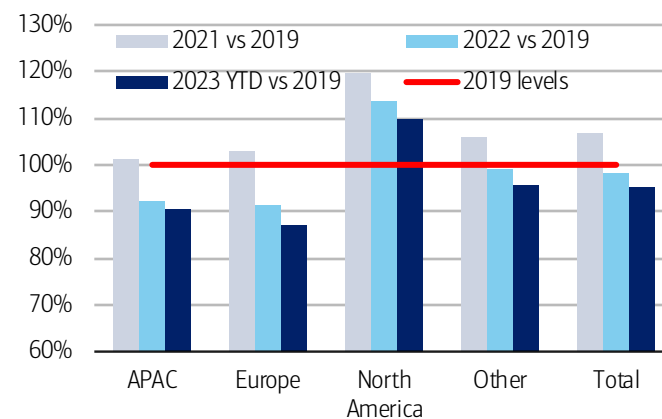


Source: BofA Global Research estimates, IATA

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Exhibit 7: Air cargo demand (CTK) vs 2019 levels by major regions

2022 demand was 2% below 2019 levels, 2M2023 so far at -5% vs 2019

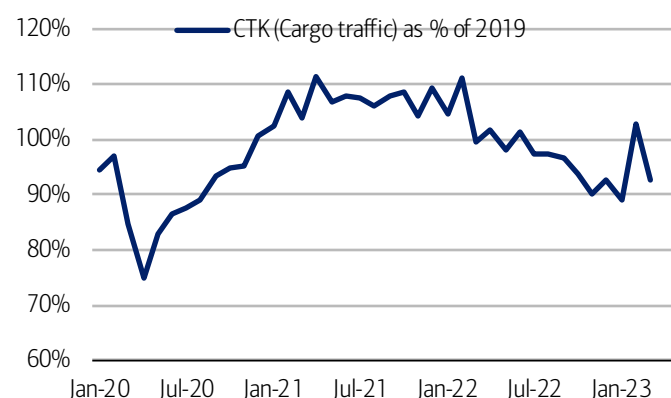


Source: IATA, BofA Global Research. YTD up to February 2023.

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Exhibit 8: Air cargo demand (CTK) as % of 2019 levels

Demand was at 103% of 2019 levels in Feb and likely down to 93% in Mar

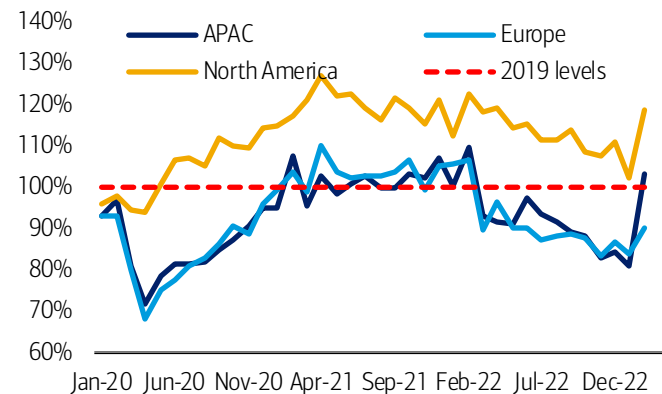


Source: BofA Global Research estimates

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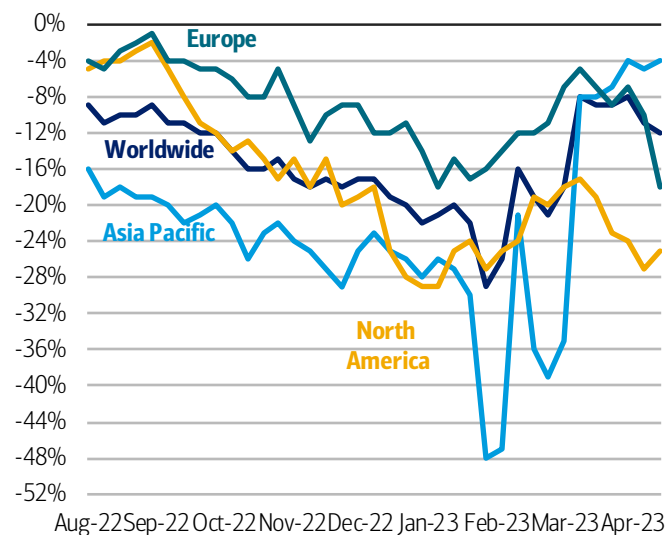
Exhibit 9: Monthly air cargo demand by major regions vs 2019 levels

Demand from North America rebounded in Feb



Source: IATA, BofA Global Research

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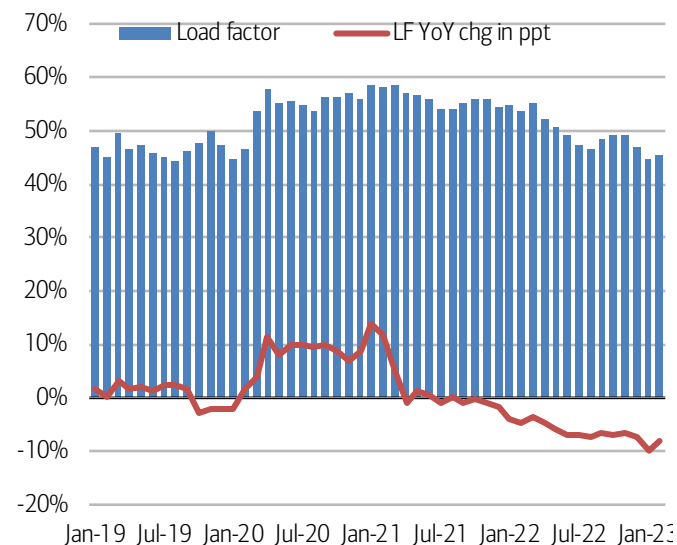
Exhibit 10: Weekly cargo chargeable weight, YoY % since Aug 2022Global demand was down -12% YoY in the week of 16th April 2023

Source: WorldACD, BofA Global Research

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Exhibit 11: Global cargo load factor and YoY changes in ppts

Load factor down to 45-46% in Feb-Mar, -8ppt YoY

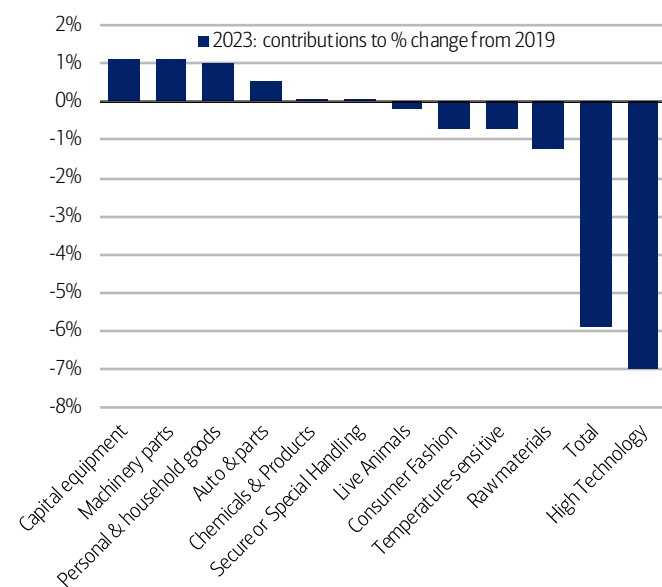


Source: IATA, BofA Global Research estimates

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Exhibit 12: China air cargo trade: Contributions to growth from 2019 levels by industry, 2M2023

Capital equipment & machinery are the categories with positive contributions in 2023

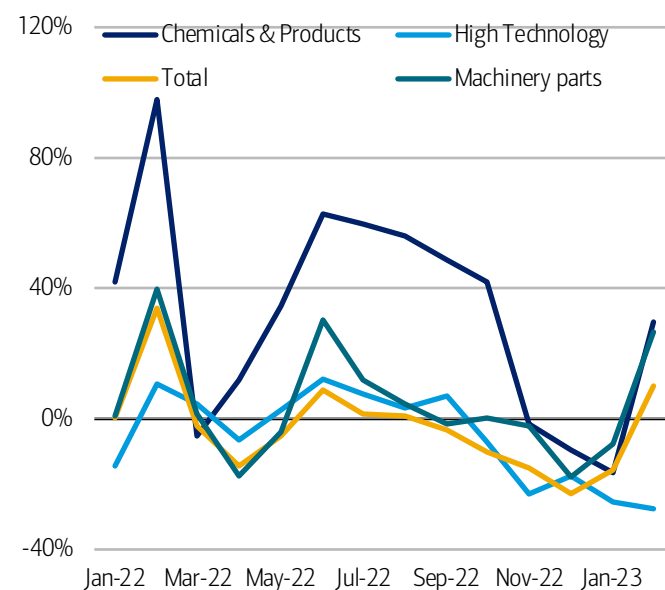


Source: company report

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Exhibit 13: China monthly air cargo trade: % change from 2019 levels

