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Covid forces aviation to change course

The pandemic has significantly impacted the airline industry and will lead to long-term structural changes.

In 2020, airlines were busy raising funding across all corners of the globe with some jurisdictions more favourable to support the airline industry. Government support has played a big part for some European airlines and those in North America.

This has continued into 2021.

Airfinance Journal recorded more than $220 billion raised by airlines as well as $54 billion by lessors for the first seven months of this year.

Airlines raised $110 billion in fresh funding between 1 January and 31 July, shows *Airfinance Journal* data. There exists, however, a very large regional divide.

North American carriers and, to a lesser degree, airlines in Europe, continued to enjoy easy access to funding their operations, while airlines in Asia accounted for only $4.8 billion of extra Covid-19 warchest financings raised between 1 January 2021 and 31 July 2021.

Of that $110 billion global total, more than $29 billion came from unsecured bond issuances, especially from airlines in Europe, $22 billion from secured loans, $34 billion from payroll support programme facilities in the USA, $10 billion from secured bonds and more than $6 billion from sale and leaseback activity.

North America-based carriers netted more than $67 billion of the $110 billion of new funds that became available this year to 31 July, according to *Airfinance Journal* Deal Tracker. European carriers received more than $25 million in funding during the first seven months of this year, while airlines in Asia, including China, received more than $10 billion in funding.

Large airlines have started to consolidate their fleets by retiring older assets earlier than anticipated, or selling them with short-term leases. Last year, the leasing community supported their airline customers by executing purchase and leaseback transactions for used and new aircraft. This is continuing into 2021, albeit at a lower level.

Airlines are continuing to trim their expenses but, as the International Air Transport Association recently pointed out, their effort in reducing costs is not matching the fall in revenues.

The Airline Analyst shows that passenger revenues declined by 60% in the second quarter of this year compared with pre-Covid. North American carriers showed a 49% revenue decline overall. Asia-Pacific and European carriers posted passenger revenues down 63% and 66%, respectively, compared with the pre-crisis level.

In the second quarter of 2021, cash-flow generation improved, with North American carriers leading the way, amid the rebound in US domestic travel.

One increasing factor impacting airlines in 2021 has been fuel costs. Airlines have operated fewer aircraft but the average Brent crude oil and jet fuel price has gone up considerably since summer 2020.

After several months of upward trend, the average Brent crude oil and jet fuel price ticked down in August 2021 amid concerns that new Delta outbreaks and the resulting restrictions will hit oil demand and slow global economic recovery. The additional downward pressure on prices also came from the increase in output from the Opec countries. The International Energy Agency has recently downgraded the oil demand forecast for the rest of the year. The average price of jet fuel through August 2021 was $71.6 per barrel.

The current conditions have not deterred investment in the sector.

The aviation market has seen a flurry of investment over the past three years with equity commitment to asset managers. But some equity providers are hesitant to invest in the sector right now because new-technology narrowbody aircraft is still a very competitive market for investment.

Covid-19 has also forced lenders and capital providers to refocus on the airline credit. Some think that with a further emphasis on costs, the airline business model will inevitably move further to the low-cost carrier model.

The capital providers, and especially banks, are also evolving. The aviation debt sector has been historically dominated by the banking market, but some institutions have temporarily stopped activities in lending or sold some or their entire aviation book exposure to the sector. This has opened up opportunities for alternative lenders.

All eyes converge on airline financial performances, which depends on government policies regarding the vaccines and the travel restrictions.

More than ever, liquidity remains a priority for airlines, capital providers and leasing companies.

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Low visibility and persistent turbulence

Alton Aviation Consultancy's Industry Altimeter looks at the state of commercial aviation and aircraft leasing.

The situation in the commercial aviation industry has continued to evolve with the ever-changing Covid-19 pandemic that has dominated life since early 2020. As of the writing of this report in late August 2021, it has become quite clear that historical trends have limited applicability to the nature of this "black swan" event, and economic activity alone is but one driver of air traffic demand.

Covid-19 rippled travel and tourism worldwide, evaporating demand and stalling expectations of a full traffic rebound in the immediate future. Over the longer term, the economy market and aviation industries are still expected generally to revert to long-term trends, but near-term dynamics are changing frequently and trend towards volatility.

Any potential recovery will be driven by a regrowth of the economy coupled with the effective and thorough distribution of Covid-19 vaccines, and a stabilisation of more dangerous variants – both of which have been occurring in fits and starts since early 2021, making predictions about the near-term future difficult.

Before Covid-19, the commercial air travel industry had been enjoying expansive growth and profitability for more than nine years. This rapidly reversed in March 2020 and passenger demand plummeted to extremely low levels through the spring and early summer.

