March/April 2021

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# A fragile **recovery**

Over the next few weeks all eyes will be on one indicator: the evolution of travel restrictions in response to the vaccines deployments and potential new Covid-19 variants.

There is a severe downside risk if more severe travel restrictions persist because of Covid-19. Should such a scenario materialise, demand improvement could be limited to just 13% over 2020 levels, leaving the industry at 38% of 2019 levels, forecasts the International Air Transport Association (IATA), which has not changed its baseline forecast for 2021 from a 50% year-on-year recovery in revenue passenger kilometres growth.

But the organisation admitted that new variants of Covid-19 and subsequent travel restrictions by different governments over the past two months have impacted any recovery.

There are some signs of improvement, though. Domestic travel in China and Russia has recovered reasonably well with load factors believed to be in the 70% range last year, albeit with lower yields.

IATA believes the behaviour of governments regarding travel restrictions is the second driver because it is holding back travel.

Since the emergence of new variants and the travel restrictions imposed, bookings have fallen sharply, and were 70% down on January 2020, according to the association's chief economist, Brian Pearce, who warned: "If the restrictions extend through the summer months, it will be worse than today."

He adds: "There is evidence of pent-up demand for leisure travel, and this is the basis of an expectation of a strong recovery."

Vaccines have been made in record time but the lockdowns imposed in most countries, especially in Europe in January, are slowing any hope of recovery. While the winter period is considered the weakest in terms of revenues in the Northern Hemisphere, the summer season is crucial, and we know that the summer season last year did not deliver on its early promises.

The way ahead is also unclear for airlines' main partners: operating lessors.

As one source tells *Airfinance Journal*, deferrals were the norm last year and pay-as-you-go deals the exception. But in 2021, new negotiations could feature more requests for lease payments based on aircraft usage.

With appraisers now revisiting base valuations, operating lessors will have to revisit the impairment issue, especially those exposed to widebody aircraft. At some point, lessors will have to recognise the value of receivables when maintenance reserves and security deposits are consumed to cover the arrears.

How deferrals and other requests trend for lessors will be based on what the airlines endure going forward, and on what the summer season holds.

Meanwhile, the leasing community continues to benefit from a "wall of liquidity" in the sector.

A string of lessors have issued debt at low interest rates in 2021, highlighting investor confidence in the sector despite fresh lockdowns and coronavirus mutations.

Some deals were at stunning interest rates, notably Air Lease's $750 million senior unsecured medium-term notes at 0.70%.

The transaction was the third-tightest yield ever issued for a three-year bond to any BBB-rated company in the US bond market.

A banker says that the combination of monetary policy and central bank actions plus leasing sector "resilience" are contributing to the "right alchemy", allowing for favourably priced transactions for issuers.

At *Airfinance Journal*'s virtual Dublin Dialogues event in January, prevailing sentiment was that the aviation asset-backed securitisation (ABS) market would open "sooner than later".

A few days later, Castlelake, via its issuer subsidiaries, launched the first ABS offering since the start of the Covid-19 crisis. The $595 million two-tranche notes transaction was 11 times oversubscribed.

Other potential issuers are expected to follow in March because it takes a couple of months from when a leasing platform decides to do an ABS until the transaction is announced. The Castlelake transaction acted as a benchmark. "Until leasing platforms saw the success of the Castlelake ABS, not many were seriously pursuing the ABS market," says a source.

The top lessors are expected to continue to access the markets for debt. For lower-tier lessors, however, life remains challenging as evidenced by Avation's recent extension of its upcoming senior notes bullet repayment.

Chorus Aviation's president and chief executive officer, Joseph Randell, summarised many lessors' situations last year when he said during the lessor's fourth-quarter results call: "Covid-19 has changed the lessor's strategy to defence from offence. Instead of organic growth, we have built the liquidity position to protect the company."

Air Lease's president and chief executive officer, John Plueger, admitted that many lessors are still in a holding pattern. "I think a lot of this will depend upon how the summer season actually unfolds," he said recently.

Never before have aviation's fortunes rested so heavily on its busiest months.

**OLIVIER BONNASSIES**
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Printed in the UK by Buxton Press, Buxton, Derbyshire.




(ISSN 0143-2257).

*Airfinance Journal* (USPS No: 022-554) is a full service business website and e-news facility with printed supplements by Euromoney Institutional Investor PLC.

# **Aercap** appoints Anderson as Scruggs replacement

Aercap has promoted Peter Anderson to chief commercial officer after the retirement of Philip Scruggs, as president and chief commercial officer.

Anderson brings to the role two decades of global experience in aircraft leasing and structured finance, having worked in Dublin, Singapore, London and Sydney. He is a member of Aercap's group executive committee and was responsible for the lessor's leasing activities across Europe, Middle East and Africa until the end of February.

Anderson previously opened, developed and led the Asia-Pacific office of Aercap's predecessor ILFC, transitioning to the head of Asia-Pacific during Aercap's acquisition of ILFC in 2014.

Scruggs retired in early March. During his 26-year career with Aercap and ILFC, he held a number of positions: lawyer, leasing executive, chief commercial officer and president.

Over the past 10 years, he has led the commercial business of the company, managing a fleet of more than 1,000 aircraft that has generated on average over $4 billion a year in revenue and purchasing more than $27 billion of new equipment from Airbus, Boeing and Embraer.

Before joining ILFC, Scruggs was an attorney at the Los Angeles-based law firm Paul, Hastings, Janofsky & Walker (now Paul Hastings), where he specialised in leasing and asset-based finance.

Aengus Kelly, chief executive officer, says: "Through his leadership, his customer relationships and his acute commercial acumen, Phil has played an integral role in establishing Aercap as the world's leading aircraft leasing company."


Peter Anderson

## Rousseau replaces Rovinescu as **Air Canada CEO**

Michael Rousseau took over as president and chief executive officer at Air Canada on 15 February, replacing Calin Rovinescu.

Rousseau was deputy chief executive and chief financial officer and had worked with Rovinescu for 12 years at the Montreal-based carrier.


Michael Rousseau

"I have absolute confidence in Mike and the entire leadership team – and know that as a result of our strong culture and discipline, Air Canada has the strength, agility and resources to overcome the current crisis and to keep adapting to remain a global leader in the post-pandemic world. I am extremely grateful to our customers for their trust and confidence, our employees and partners for their unwavering dedication and loyalty to our airline, and to our board of directors for their full support throughout my tenure," says Rovinescu.

Rousseau joined Air Canada as executive vice-president and chief financial officer in October 2007. He holds a BBA degree from York University and he has been a member of CPA Canada since 1983.

In December, Air Canada named Amos Kazzaz as its new chief financial officer, succeeding Rousseau.

## Former **Deloitte** executive named Rolls-Royce CFO

Rolls-Royce has appointed Panos Kakoullis as its next chief financial officer (CFO), succeeding Stephen Daintith. Kakoullis joins from PA Consulting. He was global head of Deloitte's audit and assurance practice until May 2019.

"Panos delivered significant transformational change at Deloitte, streamlining and simplifying the business and we look forward to benefitting from his expertise and experience as we deliver on our fundamental reorganisation and secure a sustainable and prosperous future for Rolls-Royce," says Rolls-Royce chief executive, Warren East.

He will take up his new role on 3 May, while Daintith was planned to depart on 19 March. Ben Fidler will serve as CFO in the interim. He currently serves as deputy CFO.

Meanwhile Rolls-Royce's senior vice-president customer business, Simon Goodson, has left the engine original equipment manufacturer.

Goodson had been with Rolls-Royce for more than 18 years in different positions. He joined Rolls-Royce Partners Finance in 2003 as a marketing director but moved to the manufacturer's sales finance division in 2006.


Panos Kakoullis

Goodson was named senior vice-president lessors, civil aerospace, in 2014. He was with ING Lease and Barclays Mercantile Business Finance before moving to Rolls-Royce.

Last year, Rolls-Royce's Richard Goodhead left the manufacturer after 24 years of service. Goodhead joined as an apprentice and was the senior vice-president marketing for his final five years.


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We'd like to congratulate KLM Cityhopper on the delivery of the E195-E2, the first of 25 aircraft the carrier has on order. The KLM Group is the largest operator of E-Jets in Europe and has led the way in sustainable operations, cutting carbon emissions by 30% per pax/km since 2005. By 2030 their ambition is to reduce their carbon footprint by at least 50% per pax/km. The introduction of the E2, the cleanest and quietest aircraft in single aisle, will help to ensure this pioneering carrier achieves this ambition and strengthens their outstanding sustainability credentials.
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# Which ABS structure for 2021?

Asset-backed securities issuances will see changes to reflect the post-Covid-19 world. **Olivier Bonnassies** reports.

The aviation asset-backed securities (ABS) market saw its first issuance earlier than initially anticipated. Up to seven ABS issuances could feature this year.

Castlelake came out first with its seventh aircraft portfolio transaction, CLAS 2021-1, a two-tranche deal for a total of $595 million.

The $476.31 million A tranche has a 60% loan to value (LTV). The $118.52 million B tranche has a 74.9% loan to value.

Castlelake capitalised on investor demand and added a C tranche in early February.

The first ABS issuance of 2021 included two types of regional aircraft: the Airbus A220-100 and the Bombardier CRJ900. Delta Air Lines is the top lessee with 25.8% of the initial portfolio. The Delta aircraft include two A220-100s, five CRJ900s and one 737-900ER.

Other models include one Boeing 747-400F, two 777-300ERs, three 737-800s, nine A320s, three A321s and one A330-300.

The initial weighted average aircraft age of the portfolio, as of 31 December 2020, was about 9.3 years, with a weighted average remaining lease term of about 7.8 years.

Goldman Sachs is the lead structuring agent and left lead bookrunner in the transaction, while Sun Life Assurance Company of Canada is the liquidity facility provider.

**Structure changes**

At *Airfinance Journal*'s Dublin virtual event, MUFG's head of esoteric ABS, Keith Allman, said he expected some structure changes on this year's issuances, reflecting the post-Covid-19 environment with some issues such as payment and deferrals.

"There is going to be a more reactive structure. One of the criticisms last year was it took us months to see the deal centred to wrap the amortisation even if we saw some of the cash flows drop quickly. Some can be easily achieved by looking at the DSCR calculations," he said before CLAS 2021-1 hit the market.

Allman also expects a focus on expected payments and how to address the non-payment of principals.

In CLAS 2021-1, Goldman Sachs asked for a structure on an asset-by-asset basis, prescribing different LTVs to different aircraft and different amortisation.

"From a structure standpoint, it may not feature in every deal. It would depend on what the bank proposes," says a source.

"There are new features in this deal that were not in other deals, as well as certain structural enhancements that featured in other deals but were more conservative in CLAS 2021-1."

The CLAS 2021-1 transaction structure included some new features to support performance.

*"If the secondary market pricing is now near par, you have to have a sense that there is a market for new As with updated appraisals and protections built-in."*

**Keith Allman**, head of esoteric ABS, MUFG

The first ABS issuance of 2021 included five Delta CRJ900s

Unlike other aircraft asset-backed securities, note amortisation schedules are specific to each asset in the pool, providing additional protection to noteholders.

The prepayments of note principal from aircraft disposition proceeds at lease expiry will result in unscheduled note principal payments that will cause each notes' principal balance to remain ahead of its targeted amortisation schedules.

Each aircraft in the pool has its own cumulative loan-to-value (CLTV) ratio at closing, with the strongest aircraft and/or lessees generally having a higher CLTV and the weakest aircraft, a lower CLTV.

The debt amortisation schedules attached to weaker assets are faster, protecting noteholders from the risk that weaker credits default, exposing the deal to re-leasing risk.

The CLAS 2021-1 transaction also featured a mechanism that ensures payments are diverted to the highest-rated tranche of debt if leases go unpaid.

On a single payment date, the collections test redirects the class-B scheduled principal amount to the class-A notes if the amount of rent collected falls below 75% of the amount contracted to be collected. That same amount will go to pay down the class-B notes from the remaining cash, if available.

If the number of aircraft in the portfolio owned by the issuers falls below eight, there is a full cash sweep, mitigating tail risk in the transaction. The transaction will begin to use any excess cash to pay down class-A notes and then the class-B notes sequentially.

Finally, the debt-service coverage ratio (DSCR) triggers for cash trap and cash sweep have a three-month look-back period, compared with other aviation ABS transactions that use a six-month window. This shorter DSCR look-back period allows the transaction to respond faster to performance deterioration.

In January, Allman said there was a market for two-tranche deals.

"If the secondary market pricing is now near par, you have to have a sense that there is a market for new As with updated appraisals and protections built-in," he comments.

"The Bs most likely will work too as we have seen that pricing tightening in the secondary market," he adds.

According to Allman, there is a base for the C class, but the question is the pricing point. "When you look at these structures, they are fully subordinated and it is close to equity."

CLAS 2021-1 is a refinancing tool rather than a portfolio sale, and equity investors remain cautious.

Allman says the E-notes will not be featuring in the first deals coming out this year, but he adds that there is in the private market a "clubby" equity base available.

New ABS deals will also contain better credits and higher-quality assets as a result of the Covid-19 crisis.

Radha Tilton, managing director at Goldman Sachs, agrees there will be a bigger focus on the asset and portfolio element of a transaction as well as the credits.

"There are people asking questions about the structure, but, at the end of the day, the box can only do something with the cash against," she says. "A lot of innovations over the last five-to-six years have improved the structure considerably."

**Cold water?**

CLAS 2021-1 closed on 28 January. The next day Air Namibia reached an out-of-court settlement with one of its creditors who had petitioned for involuntary insolvency.


The Air Namibia A330-200 did not transfer to CLAS 2021-1

State-owned Air Namibia remained current on all lease payments. Still, as Moody's writes in one report, the relevant contribution agreement prevents the contribution of the ultimate interest in the A330-200 aircraft into the transaction until a resolution is finalised concerning the airline's involuntary insolvency petition.

Air Namibia ceased operations on 11 February.

"The aircraft will not be qualified to transfer to the ABS trust, as the transaction closed earlier," says one source.

Castlelake has confirmed to *Airfinance Journal* that the A330-200 will not be part of the ABS deal. However, as manager, the lessor has exposure to another 2013-vintage A330-200 aircraft, which is part of the collateral in CLAS 2019-1, *Airfinance Journal*'s Deal Tracker shows.

Market sources say the Air Namibia incident is unfortunate and will not impact other issuances.

"I don't think this incident is going to slow down ABS issuances in general. It is an isolated incident," says one source.

The initial portfolio included 27 aircraft with 11 airlines. The top three lessees comprise about 50.5% of the portfolio by value: Delta Air Lines represents 24.8% with eight aircraft, Qatar Airways 16.1% with three aircraft and Aeroflot Russian Airlines 9.6% with three aircraft.

KBRA says in its pre-sale report that this is "higher" than some recent aviation ABS transactions. However, the rating agency considers the top two airlines higher credit quality lessees.

One banker says: "I don't think that this can influence the other deals that are in the pipeline. And precisely, the ABS structure means the diversification; the LTVs are sufficiently protective for this type of situation."

The Air Namibia incident will have zero impact on CLAS 2021-1, but one banker warns that it could affect new warehouse facilities.

"In 2021, the new warehouses will be structured in a more conservative way and with better lessors and active, younger and new-technology aircraft," he tells *Airfinance Journal*.

**Pipeline**

CLAS 2021-1 showed that the market endorsed the structural enhancements, because the market appetite for the notes was greater and the pricing was better than most people anticipated.

Future issuances will probably mimic the Castlelake transaction, but it all depends on the portfolio composition, servicer and structuring agent.

"With all else being equal, if the portfolio is even younger than this deal – CLAS 2021-1 is about nine years old with over seven-year weighted average remaining lease term – you possibly could have a less conservative structure than CLAS 2021. Conversely, if the deal is three years old with even longer lease terms, the transaction would be more conservative," says a source.

*Airfinance Journal* understands that three ABS transactions could be launched in the coming weeks as potential issuers were waiting on the outcome of the first transaction.

