



ASSOCIATIONS OF STAR ALLIANCE PILOTS

Global Industry Overview

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Global Economic Performance

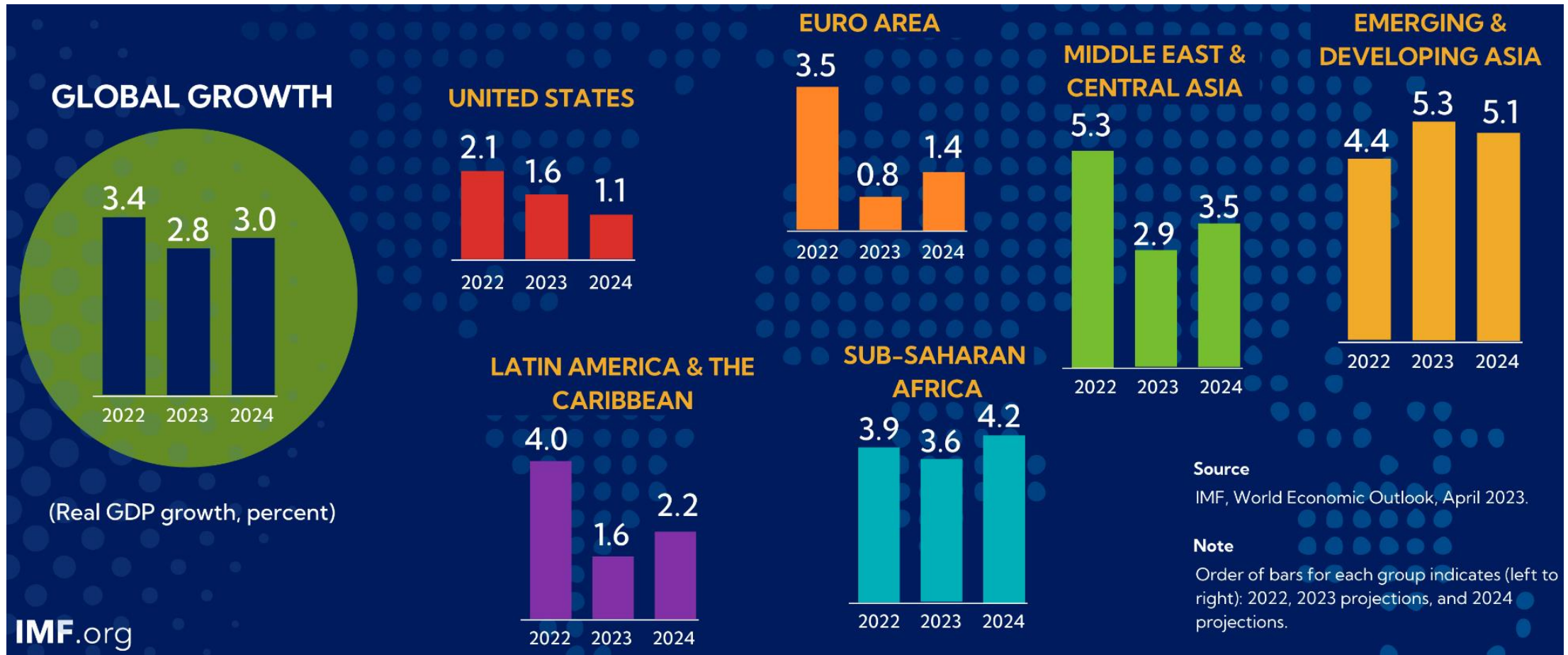


Global economy faces a rocky recovery

- On the surface, the global economy appears poised for a gradual recovery from the powerful blows of the pandemic and of Russia's unprovoked war on Ukraine
 - China is rebounding strongly following the reopening of its economy
 - Supply-chain disruptions are unwinding, while the dislocations to energy and food markets caused by the war are receding
 - Simultaneously, the massive and synchronous tightening of monetary policy by most central banks should start to bear fruit, with inflation moving back toward its targets
- **Below the surface, however, turbulence is building, and the situation is quite fragile, as the recent bout of banking instability reminded us**
 - Inflation is much stickier than anticipated even a few months ago
 - While global inflation has declined, that reflects mostly the sharp reversal in energy and food prices
 - But core inflation, excluding the volatile energy and food components, has not yet peaked in many countries

Source: IMF World Economic Outlook (April 2023)

The IMF is projecting subpar economic growth in 2023



Source: IMF World Economic Outlook (April 2023)

Global growth will bottom out at 2.8% this year before rising modestly to 3.0% in 2024

Real GDP Growth and Forecasts

	2021	2022	2023P	2024P
World	6.2%	3.4%	2.8%	3.0%
Advanced Economies	5.4%	2.7%	1.3%	1.4%
United States	5.9%	2.1%	1.6%	1.1%
Canada	5.0%	3.4%	1.5%	1.5%
Euro Area	5.3%	3.5%	0.8%	1.4%
United Kingdom	7.6%	4.0%	-0.3%	1.0%
Japan	2.1%	1.1%	1.3%	1.0%
Emerging Market and Developing Economies	6.7%	4.0%	3.9%	4.2%
Emerging and Developing Asia	7.4%	4.4%	5.3%	5.1%
Latin America and the Caribbean	7.0%	4.0%	1.6%	2.2%
Emerging and Developing Europe	6.9%	0.8%	1.2%	2.5%
Middle East and Central Asia	4.5%	5.3%	2.9%	3.5%
Sub-Saharan Africa	4.7%	3.9%	3.6%	4.2%

Source: IMF World Economic Outlook (April 2023)

Consumer prices are moving back towards their target

(% YOY growth in consumer prices)	IMF Forecast			Wells Fargo Forecast		
	2022	2023P	2024P	2022	2023P	2024P
World*	8.7	7.0	4.9	7.1	4.9	3.7
Canada	6.8	3.9	2.4	6.8	3.6	2.2
United States	8.0	4.5	2.3	8.0	3.9	2.5
Eurozone	8.4	5.3	2.9	8.4	5.5	2.4
UK	9.1	6.8	3.0	9.1	6.8	2.4
Japan	2.5	2.7	2.2	2.5	1.8	1.2
China	1.9	2.0	2.2	2.0	2.2	2.2
New Zealand	7.2	5.5	2.6	7.2	5.5	3.0
India	6.7	4.9	4.4	6.7	4.8	5.0
Brazil	9.3	5.0	4.8	9.0	5.0	4.0

*IMF's world forecast is for all countries whereas Wells Fargo's world forecast does not include all countries

Sources: IMF World Economic Outlook (April 2023) and Wells Fargo International Economics Forecast - April 25, 2023

Risks to the economic outlook are heavily skewed to the downside

- **Chances of a hard landing have risen sharply**
 - Financial sector stress could amplify and contagion could take hold, weakening the real economy through a sharp deterioration in financing conditions and compelling central banks to reconsider their policy paths
 - Pockets of sovereign debt distress could, in the context of higher borrowing costs and lower growth, spread and become more systemic
 - The war in Ukraine could intensify and lead to more food and energy price spikes, pushing inflation up
 - Core inflation could turn out more persistent than anticipated, requiring even more monetary tightening to tame
 - Fragmentation into geopolitical blocs has the scope to generate large output losses, including through its effects on foreign direct investment

Source: IMF World Economic Outlook (April 2023)

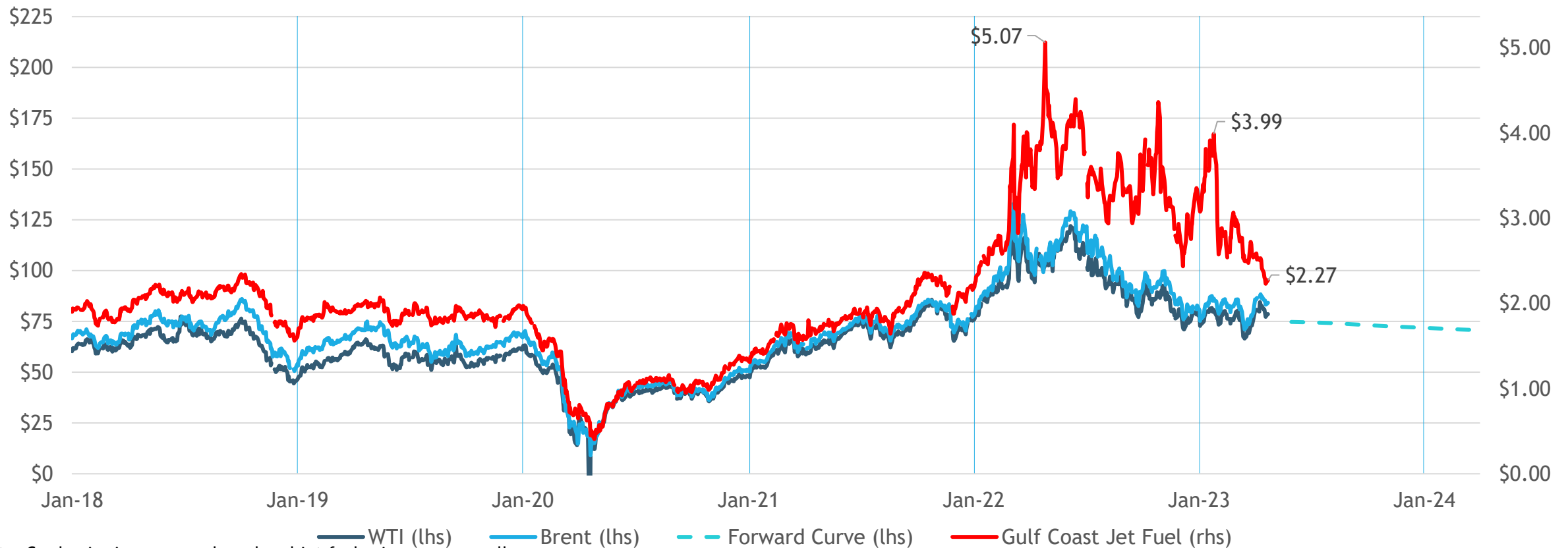


Fuel Update



After rising in January, jet fuel prices have come down; prices peaked at \$3.99/gal. and currently at \$2.27/gal.