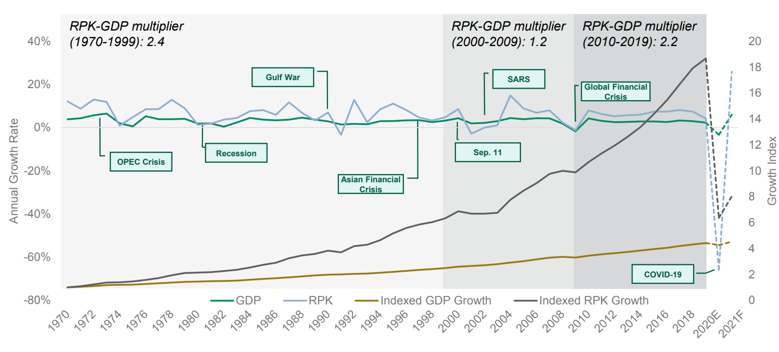
Although demand has recovered from these lows and airlines have been able to secure loans and government assistance, demand remained very weak in many regions during the summer 2021 travel season and only approached prepandemic levels in select domestic markets. According to final International Air Transport Association (IATA) figures for 2020, passenger revenues dropped by 69% or $423 billion compared with 2019.

IATA has revised its forecast for both 2020 and 2021 downward several times since the start of the pandemic. It now expects passenger revenues of only $231 billion in 2021, which would represent a 62% decline from 2019 and only a 22% improvement compared with 2020.

In some regions, such as Asia-Pacific, passenger revenues for 2021 will be lower than 2020 levels. South-East Asia has been particularly hard hit and slow to recover with 2021 passenger revenues likely to be more than 80% down from 2019 levels. Total industry revenues, which include record-high revenues for the much stronger but smaller air cargo segment, are expected by IATA to drop by 45% to $458 billion in 2021 compared with 2019 levels. In 2020, total industry revenues dropped by 56% to $372 billion.

The global reduction in capacity necessitated by the evaporation of demand has also forced airlines to reduce the size of their active fleets significantly. Out of the global fleet of more than 26,000 narrowbody, widebody, regional jet and turboprop passenger aircraft, nearly 45% were inactive at the end of July 2020, down from a high of almost 70% in May 2020. As of August 2021, however, the global inactive fleet has stabilised at about 30%. Many of those aircraft still flying are operating at below-typical levels.

Figure 1: Historical and forecast air traffic and GDP growth



TWO STEPS FORWARD, ONE STEP BACK

Covid-19 and its effects on demand are unprecedented in the history of the aviation industry. Air travel has been especially battered by the fast spread of the pandemic and resultant government-mandated protective measures, with more pernicious effects than any previous downturn.

As with any unprecedented black swan event, the situation is continually evolving, and the future is uncertain. As of the third quarter of 2021, a perceived end of the pandemic is beginning to come into sight.

Western nations have rapidly rolled out vaccines to their populations and most have fully vaccinated more than half of their populations. Vaccination rollouts are also accelerating in many developing countries with some exceeding or approaching vaccination rates of 30% but it will take at least several months for most developing countries to reach herd immunity levels. This may mean that some western countries return closer to normal by late 2021 while developing nations continue to struggle with the spread of the virus into 2022 and perhaps even 2023.

The 2021 northern summer travel season has shown improvement over 2020 in most regions. Passengers are willing to travel, but international restrictions, as well as the spectre of Covid variants such as Delta and Lambda, loom over groups of people who remain unvaccinated or are otherwise at risk – precluding their ability and desire to travel.

However, despite the current rise in cases, many economies have reopened, particularly outside the Asia-Pacific region, with the aid of government stimulus, and businesses are adapting to the new normal. The ultimate speed and particulars of the industry's recovery remain uncertain but are not as optimal as previously hoped.

Figure 2: Global Covid-19 vaccinations

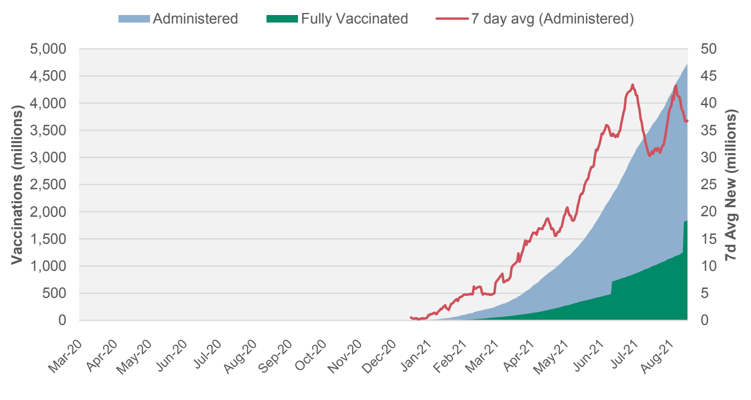
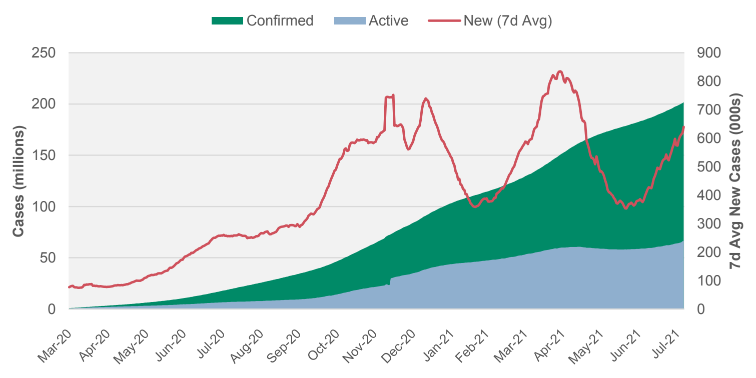


Figure 3: Global Covid-19 cases



CURRENT STATE OF COVID-19 AND GLOBAL RESPONSE

As of the end of August 2021, the state of the pandemic's global progression has shifted from guarded optimism to tentative pessimism. Although the number of global cases has been increasing since early February, the number of vaccines administered across the world continues to increase rapidly.

