

Aviation Market Snapshot Q4 2022





Key market insights

Staggered recovery continues

The post-pandemic recovery in air traffic demand continued during the quarter, however, still in a non-linear fashion across geographies and business models; with pauses for continued restrictions in certain countries hampering air travel, notably China. In aggregate, global air traffic figures show a 41% YoY growth in November and are now 75% of pre-pandemic November 2019 levels.

In addition to Cirium's positive update to their global passenger forecast in Q3, this quarter has seen IATA update its 2023 Outlook. IATA is forecasting a slim return to industry profitability in 2023 with a modest profit of US\$4.6bn on revenues US\$779bn, representing an operating margin of 0.4%. The last time airlines earned a collective worldwide profit was in 2019, when the net margin was 3%. 2022 ended with net losses of ~US\$7 billion, significantly better than IATA's June forecast of net losses of US\$10 billion, reflecting strengthening yields and strong cost control coupled with ongoing cargo strength.

IATA cautioned the many risks which could negatively impact the financial performance of airlines during 2023. These include high energy prices, slowing global economic growth, high inflation, and the impact of the war in Ukraine. On the positive side, recent oil price declines coupled with sustained pent-up demand are reasons for optimism. More recently, the January 2023 scrapping of quarantine requirements in China has added to positive sentiment.

The financial performance of the industry varies greatly by region. In 2022, North America was the only region where airlines earned a combined profit. In 2023, if IATA's forecast holds, North America will be

joined by Europe and the Middle East. But Asia-Pacific, Latin America, and Africa will remain in the red.

Low-cost-carriers gaining market share post-pandemic

October Eurocontrol data showed that Ryanair operated ~10% of all European flights during the first 9 months of 2022. This equates to a capacity increase of 9% on pre-pandemic 2019. By number of flights Ryanair is nearly twice the size of the second largest airline in Europe, Easyjet, whose number of flights operated in Europe decreased 21% versus the same period in 2019.

In addition to Ryanair, Wizz the central European budget carrier, increased its number of flights by 12% post-pandemic and accounted for 2.6% of all European flights during the 9-month period. The largest declines were seen at Norwegian (-46%), SAS (-37%), Eurowings (-37%), British Airways (-32%), Lufthansa (-31%) and Swiss Air (-29%).

The data highlights that the LCCs were able to react quicker to variations in demand. Eurocontrol noted that "For the months January to September, the LCC segment grew from 31.9% in 2019 to 32.5% in 2022. In particular, Ryanair and Wizz Air quickly exploited the high demand for intra-European leisure traffic and expanded operations to 109% and 112% of their respective 2019 levels. Over the last 30 years LCC market share has grown from 1.6% in 1998 to 33% in 2022 as they benefitted from the deregulation of the European air transport market.

Capacity constraints boosting airline yields

Airlines are expecting that supply-chain disruptions limiting the addition of airline capacity will continue into 2023 and boost yields. In particular,

Lufthansa in its third quarter earnings call, noted that a shortage of pilots (particularly in the USA), difficulties in obtaining spare parts for maintenance and new equipment from OEMs, coupled with ongoing disruption on the ground will leave carriers with no choice but to hold back seats from the market. Lufthansa's CEO noted that the group's full-year capacity will be at 75% of 2019's level this year, rising to around 85% in 2023. Whilst the airline has experienced higher costs, the resilient pent-up demand has led to rich yields, up by 25% versus pre-pandemic levels, which is forecast to continue into 2023. Transatlantic leisure and VFR travel were noted to be especially strong on account of US customers visiting Europe. Transatlantic bookings are currently ahead of 2019 despite capacity being a fifth lower, with first and business class particularly strong. With Asian markets opening up (notably Japan and Hong Kong), Lufthansa noted that "The post-pandemic recovery is far from over." Lufthansa had a strong summer, flying 33 million passengers in the quarter ended 30 September with load factors of 86%, generating EBIT profit of €1.1 billion on revenues of €10.1 billion.