"It takes a couple of months from when a leasing platform decides to do an ABS until the ABS is actually announced. We now have several leasing platforms beginning the process," says the source.

"A lot of the features are similar, but may differ depending on the composition of the portfolio [for instance, age and type of aircraft]. For example, Castlelake had different amortisation depending on the type of aircraft and had some special rules for higher quality lessees (eg, Delta)," adds the source.

The prospects for the ABS market reaching the heights it achieved before the Covid-19 crisis remain unclear.

Goldman Sachs' Tilton anticipates seven ABS issuances this year in the aviation market, while MUFG's Allman says there could be six deals.

## Existing deals recovery

The market conditions in aircraft asset-backed securities (ABS) during 2020 could have triggered some activity in the secondary market, but in the end, there was relatively limited trading.

The Covid-19 crisis has had a substantial adverse effect on existing aircraft ABS deals.

Some deals did not see any principal payments at all. Most ABS tranches have been downgraded. Three liquidity facilities were drawn but were ultimately paid back later.

There was a brief period between April and May where tranches in deals were under stress.

The ABS market has seen a gradual increase over a period of months since trading in the 70 cents on the dollar (A tranches) in April and May 2020, or even 50 cents for the B tranches.

But the Covid vaccine announcements in November and their subsequent approvals have played a role in the increase because they show light at the end of the tunnel.

By the end of January, virtually all of the A notes were trading at about par.

The subordinated tranches also started to recapture a lot of their value during 2020. In April and May, they traded about 50 cents and have worked their way to 75 cents to 85 cents.

By the end of January, the B tranches were trading between 80 cents and 95 cents.

Radha Tilton, managing director at Goldman Sachs, says conditions in the aircraft ABS market have not been "ideal" but points out that the market is better now.

"It is not because everybody thinks aviation risk is the same risk profile it was pre-Covid-19, it is because coupon rates have come down massively," she says.

"The A tranches are near par now, and this is because many investors expect those tranches to pay. They may not be paying principal amounts now, but there is an expectation that they will eventually pay," she adds.

She points out that triggering the debt-service coverage ratio means excess cash flow going to an A tranche.

Tilton agrees that the subordinated tranches in deals have been more distressed, especially the equity notes. "It will be a little while before we see E-notes coming back in a transaction. That said, there is a lot of capital out there looking for equity risk."

Keith Allman, MUFG's head of esoteric ABS, asks if the perception in the market is that A tranches are "money good"?

According to Allman, the A tranches were almost at par in some transactions in January. "We saw some A tranches at 98.5," he says. "We have mostly seen the fees getting paid through. We have seen the skip of some principles, but they are coming back to par."

Allman says there are some nuance differences between the A-class and the B-class notes.

"It is easier for investors to take on the As and see that all of the cash flows are going to be dedicated to that tranche. But the Bs have potential cut-offs where they might be shut off longer. You might endure more tail risks, for instance, as you wait for the aircraft to be sold.

"There is also the perception that the Bs are not the controlling class in certain instances. You don't have the class B as the most senior bond, and there is going to be a discount implied."

He adds: "When we look at new potential issuances, As and Bs are considered, and we are looking at what the threshold of loan-to-value is going to be. The earlier deals we saw were generally attached around the upper 60s and detached around the upper 70s. This has somewhat pulled down."

Allman says the industry is seeing the effect of diversification in ABS.

"Back in March 2020, we were still seeing that trust lagged cash. Cash was not at its lowest point until June; it was never at zero in any transaction, so you always did have some type of sustained payments whether we are looking to airlines in Asia recovering faster or hitting the later stage in North America," he says.

The take-ups were more in the June-September quarter.

*"It is not because everybody thinks aviation risk is the same risk profile it was pre-Covid-19, it is because coupon rates have come down massively."*

**Radha Tilton**, managing director at Goldman Sachs

### Buybacks

In the March-April 2020 period, some A tranches' trading levels were in the 70s and the Bs in the 50s. There was also a lot of talk of buy-back by sponsors and issuers. But there was a limited amount of buybacks.

Tilton doesn't see a lot of ABS investors bailing out of the product now. "It would have been last year," she comments.

She says it will become more difficult for sponsors to buy back deals and economics that make sense for them as trading gets closer to par.

"One of the reasons it was not as successful in the past as it could have been is because even at 75 cents on the dollar, there wasn't tons of trading happening. There were marks and levels by the traders, but what we saw for a long time was there was a massive bid off.

"The extent to which people were actually trading at those levels was limited, which means the acceptance somebody can buy was limited."

Tilton agrees there was a small number of buybacks, but this is even "less compelling now as we drift closer to par".

The ABS market paused in March 2020 after a flurry of deals was issued in the first few weeks of the year. A total of five deals worth $2.38 billion were issued in the first quarter of last year, including two transactions with engines only.

# **DAE** not pursuing inorganic platform growth strategy

The Middle East-based lessor to continue sale and leaseback strategy.

Dubai Aerospace Enterprise (DAE) is not currently considering any platform acquisitions.

During the company's financial results for the full-year 2020, chief executive officer, Firoz Tarapore, said inorganic platform growth represented a "very low level of appeal to us at the moment".

Tarapore concedes that DAE had in the past stressed that inorganic activity was part of the lessor's DNA, but he says: "What has changed in 2020, in addition to the bid-ask between buyers and sellers, is that the value proposition of a speculative orderbook has been visibly shaken. Without that, all you are doing is buying existing current-tech metal. That for us has limited appeal and you will see us view inorganic growth is a less favourable way."

Asked about aircraft investment this year via new sale and leaseback deals and original equipment manufacturer (OEM) orders, Tarapore says the company has some firepower. "We lead with customers' solutions," he says, adding that the lessor's primary origination channel is to help long-term customers.

"In that process, it does intersect with some of the solutions OEMs are looking for. We will continue to do that more than anything else because that's the right way to deploy our capital," he comments.

Last autumn, DAE took delivery of the first of 18 Boeing 737 Max 8 aircraft under a purchase and leaseback mandate with American Airlines. The aircraft was part of an agreement signed between the two parties in the third quarter of 2020. Last month DAE signed seven A321neo aircraft with Indigo under a pruchase and leaseback deal.

Tarapore says market conditions for investment improved "as we progressed through 2020".

He adds: "Some of the return conditions that we see are beginning to tighten up but the movement is anecdotal and not applicable across the board. It depends on each individual carrier's situation."

Tarapore admits that lease rate factors are tighter but "so is the cost of funds", which is materially lower.

"When we look at a deal, we look at returns not headline rates. From our perspective, returns are okay and not contracted as much as lease rates headlines are," he comments.

> *"When you look at the euphoric sales that happened in the four years prior to 2020, there is still a lot of financing activity lying in front of us."*
>
> **Firoz Tarapore**, chief executive officer, Dubai Aerospace Enterprise

Tarapore says DAE has some dry powder to do business for aircraft deliveries in 2021 and 2022.

"When you look at the euphoric sales that happened in the four years prior to 2020, there is still a lot of financing activity lying in front of us," he says.

"For people like us that can put different levers there is the right trade-off of good business from our risk and return standpoint still in front of us. We are going to approach the same way as in the past which means every element in our business comes into play: credit, liquidity, returns, risk."

## HNA exposure

The lessor says its exposure to the HNA Group of airlines is manageable.

Tarapore confirms the lessor has eight aircraft, including four narrowbody and four widebody units with five airlines. According to him, all aircraft have security deposits and cash maintenance reserves as part of the lease agreements.

Tarapore adds that some aircraft have near-term lease expiries. "Some are due in 2021, others in 2022 and 2023, while others have longer periods," he said during DAE financial results for the full-year 2020.

According to *Airfinance Journal*'s Fleet Tracker, two 2018-vintage Airbus A320s are leased to Air Guilin. A 2007-vintage A320 is leased to Lucky Air and is shown as stored in Fleet Tracker.

DAE also has a 2014-vintage A320 leased to West Air.

The lessor's widebody exposure includes two 2010-vintage A330-300s placed by AWAS in 2016 (which DAE acquired in 2017) and two Boeing 787-9s, delivered new in 2019, under a purchase and leaseback transaction with Hainan Airlines.

Tarapore is confident the book values of its 42 widebody aircraft will avoid any impairment. He clarifies that impairment announcements last year were related to older and returned assets.

"We don't have a large number of undesirable aircraft coming back. We transitioned A330s during 2020 and given the lease rates and terms we were able to get, I am very comfortable that our equity is solid," he adds.

## Bond issuances

In February, Dubai Aerospace Enterprise returned to the capital markets with a $300 million aggregate principal amount of notes under its $2.5 billion global medium-term note programme.

The 1.625% notes mature on 15 February 2024.

The net proceeds will be used for general corporate purposes, including redemption of certain outstanding debt securities issued by DAE Funding.

On closing the $300 million unsecured senior notes, DAE announced the redemption of the company's $500 million 5.75% senior notes due 2023 on 1 March 2021. The outstanding principal amount was about $456 million.

In January, DAE Funding issued dual-tranche senior unsecured bonds for a total of $1.25 billion. The first tranche, $500 million, priced at 2.63%. The debt tranche matures on 20 January 2025. The $750 million second tranche has a seven-year term to 20 January 2028. It matures on 20 March 2028. The coupon on this tranche is 3.38%.

Last November, DAE hired a consortium of local and international banks to arrange its inaugural $750 million sukuk transaction.

The Shariah-compliant, dollar-denominated transaction priced at 3.75% with a 3.875% yield. The spread was US Treasury plus 349 basis points. The lessor had given initial price guidance of about 4.375% for the Islamic bonds.

The lessor has been evaluating the Islamic bond market as a means of raising capital for some time.

DAE, which has financed its growth through conventional bonds, revolving credit facilities and term loans over the past few years, was linked with a $500 million sukuk issuance earlier this year.

# Fly Leasing 'considers sell-off options'

Investors chasing returns in a post-Covid world could find relief in the purchase of a leasing company.

The leasing industry is on a growth path because of changes in airline fleet activity brought on by excessive debt burdens as a result of the Covid-19 pandemic.

In November, Aercap chief executive officer, Aengus Kelly, said that lessors would likely own more than 50% of the world fleet within the next three years. This view is backed by fellow lessor Air Lease and investment bank JP Morgan, which says lessors will grow their fleet share because of more activity in sale and leasebacks and operating leases.

"Operating lessors today manage 46% of the delivered passenger jet fleet, up 5% in the past five years. Leasing will be integral to airlines' recovery plans as the pandemic has shown that asset-light business models are better positioned to experiment with new routes given flexibility in cost structures," says JP Morgan in a research note.

The bank adds: "Lessors also drive technology adoption rates, managing nearly 60% of the delivered new-technology fleet and holding a significant share of future production slots. There will be fewer operators than before with more liquidity chasing a smaller fleet, but lessors have increased their leverage this crisis as airlines need them for balance sheet repair."

Fly Leasing has hired Goldman Sachs to undertake a strategic review of its business, including a potential sale of part or all of the publicly traded operating lessor, say sources.

The business review comes as the International Air Transport Association expects the airline industry to remain cash negative through 2021. Its analysis from November 2020 had predicted that airlines would turn cash positive in the fourth quarter of 2021, but now the trade body does not expect that to occur until 2022.

Estimates for cash burn in 2021 have ballooned to between \$75 billion and \$95 billion from a previously anticipated \$48 billion.

The leasing vehicle's potential sale has advanced to the next stage with the second group of bidders selected in February, sources close to the matter indicate. Another round of offers is due in early March.

The owners are right to consider their options, such as an outright sale or a go-private transaction, especially when trading at less than 50% to book value.

Is the public market the right place to be?

"We look at options all the time, but we are not going to comment on any sort of measures like this at this point in time," Colm Barrington, Fly Leasing's chief executive officer, said on a fourth-quarter earnings call in February.

Fly is smart to review its business strategy and recognise the steep economic cost of the Covid-19 crisis now. It is nimble to pursue the unprecedented build-up in market liquidity aided by a flood of central bank and fiscal stimulus.

No doubt Fly and others realise competing for growth acquisitions will be an increasingly tough exercise, especially when competitors such as Air Lease are accessing three-year money at 0.7%.

"It also will be increasingly difficult to extract more value from the portfolio as the pandemic carries on. Why not sell and be equipped with funds in a post-Covid world?" observes a leasing source.

The lessor, which has an 84-aircraft fleet and seven engines managed by BBAM, declines to comment on "rumours or market speculation".

Despite the challenges of the coronavirus, though, Barrington remains optimistic.

"In the fourth quarter, global airline passenger traffic was 70% less than in the same quarter a year ago. Fortunately, as Covid vaccines reach the majority of populations and border testing becomes more efficient, we expect to see a lifting of government restrictions on travel and pent-up demand returning passenger numbers towards pre-pandemic levels later in the year," he says.

Fly Leasing swung to a \$107 million net loss for the fourth quarter from a profit of \$75.2 million in the year-earlier period because of the impairment of Airbus aircraft.

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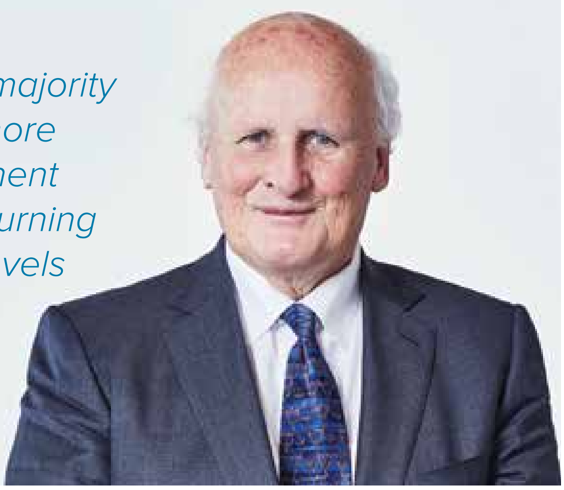
**Colm Barrington**, chief executive officer, Fly Leasing




The lessor took a $115 million non-cash impairment during the quarter and indicates $106 million of that amount is related to two seven-year-old Airbus A330-300s, which the lessee will return in 2021.

The balance of the charge is related to two A320s and five A319s, which resulted in impairments of $5 million and $4 million, respectively.

The lessor expects the two 15-year-old A320s will be parted out, and the five A319s will be sold.

Fly has letters of intent on the seven aircraft and hopes to conclude the transactions in "the coming months". Total cash amounted to $161.5 million, of which $132.1 million was unrestricted.

Its total assets were $3.2 billion at year-end, including investment in flight equipment totalling $2.8 billion. The average age of the portfolio, weighted by each aircraft and engine's net book value, was 8.4 years.

The average remaining lease term was 4.7 years, also weighted by net book value.

**Bullet repayment**

The results revealed good news. Fly repaid its outstanding 2021 notes in the December quarter. The lessor has no significant debt maturities until mid-2023.

It closed a $180 million five-year secured term loan in October and used about $77 million to repay the $325 million unsecured notes due in October 2021. However, this proved an expensive exercise, because the lessor's borrowing rate was 7%.

Like any operating lessor, Fly has had to renegotiate terms with some of its customers since the beginning of the Covid-19 pandemic.

At the end of the fourth quarter, the lessor collected 47% of pre-deferral contracted rent, down from 53% in the third quarter.

Fly says the pace of deferrals granted "has slowed", with only $4 million of incremental deferrals given in the quarter. The lessor has "not granted deferrals past 2021".

*"We don't need to make any decision on those deliveries now, and we are working with the carrier on what might be the new delivery programme on those aircraft."*

**Colm Barrington**, chief executive officer, Fly Leasing

The lessor had about $54 million of rent deferrals, of which about $47 million were included in rent receivables at the end of last year. Deferrals granted at the end of February were $10 million for this year.

Its debt-to-equity ratio was 2.3 times at the end of 2020.

Operating lease rental revenue totalled $64.3 million compared with $88.6 million in the year-earlier quarter. Total revenue for the final quarter was $72.8 million versus $154.3 million in 2019.

Fly Leasing's Barrington also notes that the lessor has pushed out its A321neo deliveries that are part of a sale and leaseback transaction with Air Asia, as well as the option aircraft.