In the USA, nearly 360 million doses of Covid-19 vaccines have been administered, and 169 million people – more than 50% of the population – have been fully vaccinated. Vaccine hesitancy has taken hold in some areas of the country, which, combined with the spreading Delta variant, has caused spikes and swells of infections. On the other hand, vaccinated portions of the country have seen some degree of normalcy begin to return.

Additionally, vaccine supply in the USA and UK is no longer an issue as it was at the beginning of 2021, and anyone who wants one can receive one quickly. Availability of vaccines is at similar levels only in a few other generally much smaller countries such as Singapore, which is now the most vaccinated country in the world, with nearly 80% of the population having received both doses.

While the vaccination campaigns in the USA and UK have been largely successful, the vaccination efforts of most other developed and developing countries have gone far less smoothly. The EU initially encountered numerous supply issues and had a slower rollout of the approved vaccines, although vaccination rates are now above 50%.

India, Indonesia and Brazil are struggling to vaccinate their large populations quickly and many smaller developing countries in Asia, Latin America and Africa are receiving few shipments of vaccines. While virtually all developed countries anticipate vaccinating their populations by the end of 2021, many developing countries are expected to achieve widespread vaccination only before 2023. Current expert estimates project that it will take until 2023 or 2024 for everyone in the world to have access to a Covid-19 vaccine.

Despite the ongoing efforts to increase global vaccination rates, global case rates provide some cause for concern. After reaching a peak in mid-January 2021, the global seven-day average of new cases had been rapidly declining. However, this decline began to reverse in late February and global daily new cases increased to a new peak in April, followed by another decline in May and most of June and another increase in July.

The World Health Organization has said the recent increases are "worrying" and has projected that the world will be combating Covid-19, especially in developing countries, well into 2022.

Additionally, the numerous virus variants that are spreading in various regions worldwide have caused new peaks in cases, posing a challenge in the efforts to end the pandemic. For example, a variant first identified in Brazil has led to a surge in new cases and serious outbreaks around the country, even in places that had been hit hard by Covid earlier in the pandemic.

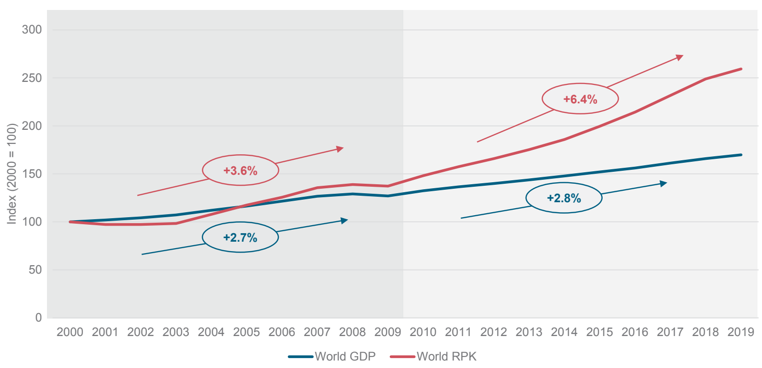
Although the future progression of the virus is largely unknown, many of the vaccines being rolled out around the world are effective and will, hopefully, help to bring about an end to the pandemic. Once the spread of the virus has been largely contained, travel restrictions will relax and consumers will feel more comfortable travelling once again, allowing the broader aviation industry to recover.

CURRENT STATE OF GLOBAL ECONOMY

Historically, growth in global aviation industry revenue passenger kilometres (RPKs) has significantly outpaced GDP growth. In the past decade, RPK growth has averaged 2.2 times global GDP growth.

The Covid-19 pandemic precipitated market contractions in most industries around the world; global GDP shrank 3.3% year-over-year in 2020, but RPKs collapsed by 65.9% year-over-year. As of July 2021, the IMF estimates that world GDP will grow 6% against 2020.

Figure 4: Historical GDP and RPK growth, 2000-2019



Based on July 2021 traffic data from IATA, monthly RPKs were 193% above 2020 levels but were still 60% below 2019 levels.

Projections from the IMF expect GDP in 2021 to grow 3.5% against 2019. RPKs, however, are not expected to recover until 2023, according to projections from IATA; Alton anticipates it may take until 2024 to see 2019 traffic levels return.

More optimistic recovery scenarios project RPKs returning to 2019 levels in late 2022. In either case, RPKs should not be expected to outpace GDP in the short term as they have for decades, but may do so after air travel finally returns to prepandemic levels.