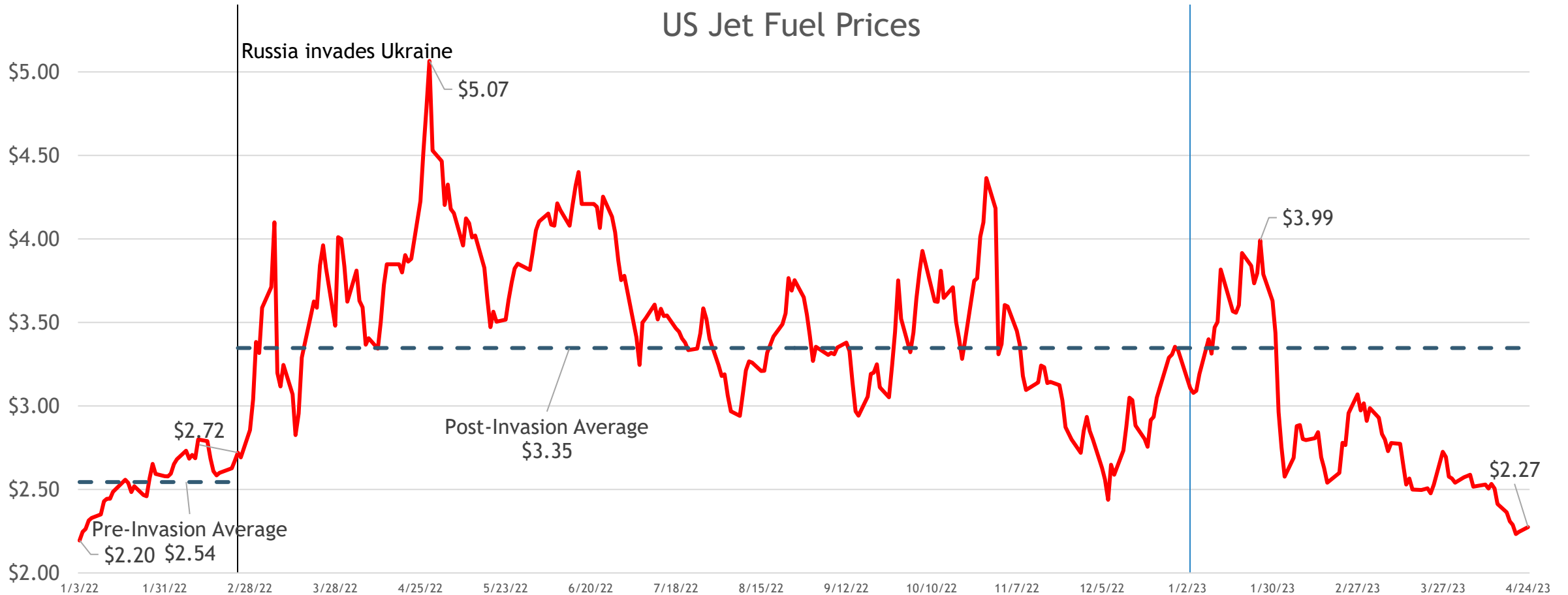
Crude Oil and US Jet Fuel Prices



Note: Crude oil prices are per barrel and jet fuel prices are per gallon

Sources: Crude oil and jet fuel prices per US Energy Information Administration (through April 24, 2023); WTI crude oil futures per CME Group (settlement date of April 27, 2023)

Volatility of jet fuel prices seen in 2022 continued into 2023 but has leveled off recently

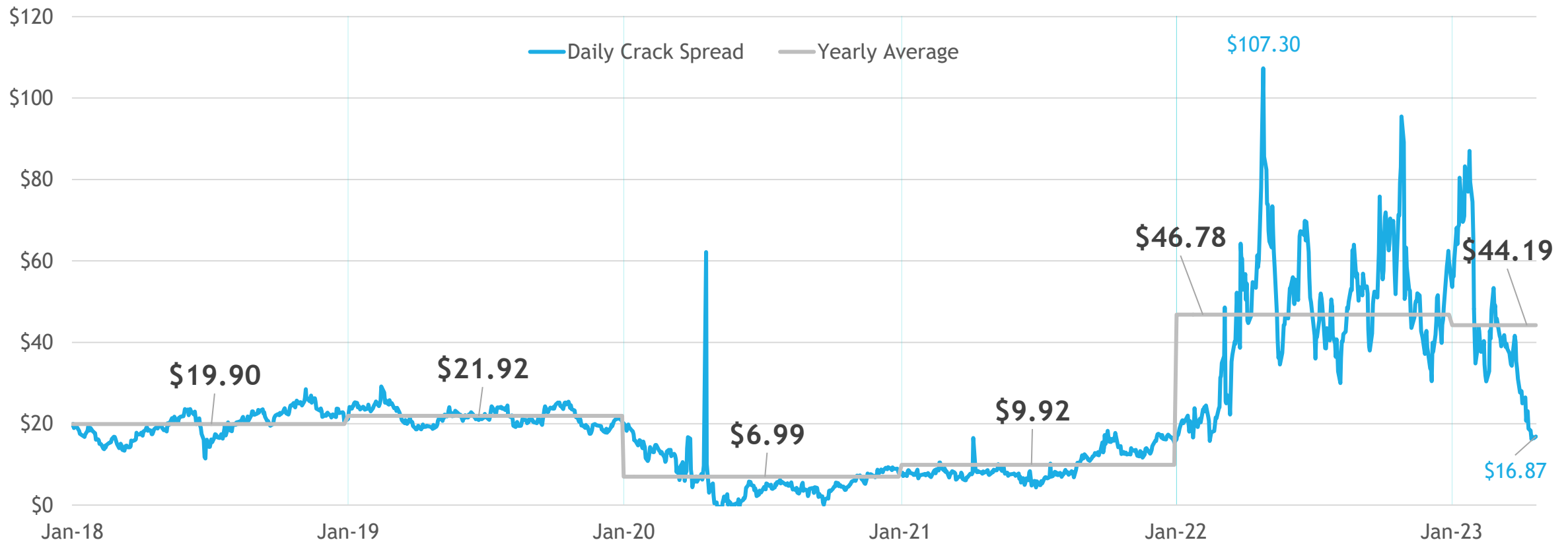


Note: Jet fuel prices are per gallon for Gulf Coast

Source: US Energy Information Administration (through April 24, 2023)

Crack spread has come down since January and is currently around levels seen in 2018-2019

Crack Spread between WTI and US Gulf Coast Jet Fuel



Note: Crack spread calculated as difference between WTI crude oil and US Gulf Coast jet fuel prices

Source: US Energy Information Administration (through April 24, 2023)

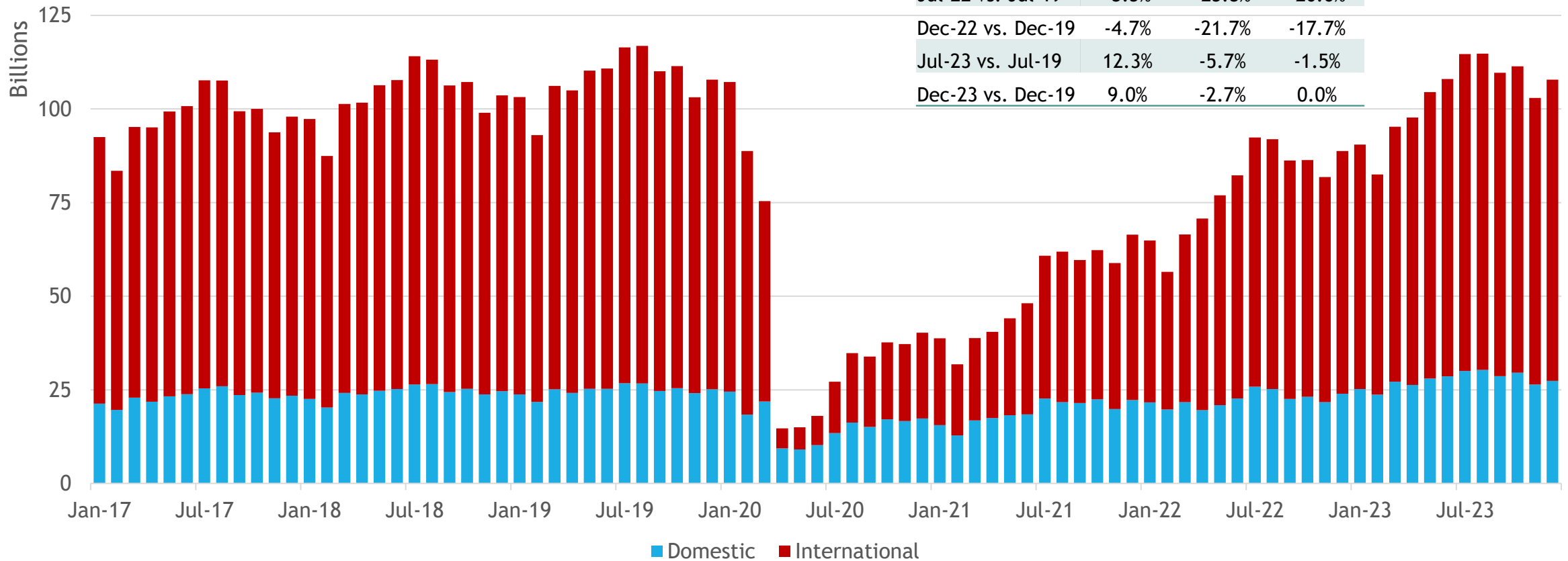


Star Alliance Summary



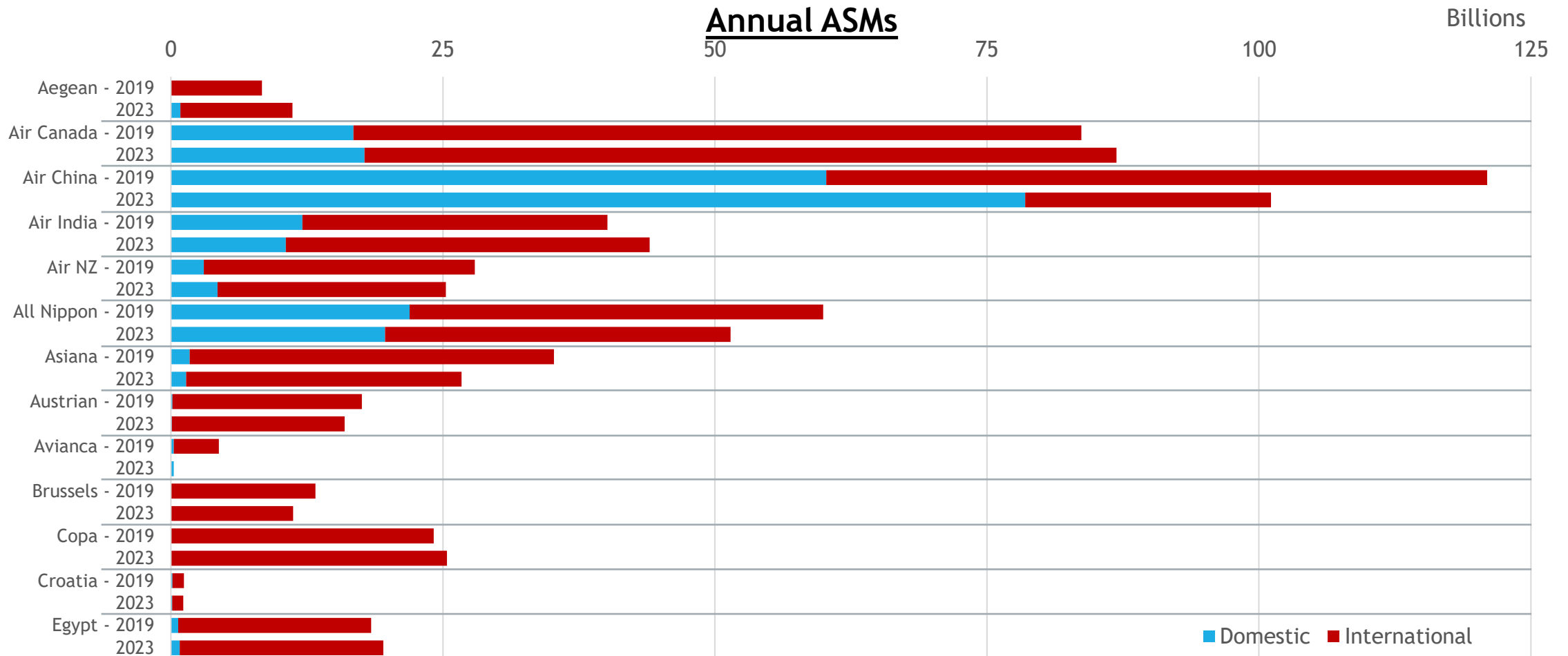
Total scheduled capacity for Star Alliance members down 1.5% in Jul-23 compared to Jul-19, with domestic capacity above 2019 level

