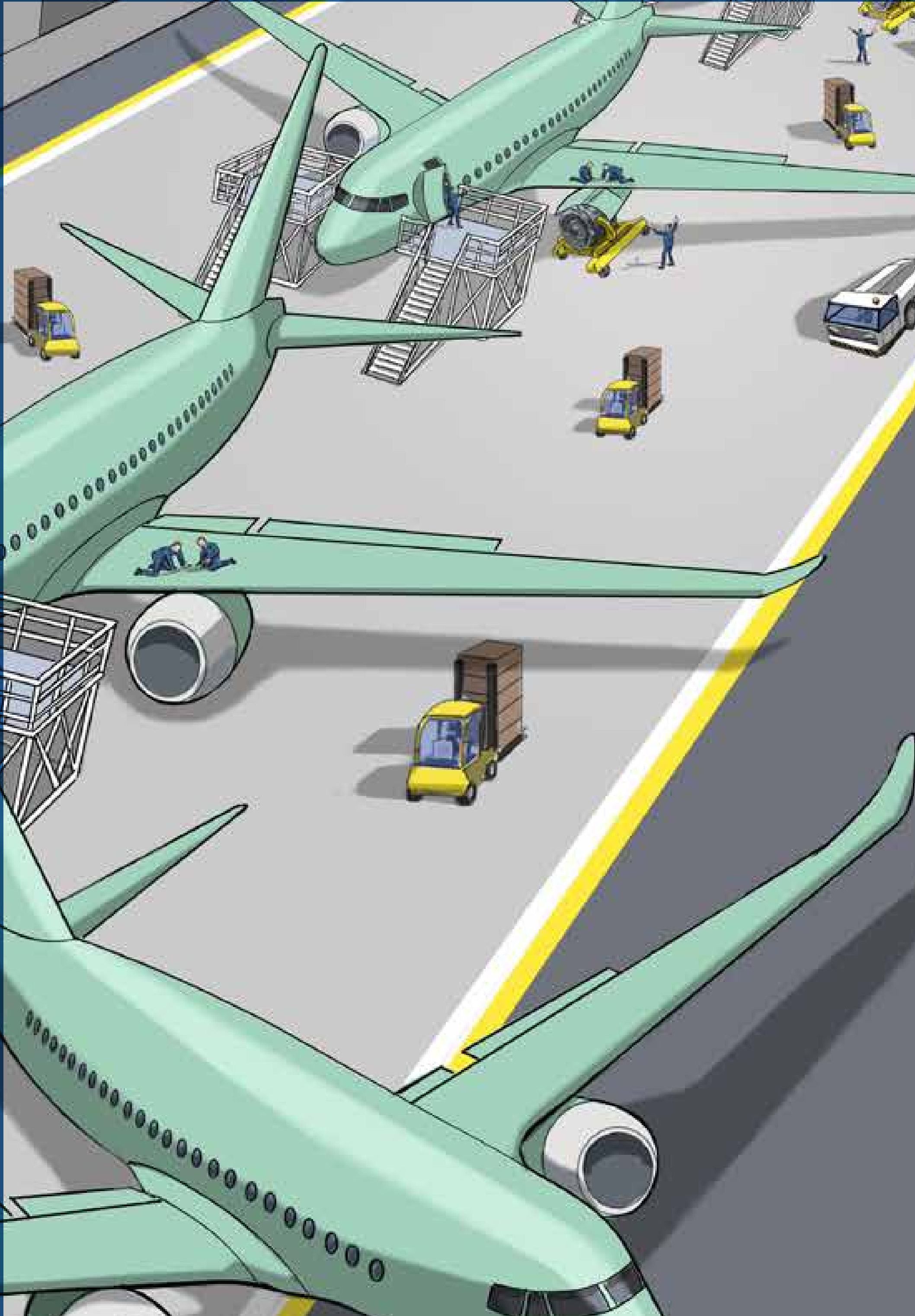
Aviation Leaders Report 2025

The Supply Strain?



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Airline Economics and KPMG spoke to 30-plus aviation experts and leaders from October to December 2024. Contributors listed are only those that agreed to participate on camera or to be quoted in this publication. This list omits those individuals that provided valuable input to the report but preferred to remain anonymous. Thank you to all who contributed to the 2025 report.

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THE AVIATION LEADERS REPORT 2025

For the eighth year running *Airline Economics* and KPMG have gained insights into the commercial aviation industry through a series of in-depth interviews with major aviation leaders that delve into the real challenges facing the sector. This report details the main issues and perspectives shared by industry leaders in one insightful annual publication during one of the most difficult periods for the aviation industry.

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KPMG

Aviation Global Leaders Report - Contributors

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ALL OF THE VIDEO INTERVIEWS, WHICH WERE CONDUCTED IN OCTOBER-DECEMBER 2024 IN VARIOUS GLOBAL LOCATIONS, ARE AVAILABLE TO VIEW IN FULL HERE: WWW.AVIATIONNEWS-ONLINE.COM/AVIATION-GLOBAL-LEADERS
YOU CAN ALSO LISTEN TO THE INTERVIEWS AS PODCASTS HERE: PODCASTS.APPLE.COM/GB/PODCAST/AVIATION-GLOBAL-LEADERS/ID1541842716

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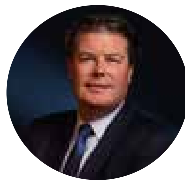

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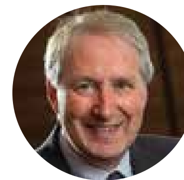

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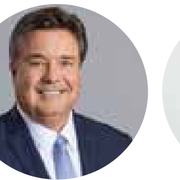

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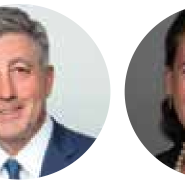

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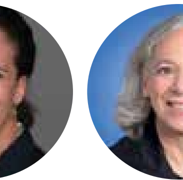

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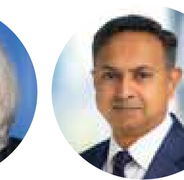

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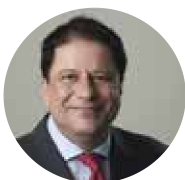

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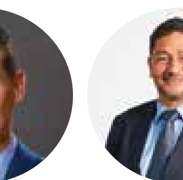

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THE SUPPLY STRAIN

We are delighted to present you with our Aviation Leaders Report 2025: The Supply Strain. The report captures the views of industry leaders across the leasing, airline, and banking markets including input from rating agencies and sector analysts.

Our report last year focused on the continuing resurgence in airline performance, as a fragmented recovery extended into Asia-Pacific, and on the challenges the financing environment was facing as it coped with significant interest rate rises, which caused issues with respect to the capital markets and the trading environment.

Last year, we also spoke of the supply side challenges the sector was facing, both for the airframe and engine OEMs, and this continues to be the dominant theme as we head into 2025. The strain on the supply chain permeates through all areas of the sector.

The supply strain

The challenged state of aircraft manufacturing did not materially improve over the course of the year.

Boeing commenced the year dealing with further issues for its 737 MAX, after the Alaska Airlines malfunction in January and challenges for the beleaguered company persisted throughout the year. While still under the FAA imposed production cap following the above safety issue, Boeing then had to deal with hugely disruptive machinist strike lasting seven weeks from the middle of September.

While Boeing was able to return to production of all aircraft in December, the strike cost the group $5 billion and its output in October and November fell to its lowest post-Covid levels. While it remains a long road to recovery, the nature of OEM duopoly means the wider industry needs them to succeed.

Airbus was not immune to supply chain challenges, facing a world of bottlenecks that caused issues with raw materials, components and engines. All of which stymied its plans to reach a target of 770 deliveries by the end of the year. Airbus has pushed out its planned monthly production of 75 A320s from 2025 to 2027, a target that many believe will prove out of reach.

The IATA estimate for total deliveries in 2024 is 1,250, which is down 30% from what was forecast a year ago and a long way from the peak of 2018, when over 1,800 aircraft were delivered by the two OEMs. The 2025 forecast has been revised down from around 2,300 to 1,800, with a significant health warning that further cuts to this number should be expected.

The reliability issues relating to the Pratt & Whitney GTF engine came to light last year and their impact was felt across 2024, with over 650 aircraft being grounded in November alone. While this is hoped to be the peak of the disruption and over $1 billion of compensation has been paid out to the operators during the year, it further compounds the chronic supply situation.

Dating back to the original MAX issues and the Covid enforced shutdown, there remains a gap of 5,000 planned aircraft yet to be produced. While some argue that this supply shortage has imposed discipline on airlines and helped maintain yields, a significant amount of lift is missing from the system. It is also resulting in older aircraft flying for longer than expected, which carries its own adverse environmental impacts too.

Airline performance

Against this backdrop, airline performance remains robust. Global passenger demand is forecast to be up 11% on last year, representing a 6% rise on the 2019 pre-Covid levels and reaching an all-time high.

This was driven by a buoyant performance in the largest passenger markets, in Europe and America, the continued recovery in Asia-Pacific, as well as a rise in international traffic across the board. Further, albeit slower, growth is expected in 2025.

In terms of profitability, it was another stellar year with airline net profits estimated to reach over $36bn, representing one of the strongest years on record. This number was materially improved by the benign fuel environment, with oil prices falling nearly 20%, primarily driven by oversupply in the market.

The impact of Sustainable Aviation Fuel (SAF) mandates, which are in force in some regions, are not yet having a material impact (though we fully expect this topic to grow in importance in the coming years).

Fuel aside, it remains a challenging cost environment for airlines. While global revenues are expected to top the $1 trillion mark, owing to high load factors and airfares reflecting the constrained capacity, operating margins remain slim as they fell to 6.4% from 6.8% in 2023.

The key driver on cost increases has been labour, with several high-profile pilot strikes and subsequent settlements forming a significant element of this. Airline labour costs have seen double digit growth in each of the last three years, though there is an expectation that this should fall to 7.6% in 2025.

From a traveller perspective, the trend towards premium continues, as customers show their post-pandemic willingness to continue to spend in the experience economy. This has led to some challenges for the low-cost carriers in the US market, and there remains an expectation that we will see some consolidation in that segment of the market.

Another significant string to some airlines' financial bow has been their loyalty programmes, which drive material ancillary revenues and provide significant security for fund raising. For the larger established airlines in the US and several airlines across Europe, loyalty programmes are becoming an increasingly important part of their business plan and offer a growing competitive advantage against their local rivals.

The general view of participants is that airlines are well placed to continue to prosper into 2025, with international traffic expected to grow further and for Asia-Pacific to continue to recapture the expected growth it missed out on in recent years. While there are some concerns around how potential Trump driven tariffs could dampen demand, it remains too early to tell whether this issue will have a meaningful impact.

Financing environment

The aviation debt market, encompassing the traditional banks, structed product, the capital markets and the alternative lenders, is in a healthy state. There is no shortage of debt capital, and several avenues are open to those seeking to borrow.

In last year's report the common refrain was that interest rates were in a higher-for-longer period. As we approached the end of last year, we have started to see falling interest rates and, for the larger established lessors, we have also seen spreads tighten. All of this speaks to a more welcoming and receptive debt market for aviation finance.

We saw a significant uptick in unsecured bond market issuances by leasing groups in 2023 and this trend continued into 2024, as investment grade lessors continued to successfully tap that deepest well of debt capital.

The importance of investment grade status for aircraft lessors continues to grow and during the year we saw more leasing groups either achieve that aim or continue to make strides towards it, typically by issuing in the high yield market.

On the structured finance side, the first green shoots in the ABS aviation market were seen in the back half of the year. Generally driven by experienced issuers, we saw a number of ABS deals close with an overall value in excess of $4 billion, which included a couple of aviation loan transactions. While these recent transactions have typically been in respect of A and B tranches, the LTV ratios are moving positively and there is some optimism that if interest rates continue to recede, we may see an appetite for the return of E note issuances in the near term.

While sustainability-linked financing was active during the year, it remains a niche sport and, given the robust nature of the debt markets, there were only a handful of transactions that closed in 2024. The general view amongst participants was that ESG concerns were not yet having a material impact on the price of debt, or indeed the ability to attract equity investors.

Aircraft leasing

The supply demand imbalance continues to favour large scale lessors. Lease rates, driven on a lag basis by interest rates and in real-time by the demand environment, have continued to rise for all types of assets, as airlines fret on their ability to access lift. This has also been reflected in lease extensions, with very high extension rates and some airlines looking to engage more than two years out from the end of the lease.

With asset values materially increasing, we have seen trading activity increase substantially. Having been less active sellers in recent years, the larger lessors are happy to book substantial gains on sale, while also helping to maintain a relatively young fleet.

The challenge remains for those that are not at scale. Investment grade status and an order book are key differentiators. With OEM orderbooks sold out for many years and the sale and leaseback environment remaining a very competitive space, those looking to grow are facing narrow paths. That could perhaps lead to further M&A activity, but the list of attractive targets is not substantial, and the expectation is that where consolidation occurs, it will continue to be larger players absorbing those at sub-scale.

In Closing

Overall, despite ongoing geopolitical and macroeconomic headwinds, the industry outlook is positive with an optimism that the post-pandemic cycle has strong fundamentals that will continue to drive opportunity.

I would like to thank all those who gave their time and insights and I really hope you enjoy the read.

Joe O'Mara

Head of Aviation Finance
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Chapter One

The Supply Strain

The aviation industry has a serious supply chain problem. Aircraft and engine production delays have lingered on since the end of the pandemic and to date show no real signs of alleviating before the end of the decade. Airlines and lessors are both struggling to get aircraft delivered on time, which is having a significant impact on the aviation economic cycle.

The same issues that are raised in almost every manufacturing sector are based on similar factors: labour shortages, raw material scarcity, rising energy costs, inflation, transportation and logistics constraints, and disruption caused by geopolitical factors. All of these pressure points have blighted the world economy since the pandemic, which have been exacerbated, or certainly lengthened, by the wars in Ukraine and the Middle East.

Airframe and engine manufacturers as well as component and parts suppliers have all faced significant supply chain disruption and delays that have contributed to delivery delays of new aircraft. Adding industrial action and regulatory constraints into the mix created a perfect storm in the aircraft supply chain in 2024.

"We're struggling to get aircraft on time," said Andy Cronin, chief executive officer of Avolon. "The manufacturers on both sides have delays, which are resulting from significant upstream supply chain challenges."

In early 2024, Guillaume Faury, chief executive officer of Airbus, called the supply chain a "world of bottlenecks", and that the company had "as many situations as we have suppliers". Those bottlenecks include the supply of raw materials – specifically steel and titanium) – components and engines. These issues were reiterated again by Airbus in the company's half year guidance in July, which said that the commercial aircraft division was facing "persistent specific supply chain issues mainly in engines, aerostructures and cabin equipment". As a result Airbus amended its A320 ramp-up trajectory to target a production rate of 75 A320 family aircraft per month by 2027.

Airbus suffered further issues when Spirit AeroSystems (Spirit) – which manufactures aerostructures for the A220 and A350 family aircraft – experienced a liquidity crisis in November as it struggled to cope with the disruption caused by the Boeing machinist strike. After incurring a net loss of $1.5bn in its third quarter 2024 results, and with a debt balance of $4.4bn, Spirit warned it had substantial doubts about the company's ability to continue as a going concern unless it had additional liquidity to continue operations over the next 12 months. Boeing, which had agreed to acquire Spirit in July 2024, and Airbus both agreed to provide financial assistance. Airbus delivered a $107 million non-interest-bearing line of credit as advance payments in connection with production for Airbus airframes. Boeing agreed to advance payments for up to $350 million to produce its airframes, on top of the $450 million advanced in April 2024.

> **"We're struggling to get aircraft on time. The manufacturers on both sides have delays, which are resulting from significant upstream supply chain challenges"**
>
> *Andy Cronin, CEO, Avolon*

Boeing's problems have been more acute. The US manufacturer shutdown operations for seven weeks between September 13 to November 4 when more that 33,000 machinists began industrial action over a pay dispute. Spirit was impacted by the ripple effect from the strike at Boeing and furloughed hundreds of workers. The strike ended when the International Association of Machinists (IAM) District 751 & W24 – representing some 33,000 workers – reached an agreement with Boeing for a 38% pay rise and improved pension benefits.

As well as costing approximately $5bn, the shutdown and subsequent slow restart severely impacted Boeing production, which had already been affected by a series of challenges in 2024: the catalyst being the Flight 1282 incident where a door plug blew out shortly after take-off on an Alaska Airlines 737 MAX 9 flight. The 737 monthly production output was capped to 38 a month following the incident by the US Federal Aviation Administration (FAA). Boeing delivered 32 MAX aircraft in August, edging closer to the cap, before the strike cut production rates again.

Boeing resumed production of all airplane types at the start of December 2024. The company announced plans to ramp up 787 production at Charleston site to 10 aircraft per month by 2026. Boeing's deliveries fell further in November from the previous month - delivering only 13 aircraft as opposed to 14 in October. This was the lowest delivery count since the pandemic when Boeing delivered just seven aircraft in November 2020.

Airbus has also experienced a slowdown in production due to supply chain issues and bottlenecks from its own supply chain. Avolon chief executive Andy Cronin notes that the supply chain delays are not limited to the airframes. "We are seeing pervasive and broad based supply chain issues from components like seats, galleys, certification, around supplies of resin, and supplies of raw materials that feed into the tier three suppliers, all of which are cascading down through the supply chain," he says. "The Boeing strike was a wild card but on the Airbus side there are a lot of challenges with the supply chain around BFE [buyer furnished equipment] and seats in particular. We're no longer really looking at our contractual rights for setting seat specifications in the contract, because the lead time for seats is longer than we would have specified in our contracts."

Rate ramp projections in 2025 and beyond look challenging, given experience in 2023 and (relative lack of) progress in 2024 (plus historical precedents)

Source: Cirium Core

FIG. 1: PASSENGER AIRCRAFT DELIVERIES (2000-2028F)

Lessors and airlines celebrated the end of the strike at Boeing, which Cronin described as a "big step forward" but the general consensus is that the production ramp up signalled by the manufacturers will take much longer than they are suggesting. "It will be very close to the end of the decade before any kind of normalcy returns," says Cronin.

Airbus delivered 84 commercial aircraft in November 2024, bringing its total deliveries for the year to 643 aircraft – short of its target of 770 deliveries by the end of the year.

"Four years on from the pandemic, we would have thought the supply chain issues would have been resolved by now," says Firoz Tarapore, CEO of DAE Capital. "It's not healthy that the replacement cycle – which was so properly advanced – has been delayed in this way because ultimately, we are all better off having the fuel efficient aircraft we all thought we would have by now,. When we look at the current environment, it's hard to see the blockages that have created this situation will change in the near term. Where we are at the moment, that demand is likely to stay robust, pricing is likely to stay robust, and as a result of that, we think that both re-lease rates and residual values will hold up really well as we look at the next 12-18 months."

With the change of administration in the US, Cronin says the industry's relationship with the regulators may change in 2025. He says: "The tone of the regulator [has] created many bottlenecks around certifying new suppliers, and around supply of seats into the market."

American Airlines treasurer Meghan Montana also refers to the impact of the slowdown in the regulatory certification process: "One problem area that people under appreciate is certification for new programmes, which is causing a lot of delays. After the MAX grounding, the world changed expectations around certification, timeline, process, independence of the various regulators, which wasn't baked into production plans." Although Montana hopes the manufacturers will learn from this period and build plans that will deliver on time, she is not confident at the moment, particularly in regards to seats and monuments.

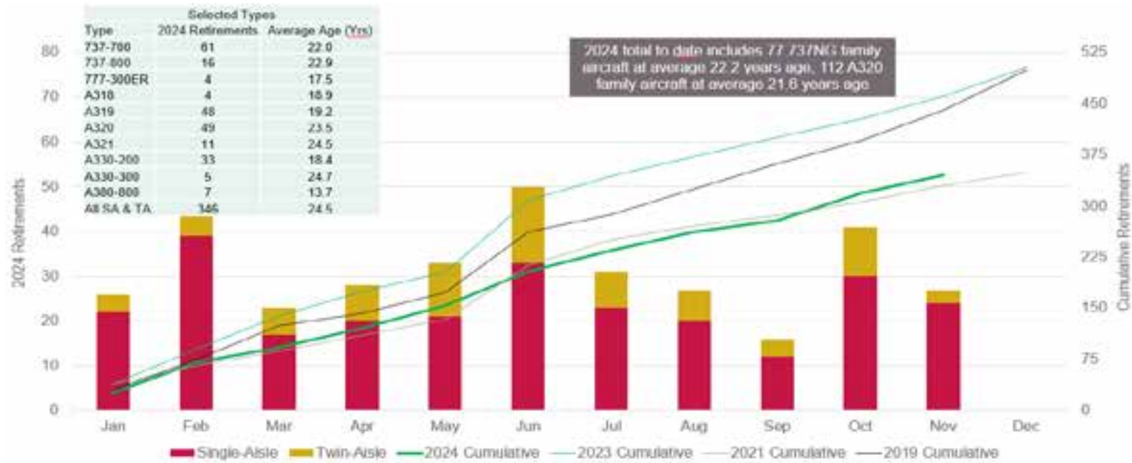
Deliveries for some aircraft are also being delayed due to certification issues with new premium seats as rules become more demanding. Although seats are defined as buyer furnished equipment (BFE) they are still impacting the production process and delivery timeline. Boeing is waiting for the MAX 7 and the MAX 10 to be certified by the FAA, while the certification of the 777-9 has faced several delays exacerbated by the increased regulatory scrutiny following the issues with the MAX aircraft.

With all of the supply chain issues, deliveries of passenger jets are struggling to surpass pre-Covid levels (see Fig.1). Airbus is advancing production but there are doubts if the manufacturer can increase production of the A320 family to 75 per month by 2027 and the A220 rate to 14 by 2026.

"For the last 18 months or so, Airbus A320 family production has been stable at around 50 per month but that means they are building 13 aircraft fewer than in 2019 plus their target was to be at 65. They're starting to pick up, but slowly," says Rob Morris, head of consultancy at Cirium Ascend Consultancy. "Boeing deliveries are all over the place but are still way below the 25 aircraft they were producing over the summer due to the strike. Boeing production is still capped at 38 by the FAA and who knows when that will be removed. I suspect it will take until the middle of next year for Boeing to get even close to 38 aircraft a month. Meanwhile, Airbus will start to increase next year, hopefully. But remember, coming out of Covid, Airbus was targeting 75 in 2025, now it is talking about 75 in 2027 and many think it may be 2028 or beyond. It's going to take a long while yet for the new production to improve to the levels that were being hypothesised."

IATA data shows that aircraft deliveries have fallen sharply from the peak of 1,813 aircraft in 2018. The estimate for deliveries in 2024 is 1,254 aircraft, 30% fewer than forecast at the start of the year. In 2025, deliveries are

Slow retirements continue through 2024, annual total not expected to match 2023 given demand and supply balance at present, older aircraft being retained / returned to service as flyers



Source: Cirium Core

CIRIUM ascend

FIG. 2: AIRCRAFT RETIREMENTS 2024

forecast to rise to 1,802, having been revised down from 2,293, and IATA has warned that "further cuts to this number are to be expected".

Aengus Kelly, chief executive of AerCap, the world's largest aircraft lessor, predicts the supply of aircraft will remain constrained for years to come. "We can see this in the manufacturing side; we can see it on the engine side; and we can see it in airline activity. Airlines are the biggest buyer of older aircraft because they know the shortage of aircraft is going to continue for years to come."

Short-term, unexpected delivery delays are frustrating for lessors that have customers waiting for aircraft but they are far more destructive and damaging to airlines that often plan 18 months out for a new delivery.

"Delivery delays are frustrating for us because we don't have the growth in our business that we expected and we are holding on to capital that had been set aside for investing in new assets, but they're not coming," says Kelly. "It is not an insignificant cost, however, it is worse for airlines who have planned their schedules, flight crews etc around expected deliveries."

Airlines that have hired new crews and pilots – on elevated salaries – and sold tickets are burdened with those costs when the aircraft fails to be delivered. "This happened to a customer last year," he says. "They hired the pilots; the airplanes didn't show, and they were stuck with the cost. They had to go into the wet leasing market and contract at very high rates."

Speaking in New York in October as part of the Aviation Leaders interview series, Robert Neal, chief financial officer of Allegiant, shared his experience of dealing with delayed aircraft deliveries. "We were expecting our MAX order to begin delivering in the back half of 2023 and we took delivery of our first one in September 2024," he says. "That has been challenging, mostly on the cost side. We're carrying around 100 pilots on the payroll for the MAX fleet type… We are managing that through better utilisation. We have had to extend the lives of a handful of our A320s, which we would have preferred to retire, but that's one of the benefits of owning our fleet."

Neal sees the supply strain as a medium-term issue but noted that the airline hadn't been able to get too much information out of Boeing [the interview was recorded during the strike period] so was assuming for planning purposes that it may take up to 24 months for Boeing to ramp production back up. "We were supposed to be taking two airplanes per month but we are planning on less than one per month for the foreseeable future," says Neal.

Although American Airlines is less exposed to new delivery delays having done most of its re-fleeting work already, it is still impacted by the lack of additional lift and maintenance, repair and overhaul (MRO) delays. The airline is boosting capacity by extending the life of some of its older aircraft and doing more MRO work in-house. "We are optimising how we're using our existing fleet," shares American's Montana. "But it is taking a lot of time. A few things that we are doing to better control our destiny is more work in-house. Our Tulsa facility is now doing quite a bit of engine overhaul work every month that reduces our reliance on MRO capacity. We have extended life programmes on several of our fleets to use the assets that we have longer in a safe and efficient manner. We are also bringing in used airplanes. Sometimes it is easier to bring in used aircraft and go through reconfigurations than rely on new deliveries. We are doing everything we can to make sure that we have enough aircraft and then are finding ways to optimally utilise them, until we work through this period of recovery."

Retirements of older aircraft are being delayed as delivery waiting times lengthen (see Fig. 2). IATA reports that the average age of the world fleet has risen to a record 14.8 years, which has caused a deceleration in fuel efficiency, leading to higher emissions, rising fuel costs and additional maintenance costs for airlines.