Nonetheless, the aviation industry has shown stiff resilience in the wake of previous crises; in the medium and longer terms, growth trends such as those observed before the pandemic should be expected.

COVID-19'S CONTINUING IMPACT ON AVIATION

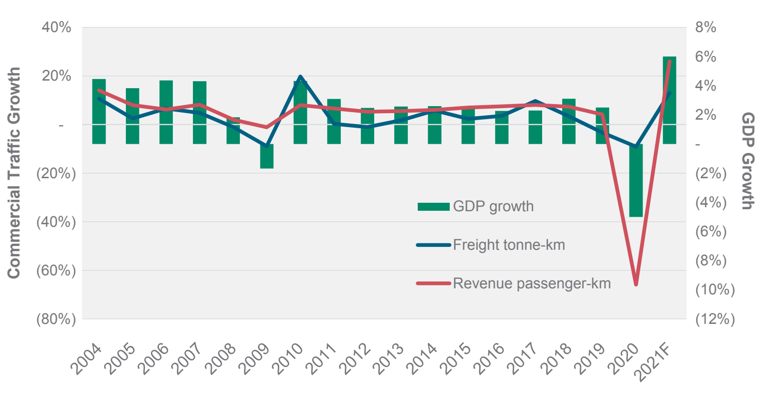
The pandemic's impact on aviation has largely been driven by a decline in the confidence of individuals to fly safely in a confined vehicle close to strangers, together with government travel advisories and travel bans made to restrict the cross-border and, in some cases, domestic spread of the virus. These restrictions are aimed at all types of commercial passengers and include strict measures such as mandatory quarantine and compulsory testing.

In its 20-year outlook that was published before the pandemic in 2019, Boeing forecasted GDP growth of 2.7% and traffic growth of 4.6% on average per year, equivalent to a traffic-growth-to-GDP multiple of 1.7 from 2019 to 2038.

As a result of the Covid-19 outbreak, there was a severe fall in both GDP and air traffic demand in 2020, which has subsequently constrained near-term air traffic growth. However, once demand recovers and the industry returns to 2019 activity levels, long-term air traffic growth is expected generally to follow projected pre-Covid trends, although some structural changes may persist and moderate growth rates.

In its most recent outlook update, which was published in October 2020, Boeing forecasts GDP growth of 2.5%

Figure 5: Historical growth of commercial airline traffic



and air traffic growth of 4% a year on average over the period 2020 to 2039, equivalent to a projected traffic-growth-to-GDP multiple of 1.6 over the 20 years.

In the early days, Covid-19 devastated air travel demand. RPKs, commonly used as a measure for air traffic demand, fell globally by more than 90% in the second quarter of 2020. In the peak month of the crisis, April 2020, global RPKs were down by 94%, including a 98% drop for international RPKs and an 87% drop for domestic RPKs.

Airlines' response to the lower demand was to reduce capacity, commonly measured by available seat kilometres (ASKs). In the second quarter of 2020, global ASKs declined by about 83%, including an 87% drop in April 2021. Global RPKs and ASKs improved in the second half of 2020 and, as 2021 has unfolded, there have been further general improvements, though RPKs and ASKs still lag significantly compared with where they were in 2019.

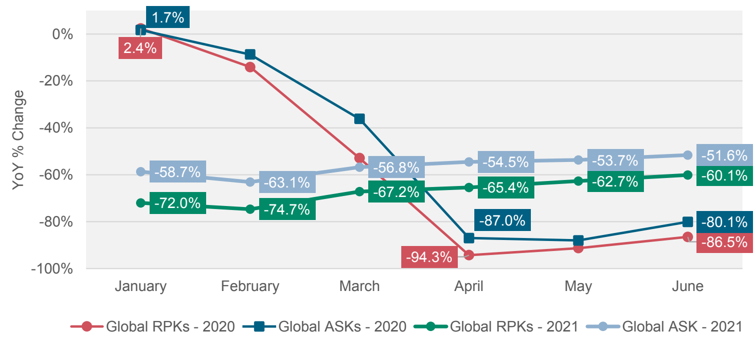
IATA's latest reports indicate that, compared with June 2019, global RPKs for June 2021 were down 60% while global ASKs were down 52%, though these demonstrate substantive recovery from June 2020, which featured comparative dips of 87% and 80% on RPKs and ASKs, respectively.

With the rollout of vaccines and gradual lifting of some travel restrictions, global RPKs and ASKs show a slight upward trend going forward, one that is far beyond the lows seen in the first full months of the global-scale lockdown.

Nonetheless, any evidence of a quick snap-back return to pre-Covid global levels has yet to show. There have been quick snap-backs in some domestic markets but international traffic remains well below prepandemic levels.