But growth in high-tech products is still worsening



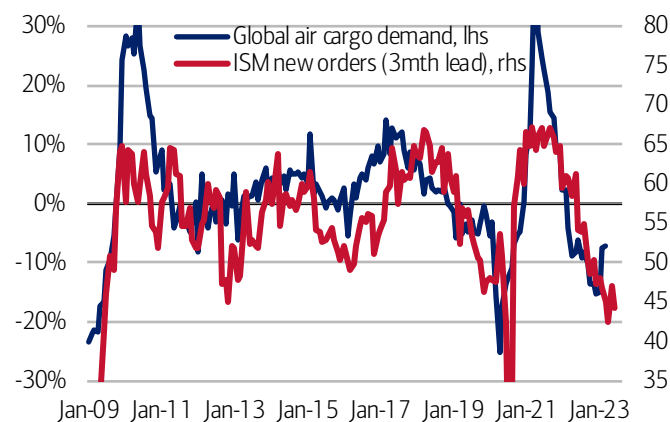
Source: company report

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Leading demand indicators

Exhibit 14: Global air cargo demand growth YoY % and ISM new orders

ISM new orders lead air cargo demand by 3 months with 0.61 correlations

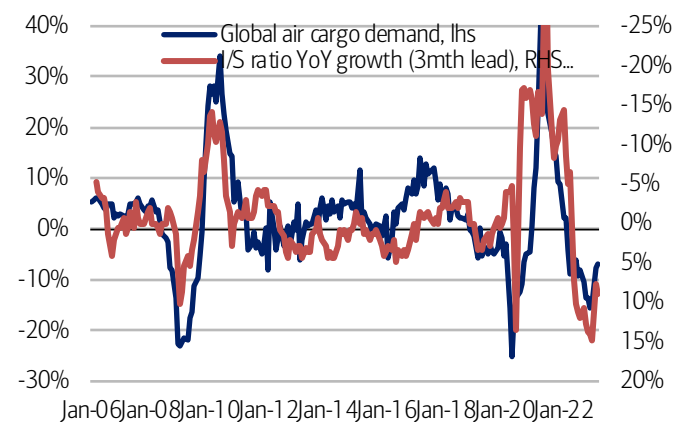


Source: BofA Global Research, Bloomberg

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Exhibit 15: Air cargo demand and 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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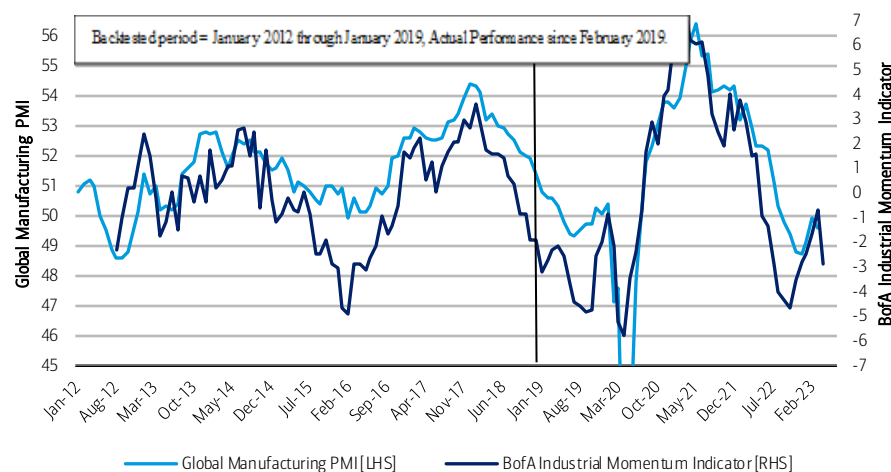
Industry demand data

[Global Industrials: BofA Industrial Momentum Indicator falls – not out of the woods 24](#)

[April 2023](#)

Exhibit 16: BofA Industrial Momentum Indicator vs Global Manufacturing PMI

Bottoms in the BofA Industrial Momentum Indicator lead bottoms in Global Manufacturing PMI



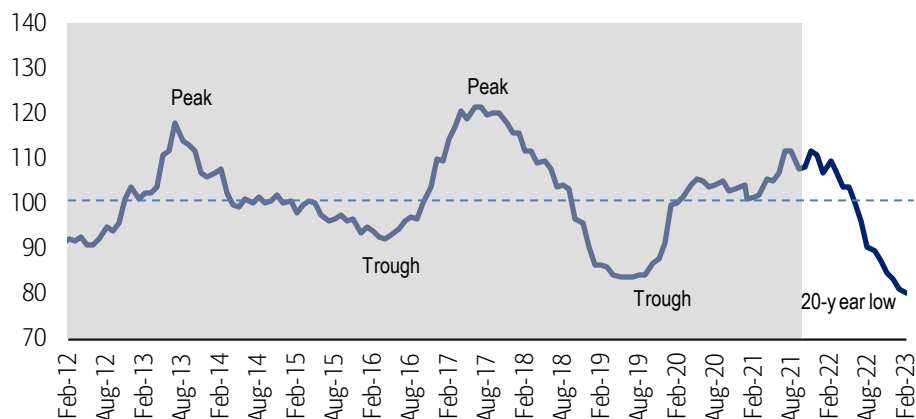
Source: BofA Global Research, Backtested period = January 2012 through January 2019, Actual Performance since February 2019. This performance is back-tested and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (not actual) performance of 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: Weekly theme: 1Q miss, tech conference, memory indicator, datacenter tour 11 March 2023](#)

Exhibit 17: BofA Memory Indicator – YoY change in price/exports/billings

Feb-23 actual data revealed 20-year low at 80 – lower than 2016/2019 trough levels



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

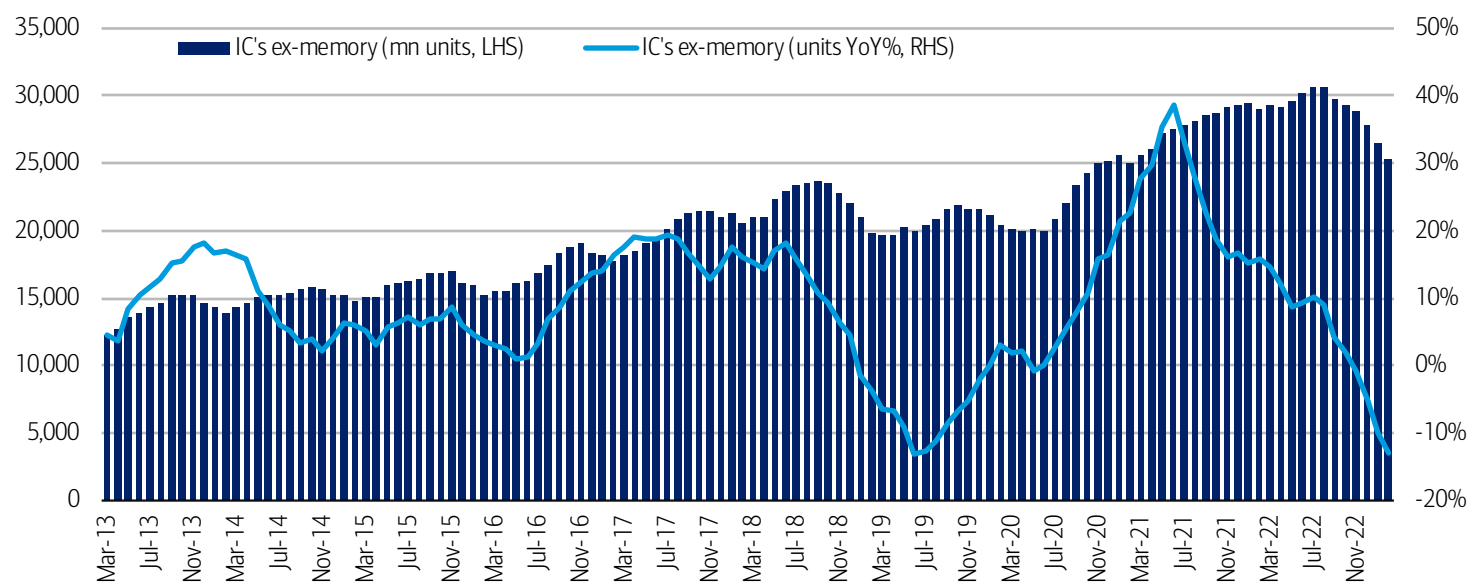
The shaded area represents backtested results from January 1991 to March 2021. The unshaded area represents actual performance since April 2021. This performance is backtested up to March 2021, and does not represent the actual performance of any account or fund. Back-tested performance depicts the theoretical (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: Feb'23 SIA: tough sales comps, though core semis pricing holds up well 03 April 2023](#)

Exhibit 18: IC ex-memory unit trends over the last 10 years (3mma)

IC ex-memory unit growth down -12.9% YoY



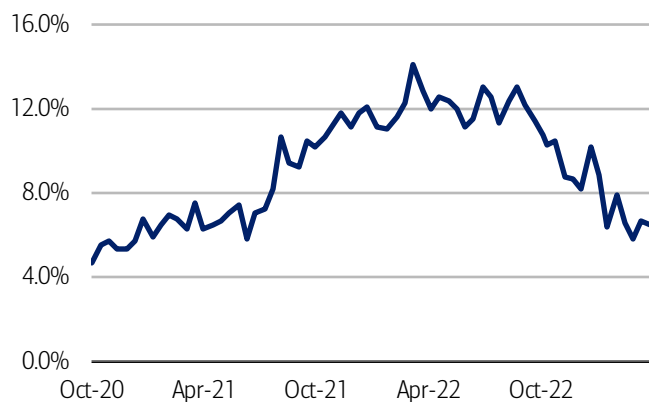
Source: SIA, BofA Global Research

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Ocean vs air shipping

Exhibit 19: Vessel capacity stuck in congestion (% of fleet), 2020-22

Congestion down to 6.5 % of world supply now

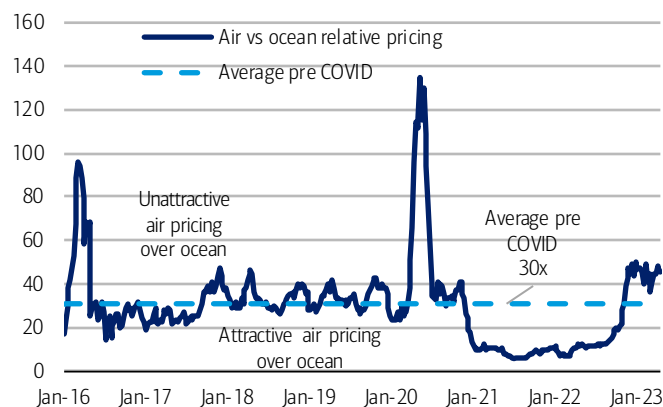


Source: Linerlytica

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Exhibit 20: Airfreight relative pricings to ocean, China-Europe route

Airfreight relative pricing is back above pre-COVID level of 30x

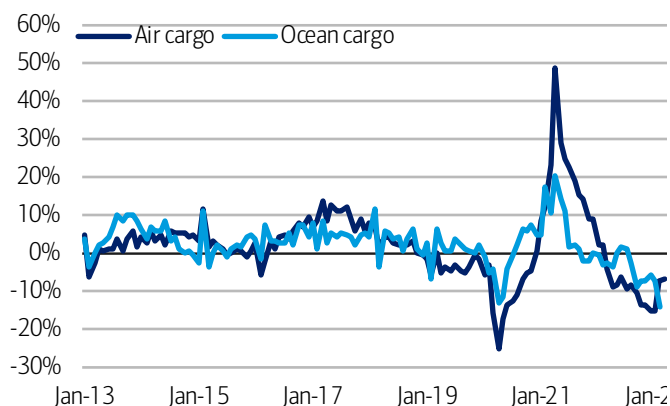


Source: BofA Global Research estimates, Bloomberg

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Exhibit 21: Air and ocean cargo demand growth YoY %, 2013-23