"We don't need to make any decision on those deliveries now, and we are working with the carrier on what might be the new delivery programme on those aircraft. We will have updates on that as the year progresses," he says.

One source familiar with the Fly Leasing portfolio observes that the lessor may face a fair amount of remarketing activity over the next two years as a portion of the portfolio leases expires by 2023.

"Factoring this in conjunction with the likely rent restructuring, which will impact cash flows and scheduled lease expiries, could be a source of concern," says the source.

At year end, Air Asia, Air India and Ethiopian Airlines represented Fly's largest exposures at 11.6%, 11% and 10.4%, respectively. Philippine Airlines and Malaysia Airlines represented 7% and 4.6%, respectively. The lessor also has exposure to Lion Air at 3.3%.

"Lion Air and Philippine Airlines are big issues," says one source, adding that Air India is government supported, but "there are some big rent arrears there".

The Air Asia Group, which is a shareholder in Fly Leasing, is also an issue because it will not take any new deliveries for quite some time, says a source.

In the third-quarter results calls, Barrington said the lessor was "reasonably comfortable" with the Air Asia Group as a whole.

Another driver in the potential sale could be BBAM. The management of the Fly Leasing portfolio is a lucrative contract for BBAM, say sources.

"But, on the other hand, the next few months, if not a couple of years, will be busy as the portfolio will need constant attention given the pandemic. Would BBAM, which has new funding to deploy, be willing to spend its time managing about 85 aircraft and remarket assets?" asks one source.

"The temptation would be to deploy new capital on deals that reflect the post-Covid-19 environment," adds the source.

BBAM is a servicer and manager and the largest shareholder in the publicly traded lessor with more than 20% of the Fly stock.

# Sun Country inaugural EETC includes three debt tranches

The US privately owned carrier has started to boost its aircraft numbers with 13 used Boeing narrowbodies.

Sun Country Airlines issued pass through trust certificates in December 2019 in an aggregate face amount of $248.6 million, according to a prospectus filed with the SEC in February.

The private transaction, Series 2019-1, saw the issuance of three classes of debt – class A, class B and class C – to institutional investors for refinancing 13 used Boeing narrowbody aircraft.

The class A notes carry a 4.13% interest rate relating to seven of the financed aircraft and 4.25% relating to six of the financed aircraft and mature on 15 December 2027.

The class B notes carry a 4.66% interest rate relating to seven of the financed aircraft and 4.78% relating to six of the financed aircraft and mature on 15 December 2025.

The class C notes have a four-year maturity to 15 December 2023, and carry a 6.95% interest rate.

The certificates were issued to certain institutional investors, and the 2019-1 enhanced equipment trust certificate (EETC) face amount of the certificates were funded by the purchase price paid by such investors for its certificates on four funding dates from December 2019 to June 2020.

In December 2019, Sun Country purchased one aircraft new to its fleet and used $28.3 million of the escrowed funds from the 2019-1 EETC transaction to finance the acquisition.

In January and February 2020, the Minneapolis, Minnesota-based carrier used $53.5 million of the escrowed funds and drew an additional $55.3 million to complete the refinancing of three owned aircraft, the purchase of two additional aircraft for its fleet and to buy one aircraft previously under an operating lease.

The purchase of the remaining six aircraft, previously under operating or finance leases, was completed in June 2020. The total appraised value of the 13 aircraft is about $292.5 million.

**IPO to repay government debt**

The US privately owned carrier expects to use some of the proceeds from the $100 million initial public offering (IPO) it filed on 8 February to repay in full all amounts


*"Our strategy is to target mid-life aircraft due to the lower ownership costs relative to new aircraft and the flexibility associated with a liquid market for mid-life aircraft."*

outstanding under the Coronavirus Aid, Relief and Economic Security (Cares) Act loan. The remaining proceeds will be used for general corporate purposes.

According to its prospectus, Sun Country has entered two payroll support programme agreements under the Cares Act. It received an aggregate of $62.3 million in grants from 21 April 2020 to 1 October 2020 and an additional $16.1 million in grants on 2 February 2021. Sun Country says it expects to receive an additional $16.1 million by the end of March 2021.

In addition, it entered into a loan and guarantee agreement on 26 October 2020, with Treasury under the aviation direct loan programme of the Cares Act, pursuant to which Treasury agreed to extend loans in an aggregate principal amount of $45 million.

The $45 million loan is secured by Sun Country's loyalty programme and certain cash deposit accounts. The loan bears interest at a yearly rate equal to the adjusted Libo rate plus 6.5% and are due to be repaid on the earlier of 24 October 2025 or six months before the expiration date of any material loyalty programme securing the loan.

Barclays Capital and Morgan Stanley are acting as representatives of the underwriters in the offering. Barclays Capital, Morgan Stanley and Deutsche Bank Securities will serve as joint lead bookrunners, and Goldman Sachs and Nomura Securities International will serve as joint bookrunners for the offering. Apollo Global Securities will serve as a co-manager.

**Growth plans**

The US leisure travel specialist says it has identified commercial opportunities to add between "three and five" more aircraft to its fleet this year.

As at 30 September 2020, Sun Country operated 31 Boeing 737 passenger aircraft and 10 737-800SF aircraft under its sublease transaction with Amazon Prime Air. Since then, it has taken delivery of an additional two 737-800SFs provided by Amazon.

"We currently have plans to grow our operating capacity as we take delivery of additional aircraft and make changes to our network," it states in the prospectus, adding: "Our strategy is to target mid-life aircraft due to the lower ownership costs relative to new aircraft and the flexibility associated with a liquid market for mid-life aircraft."

Sun Country expects to finance additional passenger aircraft through debt or finance leases, though it may enter into new operating leases on an "opportunistic basis". But it also leaves the door open to a capital market transaction.

"Additionally, we may buy out a certain portion of our existing aircraft currently financed under operating lease agreements over the next several years, using either mortgage-based financings or enhanced equipment trust certificates," states the carrier.

Sun Country plans to grow its passenger fleet to an estimated 50 aircraft by the end of 2023.

# **African aviation** at crossroads

Covid-19 represents the gravest threat to Africa's aviation sector, but also offers an opportunity to reshape for the long-term future, **Oliver Clark** reports.

Before the Covid-19 pandemic decimated African air travel demand in 2020, the continent's aviation sector had been grappling with long-running challenges to opening up the seemingly vast opportunities on offer in the market.

In the years before the crisis, industry bodies such as the International Air Transport Association (IATA) and African Airlines Association (AFRAA) had been lobbying for African states to embrace liberalisation and move towards an open skies that was similar to that in Europe and the USA.

Moves to break down national borders were seen as essential to improve connectivity and grow the continent's aviation markets, but progress towards that goal, through the Yamoussoukro Decision and the Single Africa Air Safety Transport Market (SAATM) initiatives have been slow.

"Pre-Covid, if you were looking at Africa from a macroeconomic perspective, I would carve South Africa out because South Africa's growth trajectory is much lower than the rest of Africa. It's a very competitive market, but the growth is fuelled more out of competition around pricing and new routes being established," David Minty, head of aviation finance, Investec Bank, tells *Airfinance Journal*.

"The rest of Africa had very good prospects. African GDP was forecast to grow at between 5% and 7% pre-pandemic and you had massive untapped travel markets.

"You have numerous cities/countries that were not connected, which was a massive opportunity. But a counter to that is you have 54 countries across Africa and each of them has its own prerogatives, its own decision-making authorities. There are lot of economic forums but it's difficult to get Africa moving and where you can say, 'let's have open skies'.

> *"African GDP was forecast to grow at between 5% and 7% pre-pandemic and you had massive untapped travel markets."*
>
> **David Minty**, head of aviation finance, Investec Bank

"The Yamoussoukro Decision came out a number of years ago and now you have SAATM, which is also trying to open Africa's skies, but it's very slow unfortunately. There is a lot of bureaucracy, and government processes move very slowly, which puts a handbrake on how quickly things happen. But the opportunity is definitely there and it is good to see initiatives being started," adds Minty.

"The problem on the continent has always been that there is not always enough disposable income for flying and, in addition, somehow it's always more expensive to fly in Africa," says James Geldenhuys, head of aircraft finance at Nedbank.

"Your fuel, for example, at all the various airports, often has to be bunkered and therefore the whole business is running a little more expensive. Furthermore, there are fewer passengers, making it difficult to reach economies of scale," he adds.

Financing the aviation sector has also presented hurdles.

In a webinar on 3 December, African Development Bank (AfDB) director Amadou Oumarou said that lease rates for most African airlines are more expensive than the global average. African carriers pay 1.25% to 2% of the aircraft's market value, plus security deposit.

This compares with airlines outside Africa which pay an average of 1% of the aircraft's value and pay little or no security deposit.

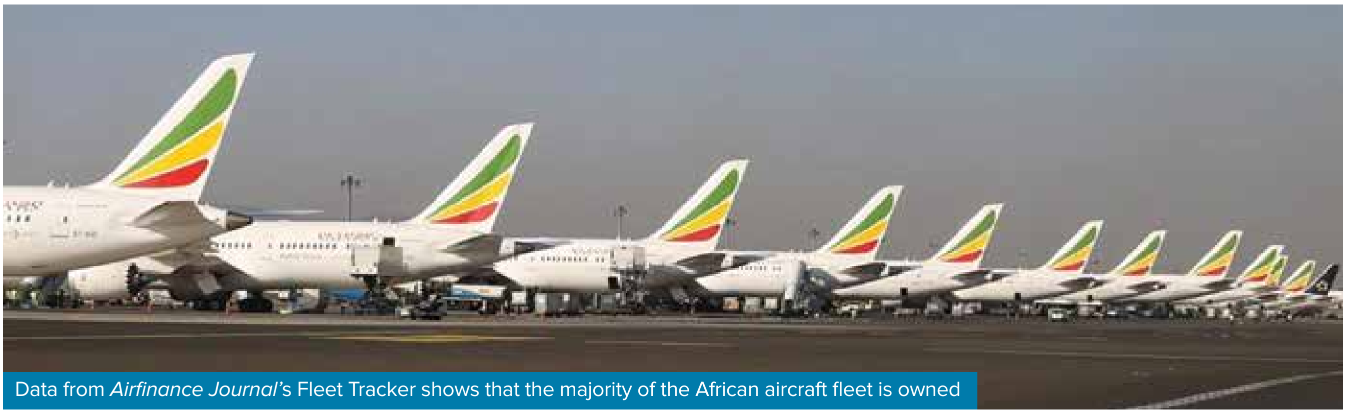
Oumarou says African carriers face limited access to financing, limited infrastructure and low levels of safety and security. He notes that of the 500 airlines blacklisted by the European Union on safety grounds, 50% are based in Africa.

While export credit agency guarantees can help support aircraft deliveries, as do the AfDB and other financial institutions such as African Export-Import Bank (Afreximbank), Oumarou says there remains a "financing gap" that needs to be filled.

"It's definitely expensive, with financiers/lessors pricing in 'frontier market risk'. One of the key things to keep in mind is that from a global history point of view, compared to, say, Europe, Africa has only recently achieved democracy on a widespread basis," says Minty.

"Linked to this is the maturity of the legal systems across the continent. For example, there is limited legal precedent for aircraft repossessions, again compared to, say, Europe, so you are not certain of the process, timing and challenges of repossession.

"This then attaches a risk premium to financing rates and that's before you do the underlying credit analysis, where there is also a general challenge," he adds.



Data from *Airfinance Journal*'s Fleet Tracker shows that the majority of the African aircraft fleet is owned

> *Given the dislocation that we have seen in the global aviation industry over the last nine months there is an opportunity at the moment for an African leasing platform to be established.*

**Will McCallum**, managing director of aviation finance, Standard Chartered Bank

**Covid-19 crisis**

African aviation has been hard hit by the pandemic. AFRAA estimates that African carriers have lost $10.88 billion in revenues in 2020. This represents 57.6% of 2019 revenues.

AFRAA estimates that between January and November, African airline capacity dropped by 53.3% compared with 2019, and connectivity dropped by 90% in November compared with the same month a year before.

The association warns that the crisis will exacerbate an existing lack of profitability for African carriers.

IATA rekons that more than $30 billion has been pledged by donor organisations and institutions.

The AfDB estimates that South African Airways (SAA) has received a $650 million equity injection as part of its nationalisation. Royal Air Maroc has received $624.8 million in the form of a state-guaranteed loan.

Another $191 million, $152 million and $24 million have been provided to Egyptair, Rwandair and Air Cote d'Ivoire, respectively.

A $500 million equity injection for Kenya Airways is pending.

"Overall, we have seen a lot of state support coming in for a number of airlines. Air Cote d'Ivoire, Air Senegal, Royal Air Maroc, Egyptair, Air Austral, to name a few, have benefited from some level of state support," says Investec's Minty.

"That said, the support has been focused on state-owned airlines and there has unfortunately been close to zero support for private airlines across the continent," he adds.

There have been casualties this year. Air Mauritius entered administration in April and is in the midst of a restructuring, which is expected to see it phase out older Airbus A330, A340 and A319 models in favour of A350s and A320neos.

SAA was already in administration before the crisis hit and has shrunk its fleet, staff and operations amid a restructuring drive that the government hopes will make the state-owned airline attractive to private investors.

Broadly speaking, Minty says the crisis led to financing deals being done at lower loan to values and much shorter tenors.

Both Minty and Geldenhuys see the domestic and regional markets recovering first, followed by medium- and long-haul markets. Values for aircraft types such as the A220 and A320neo are holding up better than widebodies.

"I think there are huge opportunities but I don't think there is a lot of new financing going on and that's typically how it is when a market turns like this, because financing on a global scale is hampered due to uncertainty in aircraft values," says Geldenhuys.

"It's clear to everybody that the gauge, which is doing the best and is also going to recover the quickest, is the regionals. It's the 100-seaters because they are much more flexible in these times," he adds.

Both bankers agree that one exception is Ethiopian Airlines, which has emerged as a lead player in the African aviation market. As such, the flag carrier is able to negotiate better financing rates and terms than other airlines in the market.

**African leasing platform**

Data from *Airfinance Journal*'s Fleet Tracker shows that the majority of the African airline fleet is owned. Ethiopian owns 66 of its aircraft, Air Algerie owns 59 aircraft, Royal Air Maroc 46, Airlink 44 and Tunisair 44.

By contrast, global lessors are relatively under-represented. Nordic Aviation Capital has the most exposure with 30 aircraft in operation on the continent, Acia Aero has 29, Aercap has 24, GECAS 23 and Avolon 13.

The AfDB is undertaking a study into the practicalities of establishing a dedicated leasing platform to provide aircraft to African carriers at competitive rates.

The bank has tentatively set aside $400 million for the project and expects to complete the study by mid-2021.

"The reasons are numerous, one being that most African airlines have challenges financing for aircraft acquisition or leasing. When they have access they are usually facing less favourable financial conditions than their competitors worldwide," Romain Ekoto, AfDB's chief aviation officer, tells *Airfinance Journal*.

"So this is affecting their profitability. The intent is for the bank to try to find a way to give them better access to those aircraft at market price.

"And from the discussions we have had with lessors globally, they either don't want to deal with most of the African airlines, or when they deal with them they add a risk penalty," he adds.

Speaking on the AfDB webinar, Standard Chartered Bank's managing director of aviation finance, Will McCallum, said he supported the efforts of the bank along with other institutions such as Afreximbank to explore the creation of such a platform.

"Given the dislocation that we have seen in the global aviation industry over the last nine months there is an opportunity at the moment for an African leasing platform to be established and perhaps pick up aircraft at a price, and also perhaps in a maintenance condition, that previously they would not have been able to do," he says.

McCallum believes institutions such as Standard Chartered and JP Morgan would be "very pleased to play a role" in establishing such a platform.

Others are more cautious about how it would work in practice.

Speaking on the same webinar, Ibou Diouf, World Bank practice manager for the West and Central Africa transport unit, questioned how many of the airline companies in Africa, which are not profitable enough so are struggling to be viable, could access the platform.

He also asked how to convince countries to pool their resources in order to bring the necessary economies of scale.