The constrained supply situation is exacerbated significantly by the unreliability of new technology aircraft

engines, which have been coming off wing earlier than planned. Almost all of the new technology engines run much hotter than legacy engines, which has impacted the reliability of life limited parts (LLPs), leading to a lower time-on-wing. These new technology engine entry-into-service issues have been plaguing the industry for the past few years. The Pratt & Whitney PW1100 Geared Turbo Fan (GTF), the CFMi LEAP, certain Rolls-Royce powerplants, have all had "teething" issues, which in many cases have resulted in aircraft being grounded prematurely for inspections and maintenance work and additional shop visits.

Some airlines, including British Airways and Virgin Atlantic, have been forced to cut schedules due to issues with the Rolls-Royce Trent engines, while the issues with the GTF – which powers the A320 and A220 family aircraft – have substantially impacted airline operations for the past several years.

"The unreliability of new technology equipment is manifest in more aircraft on the ground," says AerCap's Kelly. "The technology has to become robust because there is no point delivering new engines if they are not durable. In an ideal world, the technology would mature faster [but] I don't see that happening. Towards the end of the decade, [the OEMs] may well get to the production levels they want but I think the road is probably longer on the durability of the technology, which is what is going to keep demand for used aircraft extremely strong for years to come because it is more durable."

Pratt & Whitney's GTF issue resulted in close to 650 aircraft being on the ground during the month of November 2024. Cirium's Rob Morris believes this is the peak of the Aircraft on Ground (AOGs) events for GTF-related issues but notes that the future impact on airline revenues needs to be watched with so many aircraft out of service.

Pratt & Whitney is still working through the workscope to inspect and replace parts impacted by the contaminated powder metal issue, which has already led to hundreds of aircraft being grounded as removals and inspections are carried out. In its third quarter earnings in October 2024, parent company RTX said that the GTF fleet management plan remained "on track" and inspections of powdered metal parts was progressing according to plan. RTX CEO Christopher Calio said that the company would "start to turn a corner on the insertion of powdered metal parts as we head into 2025". He added that the company had ramped up its isothermal forging ability by 38% that would enable the production of more parts to ramp up further over the next year. RTX expects compensation payments to impacted customers to reach $1bn by the end of 2024. As of October 2024, the company had 28 customer agreements in place, which covers about 75% of the AOGs. RTX is crediting the airlines as the AOGs occur, and Calio said that those agreements and payments would continue for the next two years.

Airlines including JetBlue and Wizz Air shared the impact of the GTF engine issues in their second and third quarter 2024 earnings calls. JetBlue management said that the Pratt & Whitney related aircraft groundings had significantly impacted its growth rate and pressured its profitability, with chief executive Joanna Geraghty stating in October that JetBlue expects "mid-to-high teens number of aircraft on the ground due to the GTF issue" in 2025, which will "result in flat capacity year-over-year". She also confirmed that JetBlue was in the process of extending 30 leases that were set to retire to "backfill some of the capacity lost to the GTF".

Speaking to *Airline Economics* in June 2024, Wizz Air's CEO and co-founder József Váradi maintained that the GTF engine was a good engine, adding "it's kind of painful for the short-term, but it's a good engine over the long run". In the airline's third quarter 2024 earnings call on November 7, Váradi lamented the additional costs caused by the GTF AOGs, saying that although Pratt & Whitney was compensating the airline for the direct costs to the business when aircraft are grounded but that doesn't allow for the "soft-scale decisions" made by the business once it realised it had lost 20% of its fleet "overnight". "We had to make sure we had back-up capacity

one way or another," said Váradi, adding that the airline continued to take new deliveries, secured dry and wet leases all of which added additional costs. "We could have decided to do nothing, and then we would have been kind of in the money with Pratt & Whitney," he said. "But we had to take the decision, because otherwise strategically we would have been turning over newly invested markets into the hands of our competitors. So we had to protect capacity … that came with significant cost."

Wizz had 44 AOGs caused by the GTF issue – the chief executive blames the ensuing costs and reduced revenue earning capacity for denting the airline's journey to investment grade status. On the November call, Váradi called the airline a "victim of the GTF groundings", without which Wizz Air would have "been meeting investment grade criteria". He added that the company needed to "get out of the Pratt & Whitney cycle" and it would be another two years until the company could "realistically put investment grade back on the table". On December 31, Wizz Air announced that it expects 40 aircraft to remain grounded through fiscal year 2026 due to the GTF engine issue, and also confirmed a new deal with Pratt & Whitney for further commercial support, including operational assistance and a new compensation package to the end of 2026.

Visual inspection of a PW1000G blisk at MTU Aero Engines in Munich. (MTU Aero Engines)

"The technology has to become robust because there is no point delivering new engines if they are not durable. In an ideal world, the technology would mature faster [but] I don't see that happening. Towards the end of the decade, [the OEMs] may well get to the production levels they want but the road is probably longer on the durability of the technology."

Aengus Kelly, CEO, AerCap

Before its Chapter 11 filing in November, Spirit Airlines reported an average of 20 aircraft on ground (AOGs) connected to the GTF engine issues during the second quarter of 2024 . The airline noted at the time that it had secured $37.2 million of credit in compensation from Pratt & Whitney – further anticipating a total of around $150-200 million in credits for the full year of 2024. Also in November, Volaris blamed the GTF engine inspections for a decline in its capacity during the month.

airBaltic reported on January 2, 2025 that it had been forced to cancel 4,670 flights from all of its bases for the summer season due to "unexpected delays and prolonged engine maintenance by its supplier Pratt & Whitney", which has impacted the operation of its A220-300 fleet. The airline went on the reveal that several of its A220 aircraft would remain grounded into 2025 due to an engine shortage.

A lot of the delay in inspecting GTF engines has been caused by a lack of MRO slots and parts. MTU Aero – the engine manufacturer that partners with Pratt & Whitney on the GTF engine development – said in its capital markets update at the end of November that it had "some volatility" in the MRO parts supply chain and that supply was "not at the best level". In its third quarter earnings the company said it had made progress with turnaround times for GTF engine shop visits, which were falling but the average time was still in three digits but CEO Lars Wagner stated that it needed to fall to "high double digits across all programmes".

The CFMi LEAP engine has performed better but has still had some issues with high pressure turbine blades as well as fuel nozzle problems. The FAA ordered checks on all LEAP engines after two aircraft reported thrust problems related to fuel nozzle coking. CFM introduced a new reverse bleed system for its LEAP-1A engines, which power the A320neo family, earlier in 2024 with a retrofit programme underway. A LEAP-1B retrofit kit for the MAX engines is also in development. And in December the FAA and EASA certified the updated high pressure turbine (HPT) hardware durability kit for the LEAP 1A, which enhances time-on-wing in hot and harsh environments.

Although there is now a fix in place, the delay with producing the kits and replacing the parts in a constrained MRO environment has caused delays for airlines. "The [LEAP] engines are not performing as reliably as we'd like," says American's Montana. "They're coming off wing earlier than we would like. The maintenance costs of these engines is much more important to understand and plan for than the cost of the asset itself. So it's pretty frustrating. We'd like to see those engines stay on wing longer and have the performance that we expected when we purchased them… In the meantime, it's having pressure on spare availability, turn times and our predictability in the fleet. There's also a lot of operational considerations when aircraft has to be taken out of service to have engines removed earlier than expected. It's challenging. I don't think there's a pocket of the industry that isn't having some sort of engine growing pains."

In its third quarter 2024 earnings results, GOL said that maintenance costs had "exceeded expectations" for the year due to "higher-than-expected unforeseen removals of LEAP engines". GOL's maintenance costs for the quarter jumped 75.9% over the year ago period to Rs453 million ($71.8 million). GOL stated that it was "in close dialogue with CFM to effectively resolve this situation".

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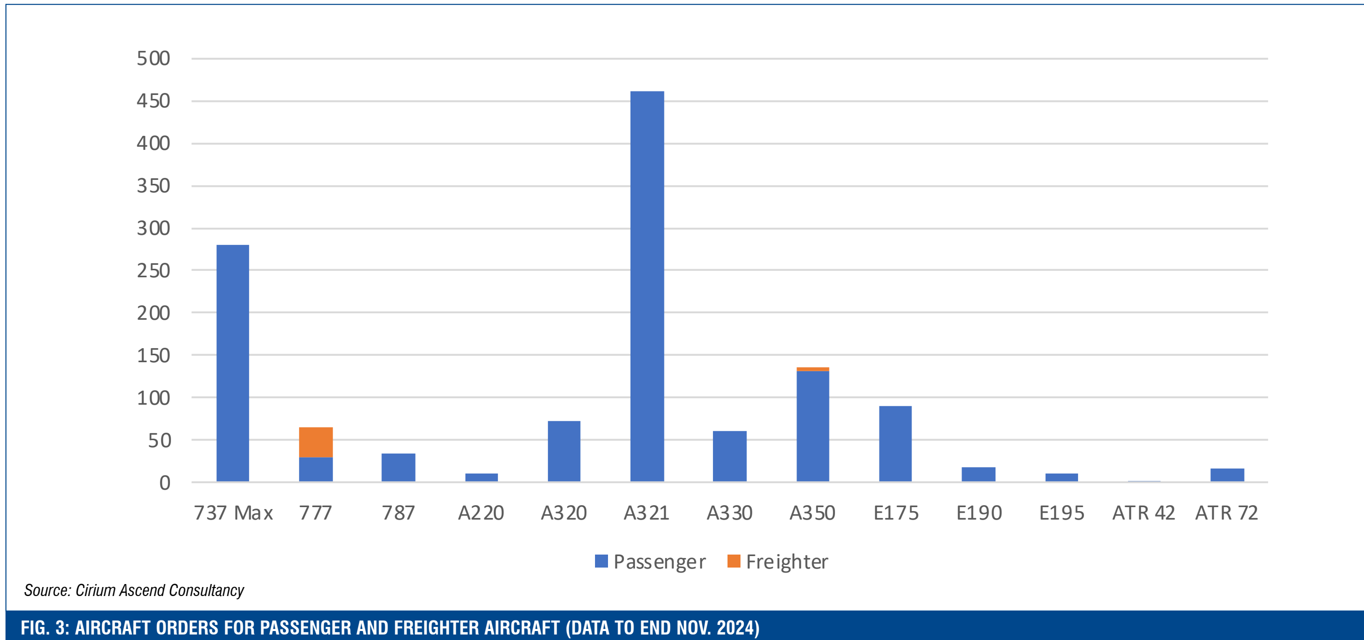


Source: Cirium Ascend Consultancy

FIG. 3: AIRCRAFT ORDERS FOR PASSENGER AND FREIGHTER AIRCRAFT (DATA TO END NOV. 2024)

There are also issues with widebody engines. Rolls-Royce is making moves to tackle the durability issues of its Trent 1000 and 7000 engines. The UK engine manufacturer has a £1bn investment programme running to improve the time-on-wing for its modern engines and is also working to increase its MRO capacity for major shop visits. The company reported that the Durability Enhancement Packages for the Trent 1000 programme was "progressing well" and in December said that all of the major flight tests required for US certification of the new Trent 1000 TEN high-pressure compressor turbine (HPT) blades had been completed. The new blades are expected to "more than double the time-on-wing" for the engine. Rolls-Royce estimated that it would take two to three years after the certification to roll out the changes to the in-service fleet.

The engine issues remain a pressing issue but opportunistic market players have sought to discover pockets of opportunities to capitalise on the disruption while also helping the market. Azorra chief executive officer John Evans is working with Pratt & Whitney to help alleviate some of those challenges with customers impacted by the GTF inspection process.

"We are working very closely with the OEMs to help them with some of these technological issues and challenges," shares Evans. "For example, we have bought 12 A220-300s from EgyptAir as well as some used A220-200s that we are able to utilise to supply some engines to Pratt & Whitney to help them bridge those challenges with customers like Delta, Breeze and Azul that have AOGs because of the engine technology issues. Longer term, our plan is to put those aircraft back into service. In the near term, instead of exacerbating the problem by putting those aircraft with new customers that would then in turn also need Pratt's support, we are able to help them in the near term. In return, they help us by committing to future upgrades on the engines to ensure that we have the latest generation combustors and engines coming out of the shop."

Pratt & Whitney has further durability enhancements ahead for the GTF to extend time on wing, especially in hot and harsh environments. These include an optimised cooling configuration for the combustor and high-pressure turbine (HPT), and an advanced HPT first stage blade with improved coatings. Also, the GTF Advantage is set for certification and first deliveries in 2025, according to Pratt & Whitney, which says that the new engine is fundamentally durable. Speaking to *Airline Economics* in its annual *Aero Engine Guide 2025*, Rick Deurloo, president of commercial engines for Pratt & Whitney, said that the new engine has increased airflow through the core so the engine delivers more thrust while running cooler, and a state-of-the-art hot section to increase time on wing. He says: "The test program was designed with special attention to severe environment operations. This includes hot section endurance, rapid cyclic accumulation and dirt ingestion. The combination of durability enhancements on the today's GTF engine, along with these configuration changes, will drive the GTF Advantage to mature levels of durability."

Although future retrofitted solutions and new engines are all in the works for the near future, at the moment when all of new technology engines are not lasting as long on wing, they are spending more time in the maintenance shed.

Engine durability issues are impacting an already-constrained MRO market, which is impacting every airline, lessor as well as cargo carriers. All operators report how challenging it is to secure MRO capacity, and even if they do, the turnaround times are much longer than they used to be, increasing that off-wing time bumping up costs. Price for spare engine short-term leases or to buy a spare engine have spike significantly. The price of a CFM56 engine is reported to have doubled – what used to cost $6 million could today be at least $10million.

For cargo carriers, the return to service of older aircraft has reduced feedstock for conversion programmes. Many lessors that invested in freighter conversions can now earn better returns by leasing out the engines rather than converting the aircraft. Lessors are reporting prices of $90,000 per month per engine, which is becoming more profitable than – or very close to –

the cost to lease the whole aircraft. This situation is likely to persist for at least two or three more years until OEMs and MROs can scale up production and ramp up capacity to meet the demand.

The short supply of MRO slots and additional shop visits for engine issues has increased costs for airlines and lost revenue from a lack of capacity or from leasing older aircraft, which often leads to dual fleet operations adding an additional layer of complexity and cost.

"Dual fleets are inefficient. Airlines want commonality of everything from toothpicks to jet engines. When you don't have that commonality, it adds extra costs," says AerCap's Kelly, who also points out the complexities caused by different seat layouts and booking systems, as well as have different pilot training, different spares, all of which he says "adds to inefficiency in the system, pulling back airline profitability".

Airlines are suffering from constraints in the supply chain but to date there is no real visibility on when the supply chain will return to some sort of normality.

"Anyone who is not concerned doesn't have a pulse, and anybody who can tell us when it's going to end, or how it's going to look, has no clue," says Tom Baker, chief executive of Aviation Capital Group (ACG). "It's something that we're all going to have to grind through. And unfortunately, the airlines will bear the biggest brunt of all this volatility, uncertainty and cost. The generally constructive and benign operating environment is helping the airlines manage through these challenges but it is an inhibitor for growth, for fleet replacement."

The supply chain issues have created positives and negatives for the leasing community. "On the negative side, it is hard to manage your business and plan for growth," says Peter Barrett, chief executive of SMBC Aviation Capital. "It creates a lot of friction with your customers and with your suppliers, which have delay issues. Customers are waiting for their aircraft and have schedules to fly. Managing that demand between the two of them can be challenging. But we are planning for delays. We're managing our own expectations and those of our customers. At this stage, people are adjusting. So there are challenges there, but they're manageable. On the positive side, clearly, if you're an aircraft owner, if you have an orderbook and a large portfolio of aircraft, where there is a supply side shortage, it is good for our business."

Steven Townend, chief executive officer of BOC Aviation, notes that the last time there was such an imbalance between supply and demand was before the Global Financial Crisis in 2005, which he says is good for lessors that have new and used aircraft to lease. "Clearly, the demand for aircraft and the lease rates you can achieve is much, much higher than it has been in recent times. Most of our customers want to extend leases, we are even seeing a greater number wanting to acquire the aircraft at end of lease as well. The challenge, though is obviously, how do you grow without the new aircraft delivering."

> **"Clearly, the demand for aircraft and the lease rates you can achieve is much, much higher than it has been in recent times. Most of our customers want to extend leases, we are even seeing a greater number wanting to acquire the aircraft at end of lease as well."**
>
> *Steven Townend, CEO, BOC Aviation*

Most lessors with orderbooks had fewer deliveries than expected in 2024, which is not expected to "magically change in 2025," says Townend. "In the next two, three or four years, the industry is going to be about 5,000 aircraft short of where it thought it would be," he adds. "That's a shortfall of around 20%.. So it's going to take a long time for that to work its way through the system."

AerCap's Kelly has already commented on the impact on lessors that have capital ready to deploy on new assets where delivery has then been delayed. This creates a difficult scenario for lessors that have too much liquidity, without clear sight on when those assets will arrive. Managing balance sheets and hitting target return of asset (ROA) and leverage metrics is more challenging than ever for orderbook and young aircraft lessors.

Airlines and lessors are united in their concerns that the OEMs will take more time than they are currently estimating to get production levels up to where they are needed to fulfil their respective backlogs.

"It'll take years to get to the sort of delivery stream that is forecast by the OEMs," says Ted O'Byrne, chief executive officer of AviLease. "There is around 8,000 aircraft backlog for Airbus, and almost 6,000 on the Boeing side. We're talking about aircraft deliveries out into the next decade."

IATA figures show that the current backlog of new aircraft reached 17,000 airplanes in 2024 – a record high – which it says will take 14 years to clear at current rates of production.

For Austin Wiley, chief executive of SKY Leasing, the production delays have allowed the team to invest confidently in current technology aircraft: "The gap between actual versus planned production post-covid is now north of 5,000 aircraft and growing with the challenges that Boeing faces," he says. "We call that the great supply reset. This is causing current technology aircraft and the replacement cycle to be shifted out, not just a couple of years, but through the remainder of this decade, and now well into the 2030s. We have shifted our approach to investment to where we are owning a higher percentage of current generation aircraft, but we are targeting aircraft that we can place on long-term leases. We still want to generate the majority of our return from contractual cash flow, and we are careful in selecting the airlines that we think have the capabilities and the business model to operate these aircraft for a very long period of time."

KPMG

Airbus has booked 742 aircraft orders (net after cancellations) by end of November 2024, with Boeing securing 370 (net) aircraft orders in the same time frame (see Fig. 3). For new orders, delivery slots are out toward the end of the decade and post 2030. Growing a new aircraft leasing platform for new aircraft using this channel is therefore limited, which has added strain to the highly competitive sale-leaseback channel.

Securing a long term orderbook has been a central strategy for Air Lease Corporation (ALC) since its inception in 2010. "We had a great start in March 2010 and delivered our first airplane in April and a year later we took ALC public," says John Plueger, chief executive officer of ALC. "By that time we had already placed orders with Airbus and Boeing, and ATR and Embraer as well. We started our order stream at a very good time when it was a disturbed period in the world right after the financial crisis and the manufacturers were hungry. We were able to secure some great, long term orders. That's our mantra. We are a new orderbook lessor. Our orders extend to 2029."

As of the end of the third quarter of 2024, ALC has about 500 aircraft in its active fleet and 300 airplanes on order. With such a large orderbook, the ALC team is frustrated with the continuing delivery delays. "The majority of our airline customers are in the Northern hemisphere and are focused on supporting their seasonal travel," says CEO John Plueger. "So many of them haven't had their aircraft delivered on time ahead of the summer season in 2024 or even before the summer of 2025. This has been a perpetual slow bleed of cascading, lengthening delivery delays, compounding that with a shortage of aircraft, we are trying as hard as we can to find additional used aircraft to help our customers, because everybody is screaming for airplanes. That's not a good position to be in and it creates its own sense of havoc."

Another criticism from lessors in particular is the narrowing of the OEM customer skyline orderbook. "Putting aside the non-delivery issues on the supply side, the actual amount of OEM deliveries going into the market are focused on fewer and fewer carriers," says AviLease's O'Byrne. "The top 25 airlines represents 70% of the OEM backlog. This means that everyone else is looking for lift and the smaller, second and third tier airlines will have to turn to the leasing channel, resulting in the further consolidation of the industry. That's something the OEMs should think about. Especially with the supply constraints that will continue into the future."

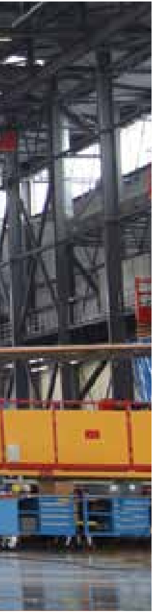
Avolon has one of the largest orderbooks of the aircraft lessors, with 442 aircraft on order. CEO Andy Cronin notes that before the pandemic, there were 11 lessors with orderbooks of over 100 aircraft, today he says it is less than half of that, noting the limited access to a skyline orderbook for new entrants. "If a new entrant wants to order aircraft, it's 2032 before the first delivery, which suggests there won't be further fragmentation of the leasing market. It's the big, patient, strategic lessors that can wait to get delivery of the aircraft for three, four or five years, rather than a new investment proposition. It is the order books that are going to drive a reshaping of the industry."

Cronin also notes that the average credit quality of the OEM backlog has improved over the past three or four years as airlines that struggled during Covid didn't make those PDP payments and cancelled or deferred deliveries. "The manufacturers were very proactive at moving them out of the skyline," he says. "The credit quality of the narrowbody and the widebody backlog is as good as it has ever been. We don't expect, really sharp, downside shocks to the demand side, which could come from a single airline failure or a group of airlines failing."

AerCap's Kelly makes the observation that the majority of the world's airlines are junk credits and that the OEMs need orders from large leasing companies for security and certainty. "The OEMs are torn between fear and greed," he says. "When someone walks in and says, I'll pay 15 million more an airplane, they're going to take it. But generally, to be fair, they don't want to get stuck with "Mickey Mouse" leasing businesses for significant parts of their backlog. The OEMs have a junk bond credit customer base – some 95% of the world's airlines are junk bond credits – so they have to make sure that the backlog is anchored among some high-quality customers. That's where the high-grade lessors come in – we are the shock absorbers – that the OEMs know they can build an orderbook around us and a few airlines, which then allows them to be more speculative when dealing with smaller airlines and lessors."

With all of the delays, the lessors are restrained in criticising the manufacturers too much for that lack of visibility and short notice communications on non-deliveries.

SMBC Aviation Capital's Barrett says that he likes to think the company has been "supportive and constructive" with all of its manufacturers in terms of the challenges they face but he stresses that he is "not letting them off the hook". He says: "We recognise that we have a long term relationship with these suppliers, and we need to find the right way to work with them. It's challenging and it's difficult.



> **"The majority of our airline customers are in the Northern hemisphere and are focused on supporting their seasonal travel. So many of them haven't had their aircraft delivered on time ahead of the summer season in 2024 or even before the summer of 2025. This has been a perpetual slow bleed of cascading, lengthening delivery delays, compounding that with a shortage of aircraft, we are trying as hard as we can to find additional used aircraft to help our customers, because everybody is screaming for airplanes. That's not a good position to be in and it creates its own sense of havoc."**
>
> *John Plueger, CEO, Air Lease Corporation*

Obviously, the strike at Boeing and the change of management at some of the of the big manufacturers, produces an additional level of challenge. Many things are outside of their control, particularly for Boeing. They try and tell us what they can, when they can, but it can improve."

Boeing has restarted production and embarked on a company-wide reorganisation with a focus on cultural change led by chief executive Kelly Ortberg, who took over the helm in April 2024. In October, Ortberg announced a return to basis safety, ethics and operational excellence, while stabilising the business and resuming production. "This is a big ship that will take some time to turn, but when it does, it has the capacity to be great again," Ortberg told Boeing's employees and shareholders in a company memo on October 23.

Greg Conlon, chief executive of High Ridge Aviation, who during his time leading GECAS has had some experience with a large corporate turnaround, sympathises with Boeing's current situation. "Boeing is going through a long process – it will be a multi-year turnaround," he says. "They need to address manufacturing issues but also the culture, which can take time. I have every confidence that they will do that. A healthy Boeing company is good for our industry. When you have a duopoly it is important that both providers are producing and you give customers optionality."

From a lessor and aircraft investor perspective, a positive dynamic for the industry is the continued demand for legacy equipment and with the issues experienced by the new technology powerplants and the slowdown in production, any major developments or changes are not expected in the medium term.

"The technology feels pretty stable," says AviLease's O'Byrne. "We don't see any sort of major changes, certainly on the widebody side, and neither Airbus nor Boeing are likely to pull the trigger on new narrowbody technology anytime soon. Having that long runway on technology means lessors and investors can make decisions over a longer period of time – that supply side constraint may actually be a blessing in disguise for lessors and airlines, which can push up yields and reconstitute their balance sheets."

Although the forecast for the coming year is for production and delivery rates to increase from the OEMs, they cannot predict the impact of any external factors. A major risk coming from the change in administration in the US is President Trump's threats to impose tariffs on imported goods – including European aircraft, components and parts. Counter-tariffs from Europe and other parts of the world could also threaten imports of US goods, including Boeing aircraft and other parts and materials. At the very start of 2025, as Rob Morris points out, it is hard to predict the risk since it is a "binary decision from an interesting and volatile character" but it does have the potential to disrupt the supply chain even further, extending the disruption in the aviation industry.

This current operating environment has distorted the typical economic cycle for the aviation sector, which has benefitted recovery for airlines and has boosted significantly the appeal of investing in the aircraft leasing sector.

"In 2019 we had been on an upcycle for a long time – almost 13 years," explains Greg Conlon. "A typical cycle for this industry from peak to trough is 10 years – five years up and five years down. The nervousness at the time was that a big correction was overdue. Sure enough that correction came but not in the way we usually think of them. It came from Covid primarily and the grounding of the MAX that took out some aircraft supply as well – although this was helpful in terms of asset values. Taking a step back after everything we have been through we see that asset values are up 15%, rents are up by about the same amount. Residual values have proved a really effective hedge against inflation. From an investor perspective, the sector has a good recent history of what a shock looks like to this asset class, a pretty good track record of how good asset managers manage through a down cycle, and proof that the asset class closely tracks global GDP."