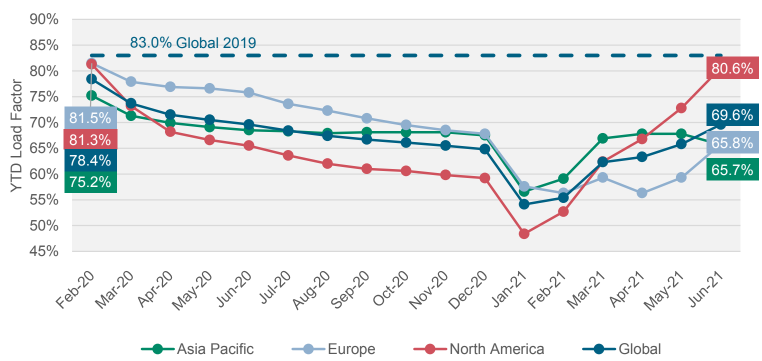
International RPKs were still down by 81% in June 2021 compared with 2019 levels, with Asia-Pacific particularly lagging, recording a 95% decline in international RPKs, because of lingering border closures. Domestic RPKs were down a relatively modest 22% in June 2021 compared with 2019 levels, but there are still many domestic markets, particularly in Asia, excluding China, that were down by more than 50%.

Figure 6: Global RPK and ASK change versus 2019



RPK: Revenue Passenger Kilometers. ASK: Available Seat Kilometers

Figure 7: 2020-2021 year-to-date passenger load factors in major markets



The timing and slope of the ultimate global traffic demand recovery are not known. In the short term, however, IATA projects that 2021 RPKs will be 26% higher than 2020 levels, although still 57% lower than 2019 levels (based on the most recent IATA outlook update released in April 2021).

In the first half of 2021, global RPKs were down 67% compared with 2019 levels, including an 86% drop in international RPKs and a 33% drop in domestic RPKs.

Before Covid-19, global passenger airline load factors were at an all-time high: rising from 76% in 2009 to 83% in 2019. The expectation was that load factors would remain high with regions such as Africa and the Middle East seeing gradual growth in load factors towards 80% as seen in other regions.

Covid-19 has put pressure on load factors across all regions with year-to-date load factors down to 70% as of June 2021, according to IATA's Air Passenger Market analysis report. For June 2021, the global load factor was also 70%, which represents an improvement compared with the 54% global load factor in January 2020. This improvement is driven partially by domestic market recoveries; the average international load factor in June 2021 was 55% while the average domestic load factor was close to normal at 79%.

While regional load factors have not reached pre-Covid levels, they have been on an upward swing since dropping sharply over the 2020-2021 holiday season when carriers added significant capacity despite no significant improvement in demand.

Covid-19 has resulted in a substantial oversupply of aircraft, which has translated into falling values for outright sales and falling values for used aircraft with leases ending in the short run given remarketing challenges. IATA has forecast that 2021 will see the retirement of 8% of the global commercial fleet, compared with a normal yearly average of 2% to 3%.

Many of these announced retirements are very large widebody aircraft such as Airbus A380s, Boeing 747s, 777s and A340s. The average age of retirement is also likely to decline in the coming years, with more aircraft retiring earlier than in previous years.

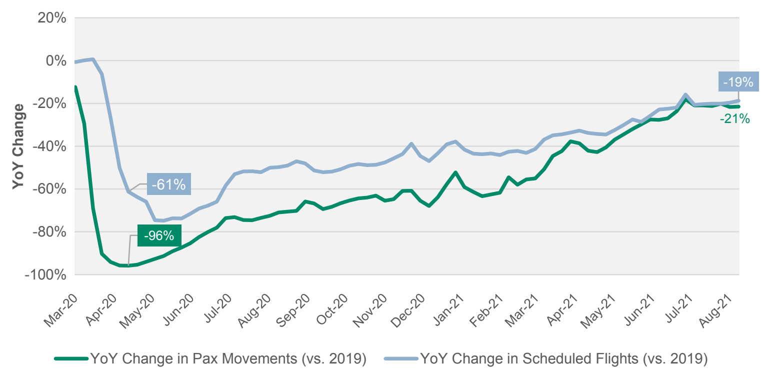
To highlight the initial impact of Covid-19 on supply and demand, data from OAG and TSA shows the US market dropping substantially in March 2020. Weekly data, available since that time from TSA's daily throughput statistics highlights that supply changes lag demand changes.

By the week commencing 23 March 2020, passenger throughput had fallen by 90% year-on-year. In contrast, scheduled flights for the same week had dropped only 6% year-on-year. The lag indicates that airlines took the time to adjust their scheduled services relative to the demand shock.

In April 2020, the average domestic load factor in the USA dropped to only 14%, according to IATA data. The 2019 changes in passenger throughput and scheduled flights over the same period are minimal, indicating that during normal times demand and supply move in tandem. The unprecedented impact of Covid-19 has therefore resulted in an oversupply of capacity relative to traffic demand.

However, the USA benefits from a domestic market that has persisted – albeit at lower levels – during the crisis, allowing for a strong recovery in both metrics starting in the second quarter of 2021. In August 2021, both passenger movement and scheduled flight levels hover about 20% below that of the same period in 2019. IATA reported only a 15% drop in domestic US RPKs for June 2021 compared with June 2019.

Figure 8: US weekly passenger throughput and scheduled flights



HOW ARE AIRLINES HANDLING DROP IN DEMAND?