"We have looked at this with the African Development Bank and the idea is fantastic. If you can get a lessor to launch with a focus on Africa, who appreciates African challenges, I think it could work exceptionally well," says Investec's Minty.

"That said, to get to a situation where such a lessor is relevant for the whole continent is going to be difficult. There are so many diverse aircraft requirements. You've got widebodies, narrowbodies, regional aircraft comprising turboprops, and jets, to get thrown into the mix," he adds.

Minty says what would create a bigger impetus on the continent would be for each global lessor to dedicate about 5% of their global portfolio to Africa.

"Then you have a very diverse base of aircraft types available, and it thus becomes more relevant for everyone. The key for that to happen is to get more parties comfortable with dealing in each country.

"As soon as you get lessors and finance houses becoming comfortable with legal frameworks on the ground, then you will see quite a big pick up, in my opinion. It will create a positive spiral," he argues.

Associations such as IATA and AFRAA continue to see progress in implementing a single African skies and breaking down barriers to aviation as being fundamentally the best way for the sector to both emerge from the current crisis and grow in the coming decades.

A dedicated leasing platform may also play a role. The question is whether the political will exist to make these initiatives a reality.

# Benefits of GATS to secured lenders

A&L Goodbody's David Berkery, Dominic Pearson of Watson Farley & Williams, Milbank LLP's Drew Fine and Zachary Cronin, and Jeffrey Wool of the Aviation Working Group look at the advantages of the Global Aircraft Trading System to secured lenders.

The benefits of the Global Aircraft Trading System (GATS)[1] to owners/lessors of leased aircraft are clear and well-documented. The recent decision by GECAS to migrate 40 aircraft onto the GATS platform demonstrated the value aircraft leasing companies see in a system designed to maximise efficiencies in the trading of leased aircraft by reducing the burden on all players, embracing secured electronic documentation and eliminating unnecessary negotiation of mechanical documents.

For airlines, the electronic protections offered by the GATS platform, prohibiting transfers without confirmation from the airline that all of the agreed and recorded conditions to transfer (known on the GATS platform as 'advance requirements') have been met and the planned expansion of the platform to increase efficiencies of airline subleasing, have proved to be the most attractive elements of GATS.

In addition to increasing efficiency of trading aircraft and protection of airlines' rights, a third key component of the project has been the advancement of aircraft financing. This article looks at the advantages of using GATS to secured lenders.

GECAS is to migrate 40 aircraft onto the GATS platform

**Structure and security package**

In most asset financing structures, the aircraft being financed is held in a special purpose company (either within the airline or lessor group or else 'orphaned' by having its share capital owned by a share trustee on trust for general charitable purposes). Requiring that the aircraft is held in a special purpose company reduces the likelihood of the asset-owning entity being forced by a third-party creditor into bankruptcy, examinership, administration or other analogous procedure which could result in the obligations owed to a secured lender being crammed down against its will. This ring-fencing is enhanced when an orphan structure is used.

By replacing a special purpose company with a GATS Trust beneficially owned by a special purpose company, secured lenders would achieve a number of benefits. In an enforcement scenario, a secured lender could still enforce its share charge or equity pledge over the special purpose company, or it could elect to foreclose on the aircraft mortgage and security assignment of the lease but now GATS offers a third option, more convenient than the others.

A secured lender using GATS in its structuring would have the benefit of a GATS Security Instrument drafted with collective input from A&L Goodbody, Allen & Gledhill, Milbank and Watson Farley & Williams following a rigorous review of countless precedents to ensure best-in-class documentation to take security over beneficial interests in trusts. Every such security interest is recorded (and publicised) on the electronic ledger maintained on the GATS platform. The GATS platform is searchable by any member of the public.

The GATS platform also offers technological protections and solutions for secured lenders. Once the beneficial owner of a GATS Trust has recorded a security interest on the electronic ledger maintained on the GATS platform, no transfers of the beneficial interest in that GATS Trust can be completed through the GATS platform without the secured lender's express agreement (or release). Once a security interest has been recorded, the beneficial owner granting that security interest is physically blocked from completing a transfer through the GATS platform and, instead, the secured lender is granted a unilateral ability to transfer the beneficial ownership to a third party. The secured lender would agree under the terms of the secured financing documents that it would not effect such a unilateral transfer unless entitled to under the documents (ie, after an enforcement event has occurred).

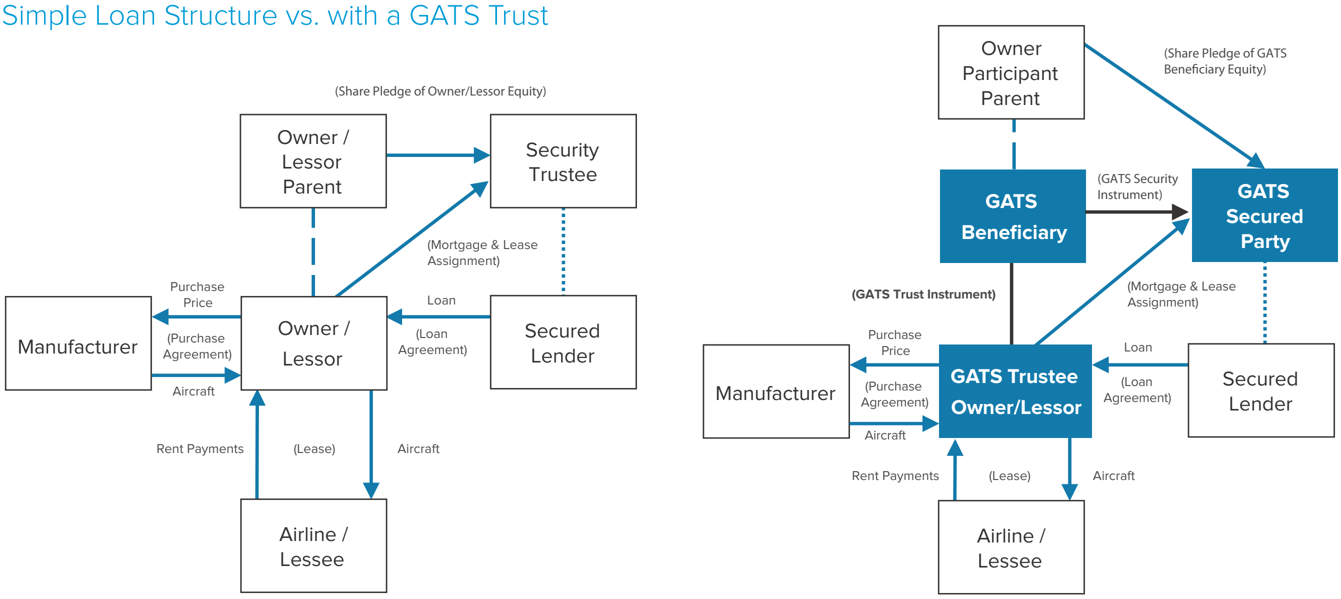
**Options in an enforcement scenario**

As mentioned above, the use of GATS and the GATS Security Instrument is an enhancement to existing practices and in no way diminishes a secured lender's ability to enforce any of the security interests we would expect outside of GATS. Typically, in an enforcement scenario, a secured lender is likely to prefer enforcement against the secured assets rather than enforcement of share or equity security.

In the context of Irish special purpose companies (frequently used as asset-owning entities in an aviation finance structure), recent changes in revenue practice has meant that a secured lender enforcing a share charge over an aircraft-owning special purpose company incorporated in Ireland could find a stamp duty exposure of 1% of the value of the shares applying. Furthermore, acquiring shares in an existing special purpose company could potentially expose a secured lender to unknown and undisclosed liabilities of the special purpose company.

[1] A system and platform established by the Aviation Working Group (see www.e-gats.aero).

## Simple Loan Structure vs. with a GATS Trust




While the Cape Town Convention and the Aircraft Protocol have made aircraft mortgage recognition and enforcement significantly easier and cheaper, enforcement risks and expenses can arise when seeking to foreclose on aircraft mortgages depending on the location of the metal at the time of enforcement.

In lessor financings, there will also need to be simultaneous enforcement of the security assignment of the relevant lease to ensure that the lease chain between aircraft owner and aircraft operator is maintained after the enforcement of the security. Practical considerations will arise such as the need to obtain new insurance certificates naming the new owner and if the aircraft is registered in a jurisdiction maintaining an owner registry (such as the USA) rather than an operator registry, the aircraft would need to be re-registered in the name of the new owner.

Subject to any existing moratoria or other local law restrictions, enforcement of a GATS Security Instrument is very straightforward. The secured lender would simply complete a beneficial interest transfer to its nominee through the GATS platform acting under the authority granted under the GATS Security Instrument and/or other finance documents. Assuming the lease is well drafted, no involvement from the defaulting beneficiary is needed. The lease chain remains unaffected (the GATS Trustee continues to lease the aircraft to the lessee); no changes to the registered details of the aircraft should be required (although this may vary depending on jurisdiction of registration) and, in certain instances, no new insurance certificate would be needed.

In contrast to enforcement of a share charge, no Irish stamp duty is applicable and the GATS instruments are drafted such that no undisclosed liabilities should pass to the transferee of a beneficial interest of a GATS Trust. Enforcement of a share charge will likely require a court order, and while current practice typically requires the chargor to deliver an original share certificate, a blank original stock transfer instrument and undated director resignation letters, each designed to enable a chargee to transfer the shares unilaterally on the occurrence of an enforcement event, there is a risk that some of these original documents could be missing or destroyed at the time of enforcement.

By eliminating the need for paper documents, no such risk of missing or destroyed originals could arise on the enforcement of a GATS Security Instrument – yet another advantage to this type of security.

### Protection against fraud

Lastly, while fraud is thankfully rare in our industry, it would be possible under certain circumstances for a bad actor fraudulently to grant a mortgage over an aircraft not owned by them (if, for example, no filings on the International Registry had been made and the aircraft is registered on an operator registry) or to grant a share charge over shares not owned by them.

The GATS electronic ledger provides secure, live, transparent details of beneficial interest ownership and the GATS platform will only allow the correct beneficiary of a GATS Trust to grant a security interest over the beneficial interest in that GATS Trust.

Furthermore, each person signing an instrument through the GATS platform has had their identity verified before they are allowed to execute a document on behalf of a party to it. While a mortgagor of an aircraft or a chargor of shares in a special purpose company may still be able to transfer title fraudulently to the mortgaged aircraft or ownership of the charged shares to a third party, GATS removes a security grantor's ability to transfer a beneficial interest through the GATS platform immediately on the creation of a GATS security interest, and only after the secured lender's agreement has been obtained (or the GATS security released) can that transfer be effected through the GATS platform.

### Conclusion

There are a number of benefits for lenders in adopting GATS for use in secured transactions. Through minimal adjustments to existing secured structures, lenders would obtain the benefits of greater transparency, a significantly easier enforcement mechanism and protection against fraud. The use of GATS in existing structures should have no impact on tax analysis or on bankruptcy-remoteness and analogous insolvency considerations.

The standardisation of GATS instruments (including the GATS Security Instrument) renders the use of GATS in secured aircraft financings highly cost efficient and easy to adopt. We would still expect a secured lender to prefer enforcement of its aircraft mortgage to take the metal in an enforcement scenario but there are a number of reasons why using GATS security in addition to a share charge as a back-up security interest is likely to become best practice for secured lenders.

GATS security is an addition to and enhancement of existing practices and not a replacement for the typical security package taken by aircraft financiers.

# Brisk business boosts **AVIC Leasing fleet**

China's AVIC Leasing added more than 30 aircraft to its fleet in a turbulent year 2020, growing its commercial aviation portfolio to more than 300 aircraft. More additions are in the pipeline, Li Jun, who is in charge of the lessor's aviation business, tells **Elsie Guan** and **Dominic Lalk**.

The year 2020, and the still ongoing Covid-19 pandemic, are often referred to as a black swan event. Most airline chiefs and analysts have conceded that business will be down for years, some say business travel will never fully recover. As most aircraft operators and lessors are bracing for impact – with more liquidations likely – the future is not looking so bad for state-backed AVIC Leasing, its deputy general manager, Li Jun, tells *Airfinance Journal* in an exclusive interview.

AVIC International Leasing is a division of the Aviation Industry Corporation of China (AVIC), a Chinese state-owned aerospace and defence company, which offers leasing services covering aircraft, aviation products, ships, locomotives, plant scale equipment, as well as electrical and communications equipment. The lessor is based in Shanghai's Jing'An business area and only a short walk from *Airfinance Journal*'s annual China conference venues.

## Growth spurt

"AVIC Leasing showed a good performance in 2020 – we added more than 30 aircraft," says the Chinese

leasing executive. "Most of our aircraft leasing business is centred on Chinese airlines. This helped us a lot during Covid-2020 because, as you know, Chinese carriers continued to perform comparatively well due to their large domestic networks."

AVIC Leasing notes that it benefitted particularly from its robust ties with China's 'Big Three' state-controlled carriers Air China, China Eastern Airlines and China Southern Airlines.

"Our particular exposure to the Big Three state-controlled airlines definitely helped, too. In 2020, we indeed compensated for the decrease in international business with more domestic business," says Li.

As airlines in distress shed more than a thousand excess aircraft in 2020 and raced to secure additional financing, AVIC Leasing used the opportunity to grow its portfolio through opportunistic acquisitions.

"Our business grew significantly in 2020 actually. We added 25 new aircraft to our portfolio last year, the fifth highest in the global community in 2020, I think. This is higher compared to the past three to five years. And that's not it. We also acquired eight aircraft in the secondary market. So yes, you could very well say that 2020 presented good opportunities for us that we seized. We added several strong foreign airline credits to our portfolio during the Covid-19 pandemic," he adds.

Most of the 25 new additions in 2020 joined the AVIC Leasing fleet after sale and leaseback deals with "strong credit airlines", while the eight used units were purchased straight from their respective owners.

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**Li Jun**, deputy general manager, AVIC Leasing

## Fleet

AVIC Leasing has no plans of slowing down in 2021. The Shanghai firm says it hopes to add a "similar number" of aircraft to its portfolio this year, which would take its fleet to some 330 aircraft from about 300 units at year-end 2020.

"We currently have approximately 300 aircraft in our commercial fleet, including about 200 passenger aircraft and 100 general aviation aircraft including business jets that we own. On the passenger fleet, the proportion of narrowbodies versus widebodies is about 80% to 20%. We hope to add another 30 units or so in 2021," says Li.

Notable transactions in 2020 included purchase and leaseback deals, with European financing, for Airbus A350-900 and Boeing 787-9 aircraft with Turkish Airlines. The lessor also acquired A320neo aircraft through purchase and leasebacks with Indian low-cost carrier Indigo Airlines and China's fast-growing Loong Air.

## OEM orderbook

AVIC Leasing discloses to *Airfinance Journal* that it has no outstanding orders with manufacturers Airbus and Boeing. The firm has, however, placed firm orders for 30 ARJ21s and 30 C919s from Chinese compatriot COMAC.

AVIC Leasing, in conjunction with Minsheng Financial Leasing, placed an order for up to 60 737 Max aircraft for Ruili Airlines in a ceremony in 2015 in Ruili, a Chinese border town with Myanmar, but that order is no longer.

"We did have a Max order with Boeing, but that's now cancelled. We have no current orderbook with Airbus. We are quite focused on our own Chinese manufacturer at the moment. We have placed orders for 30 ARJ21s and 30 C919s and until now have taken delivery of three ARJ21s, including a unit on finance lease with Air China and two units on operating lease with Chengdu Airlines," says Li.

## Lessee credits

AVIC Leasing will remain open to doing business overseas but its focus will be on Chinese airlines. Li says more attention must be paid when evaluating "foreign" airline credits, particularly in the aftermath of volatility observed in markets, including Latin American and India.

"As for our overseas customers, we have traditionally been very rigorous when evaluating foreign airline credits. The merits of this became obvious last year as we avoided exposure to the larger airline bankruptcies. We did, however, have deferral requests of course and made contractual adjustments accordingly, often in the form of lease extensions," says Li.