The lack of aircraft supply, a growing global GDP, robust air travel growth forecasts, and a resilient asset class, continues to drives capital into aviation and is expected to continue for the near-term future.

Chapter Two

Balancing Demand

Demand for air travel continues to track upwards, albeit at a slower rate than in the early days of the pandemic recovery period (see Airlines chapter). In 2024, airlines competed for capacity in the face of constrained new aircraft deliveries that served to pump up demand, pushing up lease rates and asset values.

For leasing companies, the supply-demand imbalance has provided an opportunity to increase yields and profit from substantial gains on aircraft sales.

"Demand remains resilient and robust," says Peter Barrett, chief executive of SMBC Aviation Capital. "Some 12 months ago, we were still in that euphoric post-Covid recovery period where there was sense that everybody was rushing to get capacity, to get their airlines back up and running. That sense of a kind of euphoria and manic kind of demand has gone and there has been 12 months where demand has been strong and steady."

Avolon's Andy Cronin concurs that demand has significantly outstripped supply of aircraft. "We anticipated a lot of those trends," he says. "We were the third largest buyer of aircraft in 2023 after Air India and IndiGo. We ordered 200 aircraft in 2023 alone. We are seeing that demand materialise in the return to service of older, less efficient, more economically prohibitive aircraft – with A340s and A380s being pulled into service all around the world. We see that demand continuing to outstrip supply on the narrowbody side right through towards the end of this decade, and on the widebody side it will be even further beyond that."

With such an increase in demand for aircraft and as interest rates have moved up, lease rates have also improved.

"Lease rates have gone up beyond the rate of interest rate rises; I don't see that changing," says Aengus Kelly, CEO of AerCap. "I expect to see lease rates maintain at these levels and not tip up depending on interest rates. From our perspective, it's not just the lease rate that's important. If you can secure a good lease rate extension, with no downtime, no contribution to capital overhauls and good maintenance rates and return conditions, you're going to do very well."

Lease rates are just one component of several factors that lessors consider when leasing out aircraft, including: downtime, transition costs, maintenance reserves and return conditions. "Some people get too fixated on lease rates," says Kelly. "If you're extending an older aircraft, the maintenance cash flows will be much larger than the lease rate cashflows. For a 16 to 18-year-old aircraft, if you get full maintenance rates, those will be higher than the monthly lease rate."

Avolon's Cronin notes that base lease rates have increased on some asset types by 100% since the start of 2022. "There has been a doubling of dollar rents – albeit from a low base – for the more out of favour aircraft types, which had fallen to a very low level overall." Cronin describes the current environment as a "base market for lease rates" that was previously seen during the last cycle of 2004-5 when interest rates were around the same level as today. He says that the current situation "feels consistent with the long term returns that should be inherent to the sector", adding that there could be more increases on the horizon considering all of the supply constraints.

Lessors are commending the rise in lease rates but tempering that by noting that they have only risen to more "normal" levels that are commensurate with the interest rate environment and the purchase price of the airplane: "Now we are back into a more normal world where, based off your delivery price and the interest rates, the lease rates are back above, let's say $400,000 a month for the MAXs and the NEOs," says James Meyler, chief executive officer of ORIX Aviation. "That's good for new deliveries, but older aircraft that maybe would have been extended for far less several years ago are now being extended at higher rates where they probably should be, based on the value of the aircraft."

This is good news for lessors but not for airlines, which had hoped to have had the choice of new technology aircraft by this time and be able to phase out their older aircraft.

Airlines are responding to the supply-demand imbalance by moving to lock in leases much earlier. Demand for lease rate extensions has been a major trend in 2024 as supply tightened, especially as the Boeing strike restricted production even further. Airlines have been eager to extend their current leases to hold on to older aircraft to ensure capacity heading into busy seasons.

"We are seeing a lot of lease extensions," says Peter Barrett. "For 90% of these extensions, lease rates have improved significantly in the last 12 to 18 months. When we do move aircraft – and sometimes we will choose to move aircraft because we can get a better deal somewhere else with better Ts & Cs – rates are strong. On a net basis, [the supply-demand imbalance] is probably benefiting lessors more even it brings challenges."

With the additional pressure placed on some airlines that are operating fleets with new technology engines issues grounding many aircraft, ensuring access to lift has been paramount.

AerCap's extension rate is running at the highest level ever. In the third quarter of 2024, over 90% of AerCap's lease expiries were extended. "That tells you everything you need to know; the airlines believe Airbus and Boeing are not going to deliver the airplanes," says Kelly. "Even if they do, the new technology engines' durability is the issue. However, it's not just the engines, in some aircraft there are landing gear issues, there are avionics issues, so the airlines know they need to hold on to those older assets for much longer."

The picture is the same for all aircraft lessors in every sector from new airplanes down to the midlife space.

"Our customers are struggling to get the aircraft they think they need to deploy into the marketplace, and it's having a chain reaction in that they are then looking to extend leases, in many cases, longer than they would have wanted to," says Robert Korn, chief executive officer of Carlyle Aviation Partners.

"Airlines overwhelmingly want to extend," agrees SKY Leasing CEO Austin Wiley. "Every conversation we have with airlines is around their need to maintain excess aircraft in their fleet to be able to absorb, and not be exposed to, delayed deliveries or the aircraft

being on the ground as a result of the early removal of the engines. Airlines want to extend after the first lease but when you get to the second lease – around year 15 to year 18 – the decision comes down to if the asset manager can be creative to optimise the remaining engine green time and create a compelling solution for the airline to want to keep the aircraft for longer."

Lese rates are rising for used aircraft in the midlife aircraft sector as supply is squeezed. Joe McConnell, partner and deputy co-chief investment officer of Castlelake, says: "In the midlife part of the market, lease rates rose 10% to 15% in 2024 for narrowbodies due to significant undersupply. We asked 100 of our airline customers in October 2024 and 70% of them said that they need more aircraft in 2025 – they should have the aircraft locked in for 2025 already but they don't. That totals up to about 700 aircraft that are needed across those airlines. That is what is driving lease rates higher. For widebody aircraft it is even more pronounced. Widebody lease rates have recovered quickly because there is a significant undersupply."

Extending leases with existing customers has multiple benefits for lessors: it eliminates any downtime, transition costs, and friction in the business but it also could limit returns especially in a rising lease rate environment. "The easy option would be to extend with the current operator but we rigorously market test every aircraft that's coming up for availability, and we're seeing that result in meaningful increase in returns for our business," says Avolon's Cronin.

Airlines are eager to keep hold of those older leased airplanes for a short two or three year extension to plug that delivery gap but, as James Meyler observes, lessors are now pushing for the longer term extensions that they would have been able to secure if the aircraft were transitioned to a new lessee.

"If a lessor is going to leave the plane with its existing lessee rather than move it to an alternative, they need five, six or eight year leases, which is what would be available if they moved it to another airline," says Meyler. "There has been a shift to longer extensions, especially for widebodies, because of the delays in the supply chain, and everything from seats to engine slots to overhaul work." Meyler adds that airlines need to be working to at least a two year window for renegotiating widebody leases, with narrowbodies not much further behind.

With such high demand, some lessor CEOs are reporting that many airlines have left it too late to begin those lease extension discussions. "A lot of airlines want to extend the aircraft that they have," says Cronin. "But many have left it too late because there's been such strong demand for those aircraft; the timeline for placing roll off has shifted from probably 12 months out to 24 to 30 months out today."

SMBC Aviation Capital CEO Peter Barrett says that extension discussions are up to around two years ahead of the lease expiry. "Previously, certainly during a period of weakness, [airlines would] play a short game, and they'll go pretty much down to the wire."

Barrett doubts those lease extension negotiations will be pushed out further than two years but adds: "We have some widebody aircraft in our portfolio now, which are maturing in 2027 and 2028, and that particular customer wants to begin that conversation now because they need to start locking down and getting certainty on that core part of their fleet. It is a really interesting dynamic on the new aircraft side. We are pretty much placed for 2026, we are well placed for 2027, and we are putting airplanes away in 2028. That time horizon is being stretched. Airlines know they need to make some decisions with the risks on the supply side."

Many airlines need to make those long-term lease extension decisions before knowing how delayed their new aircraft deliveries might be, which has the potential to create substantial additional costs. That said, airlines are also increasingly opting to buy aircraft at the end of leases. "Strategic buyers will always squeeze out [the competition]," says AerCap's Kelly. "If an airline wants to buy, it is worth more to them than a financial investor. We have seen over half our aircraft sales go to airlines. We are the biggest seller of used aircraft in the world and that is reflective of the market."

ORIX Aviation's Meyler reports that airlines have been buying more aircraft when leases expire. "Airlines are buying aircraft at the end of leases rather than either paying maintenance compensation, putting them through the shop, or essentially having the risk that the aircraft will be taken back and put out on lease somewhere else."

AerCap's Kelly observes: "Some airlines aren't buying airplanes, but they are extending leases to very long terms and with that they also want the option to buy out the maintenance condition at the end," he says. "The asset will be a 23-year-old plus airplane at the end of the lease and rather than pay to refurbish the engines, the airline can just write a cheque for the cost of refurbishment and hand it back; in a sense the airline is consuming the remaining economic life of the aircraft."

Lessors are united in the opinion that demand will remain robust but some disagree about the trajectory of lease rates. Some have called the top of the market and yet others say there may still be a way to go if interest rates rise and demand remains compressed.

"The supply constraint will only become more acute over time," says Tom Baker, chief executive of Aviation Capital Group (ACG). "The acceleration in lease rates is well known and people like to talk about the fact that there was a pause in the market when there was a sudden downward shift in interest rates that now seems to have reversed. There

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>
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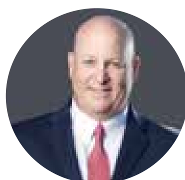

is always a winter lag as fewer airlines seek new aircraft or lease extensions and we will see how that flows over time. Some say that lease rates may have peaked or are falling. Supply and demand are tied to interest rates. If interest rates are returning to a more normal higher-for-longer range, lease rates will continue to trend back toward where they were heading probably six months ago. Is that super high? No. We are entering much more of a narrow band, but lease rates will not fall down to levels we saw a year or two ago."

ROBUST TRADING ENVIRONMENT

With such positive demand, the aircraft trading market has been busy in 2024. Castlelake's McConnell says that he has never seen as many aircraft for sale in his aviation career. Trading volumes are much more robust than many had expected given the supply-demand disruption and higher interest rate environment.

"When the interest rate cycle turned two years ago, there was a general concern that the rise in interest rates would slow down the trading market. That hasn't proven to be the case due to a couple of dynamics," says SMBC Aviation Capital's Barrett. "Capital still is relatively easily available with plenty of investors that want to deploy capital. That hasn't significantly reduced in the last couple of years. The resilience of our industry has really resonated with investors around the world."

"We have the largest trading team in the industry," says Barrett. "That's a conscious decision on our part. We want to make sure we have a broad distribution of trading partners. We have a big trading market in Japan, thanks to our ownership, which is a significant advantage for our business relative to some of the other big lessors. We actively trade with other midlife aircraft investors and some of the bigger names in that space, but also some of the smaller players with new platforms, or which are setting up a fund or a new business. It is a deep market."

The past few years have demonstrated that the leasing industry can weather sharp shocks and quickly capitalise on opportunities. That resilience, and the ability to deploy substantial volumes of capital as well as the global nature of the business, are attractive to investors. The supply side dynamic is only driving that interest higher with more and more private capital leaning into the leasing space, driving trading volumes.

Robust access to debt capital for leasing companies has encouraged the growth of aircraft trading over the past year. "Where ALC used to sell around $800 million of aircraft each year, now we are selling $1.5bn-$1.6bn in a given year," says John Plueger, chief executive of Air Lease Corporation (ALC). "The trading volume has been robust because of that availability in the debt capital markets. We have had a very successful aircraft trading programme that looks to continue for the foreseeable future."

Avolon has also been a prolific player in the trading market on the sales and the acquisition side. The lessor sold 31 aircraft in 2023 and 84 in the nine months to the end of September 2024 – a significant uptick in volume. "The demand for aircraft is strong from multiple players," says Cronin. "From smaller scale lessors with no orderbooks that need volume to grow and deploy capital to airlines that are acquiring aircraft as they move into the last third of their useful life where they can take control of contingency capital in the event of further manufacturer delays. We are also seeing an increase in the amount of capital coming into the sector and be put to work in specific credit or jurisdictional areas."

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FIG. 6: TOP 30 AIRCRAFT LEASING COMPANIES (RANKED BY PORTFOLIO SIZE IN UNITS)

Rank	Operating Lessor	Single-Aisle	Twin-Aisle	Regional Jet	Turboprop	Total Portfolio	Backlog	Indicative CMV (HL$bn)
1	AerCap	1,303	278	79	16	1,676	311	53.5
2	SMBC Aviation Capital	692	69			761	250	28.9
3	Air Lease Corporation	433	140	2		575	275	25.7
4	Avolon	442	128	13		583	408	21.0
5	BOC Aviation	380	83			463	215	18.3
6	BBAM	351	101			452		17.2
7	ICBC Leasing	418	49	37		504	128	16.4
8	Aviation Capital Group	355	15			370	140	11.7
9	DAE Capital	302	41		67	410	57	10.5
10	Bocom Leasing	267	28	6		301	95	10.5
11	CDB Aviation	242	36	16		294	237	10.2
12	Jackson Square Aviation	206	25			231	20	9.0
13	Carlyle Aviation Partners	336	36			372	16	8.6
14	AVIC International Leasing	146	24	31	20	221		7.6
15	CMB Financial Leasing	157	19	7		183	67	7.5
16	Castlelake	197	41	8	8	254		7.0
17	CCB Financial Leasing	149	26			175	110	6.6
18	ORIX Aviation	171	30			201		6.3
19	CES International Financial Leasing	117	30	1		148		6.3
20	AviLease	178	3			181		6.2
21	Aircastle	230	14	21		265	9	6.2
22	China Southern Air Leasing	129	28	8		165		6.0
23	Macquarie AirFinance	220	19	2		241	81	6.0
24	China Aircraft Leasing Company	173	15	3		191	145	5.7
25	Griffin Global Asset Management	52	14			66	6	4.1
26	JP Lease Products & Services	71	8			79		3.6
27	ABC Financial Leasing	86	12	16		114	65	3.6
28	Aergo Capital	84	39		28	151		3.4
29	ABL Aviation	42	16			58		3.1
30	SKY Leasing	80	4		5	89		3.0

Source: Cirium Core

Cronin sees this level of trading as commensurate with a midpoint in the cycle. "We're not selling enormous, outsized amounts of aircraft, more we are in the middle ground that is right for where we are in the cycle."

Avolon closed one of the largest portfolio sales in 2024 when it acquired Castlelake Aviation Limited (CAL) in September. The 118-aircraft portfolio is made up of 68% narrowbody aircraft and 70% new technology aircraft on lease to quality airlines. The acquisition has $3.3bn of transferable debt attached for $1.2bn that Avolon plans to pay with existing funds. According to the agreement between the two parties detailed in a stock filing at the Shenzhen Stock Exchange, CAL will divest five operating leasehold aircraft that it had already signed sales agreements for before the transaction is completed. After the divestiture, CAL's assets will consist of 85 operating lease aircraft, 22 finance leases for aircraft and engines, nine secured loan assets, and 13 aircraft orders. The owned aircraft of 85 operating lease aircraft, 20 finance lease aircraft, two engines, have an average age of 4.7 years and a remaining lease term of 8.4 years. Major customers include AirAsia, Qatar Airways, Avianca, Delta Air Lines, Gulf Air and 18 other airlines. Within the strong mix of aircraft there are almost 50 A320ceo and neo family aircraft, a smaller selection of NGs and MAXs, and a smattering of wide body aircraft as well as seven CRJ900s. The new portfolio also includes five A220-100s, which Avolon will own for the first time.

Selling CAL was a proactive move by Castlelake, which has taken bold steps to pivot back to investing in midlife assets and away from the new or young aircraft sector of the market. Speaking to *Airline Economics* when the deal was announced, partner and deputy co-chief investment officer Joe McConnell said that the time was right for the business. "Our view is that young aircraft – from zero to five years old – given the undersupply from the OEMs, the rise in interest rates, and the amount of investment grade lessors in the market with too much liquidity, aren't delivering the returns that we need as an alternative investment manager today," he says. "It was an opportune time for us to sell our portfolio of young assets to Avolon. It's a great portfolio of assets. We would have been happy to own it for longer, but it was also a great time to sell. It provides our investors with a great price, and allows for us to return capital to investors for a pre-Covid Aviation fund that was fully invested before the pandemic, to really crystallise returns that are above investors original expectations in 2017."

Outperforming investor expectations is a great endorsement for the firm, which can now pivot to invest in the secondary market with aircraft older than five years. "This sector is dominated by alternative investors, many of which did not perform well through the pandemic," adds

FIG. 7: TOP 30 AIRCRAFT LEASING COMPANIES (RANKED BY PORTFOLIO SIZE IN UNITS)

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13	Aircastle	230	14	21		265	9	6.2	21
14	Falko	3		135	125	263		2.1	40
15	Castlelake	197	41	8	8	254		7.0	16
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18	Nordic Aviation Capital	16		67	139	222	27	2.4	36
19	AVIC International Leasing	146	24	31	20	221		7.6	14
20	ORIX Aviation	171	30			201		6.3	18
21	China Aircraft Leasing Company	173	15	3		191	145	5.7	24
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24	CCB Financial Leasing	149	26			175	110	6.6	17
25	China Southern Air Leasing	129	28	8		165		6.0	22
26	Aergo Capital	84	39		28	151		3.4	28
27	CES International Financial Leasing	117	30	1		148		6.3	19
28	Aero Capital Solutions	130				130		2.1	42
29	FTAI Aviation	122	3			125		1.9	46
30	Regional One			102	18	120		0.6	80

Source: Cirium Core

McConnell. "At the same time, there is an onslaught of supply in terms of forced and motivated selling from such competitors that no longer have access to bank capital, as well as usual sales from the big leasing companies."

Castlelake is deploying a lot of capital into secondary market purchases and is in the process of buying a portfolio of 65 aircraft financed with a recently secured $1bn term loan.

Speaking on camera as part of the Aviation Leaders interview series in October, McConnell explained why the aircraft trading market was so buoyant, particularly in the midlife space. "We are seeing more aircraft for sale than perhaps ever in my career. That's the result of a few factors. Many of the owners of aircraft older than five years were funded and created before the pandemic. From 2017-2019 there were 50 leasing startups, many of them faced real challenges during the pandemic. Many of the underlying equity investors were new to the space and chased yield, but through the pandemic the results weren't what they expected so now they are moving on."

McConnell says that in any real stress event, selling never occurs at the same time, rather two years after. "That's exactly where we are today," he says. "People need to return capital to their investors. They are realising the results aren't going to get back to where they wanted them to be so now we are seeing a lot of selling. We are also seeing selling from the large leasing companies."

As asset values have climbed, sellers that were maybe reluctant to sell at distressed prices two years ago, have now returned to the market. "Going back a year or two, we saw very little trading activity because the buyers were chasing distress," says Eamonn Bane, chief executive officer of Macquarie AirFinance. "We were never going to be a distressed seller. We always felt that there was going to be a period where we just sold less. As we emerged from Covid, values have rebounded strongly for a number of reasons. Clearly, there is a lot of liquidity coming into the space, but also the actual metal values have increased on the back end due to pricing increases and inflationary impacts, and we've been able to benefit from that. Our trading tends to be focused at this point on older, non-core assets, and we have seen a lot of demand in that space."

Macquarie AirFinance recently brought a portfolio of 12 aircraft to the market with an average age of 18 years, which Bane says attracted 20 bidders from a wide range of parties. He also sees a lot of demand for engine solutions. "The engine market is quite strong at the moment, so buyers are looking to shore up engine supply, as well as take advantage of this strong leasing market risk for older aircraft, which maybe wasn't there in the past. Both values have recovered very strongly, and the level of demand for aging assets has increased dramatically."

The supply-demand imbalance has

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changed the competitor dynamic in the midlife space. "There has been a shift in the competition seeking new investments in existing aircraft in the secondary market, including some of the bigger orderbook players that are not getting their deliveries, are out in the market," says Michael Inglese, chief executive officer of Aircastle. "Traditional orderbook players are looking for additional investment opportunities, perhaps in spaces we wouldn't typically find them, which has made investing a bit more challenging. It requires us to look at a lot harder at potential transactions to find the right fit for what we're looking for to expand our customer base, or from a risk adjusted return profile."

Aircraft leasing platforms need to grow to ensure returns to shareholders or investors. Securing growth in a supply restricted environment is much more difficult task, especially when the dearth of new aircraft deliveries brings orderbook lessors seeking investments into other market sectors, pricing out existing players with their low cost of capital.

"We announced transactions for 33 aircraft," says Firoz Tarapore, chief executive of DAE Capital, "but to get to those 33 aircraft, we have evaluated nearly 500 aircraft. Some of them don't meet our criteria – maybe 10% of all we are seeing meet our criteria. As much as we are finding attractive assets to buy, we are also finding it an attractive market to sell assets of all types – from older assets or assets with the less popular engine types as feedstock for freighters. The market is so robust that people are buying, leasing, extending – all of which is helpful for our industry."

On January 7, 2025, DAE announced the signing of a definitive agreement to acquire 100% of the Nordic Aviation Capital group of companies, although the terms of the transaction were not disclosed.

"We are delighted at this opportunity to add NAC's capabilities, complimentary market presence, and people to our platform," said Tarapore. "This transaction will allow us to provide more cost-effective solutions to a larger group of customers."

On a pro forma basis, DAE Capital's fleet will comprise of approximately 750 owned, managed and committed aircraft with a total value of approximately US$22 billion on lease to about 170 airline customers in approximately 70 countries.

DAE said that the transaction, which is expected to be completed in the first half of 2025, will be appropriately capitalised and funded by internal resources and committed debt financing. Consequently, DAE confirmed that its leverage and funding metrics would "remain comfortably within the levels consistent with DAE's credit ratings". The transaction is subject to required regulatory approvals and approval of the shareholders of NAC Holdings.

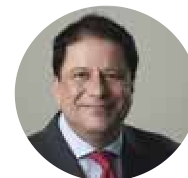
Tarapore noted the importance of scale in the interview for this Aviation Leaders series that took place in early November in Singapore.

"Every year, scale gets redefined to the upside. Having said that, we would say that scale is still relative," he says. "At some point, there are dis-economies of scale, as we are discovering, but there is still scope, maybe for one or two players to grow larger. Unfortunately, there is no line of sight to a clear path to doing that. When we acquired AWAS, for example, seven years ago, the company that was two and a half times the size of our company at that time. There are no such prospects out there today. Everything larger than us is in very solid hands, strategic hands, that want to grow the business. When we look down the rankings between us and number 20, that same comment applies, maybe with one or two exceptions. So large M&A is getting harder and harder to do, which is why singles and doubles- portfolio acquisitions – are more the name of the game. The home runs are very hard to come by. And if a property like that came onto the market, the competitive tension would take the pricing to an unfordable level."

That desire for growth, for scale, is driving trading but as mentioned already the larger players are receiving fewer aircraft, which is requiring lessors to hold onto assets for longer. BOC Aviation's Steven Townend says this has dampened the market even with airlines

"Every year, scale gets redefined to the upside. Having said that, we would say that scale is still relative. At some point, there are dis-economies of scale, as we are discovering, but there is still scope, maybe for one or two players to grow larger. Unfortunately, there is no line of sight to a clear path to doing that. When we acquired AWAS, for example, seven years ago, the company that was two and a half times the size of our company at that time. There are no such prospects out there today. Everything larger than us is in very solid hands, strategic hands, that want to grow the business. "

Firoz Tarapore, CEO, DAE Capital



entering the bidding process in greater numbers. "We will probably sell slightly more aircraft in 2025 but probably not as many as we would have contemplated. That's just a feature of the market," he says.

Lessors typically use four channels for growth: orderbooks, sale-leasebacks, secondary market trading and M&A – the latter two which ACG's Tom Baker terms as "lessor-on-lessor violence". Because of the constraints at the OEMs, the orderbook and sale-leaseback channels are challenging – highly competitive on price and conditions – which is driving the lessor community to focus much more on those trading and M&A channels.

"Everybody has different needs for something – some of that is interest rates; some is supply, demand; and some is that hunger for growth," says Baker. "There have been years where we have not been able to right size the portfolio to manage the shape of risks and exposures in certain places for us to sell midlife aircraft, older aircraft, which are not our core specialty. We have this inventory, this pent up collection of aircraft; we are now finally getting to recycle that capital. A lot of lessors are doing the same. There are some natural portfolio exchanges – certainly selling at great gains and probably buying at a little bit higher – that make sense over the life of the lease. At some point, collectively across the industry, we can't keep re-trading the same assets. So for a period of time, we will continue to see a very strong bids, particularly when the ABS market comes back, because then you get those smaller players looking at the top of their warehouse or their aggregated assets for that ABS takeout. So [the trading environment] will continue to remain strong. But you can only trade the same pool of aircraft for so long before ultimately you force people to that fourth leg of the stool, which is the M&A channel."

SCALE MATTERS

Scale is important. As the world's largest lessor by a significant margin, AerCap is ideally positioned to capitalise on the benefits of scale.

"Scale gives you a systemic advantage," says Aengus Kelly, CEO of AerCap. "When the world is short of engines and we are the biggest owner of spare engines in the world, we can help our customers more than any other lessor."

As well as a competitive edge when leasing aircraft and engines, scale also provides significant financial advantages. "AerCap's size has brought a lot more eyeballs into the [aircraft leasing] sector, which is critical," says Kelly. "It's not easy to get investors to look at a new sector, and a niche public equity company. You need to work hard to educate them, show them the stability of our returns. We have nothing in common with airline equity returns, and nothing much in common with the industrials; we offer a far more stable return on equity than the industrials – Boeing and Airbus – in our space."

AerCap reported a strong third quarter. The lessor generated adjusted net income of $463 million and adjusted earnings per share of $2.41 for the three month period ending September 30, 2024. AerCap's operating cash flows across the business reached a record $5.6bn for the last 12 months. AerCap added a further $500million share repurchase authorisation in September – taking total authorisations year-to-date to $1.5bn – and announced a dividend of $0.25 per share for the third quarter.