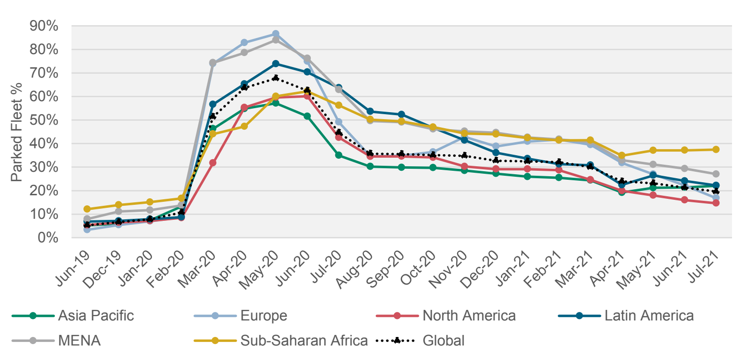
The global reduction in capacity necessitated by the evaporation of demand has forced airlines to shift their focus from day-to-day crisis management towards a broader view given the new normal. These requirements include adopting and maintaining superior health and safety standards, reducing crowds and enforcing social distancing – all of which help enhance consumer confidence and alleviate the current fear of travelling, which will persist for some even after Covid-19 restrictions are lifted.

A survey conducted by IATA in February 2021 indicated that 57% of respondents anticipated travelling within one to two months post containment of Covid-19 and 81% believed they would be more likely to travel once they are vaccinated, underscoring the importance for the aviation industry of the ongoing global vaccination effort.

Some airlines have also considered reducing ticket prices to spur demand. A consumer survey by Boston Consulting Group identified low prices and automatic upgrades as two of the chief non-health-related drivers to incentivise travel. Chinese carriers cut average fares by 40% when their domestic market reopened, and some, such as China Eastern Airlines, have also rolled out discount passes offering unlimited flights for low prices.

The intense competition also has led to very low domestic fares in

Figure 9: Global parked passenger fleet, by operator region



Note: Parked Fleet % = Inactive / (Inactive + Inservice). Excludes aircraft older than 25 years old and aircraft with no region tag.

several markets, particularly in Asia. With most international flights still suspended, airlines have been eager to redeploy capacity to domestic markets when possible (when high Covid cases are not leading to domestic travel restrictions). This has pressured yields, particularly as domestic business demand has been much slower to recover than domestic leisure demand.

On top of addressing consumer concerns, airlines are also reassessing their fleet composition, as they contemplate which aircraft to retain, retire, or return. Because of limited demand combined with the current liquidity environment, many airlines have actively restructured their existing orderbooks through mainly deferrals and/or, in some cases, cancellations. Airlines with unencumbered assets have looked to leverage or sell them via sale-leasebacks to enhance their near-term liquidity.

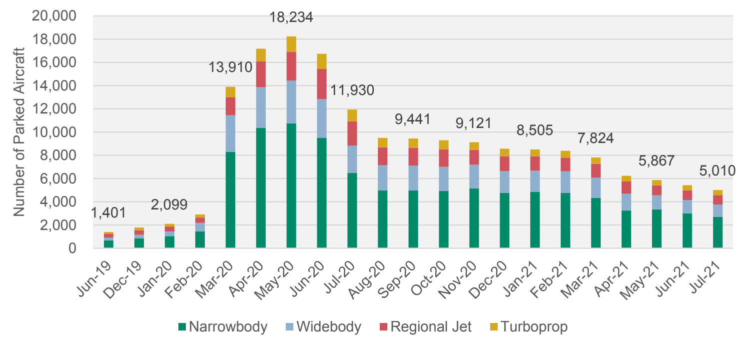
Generally, Alton observes that many airlines have aimed to simplify their current and future fleets – reducing the variety of aircraft types and configurations that they operate.

As the implications of the Covid-19 pandemic became clear in March and April 2020, airlines had enacted capacity cuts in response to the deteriorated demand environment, but as domestic restrictions began to lift during the summer, more aircraft were put back into service. As of March 2021, 20% of all passenger aircraft were inactive, down from a high-water mark of 68% in May 2020.

At the beginning of 2021, Sub-Saharan Africa, the Middle East/North Africa and Europe consistently showed the highest rates of inactive aircraft. While little has changed for the first two regions, Europe has shown a considerable reduction in the inactive fleet since the second quarter of 2021, ending up below the global mark as of July 2021. North America's particularly strong domestic market has helped it maintain a lower inactive rate than most other regions.

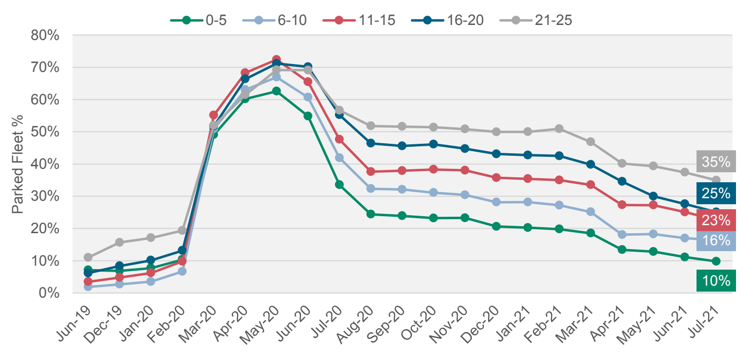
The Asia-Pacific region has performed relatively strongly, driven by the rapid recovery in 2020 of China's domestic market. When excluding China, Asia-Pacific has lagged other regions in terms of traffic recovery and reactivating aircraft.