Air cargo demand seeing sharper deceleration than ocean

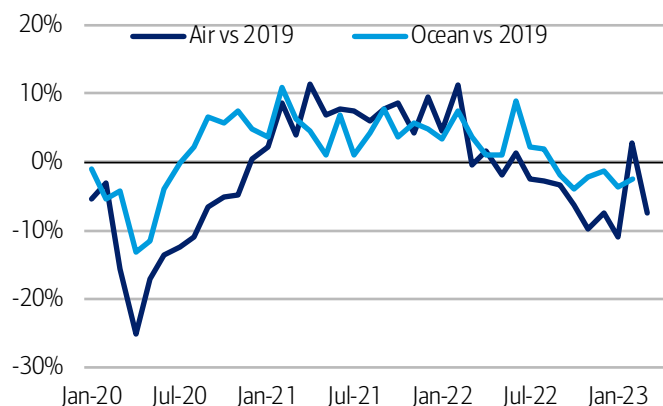


Source: Bloomberg, IATA, BofA Global Research estimates

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Exhibit 22: Air and ocean demand compared to 2019 levels

Air cargo demand is -7% below 2019 vs ocean at -3%



Source: Bloomberg, IATA, BofA Global Research estimates

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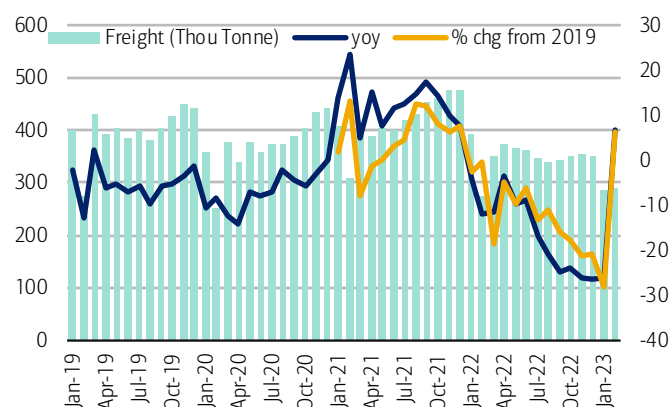
Airport cargo traffic

Asian airports

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

Exhibit 23: Hong Kong – airport cargo traffic ('000 tonne) and % chg

Feb cargo traffic at 6% above 2019 levels, +7% YoY

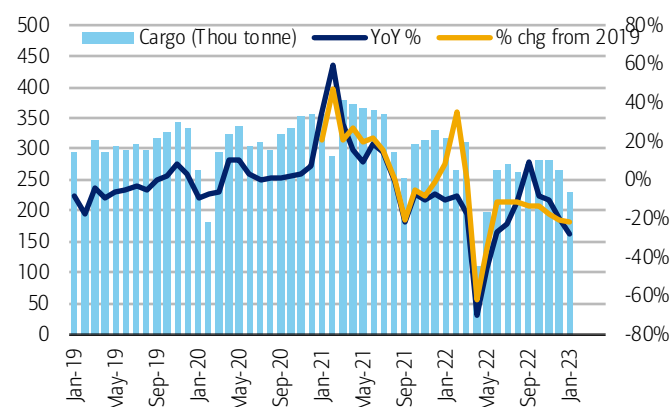


Source: BofA Global Research, company report

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

March cargo traffic at -6% below 2019 levels, -5% YoY

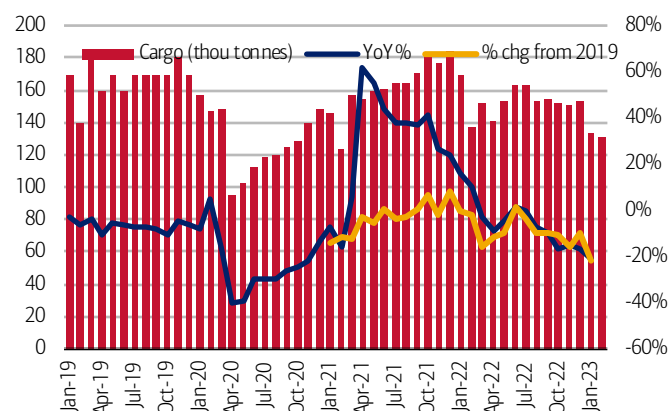


Source: BofA Global Research, company report

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

Feb cargo traffic at -6% below 2019 levels, -6% YoY

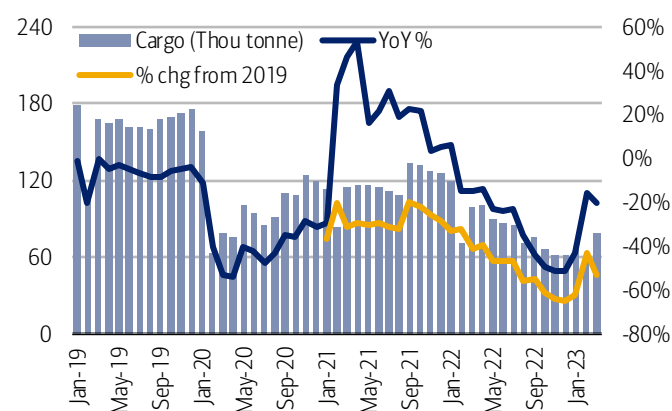


Source: BofA Global Research, company report

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

March cargo traffic at -53% below 2019 levels, -21% YoY

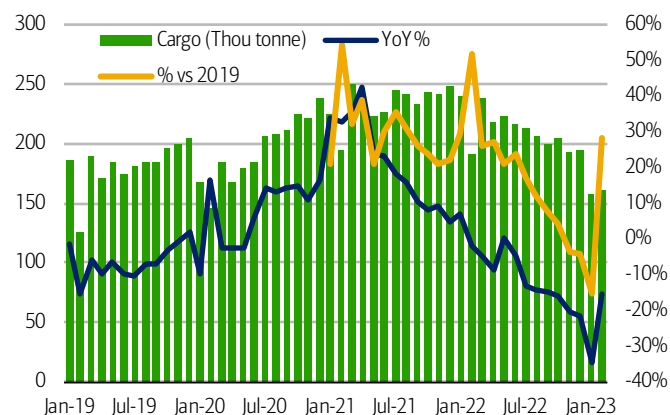


Source: BofA Global Research, company report

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

Feb cargo traffic at 28% below 2019 levels, -16% YoY

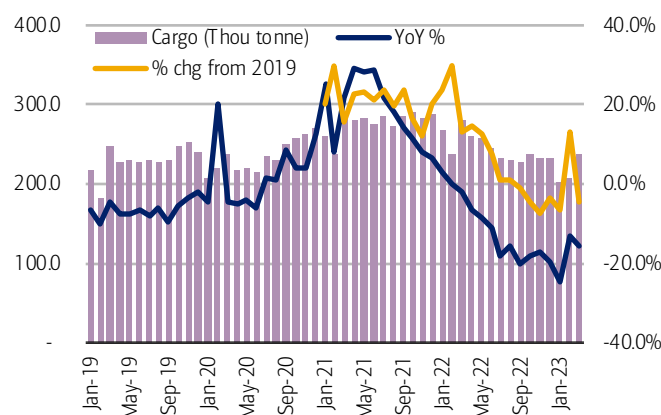


Source: BofA Global Research, company report

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

March cargo traffic at -5% below 2019 levels, -16% YoY



Source: BofA Global Research, company report

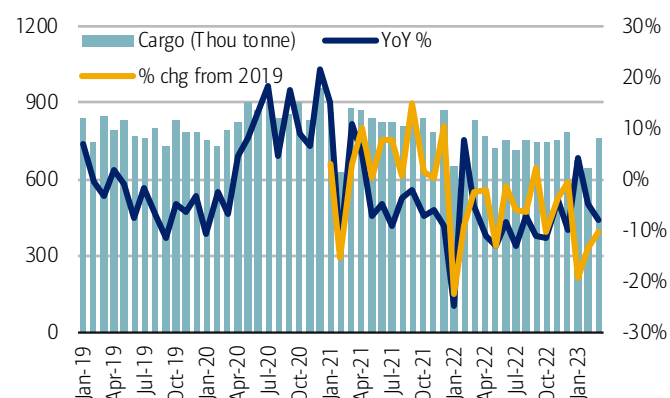
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US airports

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

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

March cargo traffic at -10% below 2019 levels, -8% YoY

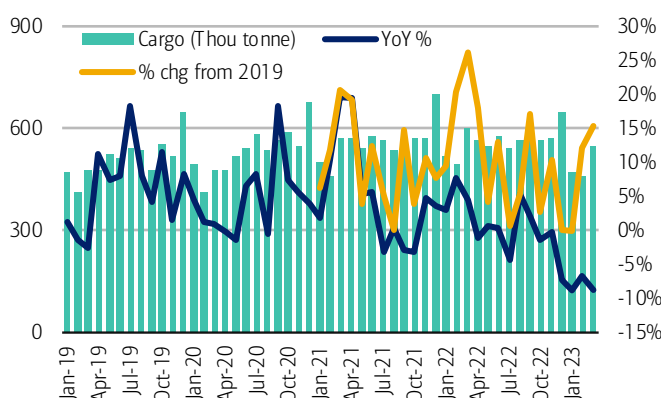


Source: BofA Global Research, company report

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Exhibit 30: Louisville – airport cargo traffic ('000 tonne) and % chg

March cargo traffic at 15% above 2019 levels, -9% YoY



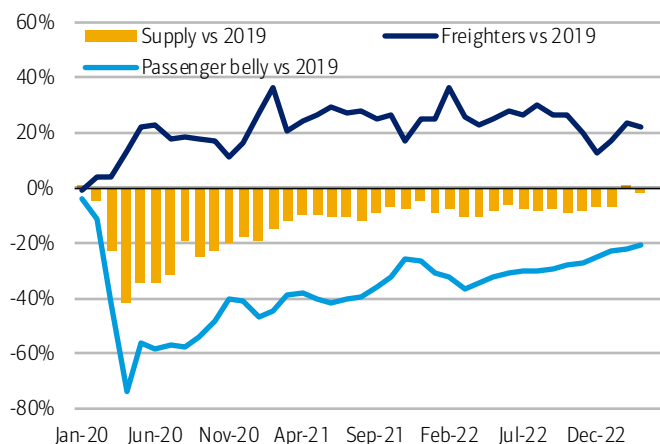
Source: BofA Global Research, company report