The robust demand environment enabled AerCap to increase its earnings guidance for the full year 2024 from $10.25 to approximately $10.70 – which does not include any gains on sale in the fourth quarter. For the nine month period to the end of the third quarter, AerCap recorded net gains on sales of assets of $391million. On an earnings call, Kelly confirmed another strong quarter for assets sales that led to unlevered margins of 27% or approximately two times equity – one of the highest margins for the lessor. "The aircraft sold had an average age of 17 years and were predominantly sold to airlines or part-out specialists," said Kelly, who added that large gains on sale validated the lessor's "approach to valuation, depreciation, and portfolio management" and the "best proof of the conservative nature of the carrying value of AerCap's book equity on our balance sheet".

REGIONAL AIRCRAFT LEASING

There have been a number of portfolio sales in 2024 – Castlelake's portfolio sale to Avolon was the largest – but there were also some platform sales in the regional aircraft space. Chorus Aviation sold Falko and its regional aircraft segment to affiliates of investment funds managed by HPS Investment Partners (HPS), while Nordic Aviation Capital (NAC) was working later in the year to finalise its sale. DAE announced its acquisition of NAC on January 7, which should close in the first quarter of this year.

Falko's chief executive Jeremy Barnes alongside the existing senior management team including chief commercial officer Mark Hughes remain at the helm of the company following the completion of the deal. Falko, at the time of the sale, had a a total of 226 aircraft under management on lease to 39 customers, making it the largest regional aircraft lessor.

Falko, which has been through two changes of ownership in three years, has witnessed a wide variety of interest from a broad number and type of investors. Mark Hughes says that interest included traditional lessors that were looking to expand or develop their business into the smaller aircraft side but noted that the vast majority of interest was from hedge funds or large asset managers looking to deploy capital into aviation.

"They see the smaller aircraft space as one where perhaps they can achieve returns more easily at the level they would like to see, compared to the narrowbody space," says Hughes. "We have seen a shift since the pandemic in the fundamental difference between domestic and international air travel. Very few countries imposed any domestic travel restrictions. In our portfolio – if you assume Europe is a domestic market – over 90% of the aircraft we have fly domestically, which hit the radars of a number of investors that saw a part of the market that behaves slightly differently, and which during the worst shock that the industry has seen, demonstrated an element of downside protection compared to a lot of the international

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traffic that just disappeared. This brought a different dimension in terms of interest than we had seen previously."

NAC has historically been a regional aircraft lessor, although in recent years it commenced the transition to a broader portfolio emphasizing narrow bodies and ramped up its sales of out of production E1's and Q400's while maintaining a focus on ATR's where it's a substantial owner. NAC has been a prolific trader in 2024 with 69 aircraft sold plus 11 engines– the highlight was a sale of 24 Embraer aircraft (four E170s and 20 E190s) to Falko in November and seven E190s and one Q400 to TrueNoord. "We have been seeing a pretty vigorous trading market with interest from lessors, part out companies and also airlines," says NAC CEO Norm Liu. "If you have fly-ready aircraft, the airlines are ready buyers. We have been active sellers of all aircraft types, ranging from E1s to Q400s in large numbers and a few older ATR's. The general trading market is very active. Some of the top 10 lessors are quite active in the secondary market focused on new technology aircraft to reinvigorate their fleets. And there has been a lot of interest in [737]NGs and [A320]ceos from the used serviceable material players that are very aggressive in trying to grab engines and spare components."

NAC, which was founded by Martin Moller in 1990 in Denmark, grew substantially by acquiring rivals – Jetscape Aviation and Aldus Aviation – and acquiring a large portfolio of aircraft, as part of a concerted expansion effort in 2016 after equity partner EQT took a controlling stake in the company (see *Airline Economics* Issue 31). Some suggest that having abandoned an organic growth strategy that had served Moller so well, the fast-paced growth resulted in the organisation growing "too big". By 2019, NAC had grown its portfolio to 480 aircraft and an asset base of $8.3bn.

Scale for leasing companies is a major advantage but such acquisitive growth also needs to be well funded and able to withstand sharp shocks. NAC went into the pandemic period with excessive debt and distressed carriers, with over concentration of older aircraft and over 100 AOGs. After a series of losses, NAC entered a Scheme of Arrangement in Ireland in July 2020 and finally filed for Chapter 11 Bankruptcy protection in December 2021 that allowed the company to write down its debts and aircraft book values. NAC exited the Chapter 11 restructuring process on June 1, 2022, having eliminated nearly $4.1bn of debt and with an enhanced liquidity position with access to $537million in additional capital.

Since 2022, NAC has focused on selling out of production fleet sharply reducing its E1/Q400 exposure, significantly paying down its debt via asset sales and open market purchases ,and right sizing the staff from 220 to only 80 today. The ATR order book was reduced and the A220 slots converted to a mix of A220s and more liquid A321 neos, while a moderate sized narrowbody book was built. Norm Liu, the veteran leasing executive who previously led GECAS, was appointed as CEO in late 2021 to first lead the firm through Chapter 11 and then a significant fleet transformation and debt reduction plan, which has enhanced NAC's prospects as an acquisition target.

Goldman Sachs and Deutsche Bank have served as M&A advisors to NAC since early 2024. The sales process attracted interest from multiple private equity entrants and lessors seeking to scale their platform and fleet.

NAC has now received a definitive offer from DAE Capital. As previously mentioned, the transaction is subject to required regulatory approvals and approval of the shareholders of NAC Holding but is expected to close later this year.

Established in 2016, Azorra has grown significantly over the past few years, where chief executive John Evans has worked to capitalise on the opportunities presented during the period of recovery from the pandemic. One bold move in the development of the company was the acquisition of Voyager Aviation Holdings (VAH) out of Chapter 11 protection, which was finalised at the end of 2023. The expansion into the widebody sector was more opportunistic than part of a determined strategy, which is

characteristic of Azorra's broader market strategy. "We have been viewed as a regional player but we have always really been opportunistic investors and would rather consider ourselves as an alternative asset manager that focuses on differentiated assets and non-commoditised aircraft," John Evans told *Airline Economics* in January 2024 just after the VAH deal had closed.

When the company first launched, Azorra chose to steer clear of the highly competitive new narrowbody market, dominated by numerous aircraft lessors where "the lowest cost of capital wins", instead focusing on a more solutions-oriented approach. The lessor had the advantage of entering the pandemic with a clean sheet with solid support from Oaktree Capital to invest in the regional aircraft and small narrowbody aircraft the team rightly believed would lead the recovery. The regional aircraft sector had been suffering prior to the pandemic as airlines had followed a trend toward upgauging to meet ever-growing passenger demand, which had placed some pressure on regional aircraft values. Evans had already noted the opportunity to buy in a depressed market ahead of the pandemic and began to build up the regional fleet. Since widebody aircraft values also remained depressed during the early recovery period, Azorra decided to capitalise on that low point to acquire a new widebody portfolio from Voyager.

Today, Evans remains an opportunistic investor focused on aviation assets that can achieve "outsized returns in markets that are a little less competitive than others", he said speaking on a podcast interview as part of the Aviation Leaders series in December 2024. "We have a focus on smaller, regional aircraft, and what we like to call crossover aircraft, which fit into the 150 to 100 seat space, including Embraer 195s E1 and E2s and Airbus A220-300s, as well as the investment in the widebody space.

Azorra is acquisitive and over the past year has evolved its financing strategy into the capital markets to shore up funding for the rapidly growing business. Azorra achieved several milestones in 2024 surpassing 100

"We have been seeing a pretty vigorous trading market [with interest from] lessors, part out companies and also airlines. If you have fly-ready aircraft, the airlines are ready buyers. We have been active sellers of all aircraft types, ranging from E1s to Q400s in large numbers and a few older ATRs. The general trading market is very active. Some of the top 10 lessors are quite active in the secondary market focused on new technology aircraft to reinvigorate their fleets. And there has been a lot of interest in [737]NGs and [A320] ceos from the used serviceable material players that are very aggressive in trying to grab engines and spare components."

Norm Liu, CEO, NAC

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assets, closing a $988 million corporate facility and issued its inaugural $550 million senior unsecured notes and entered into its first $464 million term loan B facility. The inaugural unsecured note issuance marked a significant milestone in Azorra's journey towards a balance sheet financing model, increasing cash flow, liquidity and operational flexibility.

Evans sees many opportunities for acquisitions due to the amount of private equity capital that entered the industry post the pandemic now seeking an exit as the returns fail to meet distressed expectations. "There is a lot of private equity capital that was invested pre-pandemic, that put off their return of capital," he says. "There are equity investors that became equity owners in leasing companies through restructurings. So I do see a lot of potential M&A activity and consolidation in the industry because of the short term nature of a lot of the equity that's currently holding."

TrueNoord, based in Amsterdam under the steady hand of Anne-Bart Tieleman, celebrated the induction of its 100th aircraft at the end of 2024 wrapping up an acquisitive year for the regional lessor. Over the last two years, TrueNoord has added 40 aircraft to its portfolio, close to doubling its fleet, and Tieleman remains on the lookout for more: "We are looking at several transactions, portfolio acquisitions and also sale-leaseback deals for new aircraft," he says. "We will keep growing. In the last 12-18 months we have seen trading pick up, which has allowed us to expand our portfolio. There are some larger M&A deals in the market but with larger deals you have to take the sweet and the sour. You have to take it all – as well as the assets, you also buy an organisation and that is, for any management team, a major distraction from the real business. We at TrueNoord are good at buying assets and continue to focus on this moving forward."

CONSOLIDATION

As lessors battle for growth in a constrained supply-demand environment, and as the industry matures and investors exit the market, further consolidation of the sector is expected.

The leasing sector has already been through a large scale consolidation period with AerCap swallowing up GECAS and ILFC, while SMBC Aviation Capital acquired Goshawk, Carlyle acquired FLY and AMCK. Avolon too and several of the larger lessors are all an accumulation of several business, platforms and large scale portfolio acquisitions. Most leasing CEOs see that trend continuing.

Although platform sales are less frequent – only Falko and NAC were offered for sale in 2024 – large scale acquisitions of aircraft portfolios continue. The largest of which in 2024 was Avolon's acquisition of Castlelake Aviation Limited (CAL). For Avolon's Cronin, the acquisition tags on a portfolio of $4bn-5bn to it portfolio "in one swoop", which was also accumulated by a "trusted team" at Castlelake "with attractive terms and conditions with the good quality portfolio". The CAL acquisition, Cronin explains is: "accretive to all of our broad based metrics, whether it's the amount of new technology, the average age, the average release remaining, and fits very well with our existing portfolio. He described the deal as a "very easy transaction", which was only made possible thanks to Avolon's balance sheet capacity and liquidity to be able move quickly and provide certainty of execution for Castlelake.

> **"The benefits of scale are real. There are fewer lessors on the manufacturers' orderbooks today than there were five or six years ago. The manufacturers recognise that they can't spread their sales too widely in the lessor channel, realising the benefits of the scale and strength of their counterparties. That trend is going to continue."**
>
> *Peter Barrett, CEO, SMBC Aviation Capital*

Although there are some sizeable portfolios in the market today, large scale opportunities of the size of CAL are few and far between. "It's a very, very finite list," says Cronin. "The amount of opportunities in the $1bn to $2bn range is far greater than in the $4bn-$5bn range, and as you go above that level, the number drops off dramatically in terms of portfolios that might be of interest and have the scale and quality, to be attractive, but also that have a shareholder that's willing to sell. I've always said that one of the positive features of this industry is that it's so stable, but it's also a downside as that stability means sellers are rare."

For the world's largest leasing company, which has grown to such size because of two large scale acquisitions, any further growth would be more measured since that value Aengus Kelly and his team have accessed by acquiring GECAS and ILFC at a discount, would be very difficult to find in such a robust market.

AerCap has a significant share buyback programme in place because as Kelly says "the cheapest M&A deal out there is our stock" precisely because it acquired large companies at large discounts. For AerCap to seek out another acquisition, Kelly says that there would need to be significant value, which is "just not there for us at the moment". He adds: "We see the best value in our own business and we have contracted significant organic growth during the year."

Aircraft leasing is a maturing industry, and when industries mature they tend to consolidate. "It's harder for a multiplicity of players to earn excess rents," explains ACG's Baker. "Because of the current supply constraints, it's harder to grow, it's harder to find new metal. Those companies that have growth objectives, with a certain pocket of capital that they need to put to work, will start to struggle. Those who benefit from scale will continue to flex their muscles through the sub-cycle. The days are gone when money was cheap and nobody had to deal with repossessions; the industry winners will be those lessors that have the capability to take back assets, and that have a large, installed base of aircraft on long term lease, with an orderbook and investment grade ratings."

A convincing future scenario for the leasing sector could be that consolidation advances to a place where there are just five super-sized aircraft lessors with the remainder operating in niche markets.

"That's a realistic potential scenario for the future," says SMBC Aviation Capital's Barrett. "Inevitably, as any industry matures and develops and commoditises, it is going to consolidate with a smaller number of bigger players."

Barrett compares the evolution of the leasing market to that of the Japanese banking market. "In the early 1990s when I first went to Japan with Guinness Peat Aviation (GPA) there were maybe 60 Japanese banks," he says. "Today, in reality, there are three major Japanese banks, one of which is our shareholder. You see that same dynamic across many different markets – in banking, accounting and the services industry. When I started out there was the 'big eight' accountants and now it's the 'big four'. That journey is inevitable. The benefits of scale are real. There are fewer lessors on the manufacturers' orderbooks today than there were five or six years ago. The manufacturers recognise that they can't spread their sales too widely in the lessor channel, realising the benefits of the scale and strength of their counterparties. That trend is going to continue. The hypothesis of a smaller number of larger lessors is the likely outcome in five to 10 years' time."

ORIX Aviation's Meyler concurs: "It is possible we could have a future with closer to 10 super lessors, which are going to control the bulk of the order book. Whether there will be as many niche players or not, is going to be driven by the engine side. The engine manufacturers are moving to a different model, where their total care agreements will run on a lifetime programme for maintenance. This will make it more difficult to be just a one-time investor in one aircraft, or a one-time trader of one engine, or a small lessor. That's going to be the big evolutionary shift. If that continues, lessors will need a large fleet to be able to kind of get the value from their OEM relationships and OEM credits around these maintenance and support programs. That smaller one-time trading market will be what is swept away as the industry evolves."

The key to consolidation is having sellers that want to sell and buyers with the capacity to buy. AviLease has been the most acquisitive in recent years and has built up scale very quickly over the past two years. The new leasing company, established by the Kingdom of Saudi Arabia's (KSA) sovereign wealth fund PIF, has grown to $7bn in assets under management helped along by the acquisition of Standard Chartered's leasing portfolio last year. "We have created a fully-fledged aircraft leasing platform in two and a half years, with a team of 80 people across five offices worldwide with our headquarters in Riyadh," says chief executive Ted O'Byrne. "We have spent a lot of time developing our team, especially post the Standard Chartered acquisition, our processes and systems, and really investing for the future. We have 189 assets – 167 owned and 22 managed on behalf of investors. We have a pool of banks that provide unsecured financing with +60% of our money coming from non-KSA lenders, which was important for our shareholders to show we can attract capital to the Kingdom. We're borrowing at attractive rates and we are continuing to evolve our liability structure. We started at a relatively low leverage to demonstrate to the shareholder that we can sort of ramp

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up our liability structure in a discipline and organised manner. We started at zero, we're now $7bn in assets in two and a half years, that's large-scale, rapid growth. We've worked hard to achieve this, and our shareholders, who have been incredibly supportive throughout, are pleased with the results. They're excited about the strong credibility we've established in the market and the opportunities this creates for our continued growth."

AviLease is continuing its growth trajectory working towards its aim of becoming a top ten leasing company. "The next steps there for us is thinking about a [corporate credit] rating for the company. It's a platform that we think is rateable, both at the platform level and at the asset level."

O'Byrne wants AviLease to be rated as a standalone entity rather than a sovereign wealth fund owned company. Acquiring Standard Chartered's aviation team and portfolio was part of the strategy to accelerate that journey to investment grade. "Part of the rationale for that transaction was its track record, the banking processes, the experience through the downturns, and the systems," he says. "That's why we leaned into that deal to get it done. We think it has accelerated the rating process by probably 24 months when compared to an organic route. We deliver a fully matured platform from a people, process, and systems perspective."

The AviLease team is working to add the scale required for that IG status and aims to build a book up to $20bn-plus assets with a number of sidecar investment vehicles, deploying around $2bn-$3bn annually. However, with the tight supply market, finding value is becoming more difficult. "I've asked my shareholders to let me grow fast and let me grow slow," says O'Byrne. "Sometimes we encounter opportunities where we want to accelerate, lean in, and take an aggressive approach. Sometimes we need to just take a step back and say, let the market come to us. That's probably where we are right now. There's a lack of supply, so we don't want to rush into the market – we will stay disciplined."

In the meantime, AviLease is working to create sidecar investment vehicles to attract more private capital. "We believe it is a very attractive business. And part of our role is to explain the industry to new private investors and bring new capital into the business, locally and regionally. And we are starting to get some traction there."

The concept of scale in the aircraft leasing sector has evolved over time with the minimum level now set considerably higher than previous cycles. "What constitutes scale for a leasing company has evolved from when I started when a 100 aircraft portfolio was a pretty decent sized portfolio," says O'Byrne. "Now, if you are less than 400-500 aircraft portfolio, you're probably not at scale. As customers are concentrating, the industry is growing, fleets are growing, the share of leasing in the fleet is growing – the question for anyone past the top 10 is what they and their shareholders want to do next – grow or exit. Those are bigger deals where you need to have much more firepower to underwrite transactions of that size."

Even for a lessor as acquisitive as AviLease, finding value transactions in such a hot market has been challenging. "Earlier in 2024, we felt pretty good because we were almost the only ones buying in bulk," says O'Byrne. "We're still one of the few lessors that can move in bulk, on very large transactions. That's a way for us to differentiate ourselves. We can do very large deals. With the reopening of the ABS market, it feels like that market is going to be a little bit more active on the buy side and we will likely see more competition when bidding on portfolios."

THE IG JOURNEY

Greg Conlon describes the journey to that all-important investment grade rating as akin to "death by a thousand paper cuts". The road is certainly not easy and takes time. However, several lessors, including the aforementioned AviLease, have embarked on that journey with a clear timeframe in mind.

"To get investment grade in our space, you need three things: lots of assets; lots of really young assets; and just not doing dumb things on credit," says Conlon. "If you do those three things over and over and over again, and get enough scale,

"To get investment grade in our space, you need three things: lots of assets; lots of really young assets; and just not doing dumb things on credit. If you do those three things over and over and over again, and get enough scale, then you can start accessing into an IG stack. To build an IG stack from day one is a little bit like death by a thousand paper cuts, because you have got to originate quickly, and you have to build quickly to keep that average fleet age young."

Greg Conlon, CEO, High Ridge Aviation

then you can start accessing into an IG stack. To build an IG stack from day one is a little bit like death by a thousand paper cuts, because you have got to originate quickly, and you have to build quickly to keep that average fleet age young. To do that, you're usually doing the better credit, skinnier returns, and then you're borrowing unsecured, but as you are non IG unsecured so you have to go to the high yield market and you have to pay for it. So maybe you're covering your costs, maybe you're not. It's a race; can you get IG before you bleed out?"

Conlon suggests that the $4bn in assets, which used to be the minimum level to be able to reach investment grade status, has now moved to the right increasing that level to more like $8bn today. "That's tough to start from zero and to get there in X amount of years," he adds, noting the difficulties in raising such large amounts of funding on a non-IG ticket that quickly, leads to a lack of diversification in the investors base and heavy portfolio concentrations. "It's just not efficient to have that kind of strategy for a fund model, that's more of a balance sheet model. High Ridge is a fund model. You're not going to see any fund models go IG for those reasons."

Azorra's John Evans notes the limitations on flexibility brought by an IG rating that also needs to be carefully considered even though the company is gearing up for achieving IG status. "We have geared ourselves for that from the beginning," says Evans. "We have a very conservative balance sheet; our debt equity ratio is 1.7:1, which is one of the most conservative in the industry. We also meet some of the other metrics required for investment grade. We need to continue to grow and achieve more scale, but it's something that we debate. To be candid, whether investment grade and the lower cost of capital that comes with that is worth the trade-off for some of the more opportunistic deals that we do today, which don't necessarily fit within those metrics – some used, older aircraft for example. There is always a trade off, and it's something that we are always thinking about."

Macquarie AirFinance embarked on an 18-month journey to secure its two investment grade ratings. In its journey to investment grade, Macquarie AirFinance built up a diverse customer and asset base, grew its portfolio organically and with the acquisition of Alafco's assets,, and worked to flip its capital stack from secured to unsecured. "In doing so, we took some pain earlier on, going to the unsecured capital markets and raising two high-yield bonds," shares chief executive Eamonn Bane. "Over time, as we achieved that investment grade rating relatively quickly we brought our cost of issuance in from 8.375% down to 5.15% for our more recent issuance. That's more than 300 basis point tightening."

To get to investment grade, Macquarie Airfinance aimed to reduce its secured debt to total assets to below 30%. "We sit below 20% today but we had a journey to get there," he says. "Although the rating agencies have targets and provide some guidance, we had done a lot of work over our now 18-year history to build a solid and stable leasing platform, with a stable asset base and committed growth."

Earning that investment grade rating provides access to deep pools of capital with a low cost of funds. "It is very important to have an investment grade rating," says Betsy Snyder, an industry expert who has rated leasing companies for several decades. "All lessors strive for that and Macquarie is a good example. They received their first rating in April 2023 and have been very focused on improving their rating and getting to investment grade. They acquired Alafco to improve their portfolio, they issued unsecured debt, and they started out in the markets at very high rates."

Snyder points out that this is a tried and tested strategy for lessors seeking an investment grade rating. "If they are not investment grade rated because they want to improve their capital structure, they will start to issue debt even though the rates tend to be very high when they first go to the capital markets. Then as the ratings improve, the cost of capital declines."

Griffin Global Asset Management (Griffin) is pursuing a similar strategy and has issued in the capital markets in 2023 and 2024. In 2023, the company

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Eamonn Bane, CEO, Macquarie AirFinance

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raised close to $3bn in funds – extending its warehouse facilities and heading into the capital markets for the first time. Griffin secured its first corporate ratings of BB and BB- from Fitch and S&P respectively, enabling Griffin Corporate to launch its first unsecured bond issuance in May. The $1bn issuance of unsecured notes was one of the largest debut issuances in the aviation industry. Griffin closed a second unsecured bond offering for $400 million in November, which was followed by a $300 million tap in December. In 2024, Griffin worked to reduce its secured financings. In September, Griffin issued $400 million senior unsecured notes due 2030, with a 5.875% coupon, which priced at treasuries plus 241 basis points (bps). The notes were sold at par. The proceeds were used to pay off its secured warehouse facility.

"This issuance reaffirms our unwavering commitment to the unsecured capital markets and brings our total volume of unsecured notes issued to $2.5 billion in under 18 months," said Griffin CFO John Beekman. "With the issuance of these notes we also disclosed that our secured warehouse was previously reduced to zero, which means inclusive of this issuance we currently have a fully unsecured balance sheet."

LEASING FUNDS

Aircraft leasing funds have grown in popularity as more and more private equity and institutional investors have entered the space. Greg Conlon believes that the leasing sector is moving more towards the fund model as a more efficient allocation of management resources and diversification of risk.

"[High Ridge Aviation is] geared to run a $50bn portfolio but that risk can be diversified over many funds," says Conlon. "Investors can come into a fund on a $50 million-$100 million ticket, which is small in relation to their total AUM of other investments, providing access to our space. With our funds you get an experienced management team, professional capital stewards and which offers much more diversified risks."

Speaking from his experience as the former head of GECAS, Conlon suggests that balance sheet lessors have more at risk and need to work much harder for large returns. "A balance sheet lessor model is good until it's not," he says. "You need some pretty special owners that can be efficient at owning up to $50bn of aviation assets on a single balance sheet. The capital stack needs to be efficient for those type of returns. It has to be big enough to be diversified – a public model is an efficient model in some cases but has disadvantages in others. Some of those lessors aren't going to get full ratings from all rating agencies; some just don't give single obligor or single industry, for aviation leasing, IG rating no matter what you do. And then you have a problem trading at a premium to book and showing investors growth, because they want growth and assets are depreciating. The only way to grow in a public model is getting on that asset train. When you're $2bn-$4bn you can do that but when you get bigger and bigger, it's harder to demonstrate growth. I'm not sure the public model or the balance sheet model is the most efficient way to fund aviation. So the space is going to continue to go to asset managers where you've got pockets of capital that are efficient in this space, and then you have asset managers that solely focus on sourcing and managing the assets."

Conlon believes that to be successful funds need to be of a substantial size.