Figure 10: Global parked passenger fleet, by aircraft type



Note: Excludes aircraft older than 25 years old and aircraft with no region tag.

Figure 11: Global parked passenger fleet, by aircraft age



In terms of aircraft segments, more than 2,700 narrowbody aircraft (18% of the narrowbody fleet) were still inactive in July 2021, up from 860 (6%) at the end of 2019. Inactive widebody aircraft have increased even more significantly, numbering 1,061 (25% of the fleet) in July 2021, up from 308 (7%) at the end of 2019. However, the parked fleet size of 5,010 aircraft in June 2021 is a massive improvement from May 2020's peak of 18,234 aircraft.

As of July 2021, aircraft across all age ranges have an inactive rate of close to 20%. Overall, zero- to five-year-old and five- to 10-year-old jets had an inactive rate of 10% and 16%, respectively, compared with 7% and 3% in 2019. Mid-life aircraft experienced the largest growth in the parked fleet when compared with June 2019. Since mature assets have higher maintenance costs and are less fuel efficient to operate, it is not surprising that younger aircraft are the most utilised cohort.

As of July, only 10% of zero- to five-year-old passenger aircraft were inactive, with aircraft on the older end (16 to 25 years) hovering at about 30% inactivity. In fact, zero- to five-year-old aircraft were returned to service nearly twice as fast as the two oldest cohorts. As demand eventually recovers, these older inactive aircraft may be retired by larger carriers rather than returned to service.

Throughout 2021, some airlines announced plans to do exactly that, such as Lufthansa saying that all aircraft older than 25 years might remain grounded permanently for it to emerge from the pandemic leaner than before.

As of July 2021, the low point in terms of fleet activity passed in May 2020. Many aircraft returned to service in the later summer months of 2020 across all fleet types, regions and ages. This trend has continued in 2021, primarily driven by the North American and European markets, although the rate at which aircraft return to service has not been as rapid as some might have expected coming into the year.

HOW HAS COVID-19 AFFECTED AIRCRAFT LEASING INDUSTRY?

There is no question that the difficulties facing the airline industry have affected lessors. As of July, 59% of all parked aircraft are owned by lessors, with the top 10 lessors, as of the end of 2019, having nearly 1,000 aircraft parked, down from a May 2020 high of 3,100.

Naturally, lessors have a high share of parked narrowbody fleet because they own nearly 60% of all narrowbody aircraft in commercial operation. The fact that aircraft are parked by operators does not imply they are off-lease and not generating income, although generally, lessors have faced challenges collecting rents. In several markets, this includes not only aircraft that are parked but also aircraft which are active.

Large portions of the active leased fleet, particularly in Asia-Pacific, excluding China, still have very low utilisation rates and are not generating airlines sufficient revenues to pay leases. In some markets, there have been limited payments on a majority of leased aircraft since the start of the pandemic.

During the pandemic, lessors initially reported that 80% to 90% of airlines had requested rental relief – many of which were granted in the form of initial three-month rent deferrals, granted and extended beyond three months on a case-by-case basis.

In some markets, rental payments have still not resumed or resumed for a brief period before being again suspended. Lessors generally rely on a significant amount of leverage and use lease rental income to make principal and interest payments. Those lessors which were not well-capitalised have faced difficulties making required payments as lessees sought relief.

As the pandemic has dragged on, some airlines that had requested deferrals at the start of the crisis were successful in raising liquidity and have since paid the deferments in full. Other lessees requested extensions on their deferrals or sought to restructure altogether as the crisis extended and deepened. Many lessees – LATAM, Avianca, Virgin Australia and Aeromexico to name a few – have declared bankruptcy, requiring their leases to be restructured or aircraft returned, further impacting lessors.

Lease extensions have been common in exchange for near-term rental relief. Outside such circumstances, there is limited evidence that operators are keen for extensions as they look to cut capacity and capital costs wherever possible. Lease extensions also impact fleet-renewal plans, requiring new aircraft delivery deferrals to match with later lease return dates as taking on new aircraft for growth is not a sensible option.

For leases terminated early, aircraft repossessions have been challenged by airline personnel cuts, court closures (in the case of contested repossessions), airport lockdowns and travel restrictions to position technical teams on-site to take physical control and collection of records.