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Airfreight supply

Exhibit 31: Global airfreight capacity vs 2019, freighters & belly

Airfreight capacity is largely in line with 2019 in Feb-Mar

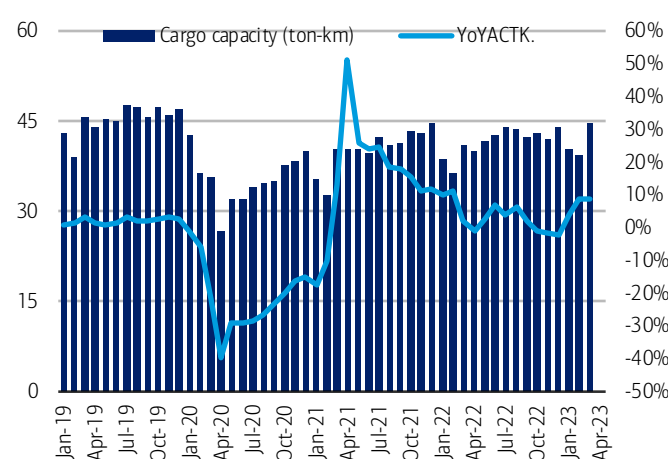


Source: BofA Global Research estimates, IATA

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Exhibit 32: Global airfreight capacity (mn ton-km)

Global supply was up +9% YoY in March



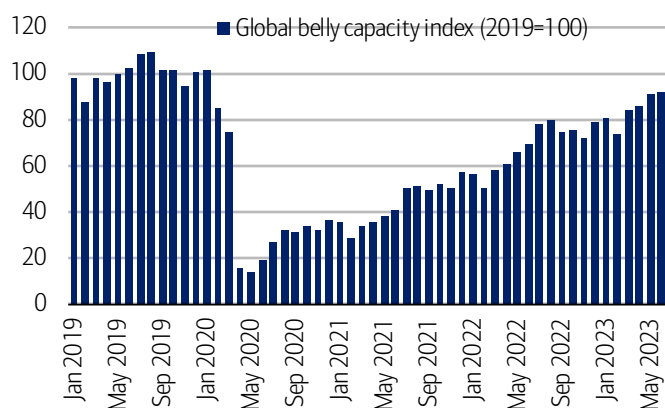
Source: IATA, BofA Global Research estimates

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Belly capacity

Exhibit 33: Payload adjusted global bellyhold capacity index, 2019=100

Belly cargo capacity rising to 80-90% of 2019 levels in the coming months

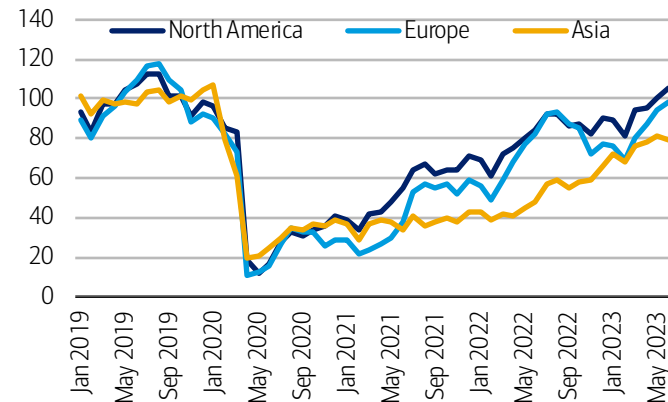


Source: BofA Global Research estimates, Diio, Boeing, Airbus

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Exhibit 34: Payload adjusted belly capacity by region, 2019=100

Belly capacity return led by North America



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

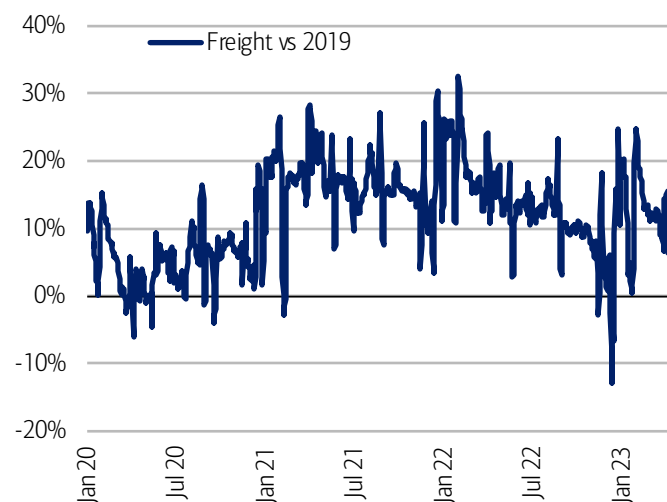
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[Global Aerospace: BofA Commercial Aerospace Tracker: All major engine cycles ex GP7200 fell WoW 25 April 2023](#)

Freighter

Exhibit 35: Global dedicated freighter flights tracked 7 day avg. YoY %

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

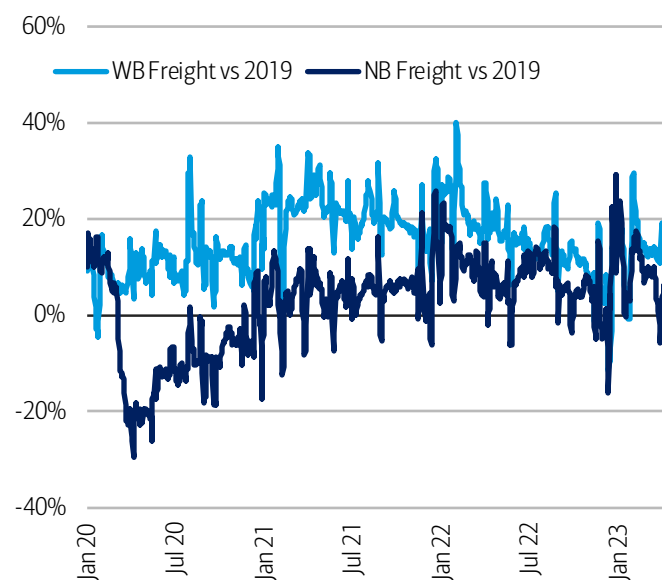


Source: BofA Global Research, Flightradar24

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Exhibit 37: Narrowbody vs Widebody dedicated freighter flights tracked 7 day avg. YoY %

Narrowbody and Widebody freight have converged through 3Q22

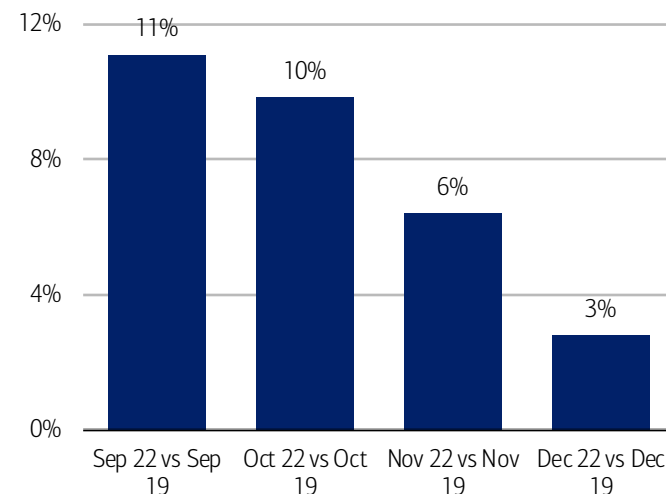


Source: BofA Global Research, Flightradar24

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Exhibit 36: Freight landings Sep – Dec 2022 vs 2019

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

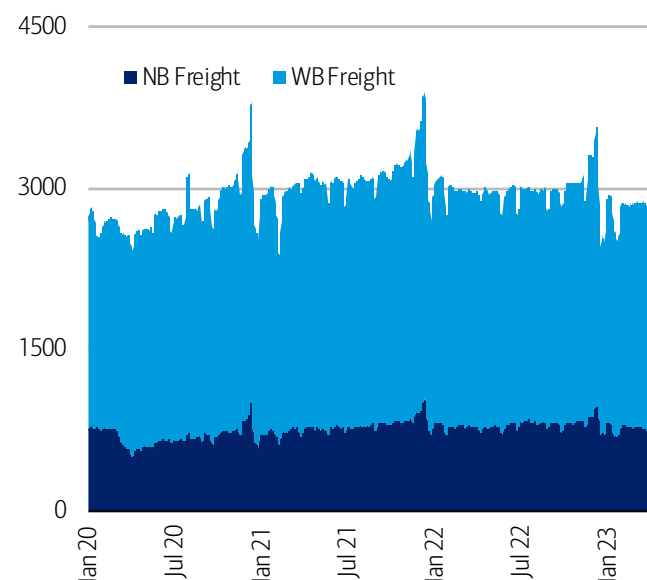


Source: BofA Global Research, Flightradar24

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Exhibit 38: Narrowbody vs Widebody dedicated freighter flights daily

Freight cycles typically peak around the holiday period in December

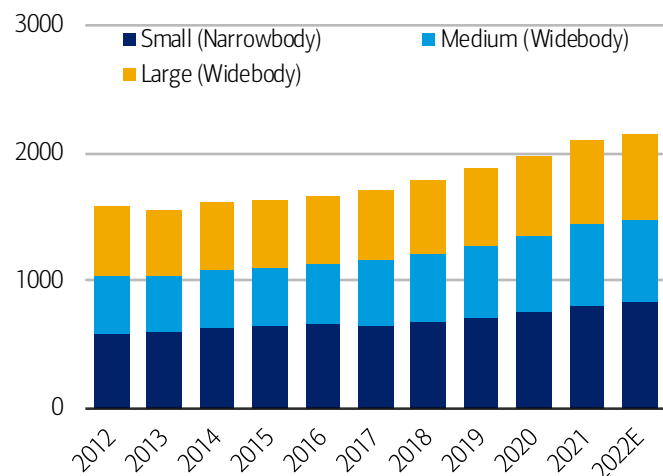


Source: BofA Global Research, Flightradar24

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Exhibit 39: Number of global freighter fleet from major OEMs