"If you start off with a fund that's too small – $500 million of assets under management – in our space that could be just 10 planes. You need a fund that is big enough to give investors diversification on assets, credits and jurisdictions, which then also provides maximum flexibility on funding with efficient funding and takeout options. But if a fund is too big, you have too long of a capital deployment period. When investors come into a fund, there's a build period, there's a cash distribution period, and then there's a harvest period when they get their returns. Investors need to have some visibility of when that's going to happen. Investors want to get their

> **"We continue to see growth of interest and appetite for the industry from the larger private equity firms. Apollo is in the space already but there are many others with some significant dollars. Aircraft are good, investable assets that have withstood the test of time in Covid and other periods of difficulty, so we are seeing a lot more investor attention. The shortage of assets is not going to be fixed in the short term so it is no surprise that there is some additional, very serious money exploring the space."**
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> *John Plueger, CEO, Air Lease Corporation*

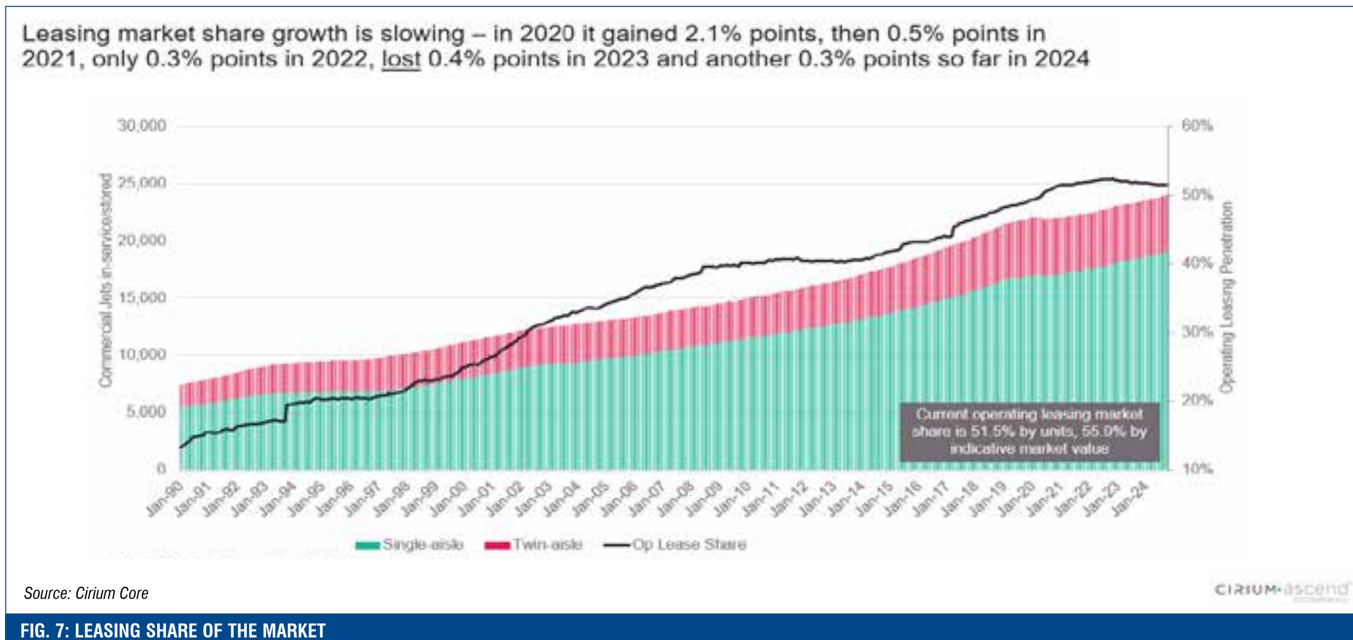

FIG. 7: LEASING SHARE OF THE MARKET

cash back over a reasonable period of time, whether two, four, five or even seven or eight years. To a certain extent, that time period dictates the fund size. An efficient fund is probably around the $2bn to $3bn size, which provides the ability to diversify, with multiple takeout options, and also provides scale where you can trade five, six or seven airplanes with a single obligor, which airlines find helpful when they're doing large transactions. The fund is also then large enough that it is not over diversified or over concentrated in one asset."

SKY Leasing follows a fund strategy and launched its sixth fund a year ago, which Austin Wiley confirms now has 51 airplanes with "plans to grow that number north of 80 over the next 24 months". SKY has a history of taking out those funds in the ABS market and was one of the few issuers to reopen the market in 2024. Wiley is wary that pursuing an investment grade rating is sometimes not the best policy for certain business models, particularly the asset management funding model. "There are lessors following the investment grade, unsecured route, and then there's the route we are pursuing, which is growing through private institutional capital – primarily funds. Both are growing but alternative asset managers are probably growing at a slightly faster clip. The question is how a decision to pursue an unsecured rating or a more permanent capital structure would drive your investment decision making process. I don't want the rating agencies driving how I think about what's a good investment. So that decision needs to be an output of what is a sound investment decision making versus using that as a key input for how you're building your business."

STABILITY, RESILIENCE AND MARKET SHARE

The years since the pandemic have proven the resilience and strength of the aircraft leasing industry. "Despite a global pandemic stop everybody from flying, or a major land war in Europe," says Peter Barrett. "The ability of our industry to feel a way through has been well demonstrated. Today, it feels like business as usual."

He adds: "One of the things I think I'm most proud about our business in the last number of years is that resilience, our ability to not only see our way through Covid and Russia, but to take advantage of the opportunities for sale-leasebacks, M&A and other things. Because inevitably, where there is change, there is opportunity."

That resilience and stability of returns despite market shocks is attracting more investors to the space faster and in greater volumes than those distressed investors leaving the sector.

"Just when we think we've convinced people that aviation is a tough industry, more and more new investors keep finding their way in," says ACG's Baker. "More investors, more money, more capital, continue to come into the space from all different angles. It is a complex industry; it's harder to earn risk adjusted excess rents. But that doesn't discourage or dissuade people. I am quite positive on the long term fundamentals of the industry, and particularly of this cycle over the next several years, but that doesn't necessarily mean it's going to be easy to make money. We will continue to see people come into this space, realise it's much harder than they expect, and then exit. Over time, you're going to see the people who are long term committed to this, to committing capital, and you'll see people continue to try and fail and move on. But certainly there's going to be no shortage of new entrants."

ALC's Plueger concurs: "We continue to see growth of interest and appetite for the industry from the larger private equity firms. Apollo is in the space already but there are many others with some significant dollars. Aircraft are good, investable assets that have withstood the test of time in Covid and other periods of difficulty, so we are seeing a lot more investor attention. The shortage of assets is not going to be fixed in the short term so it is no surprise that there is some additional, very serious money exploring the space."

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SMBC Aviation Capital has closed a joint venture with CDPQ – a new institutional investor to the aircraft leasing sector, while Cerberus, which was an early investor in AerCap in 2005, is also enhancing its exposure to the leasing sector.

"There is something for every investor," says Barrett. "If you want a higher return, you can play in 15-20 year old airplanes, where there is lots of opportunity to make money from the breakdown and green time but there is more risk. You can have a wide range of investors that can play in both parts of the capital structure. That kind of two dimensional world is really helpful for our industry. Because depending on what kind of money you want to invest, you can find a place to invest it. We get everything from big investors, institutional investors like CDPQ, and more specialist investors like hedge funds and Japanese investors. It's a very wide church, and I do think that kind of two dimensional grid in terms of both capital structure and time after life is really interesting."

Tom Baker makes the salient point that the leasing industry is an ideal place for long-term capital, which is why it is a good fit for pension and insurance funds, which have the patience for longer-term returns. "One thing about our industry is that everything takes so damn long. It all happens very slowly, until its very sudden," says Baker, also acknowledging the fact that despite its long-term nature, lessors need to be able to pivot quickly to ride out those market shocks.

The stability of the leasing sector and its ability to assist the airline sector through downcycles has led to its ever-growing share of the world fleet. Depending on how you measure it, the current market share is around 50-55% of the fleet and growing. "Airlines are using more of lessors' balance sheets to more efficiently fund their operations, which makes a lot of sense from an asset perspective," says High Ridge's Conlon. "We are also seeing a lot of sales activity in our space. Typically, lessors sell between 10 and 15% of their fleet a year on average, but during Covid, there were two or three years where none of that happened. We still have a lot of assets that haven't been sold. We have capital markets that really were locked up for a while, really coming back online, providing liquidity for the buyers and lessors. So we are seeing a lot of portfolios come to market, which is helping on the supply side. There is still a lack of new deliveries out there, which drives up asset values, but we're still seeing some opportunities out there."

Although leasing share of the market is still growing, the latest Cirium data shows that growth is slowing (see Fig. 7). "Measured in units, that [leasing share of the fleet] smashed through 50% during Covid because of all of the sale-leaseback activity thanks the lessor's efficient capital compared to the airlines," says Rob Morris, head of consultancy at Cirium Ascend Consulting. "But that has slowed a bit. It peaked at around 52.4% in mid 2022 and is down to 51.5%. There are some good logics for that. Lessors don't just trade aircraft, they also part aircraft out as they try to maintain the portfolio at a relatively young age. They have kept trading some aircraft out for part out, and some for converting to freighters. It's not as much it was, but it's there. We're still buying new aircraft delivery from our order book or sale and leasebacks, but not as many as we were, because there are not as many being delivered. Not enough aircraft are being fed into the front end, which is why the leasing share is reducing. The portfolio has grown by a net 400 aircraft in the last two years or so. So it's about 12,400 narrowbody and widebody compared to 12,000 but that's probably the first regression we have ever really seen."

Morris notes that, in terms of value, the leasing share is higher "around 56%" since lessors typically own and manage the new and younger aircraft types, which are more valuable.

SUSTAINABILITY JOURNEY

The supply-demand imbalance is also impacting the aviation industry's ability to push ahead with its sustainability journey. Although as assets owners, lessors ability to assist with the sustainability journey is less active than airlines, which operate the fuel burning assets, the industry is continuing to deliver on its Environment, Social, and Governance (ESG) promises.

Avolon was an early mover in its commitment to sustainability objectives and the company is dedicated to carrying those out as planned. "We have committed to having 75% of our fleet migration into new technology by the end of 2025," says Cronin. "That's a near term and concrete commitment that we remain focused on delivering. It's not easy, because new technology aircraft haven't been delivered at the rate that we expected, but I think we

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Rob Morris, head of consultancy, Cirium Ascend Consultancy

need to recognise the important role that lessors are playing."

The replacement of the legacy fleet with more fuel efficient technology is still underway, having been delayed by slowdown in production, but leasing companies remain in the forefront of delivering on that transition process. "Every single 737NG or Classic that's operating today is burning 15% more fuel than the latest version," adds Cronin. "Collectively, lessors are financing the vast bulk of that transition. It shapes our portfolio strategy and our approach to dealing with our sustainability commitments."

Despite reports that investors are less concerned by the sustainability risks of investing in fuel burning industries, lessors report that their investors still enquire about their sustainability and ESG policies. The title of Aircraft Leasing Ireland's conference in Dublin in November was 'Reality Bites', which Peter Barrett sees as a "fair summary" of the industry's sustainability journey. "We are in the foothills of recognising, quantifying, and reporting on sustainability exposure. Those conversations are not easy, but you can win relatively quickly in terms of identifying those challenges. The next part is how do you address that, which is a more difficult conversation."

"We believe aviation is a force for good; for economic and social good. We saw that post-Covid that people want to fly, but we have to find a more sustainable way, which will take us time," says Barrett.

The journey to sustainable aviation is at least a decade long and it will require the participation of every market player to be successful "Having relevant conversations with investors, being authentic and having a perspective on sustainability remains very important. It's not for all investors and it certainly doesn't impact our ability to raise funding but having a front footed, positive perspective, doesn't do any harm."

SMBC Aviation Capital is a staunch advocate of a sustainable and robust diversity and inclusion policy, which it believes makes the company stronger. The lessor is also assisting with the development of sustainable aviation fuel (SAF) and has a research facility in its Dublin office set up in conjunction with Trinity College Dublin.

A POSITIVE OUTLOOK

There are certainly headwinds for the leasing sector – the supply-demand imbalance has been a boon in terms of profitability as lease rates rise as availability of aircraft tightens but without a steady feed of new aircraft, growth will be limited that could impact the overall health of the industry. For the coming year, thought, lessors remain optimistic, if somewhat cautiously so.

"This is aviation. Optimists die very quickly, lonely and hard," says ACG's Baker. "I've learned not to be an optimist but having said that, the structural dynamics – the macro factors – that really drive our industry, are generally constructive. The supply constraints are real and acute and will challenge growth, but will also improve profitability in the sense that it will force people into a discipline that they would otherwise be tempted to forsake. Unfortunately, the highs will be lower, but the lows will be higher. We are investing with the conviction that you will have a narrower but gently upward, sloping cycle over the next few years, at least to the end of the decade, with some volatility along the way."

Thanks to the recovery years lessors have used that extended period of stability since the pandemic to focus on their organisations and become more efficient operations. "Everybody's running a tighter ship," adds Baker. "Everybody's running well managed asset management platforms, which is encouraging to see, because we've had the time to actually think about making things work better, as opposed to panicking, putting out fires, chasing customers."

As Peter Barrett says, "there are clouds on the horizon but the sun is out". Although some have called the top of the cycle, the industry remains strong riding on those positive tailwinds for the industry around supply, demand, and technology, providing a "decent wind behind our backs regardless of what comes down the road".

Chapter Three

Evolving Strategies

2024 was the year that global demand for air travel recovered to pre-pandemic levels and real growth resumed. Globally, passenger traffic is forecast to be up by 11%, which is equivalent to 6% growth over 2019 levels.

IATA predicts that the compound annual growth rate (CAGR) of air travel for the next decade will be 3.8% - slower than in the recovery period but at a steady and positive rate.

Profitability has also been positive despite higher costs – IATA is estimating a global operating profit of $61bn for the full year 2024, an operating margin of 6.4%, which is a slight deterioration over 2023 at 6.8% as higher labour and other costs filter through to the bottom line. In 2025, IATA forecasts global airline revenue to surpass the $1 trillion mark owing to high load factors and airfares as capacity continues to be impacted by the supply chain issues in 2025 and beyond.

Growth and profitability varies by region. While not all regions turned a profit in 2024, this year all airlines are expected to report growth and net profits with IATA forecasting a global airline operating profit of $68bn on the back of lower jet fuel costs and forced capacity discipline. With load factors remaining high and fuel prices staying low, airline net profit is expected to be $36.6bn – with net profit margin of 3.6%.

Airline debt is also predicted to fall despite higher interest rates thanks to strong cashflows. IATA's 2024 adjusted net debt/EBITDAR ratio estimate is 3.3x, below the 2023 level (3.6x) and significantly below the 2017-19 average of 4x.

After two years of decline, air cargo volumes have recovered in 2024, with IATA forecasting full year growth of 11.9% (measured in cargo tonne kilometres, CTKs). Limitations in ocean shipping and the continued demand from eCommerce have contributed to the surge in demand for air cargo, which is expected to continue into 2025. The strongest rise in demand has come from the Middle East and Asia Pacific regions. IATA reports that the ratio between dedicated freighter and passenger aircraft belly capacity is normalising, which is expected to continue into 2025.

In 2024, airlines benefited from the largely benign fuel cost environment. Oil prices have fallen by nearly 20% despite concerns when the intensity of the conflict in the Middle East caused the price to spike but then fall again. Fuel price is a very difficult cost factor to forecast but IATA notes that the decline has been caused more by oversupply than a softening in the economic environment. Global GDP is expected to remain stable at around 3.2% growth for 2025 as it has been for the past three years. The risk of tariffs aside, lower oil prices often translate into monetary policy easing so lower interest rates and a weakening US dollar, assisting all non-US, local currency earning airlines.

> **"The low margin airlines – which used to be called the ultra-low cost carriers but now we like to identify them by their margin gap relative to the 'haves' – used to occupy the margin high ground. Now they are sitting at the margin low ground. The industry spoils have shifted towards Delta, United, and American. What is driving that change, especially in the US, but globally as well, is the growing importance of loyalty."**
>
> *Mark Streeter, head of aviation research, JPMorgan*

The impact of the requirements by some countries for airlines to ensure a percentage of its fuel burn comes from Sustainable Aviation Fuel (SAF) has not yet been realised as SAF production remains low and expensive. According to the UK's SAF mandate and the European Union's ReFuelEU Aviation regulation, jet fuel suppliers must blend a minimum of 2% SAF into their total jet fuel supply from 2025. The UK has mandated that this will increase to 10% by 2030 and 22% by 2040, while the EU rules say the SAF percentage should rise to 6% by 2030, eventually aiming for 70% by 2050 for all flights originating from the EU. The US has not set a mandate for SAF blending for jet fuel but has set production goals. IATA is predicting that SAF use will increase in 2025 adding an additional $3.8bn to the global fuel bill.

Carbon offsetting costs are also set to rise under CORSIA requirements. IATA estimates the air travel industry will offset between 23 and 37 million tonnes of CO_2 under CORSIA in 2024, costing airlines between $460 million and $925 million. This will rise in 2025, IATA forecasts the industry will offset between 36 and 55 million tonnes of CO_2 at a cost $540 million and $1,375 million price range.

With such skinny profit margins, managing the cost environment is critical for airlines. The low fuel price has offset rises elsewhere specifically in labour costs. Industrial action caused significant disruption in the aviation industry in 2024 especially in a tight market where shortages of pilots and mechanics have bolstered union bargaining power. IATA figures show that airline labour costs have increased by double-digits since 2022 – from 18% growth in 2022 and 2023, to 11.3% growth forecast for 2024 – with a slowing in growth predicted for 2025 at 7.6%.

Despite the rising cost environment, the topline figures show a positive forecast for the industry. however, a more significant trend over the past year has been the continued evolution in business models and strategies as airlines adapt to the post pandemic and generational change in travel behaviour.

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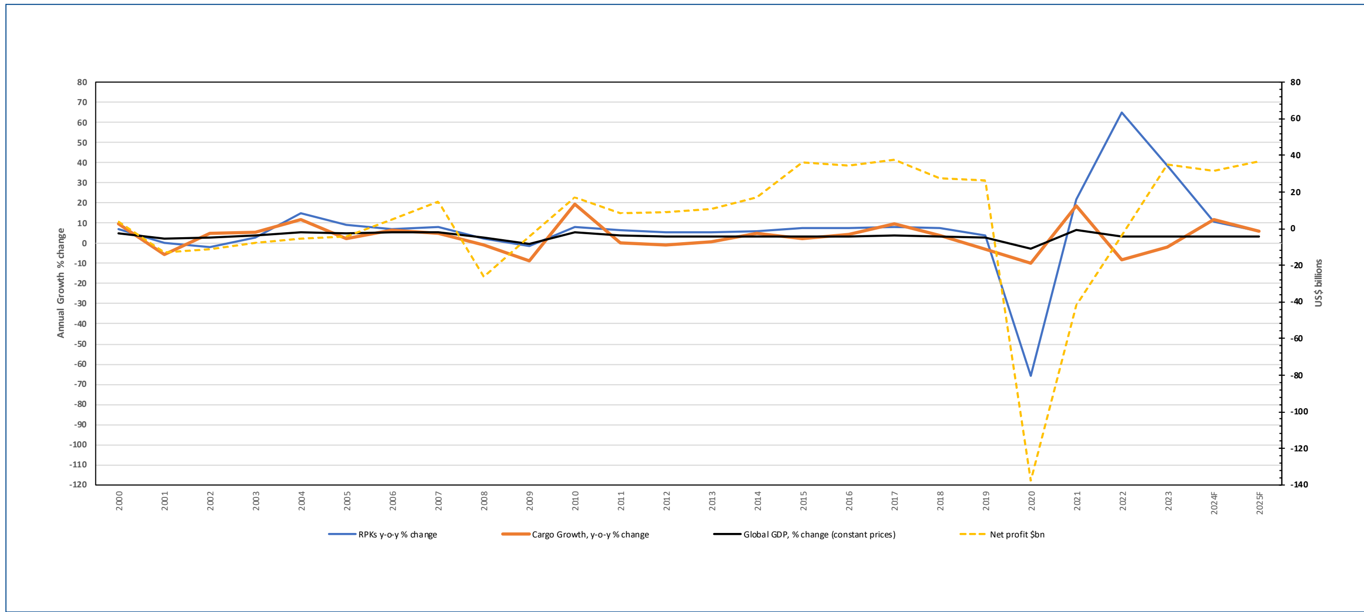

FIG. 8: WORLD ECONOMIC GROWTH (GDP), AIR PASSENGER TRAFFIC (RPKS) AND AIRLINE PROFIT ($BN)

This has been seen most acutely in the North American market.

North America was the first to recover from the depths of the Covid crisis but the US market has been the first to experience some softness in demand, requiring a rebalancing of some excess capacity, and flexibility to respond to market trends. The low-cost carrier model has been challenged by passenger preference for full service air travel and premium product offered by the legacy carriers, which have benefitted from strong international demand and higher fares. As a result low cost carriers with too much capacity have struggled to turn a profit, manifesting in the Chapter 11 filing by Spirit Airlines in November 2024.

"In the US in 2023, the story was about not enough capacity, with airlines charging more, and people complaining about high ticket prices," says Rob Morris, head of consultancy at Cirium Ascend Consultancy. "In 2024, the US airlines were looking to grow at 6-7% per annum, including the majors, which then said in the summer they had too much capacity so they pulled back. They are now growing at 3% or in Southwest's case, potentially not at all in 2025. Meanwhile, Spirit Airlines tried to put too much capacity into the market that wouldn't bear even at the cost it was trying to charge. We are seeing some correction in the US. Airlines learned capacity discipline in 2023, they then forgot it through the winter and into the early part of summer, and they are going to relearn it again. So [that trend] might be a bit cyclical."

Delta Air Lines president Glen William Hauenstein commented on the separation of the market at its investor day in November, noting a trend for passengers to pay more for an elevated travel experience. "We've seen a real separation in margins from the carriers that are serving premium products from carriers that are solely concerned with price," he said, adding that premium demand was soaring among millennials, especially since the airline had made premium seating more affordable. "Customers wanted to buy those products [but] we had just made them unavailable as an industry," said Hauenstein. "We were charging 13 times more than the average coach seat at the time of booking. So we brought that separation way down, we've made them much more affordable. When you make something affordable, people want to buy it. So, we have an incredible intent to repurchase. 85% of people who are sitting in premium products want to stay there."

Hauenstein pointed to the fall in domestic travel demand and that excess capacity that impacted unit revenues at Delta but which had a devastating impact on low-cost carriers.

Chief executive Ed Bastion said at Delta's investor day that "just about every airline in our space has changed their strategies post-Covid", whether it is trying to add more premium, trying to move differently internationally, or moving geographically, he said that "Delta is the only airline that hasn't changed the strategy".

Delta is doubling down on its premium product offering, which generated significant growth in the past year. Bastion hit back at suggestions that revenge travel phenomenon seen after lockdown was abating. He says that the trend for people to invest in experiences rather than goods is accelerating. "Our consumers are not fatigued. Our consumer loves the experience of travel and wants more," he said, noting that millennials were driving that growth."

That desire for international travel from the US traveller served to dampen domestic markets and impact the low-cost carriers revenues and led to excess capacity. Mark Streeter, managing director and the head of aviation credit research at JP Morgan, describes the US airline market in 2024 as "a tale of have and have-nots". The legacy carriers being the 'haves' and the low cost carriers the 'have nots'.

"The low margin airlines – which used to be called the ultra-low cost carriers but now we like to identify them by their margin gap relative to the 'haves' – used to occupy the margin high ground. Now they are sitting at the margin low ground," says Streeter. "The

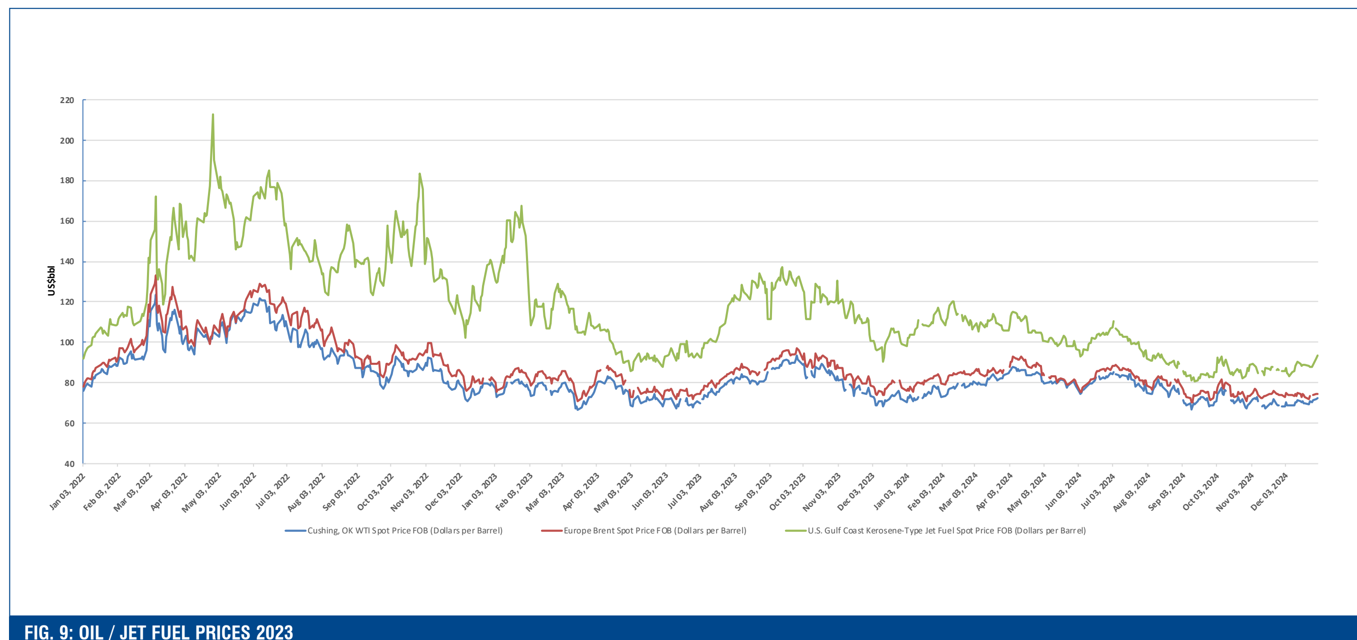

FIG. 9: OIL / JET FUEL PRICES 2023

industry spoils have shifted towards Delta, United, and American. What is driving that change, especially in the US, but globally as well, is the growing importance of loyalty."

Streeter explains further that Delta is a money-losing airline with a very profitable loyalty business, while he describes low margin airlines such as Frontier as a money-losing airline with a very profitable aircraft trading business. "The difference between the two is that aircraft trading profits are ephemeral, they can go away, and that merry-go-round will eventually stop. The loyalty merry-go-round isn't going to stop. That's only going to grow as someone like Delta heads towards $10bn of annual remuneration from American Express alone. Low cost carriers simply cannot compete with that, and they therefore have to become more relevant."

This change in fortunes has been a major driver for consolidation – or attempted consolidation – in the US airline sector. Spirit Airlines is a prime example. The airline attempted first to merge with Frontier and then with JetBlue to counter falling revenue and profits but the latter deal was blocked by the regulators, and ultimately resulted in the airline filing for Chapter 11 bankruptcy protection. "Spirit Airlines raw revenue from its loyalty programme is less than $100 million, comparing that to Delta's loyalty earnings that will be north of $7bn, heading to $10bn," says Streeter. "It exponential in terms of magnitude... The way Spirit Airlines generates a much more stable margin on loyalty revenue is to become much bigger – this was the impetus for its merger with JetBlue, it was just poorly timed."