The view is backed up by comments by United Airlines' CEO, who noted during the quarter that growth for US airlines would be constrained for several years by pilot shortages, scarcity of new aircraft and an overwhelmed traffic control system in the US. However, strong demand enabled United to make an operating profit of \$1.5 billion in the third quarter. United are seeing a dampening in seasonal volatility due to a structural demand change, attributable to the hybrid work model and the flexibility it provides allowing customers the freedom to travel for leisure more often.

"The post-Covid recovery trend has continued through Q4 and is set to get a major boost in Q1 2023 as China reopens and relaxes travel restrictions. Airlines which have reacted quickly to changing market conditions have gained market share, and pent-up demand coupled with capacity constraints has led to certain airlines reporting bumper yields. As one airline CEO recently commented in relation to customer demand: "One summer was not enough".



Nick Cowney
Aviation Finance

"Over the course of 2022, Investec Aviation saw its managed aviation debt portfolios deliver a solid performance. There were no new deferral requests and we have seen an upward trend in yield. With Investec's selective origination and active portfolio management, aviation debt continues to prove itself as a robust and resilient asset class. Capital deployment in 2022 totalled over \$500m and focused on strong credits in direct airline financings as well as backing lessors in well structured transactions.

We approach 2023 with optimism and prudence. We expect continued traffic recovery, with leisure demand staying firm and further pick-up in business travel. Meanwhile, we

will watch for disciplined capacity deployment among carriers to maintain yields. Despite the recent respite on fuel cost, labour demands will add pressure to airline costs. Freight yield will continue to soften from Covid highs.

In that context we are building a pipeline of transactions that are backed by quality cashflow and robust aircraft security. This would feature young/mid-life liquid narrowbody financings and select widebody opportunities with premium operators."



Derek Wong
Head of Aviation
Debt Fund

Commercial aircraft deliveries

Airbus retained its position as the largest jet manufacturer despite falling short of its target to deliver 700 aircraft in 2022. Airbus delivered 661 aircraft over Boeing's 480 deliveries, which for Boeing still represented a 41% increase compared to 2021, and for the first time in the programme's history, Airbus' A321 production exceeded that of the smaller A320 with 264 deliveries against 252 A320s.

Airbus 2022 net orders for the year were at 820 (62% higher than 2021) vs. Boeing's 774, which was lower than their 2021 figure, despite the return to operational service of the B737 Max 8/9 and resumption of the B787 deliveries in 2022. Both manufacturers have healthy backlogs of aircraft, at 7,239 for Airbus vs. 5,430 for Boeing, however, the B737 Max 7 and Max 10 remain yet to be certified and the 777X programme has hit certification delays with the GE9X engine suffering technical issues that grounded the 777X test flight programme.

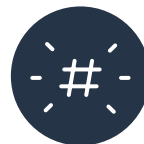
Between 2022-2031, there are approximately 20,000 forecasted aircraft deliveries valued at US\$1.265 trillion, of which 70% (over 14,000 aircraft) will be A320neos and B737 MAX families.

Planned 2023 narrowbody monthly production rates for the A320 and B737 families are set to ramp up to 50+ and 30+ respectively, each with year-on-year increases until 2025. However, Boeing's current narrowbody production rates are being affected, primarily by CFM LEAP engine supply issues due to a shortage of structural castings (the main bottleneck). Titanium remains exempt from the EU ban on the use of Russian commodities, however, Airbus announced in December 2022 that it would halt its reliance on Russia for titanium suppliers within months, and Boeing has already suspended titanium purchases from Russia. Approximately 65% of titanium used by Airbus has historically come from Russia

"With engine and airframe manufacturers being forced to look for alternative sources of precious metals, such as titanium, as a direct result of the war in Ukraine, plus the global shortage of raw materials and skilled labour in general, the proposed OEM production rate ramps ups are looking increasingly unlikely to succeed, especially in the narrowbody sector. New aircraft deliveries are being delayed in the production cycle and new models are being delayed in the certification process. The demand for additional aircraft to be in service year on year has been slowed by the pandemic but remains strong, therefore it is likely that the current generation of in-service aircraft will not be eclipsed by the newer generation aircraft as early as many may have first thought, despite the desire for more fuel efficient and cleaner aircraft. Instead, much of the stored fleet may be returned to service whilst operators await the deliveries of new generation aircraft."