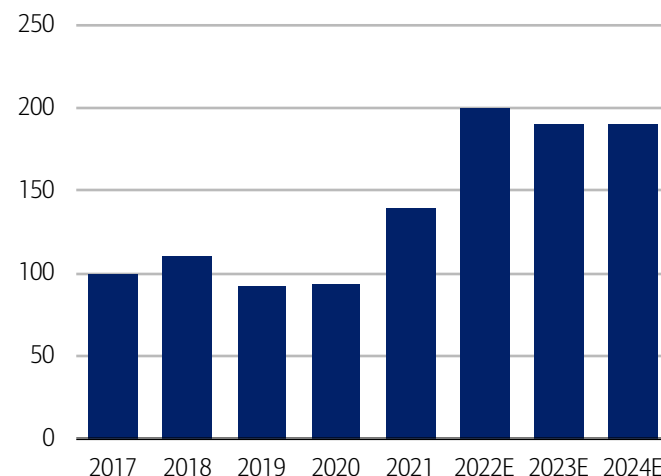
Fleet growth is at 3.2% CAGR since 2012



Source: Trade and Transport Group, BofA Global Research. Note excluding smaller feeder
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Exhibit 40: Number of freighter jet conversions from passenger

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

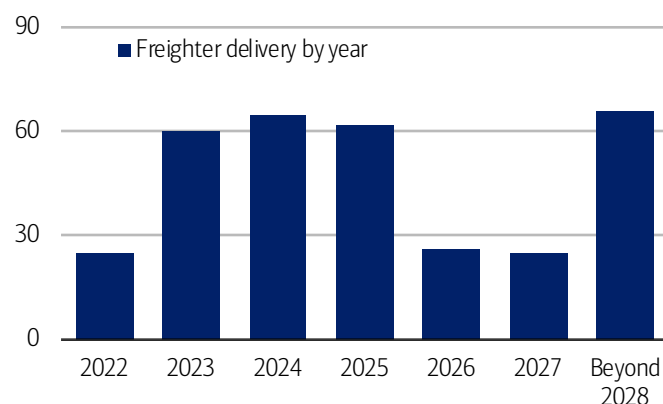


Source: Cirium, BofA Global Research estimates

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Exhibit 41: Number of freighter deliveries by year

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

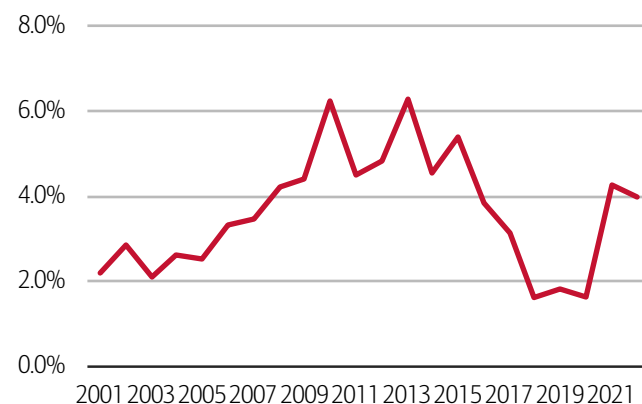


Source: Cirium, BofA Global Research estimates

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Exhibit 42: Annual freighter retirement as % of in-service fleet

About 3.5% retirement rate a year through the cycle

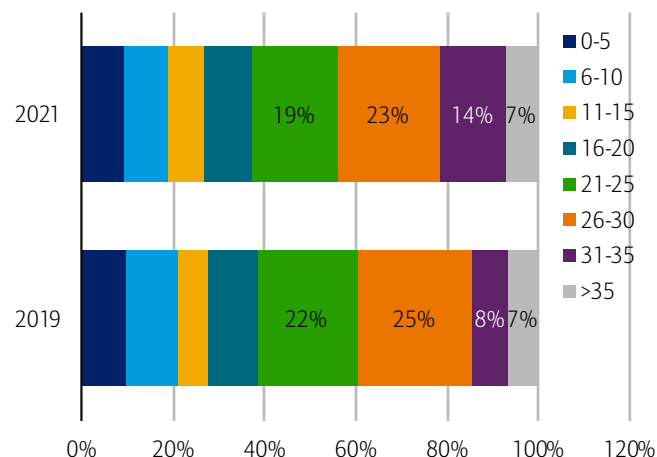


Source: Cirium, BofA Global Research estimates

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Exhibit 43: Age of freighters by year, 2019 and 2021

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

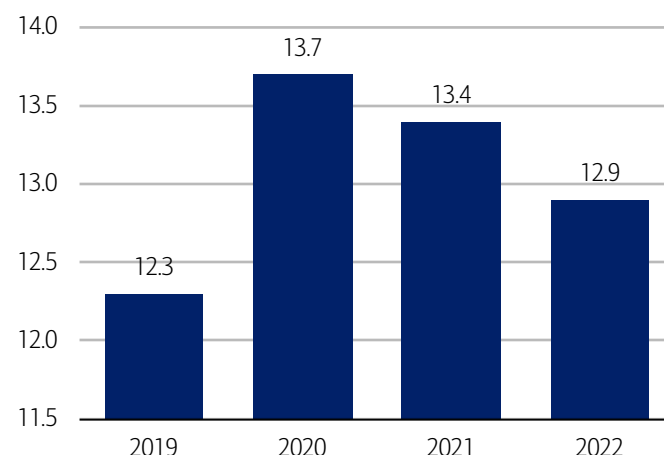


Source: Xeneta, BofA Global Research estimates

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Exhibit 44: Large freighter hours flown per day

Utilization hours not far from 2019 levels



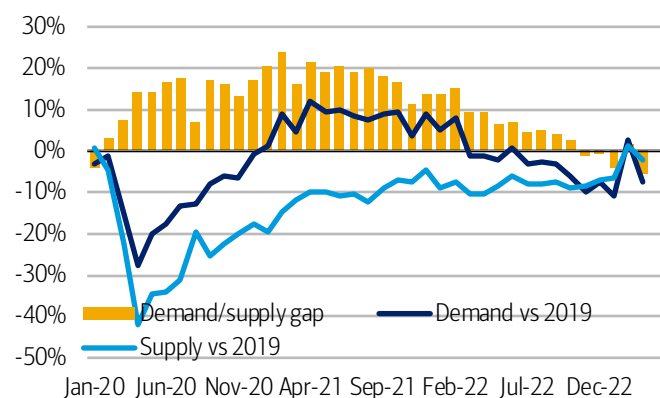
Source: Xeneta, BofA Global Research estimates

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Demand/supply balance

Exhibit 45: Global airfreight demand and supply vs 2019 levels and demand-supply gap

Balance has flipped to negative since November 2022

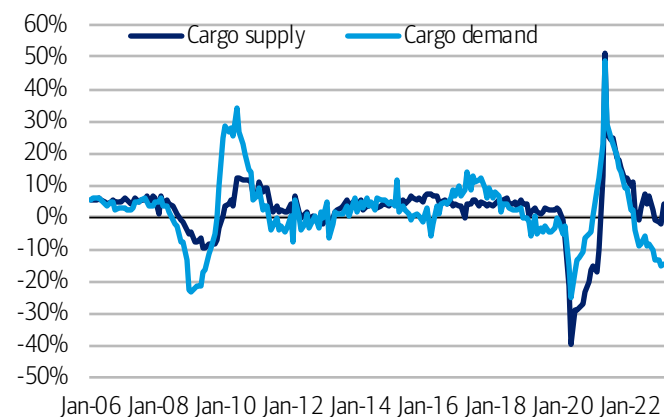


Source: IATA, BofA Global Research estimates

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Exhibit 46: 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 47: Global air cargo annual supply & demand balance

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

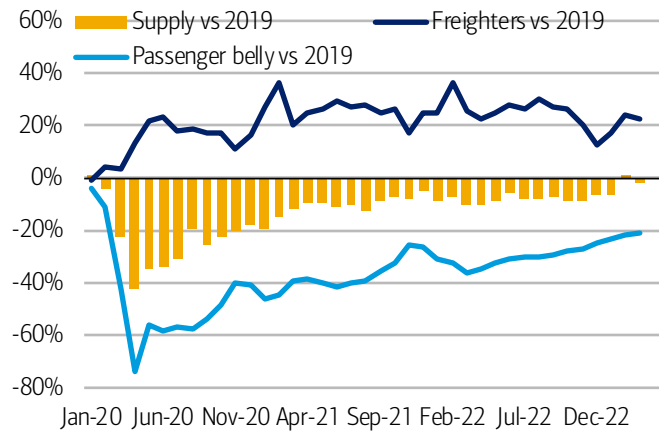
YoY %	A	A	A	A	A	A	A	A	A	A	A	A	A	E	E
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Demand (FTK)	20.8%	-0.7%	-1.0%	1.9%	4.5%	3.4%	3.8%	10.1%	3.7%	-3.3%	-8.9%	17.5%	-8.0%	-3.8%	3.2%
Capacity (AFTK)	8.9%	4.1%	1.1%	3.1%	3.7%	6.1%	5.3%	3.8%	5.2%	2.1%	-20.9%	12.8%	2.9%	7.3%	7.8%
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 48: Global airfreight capacity vs 2019, freighters & belly

Airfreight capacity is close to 2019 levels now

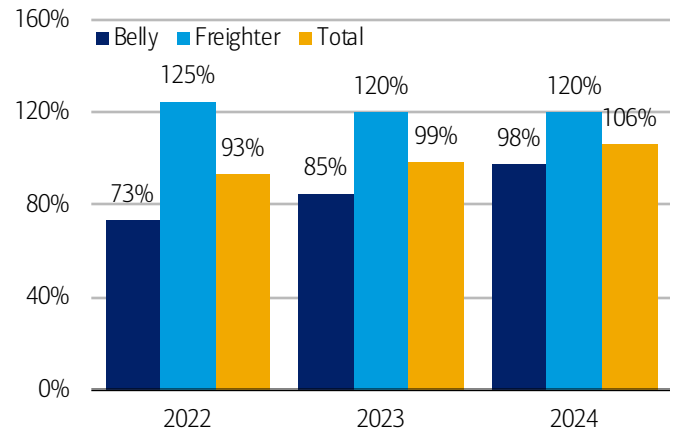


Source: BofA Global Research estimates, IATA

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Exhibit 49: 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