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"We have a strong preference for airline credits with state backing. Take Turkish Airlines, for example. We only executed the first transaction with them after the pandemic, but the groundwork was laid about two to three years ago. Building mutual trust takes time. Airlines need to obviously have a solid record of cash-flow generation and a good record overall, and with that I also mean no disputes or defaults with other lessors," he explains.

"We've encountered unpleasant situations in the past where there were lease defaults and aircraft had to be repossessed. This also served as a reminder to us that it may be advantageous for us to retain our preference for doing business with Chinese airlines. There is quite a big difference between doing business overseas and doing business in China. Especially in the case of defaults, the retrieving of aircraft and the litigation are very different in China. With the pandemic, repossessing of aircraft became even more difficult," says Li.

**Industry versus China recovery**

While remaining absolutely positive on its own growth prospects as a direct result from strong creditor and state backing, AVIC Leasing believes that the aviation industry writ large will need time to recover.

"The most difficult time for Chinese airlines has passed. In China, the possibility of airlines collapsing is very small as passenger traffic levels are already returning to 2019 levels. Even without a speedy vaccine rollout, there should be no problem with China's airlines as they can fly domestically. The problems the industry is facing are in the overseas markets," says Li.

"The relationships between lessors and airlines will definitely continue to be tested over the next two to three years. It will not be easy for overseas carriers with big international network exposure to recoup losses and return to 2019-level capacity and demand levels," he adds.

**Lessor exits**

The past decade has seen a quick proliferation of aircraft lessors in the Asia-Pacific region, especially in China. As most were sidelined watching bank-backed giants, including CDB Aviation, entering the market, many may have overlooked the countless smaller players, often fuelled by private investor funds, making their entry. The question heard in conference halls for years has been whether they would manage to navigate the increasingly competitive market and its diminishing yields. AVIC Leasing's Li believes many will be forced to exit after Covid-19 eroded hopes of greater returns on investment.

"Some smaller leasing companies may not be able to survive; they will inevitably face liquidity pressures that will force them out of the market. The same goes for airlines. Those carriers that cannot find fresh liquidity will need to exit," says Li.

*"The most difficult time for Chinese airlines has passed. In China, the possibility of airlines collapsing is very small as passenger traffic levels are already returning to 2019 levels."*

**Li Jun**, deputy general manager, AVIC Leasing

"Whether a Chinese lessor can survive the ongoing pandemic, and the pressure points that come with it, very much depends on how they are set up, their positioning and business structure. If you have a lot of business in China, like us, it will not be a big problem. But if your focus has been overseas, you may encounter liquidity issues. The traffic of overseas airlines has dropped sharply compared with 2019. If there is no government bailout or strong shareholder support to supplement liquidity, it will be very difficult," he adds.

**Diminishing investor appetite**

"Over the past few years appetite for investments in aircraft assets has been ravenous, not just in China but around the world. Many investors are funds and consortiums, private equity. The pandemic will certainly have scared off some less-experienced investors. Some have already exited, and others may follow or cancel previous plans to enter this space," explains Li.

"For the small players, whose focus was never on aviation, but they nevertheless added a few aircraft to their leasing arms, I think these leasing companies may no longer invest in aircraft going forward. Small aircraft lessors may be eliminated as a result, and this is not a bad thing for competition.

"If the small guys encounter a lot of exposure to airline defaults or deferrals, they will have a hard time. Even if they withdraw their aircraft, the prospects of remarketing are not good in this environment. And then the question turns to liquidity again. If you rely on your own liquidity to repay bank debt and interest, you will not be able to handle it for long, and it is not like it is easy to go to a bank now, any bank, to finance aviation assets, especially for private leasing companies. Therefore, these firms may be forced to exit the market," predicts Li.

"Again, for the big guys like us, liquidity won't be a problem. We have state-owned backgrounds, including banks or shareholders with industrial backgrounds. I don't expect any of the big Chinese lessors to quit aviation."

**Portfolio acquisitions**

"Everyone's been looking at these portfolios with a view of grabbing them on the cheap but that is not what has happened – the prices have hardly dropped," says Li in response to whether AVIC Leasing was exploring portfolio acquisitions, including the aircraft portfolio of Commonwealth Bank and Goshawk Aviation.

"There has been a lot of talk about declining aircraft asset prices, some might even call it a slump, but we do not necessarily agree with that notion. Both asset valuations and lease rates have held up relatively well throughout the crisis and especially the pricing on aircraft portfolios in the market has not dropped much at all," adds the AVIC Leasing executive.

"As for valuations going forward, I think it really depends on how the OEMs [original equipment manufacturers] are reacting to the current environment. If they keep producing new aircraft at previous rates, and flood the market that way, then residual values will really suffer in the long run. I think it may take one or two years until we can really say with certainty what impact the Covid-19 crisis really had on valuations," concludes Li.

AVIC Leasing is the only leasing platform within AVIC and one of two lessors in China with an aircraft-manufacturing background, alongside COMAC-affiliated SPDB Leasing. Aircraft leasing forms about 30% of AVIC's total leasing portfolio.

AVIC Leasing is 85% directly and indirectly owned by AVIC Capital, which in turn is 49.5% owned by AVIC Group. AVIC Leasing is the largest subsidiary by total assets and accounts for about 50% of AVIC Capital's total assets.

# Down but **not out**

The Japanese operating lease with call option and Japanese operating lease aircraft financing products have weathered past crises, and they will survive the current downturn, too. Painful but important lessons, however, will have been learnt, as **Dominic Lalk** finds out from top players in the market.

Over the past 12 months, the big wigs in aircraft financing have decried that demand for Japanese operating lease with call option (Jolco) and Japanese operating lease (Jol) financings was "gone" and that the market was all but "dead".

The latest data, however, suggests otherwise. While there have undoubtedly been steep cuts in the volume of aircraft equity underwritten by Japanese investors, Jol and Jolco transactions did still see deals in Covid-dominated 2020, and more closes are expected in the ongoing Japanese fourth fiscal quarter ending 31 March.

Jol and Jolco heavyweight, JP Lease, saw its number of aircraft deals structured in fiscal 2020 drop to 13 deals worth ¥92.9 billion ($879.5 million), from 44 deals valued at ¥311.2 billion the previous year. Similarly, the balance and number of equity underwritten in aircraft deals through 31 December dropped to 11 deals worth ¥27.7 billion, from 31 aircraft deals valued at ¥72.5 billion in 2019.

*"Now is a good time to remind everyone that the Japanese market has a very good and very long memory."*

**Marito Takamasa**, joint general manager and global head of marketing, Tokyo Century

The numbers at Tokyo-based Financial Products Group (FPG) look similar. The company's equity placed in aircraft assets dropped 22% year-on-year in its first fiscal quarter ended 31 December, while equity placed in marine containers ballooned 1,100% over the period. Equity placed in aircraft amounted to 35% of FPG's leasing fund's total equity placed as at 31 December, down from 51% a year earlier. The fund's total amount of assets arranged in the first quarter dropped to ¥21billion from ¥51 billion a year earlier. The total inventory amount decreased 32% to ¥59 billion.

"Looking at the numbers disclosed by JP Lease and FPG, the amount of new equity they have underwritten have fallen below 30% of their previous year," says Marito Takamasa, joint general manager and head of global marketing of Tokyo Century's aviation finance division.

He adds: "Our year-on-year numbers are not that bad percentage wise but that is because we only underwrite a fraction of the two companies. We have not seen the market pick up in the second half of the year, despite our hopes. While there still are a couple of deals being closed due to prior commitments or long-term relationships, generally the market is not seeing much activity especially after the new calendar year."

Other experts in the field agree, including Thierry Pierson, chief executive officer and co-founder of Geneva-based Asset Brok'Air, who notes that airlines continue to be preoccupied with securing hefty government bailouts rather than structuring new aircraft deals.

"While there are still some Jol transactions going forward, the Jolco market is pretty frozen for the time being, save for very few exceptions such as pre-Covid mandates. This is due to the lack of equity underwriting appetite, but equally or more importantly the lack of qualifying commercial debt," says Pierson.

"To some extent, currently the typical Jolco airline is also more focused at raising billions from governments rather than raising millions from Jolco equities. This is not to mention that the flow of aircraft deliveries has dried up significantly and that the large operating lessors have swallowed most of it, whether under operating lease[-backs] or by way of straight finance transactions," says Pierson.

Asset Brok'Air does not expect a meaningful market recovery in 2021 as the airline industry processes ongoing restructurings and prepares for potentially more carrier liquidations.

"The Jolco market is still digesting the various restructurings, including returned/rejected aircraft and equity inventories. No rebound of the Jolco market is expected in 2021 save for a few exceptions. The focus of investors has shifted to maritime assets and the home market in Japan," explains Pierson.

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**Thierry Pierson**, chief executive officer and co-founder, Asset Brok'Air

Asset Brok'Air closed two Jolco transactions in 2020, one covering an Airbus A320neo narrowbody and an A350-900 widebody. Both are in operation with Scandinavian carrier SAS. Other Jolco financings that closed last year were deals with aircraft operating for airlines which included Lufthansa, British Airways, Cathay Pacific, Wizz Air and Turkish carrier Pegasus Airlines, *Airfinance Journal* data shows.

Sumitomo Mitsui Finance and Leasing (SMFL) has seen demand for Jol and Jolco transactions shift to shipping assets from aircraft holdings amid the ongoing pandemic, says Shinichiro Watanabe, its managing executive officer and head of transportation.

"Typically, about 70% of the year's total Jol/Jolco equity gets transacted in the second half of the Japanese fiscal year, so from October to April. Through the end of the third quarter, we saw volumes of about 50% of the previous year, so it was not too bad I would say. As we close the fourth quarter at the end of March, we of course hope to show a number much higher than that. The equity demand is obviously smaller, but it is still there, although, to be honest, for us at SMFL it was mostly focused on shipping, not so much on aircraft during the pandemic," says Watanabe.

The recovery of the Jol and Jolco market will take time, but the market will bounce back for lack of alternative tax solutions in Japan, says the SMFL transportation head.

"It will probably be at least another six to eight months until we see a real improvement with the Covid situation and that will then coincide with the beginning of the second half of the fiscal year here in Japan when hopefully investors will be looking for more tax solutions again," says Watanabe.

"I'm hopeful that the second half of 2021 will see a real revival of the aircraft equity demand market. Investors will come back to Jolco deals, they will need to. We do not have many other attractive tax solutions in Japan. We have no choice but to pay tax, so we need efficient solutions for that," he adds.

Listening to recent panel discussions and industry talk, investors are said to be "quite afraid" that a number of airlines will not exercise their call options, some because they are in the midst of Chapter 11-style restructurings, and others because they say asset values have dropped so much that exercising makes no business sense for them.

"This case may happen, obviously, but airlines are facing a strategic/economical decision: either being rejected from the market for a while when Jolcos will restart or complying with the 'gentlemen's agreement' of the Jolco, meaning exercising the purchase option. Returning an aircraft under a Jolco is not as easy as with an operating lessor," says Pierson.

"For those airlines that will survive, I strongly suggest balancing the decision in favour of the Japanese investors by seeking satisfactory outcomes for both sides. At Asset Brok'Air, we keep working to ensure that purchase options will be exercised in due course and on time," adds the firm's chief executive officer.

"We explained to our airline customers that if they do not exercise their call options they will be ostracised and banished from the market for many years – they cannot come back, nobody will accept their deals – so for us we haven't seen any of our airline credits decline the call option," says SMFL's Watanabe.

"Some of the discussions are still ongoing but so far it has not happened. Of course, the situation with under


Asset Brok'Air closed two Jolco transactions in 2020, one covering an Airbus A320neo for SAS bankruptcy or Chapter 11 proceedings is different, and those are painful and memorable experiences for Japanese investors, especially those in South and Latin America, to which we have some exposure," he adds.

"We are not aware of any Jolco deal where the purchase option was not exercised except for deals where the lessee has sought legal protection. We are, however, aware that there are pseudo Jolco deals (the intention of this being a Jolco was not shared among all parties, especially the lessee) where purchase options were not exercised. Where the investors cannot prove that the underwriters ran afoul of the regulations when selling these products, the investors will need to take a hit, and this will no doubt negatively affect the market," says Tokyo Century's Takamasa.

"Before Covid, many airlines differentiated Jolcos with other financings and chose to honour obligations in full, even when they were under legal protection. This certainly has changed, and we are now seeing airlines seeking to renegotiate terms for Jolcos also," adds Takamasa.

Tokyo Century says negotiations with airlines remain ongoing and so far none of its Jol and Jolco aircraft have been terminated or repossessed.

Japanese investors are notoriously cautious and risk averse. They do not easily trust new financial products and require a lot of "warming up" to all things new. Nevertheless, over the past five years Japanese taxpayers have become more open to agreeing aircraft Jol and Jolco deals with lesser-known and established airline credits, some would say particularly in Latin and South America. Will investors now shy away again from less-proven markets and carrier credits?

"The wave of new faces entering the Jolco market is fairly recent and we believe deals arranged for those names have not reached the stage where purchase options is an issue. The exceptions are, of course, where lessees have filed for legal protection and are negotiating lower lease rates with all lessors including Jolco lessors. With sufficient airlines filing for bankruptcy already, we believe the market will refocus on the traditional names, and as of now it is not easy even for traditional household names to tap the Jolco market," says Takamasa.

He adds that now is a good time "to remind everyone" that "the Japanese market has a very good and very long memory", so attention must be paid to protecting investor interests.

His colleague at SMFL agrees.

"Some of the deals we have seen in recent years, especially with carriers from South and Latin America, have focused on used aircraft, vintage aircraft. Of course, the lease terms here are shorter so the Japanese investors thought they could receive their tax benefits in a much shorter time. Unfortunately, these are aircraft now subject to Chapter 11 proceedings so you could say the deals did not work out," says Watanabe.

"The investors traded faster returns for greater risk, by sacrificing on the quality of the asset and lessee, but in this case that backfired. The investors and their advisers paid more attention to the tax benefit rather than credit or asset risk. Those arrangers are also very disappointed and will have learnt their lesson after having to face unsatisfied investors. It was a good warning to the arrangers. Of course, in the case of Jol, it is mostly fine now after the situation calmed down from the third quarter, but, in the case of Jolco, it is totally different, some investors are devastated and may not come back to the market," adds Watanabe.

"Clearly, the Jolco market will face, like any other market, a new environment with new economics. That was the case post-September 11, post the subprime mortgage crisis. In the current environment, the market will focus on survivors. The Latin American Jolco market is always up and down. Maybe the down period will be much longer this time as those airlines involved in Jolco deals broke the trust," says Brok'Air's Pierson.

The three Jol and Jolco financiers stress that key to a revival of the market is spending a lot of time with the customers, both on the Japanese investor side and the airline lessee end, to maintain the trust.

"Investor appetite for passenger aircraft has dwindled over time as bankruptcies increased and airlines continue to announce depressive results. We are searching for the few who do take a more long-term view, but this is not proving to be an easy task," says Takamasa.

"Japanese banks, not just the regional banks but also the megas, are not writing new aviation loans now. My personal view is, there is very little we can do when the knife is still falling and until vaccines become available to the larger public and airlines start scheduling cancelled routes again," he adds.

"We need to immediately remedy any issues to maintain investors' confidence in Jol and Jolco products. The Japanese leasing houses are doing an outstanding job protecting the interests of their investors. Jolcos will come back," says Pierson.

Some involved in Jol and Jolco transactions believe that a safer way forward for Japanese investors could be doing deals directly with big leasing credits rather than more volatile airline credits. Has Covid reinforced that thinking? Has the market seen new Jolco transactions closed with lessors?

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**Shinichiro Watanabe**, managing executive officer and head of transportation, Sumitomo Mitsui Finance and Leasing

"Some underwriters have expressed these views too. While this may be true from a Japanese perspective, we are not convinced that there is sufficient demand from the big lessors as financing their aircraft with Jolcos will require the lessor to set aside these aircraft from their trading inventory and hold them for 10 to 12 years. We may see a couple deals, but this will never be a big wave in our view," says Takamasa.