David Louzado
Head of Technical,
Aviation



Trends

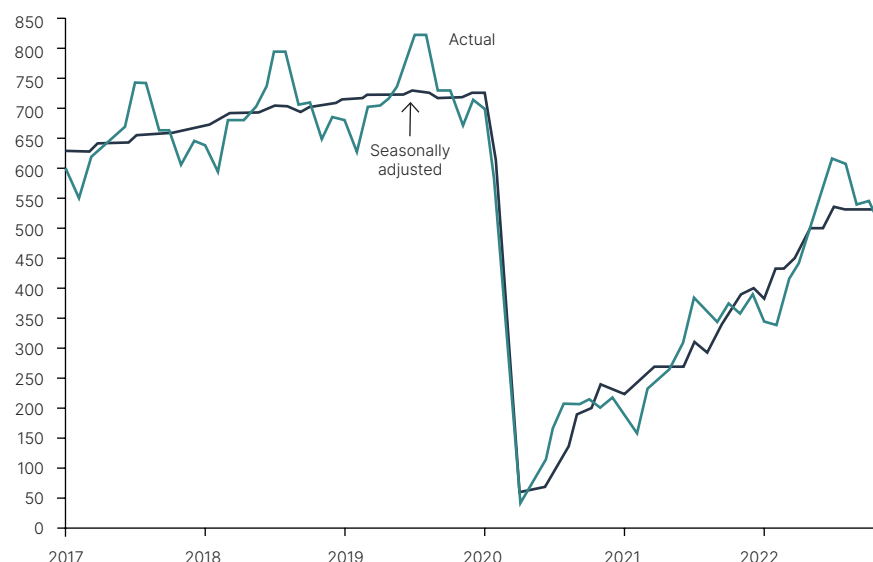
Global air travel continued its recovery trend in November, despite recessionary fears and travel restrictions in China. Air traffic, as measured by Revenue Passenger Kilometres (RPKs), an indicator of global passenger demand, grew by 41% YoY. Global air travel numbers are now 75% of pre-pandemic November 2019 levels. Industry-wide passenger load factors remain high and stable at 81%.

These positive figures are expected to further strengthen due to recent developments in China. In early January 2023, the Chinese authorities announced that quarantine requirements for all new arrivals in the country would be scrapped, meaning that for the first time since the pandemic began in early 2020 travellers will no longer have to face a period of isolation. This will be boosted by the country's Lunar New Year celebrations (21-27 January). China's Transport Ministry has predicted two billion journeys will take place during this holiday as people undertake trips to see family members unimpeded by Covid restrictions for the first time since 2020. Many of these journeys will be via air travel.

Domestic air travel posted varied but strong traffic results in November with the exception of China. Domestic traffic in November is now 78% of pre-pandemic levels in November 2019. The US continues to be the top performing domestic market, with traffic 99% of pre-pandemic November 2019 levels. Brazil is edging towards full recovery, with traffic 96% of pre-pandemic levels and Japan maintained its strong recovery