Monthly ASMs



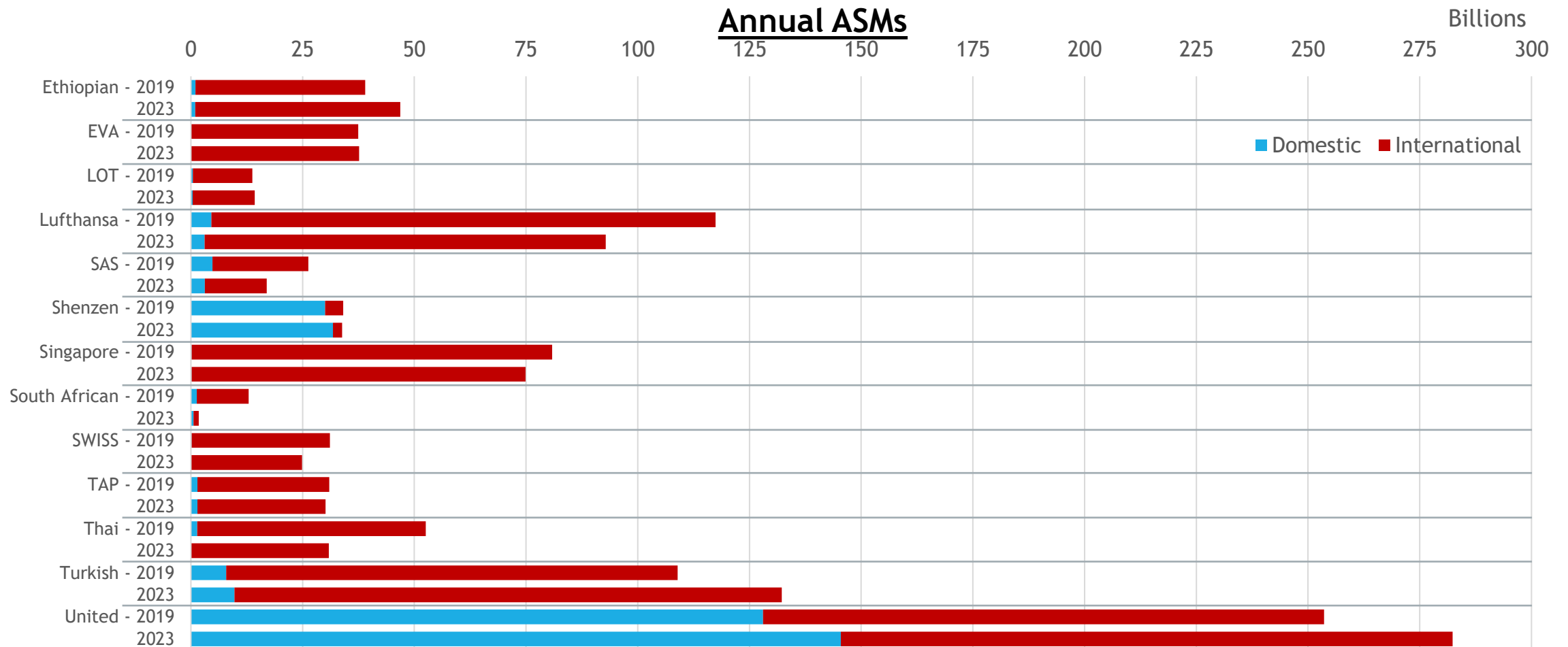
Note: Data is for all current Star Alliance members
 Sources: OAG (schedule load date: April 30, 2023); ALPA E&FA analysis

Recovery to 2019 capacity levels varies among Star Alliance members



Sources: OAG (schedule load date: April 30, 2023); ALPA E&FA analysis

Recovery to 2019 capacity levels varies among Star Alliance members



Sources: OAG (schedule load date: April 30, 2023); ALPA E&FA analysis



Industry Trends & Performance

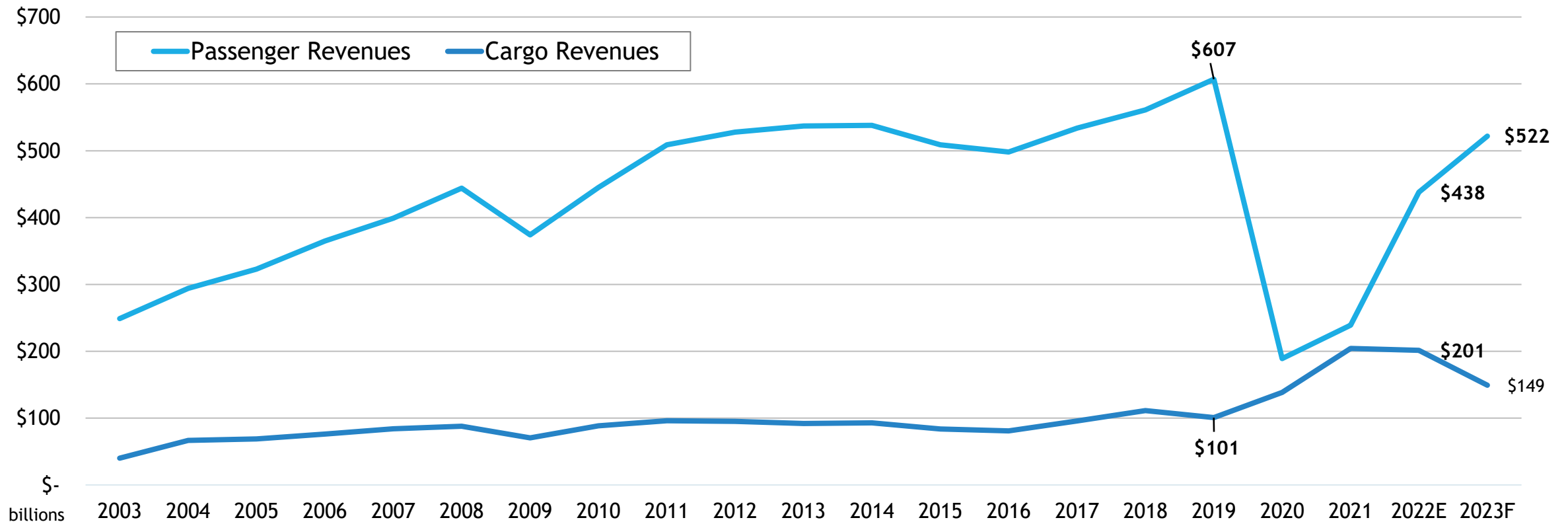


The global
airline
industry's
financial
performance
continues to
strengthen
meaningfully

- **Global airlines are estimated to have lost US\$6.9 billion in 2022**
 - This compares to losses of US\$137.7 billion and US\$42 billion in 2020 and 2021, respectively
- **Industry revenues for 2022 are estimated to be 87% of 2019 revenues**
 - On industry departures of 71.5% of 2019 departures
- **Fuel cost for 2022 are estimated to represent about 30% of operating costs**
 - Up from 23.7% of operating costs in 2019
- **Global demand for air travel remains solid with international catching up with domestic traffic**

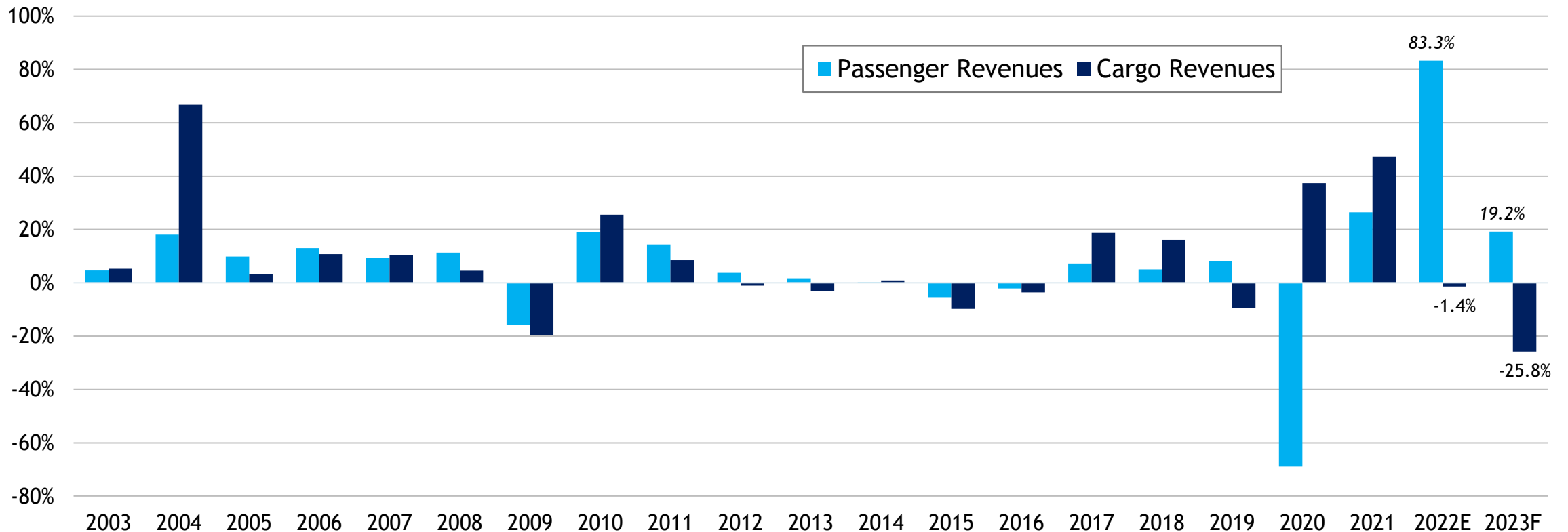


Passenger revenues recovering meaningfully while cargo revenues are off its peak in 2021



Source: IATA Economic Performance of the Airline Industry (December 2022)

Passenger revenues estimated to have increased 83.3% in 2022 while cargo revenues are down slightly