Streeter adds that Spirit Airlines restructuring was required because its business model "just isn't working". Those low cost carrier business models were set up to capitalise on the predicted growth of air travel coupled with low costs that translated to low fares. Post-Covid, all of those costs barring fuel have risen way above inflation, while growth in domestic markets has tapered off. Without international routes and premium product revenue, the low cost model that has served the industry so well in the past has broken down. "All of those costs are working against them," says Streeter. "What's generating higher margins is the load factor up front; international (and domestic) premium load factors are the highest they have ever been. Loyalty and premium offerings are where airlines can generate margin alpha, particularly for the US carriers."

The loyalty premium is examined in more detail in the *Finance* section of this report since programmes have been leveraged for capital purposes very successfully. Spirit Airlines also tapped into this resource to raise funding and its Chapter 11 restructuring will be a first test of how those structures work in a default scenario.

Loyalty programmes are just as important outside of the US although the margins are much lower. European airlines have been developing and enhancing their own schemes to build up this revenue stream. IAG Loyalty, which managed the Avios reward currency for IAG's airlines, reported revenue of £1.276bn and an operating profit of £228 million for the six months to end of June 2024. Air France-KLM monetised its Flying Blue programme in 2023, while Virgin Australia used its Velocity Frequent Flyer Programme as collateral in a recent term loan.

The US low cost carrier segment will continue to grapple with cost pressures and softening demand into 2025 and remains ripe for consolidation if the regulators allow it. "There are different low cost models," points out Gerry Laderman, retired former chief financial officer of United Airlines. "There are airlines like Spirit and Frontier that have been competing more with the network carriers more than carriers such as Allegiant or Avelo, which tend to find opportunities in other markets. And there is also Breeze, which is trying to figure out what it is going to do. There's a lot in that space that could be subject to some consolidation."

Allegiant is a leisure-focused domestic US carrier, which operates 555

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daily routes with low frequencies and in most cases is the sole operator on those routes. "We are a low cost airline, focused on low fixed costs," says Robert Neal, chief financial officer at Allegiant. "We build the business around having the ability to operate at very low levels of utilisation so given that we're the only operator on about 75% of the markets that we fly, and because most all of them are less than daily service, we can adjust capacity in the face of higher fuel costs, and add capacity as costs fall."

Allegiant has felt the cost pressure from pilots wages increases as well as the lack of new airplane deliveries. "We had about 1,100 pilots on the payroll and we are keeping a full pilot training pipeline to maintain seniority levels but our biggest challenge is having the capacity to operate our schedule," says Neal. Allegiant had been expecting two new airplanes a month to deliver but with the supplier delays it has reduced those expectations to one a month and is carrying the cost of those idle pilots.

The airline has benefited from the fall in capacity in the US over the past year as airlines worked to rightsize the fleet to meet falling demand. "Domestically, there was a lot of overcapacity in the market which played into the unit revenues and put on some pressure there," explains Sherry Wilson, chief investment officer at Allegiant. "However, a lot of carriers have since pulled capacity out of the system, which has helped drive some very nice patterns or trends coming out of the summer. As we have exited the third quarter, we did see an inflection point where our unit revenues turned positive, and we were seeing some really nice momentum heading into October in particular... and from an system wide perspective, demand is still very healthy."

There has been major consolidation in the legacy sector in 2024 with the merger of Alaska Airlines and Hawaiian Airlines. Alaska's $1.9bn acquisition of Hawaiian closed in September 2024 after it was first announced in December 2023. Ben Minicucci, chief executive officer of Alaska, described Alaska's combination with Hawaiian as providing both airlines with the scale to be much stronger together.

At the end of 2024, Alaska unveiled a new three year growth strategy focused on expanding operations and enhancing profitability. The new scheme, dubbed "Alaska Accelerate", consolidates Alaska's financial targets for 2027. Key targets include aiming to deliver $1bn in incremental profit, earnings per share of at least $10, double-digit pretax profit margins, no margin dilution in the first-year post-merger with Hawaiian Airlines and revised synergy estimates now projected to exceed $500 million – double the original forecast.

The company is aiming to generate a steady free cash flow to drive net leverage back to 1.5x. "To win in our industry, you must have relevance and loyalty, and that's exactly what we are accelerating over the next three years," said Shane Tackett, Alaska's chief financial officer.

Alaska's acceleration strategy is bolstered by growing demand for premium travel. The company is investing in its end-to-end premium experience including enhanced airport lobbies and lounges at its hubs, expanded premium seat capacity, a new loyalty platform, and a premium credit card offering. Alaska expects its capacity to increase to 3% in its 2025 outlook.

Rightsizing capacity is a difficult process – increasing or reducing capacity each have their own challenges. "As we started 2024, we saw that capacity production, particularly in the US, outpaced the level of demand," says Meghan Montana, treasurer of American Airlines. "Demand is really robust, but it takes a lot of work to build capacity up. There are hiring decisions, training, work on the fleet, and sometimes that timing doesn't always align with what the demand level can support. As we got into the second half of 2024, we saw airlines voluntarily and some involuntarily pull back their capacity. What we have been seeing of late is a much better harmony between the level of supply and demand so things are getting back in balance in the US."

Like other legacy carriers, American Airlines has benefitted from the strength in the transatlantic market – which Montana expects to continue into 2025 – coupled with strength in shorter-haul markets in the Caribbean and Mexico but with a little lighter footprint in the

"We were expecting our MAX order to begin delivering in the back half of 2023 and we took delivery of our first one in September 2024," he says. "That has been challenging, mostly on the cost side. We're carrying around 100 pilots on the payroll for the MAX fleet type… We are managing that through better utilisation. We have had to extend the lives of a handful of our A320s, which we would have preferred to retire, but that's one of the benefits of owning our fleet."

Robert Neal, CFO, Allegiant

Pacific due to the slower recovery from Covid. Like its peers, American is leaning into demand for its premium product and enhancing those AAdvantage loyalty benefits for its customers. "We are focused on increasing our premium footprint across the fleet, finding more ways to engage with our loyalty customers," she says. "We are pretty excited on the loyalty side. There is a real opportunity to expand the use of our programme."

In December, American announced an extension of its branded credit card agreement with Citi, which becomes the exclusive issuer of the AAdvantage co-branded card portfolio in 2026. The deal is designed to increase incremental value for both companies.

In Europe, the performance of low-cost carriers remain solid. In 2023, many airlines weren't able to capitalise on strong demand from during summer due to a lack of capacity as aircraft were still parked or they had underestimated demand, which served to fuel fare rises. In 2024, capacity remained constrained due to engine issues and scarcity of aircraft, but airlines continued to capitalise on demand even as those costs began to bite.

The trend to premium continues in this region but low-cost carriers have been able to maintain market share in a crowded marketplace capitalising on their lower operating costs flying to secondary airports. The European market is still growing despite the disruption caused by the ongoing war in Ukraine but profits have been dented by withdrawal of certain flights – many European carriers have cut flights to China for example – while rising wages and other costs bite into profits. IATA expects net profits for the region to decline slightly in 2024 to $10bn but notes that 2025 will see healthy growth in revenue per passenger (RPKs) numbers at 7% as low cost carriers expand as grounded aircraft come back on stream.

Latin America has had its share of challenges in 2024, with restructurings, cost inflation, debt burdens, and issues when local currencies depreciated against the US dollar. With the conclusions of several Chapter 11 proceedings from Avianca and GOL as well as Azul's restructuring, 2025 is expected to be a better year for the region that IATA predicts will return to profitability.

Despite the war in the Middle East, the region's largest airlines have continued transporting international passengers around the world from their major hubs. The major airlines have benefitted significantly from the low oil price and the trend to premium products.

Asia Pacific is a more mixed picture. Excluding China, which outcounts for 40% of traffic in the region, airlines are facing overcapacity challenges due the fall in international flights from China, with most Chinese airlines reporting losses. Lessors are feeling the impact of that softening in demand but most are confident it will open up.

"The one area that's just been a little bit softer on recovery has been Asia, particularly Southeast Asia, which is a function of two factors," says Greg Conlon, CEO of High Ridge Aviation "First, many airlines in that region weren't able to avail of the state aid that many other airlines did, and they also weren't able to avail of more conventional restructuring methods so they're carrying a lot of debt from a really brutal period during Covid and are working their way through that. Second, we are seeing slower external growth out of China, which is impacting a lot of the regional carries that that relied on a lot of that traffic. It's going to come back, although more slowly than the rest of the world."

International traffic in China remains very depressed but lessors all point to that potential demand once those markets come back. "Some of the aircraft that we were going to deliver to China and other regions of the world actually were redirected to the US where there was influx of capacity," says Ted O'Byrne, CEO of AviLease. "But the bright spot is Asia where there was a 13% RPK growth in October. There is also a lot of traffic coming out of India, which is very strong and somewhat replacing some of the Chinese traffic that is still lagging behind."

India is a major growth market for air travel. The revitalisation of Air India under Tata ownership and its recent merger with Vistara has created a major force in the region, with low cost carrier Indigo also capitalising on the growth in demand.

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Ted O'Byrne, CEO, AviLease

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Cargo recovery

After two years of decline, air cargo volumes recovered in 2024, with IATA forecasting full year growth of 11.9% (measured in cargo tonne kilometres, CTKs). The global air cargo yield grew by 12% year-on-year (YoY) in August 2024 (the most recent data available), which was the highest annual increase in over two years. The average yield is 46% above 2019 levels with no sign that average yield is reverting to pre-Covid, which IATA describes as "remarkable, especially during the peak capacity that the industry experienced [in] summer [2024]".

The strong e-commerce market is credited for the strong and stable rise in demand, while the disruption in the shipping channel has boosted air cargo yields. The disruption in some ports in 2024 as well as the raised risk of attacks – caused by Houthi attacks in the Red Sea – has seen some companies shift distribution from sea to air transport as it becomes relatively cheaper than maritime. IATA reports that air cargo yields on "westbound" routes

out of Asia into Europe and the Americas, either directly or via the Middle East, "have increased radically over the past year (ranging from 9% to 84% YoY)", while also noting a fall in rates "on the respective backhaul routes and the Europe-America trade lane (spanning -18% to +3% YoY)".

"Yields in the cargo market are structurally higher than they were," says Rob Morris, head of consultancy at Cirium Ascend Consultancy. "There is a real terms increase in yields. There has been a delay in the return to all long haul markets so there is still some need for widebody cargo."

Morris points to the change in the passenger widebody market, with fewer larger aircraft – 747 and A380s – flying as airlines transition to new technology options – 787s and A350s – which have smaller cargo capacity. "Moving forward, the widebody cargo market is going to be a different shape," he says. "Before the pandemic, we had a lot of 747s still in the market, some A380s and 777-300ERs. Now we have more A350s and 787s, which are smaller aircraft with therefore smaller cargo capacity, which means we might see less belly hold capacity in absolute terms, which might be a positive for the main deck cargo market."

Cargo aircraft values are much more volatile than passenger aircraft in common with the general air cargo market.

"[The value of freighters] has been volatile, which has been driven by two things," says Morris. "Values are often driven by the value of the feedstock plus the conversion cost plus the utility value. Today, we are seeing the value of the feedstock increasing significantly. It could be argued that values should have gone up but, at the same time, we have seen a supply and demand dynamic. Too many aircraft have been converted too quickly, particularly in the narrowbody space, with many 737-800 being converted and many that have not been leased. In some cases, engines have gone out on lease and the freighter is sitting waiting for the market to recover. It is the same in the widebody space, A330s were flooding into that market but there have been delays in production due to the same supply chain challenges that affect the OEM production on the passenger side. And some of those aircraft that were going to be converted may find a lease as a passenger aircraft."

Marc Iarchy, partner at World Star Aviation, a midlife leasing company that also has a substantial portfolio of cargo aircraft with a large 737 conversion programme, had observed the volatility in the market following the pandemic, which is still playing out. "As a result of Covid, lessors and airlines doubled their freight capacity and many entered the market that never had before," he says. "Airlines thought it was a good idea to increase revenue while lessors inducted some of their aircraft into conversion programmes. At that time, there were too many talking about cargo, you had a little bit of congestion, which is still working itself out. Many of the tourist lessors that dabbled in conversions, have all exited or are leaving the space, with just the usual suspects remaining on the narrowbody and the widebody side. Many of the Covid newcomers on the airline side now don't really know what to do with their cargo aircraft either. Some are making noises about exiting those by sub-leasing or down scaling."

At the same time as air cargo fell out of favour with the airlines, freighter conversions dried up due to the shortage in passenger aircraft, which has curtailed feedstock for the conversions segment. "There is not enough new feedstock coming in," says Iarchy. "The older feedstock is not being retired, so there is no feedstock for conversion either – it's just a complete mess."

As feedstock for converted aircraft has dried up, cargo airlines and suppliers have turned towards buying more aircraft but due to market-wide demand availability at the right price is challenging. Mylène Scholnick, Head of Global Fleet Management, at Amazon Air, which has agreements in place with many freighters lessors, conversion providers and CMI operators. "It's been all about feedstock and conversions," she says. "We were the first to bring in the A330-300 passenger to freighter (P2F) aircraft to the US, which is operated by Hawaiian Airlines – its first foray into cargo and CMI operations."

For Amazon Air and many others in the air cargo sector, securing the right feedstock remains challenging. "On transpacific routes, demand continues to grow driven by e-commerce shipments from China to the U.S., This is pushing up demand and lease rates for ACMI and charter services on large widebody aircraft. At the same time, there is a shortage of freighter aircraft supply," says Scholnick. "Boeing is stopping the production of the 767 and the 747-8F, while the 777x program is delayed. These shortages are driving up charter and ACMI prices. Some new conversion programs for 777s and A330s will mitigate low supply – once they start producing and delivering."

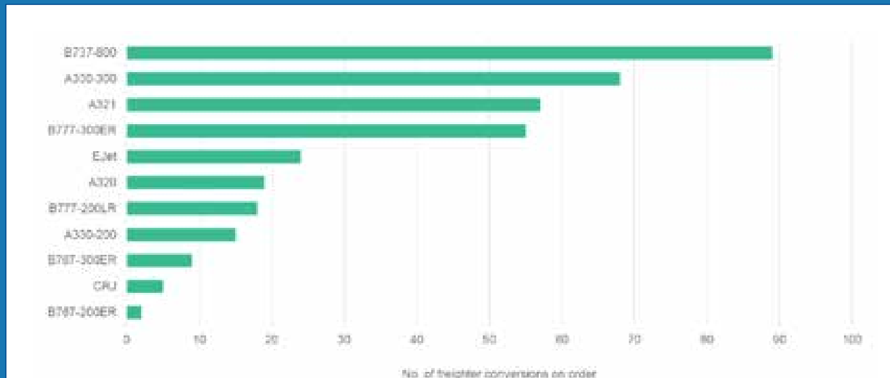
The conversion market is slowed by the same supply chain issues as the passenger sector as well as a shortage of parts and constrained MRO space. Estimates for when the situation will begin to improve varies from the next two years out until the end of the decade.

Amazon Air secured lease agreements with AerCap and World Star Aviation for the 737 converted freighters, which Scholnick says were delivered on time without conversion delays. But, she says, the 767 conversion programme faced significant delays due to "a frequent mismatch between labour availability and parts supply". Those same issues persist with the A330 conversion programme as parts are difficult to procure. "Operators have had delays ranging between six to nine months so had to adjust capacity constantly," she says. "Deliveries come with challenges. It is a struggle to get parts either new or in the secondary market with long lead-time. The situation is still concerning for the entire industry post Covid."

With passenger aircraft supply constrained, sourcing aircraft for freighter conversion remains a difficult task, particularly as it relies on aircraft retirements. "The feedstock is dependent on airlines retirement and replacements plans, and if airlines are not receiving their new 787s for example, they will not be releasing their 767s," says Scholnick. "By the time they decide to retire them, the aircraft may be too old for conversion."

Financing for freighters is a more specialised area due to the vintage of the converted aircraft and the relatively smaller market. "There are a couple of banks that lend to the mid-to-end-of-life space on the cargo side, as well as the alternative lenders that have come up in the last four or five years, which all pride themselves on their ability to be able to look at things differently," says Iarchy. Although data from Cirium (see Fig. 11) shows market values for freighter shave increase, Iarchy says that they are still not pricing in the current market dynamics and ramp up in demand. "[Appraisals for] freighters don't really work, and the midlife isn't following suit either. But the alternative lenders are happy to look at other metrics rather than rely on appraised values, which is super helpful."

Some of the more enterprising banks have found innovative ways to assist airlines and lessors with their freighter financing requirements.



Source: Cirium Fleets Analyzer

FIG. 11: BACKLOG OF FREIGHTER CONVERSIONS

Source: Cirium Fleets Analyzer

FIG. 12: BACKLOG OF FREIGHTER CONVERSIONS

Babcock & Brown Aircraft Management (BBAM), which has a dedicated freighter fund, closed a $64 million 10.5-year freighter term loan to finance the conversions of four freighters – two 737-800BCFs aircraft leased to Alaska Airlines and two A321P2Fs aircraft on lease with Lufthansa – and the subsequent leaseback to the airlines. The loan was later upsized to $81 million to finance the acquisition of an A321-200 passenger aircraft leased to Air Canada. BNP Paribas structured the financing as sole lender and facility agent.

In common with the passenger aircraft side, cargo leasing is also attracted the attention of those lucrative private equity players eager to gain exposure to aviation. Alternative investment firm Stonepeak announced in November 2024 that had entered into a definitive agreement to acquire Air Transport Services Group (ATSG), the world's largest lessor of freighter aircraft as well as the largest owner and operator of converted Boeing 767 freighters, in all-cash transaction for approximately $3.1bn.

The purchase price represents a premium of approximately 29.3% over ATSG's closing share price on November 1, 2024, the last full trading day prior to this announcement, and a 45.5% premium over ATSG's volume-weighted average price (VWAP) over the prior 90 trading days. Upon completion of the transaction, ATSG's shares will no longer trade on NASDAQ, and ATSG will become a private company.

Stonepeak senior managing director and head of transportation & logistics James Wyper said at the time: "ATSG's deep relationships with some of the world's largest e-commerce companies and integrators, combined with the scale and capacity of their fleet and relentless focus on safety and on-time performance, gives us confidence in the company's trajectory as a sector leader."

The transaction is expected to close in the first half of this year.

ATSG will benefit from its new private market setting and the new ownership will enable its continuous market expansion and definition of the infrastructure asset class beyond traditional boundaries.

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COST CREEP

All airlines are starting to feel the impact of cost inflation since Covid, particularly labour costs over the past few years. During Covid there was a shortage of skills, particularly airline pilots and mechanics. In the US, pilot unions have been very effective in securing significant pay rises. Aengus Kelly, CEO of AerCap noted that in the US some pilots were earning $400 an hour, which multiplied out results in $800,000 a year. Similar pay demands have been seen in Europe and around the world and when those pay rises filter through the whole airline organisation, it affects the entire industry via squeezed profit margins.

Helane Becker, managing director at TD Cowen, who has analysed the airline sector for many years, notes that despite the concerns around pilot shortages, in 2024 airlines paused their pilot hiring as new aircraft deliveries were delayed. "Some have resumed hiring and training but others have not because of the delivery delays," she says. "Not being able to execute on plans because Airbus or Boeing can't deliver the aircraft you need is a really issue because that limits your ability to grow and then you have too many pilots on staff."

American Airlines has never had a pilot shortage, says Montana, more it experienced a "training footprint issue". She says: "We couldn't train pilots fast enough, and thankfully, through the most recent round of negotiations, we've been able to change the dynamics of our underlying contracts so the size of the footprint increased and more pilots can get through their training events quickly."

Montana adds that while increases in compensation has certainly created more costs for airlines, at this point in the cycle with new agreements in place those cost are more predictable "at a level of predictability we haven't had in several years".

The inflationary cost environment tends to impacts low-cost carriers more acutely due to their thin margins, while legacy carriers have been able to offset some of those costs on thanks to more lucrative long-haul and premium services but it has still dented profits.

"In some cases, airlines are reported to be backing out of slots or can't operate certain routes, which is a bit of a head scratch if demand is so great," says Conlon. "That's really a function of cost creep. We saw demand come back, revenues and yields rocketed up. They have now levelled out and some cost creep has come through from both inflationary pressures and labour pressures. Fuel has been pretty constructive overall, but we're seeing a lot of labour costs drive up. And so routes that were profitable at really high yields are now getting pretty skinny or maybe a little bit cash negative for some of the airlines. So while the demand is there, some cost pressure

> **"Some [airlines] have resumed hiring and training [pilots] but others have not because of the delivery delays. Not being able to execute on plans because Airbus or Boeing can't deliver the aircraft you need is a really issue because that limits your ability to grow and then you have too many pilots on staff."**
>
> *Helane Becker, MD, TD Cowen*

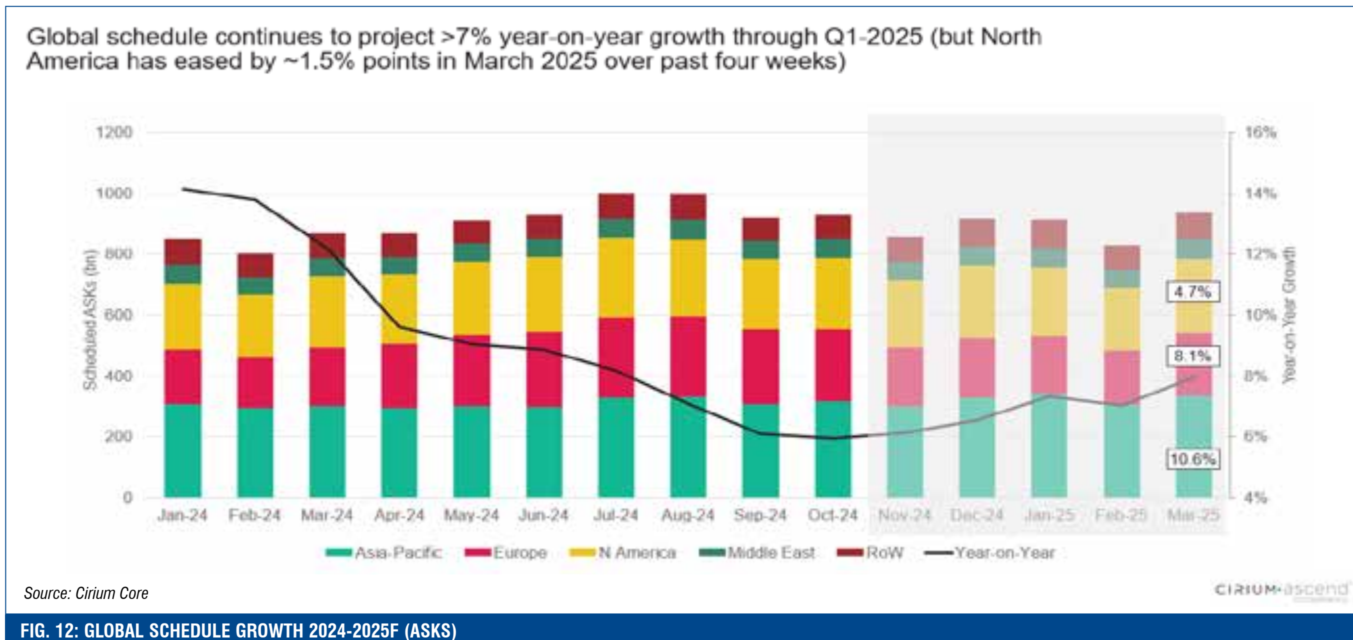

FIG. 12: GLOBAL SCHEDULE GROWTH 2024-2025F (ASKS)

in pockets, particularly in the US and Europe, has caused some retrenchment in routes."

Schedule data demonstrates this trend (see Fig. 12). Rob Morris points out that the data to March 2024 shows a 6-7% growth global but in the US those schedules are pulling back, with growth of 5-6% growth expected. "I think now we're seeing people start to feel the true effects of inflation, and so we might see airlines seeing a bit of softening if they keep ticket prices high, albeit, they've been coming down recently."

Balancing capacity with demand has become a much more difficult skill for airlines around the world. In the US, Becker notes the changing demand patterns. "A big change has been the elongation of the cycle," she says. "Everybody used to travel in July and August but that doesn't really happen so much anymore. It's still very true for European travellers but for American travellers, we've seen a huge change in where people live, when their children go to school, the experiences they want to have, and most Americans are still pushing for a hybrid work environment. They're not quite ready to go back to commuting There is really good demand but it's not all concentrated in the summer anymore. It starts in April and goes through to October, November."

Another major cost airlines are having to navigate is foreign exchange exposure, especially due to the strong US dollar that has impacted airlines with revenues in local currencies, particularly in parts of Asia and South America.

GOL reported an 3.7% increase in costs despite the falling fuel price caused by the "significant depreciation of the Brazilian real" during the third quarter of 2024 since a "substantial portion" of its costs are linked to the US dollar.

LATAM offered a similar picture reporting $20 million from foreign exchange losses in the second quarter of 2024 "mainly related to the depreciation of the Brazilian real, as well as the effect of the bond in Unidad de Fomento (UF) during the third quarter of 2024". LATAM issued a bond with a face amount of 3,818,042 UF in November 2022 with a 2% interest rate that matures in December 2042.

In Asia, Korean and Japanese carriers are suffering from weaker currencies against the US dollar. Jeju Air blamed the 11% fall in its operating profit in the third quarter of 2024 on the weak won that has depreciated around 8% against the dollar in 2024. Korean Air Lines reported a foreign exchange loss of 36.1million won for the third quarter compared to a year ago, with net foreign currency liabilities about $3bn. The yen is at a 40 year low against the dollar and has fallen about 11% against the greenback this year, according to IMF data.

Airline debt remains significant but it is reducing for most major carriers that have worked hard to repair their balance sheets and build up revenues. There are challenges with the increased interest rate environment but there are less concerns for the stronger airlines. Weaker airlines, impacted by falling demand, have been struggling to service debt stacks and maturities, which will likely continue for the short term. The general consensus is that interest rates will either remain static or fall at a slower rate but concerns remain surrounding inflation.