"Personally, I believe lessor Jolcos can be a very useful product for both lessors and investors. The Japanese investors may prefer a lessor's credit risk profile compared to an airline. This also goes for our affiliate SMBC Aviation Capital. I think there are good opportunities for us ahead in this segment," says SMFL's Watanabe.

Asset Brok'Air's Pierson agrees.

"Jolcos for operating lessors are performing very well and this is indeed a very good solution for the lessor and a great outcome for the investors," he says, adding: "The market is realising how much more secure/safer this can be for investors. I do anticipate much more activity in the coming months for such operating lessor financings. We have done three transactions since the last time we spoke, and 10 deals in total."

# **Mid-70 seats aircraft** dominate

The regional aircraft in the 75- to 80-seat market came top of *Airfinance Journal*'s Investor Poll regional aircraft category.

Once again the ATR72-600 model wins the *Airfinance Journal*'s Investor Poll regional aircraft category. However, its lead reduced subsequently last year after it dropped 0.14 points overall to score 3.60.

The regional market has been predicted to rebound relatively quickly as a result of domestic traffic and public service operations. However, airline failures and bankruptcies have not spared this market.

The ATR72-600 model is not immune to market conditions.

Placements are happening but lease rates for some vintage aircraft are lower than the typical $120,000 to $130,000-a-month pre-pandemic deals.

Lease rates have also dropped on the new aircraft, and *Airfinance Journal* is aware of one lease placement in the $135,000 to $140,000-a-month bracket.

The ATR72-600 continues to open new markets, as shown lately in Congo or with Nigeria's start-up carrier Green Africa Airways.

Operating lessor Nordic Aviation Capital was active last year, placing some aircraft in France (Amelia) or Russia (Windrose Aviation), or Trinidad and Tobago-based Caribbean Airlines in the secondary market. It also delivered nine new ATR72-600s to Romania's Tarom.

Other lessors such as GECAS, Truenoord Aircraft Leasing and ACIA Aero Leasing also placed aircraft with Passaredo (Brazil), US Bangla Airlines (Pakistan) and Angolan carrier Bestfly, respectively.

Singapore-based aircraft lessor Avation also has a mandate for two new ATR72-600s with Bangladeshi carrier US-Bangla running between January and March.

There has been trading too in the ATR72-500 market but as with many regional aircraft, the lease rates are a notch down.

Sales for the Embraer 175 continue and, again, this is reflected in the investor survey: the poll showed the E175 moved up to the second position in the regional aircraft rankings. Last year, appraisers told *Airfinance Journal* that the E175 position at the "sweet spot" for regional aircraft in the USA may come under threat if airlines are able to renegotiate their scope clauses amid the Covid-19 pandemic.

"If US airlines take the Chapter 11 route and renegotiate their scope clauses, in the longer term the sweet spot could be under threat," warns Olga Razzhivina, senior ISTAT appraiser, Oriel.

The E175 is a well-positioned aircraft to remain in demand in North American markets because of the scopes.

Other types such as the E170, E190 and E195 may face a much more "limited market", says Avitas' Doug Kelly.

The De Havilland Canada's Dash 8-400 model suffered setbacks last year with the collapse of Flybe and LGW, which had fleets totalling 69 aircraft.

In April, German regional carrier LGW filed for insolvency after Lufthansa low-cost subsidiary Eurowings terminated a wet-lease agreement for 15 Dash 8-400s.

Flybe's collapse in March was a serious blow for Dash 8-400 programme because the UK regional carrier was the turboprop's largest operator with 54 units.

With 69 aircraft suddenly becoming idle, it was likely that it will take a significant amount of time to absorb these in addition to the already stored fleet. Consequently, there were negative implications on the model.

To compound the manufacturer's woes, other large European Dash 8-400 operators have been in the process of phasing out the type: SA Express (nine aircraft) and Air Baltic (12 aircraft).

There has been some activity in the Dash 8-400 market with placements, such as the announcement of 11 units sale to aerial firefighting specialist Conair Group in the final quarter of last year.

The Canadian operator intends to convert the 2007/09-vintage fleet into Q400AT air tankers and Q400MR multi-role variants to join its firefighting fleet of 70 aircraft, which also includes Convair 580s and BAe Avro RJ85s.

De Havilland is not selling any new aircraft and, as one analyst comments on the poll, the type is becoming "a weak 70- to 90-seater today".

In February the Canadian regional aircraft manufacturer announced it will not produce new Dash 8-400 aircraft at its Downsview site beyond currently confirmed orders. The manufacturer tells *Airfinance Journal* it delivered 11 aircraft in 2020.

New aircraft sales in the regional aircraft space were limited in 2020. Embraer announced a few orders last year, but most were types swaps.

Congo Airways converted a firm order for two E175s made in December 2019 into an order for two E190-E2 aircraft in May 2020 while the purchase rights were announced in January 2021 as a firm order for two E195-E2 aircraft. Last year, Helvetic Airways signed a commitment to convert four remaining firm orders for E190-E2s to the larger E195-E2 model.

## Regionals

| Aircraft type | Residual value | Value for money | Operational success | Remarketing potential | Overall score | Last year's score | Difference |
|---|---|---|---|---|---|---|---|
| **ATR72-600** | 3.26 | 3.71 | 4.25 | 3.19 | **3.60** | **3.74** | -0.14 |
| **E175** | 3.25 | 3.62 | 4.27 | 2.94 | **3.52** | **3.43** | 0.09 |
| **ATR72-500** | 2.68 | 3.71 | 4.00 | 2.72 | **3.28** | **3.34** | -0.06 |
| **CRJ900** | 2.71 | 3.29 | 3.60 | 2.67 | **3.07** | **3.1** | -0.03 |
| **ATR42-600** | 2.94 | 3.18 | 3.69 | 2.41 | **3.06** | **3.4** | -0.35 |
| **Dash 8-400** | 2.53 | 3.37 | 3.73 | 2.32 | **2.99** | **3.47** | -0.48 |
| **ATR42-500** | 2.53 | 3.14 | 3.56 | 2.31 | **2.89** | **3.13** | -0.25 |
| **E190** | 2.35 | 3.21 | 3.47 | 2.38 | **2.85** | **3.18** | -0.33 |
| **CRJ700** | 2.52 | 2.85 | 3.43 | 2.46 | **2.82** | **2.95** | -0.14 |
| **E195-E2** | 2.76 | 2.92 | 2.77 | 2.44 | **2.72** | **3.06** | -0.34 |
| **E195** | 2.44 | 2.92 | 3.07 | 2.25 | **2.67** | **2.93** | -0.26 |
| **E190-E2** | 2.50 | 2.77 | 2.57 | 2.29 | **2.53** | **3.05** | -0.52 |
| **E170** | 2.25 | 2.62 | 2.93 | 2.06 | **2.47** | **2.38** | 0.09 |
| **CRJ1000** | 1.88 | 2.68 | 2.86 | 1.63 | **2.26** | **2.17** | 0.09 |
| **E175-E2** | 2.25 | 2.50 | N/A | 1.80 | **2.18** | **2.42** | -0.24 |
| **SSJ-100** | 1.19 | 1.53 | 1.17 | 1.06 | **1.24** | **1.25** | -0.01 |

Chief financial officer, Antonio Carlos Garcia, says Embraer has not registered any cancellations on its E-Jet programme since the beginning of Covid-19.

Embraer's other models, especially the E2 version, are penalised by relatively low appetite. The E190-E2 and the E195-E2 have not sold in great numbers over the past few years.

ATR has been talking about a new turboprop for some time, while Embraer is studying this market very closely.

The news of Embraer potentially opening up a freighter-conversion market for its E190/195 models could pump up their overall scores in the future.

**End of CRJ production**

The Canadair Regional Jet (CRJ)-family production is scheduled for the first quarter of this year with the final delivery of a CRJ900 aircraft. The aircraft, to be delivered to Delta Air Lines, for operations at Skywest Airlines, is MSN 15499.

The manufacturer delivered one CRJ900 to US multinational Dow Chemical before that. The aircraft followed the delivery of another new CRJ900 on 30 December.

Another new CRJ900 was delivered to Chorus Aviation, for forward lease to Jazz Air.

The CRJ family, made up of the CRJ100, 200, 440, 550, 700, 900 and 1000 models, is one of the most successful in commercial aviation since it debuted in 1992.

Derived from the Challenger business jet, the commercial aircraft programme received more than 1,950 orders in almost 30 years in production. The 50-seat CRJ100 and CRJ200 models had more than 1,000 orders.

The CRJ series programme was expanded with the launch of the 70-seat CRJ700 in 1997, the 86-seat CRJ900 in 2000 and the 104-seat CRJ1000 in 2007.

Bombardier delivered 330 CRJ700s to customers but only clocked 63 orders for its larger variant, the CRJ1000.

The CRJ900 was the most successful variant with almost 500 orders but the 20-year-old variant has suffered various customer and slot changes over the past few years.

**Where now?**

Mitsubishi Heavy Industries (MHI) took over the Bombardier CRJ business in June 2020 and created a company, MHI RJ Aviation.

As part of the $550 million agreement, as well as $200 million in liabilities MHI acquired the type certificates, maintenance, marketing, sales activities of the CRJ series, as well as the entire aftermarket service network (including support network locations in Montréal and Toronto, US service centres located in Bridgeport and Tucson) to supporting customers.

This will be the main focus over the next few years because the CRJ fleet remains large.

But MHI RJ Aviation will also continue the work done by the Bombardier commercial team before the acquisition, and offer improvements to maintain residual values of the CRJ900 type.

In the second half of 2018, Bombardier delivered a new cabin interior version, 'Atmosphere', for its CRJ products. The cabin interior improvement was the first cabin investment in 10 years in the regional jet market. Atmosphere includes a new larger entrance because the manufacturer reworked the galley space at the front of the aircraft and concentrated its efforts on space. It has increased the size of its over-bins by 40% in the standard cabin while business passengers benefit from a 50% capacity increase.

A year later, Bombardier launched a 50-seat version of the CRJ700, the CRJ550, after United Airlines executed a 10-year agreement with Gojet Airlines.

The US major operates 38 aircraft with the three-class configuration but recently agreed a new deal for 20 additional aircraft.

There has been a fair amount of trading lately in the CRJ700 market, and Skywest Airlines has been at the centre of it.

The market for the CRJ700 is an opportunistic one and prices are on the low side of any evaluations.

Dow Chemical recently sold two CRJ700s, which are 10 and 11 years of age, to the Utah-based carrier.

Skywest has also agreed to acquire 32 CRJ700s in the secondary market for capacity purchase arrangements with different majors.

Eleven were sourced from Air France, which had remarketed the fleet, operated by its regional fleet at subsidiary Hop, since last September.

The 11 CRJ700s are relatively old (2002- to 2007-vintage) and were purchased in a "as-is condition".

The Utah-based carrier also purchased 10 CRJ700s from Gojet Airlines. All aircraft were manufactured in 2008 and 2009.

Another 11 units have been purchased from GECAS, add sources. Those aircraft were delivered in 2005 and 2006 and were on lease to Gojet Airlines.

**E190**

The second-hand market for the E190 model has been buoyant over the past 18 months and the Embraer fleets from Air Canada, China Southern Airlines, American Airlines and Copa have found new homes.

Australia has been the focus of the 2020 activity in this market as regional carriers step up their activity in the wake of a reduction of capacity by incumbent players.

Alliance Airlines received the first of 14 former Copa E190s from US remarketing company Azorra Aviation. Azorra purchased Copa's 15-aircraft fleet "as-is" and is overseeing heavy checks on the aircraft before selling the units to the Australian carrier.

One E190 went to ACMI carrier German Airways (formerly WDL Aviation) earlier in 2020, for which Azorra Aviation had already committed four other aircraft.

In Australia, ACMI, charter and cargo airline Pionair is also adding second-hand models. The BAe 146QT operator recently acquired one E190 previously operated by Helvetic Airways from operating lessor GOAL.

Alliance Airlines is also looking at increasing its E190 fleet with the acquisition of some former American Airlines aircraft, which were sold to US trading company Jetran last summer.

Air Canada returned its 15 E190s to Nordic Aviation Capital last year and those have been placed under lease agreements with start-up carrier Breeze Aviation, which also operates 12 E195s under a wetlease agreement with Azul.

Embraer has welcomed more new E190 customers.

Myanmar Airways took delivery of some aircraft from lessors. The aircraft were previously operating for China Southern Airlines and Mandarin Airlines, respectively. The Yangon-based airline's incoming E190s are earmarked for the Myanmar domestic market and some key international routes, supplementing operations by sister carrier Air KBZ on domestic and regional routes.

The Chinese lessor has also placed more former China Southern units in Latin America with Amaszonas Bolivia.

CDB Aviation has also committed some E190s to Mongolia's Hunnu Air.

In Europe, BA Cityflyer has added eight former China Southern Airlines E190s under lease agreements with CDB Aviation while UK regional carrier Eastern Airways recently became a new customer for the type with the addition of a former Air Moldova aircraft.

Embraer's newest customer is start-up carrier Ego Airways. The Italian company is about to launch services from Milan's Malpensa airport and has leased an E190 from German company WDL Aviation.

Still more E190s are coming to the market.

Moroccan flag carrier Royal Air Maroc announced plans to return early its four E190s to lessors, while no concrete plans have been made for Jetblue Airways' fleet, which totals 60 units, and the 50-aircraft HNA fleet.

Aeromexico Connect and KLM Cityhopper will also see their first E190 leases starting to expire from this year onwards.

Despite the placements, the E190 values have been affected by the Covid-19 crisis. The fleets that have traded were also in need of engine investment to transfer to their new operators.

# Boeing 737 Max 8 – a long way back

As it returns to service, **Geoff Hearn** gets views on values and lease rates for Boeing's troubled aircraft.

The Boeing 737 Max models are the fourth generation of the Boeing 737. Although the latest variants retain similarities with earlier designs, the Max family incorporates major technological advances from the so-called Next Generation (NG) models, which were already substantially enhanced from the original 737 types.

According to the US manufacturer, the aircraft's key features include: new engines, updated flight deck and new interior. The aircraft offer substantial fuel burn and range advantages over the aircraft they replace. As with the NG family, Boeing has opted to go with CFM International as a single source engine supplier, selecting the Leap-1B engine as the sole powerplant option. The Max-family aircraft are all equipped with Boeing's Sky Interior, which was introduced as an option on NG models in 2010.

The 737 Max family includes four variants. The Max 8, which replaces the successful 737-800, was the first to enter service in 2017. However, the fleet (together with a few Max 9s) was grounded in March 2019 after the second of two fatal crashes and was not cleared to enter service in the USA until November 2020.

The aircraft is still not cleared to fly in a number of jurisdictions – notably the People's Republic of China. According to *Airfinance Journal*'s Fleet Tracker, China had received 97 Max aircraft at the time of the grounding and its order backlog was more than 250 units.

## ISTAT appraisers' views

### Avitas

**Martin O'Hanrahan, senior consultant**

The 737 Max 8 programme was already a sales success for Boeing prior to the first aircraft entering commercial service with Malindo Air in May 2017, having won almost 3,700 orders at that point. By early 2019, Boeing had secured more than 4,800 firm orders for the 737 Max family with about 80% of these being for the Max 8 variant. The

Boeing 737 Max 8

lengthy customer list included a wide variety of both top-tier airline operators and prominent lessors.

However, in March 2019, the Max programme suffered an unprecedented setback when aviation authorities around the world ordered all aircraft to be grounded. This occurred following a second fatal accident for the type when an Ethiopian Airlines 737 Max 8 was lost shortly after take-off from Addis Ababa, in similar circumstances to the crash of a Lion Air flight in Indonesia six months previously. As investigations into the accidents progressed, it became clear that the causes were related to the manoeuvring characteristics augmentation system (MCAS) incorporated into the Max design.

After a lengthy investigation, the system was recalibrated using a new software update with the close cooperation of the FAA and other authorities. While this process was underway, the 737 Max fleet remained inactive, all deliveries were stopped and the manufacturer suspended the production line for a time.