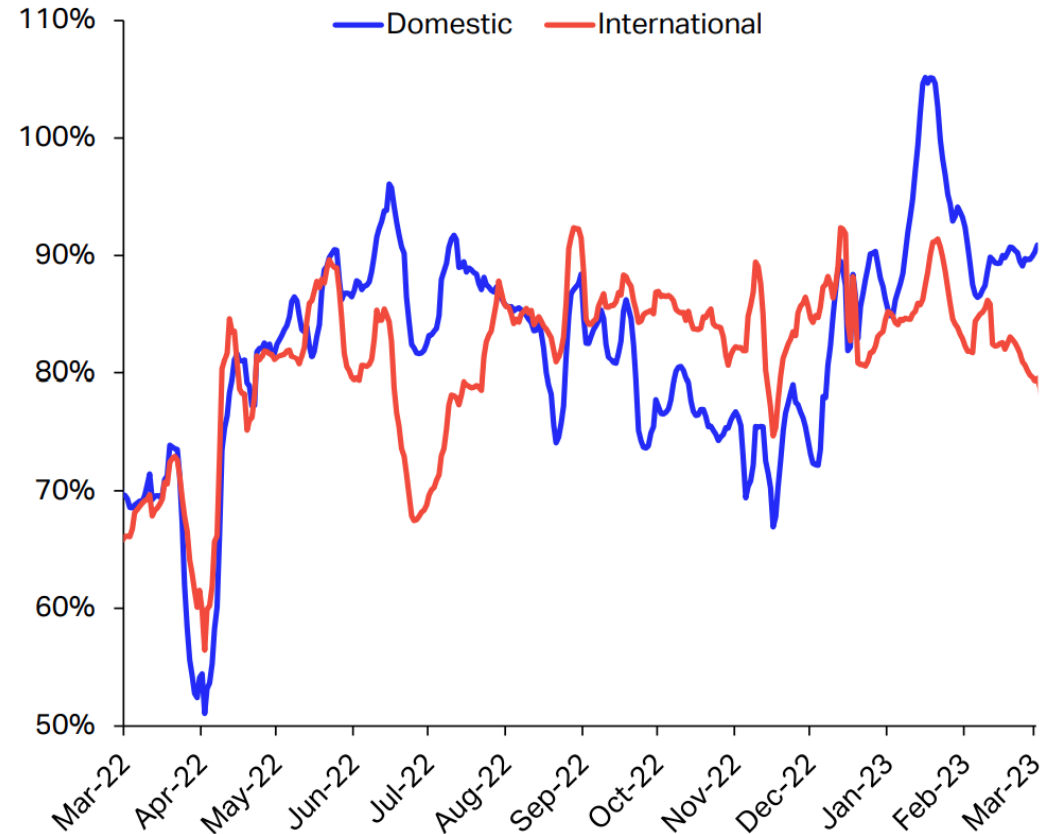


Source: IATA Economic Performance of the Airline Industry (December 2022)

Domestic and International ticket sales diverged in February but were resilient overall

- The Lunar New Year celebrations led to a peak in ticket sales, for both international and domestic travel
 - The timing of the seasonal event coincided with the reopening of China's borders, which boosted demand for air travel
- Over the following weeks domestic and international tickets sales followed slightly diverging trends

Booking by purchase date, year-over-year vs 2019, 7-day



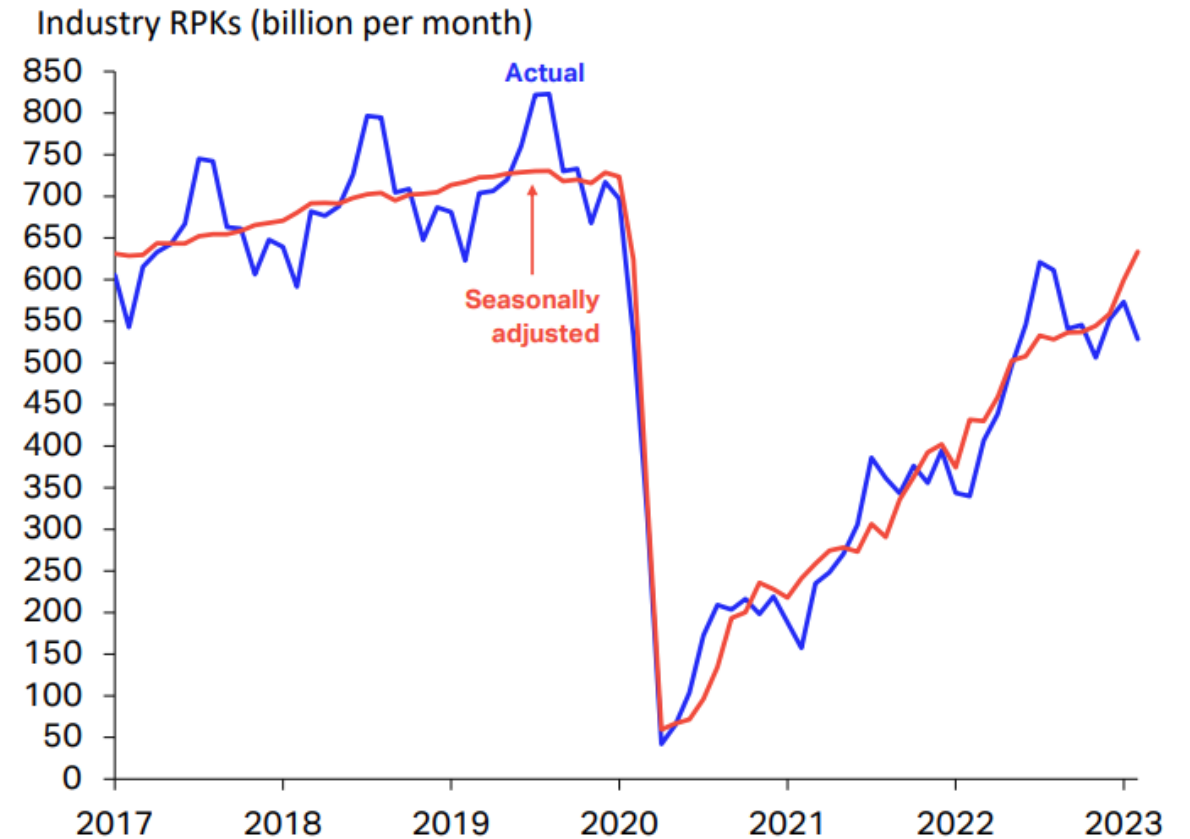
US booking curve data shows ticket revenue for May-July travel exceeding 2019 levels in domestic, trans-Atlantic and corporate

Ticket Rev. vs. 2019	Jan	Feb	Mar	Apr	May	Jun	Jul
Domestic	-13%	-8%	-1%	-5%	3%	18%	11%
Trans-Atlantic	-11%	-12%	0%	15%	27%	43%	29%
South America	-6%	-8%	-8%	-19%	-20%	-21%	-24%
Corp. - Domestic	-35%	-25%	-11%	-17%	-1%	31%	63%

Note: Booking curve data for tickets sold through April 23, 2023
 Source: Citi Research "Americas Airlines" (May 3, 2023)

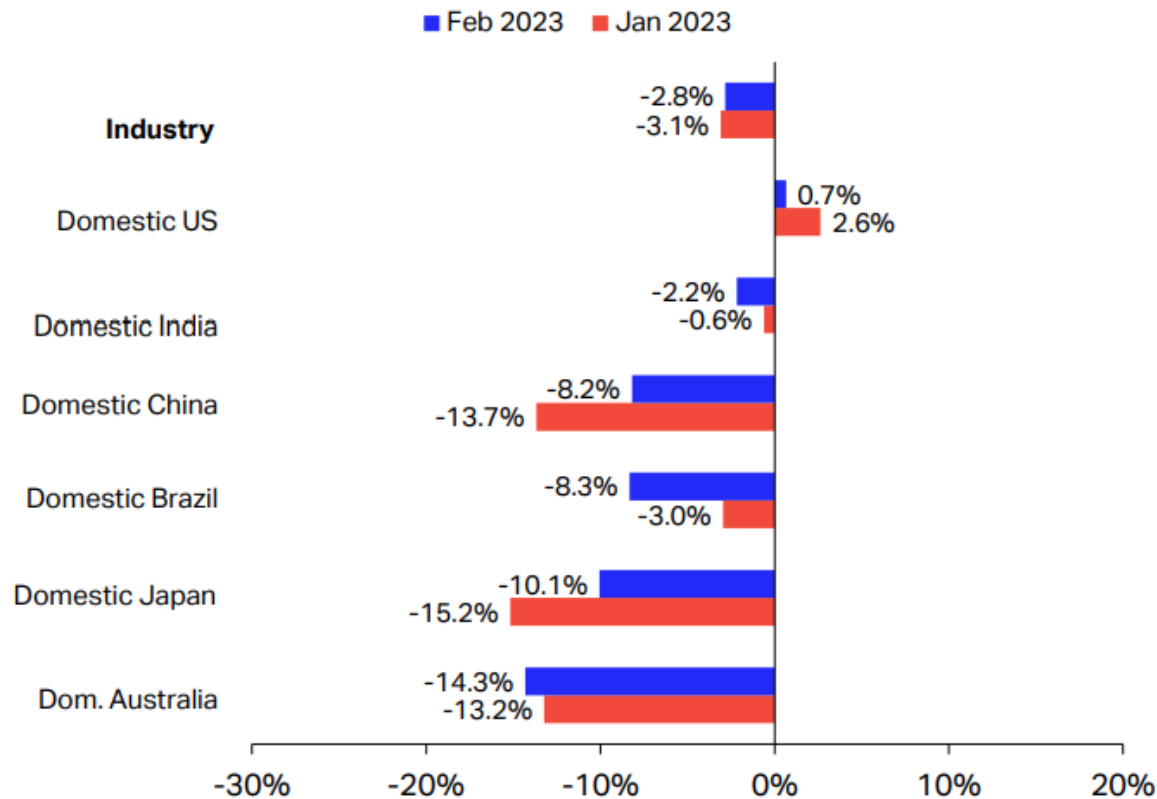
Upward trend in air travel demand stays on course

- Industry-wide revenue-passenger kilometers (RPKs) grew by 55.5% YoY in February and reached 84.9% of their pre-pandemic traffic levels
- In seasonally adjusted (SA) terms, total RPKs grew 5.6% month-on-month (MoM)
- Passenger traffic increased across all regions compared to the previous month
 - The Asia Pacific region's carriers recorded the fastest growth in RPKs at 15% MoM

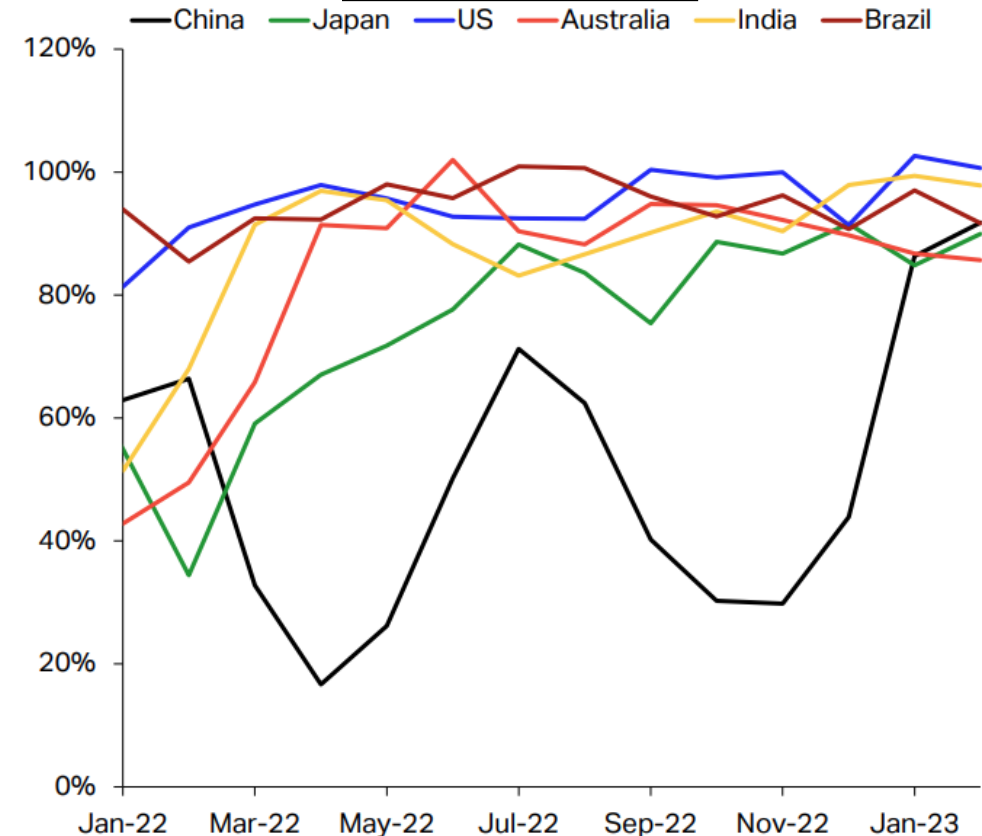


Domestic traffic continues to approach pre-pandemic levels

Domestic RPKs (% change vs the same month in 2019)