"Inflation is still pretty sticky and high so I think we're in a world of higher interest rates for longer," says American's Montana. "We have been thoughtful about the liability side and what that means for our debt balance as well as the asset side. We have been holding more liquidity, and why that's helpful is because we can match – to an extent – the interest impact from an expense perspective with income earned on our cash balances… We are also in the midst of a de-leveraging cycle. By reducing our overall total debt, finding opportunities to reprice and be really efficient with the debt that we have, we're doing a pretty good job mitigating it naturally. We also take into consideration when we pay down debt or we issue new debt, whether it's fixed or floating, and how that impacts our overall interest rate exposure. There are a lot of organic opportunities to reduce the impact to the P&L."

Chapter Four

Financing lift

The supply-demand imbalance has served to raise asset values and attract investment and financing from a broad church of capital providers, while the falling interest rate environment has helped the entire industry secure lower cost funding.

Falling interest rates were a consequence of lower global headline inflation in 2024 despite the continuing wars in Ukraine and the Middle East. The International Monetary Fund (IMF) expects global inflation to fall from an annual average of 6.7% in 2023 to 5.8% in 2024 and 4.3% in 2025. Global central banks have brought interest rates down solely throughout 2024 but that pace is expected to slow further in 2025.

In the US, the Federal Reserve lowered its policy rate to 4.25-4.50% range in December 2024 but warned that further cuts were dependant on progress in lowering stubbornly high inflation. In the UK, the Bank of England's interest rate ended the year at 4.75% following two cuts in August and November as inflation fell to 2.6% down from a high of 11% in October 2022. However, the Bank refused a further cut in December as economic growth had stalled in the fourth quarter, partly due to the £40bn of tax rises announced in the latest Budget.

In Europe, the European Central Bank's (ECB) deposit rate was cut by 25 basis points (bps) in December to 3%. This was the fourth time the ECB has cut rates since its cycle of rate rises ended in September 2023 (the first cut was in June 2024). Further rate cuts are expected in 2025. Inflation in the Euro area increased to 2.20% in November 2024, down from the record high of 10.6% in October 2022.

"The rate cut is going to be helpful for everyone," says Olivier Trauchessec, global head of aviation at MUFG. "We were at a point in a high rate environment that created discipline – people were being careful about how they were raising financing. We expect that to continue even as rates decrease. Aircraft lessors will see a lower cost of funding, which will trickle down to the airlines as well."

Lowering the cost of capital is a significant boon for airlines and

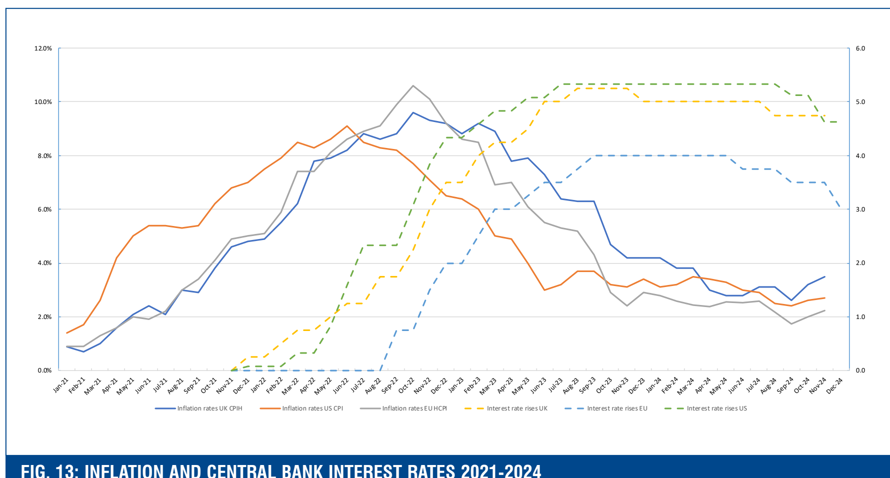

FIG. 13: INFLATION AND CENTRAL BANK INTEREST RATES 2021-2024

lessors. Both benefit from the lower cost of debt and lowering interest rates would usually feed into lower lease rates – helping airlines – but with the constrained supply of new aircraft deliveries, lease rates are expected to remain high. "In mid-October, we are starting to hit a little bit of the ceiling in terms of lease rates and just what airlines can afford to pay because of their tight margins," says Mark Streeter, managing director and the head of aviation credit research with JP Morgan. "Because there aren't a lot of new airplanes being built, with lower interest rates, there's some divergence between lease rates – which has that higher correlation to cost of debt – and what airlines might be willing to pay for a lease rate on a monthly basis. It's going to be interesting to watch in 2025 if we see a little bit more weakness, or maybe just not as much strength in lease rates. Watch the Treasury curve in the US – rates have been stubbornly high despite Fed easing so this push / pull on the overall cost of debt vs. the lease rates lessors can garner in a tight but perhaps normalizing somewhat market as deliveries inevitably rebound will be fascinating to monitor in 2025."

The varied interest rate strategies at the larger lessors have been one of the differentiators between the companies over the past five years, opines Andy Cronin, CEO of Avolon. "The impact of that sustained low interest rate environment – where money was free effectively – shaped a lot of behaviour and a lot of speculative investment in the sector," he says. "Pre-Covid, our view was to prepare the business for a higher-for-longer position so we can enable the business to benefit from the upside of interest rates coming down. As a result, our overall funding cost hasn't moved significantly. The revenue side has been outpaced in terms of the growth and expansion compared to the interest rate side but that hasn't been consistent across every lessor."

Generally, the large scale lessors all hedge their interest rate exposure. "We are not interest rate traders, we are aircraft investors," says Peter Barrett, CEO of SMBC Aviation Capital. "We are not in the business of taking punts on interest rates so we have always hedged our interest rate book – both for duration and for rate. We match fund our assets. Our funding gap, which is the difference between our average lease and our average funding, is less than a year. We want to maintain that and avoid a position where, if you aren't hedged properly, if interest rates rise and you refinance your book, your margin is going to get compressed. We're managing a business to ensure that we have a consistent margin, regardless of the interest rate. We continue to hedge our interest rate and our liability side to ensure that we can preserve margin on our lease book, regardless of what the interest rates do."

For Barret, a "more normalised" interest rate interest rate environment – such as the level today, where lessors agree there is more "realistic" price of money – is better for his company as a large investment grade lessor.

The major differentiation between all aircraft lessors is scale, an investment grade rating and a lower cost of

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capital. At that higher level, a major differentiation is the duration of their interest rate hedges and how long those businesses can withstand that higher interest rate environment. "Some lessors may consciously take the view to bridge this shorter, lower interest rate environment," says Cronin. "But we have been busily preparing the business for higher-for-longer, which has served as well over the past 12 months, and certainly with the kind of volatility that we're seeing now. In recent weeks [Cronin was speaking at the end of November 2024], the five year US Treasury spreads were up at 440bps down to 350bps and then back up to 420bps – that's a massive movement. Investment grade lessors spreads are in the 90 to 100 basis points range, but you're seeing a 70 basis point move in treasuries with the absolute level four times or more at the level of our spread. The current environment is about how lessors are managing treasuries, rather than their spreads."

Cronin confirmed that Avolon's spreads had fallen from 300bps in 2022 to an average of 100bps for investment grade rated lessors. "We are seeing very, very strong market access, and discussions about how underrated the sector was and how performance through Covid has actually solidified the rating agency view of these businesses, which should be rated more highly than they were. We have seen a suite of upgrades for our own ratings with two positive outlook for further upgrade."

Strong aircraft lessors have been able to raise debt at low cost of funding in the commercial banking market as well as the capital markets.

"The aviation debt market is very robust because Covid proved, once again, that aircraft are a good investment," says Kelly. "There can be periods of very strong demand but even in periods of lower demand, you'll always place a well-maintained aircraft. You may not get the rate you want, but it's a good store of value. We have seen very sticky pools of capital that want to back this industry in very large volumes around the world. As an example, AerCap has a large pool of banks in Japan, Europe, and the US, with 22 banks in Taiwan alone, so the fixed income community understands the asset class a lot better. We see very significant demand from the lending side, which is reflected in how competitive our five-year unsecured spreads have become."

The lessors of scale have privileged access to many different pockets of capital, with lots of different pools of investors in many different parts of the world. "The bank market is open to us, the bond market is open to us, in Asia, in the US, in Europe, and increasingly in the Middle East," says Tom Baker, CEO of ACG. "For all of the lessors of scale that have investment grade ratings or have credit enhancers that provide them with that differentiated access, it's really just picking strategically, whether it's flexibility, whether it's diversification of funding sources, whether it's cost, what are they trying to achieve and then attacking that opportunity set... There is no dearth of opportunity for us at this point."

Steven Townend, CEO of BOC Aviation, notes the importance of the shape of the interest rate yield curve. "There has been a strongly negative yield curve for a long period of time, which is now starting to really flatten out," he says. "It doesn't matter whether that's three month money or 30 year money, it's broadly the same price. As we move out through the next six to nine months, we should start to see a more normalised yield curve, turning positive. That starts to affect the way you look at your funding. We have traditionally run a slightly larger floating rate book than most lessors, driven by the fact that we raise more funding in the bank market than some of our similarly sized peers. That's one of the benefits of being based in Asia; there is still a very deep banking market here, which by default, is floating rate. As those short term rates start to come down, it will deliver some advantage for us in terms of our overall funding cost."

Although BOC Aviation has access to the large Asian banking market, the preferred method of financing for all lessors is unsecured debt, which provides maximum flexibility to manage their fleets. In the unsecured bond market, spreads are also falling.

One of the major advantages of securing an investment grade rating

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Aengus Kelly, CEO, AerCap

is access to the deep unsecured bond market. AerCap is a prolific issuer of unsecured debt in the US capital markets where it can secure a very low cost of capital. AerCap went to the market twice in 2024. In January, AerCap issued two tranches of senior notes - $800 million 5.100% five year notes and $700million 5.300% 10-year notes. The company's latest issuance was in September 2024 with a $2.4bn offering of two tranches of senior notes - $1.3bn five year 4.625% senior notes and $1.1bn 10-year 4.950% senior notes.

Avolon raises its funding predominantly in the US capital markets, with the unsecured bond market as the cornerstone of it capital structure. "This market clearly has the deepest access," says Cronin. "There are about $150bn of lessor unsecured bonds in circulation today. Compare that to EETCs for example, which is $30bn or the ABS market that is only in the tens of billions of dollars."

SMBC Aviation Capital is a frequent issuer in the unsecured bond market. In 2024, the lessor issued a $1.5bn senior unsecured bond in April.

"Unsecured is important because it gives us flexibility in terms of how we manage our business, how we manage our book, in terms of our trading, and that's a luxury," says Barrett. "As an investment grade company, we look at all other products. It's incumbent on us to stay abreast of all of the options but in most circumstances, we will lean into the unsecured bond markets, the debt markets and our shareholders for funding."

In common with its peers, SMBC Aviation Capital also tapped the banking market with a $1.5bn five-year syndicated financing facility that served to expand its banking relationships. "There is plenty of dollar appetite in the Middle East and Asia – that has been a good market for us."

Air Lease Corporation has also tapped into both market sectors to capitalise in growing demand for the sector. "The debt markets have been very robust despite the higher interest rate environment," says CEO John Plueger. "Debt capital has not been a constraint. It may be for some smaller lessors that are dependent on secured financing or bank term loans but we have had overwhelming support. The great story is that ALC is selling a large amount of aircraft and realising healthy gains on sales, while our buyers – which tend to be other lessors – are having no problem finding financing."

At the end of 2024, ALC closed a $966.5million unsecured three year term loan that has been syndicated to a diverse group of lenders based in Asia.

The term loan was arranged by Sumitomo Mitsui Trust Bank (New York branch), which acted as structuring agent and facility agent as well as joint global coordinator with Oversea-Chinese Banking Corporation (OCB). SuMi Trust and OCB were mandated lead arrangers and bookrunners with Bank of China, Bank of East Asia, and Cathay United Bank. The banks were advised by K&L Gates, while O'Melveny & Myers acted as counsel for ALC.

The transaction attracted a very diverse pool of banks - more than 30 lenders of record – from several jurisdictions spanning four continents, many of which were new relationships for ALC and many new to the aviation sector in general.

ALC is well known for its efforts to diversify its sources of funding and the team was eager to target the Asian market in particular. Although the transaction pursued greater diversification for ALC but not at the expense of margin. The deal is reported to have been very competitively priced.

Avolon has also seen a large diversification of its bank base over the past 18 months. "We closed our first deal exclusively in the Middle East and Asia," he says. "We closed our first deals the Indian bank market, and we have seen a number of lessors access other jurisdictions to raise unsecured bank capital cost effectively over the past 12 to 18 months. The Asian banking market has generally been focused on the higher investment grade levels so, as the industry moves into that category, it opens up access to that pool of capital."

As more investor become more familiar with the leasing business model, unsecured debt capital is becoming more easier for investment grade lessors to access in Asia and elsewhere. "As you move further up the ratings curve, it becomes less of a sector

"The debt markets have been very robust despite the higher interest rate environment. Debt capital has not been a constraint. It may be for some smaller lessors that are dependent on secured financing or bank term loans but we have had overwhelming support. The great story is that ALC is selling a large amount of aircraft and realising healthy gains on sales, while our buyers – which tend to be other lessors – are having no problem finding financing."

John Plueger, CEO,
Air Lease Corporation

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bet by investors and more of an index bet," says Cronin. "As there's more and more indexed bonds in the market, you see large volumes of funds move in."

BOC Aviation's Townend notes that demand for aviation debt tends to change geographically over time. He says that the biggest change over the last 12 to 18 months is the amount of capital from banks in the Middle East, which are seeking more opportunities outside the region.

Based in the Kingdom of Saudi Arabia, AviLease has a direct line into the deep pools of capital in the Middle East region and has been working hard to develop more interest in the leasing sector from local and regional banks but also attracting more international financiers to the Kingdom.

"Two thirds of our funding comes from non-KSA lenders," says Ted O'Byrne. "We have raised $3.6bn in unsecured financing, both Sharia compliant and non-Sharia compliant. That's one of our competitive advantages – we can access sources of funding regionally, which few other leasing companies can."

The top aircraft lessors have also been able to tap into new pool of capital in the Middle East with more structured financing products.

ALC closed its first sukuk bond issuance in 2023, which it described as very successful. "There is tremendous appetite remaining for that type of transaction in the Middle East," says John Plueger, ALC. "We have had tremendous resurgence of interest from Asian banks over and above our existing bank facility. We are picking and choosing our most efficient and lowest cost sources of financing, looking out over the next year to two."

Capitalising on that increased appetite for aviation assets in the Middle East, AerCap closed its inaugural $500 million sukuk issuance priced at 4.500% with a five-year maturity period on October 3, 2024. Arab Banking Corporation acted as arranger and joint lead manager. Dubai Islamic Bank, Emirates NBD Bank, HSBC, JP Morgan, and KFH Capital Investment acted as joint lead managers and Warba Bank acted as co-lead manager. Fitch Ratings rated the inaugural issuance BBB.

Located in Dubai, DAE has capitalised on the liquid banking market in the region. "We are being offered rates away from the capital markets - either the conventional markets or the Sukuk markets, which is kind of our backyard – that are substantially better than what the capital markets are offering," says CEO Tarapore. "The liquidity in the banking system is quite significant. But more importantly, liquidity in the banking system in our region is even more significant on a relative basis. We are seeing the benefits of that, as well as the benefits of being owned by a state, coming straight through to us. Unlike other lessors, which might be compared to lessor spreads, we are compared in a different way to the relative risk in the region. Putting all of that together, the banking market in the region has been significantly more competitive than the capital markets have, which is one of the reasons why we haven't issued in the capital markets. Having said that, we need to get back in because at some point it's not about the cost – even though that cost is quite significant – it is about having liquidity in all markets, which as far as we can see, continues to be quite robust."

Over the past few years, there has been a migration away from the traditional secured bank market, largely driven by regulatory change where banks struggle with the asset class due to their regulatory capital requirements as well as the long-term duration of 12 and 15 year financing.

"The banking market remains very strong for the tier one airlines, and also for new aircraft in this market," says MUFG's Trauchessec, who says that the traditional French banks and some Asian banks including MUFG are committed to the sector and are very active in the market but says that issues can arise with older aircraft and lower credits. "Second tier airlines or leasing companies, or older aircraft, become more challenging. Some banks are very focused on financing only new, or very young aircraft. They can do 12 years financing but allocating capital for a very long time is a bit punitive because you price it at a certain level, but it can change over time, and affect profitability. Banks would rather see short term maturities, where the cost of

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Olivier Trauchessec, head of global aviation, MUFG Bank

funds would be more competitive. The sweet spot is really eight years."

Commercial banks continue to invest in warehouse facilities popular with leasing companies that seek to build up a portfolio of assets, while many airlines have long-term revolving credit facilities with large banking groups, which can be on an unsecured basis for some of the better credits.

On the secured side, airlines have continued to fund single aircraft transactions with tax-advantaged structures including Japanese Operating Lease with Call Options (JOLCOs), as well as combining French Tax Leases with insurance-backed structures. Turkish Airlines for example has been very active in 2024 financing its new deliveries with eight separate deals in this way issued in various currencies, as well as securing a sustainability-linked JOLCO transaction for two A321neos. Wizz Air has used Balthazar-supported JOLCOs to fund its deliveries but it also availed of a relatively new funding product, a dual tranche A/B loan that delivers 100% financing. JetBlue and Allegiant have also used the product.

JetBlue's $662 million secured A/B term loan was structured as a back-to-back loan comprising a $470 million A Tranche, fully underwritten by BNP Paribas (BNPP), and a $192 million B Tranche underwritten by Jackson Square Aviation (JSA). The loan is secured by a portfolio of 18 narrowbodies, which includes A321neo, A220-300, A321-200, and A320-200 aircraft. With 75% of the portfolio made up of new-technology aircraft, the A tranche was syndicated both in the bank and the private credit funds market, which gained very strong interest from private credit funds.

Allegiant was the first airline to use the same structure at the end of 2023. "We look at anything that can keep assets on the balance sheet," says Allegiant chief financial officer, Robert Neal. At the end of 2023, we used a new two tranche loan with aviation banks on the A tranche and an aircraft lessor on the B tranche. We chose this option because we were raising money to pay PDPs on our Boeing order, so those first airplanes would come in at 100% financing. It was a unique way to give us that 100% financing, but still at an attractive cost, not all that different from bank debt. We are open to being creative."

Airlines have continued to be created in the capital markets. As mentioned in previous chapters, airline loyalty programmes have grown in importance for their ability to drive revenue growth. United Airlines was the first to securitise its loyalty programme during the pandemic. In June 2020, United's MileagePlus scheme was leveraged as collateral for a $6.8bn loan, which was swiftly followed in September with both Delta Air Lines and Spirit Airlines raising debt backed by their respective loyalty programmes. A year after Delta's loyalty issuance, American Airlines upsized and priced a $10bn bond and loan offering backed by its AAdvantage loyalty programme.

"Loyalty is one of the most valuable assets for airlines," Goldman Sachs managing director Kalash Pandey said during a panel at the Growth Frontiers conference in New York in October 2024. "One thing that we noticed during Covid was that as airlines were losing revenue the loyalty programmes were not as impacted because in many cases – for large airlines – 50-75% of the mileage programme revenue is not even tied to the airline, it is directly tied to the credit card or other ancillary businesses. Yes, it is an airline asset, but it is not directly one-for-one correlated with the airline business."

Spirit Airlines' refinancing of its loyalty programme has been central to its debt restructuring. The company's $1.1bn loyalty bonds were due to mature next year and had a deadline to be refinanced on October 21, 2024. On that day, though, Spirit disclosed in an SEC filing that it had extended the deadline through to December 23, 2024. Since that time, the airline filed for Chapter 11 bankruptcy protection on November 18, and thus protecting the airline from that impending deadline.

In a stock filing dated November 19, 2024, Spirit launched a "consent solicitation" in regard to its loyalty bonds. "The purpose of the consent solicitation is to seek consents to remove certain bankruptcy remote provisions from the agreements governing the 2025 [loyalty] notes," the filing reads. The filing suggests that the loyalty note holders are involved in the Chapter 11 proceedings and have agreed to remove bankruptcy provisions, with the facility having originally been structured to allow financiers and collateral to be ringfenced from the bankruptcy process.

"The selling point and the risks associated with loyalty programme financing have been the same across all the airlines that really, so long as the airline reorganises and doesn't liquidate, then the collateral package is super powerful," explained Milbank partner Drew Fine.

Prior to the pre-approved bankruptcy filing, there had been fears amongst loyalty noteholders that Spirit was veering towards liquidation. Now, the airline has filed and has pulled in its loyalty subsidiary that had originally been bankruptcy remote. "It was totally consensual," added Fine. "If it wasn't consensual, I don't think they would have been able to do it… Another structure that was held up as expected is the so-called double dip."

The term refers to the ability for a secured creditor to increase their claims in a bankruptcy if there is a payout to unsecured creditors. Unsecured creditors in a bankruptcy typically receive a certain number of cents to the US dollar.

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With a double dip affirmed, if unsecured creditors were to receive 50 cents to $1, they would actually get the full amount in return with their claim doubled. The claims could even reach a triple dip – potentially a quadruple dip.

"All of that has been purposefully built into these loyalty programmes," said Fine. "Airlines are always going to want to affirm and not reject their loyalty programme. They're wanting to keep it in place as their best customers. They don't want their best customers to all of a sudden be free agents and go to other airlines."

Fine further explained: "If, for whatever reason, the airline debtor decides they do want to reject the loyalty programme, the loyalty programme wants to make it as difficult as possible for them to make that decision. The programme created these double, triple, quadruple-dip features to make it painful to them because if creditors are going to get 40, 50, or 60 cents on the dollar, and the loyalty noteholders have a double, triple, or quadruple claim, they'll get all their money back anyway and then there's no reason to reject anything."

This will be the first true test of these loyalty programmes. Spirit's loyalty has often been seen as somewhat of the weakest link with revenues paling in comparison to other loyalty programmes on the market. If Spirit's loyalty comes out unscathed, it will underpin the resiliency of the product type.

In August 2024, JetBlue priced a $2bn 9.875% secured notes due 2031 and $765 million senior secured Term Loan B due 2029, offered through its loyalty programme TrueBlue. That same month, in a separate notice, it also priced a $400 million convertible senior notes offering due 2029. As well as raising debt, the airline also deferred 44 of its A321neo scheduled for delivery between 2025 and 2029 in order to boost its liquidity position. The issuance and deferral followed its failed acquisition with Spirit Airlines earlier in the year.

Ahead of its acquisition from Alaska Airlines, Hawaiian Airlines launched a private exchange offer in June 2024 for its outstanding 5.750% senior secured notes due 2026. Alaska later successfully acquired the company in September.

In the case of Hawaiian, one investor speaking at the Growth Frontiers New York event explained that Hawaiian was a "special situation" as the airline needed to shore up cash in the event that the merger failed. After the failed merger between JetBlue and Spirit earlier in the year, the pre-emptive measure was expected. Once the merger concluded, however, the investor said, "Alaska came to market with much better credit and refinanced out Hawaiian at half the cost".

Alaska priced its loyalty-backed offerings in early October 2024. The Mileage Plan – the airline's loyalty programme – financing comprised of $625 million 5.021% senior secured notes due 2029 and $625 million 5.308% senior secured notes due 2031, totalling $1.25 million in senior secured notes. In addition, Alaska upsized its senior secured term loan B due 2031 – its loyalty term loan facility – to $1.25bn on October 1, 2024. The offering was previously priced at $750 million.

In its third quarter 2024 results, European-based International Consolidated Airlines Group (IAG) reported its loyalty revenues had had the largest increase across all its business and airlines segments. Bankers report that airlines around the world are interested in these structure to see if they can be replicated with the same levels of success.

NON-IG LESSOR FINANCING

For non-investment grade lessors, the cost of capital has been rising. In 2023 as the capital markets were inaccessible, lessors worked with their banking partners to find refinancing solutions for their maturing facilities. "IG lessors have broad access to unsecured financing and the whole array banks all over the world," says NAC CEO Norm Liu. "We are non IG at Nordic so we focus mainly on warehouse bank lenders, bilateral bank lenders, export credit agencies for some of our new deliveries, with some of the alternative lenders that offer more bespoke deals, or where we ran out of our exposure on the warehouse we could borrow through them – at a higher rate, but more flexible."

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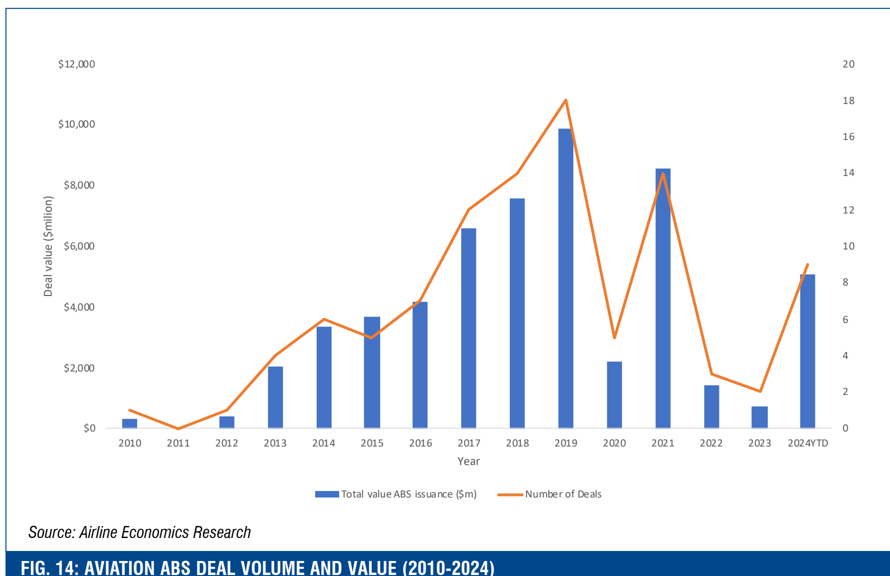
Norm Liu, president, NAC

Warehouse facilities continue to be a popular form of funding for non-IG lessors, but many of the facilities put in place during Covid with a view to a capital market take-out are now expiring without the options to refinance that there once were.