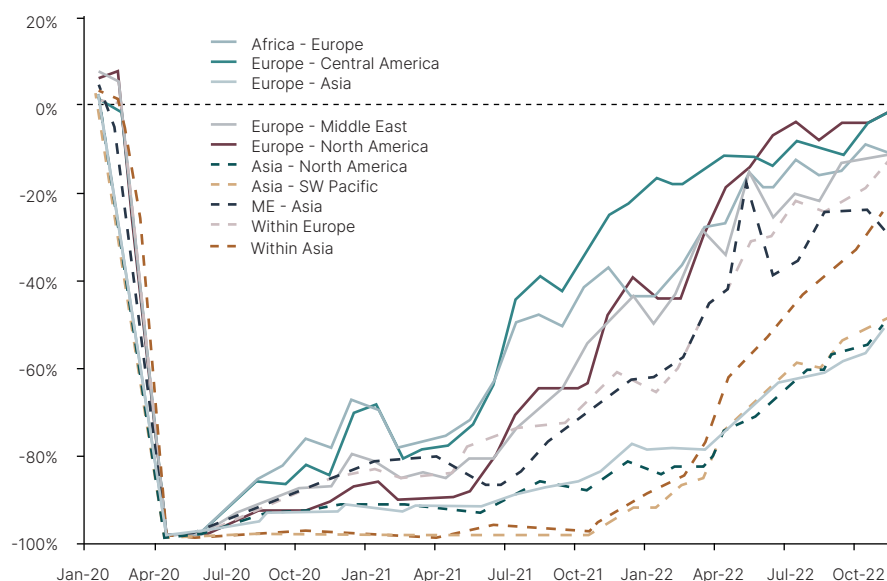
AIR PASSENGER TRAFFIC (RPKs)

Industry RPKs (billion per month)



Sources: IATA Economics, IATA Monthly Statistics

INTERNATIONAL RPKs, YoY CHANGES FROM 2019, TOP 10 2019 ROUTES



Sources: IATA statistics

pace, following the easing of travel restrictions in October 2022, with traffic now 14% below pre-pandemic levels at 86%. Domestic travel in China was severely restricted during Q4 2022, with localised lockdowns and quarantine arrangements resulting in November traffic levels 70% below pre-pandemic November 2019. Travel in China is anticipated to quickly recover following the easing of travel restrictions in January 2023, mirroring prior experience.

International air travel recovery remains strong across most regions, with RPKs increasing 85% YoY in November. Major international routes are tracking near pre-pandemic levels and global international travel is now 74% of pre-pandemic November 2019 levels. Airlines in Asia Pacific

continued to record the strongest growth at 374% YoY, bringing traffic to 50% of pre-pandemic levels following the lifting of restrictions. Airlines in North America are the best performers with traffic at 94% of pre-pandemic levels. European and Latin American airlines have reached 83% and 84% of pre-pandemic November levels respectively.

IATA noted that the recovery has proceeded at a similar pace for both premium and economy (including premium economy) classes. Economy class RPKs, which include premium economy and accounts for 92% of total RPKs, reached 80% of pre-pandemic levels. Premium RPKs, which includes first and business class, reached 74% of pre-pandemic levels.

Global Air Traffic (as measured by RPKs) versus pre-pandemic November 2019

Global	75%
Domestic	78%
International	74%
Load factors	81%





In the news this quarter

- In mid-December, United Airlines announced that it has placed the largest ever order for widebody aircraft by a US airline, ordering 100 B787s with options for a further 100. The aircraft will deliver between 2024 and 2032 and replace the airlines aging B767s and B777s. United has retained the flexibility to choose between any of the three variants of the type (the -8, -9 and -10) closer to the delivery date. In addition, United has exercised options to purchase 44 B737 Max aircraft for delivery between 2024 and 2026 and ordered an additional 56 B737 Max for delivery between 2027 and 2028.
- On December 9th, COMAC delivered the world's first C919, a Chinese-made single-aisle commercial passenger aircraft, to launch customer China Eastern. The aircraft, a rival to the A320 and B737 families, is expected to make its maiden commercial flight in Spring 2023. The aircraft was certified safe for operations in September and mass production is commencing. COMAC is expected to produce ~25 C919s per month from 2030, far lower than the currently monthly production rates at Boeing and Airbus. Currently, the C919 relies heavily on Western components, including engines and flight control systems.
- In early December 2022, after more than half a century of production, Boeing rolled out its final 747 from the production line in Everett. The 747, whose origins date back to the mid-1960s as a military transport aircraft, evolved to become the world's first widebody passenger jet and has later taken on roles as a freighter aircraft and VIP transporter. The final aircraft produced was a 747-800 freighter delivering to Atlas Air. The production line has been winding down for several years, with the last passenger aircraft, a 747-8i, rolling off the production line in May 2017 for Korean Air.