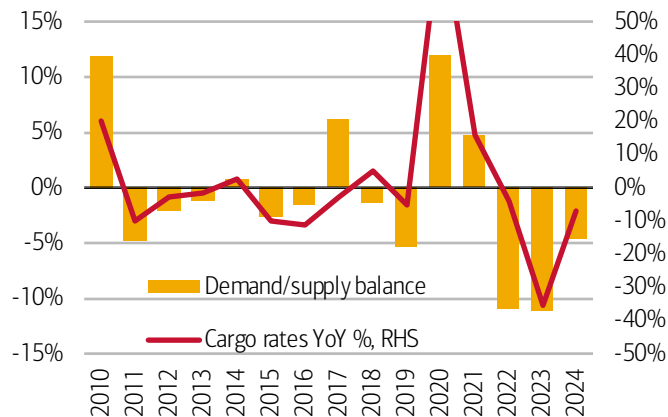


Source: BofA Global Research estimates

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Exhibit 50: Global air cargo balance and cargo yield YoY %

Cargo balance drives cargo yield with high correlation at 0.77

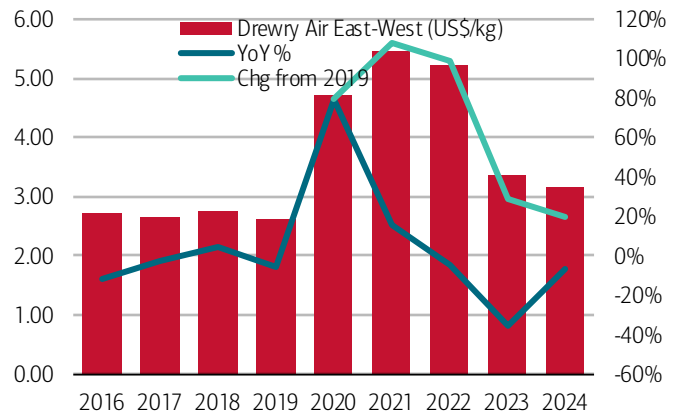


Source: IATA, BofA Global Research estimates

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Exhibit 51: Global air cargo yield and % change

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

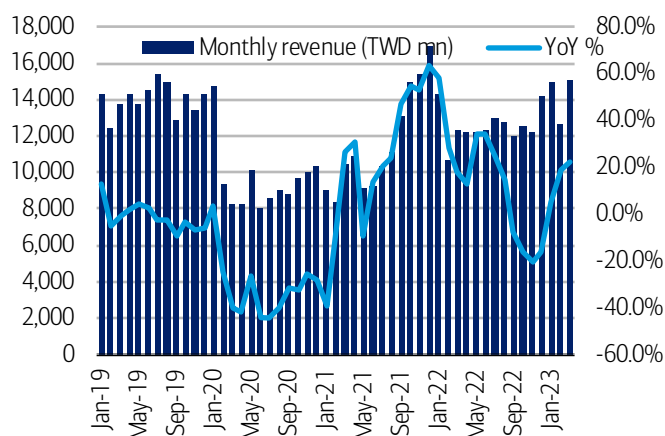


Source: Drewry, IATA, BofA Global Research estimates

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Airlines operating data

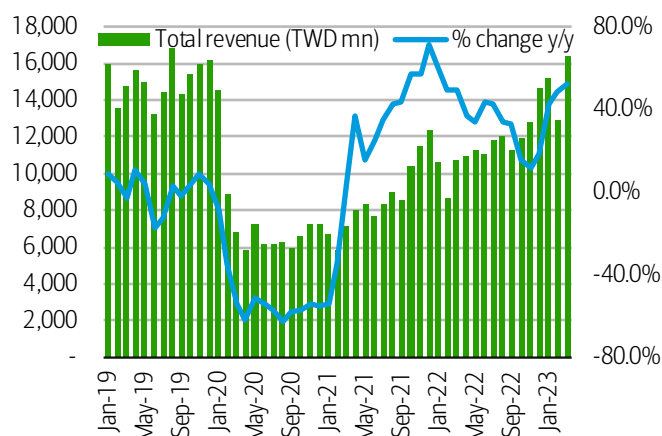
Exhibit 52: China Airlines – monthly revenue (TWD mn) and YoY %
March revenue +22% YoY and +20% MoM



Source: BofA Global Research, company report

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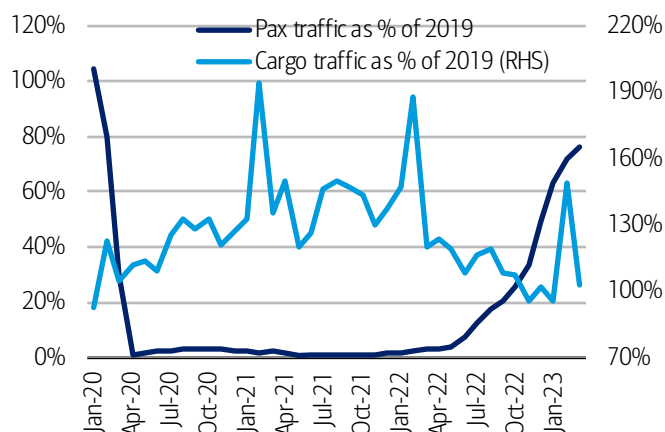
Exhibit 53: EVA Air – monthly revenue (TWD mn) and YoY %
March revenue +52% YoY and +27% MoM



Source: BofA Global Research, company report

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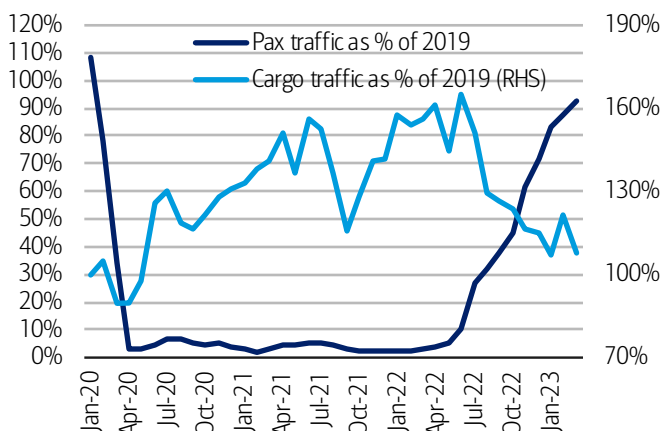
Exhibit 54: CAL passenger (RPK) and cargo (FTK) traffic as % of 2019
March passenger traffic at 76% of 2019 levels & cargo traffic at 103%



Source: BofA Global Research, company report

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Exhibit 55: EVA passenger (RPK) and cargo (FTK) traffic as % of 2019
March passenger traffic at 93% of 2019 levels & cargo traffic at 108%

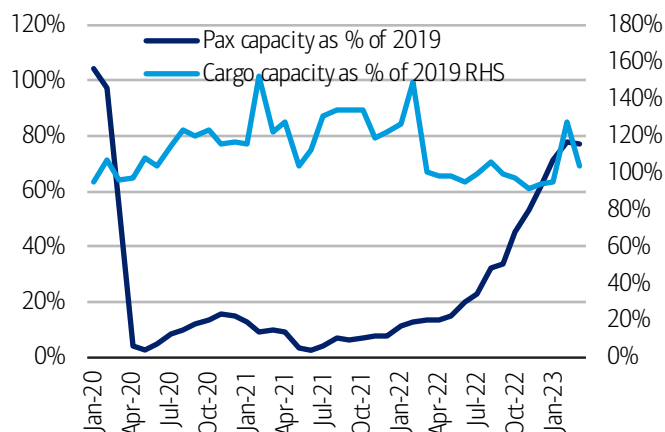


Source: BofA Global Research, company report

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Exhibit 56: CAL passenger and cargo capacity as % of 2019

March passenger capacity at 77% of 2019 levels and cargo at 104%

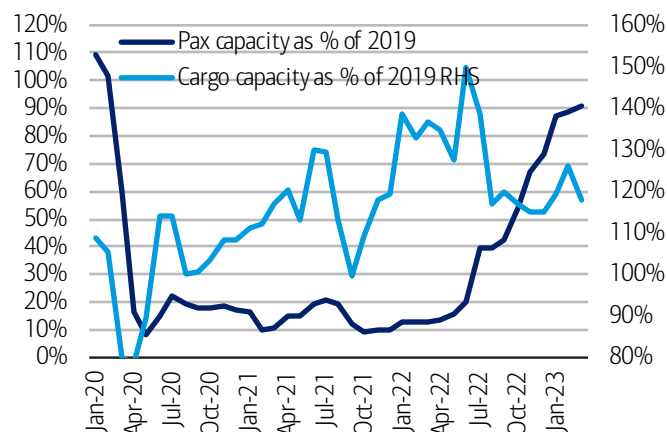


Source: BofA Global Research, company report

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Exhibit 57: EVA passenger and cargo capacity as % of 2019

March passenger capacity at 91% of 2019 levels and cargo at 118%

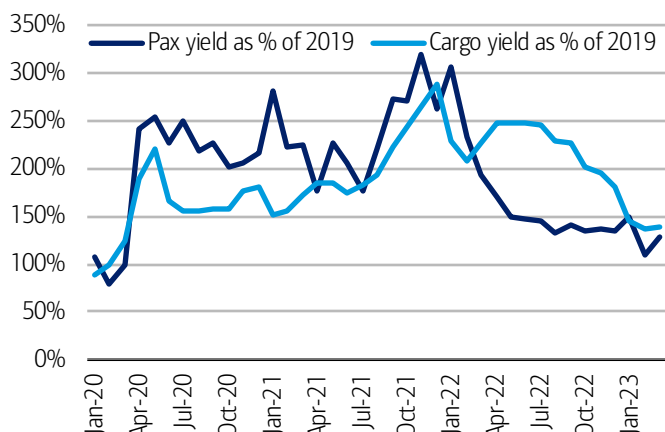


Source: BofA Global Research, company report

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

March passenger yield at 127% of 2019 levels and cargo yield at 138%

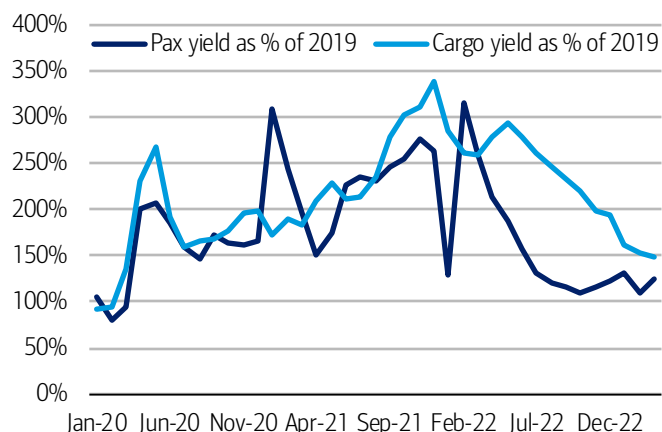


Source: BofA Global Research, company report

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Exhibit 59: EVA passenger and cargo yields as % of 2019 levels