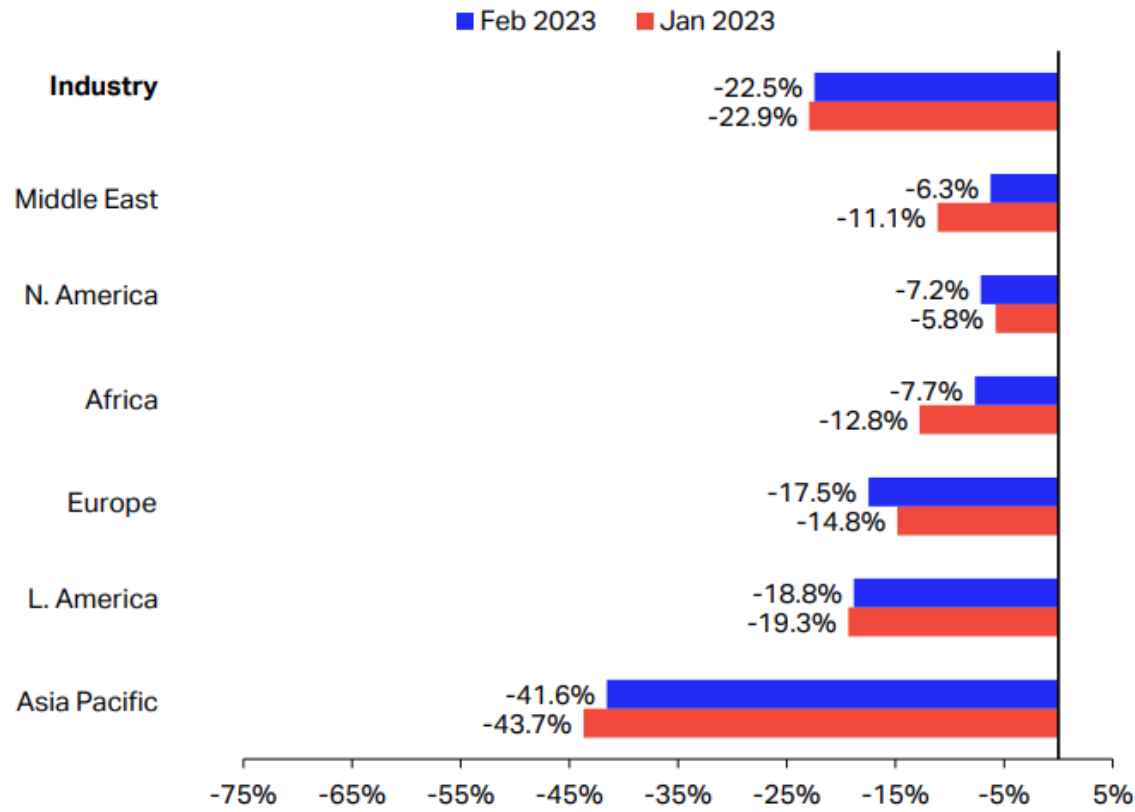
Domestic markets, RPK share (%) of the same month in 2019



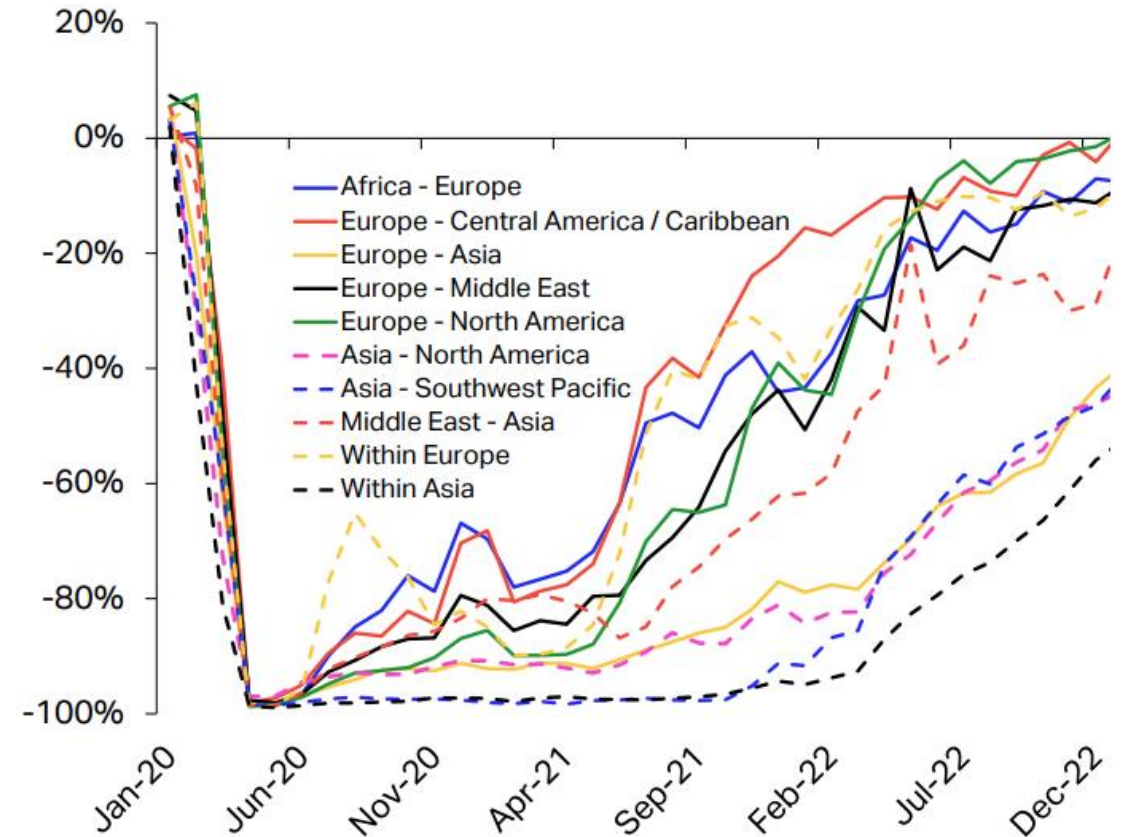
Source: IATA Air Passenger Market Analysis (February 2023)

International passenger traffic growth steadied in February

International RPK (% change vs the same month in 2019)



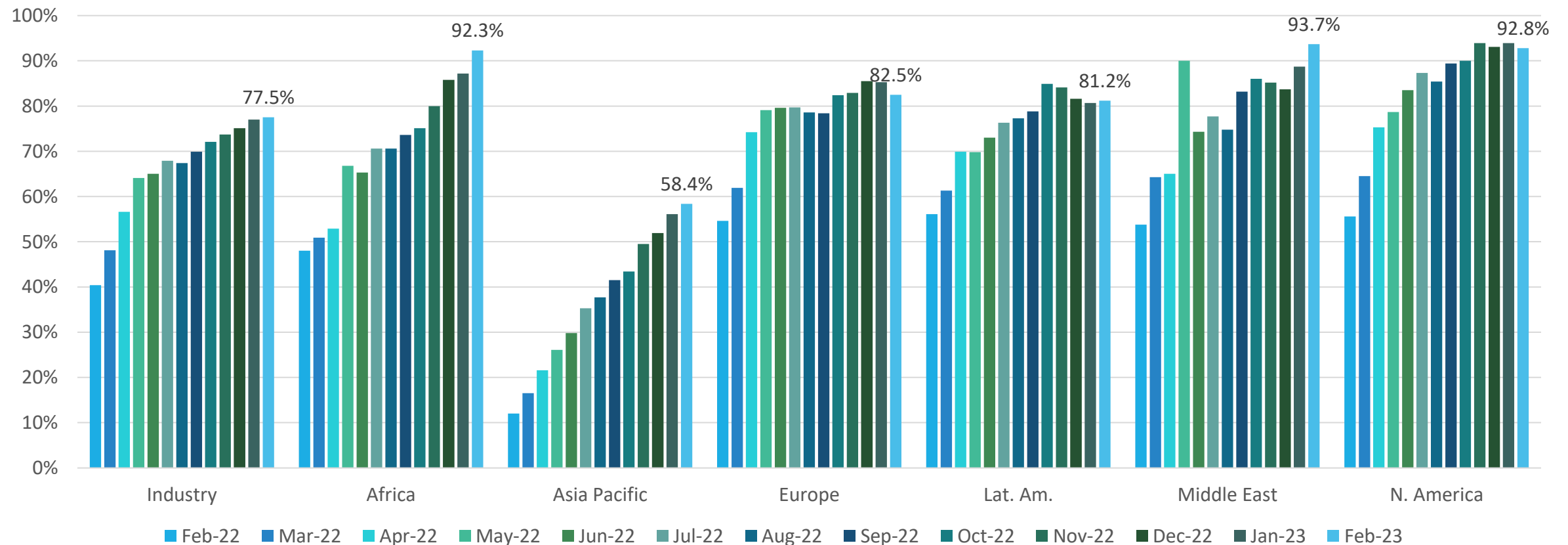
International RPKs YoY% change versus 2019 - Top 10 route areas in 2019



Source: IATA Air Passenger Market Analysis (February 2023)

Total International RPKs have recovered to 77.5% of pre-pandemic levels in February