The crisis in the airline industry provoked by Covid-19 started to unfold about a year into the grounding of the 737 Max. Commercial aviation worldwide was thrown into turmoil as passenger traffic collapsed and demand for aircraft all but evaporated. The severe downturn in the market was well established by the time the FAA finally lifted the 737 Max grounding order in November 2020. This cleared the way for a resumption in airline operations and the delivery of new aircraft. While many other authorities, including the European Union Aviation Safety Agency (EASA) and the British CAA, have followed suit, approval from China's CAAC had not been secured by the end of February.

While the return to service of the 737 Max has been welcome news, a number of challenges remain, not least because of the prevailing commercial environment. Avitas believes that it could be at least two years before the backlog of aircraft that are already completed but not yet delivered can be placed in the hands of customers.

However, although there have been some order cancellations and delivery deferrals, the 737 Max 8 orderbook remains robust and the type appears set to be a dominant force in the narrowbody market for years to come.

## 737 Max 8 Current market value ($m)

| Build year | 2017 | 2018 | 2019 | 2020 | 2021 (new) |
|---|---|---|---|---|---|
| Avitas view | 33.8 | 36.9 | 40.2 | 44.1 | 46.4 |
| IBA view | 33.6 | 36.3 | 39.0 | 41.8 | 45.2 |

*Assuming standard Istat criteria*

## 737 Max 8 Indicative lease rates ($'000s/month)

| Build year | 2017 | 2018 | 2019 | 2020 | 2021 (new) |
|---|---|---|---|---|---|
| Avitas view | 245-255 | 255-265 | 265-275 | 275-285 | 285-295 |
| IBA view | 225 | 231 | 241 | 251 | 262 |

## AIRCRAFT CHARACTERISTICS

### Seating/range

| | |
|---|---|
| Max seating | 200 |
| Typical seating | 162-172 |
| Maximum range (winglets) | 3,515nm (6,510km) |

### Technical characteristics

| | |
|---|---|
| MTOW | 82.2 tonnes |
| OEW | 45.1 tonnes |
| MZFW | 65.9 tonnes |
| Fuel capacity | 25,810 litres |
| Engines | LEAP-1B |
| Thrust | 26,780lbs (119kN) |

### Fuels and times

| | |
|---|---|
| Block fuel 200nm | 1,720kg |
| Block fuel 500nm | 3,040kg |
| Block fuel 1,000nm | 5,320kg |
| Block time 200nm | 54 minutes |
| Block time 500nm | 94 minutes |
| Block time 1,000nm | 160 minutes |

### Fleet data

| | |
|---|---|
| Entry into service | 2017 |
| In service | 75 |
| Operators (current and planned) | 95 |
| In storage | 310 |
| On order | 3,062 |
| Delivered peak year (2018) | 194 |
| Estimated production 2021 | 225 for all Max models |
| Average age | 1.5 years |

**Source**: *Air Investor 2021, Airfinance Journal Fleet Tracker, 18 February 2021*

### Indicative maintenance reserves

| | |
|---|---|
| C-check reserve | $65-$70 per flight hour |
| Higher checks reserve | $50-$55/flight hour |
| Engine overhaul | $120-$125/engine flight hour |
| Engine LLP | $125-$130/engine cycle |
| Landing gear refurbishment | $45-$50/cycle |
| Wheels, brakes and tyres | $70-$75/cycle |
| APU | $80-$85/APU hour |
| Component overhaul | $210-$220/flight hour |

**Source**: *Air Investor 2021*

**IBA**

**Geoffroy Robin, aviation analyst**

In early December 2020, Gol Linhas Aereas became the first airline to bring the 737 Max 8 back to service. By early February, a total of six airlines had reintroduced the aircraft and the number is slowly climbing. As of mid-February, only about 6% of the Max aircraft that had completed their first flight had returned to active service following the grounding.

Boeing has outlined its plans to deliver nearly 225 Boeing 737 Max aircraft in 2021. More than 45% of built Max aircraft (about 375 units) are yet to be delivered to customers. Most of the undelivered aircraft were built in 2019.

European carriers did not rush to restart operations with the Max, despite the green light from EASA in January. However, in mid-February, Tui Fly Belgium was the first European operator to restart services and other carriers are following suit.

In 2020, nearly 690 Max orders were cancelled, including 92 from Norwegian and 42 from Virgin Australia as part of their respective restructuring plans. Lessors were responsible for the largest number of Max cancellations, with 410 recorded last year. Aviation Capital Group and GECAS topped the lessor cancellation chart, with 76 and 74 aircraft, respectively. Following the various cancellations, the backlog for the 737 Max family is still substantial, but includes about 2,000 fewer aircraft than the competing A320-family orderbook. While the Max 8 competes well in terms of backlog with the Airbus A320neo, the A321neo is outpacing the larger Max 9 and Max 10 models significantly.

Although the 737 Max aircraft is slowly returning to commercial service, it still faces uncertainty as major markets have yet to recertify the type. About 50% of the undelivered aircraft fleet comes under the jurisdiction of authorities, particularly in the Asia-Pacific region, which have yet to approve the aircraft's return to service.

IBA's market values (see table) are slightly above soft values for all vintages except from newly delivered aircraft, highlighting some softness within the current market values of the aircraft type because of transactions observed before and through the Covid-19 pandemic.

IBA applies a maintenance zero-clock setting at delivery for aircraft that were built during the grounding of the type. As such, there will be no maintenance-related penalty applied to aircraft built during the grounding compared with aircraft built and delivered since its lifting.

## Max's gradual return

The removing of the FAA ban in November 2020 and the subsequent easing of restrictions by many authorities around the world have paved the way for the 737 Max to return to service. However, many airlines remain cautious and are monitoring passenger reaction.

American carriers were the first to put the aircraft back into service. United Airlines, Aeromexico, Gol, Air Canada, Westjet and American Airlines were among the earliest to restart Max operations.

European airlines did not hurry the aircraft back into service after the EASA followed its US counterpart in lifting the grounding of the Max family, but momentum is growing. The European agency remains cautious and has said it will continue to monitor 737 Max operations closely as the aircraft resumes service.

Given the carrier's involvement in the accident that triggered the 737 Max grounding, the attitude of Ethiopian Airlines towards the aircraft's return to service is being closely watched. The African company's chief executive officer, Tewolde GebreMariam, was widely reported in February as saying that the airline was looking at resuming operations with the aircraft in July and, encouragingly for Boeing, intends to continue with its order for 25 more of the type. The airline, however, remains cautious about passenger perception.

Although authorities around the world are lifting the ban, the UAE is among the latest, China is a glaring omission from the list of countries that have approved the 737 Max's return to service. This is potentially serious for Boeing because the Chinese market accounts for about 20% of all single-aisle aircraft orders and the country is recovering from the Covid crisis earlier than most regions of the world.

The Chinese aviation regulators have not indicated when approval might be given, and there is concern that the Max situation may get tangled up in the fraught Sino-US political situation. That is a problem Boeing could do without.

# **Small widebodies** out of favour

Airbus's A330-800 has entered service but sales remain disappointing. **Geoff Hearn** looks at the prospects for the aircraft and the competing 787-8.

Sales of small twin-aisle aircraft were at best sluggish before the Covid-19 outbreak and the pandemic has ensured there was no upturn in 2020.

The Airbus A330-800 had the apparent misfortune to enter into service in the midst of the crisis and its minimal sales have not been boosted, as is sometimes the case when airlines first see an aircraft in operation.

The consolation for Airbus is that the A330-800 has not lost further market share to the directly competing 787-8, which even before the pandemic was recording very few sales. Both Boeing and Airbus can point to successful larger models in the family – the 787-9 and A330-900, respectively – offsetting sluggish sales of the smaller models.

**A330neos**

Airbus formally launched re-engined versions of its A330-200 and A330-300 models in 2014. The replacement models were designated as the A330-800 and A330-900, respectively, and, in line with the company's single-aisle family, were assigned the marketing designation Neo (new engine option). The aircraft are intended to complement the European manufacturer's A350 models and help compete against the smaller models in Boeing's 787 family.

The A330neos are the same size as the aircraft they replace, but incorporate an A350-style cabin, which allows an increase in capacity. The European manufacturer says that compared with the original A330s, the new models can accommodate an additional 10 passengers as well as offering range increases of about 1,000 nautical miles.

The A330-800 first entered service with Kuwait Airways


The 787-8 has a broad customer base

The Rolls-Royce Trent 7000 is the only engine available on the A330neo variants and contributes much of the fuel burn savings that new models offer over their respective predecessors. A new nacelle design adds to the improvements obtained by the installed engine.

The A330neos also have an increased wingspan, resulting primarily from the adoption of wingtips based on the technology of the A350's sharklets.

**Boeing 787**

The 787 family, which Boeing markets under the name Dreamliner, initially comprised three models, but the short-range 787-3 was dropped, leaving the 787-8 and larger 787-9. Boeing subsequently added the stretched 787-10 to its offering.

The 787 was a radical departure from traditional commercial transport aircraft in terms of materials and systems architecture. Composites comprise about 50% of the primary structure of the 787 (including wing spars and floor beams) and reduce weight by about 20% compared with earlier airframe designs. The radical approach contributed to development delays. The 787-8 was the lead variant and eventually entered service in 2011.

The 787 family offers a choice of two new-technology engines, the General Electric GEnx 1B and the Rolls-Royce Trent 1000 series, both delivering significantly improved fuel consumption and reduced noise and emissions compared with previous-generation engines.

**Orders**

Comparing individual models in competing families can be misleading, but it looks very unlikely that the A330-800 will catch up with sales of the 787-8. The Covid pandemic has impacted all of the widebody market, and the absence of sales in 2020 is unsurprising, but, more significantly,

## Competing small widebodies

| Model | 787-8 | A330-800neo | 787-9 | A330-900neo |
|---|---|---|---|---|
| Maximum seats | 359 | 406 | 408 | 440 |
| Typical two-class seats | 240-250 | 220-260 | 290-300 | 260-300 |
| Typical range (nautical miles) | 7,300 | 8,150 | 7,530 | 7,200 |
| Entry into service | 2011 | 2020 | 2014 | 2018 |
| Delivered | 375 | 3 | 557 | 54 |
| Order backlog | 49 | 12 | 321 | 266 |
| Orders 2019/2020 | 2/0 | 6//0 | 91/11 | 98/0 |
| Current market value ($m) | 114.1 | 92.2 | 139.8 | 104.0 |

Source: Air Investor 2021 and *Airfinance Journal* Fleet Tracker the A330-800 and the 787-8 received only eight orders between them in 2019. It would seem there is little demand for the smallest of the new-generation widebodies.

Boeing may not be overly concerned at this development given the 787-8 still has a backlog of 50 deliveries and, with total orders of more than 400 aircraft, has gone a long way to covering development costs. The 787-9 sold reasonably well in 2019 and even managed a few sales in 2020. The 787-9 is a significantly more capable aircraft in terms of range as well as capacity than its smaller stablemate, which may be a factor in 787-8 sales drying up.

For Airbus, the fate of its smallest and newest A330 variant is more concerning given the additional investment that will have been required to develop the aircraft. Airbus has consistently expressed confidence in the A330-800 and the aircraft has entered service with both Kuwait Airways and Uganda Airlines. The only other announced customer is Air Greenland, with an order for a single aircraft. Whether the additional range of nearly 1,000 nautical miles and the lower cost per trip offered by the smaller Airbus model can attract airlines remains to be seen. The high degree of commonality between the two A330neo models, as well as a shared production line, probably allows Airbus to keep its options open for longer than otherwise might be the case.

**Market**

There appears to be a sizeable replacement market available to the latest generation of smaller widebodies. Candidates for replacement include the 767-300ER as well as the A330-200 and -300, which all have sizeable existing fleets. *Airfinance Journal*'s Fleet Tracker indicates that these models have a combined active and stored fleet of more than 1,600 aircraft (in the current environment it is difficult to distinguish between aircraft stored for the long term and those likely to return to service relatively quickly).

Close to 1,000 of the combined fleet are over 10 years old, according the database. Before the pandemic, airlines were increasingly opting for larger variants as replacements, but reduced traffic levels after the pandemic may influence future decisions in the direction of smaller models. That at least will be the hope of Airbus.

**Operating cost**

Manufacturer claims have a tendency to maximise if not overstate the efficiencies offered by their latest-generation models. The savings often focus on costs per seat with maximum credit taken for notional increases in capacity. Reduced maintenance costs are normally assumed, even if the savings are somewhat theoretical – particularly in the case of engines.

For a balanced assessment of the competing latest-generation small single-aisle models, *Airfinance Journal* has carried out its own analysis of operating costs based on information released by the manufacturers.

To provide a benchmark for comparison with previous-generation aircraft, the A330-200 is taken as the baseline for the calculations. Based on pre-Covid fuel pricing, the analysis shows that the 787-8 offers a greater trip cost saving than the A330-800 over the A330-200.

The widespread adoption of new technologies and materials in the 787 may have been a factor in the troubled development programme of the Boeing aircraft, but it does appear to offer very significant advantages in operating efficiency.

The A330-800 does offer an improvement over its predecessor but this only looks competitive for airlines that require its additional range compared with the 787-8 (and the A330-900). In any case, the results imply that Airbus will need to offer the A330-800 at competitive pricing. The current market values of the respective aircraft appear to confirm this.

At current fuel prices, the comparison between the competing new models remains broadly similar, but the advantages over the A330-200 are marginally reduced.

There is an old engineering adage that shrunk aircraft tend to be inefficient and there are many examples of unsuccessful attempts to develop smaller models in a family. This does not apply to the 787-8, because it was the baseline aircraft, but the A330-800 has some way to go to avoid adding to the list of failed developments.

## Indicative relative cash operating costs at pre-Covid fuel price

($1.9 per US gallon)

| | 787-8 | A330-200 | A330-800 | 787-9 | A330-900 |
|---|---|---|---|---|---|
| Relative trip cost | 84% | Base | 95% | 89% | 96% |
| Relative seat cost | 86% | Base | 91% | 78% | 83% |

## Indicative relative cash operating costs at January 2021 fuel price

($1.1 per US gallon)

| | 787-8 | A330-200 | A330-800 | 787-9 | A330-900 |
|---|---|---|---|---|---|
| Relative trip cost | 85% | Base | 96% | 91% | 97% |
| Relative seat cost | 87% | Base | 93% | 80% | 84% |

Assumptions: 4,000-nautical mile sector; fuel consumption, speed, maintenance costs and typical seating layouts are as per Air Investor 2021.