March passenger yield at 125% of 2019 levels and cargo yield at 149%

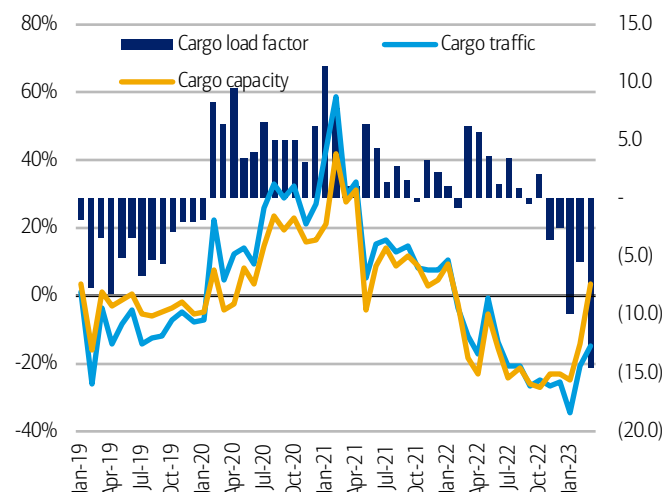


Source: BofA Global Research, company report

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

March cargo load factor at 68.5%, -14.6ppts YoY

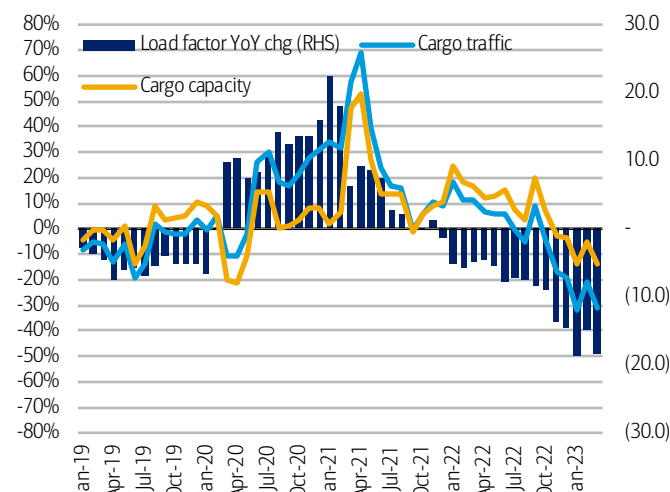


Source: BofA Global Research, company report

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Exhibit 61: EVA cargo traffic and capacity growth, loads YoY chg (RHS)

March cargo load factor at 73%, -18.3ppts YoY

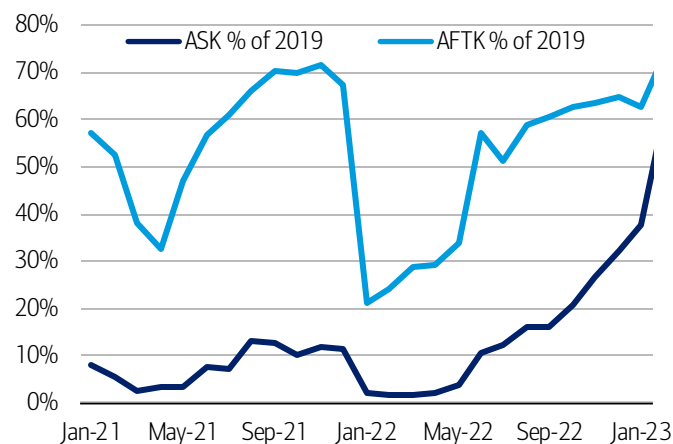


Source: BofA Global Research, company report

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Exhibit 62: Cathay Pacific passenger and cargo capacity as % of 2019

Feb passenger (ASK) capacity at 62% of 2019 levels and cargo (AFTK) capacity at 74%

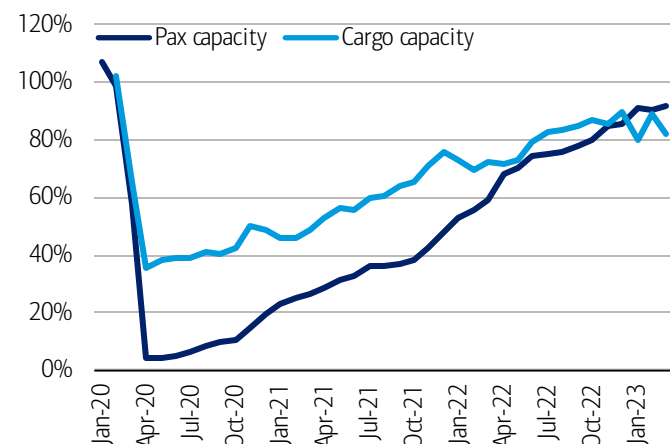


Source: BofA Global Research, company report

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Exhibit 63: Singapore Airlines passenger & cargo capacity as % of 2019

March passenger capacity at 91% of 2019 levels and cargo capacity at 82%

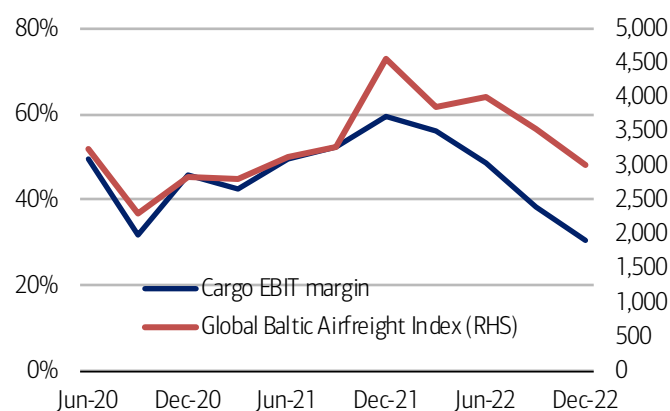


Source: BofA Global Research, company report

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Exhibit 64: Singapore Airlines quarterly cargo EBIT margin and Baltic Airfreight Index (RHS)

Dec-Q SIA cargo margin at 31% and likely going down to 10-15% in Mar-Q

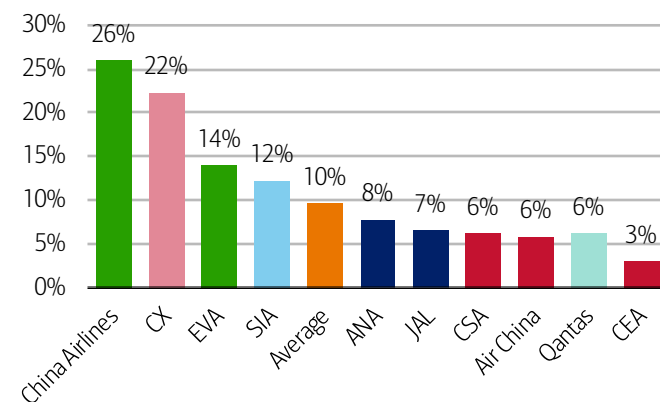


Source: BofA Global Research estimates, company report

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Exhibit 65: Asian airlines: Cargo as % of revenue in FY2019

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

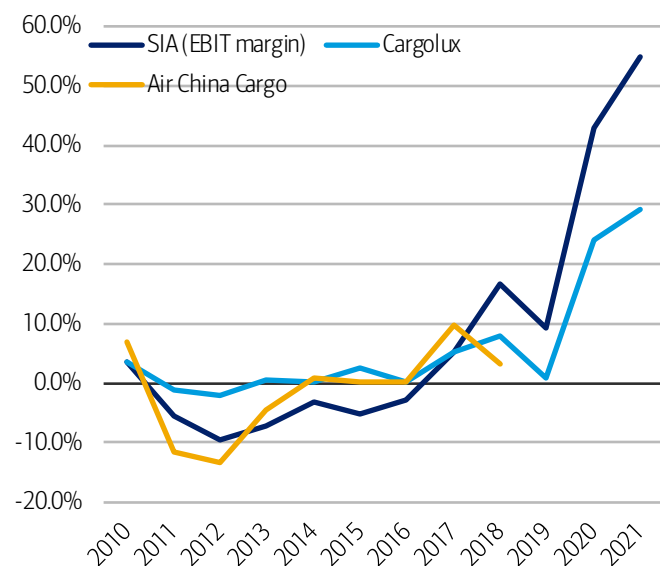


Source: BofA Global Research estimates, company report

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Exhibit 66: Cargo margins for selected airlines with disclosures

Cargo historically has been largely a breakeven business

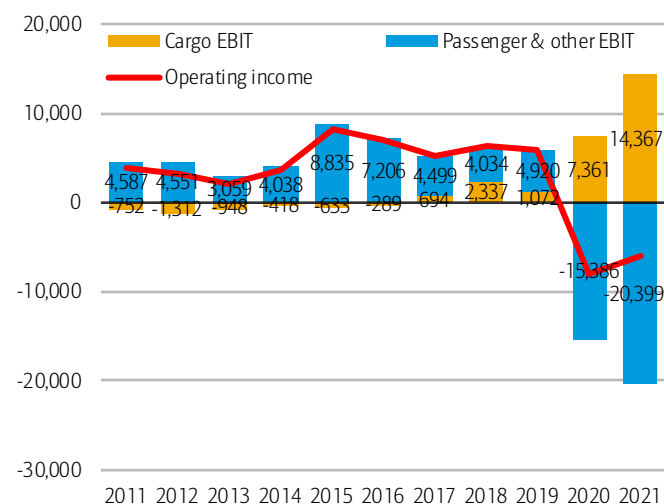


Source: BofA Global Research estimates, company report

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Exhibit 67: 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