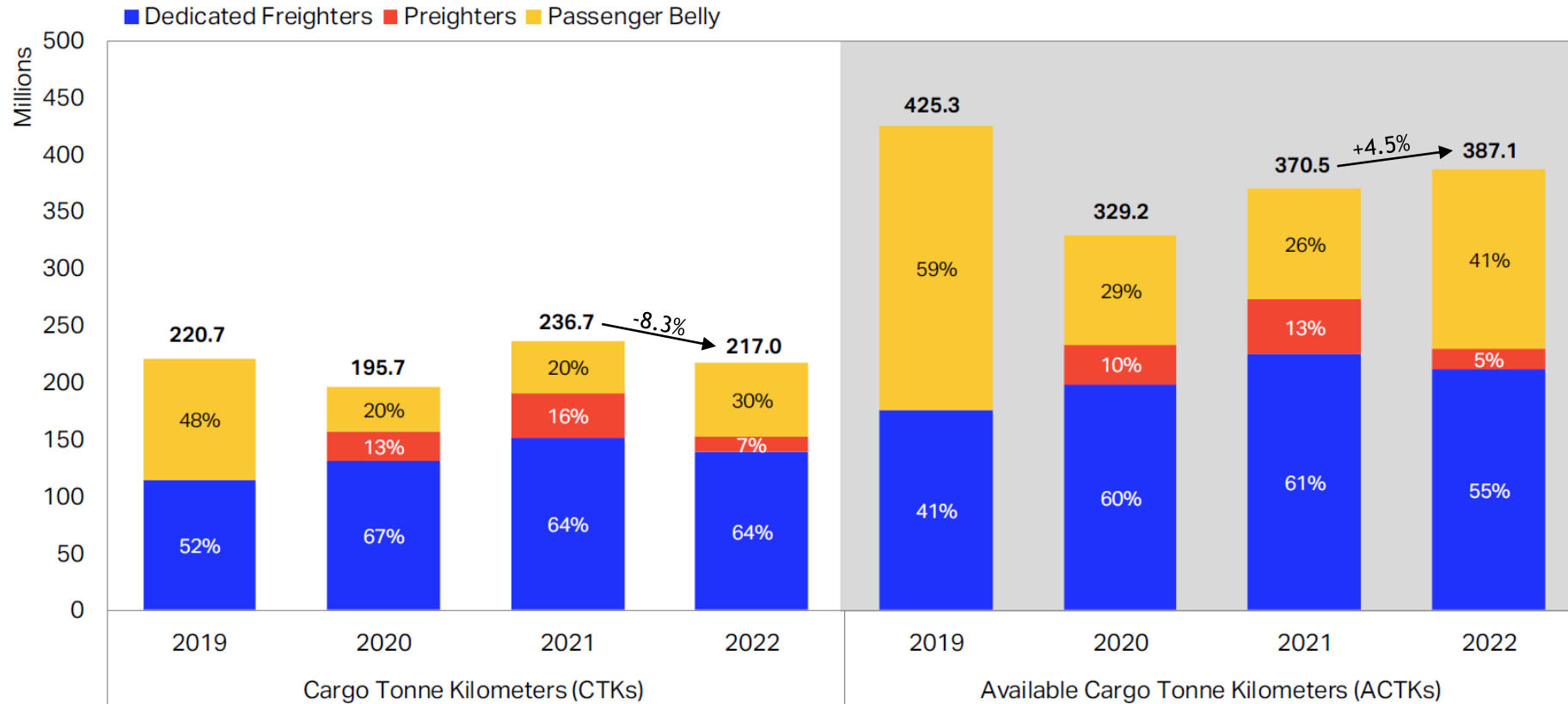
International RPKs (% restored vs. the same month in 2019)



Source: IATA Air Passenger Market Analysis (February 2022 - February 2023)

Uneven recovery trends in air cargo traffic and capacity

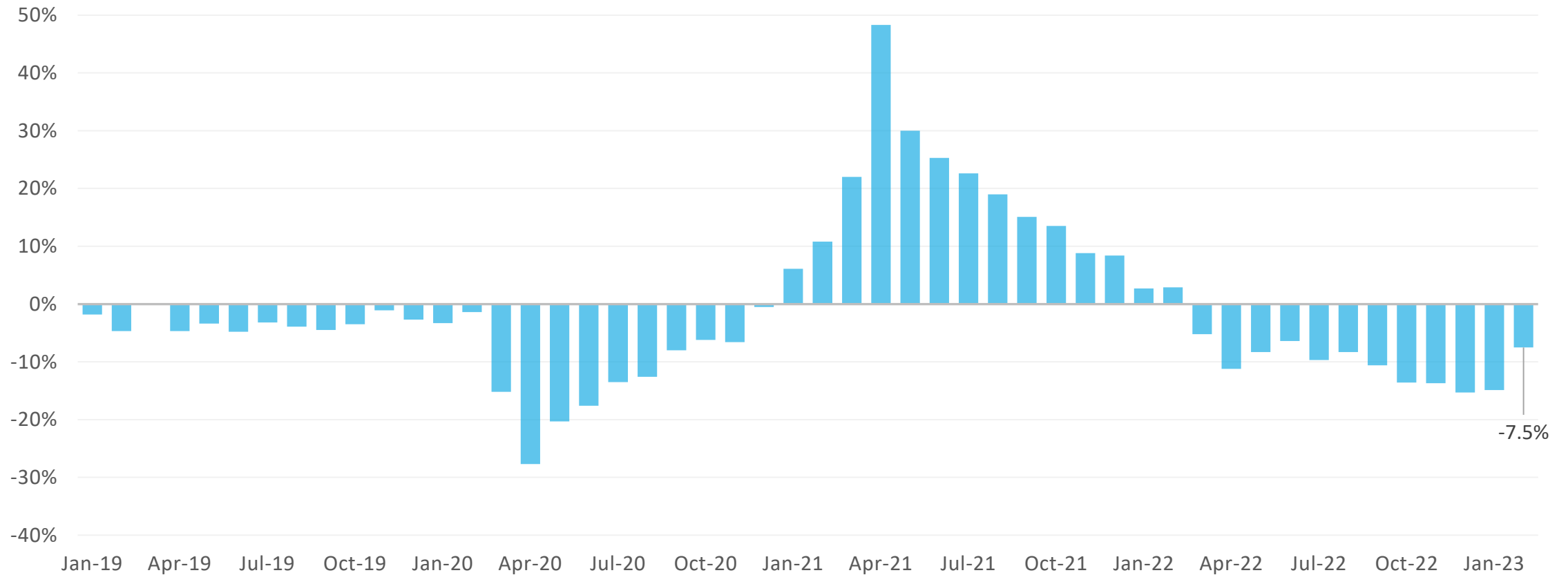
Total International Cargo Traffic and Capacity by Category, 2019 - 2022



Source: IATA Chart of the Week (March 10, 2023)

Air cargo demand continues to decline in 2023

Year over Year Change in Air Cargo Demand (CTKs)

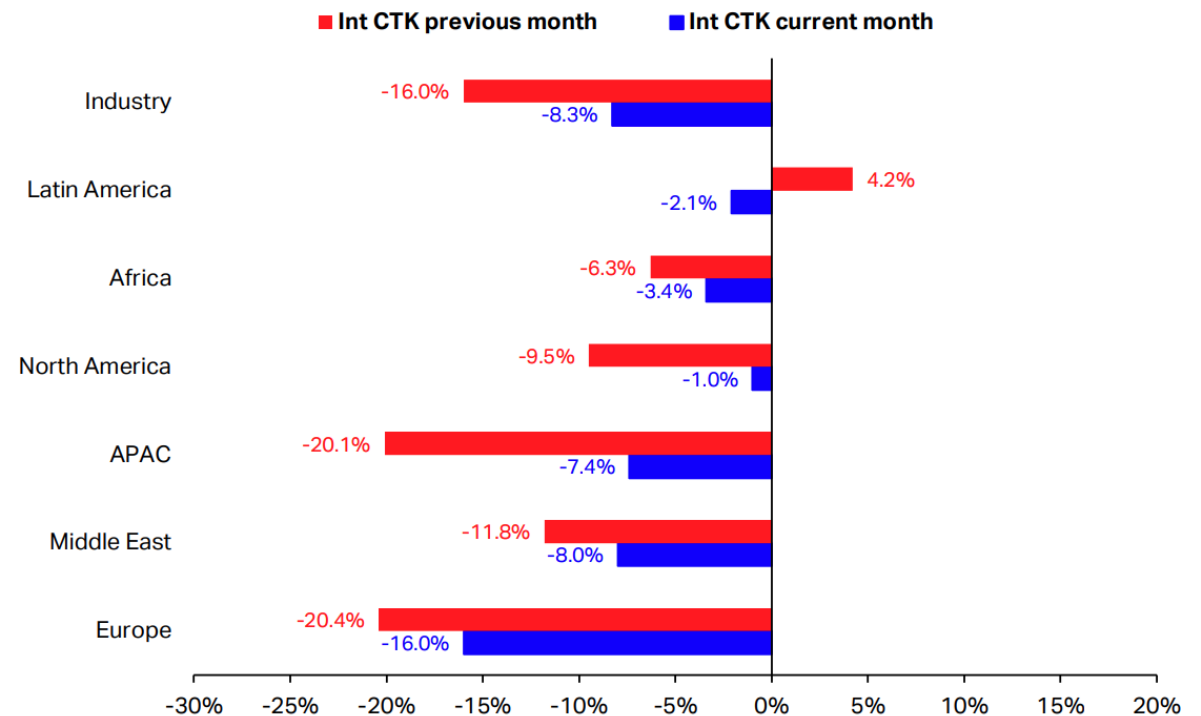


Source: IATA Air Cargo Market Analysis

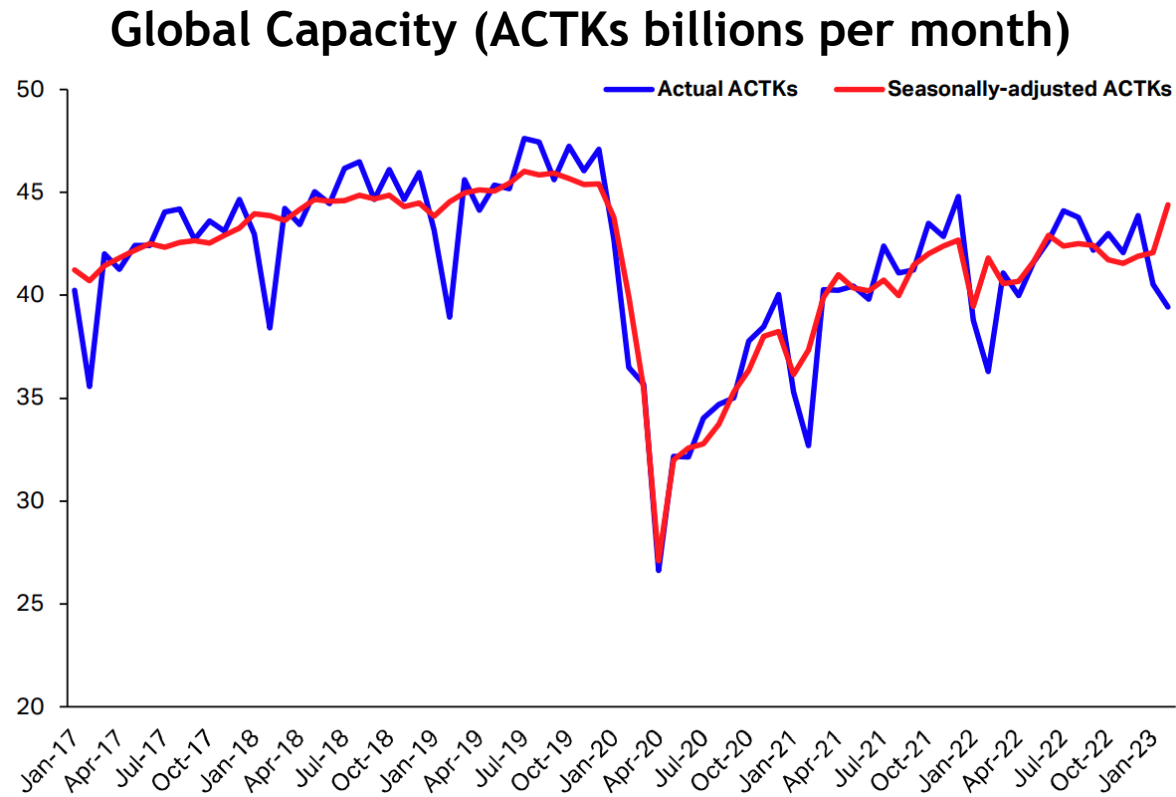
International cargo demand varies by region

- Industry down 8.3% year-over-year, which is consistent with the overall market
- The decline was broad-based across all regions including Latin America, where carriers had registered positive CTK growth in January
- Several regions have shown signs of resilience
 - Africa, Asia Pacific, Europe, and the Middle East have all experienced a substantial improvement in their YoY growth rates from January to February 2023

International CTK growth (airline region of registration)