"Over the course of 2022-23 we were extending warehouses and facilities and lending more capital to our lessor client base, which is all being refinanced in 2024," says Vinodh Srinivasan, managing director and co-head of the structured credit group at Mizuho, speaking in New York in October 2024. But with the tentative reopening of the aviation asset backed securitisation (ABS) market those take-out options are returning.

Although the ABS market for aviation assets is relatively small compared to other asset classes and other funding avenues for leasing companies, it remains an important product in the overall funding universe and the health of that market works to shape the aviation economic cycle. With the increase in interest rates, the ABS model hasn't made economic sense for lessors or investors so the market remained largely shuttered for several years. When interest rates began to fall and lease rates improved in 2024, the ABS product again began to look if not attractive then certainly a realistic option for those lessors that relied on that pool of capital for funding their specific business models.

Betsy Snyder, who has rated lessor and ABS transactions for many years, says that the ABS market "is definitely back" but noted that there have been some changes to the structures with more focus on the aircraft assets rather than the underlying airlines. "Investors or the servicers in these transactions know that if an airline fails that they can find a home for the aircraft and maybe at even higher lease rates," she says. "So there is more focus on the assets than previously. Everyone is waiting for the E note to come back, which should help open the market further, but that hasn't happened yet, and those that have issued have done so with lower LTVs to be able to secure similar type ratings as previous deals."



Source: Airline Economics Research

FIG. 14: AVIATION ABS DEAL VOLUME AND VALUE (2010-2024)

The robust demand for aircraft in the secondary market has been a major tailwind for the aircraft ABS structure, since they are backed almost exclusively by second generation aircraft technology. Since the pandemic warehouse facilities have supplied a crucial line of funding for acquisitive lessors but many are expiring or are no longer fit for purpose.

"Many warehouses issued in 2021 came up for renewal in 2023 and although many banks were very supportive and extended facilities for another year or two, issuers took advantage of a window of opportunity to refinance those warehouses in the ABS market in 2024 either because they were acquiring assets or wanted to add more and were coming up against capacity issues," explains Srinivasan.

Warehouse financing can be both expensive and restrictive in terms of the number and types of assets being acquired. They typically have been used as vehicles to acquire assets quickly before seeking longer term refinancing for a portfolio in the capital markets. When the post-pandemic operating environment made it unaffordable to refinance aircraft assets in the ABS market, warehouse facilities from commercial banks were more attractive and relatively simple to secure especially for premium rate credits with many lessors closing large warehouse deals – some above $1bn – with much more flexible parameters than were closed pre-Covid.

SKY Leasing closed an upsized $1.2bn warehouse facility last year, which provided significant flexibility with respect to asset eligibility for the lessor. SKY turned to the ABS market in September with a new single A tranche ABS transaction – the $569.5 million SLAM 2024-1 – which will be used to refinance a portion of the warehouse. MUFG and Deutsche Bank were joint structuring lead and joint lead bookrunners.

SKY is one of several issuers to come to market in September 2024 although the aircraft ABS market was effectively "reopened" by Carlyle Aviation Partners with AASET 2024-1 in June this year. In July, Carlyle added $321.195 million A-2 class of notes to June issuance and followed that with a second issuance AASET 2024-2 in September.

Carlyle Aviation Partners is the most prolific issuer of aviation ABS having closed 16 deals since 2014. "We are extremely pleased with the market's reception to the reopening of the ABS market, which we led," says Robert Korn, president and co-founder. In good times, ABS issuers want to do lots of different types of transactions and build the ability to deploy debt into many different ways because when you get to a bad [time], issuers still want, you still want to be able to find some way to finance your portfolio. When the ABS market closed, we were able to move very rapidly and access bonds, bank debt and private capital during Covid. Overall, Carlyle Aviation believes that the market is returning to health."

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In September, regular issuers Pimco and BBAM also entered the market with new ABS deals in their Navigator and Horizon series, respectively.

Commenting on the SLAM 2024-1 transaction, Austin Wiley, chief executive of SKY Leasing says: "We issued our third ABS transaction in 2024. We were very pleased with the results of that deal, which priced around 5.3% on the A tranche, and with the depth of investor demand that attracted more than 20 investors. That gives us a lot of conviction heading into 2025, that the ABS market is healthy and it is open for the right servicers and well-constructed portfolios." Wiley adds that the company has no immediate plans to add on subordinated tranches: "We want to balance the equity distributions that we make to our investors with overall leverage, and we are happy with where the market is today without the B tranche. Those sub tranches become more attractive as benchmark rates come down so that will depend on our views on that trajectory over the next 12 to 18 months."

David Berkery, partner at Vinson & Elkins notes that successful ABS transactions are depending on leverage and the LTV on the portfolio, which is tied to base rates. "Lease income is fixed so each time there is a reduction in base rates and interest rates drop, debt service costs are reduced. This means that a portfolio that six months ago might only have generated enough cash flow to service an A tranche, now with a couple of base rate reductions it can also service a B tranche with that same cash flow."

The LTVs on the tentative 2024 single tranche ABS deals still have some way to go to reach the typical 80% LTVs seen on multi-tranche ABS deals per-Covid. "The expectation is base rates will continue to drop, albeit slowly, over the next six months," says Berkery. "There is the expectation that with reduce rates, the cash flow from that portfolio can service a higher level of debt, increases the returns that would ultimately flow to equity, that ultimately will make E note issuances more palatable."

Marc Iarchy, partner at World Star Aviation, which has tapped the ABS market in the past, celebrates the reopening of the market but is more cautious on future issuances. "[The fall in interest rates] has enabled the reopening of the ABS market, and all the bankers have jump on it like starved animals," he says. "There were some lessors that desperately needed to refinance some portfolios, which is great but I don't think we will see an issue bonanza. Every time you looking to finance one aircraft or portfolio of aircraft, there are many different avenues available. What we like about the public ABS market, as well as the private ABS structure, is that the lenders don't desperately care what happens underneath. You can move equipment around, you can move engines across the portfolio, as long as you produce enough money to trickle all the way down the waterfall. It remains to be seen whether a public ABS delivers a better outcome in terms of all in cost of funding compared to a private deal. Public deas are obviously bigger but we think both of those structures are particularly interesting and have a big role to play."

LEASE V LOAN ABS

Meanwhile, there has been a lot more activity in the aviation loan ABS space. The aircraft loan ABS, which is sometimes referred to as a Collateralised Debt Obligation (CLO) although loan ABS are secured on the assets rather than the credit, is growing in popularity and has been praised for having a significantly higher value proposition and protection compared to aircraft operating lease ABS transactions. Senior tranche investors are typically exposed to LTVs ranging from 40-50% while most senior level tranches in aircraft operating lease ABS reach 60-70% LTVs. Moreover, there are two layers of equity cushion in aircraft loan ABS – the equity from the loan itself and the equity of the loan originator/sponsor. Given this dynamic, aircraft loan ABS issuers claim that the residual risk for loan transactions is more limited than lease ABS transactions, which is a particularly important consideration

"We are extremely pleased with the market's reception to the reopening of the ABS market, which we led. In good times, ABS issuers want to do lots of different types of transactions and build the ability to deploy debt into many different ways because when you get to a bad [time], issuers still want to be able to find some way to finance your portfolio. When the ABS market closed, we were able to move very rapidly and access bonds, bank debt and private capital during Covid. Overall, Carlyle Aviation believes that the market is returning to health."

Robert Korn, president and co-founder, Carlyle Aviation Partners

for underlying loan portfolio secured by mid-life assets.

Apollo PK Airfinance was another dual issuer in 2024 with an aviation loan ABS issued in June PKAir 2024-1 and again in September with PKAir 2024-2, followed in November with new issuer volofin Capital Management (volofin) with its inaugural aviation loan vFIN 2024-1.

The duration of the loan ABS structure is a lot shorter than the typical lease ABS deal – for example, vFIN 2024-1 has four-to-seven year amortising loans with a three year WAL, whereas the WAL for most lease ABS transactions is much longer (five to seven years).

volofin Capital Management is a fierce competitor in the alternative aviation finance space, and has grown significantly since its creation in 2019. vFIN 2024-1 is an aviation loan ABS transaction in four tranches of secured notes backed by a portfolio of 22 loan facilities, encompassing 107 individual loans. volofin originated the loans with investment capital from Delaware Life Insurance Company (DLIC), which has been a partner to volofin since its inception. DLIC was also an investor in the transaction, holding the C and D tranches. volofin retained the residual interest notes, the equity in the transaction in an amount of approximately $27 million.

The Class A notes priced with a spread of +175 basis points (bps) over US Treasuries, tighter than the initial price talk of 190-200 bps. The Class B notes priced with a spread of 205bps, tightened from IPTs of 220-230bps. The guidance range was tightened after strong demand; both tranches were oversubscribed – the As by 5.85 times and the Bs by 5.60 times. A total of 13 different investors participated across the tranches within the transaction, including several new to the aviation sector. The Class C and D tranches were not offered for public sale and are held by DLIC.

volofin had always intended to use the capital markets as a long-term financing option for their growing book of deals. Unlike other companies, volofin did not utilise a traditional warehouse facility to fund originated deals and has been utilising DLIC's balance sheet to grow the portfolio. The team had expected to be the first to market with the new aviation loan ABS but was pipped by Stonepeak and Bellinger Asset Management with their SALT transaction in 2021, which securitised the loan book acquired from National Australia Bank (NAB). "We expected to be the first, given the initial discussions with rating agencies" says Bob Peart, CEO and co-founder. "SALT was the first to tap this market, but it was unique in the sense that it was an acquired loan book rather than an organically grown portfolio like ours."

The majority of the vFIN 2024-1 collateral portfolio consists of volofin-originated transactions, which Peart says were always intended to be financed using the ABS product. "We didn't have a warehouse facility like some of our competitors, as Delaware was holding onto all of the loans on its balance sheet until we went to the capital markets to refinance the book," explains Peart. "Because we had all of the deal documents at hand, we were positioned to swiftly go to market once we achieved the necessary portfolio size and the timing was right."

IPTs for the Class A and Class B notes were in the 190bps and low 200bps range, respectively, but the deal priced much more tightly than expected. "We ended up at 175bps from the initial 195bps for the Class A notes, which we were happy with even though our ultimate exposure to the underlying collateral was a little higher for that class," adds Peart.

volofin sits in a niche segment of the aviation financing market, financing mid-life to end-of-life assets for aircraft investors. "Our customers are completing purchases from the larger lessors and it is important for them to have certainty that the financing will be in place and available when they need to close," says Peart. "They know they can count on us to be able to understand the underlying assets and act quickly as well as be flexible if an issue arises with an asset because we have been on that side of the table and understand the intricacies of mid to end-of-life aircraft. Our only competitive disadvantage is the ability to underwrite transactions

> **"[The fall in interest rates] has enabled the reopening of the ABS market, and all the bankers have jumped on it like starved animals. There were some lessors that desperately needed to refinance some portfolios, which is great but I don't think we will see an issuance bonanza...What we like about the public ABS market, as well as the private ABS structure, is that the lenders don't desperately care what happens underneath. You can move equipment around, you can move engines across the portfolio, as long as you produce enough money to trickle all the way down the waterfall. It remains to be seen whether a public ABS delivers a better outcome in terms of all in cost of funding compared to a private deal."**
>
> *Marc Iarchy, partner, World Star Aviation*

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larger than $200 mil. Our average transaction size has been between $75-100 million. We have completed larger transactions, but our ability to complete a large volume of $200+ mil transactions is more constrained than certain key competitors as our transactions have been funded solely by Delaware. Delaware has provided us with significant overall capacity, however there are some limitations on the ability to accept large positions, particularly if a transaction is not rated. This has not materially impaired our ability to compete and capture market share, but expanding our underwriting capacity is a key strategic initiative for 2025."

Since inception volofin has originated over $1.6 billion of loans, with a balance sheet today of approximately $1 billion. At just over half a billion dollars, vFIN 2024-1 has securitised only half of that current existing portfolio, which means volofin will likely return to the loan ABS market in the new year. "This depends on the health of the capital markets, but we anticipate that rates will remain relatively stable, with no significant adverse movements expected," says Peart. "From the discussions we have had with investors, there is real demand for this paper. Many investors prefer the loan ABS product to the lease ABS with its long list of more favourable attributes, including the more attractive risk profile and the better risk-return equation."

The aviation loan ABS product will continue to grow in popularity as the alternative funding sector continues to expand and with it demand for that capital markets refinancing option.

All of the lease or loan ABS deals in 2024 closed without the sale of the equity note. "The ABS market is coming back and will be more constructive," says High Ridge's Conlon. "The A and B notes have proven to be very resilient through Covid, but the equity side will probably the last to come back in. E note investors need to see some trades, some valuations. Previous ABS transactions really didn't have an active asset manager and so they were a little bit like portfolios with light management. Those ABS vehicles that had better management did far better. So you will

start to see more of a premium for those stronger asset managers, and that's going to drive some of the equity discussions coming back."

ACG's Tom Baker suggests that the ABS market has not come back to full force yet, commenting that investors needed time to forget those past losses. "The last time the aircraft ABS market shut for an extended period of time some 10-11 years ago, it stayed closed for about three years. Investors needed time to forget. There will be a similar dynamic. A lot of people are saying that the ABS market has reopened in 2024; it has not, it's not open. There have been some trades but they are the necessary deals that need to happen. There needs to be some investor friendly, issuer unfriendly, chunky kind of structures to get those that muscle memory back, to bring the investors back to the table. That is what's starting right now. There doesn't need to be a low interest rate environment, there needs to be moderately constructive, stable interest rate environment, to see the investors coming back. The macroeconomic backdrop is still looking generally positive. In 2025 you're going to see a robust ABS market start to form in aircraft land."

Castlelake was a prolific ABS issuer but its strategy has evolved to expand services to customers for leasing and financing.

"The ABS product is a nice to have; it's not a must have," says Joe McConnell, partner and deputy co-chief investment officer at Castlelake. "It's important that the bank, ABS and other debt financing markets in aviation are always moving, and you need to move with them. You can't get stuck; focused on one product. You need to innovate and evolve. When the ABS market shut down, we created CA Limited, a corporate recourse issuer. We grew that and are in the process of selling it. The ABS markets are open again, and so we're likely going to be back in the ABS markets. It's a great tool to have for us to finance midlife aircraft. One of the challenges that people are facing today is that interest rates are higher, amortisation is a little bit higher, and lease rate factors for young aircraft aren't high enough. So there's a limit in terms of the debt capacity within those structures, given that debt service is higher and the cash flows aren't high enough. We are really focused on making sure that we're buying high quality assets at good prices, but then we want to make sure we have enough cash flow from those assets to service the right amount of debt."

Up until the pandemic, DAE was a regular issuer in the ABS market, but with the E notes sold to investors. "If we don't sell the E notes, for us, an ABS

"Spreads in senior debt have fallen so investors are starting to go down the capital structure looking for yield. Demand is very strong in aviation and the supply is not there. Those elements argue that there should be sufficient cash at the bottom of the waterfall. Now rates have come down, spreads have tightened, and lease rates are rising, the capital exists to buy e notes or equity on portfolios of assets. It's whether we can get the leverage to work so that the cash is there for the equity. We are starting to see that come, and with no geopolitical issues or other blips in the horizon, we will start seeing more and more ABS debt issuances."

Vinodh Srinivasan, MD, co-head structured credit group, Mizuho

just becomes secured funding. And at secured funding value propositions, it is not an attractive proposition, because we can raise money at significantly better margins and with considerably more leverage in the system," says Tarapore. "We are very keen to see the E note market come back; and when it does, we would be very keen to issue. The structured credit buyers of E notes are generally among the smartest kind of financial investors, so it is a surprise to us that smart investor set hasn't picked up on the incredible valuation they have missed out on over the last year or two by not stepping back into the market. I think the volatility spooked them."

Mizuho's Srinivasan is confident that E note sales in ABS transactions will return as investors seek greater yield. "Spreads in senior debt have fallen and so investors are starting to go down the capital structure looking for yield," he says. "Demand is very strong in aviation and the supply is not there. Those elements argue that there should be sufficient cash at the bottom of the waterfall. Now rates have come down, spreads have tightened, and lease rates are rising, the capital exists to buy e notes or equity on portfolios of assets. It's whether we can get the leverage to work so that the cash is there for the equity. We are starting to see that come, and with no geopolitical issues or other blips in the horizon, we will start seeing more and more ABS debt issuances."

When the ABS market was effectively closed, financing older assets and lesser credits fell to the alternative lenders.

High Ridge Aviation has its own debt financing business, alternative lender LR AirFinance. "That alternative space has continued to be interesting for us, because as the capital markets have come back and particularly the ABS, a lot of the commercial banks have continued to retrench," says Greg Conlon. "They like the space but capital allocation requirements for various Basel rules make the returns to anaemic for that space. That need has been filled in a large stint by alternative lenders. LR AirFinance is a little bit different in that we can play in both parts of the capital stack. We can issue just regular alternative finance loans, but we can also do investment grade loans only and so that allows us to originate kind of both parts of the debt structure."

Alternative lenders such as LR Airfinance, PKAirfinance, Ashland Place and volofin, really understand the metal assets, which is what allows them to be more constructive when underwriting loans on more complicated assets – older vintage aircraft, engines and even some parts and components. "Being attached to an asset manager, with a full-fledged technical and marketing team, means we understand the metal very well and we can be constructive on how we how we structure loans," says Conlon. "We know what their needs are. And then if anything goes wrong the asset manager is fully capable of moving those assets somewhere else. It's a very synergistic relationship."

Alternative lenders will become more frequent issuers in the securitisation market to recycle their capital and open up more liquidity to the sector.

"All lenders typically they had an issue and hold strategy," says Conlon. "With the CLO markets coming in, it's an issue, build, and then – if the market's compelling – tapping the CLO market and accessing those more efficient pockets of capital that like that rating piece. And you also help people that hold the residual debt to kind of increase their yield."

SUSTAINABLE FINANCE

Sustainability-linked financing continues to grow in popularity, albeit more slowly than in recent years. Due to the robust nature of the debt markets, there were few sustainability-linked deals closed in 2024

"Clearly there are still some folks doing sustainability-linked bonds or debt products that you see from time to time, but it is not at the level we might have guessed three years ago," observes Micheal Inglese, CEO of Aircastle. "It's always going to be there, but it feels like the timetable seems to be sort of shifting to the right because in aviation, there's no quick solution. There is a transition to newer technology, which is more fuel efficient and there's the development

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of SAF but we have a long way to go on that front. From our perspective, the most meaningful place where we are focused is our investment in new technology assets."

Aviation Capital Group has been one of the few lessors to tap into the sustainable financing segment. The company closed its inaugural sustainability-linked loan (SLL) at the end of October. The $550 million senior unsecured term loan, which matures in October 2027, attracted a syndicate of lenders. The term loan, which refinances and upsizes an existing Mizuho-agented $425 million three-year term loan, includes an accordion feature that allows ACG to request up to $300 million of additional lender commitments.

In alignment with the lessor's ESG goals, the loan contains sustainability-linked terms where ACG will receive pricing adjustments based on its performance against two key performance indicators (KPIs). This will increase the share of new generation aircraft in ACG's fleet and reducing the carbon intensity of its owned fleet. Both tests have a maximum pricing impact of +/- 2.5 bps per KPI depending on results against annual ESG targets. Mizuho worked directly with ACG for several months to develop their KPI strategy, goals, and pricing impact. Mizuho acted as Administrative Agent, Joint Lead Arranger, Joint Bookrunner and Co-Sustainability Structuring Agent on the transaction. The facility was able to attract several new first-time lenders to ACG and was oversubscribed leading to scaled back allocations.

Mizuho Bank, BMO Capital Markets, BNP Paribas, City National Bank and Wells Fargo acted as joint lead arrangers for the term loan.

"We committed to an ESG strategy a couple years ago," says ACG CEO Tom Baker. "The tools that we have available are a little bit limited in the sense that it's aviation, but we have to at least test it out. Take our steps. Keep moving toward that goal. There will be times when people pay more attention to it. There will be times when people pay less attention to it. We're just going to keep chipping away and making our way toward what our long term goals are. It's super important to our shareholder, Tokyo Century. You will continue to see us execute our ESG strategy. Obviously, a big piece of it is taking new technology, fuel efficient aircraft."

Airlines have been a little more active in the sustainable financing space in 2024. JetBlue closed a $600million five-year sustainability linked revolver, which refinanced a 2020 SLL extending the tenor and replacing the original key performance indicators. At previously mentioned, Turkish Airlines succeed in closing a sustainability-linked commercial JOLCO, while LATAM closed is inaugural sustainability-linked spare engine loan facility. The transaction is structured as a four-year RCF and is sustainability-linked, with pricing stepping up or down based on LATAM's ability to meet greenhouse-gas intensity KPI targets over the life of the transaction.

OUTLOOK

Access to diverse sources of capital has become a hallmark of the industry's resilience. Unsecured bonds, hybrid secured loans with insurance guarantees, innovative dual tranche loans, and increased appetite from Middle East and Asia investors, have broadened funding avenues. The growing use of airline loyalty programs as collateral highlights the sector's ingenuity in leveraging non-traditional assets.

As sustainability once again becomes imperative, advanced financing mechanisms linked to environmental goals will shape future strategies but for now, with the robust market eager to deploy capital, the industry must work to balance these initiatives with economic viability.

Despite ongoing uncertainties, the sector's ability to innovate and adapt positions it well for the future. By embracing sustainable practices and capitalising on diverse funding options, aviation finance can continue to thrive in an evolving landscape, supporting continuing broader recovery and growth of the aviation industry.

> **"Clearly there are still some folks doing sustainability-linked bonds or debt products, but it is not at the level we might have guessed three years ago. It's always going to be there, but it feels like the timetable seems to be sort of shifting to the right because in aviation, there's practically there's no quick solution. There is a transition to newer technology, which is more fuel efficient and there's the development of SAF but we have a long way to go on that front. From our perspective, the most meaningful place where we are focused is our investment in new technology assets."**
>
> *Micheal Inglese, CEO, Aircastle*

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Industry Outlook

The recovery of global passenger and cargo traffic has been a cornerstone of the industry's resurgence. With passenger demand exceeding pre-pandemic levels in many regions and cargo volumes stabilising after a two-year decline, the foundation for sustained growth appears strong. IATA's projection of a 3.8% CAGR for the next decade underscores the long-term optimism, albeit tempered by regional disparities. Asia-Pacific and the Middle East are poised to lead the growth trajectory, supported by robust economic activity and strategic investments in aviation infrastructure.

The path forward is not without hurdles. The supply chain disruptions that have plagued aircraft manufacturing persist, with significant delays in the delivery of airframes and engines. These bottlenecks, exacerbated by geopolitical conflicts and raw material shortages, continue to constrain airlines' fleet expansion plans. Airlines and lessors have been compelled to adapt, often by extending leases or acquiring used aircraft, which has created a dynamic but challenging market environment. Resolving these issues will require concerted efforts from manufacturers, suppliers, and regulatory bodies.

The leasing sector has emerged as a critical enabler of capacity and flexibility for airlines navigating these challenges. The demand for leased aircraft has soared in response to the constrained supply of new deliveries. This imbalance has driven lease rates higher, allowing lessors to achieve favourable returns. However, this environment has also prompted a shift in leasing models, with many airlines opting for long-term extensions or outright acquisitions of leased aircraft. As the supply-demand imbalance persists, the leasing market's ability to innovate and meet airline needs will remain vital.

In the financial sphere, declining interest rates have provided a mixed outlook. While lower rates have reduced the cost of capital for airlines and lessors, lease rates have remained elevated due to ongoing supply constraints. The industry's ability to tap into diverse capital sources—including unsecured bonds, sukuks, and innovative financing structures like dual tranche loans—has been a testament to its adaptability. Additionally, loyalty programs have gained prominence as collateral, offering airlines a novel avenue to secure financing.

These financial innovations underscore the sector's resilience and its capacity to leverage diverse funding mechanisms to weather economic uncertainties.

Technological and regulatory dynamics also shape the industry's outlook. The push for decarbonisation has brought Sustainable Aviation Fuel (SAF) to the forefront, with mandates in regions like the EU and UK driving adoption. However, limited supply and high costs remain significant barriers. Addressing these challenges will require strategic alignment between industry stakeholders and regulators to ensure timely and cost-effective solutions.

As the industry charts its course into the next decade, several emerging trends warrant attention. The preference for newer, fuel-efficient aircraft reflects the dual priorities of operational efficiency and sustainability. At the same time, midlife assets have gained traction, driven by their cost-effectiveness and reliability amid supply chain constraints. The leasing sector's resilience, exemplified by its robust trading activity and ability to attract private capital, will be crucial in navigating these dynamics.

Sustainability remains a central theme, with decarbonisation efforts and investments in SAF and advanced aircraft technologies taking centre stage. Collaboration across the value chain will be instrumental in achieving these goals while maintaining profitability and competitiveness.

The aviation finance and leasing industry has proven its ability to adapt and thrive in a rapidly changing landscape. While challenges persist, the sector's resilience, innovative spirit, and commitment to sustainability offer a promising outlook. By embracing collaboration, leveraging technological advancements, and navigating regulatory complexities, the industry is well-positioned to achieve sustained growth and play a pivotal role in global economic recovery.

The next decade holds immense potential for transformation, with opportunities to redefine the industry's foundations and reinforce its relevance in an evolving world. Stakeholders must remain agile and forward-thinking to seize these opportunities and ensure a prosperous future for the aviation finance and leasing industry.

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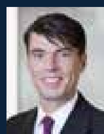

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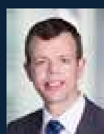

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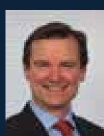

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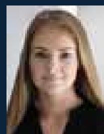

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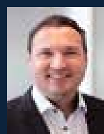

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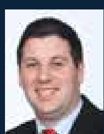

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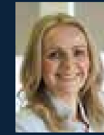

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