## Previous-generation small widebodies

| Model | 767-300ER | A330-200 | A330-300 |
|---|---|---|---|
| Maximum seats | 350 | 380 | 440 |
| Typical two-class seats | 260-270 | 240-250 | 260-290 |
| Typical range | 7,300 | 8,150 | 7,530 |
| (nautical miles) | 5,990 | 7,500 | 6,100 |
| Entry into service | 1987 | 1998 | 1993 |
| In service | 192 | 249 | 391 |
| Stored | 192 | 289 | 331 |
| Average age (years) | 21.6 | 12.5 | 9.9 |
| Aircraft over 10 years old | 247 | 348 | 358 |

Source: Air Investor 2021 and *Airfinance Journal* Fleet Tracker

# Rating agency unsecured ratings

## Airlines

| | Fitch | Moody's | S&P |
|---|---|---|---|
| **Aeroflot** | BB-(neg) | - | - |
| **Air Canada** | BB-(neg) | Ba3(neg) | B+(neg) |
| **Air New Zealand** | - | Baa2(stable) | - |
| **Alaska Air Group** | BB+(neg) | - | BB-(neg) |
| **Allegiant Travel Company** | - | Ba3(neg) | B(neg) |
| **American Airlines Group** | B-(watch neg) | B2(neg) | B-(neg) |
| **Avianca Holdings** | D | - | D(NM) |
| **British Airways** | BB(neg) | Ba2(neg) | BB(neg) |
| **Delta Air Lines** | BB+(neg) | Baa3(neg) | BB(neg) |
| **Easyjet** | - | Baa3(neg) | BBB-(neg) |
| **Etihad Airways** | A(stable) | - | - |
| **Grupo Aeromexico** | - | - | D(NM) |
| **GOL** | CCC+ | B3(stable) | CCC+(developing) |
| **Hawaiian Holdings** | B-(neg) | B1(neg) | CCC+(neg) |
| **International Consolidated Airlines Group** | - | Ba2(neg) | BB(neg) |
| **Jetblue** | BB-(neg) | Ba2(neg) | B+(neg) |
| **LATAM Airlines Group** | WD | - | - |
| **Lufthansa Group** | - | Ba2(neg) | BB-(neg) |
| **Qantas Airways** | - | Baa2(neg) | - |
| **Ryanair** | BBB(neg) | - | BBB(neg) |
| **SAS** | - | B3(stable) | B-(stable) |
| **Southwest Airlines** | BBB+(neg) | Baa1(neg) | BBB(neg) |
| **Spirit Airlines** | BB-(neg) | B1(neg) | B(neg) |
| **TAP Portugal (Transportes Aereos Portugueses, S.A.)** | - | Caa2(neg) | B-(watch neg) |
| **Turkish Airlines** | - | B3(neg) | B(neg) |
| **United Airlines Holdings** | BB-(neg) | Ba2(neg) | B+(neg) |
| **Virgin Australia** | WD | - | - |
| **Westjet** | B(neg) | B3(neg) | B-(neg) |
| **Wizz Air** | BBB-(neg) | Baa3(neg) | - |

Source: Ratings Agencies - 22/02/2021

## Lessors

| | Fitch | Moody's | S&P | Kroll Bond Ratings |
|---|---|---|---|---|
| **Aercap** | BBB-(neg) | (P)Baa3(neg) | BBB(neg) | - |
| **Air Lease Corp** | BBB(neg) | - | BBB(neg) | A-(neg) |
| **Aircastle** | BBB(stable) | Baa3(neg) | BBB-(stable) | - |
| **Avation PLC** | C | - | CC(watch neg) | - |
| **Aviation Capital Group** | WD | Baa2(neg) | BBB-(neg) | A-(neg) |
| **Avolon Holdings Limited** | BBB-(neg) | Baa3 | BBB-(neg) | BBB+(neg) |
| **AWAS Aviation Capital Limited** | - | Baa3(neg) | BB+(stable) | - |
| **BOC Aviation** | A-(stable) | - | A-(neg) | - |
| **CCB Leasing (International) Corporation** | - | - | A (stable) | - |
| **CDB Aviation Lease & Finance** | A+(stable) | A1(neg) | A(stable) | - |
| **Dubai Aerospace Enterprise** | BBB-(neg) | Baa3(neg) | BB+(stable) | BBB+(neg) |
| **Fly Leasing** | - | B1(neg) | BB-(neg) | BBB-(neg) |
| **Global Aircraft Leasing** | - | B1 | - | - |
| **ICBC Financial Leasing** | A(stable) | A1(stable) | A(stable) | - |
| **ILFC (Part of Aercap)** | BBB-(neg) | Baa3(neg) | - | - |
| **Macquarie Group Limited** | A-(neg) | A3(stable) | BBB+(stable) | - |
| **Marubeni Corporation** | - | Baa2(stable) | BBB(stable) | - |
| **Mitsubishi UFJ Lease** | - | A3(stable) | A-(stable) | - |
| **Park Aerospace Holdings** | BBB-(neg) | Baa3 | - | - |
| **SMBC Aviation Capital** | A-(neg) | - | A-(neg) | - |
| **Voyager Aviation** | CCC | Caa1 | CCC- | CCC-(neg) |

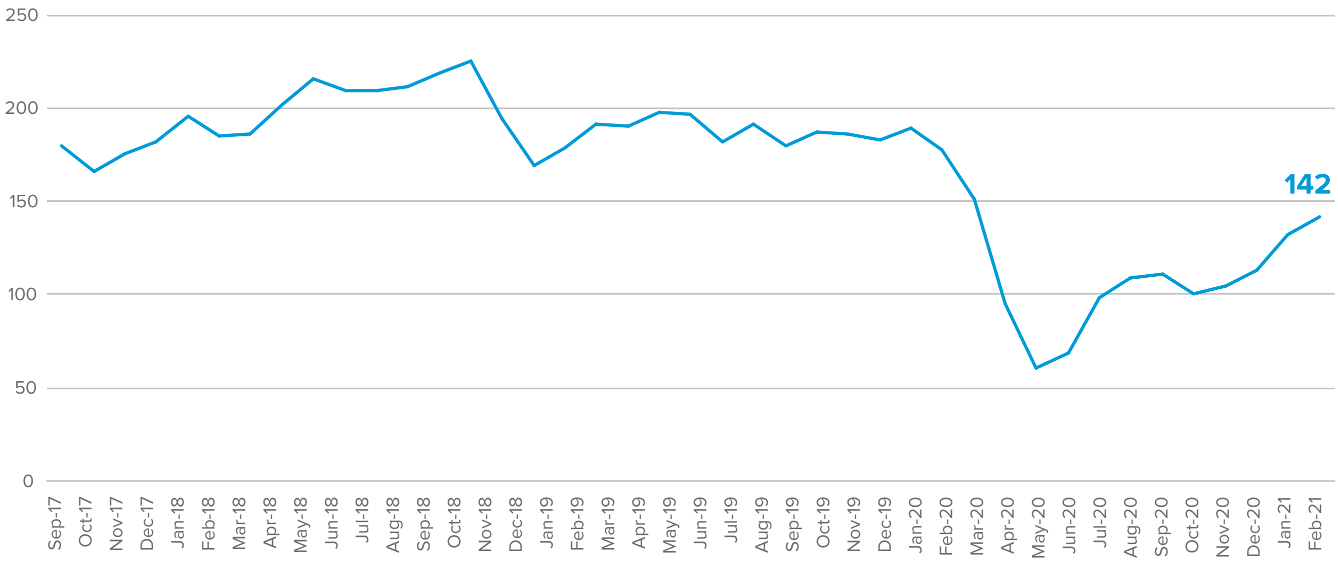
Source: Ratings Agencies - 22/02/2021

## Manufacturers

| | Fitch | Moody's | S&P |
|---|---|---|---|
| **Airbus Group** | BBB+(neg) | A2(neg) | A(neg) |
| **Boeing** | BBB-(neg) | Baa2(neg) | BBB-(neg) |
| **Bombardier** | CCC | Caa2(neg) | CCC+(neg) |
| **Embraer** | BB+(neg) | Ba2(neg) | BB(neg) |
| **Rolls-Royce plc** | BB-(neg) | Ba3(neg) | BB-(watch neg) |
| **Raytheon Technologies Corp** | - | Baa1(stable) | A-(neg) |

Source: Ratings Agencies - 22/02/2021

## US Gulf Coast kerosene-type jet fuel (cents per US gallon)




Source: *US Energy Information Administration*

## Commercial aircraft orders by manufacturer

| | Gross orders 2021 | Cancellations 2021 | Net orders 2021 | Net orders 2021 |
|---|---|---|---|---|
| **Airbus (30 January)** | 0 | 0 | 0 | 268 |
| **Boeing (30 January)** | 4 | -17 | -13 | -471 |
| **Bombardier - Mitsubishi Heavy Industries** | 0 | 0 | 0 | 0 |
| **De Havilland of Canada** | 0 | 0 | 0 | 0 |
| **Embraer** | 0 | 0 | 0 | 20 |
| **ATR** | 0 | 0 | 0 | 5 |

Based on *Airfinance Journal* research and manufacturer announcements until 26/02/2021

## New aircraft values ($ million)

| Model | Values of new production aircraft* |
|---|---|
| **Airbus** | |
| A220-100 | 33.2 |
| A220-300 | 37.8 |
| A319 | 34.3 |
| A319neo | 37.2 |
| A320 | 43.7 |
| A320neo | 49.3 |
| A321 | 51.8 |
| A321neo | 57.1 |
| A330-200 | 85.9 |
| A330-200 Freighter | 94.4 |
| A330-300 | 98.2 |
| A330-900 (neo) | 110.4 |
| A350-900 | 149.4 |
| A350-1000 | 169 |
| A380 | 219.2 |
| **Boeing** | |
| 737-800 | 46.3 |
| 737-900ER | 48.6 |
| 737 Max 8 | 51.3 |
| 737 Max 9 | 52.5 |
| 747-8I | 155.6 |
| 747-8F | 183 |
| 777-300ER | 153.9 |
| 787-8 | 118.5 |
| 787-9 | 143.6 |
| 787-10 | 150.5 |
| **ATR** | |
| ATR42-600 | 16.2 |
| ATR72-600 | 20.2 |
| **MHI-Bombardier** | |
| CRJ700 | 24.1 |
| CRJ900 | 26.2 |
| CRJ1000 | 28.2 |
| **De Havilland Aircraft of Canada** | |
| Dash 8-400 | 20.7 |
| **Embraer** | |
| E175 | 28.5 |
| E190 | 32.1 |
| E190-E2 | 34.5 |
| E195 | 33.9 |
| **Sukhoi** | |
| SSJ100 | 23.3 |

*Based on ISTAT appraiser inputs for Air Investor 2021

## New aircraft lease rates ($'000 per month)

| Model | Low | High | Average |
|---|---|---|---|
| **Airbus** | | | |
| A220-100 | 204 | 262 | 233 |
| A220-300 | 276 | 303 | 289.5 |
| A319 | 230 | 283 | 256.5 |
| A319neo | 266 | 293 | 279.5 |
| A320 | 295 | 353 | 324 |
| A320neo | 340 | 383 | 361.5 |
| A321 | 350 | 424 | 387 |
| A321neo | 380 | 444 | 412 |
| A330-200 | 640 | 745 | 692.5 |
| A330-200 Freighter | 657 | 715 | 686 |
| A330-300 | 690 | 833 | 761.5 |
| A330-900 (neo) | 801 | 872 | 836.5 |
| A350-900 | 1,050 | 1,195 | 1,122.5 |
| A350-1000 | 1,233 | 1,342 | 1,287.5 |
| A380 | 1,503 | 1,950 | 1,726.5 |
| **Boeing** | | | |
| 737-800 | 310 | 364 | 337 |
| 737-900ER | 330 | 394 | 362 |
| 737 Max 8 | 350 | 394 | 372 |
| 737 Max 9 | 368 | 404 | 386 |
| 747-8I | 990 | 1,264 | 1,127 |
| 747-8F | 1,178 | 1,570 | 1,374 |
| 777-300ER | 1,050 | 1,300 | 1,175 |
| 787-8 | 815 | 931 | 873 |
| 787-9 | 950 | 1,200 | 1,075 |
| 787-10 | 1,053 | 1,146 | 1,099.5 |
| **ATR** | | | |
| ATR42-600 | 117 | 153 | 135 |
| ATR72-600 | 144 | 185 | 164.5 |
| **MHI-Bombardier** | | | |
| CRJ700 | 153 | 220 | 186.5 |
| CRJ900 | 170 | 235 | 202.5 |
| CRJ1000 | 182 | 255 | 218.5 |
| **De Havilland Aircraft of Canada** | | | |
| Dash 8-400 | 140 | 200 | 170 |
| **Embraer** | | | |
| E175 | 205 | 240 | 222.5 |
| E190 | 230 | 275 | 252.5 |
| E190-E2 | 239 | 263 | 251 |
| E195 | 211 | 280 | 245.5 |
| **Sukhoi** | | | |
| SSJ100 | 153 | 205 | 179 |

# **Which model will prevail**: 'tourism capital' or 'accidental tourist'?

**Adam Pilarski**, senior vice-president at Avitas, looks at the possible paths aircraft leasing could go down in the next few years.

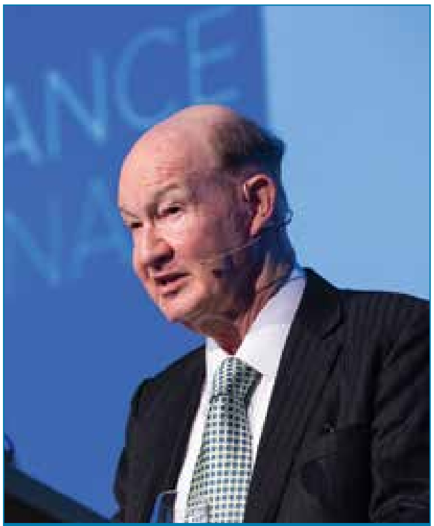
An interesting and important question discussed for a long time is how big the share of leasing will be for commercial aircraft. Steve Hazy introduced aircraft leasing in the early 1970s with some role in its progression played by George Batchelor, Tony Ryan and others. From that modest start, it rose to about 30% by the end of the 20th century to a share exceeding 40% and now is seen as approaching half of the total fleet by analysts who used simple extrapolations. The share has been continually rising, eventually potentially reaching 100%.

Such versions would assume a dramatically changed reality in which aircraft owners would hire management and crew to run airlines. In such a reality, everything could be outsourced by the aircraft owner, which would assume all the risk but also the reward of running what was historically an airline. That vision was not widely accepted and the share of leased aircraft in the future was hotly debated by many.

Which way the share of leased aircraft will evolve is an important part of the discussion about the impact of the current situation on aviation's structure.

Aengus Kelly, chief executive officer of arguably the largest aircraft lessor, Aercap, recently made an interesting and profound observation. He mentioned that "tourism capital in the sector will begin to exit". The way I read his statement is that the vast expansion of leasing companies recently had a lot to do with the bubble of aircraft orders I have been talking about for a number of years. Some of the imbalance between demand and supply of aircraft had a lot to do with the exuberance of new players which have never experienced the downside of our traditional aviation cycle.

Just to remind the reader that between 2004 and 2018, we experienced a continuing stream of higher and higher annual aircraft deliveries the magnitude of which has never been seen before. Many of the new players ordering the aircraft were new leasing companies. The bubble started bursting in 2019 not because of conscious and planned action but rather because of the incompetence of our manufacturing sector (the 737 Max problems coupled with delivery concerns with a number of other aircraft and engine types).



Our author at the *Airfinance Journal* Dublin 2020 conference.

> *"Everything could be outsourced by the aircraft owner, which would assume all the risk but also the reward of running what was historically an airline."*

This was followed by the unprecedented crisis in aviation because of the Covid virus in 2020. So the necessary correction in the demand/supply balance happened accidentally and not as a result of careful analysis and action by some new aircraft owners.

Kelly's statement implies that some of the players in the market will have to deal with excess supply, leases being renegotiated and aircraft being returned resulting in them leaving the industry.

These realities, known well to traditional players, will cause the "tourists" to leave, which eventually will have a positive impact on those remaining who know better how to handle these cyclical fluctuations. The outcome would be a consolidation of the industry with the weaker players leaving or being acquired and economic realities improving for the "indigenous" rather than the tourist owners.

Sticking with the tourism theme, there is an alternative view which I call "the accidental tourist" after the 1988 film of same name in which the main character becomes a tourist not by design but by accident. In present realities, the demand for aircraft for the next number of years will be quite small, putting downward pressures on lease rates and lessors' profitability. In such a demand/supply imbalance, it will be difficult to enforce pricing discipline. Aircraft repossessions, a useful tool in normal times, are becoming idle threats. Lessors are becoming de facto banks of last resort to airlines which eventually will renegotiate better deals.

The tourism money Kelly talked about has nowhere to go. Lessors which should not have entered the market cannot leave without suffering large losses. Unfortunately for them, there are not many outfits which are interested in taking over their business within the confines of new financial realities. So the share of aircraft leased out of the whole fleet will grow not because of sophisticated and careful plans but because there is at present a lack of new actors desiring to become owners. Those which entered the market out of the naïve assumption that they will be able to continue making money, as we experienced in the 2004-18 period when faced with new realities, will have no place to go – hence, becoming accidental lessors.

With the (temporary, I know) decline in demand, the fraction of aircraft ownership belonging to leasing companies is an open item. In the long run, their share may go up or down. There is no doubt in my mind, though, that, for the next few years, that share will increase and surpass 50% because of the inability to exit the market by some accidental lessors.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