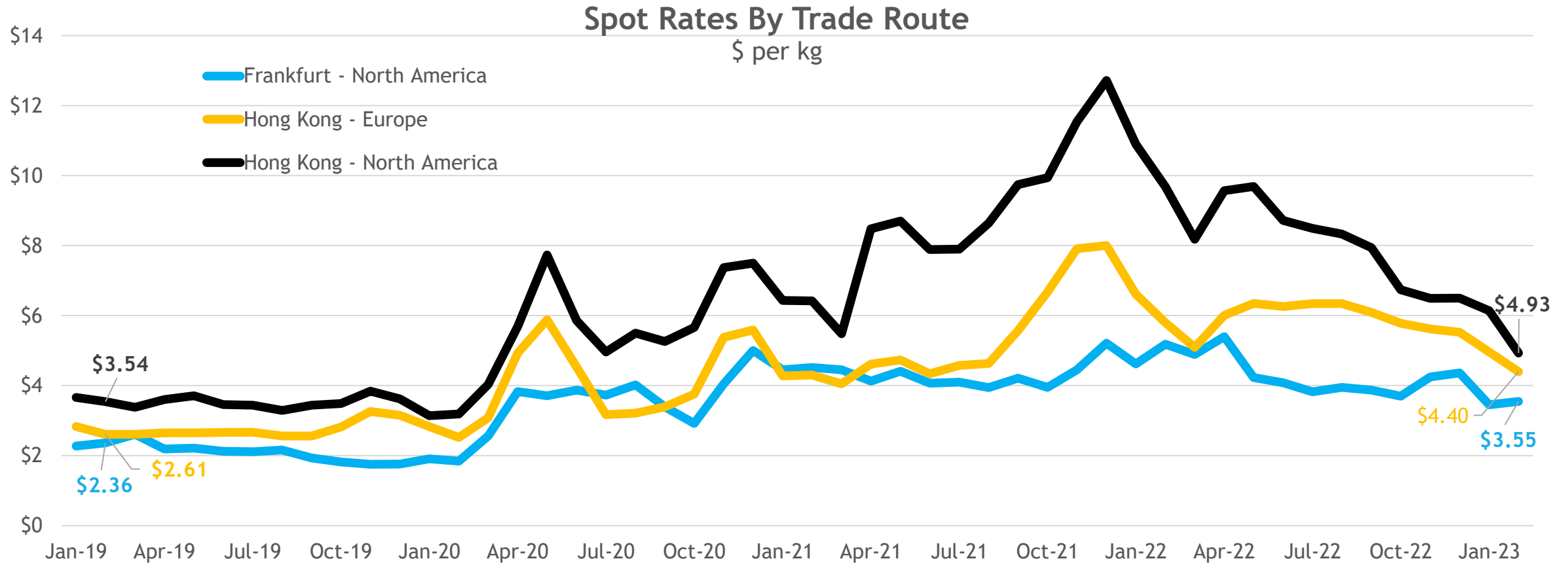
Available cargo capacity rose 8.6% in February



- Global air cargo capacity, measured by available cargo tonne-kilometers (ACTKs), grew 8.6% year-on-year (YoY)
- This growth was driven by the return of passenger aircraft belly-hold capacity in international markets, which increased 57.0% YoY and recovered 75.1% of pre-pandemic capacity in February
- Dedicated cargo international capacity declined by 9.3% YoY, consistent with the weakening demand for air cargo

Source: IATA Air Cargo Market Analysis (February 2023)

Spot air cargo rates normalizing, but still higher than pre-pandemic



Note: Rates are based on spot and contract prices and are provided by freight forwarders
 Source: Air Cargo News; Baltic Exchange Air Freight Index (BAI) powered by TAC Data



Regional Focus



Profitability continues to be a struggle, but meaningful gains were made in 2022

Africa

Continues to be one of the weakest regions; particularly exposed to macro-economic headwinds

Asia-Pacific

Critically held back by the ongoing lockdowns and other pandemic-related restrictions on mobility in China

Europe

Strong growth in demand helped European carriers trim year-over-year losses substantially

Latin America

Airlines benefited greatly from Covid policy that targeted air transportation to a lesser extent

Middle East

The region's geography helped airlines experience a surge and trim losses below 2019 levels

North America

The only region to have its airlines post a collective net-profit for the year



Airlines in Asia-Pacific were impacted the most by mobility-related restrictions throughout the year

- Critically held back by the ongoing lockdowns and other pandemic-related restrictions on mobility in China
 - Region is expected to bounce back strongly as restrictions on mobility are relaxed
- Likely to post a loss of \$10B for 2022
- While expected to record a significant improvement in 2023, it would nevertheless equate to a loss of \$6.6B

Asia Pacific

	2019	2022F	2023F
Net post-tax profit, \$billion	\$4.9	-\$10.0	-\$6.6
Net profit per passenger, \$	\$2.86	-\$9.61	-\$4.63
Net profit margin	1.9%	-6.8%	-3.8%
RPK growth, %	4.7%	33.6%	59.8%
ASK growth, %	4.4%	17.8%	47.8%

Note: \$ figures are in US dollars

Source: IATA Economic Performance of the Airline Industry (December 2022)

Strong growth in demand helped European carriers trim year-over-year losses substantially

- European carriers experienced the second highest growth in demand among all regions
- However, some European airlines' financial performance was curtailed by the war in Ukraine
 - Losses in 2022 totaled \$3.1B
 - Substantial improvement over 2021 losses of \$12.1B
- Expectation is for the region to return to profitability in 2023, with a forecasted net profit of \$612M

Europe

	2019	2022F	2023F
Net post-tax profit, \$billion	\$6.5	-\$3.1	\$0.6
Net profit per passenger, \$	\$5.42	-\$2.97	\$0.55
Net profit margin	3.1%	-1.7%	0.3%
RPK growth, %	4.2%	109.6%	8.9%
ASK growth, %	3.5%	71.7%	6.1%

Note: \$ figures are in US dollars

Source: IATA Economic Performance of the Airline Industry (December 2022)

Latin American airlines benefited greatly from Covid policy that targeted air transportation to a lesser extent

Latin America

	2019	2022F	2023F
Net post-tax profit, \$billion	-\$0.7	-\$2.0	-\$0.8
Net profit per passenger, \$	-\$2.26	-\$7.56	-\$2.84
Net profit margin	-1.8%	-5.4%	-2.1%
RPK growth, %	4.2%	65.8%	9.3%
ASK growth, %	3.0%	57.3%	6.3%

- While Latin American airlines financial results in the region are improving, they'll likely post a loss for the year
 - Losses are estimated at \$0.8B, an improvement from 2022 losses of \$2.0B
- It's worth noting that airlines in this region failed to generate a regional profit in 2019
 - The region lost \$700M in 2019 or -\$2.26 per passenger

Note: \$ figures are in US dollars

Source: IATA Economic Performance of the Airline Industry (December 2022)

In 2022, Middle East Airlines experienced a surge in demand, helping the region trim losses below 2019 levels

Middle East

	2019	2022F	2023F
Net post-tax profit, \$billion	-\$1.5	-\$1.1	\$0.3
Net profit per passenger, \$	-\$6.75	-\$5.61	\$1.20
Net profit margin	-2.7%	-2.1%	0.5%
RPK growth, %	2.3%	152.5%	23.4%
ASK growth, %	0.1%	74.1%	21.2%

- Middle Eastern airlines benefited from two key factors in 2022
 - Rerouting over the region as a result of the war in Ukraine
 - Pent-up travel demand using the region's extensive global networks as international travel markets reopened
- The region should return to profitability in 2023, with a forecasted net profit of \$268M

Note: \$ figures are in US dollars

Source: IATA Economic Performance of the Airline Industry (December 2022)

North America is the only region to post a collective profit in 2022

- North American carriers benefited from fewer and shorter-lasting travel restrictions than many other countries and regions
 - This has boosted domestic travel in a large home market, as well as international travel, notably across the Atlantic
- Barring unexpected events, this positive trend is expected to continue into 2023
- Net profits for the region are expected to rise from \$9.9B in 2022 to \$11.4B billion in 2023

North America

	2019	2022F	2023F
Net post-tax profit, \$billion	\$17.4	\$9.9	\$11.4
Net profit per passenger, \$	\$16.95	\$8.98	\$9.77
Net profit margin	6.6%	3.4%	3.7%
RPK growth, %	4.0%	51.9%	6.4%
ASK growth, %	2.9%	33.7%	5.5%

Note: \$ figures are in US dollars

Source: IATA Economic Performance of the Airline Industry (December 2022)

Africa continues to struggle as one of the weakest regions in air travel

- Africa is particularly exposed to macro-economic headwinds which have increased the vulnerability of several economies and rendered connectivity more complex
- After posting a \$638M loss in 2022, the regions is expected to see some improvement in profitability in 2023 - but still forecast to show a loss of \$213M

Africa

	2019	2022F	2023F
Net post-tax profit, \$billion	-\$0.3	-\$0.6	-\$0.2
Net profit per passenger, \$	-\$2.67	-\$7.28	-\$1.98
Net profit margin	-1.8%	-5.6%	-1.7%
RPK growth, %	4.7%	82.2%	27.4%
ASK growth, %	4.5%	53.3%	21.9%

Note: \$ figures are in US dollars

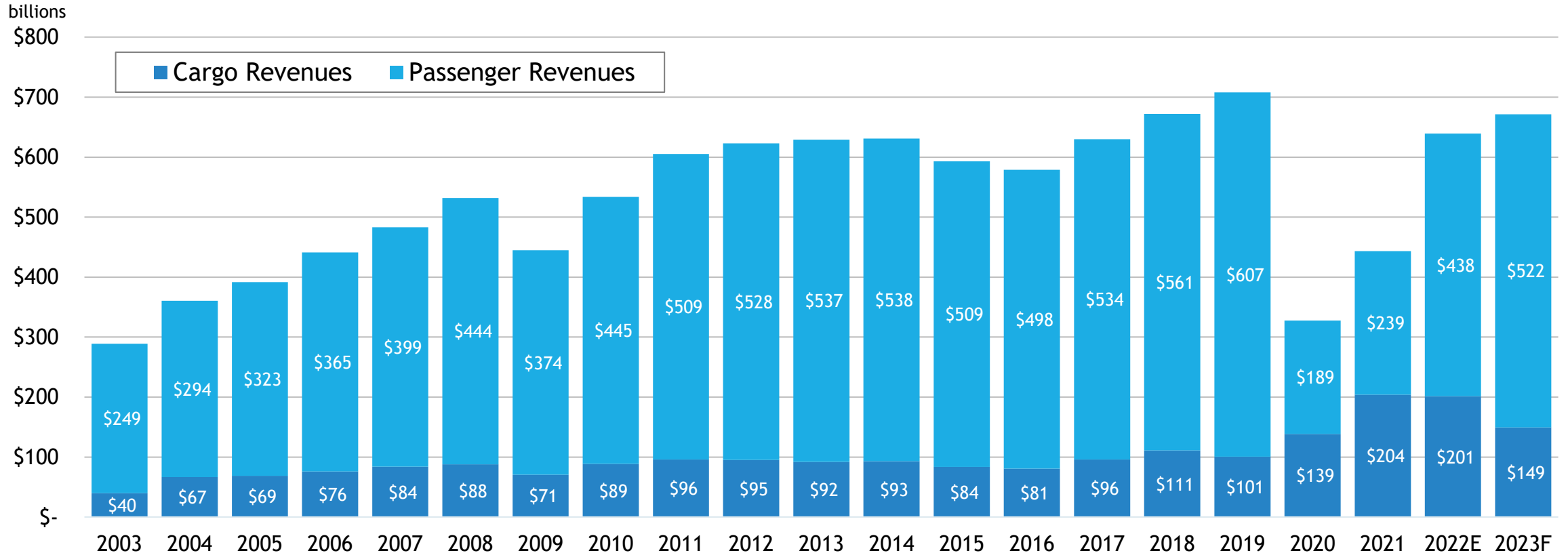
Source: IATA Economic Performance of the Airline Industry (December 2022)