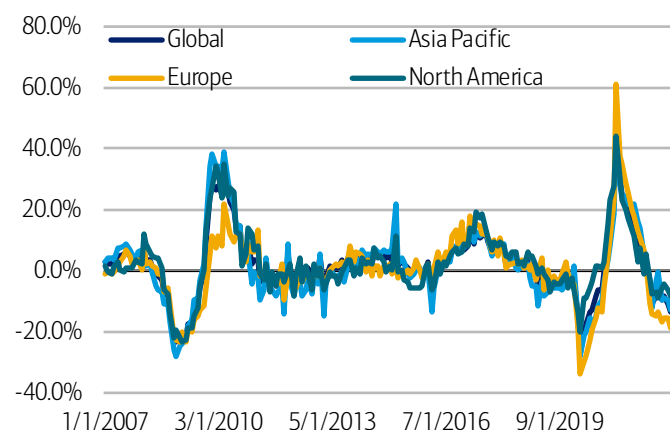
Source: BofA Global Research estimates, company report. Note airlines include Air China, CEA, CSA, JAL, ANA, EVA, China Airlines, CX and SIA

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Global airfreight market overview

Exhibit 68: Monthly air cargo demand growth YoY %

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

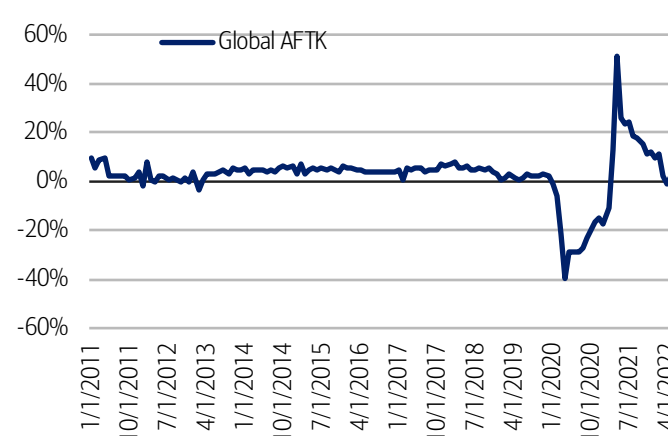


Source: IATA, BofA Global Research

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Exhibit 69: Monthly air cargo supply (AFTK) growth YoY %

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

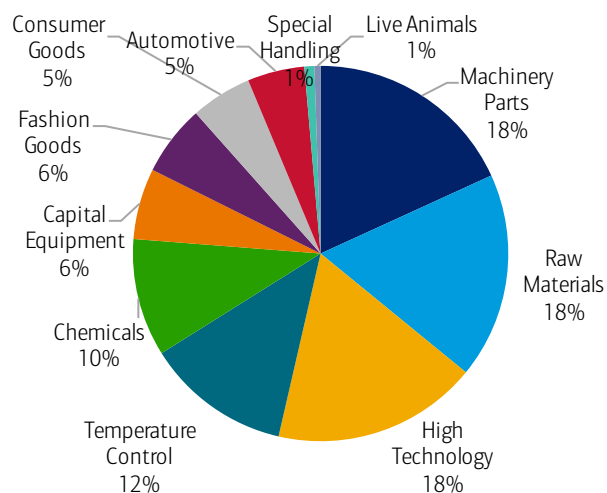


Source: IATA, BofA Global Research

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Exhibit 70: Global air cargo demand (metric tonne) by industry, 2022

Major industries are machinery parts, raw materials and high tech

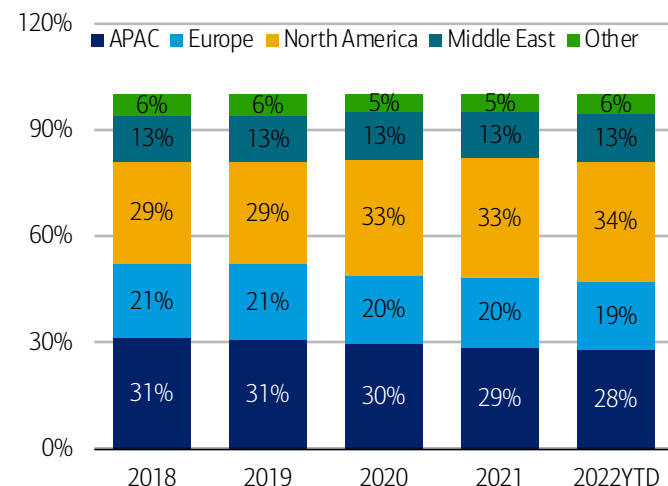


Source: BofA Global Research estimates

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Exhibit 71: Global air cargo demand by region

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

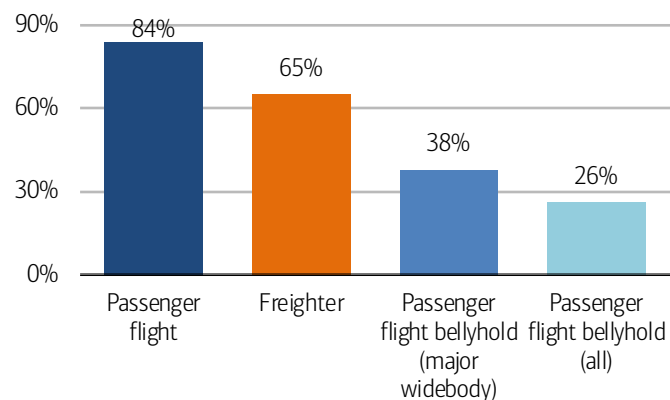


Source: IATA, BofA Global Research

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Exhibit 72: Seat/cargo load factors for different type of services, 2019

Freighter has higher cargo loads than bellyhold capacity

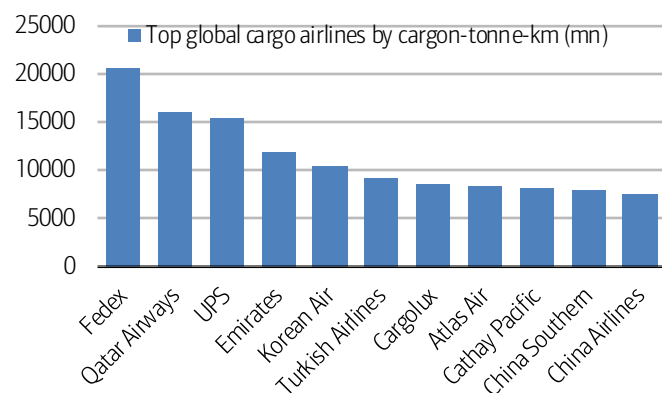


Source: IATA, Boeing

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Exhibit 74: Top global cargo airlines by cargo-tonne-km (mn), 2021

Fedex, Qatar and UPS the global top 3

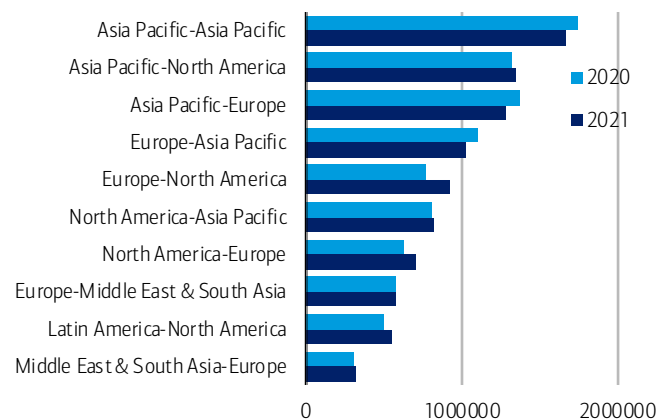


Source: IATA

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Exhibit 76: Global air cargo trade (metric ton) by trade lane

Trades among Asia, North America and Europe the top lanes

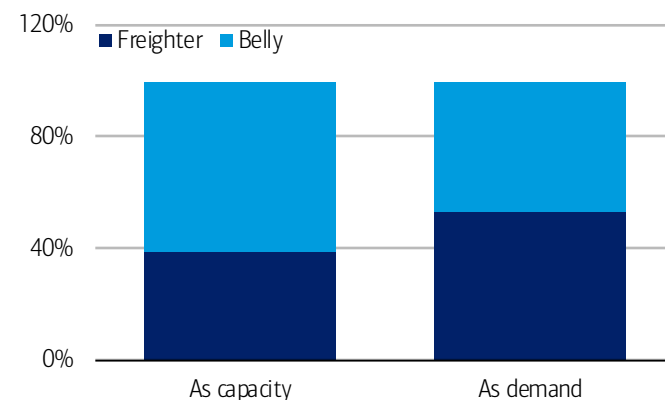


Source: IATA

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Exhibit 73: Capacity and demand breakdown by cargo fleet type, 2019

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

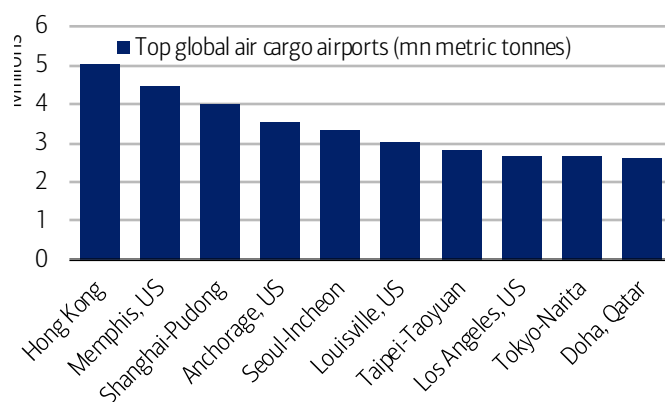


Source: IATA

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Exhibit 75: Top global air cargo airports (mn metric tonnes), 2021

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

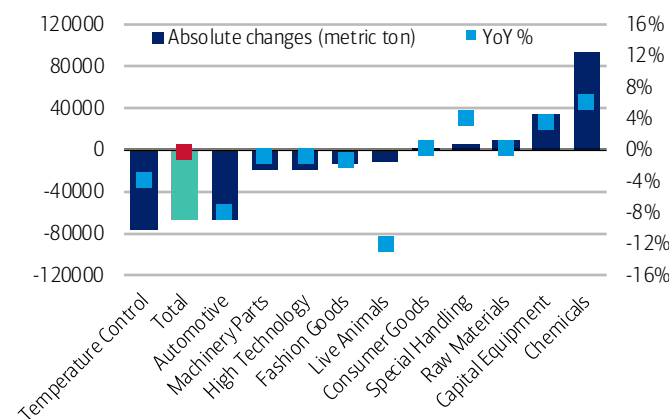


Source: ACI

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Exhibit 77: 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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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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