Market responses

- **During the quarter**, there were a number of sizeable lessor trades announced, continuing a gradually emerging trend of consolidation amongst the aircraft lessors as the industry becomes more globalised and commoditised. This was followed by the announcement in January, that Standard Chartered was putting its US\$3.7 billion aircraft-leasing arm up for sale.
- **Early October**, Dubai Aerospace Enterprise (“DAE”) Ltd announced the signing of an agreement to acquire 100% of Sky Fund I Irish, Ltd. and its subsidiaries (“Sky Fund I”). Whilst terms of the transaction were not disclosed, Sky Fund I owns and is committed to 36 aircraft on lease to 14 airline customers in 11 countries. Next generation technology aircraft represent more than 90% of the acquired portfolio. The acquisition was completed in November.
- **In November**, lessor Aergo Capital announced that it had acquired Seraph Aviation Management Limited for an undisclosed fee. As part of the transaction, Aergo will assume the management and administration of 88 aviation assets across 38 lessees with a combined asset value of US\$2.5 billion. The number of aircraft owned and managed by Aergo will increase to 304 aircraft (including aircraft under LOI), valued at approximately US\$6.8 billion. The transaction cements Aergo’s position as a top 20 aircraft lessor.
- **During the quarter**, Kuwaiti lessor ALAFCO approved the sale of 53 of the lessor’s aircraft plus 20 B737 Max8s on order, to Macquarie Airfinance Group for US\$2.2 billion. The sale represents ~70% of ALAFCO’s existing aircraft and ~30% of its orderbook, by number of aircraft. ALAFCO was established in 1992, as the aircraft leasing arm of Kuwait Airways, the company was acquired by Kuwait Finance House in 1999 and listed on the Kuwait stock exchange in 2006.
- Recent debt capital market deals include:
 - **11 October**: LATAM issued a US\$450m 5-year secured bond and a US\$700m 7- year bond. The issuances have coupons of 13.375% and will be used to repay debtor-in-possession financing.
 - **20 October**: Air New Zealand issued a NZ\$100m 5.5-year unsecured bond. The issuance has an initial coupon of 6.610% and will refinance existing debt.
 - **24 October**: Chinese lessor CALC issued a RMB1.0bn 270-day unsecured bond. The issuance has a coupon of 3.560% and is for general corporate purposes. The bonds have been certified as low-carbon transition bonds by China Chengxin Green Finance Technology.
 - **16 November**: Air France-KLM issued a EUR300m 28-year convertible bond. The issuance has a nominal coupon of 5.750-6.500% and will be used to repurchase existing debt.
- **17 November**: Spirit Airlines issued a US\$600m 2.8-year frequent flyer program bond add-on. The issuance has a coupon of 8.000% and will be used for general corporate purposes.
- **17 November**: Viva Aerobus, a Mexican low-cost airline, issued a MXN1.0bn 5-Yr sustainability-linked unsecured bond. The issuance has a floating coupon of TIIE28 + 220 bps and is for general corporate purposes and repurchase of existing debt.
- **11 December**: Chinese lessor Bocomm Leasing issued a RMB2.4bn 3-year bond. The issuance has a coupon of 2.900% and will be used for general corporate purposes.
- **13 December**: Marathon Asset Management closed a US\$304m 7-year inaugural aircraft ABS. The issuance has a coupon of 7.000% and a loan-to-value ratio of 61.1%. The transaction is backed by 15 narrowbody aircraft with a weighted average age of 6.0 years and a weighted average remaining lease term of 6.4 years.
- **22 December**: Brazilian airline GOL issued a US\$200m secured amortizing 4-year note. The Series A notes due in 2026 have a 5.000% coupon and the Series B notes due in 2025 have a 3.000% coupon. The issuance will be used for general corporate purposes.

2022 Aviation Debt

Investec Arranged and closed over US\$550m



Investec Aviation Debt Funds

\$5 bn

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9 years

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Strong alignment of interest

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