Airline Industry Outlook



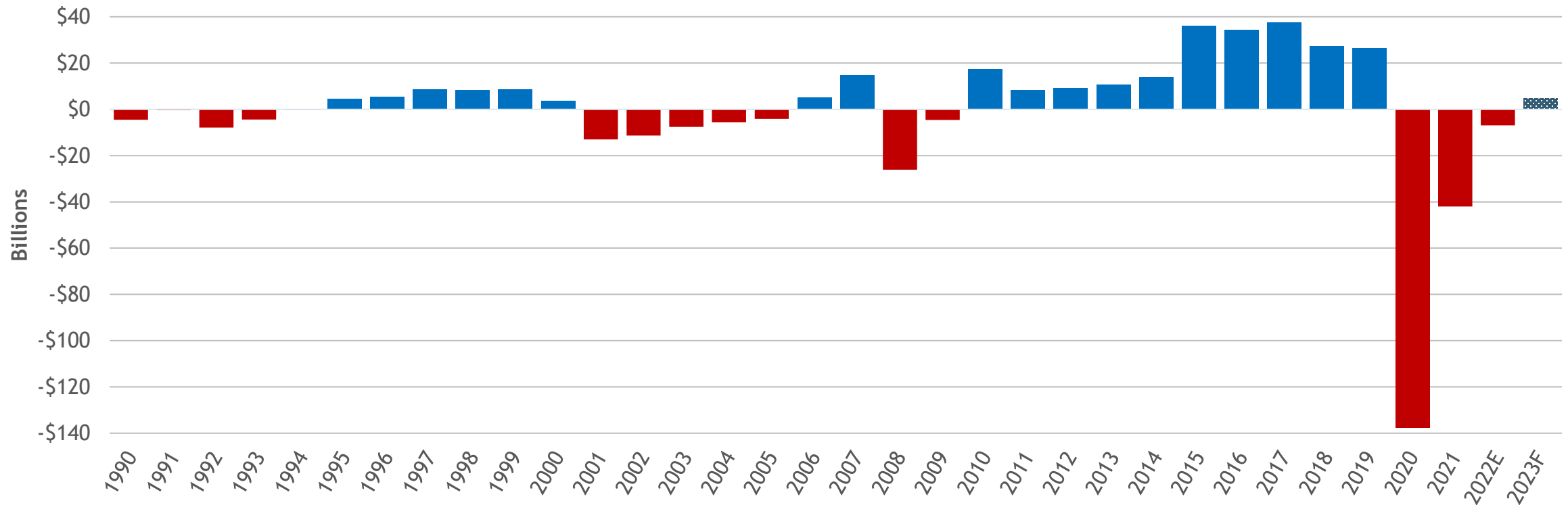
Industry revenues are forecasted to continue rising, with cargo revenue moderating but higher than 2019



Source: IATA Economic Performance of the Airline Industry (December 2022)

Global industry is forecasted to return to profitability in 2023

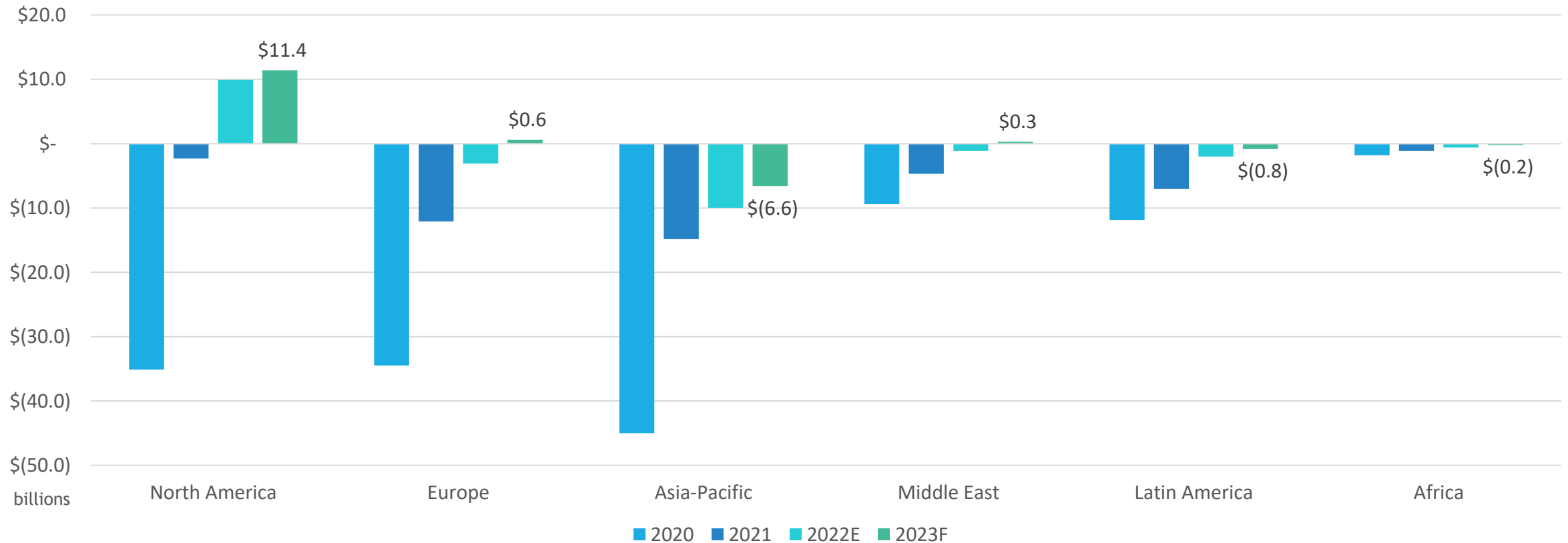
Global Industry Net Profits (Losses) 1990 Actual - 2023 Forecast



Notes: Bankruptcy reorganization and large non-cash costs are excluded. Includes all commercial airlines; Historical data are subject to revision
Source: IATA Global Outlook for Air Transport Fact Sheet (December 2022) | Note: (E) Estimate, (F) Forecast

N. Amer., Europe, and the Middle East are expected to post profits in 2023

Net Post-Tax Profit



Source: IATA Global Outlook for Air Transport Fact Sheet (December 2022) | Note: (E) Estimate, (F) Forecast

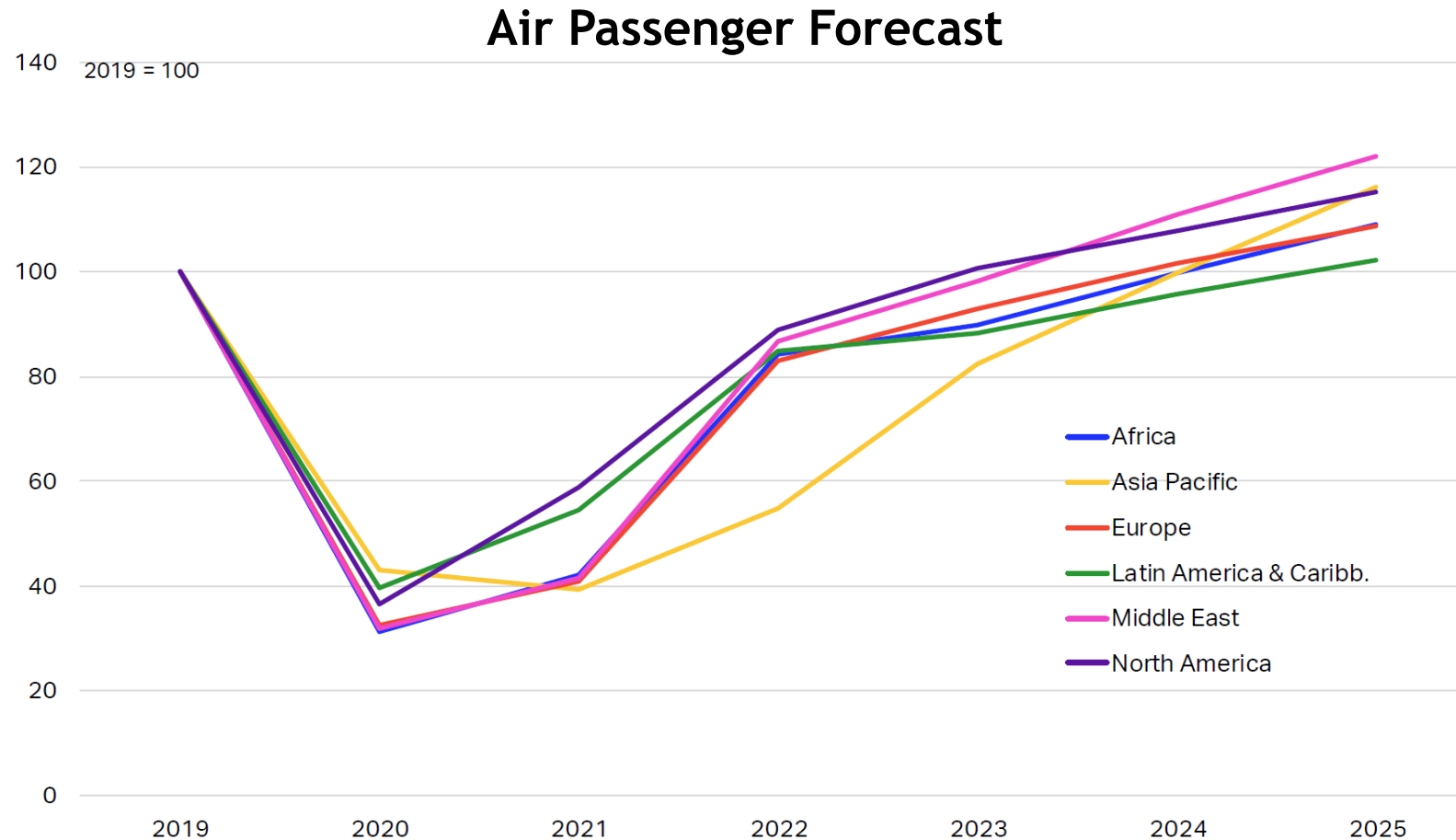
Margins are forecasted to improve across all regions in 2023

EBIT Margins

	2019	2021	2022E	2023F
North America	-27.3%	-5.9%	2.4%	3.3%
Europe	-27.1	-9.0%	-1.3%	0.6%
Asia Pacific	-34.3%	-13.2%	-8.2%	-4.7%
Middle East	-24.3%	-11.4%	-1.1%	0.8%
Latin America	-28.5%	-9.1%	-2.4%	-0.6%
Africa	-16.9%	-6.8%	-4.2%	-1.1%
Global	-29.0%	-8.9%	-1.3%	0.4%

Source: IATA Global Outlook for Air Transport Fact Sheet (December 2022) | Note: (E) Estimate, (F) Forecast

Passenger traffic forecasted to continue improving with all regions surpassing 2019 levels in 2025



Source: IATA Global Outlook for Air Transport (December 2022)



Questions?