Returned aircraft, both from expected lease expiries and early terminations, are on the ground longer than in a typical market because

Figure 12: Notable lessor aircraft order cancellations and deferments

Month	Company Name	Quantity	Aircraft Family	Deferred/Cancelled
April 2020	GECAS	69	737 MAX	Cancelled
	CDB Aviation	29	737 MAX	Cancelled
		20	737 MAX	Deferred
June 2020	SMBC Aviation Capital	68	737 MAX	Deferred
	BOC Aviation	30	737 MAX	Cancelled
	Aviation Capital Group	5	737 MAX	Cancelled
July 2020	Avolon	27	737 MAX	Cancelled
	AerCap	15	737 MAX	Cancelled
	ALAFCO	20	737 MAX	Cancelled
August 2020	ALAFCO	43	A320neo	Deferred
		10	A321neo	Deferred
	AerCap	9	737 MAX	Cancelled
November	Air Lease Corporation	13	737 MAX	Cancelled
	AerCap	9	737 MAX	Cancelled
December	Aviation Capital Group	66	737 MAX	Cancelled
	SMBC Aviation Capital	21	737 MAX	Cancelled
	CDB Aviation	7	737 MAX	Cancelled
	Air Lease Corporation	6	737 MAX	Cancelled
February 2021	Jackson Square Aviation	8	737 MAX	Cancelled
March 2021	CDB Aviation	20	737 MAX	Cancelled
	China Aircraft Leasing	26	737 MAX	Cancelled
April 2021	SMBC Aviation Capital	8	737 MAX	Cancelled
July 2021	BOC Aviation	5	737 MAX	Cancelled
August 2021	Air Lease Corporation	3 / 19	A350 / A320neo	Deferred

finding new lessees is proving challenging, even at low lease rates, in an environment with unprecedented low demand.

In March 2021, Fitch Ratings reported that continued weakness in aircraft operating lease asset-backed securities (ABS) transaction performance was driven by depressed airline cash flows and fragile credit ratings. Collections dropped significantly in spring 2020, but briefly ticked upwards in the summer and autumn. Most recently in March 2021, basic rent collections across transactions were generally down by 40% to 60% compared with January 2020. Utilisation rent collections were down 60% to 70% versus the same period.

Lessors have billions of dollars-worth of aircraft leased to operators with limited cash on hand to cover expenses and are therefore unlikely to survive the pandemic without external help. Government support has been extended to many airlines, and others have raised significant amounts of capital from the bank loan and capital markets, indirectly benefitting lessors. In addition, banks have provided credit facilities and other financings to some of the largest lessors, and some lessor shareholders have committed additional funding.

Lessors with large orderbooks and unplaced deliveries scheduled in the near term have seen them as liabilities and have tried to shed them where possible. For example, Avolon, CDB and GECAS have made considerable 737 Max cancellations, while other large lessors have either cancelled or deferred orders or entered discussions with original equipment manufacturers to right-size their portfolios for reduced future demand.

Cash-stricken airlines with unencumbered assets have looked to lessors for sale and leaseback deals to bolster their liquidity positions; lessors with capital available have historically used the sale and leaseback channel during times of crisis such as this to gain exposure to stronger credit airlines at terms more attractive than those available pre-Covid. The flood of liquidity has resulted in a challenging absolute return environment for aircraft sale and leasebacks, though given the returns relative to underlying debt costs and alternatives, such transactions remain attractive to certain players.

Indeed, amid the current industry-wide demand deterioration, near-term opportunities have arisen. For example, BBAM and Altavair Airfinance entered into a sale and leaseback transaction with Delta Air Lines valued at $1 billion. Similarly, BOC Aviation carried out a 10-unit 737 Max 8 sale and leaseback transaction with Southwest Airlines and a six 787-9 and 16 737 Max 9 unit transaction with United Airlines. Sky Leasing announced that it originated $1.1 billion of new aircraft deliveries across six airlines in North America, Europe and Asia, with sale and leaseback agreements for 20 aircraft.

Manufacturers have seen an increase in order cancellations and deferrals as airlines and lessors are looking to right-size their fleets. In 2020, Airbus received 115 order cancellations, while Boeing had a staggering 655 cancellations. Lessors had continued to place orders entering 2020, but at a significantly slower pace that reduced from 166 aircraft in January to nine aircraft in April. Since then, some lessors have also made moves to defer or cancel their orders from aircraft manufacturers, and certain lessors also seek to place some aircraft orders with lessees in exchange for restructuring current leases.

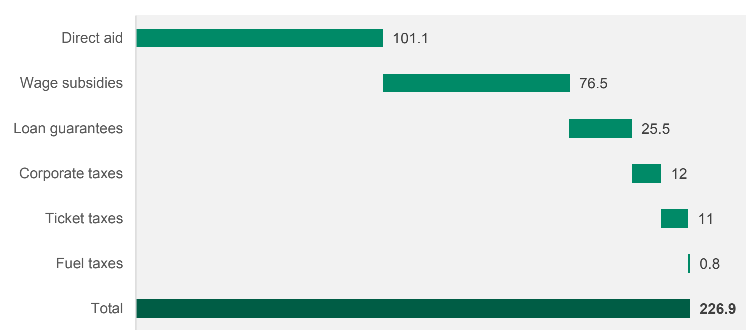
On top of natural roll-off, with an uncertain demand recovery and traffic levels for the year still expected to be more than 50% off the peak levels, additional lessee defaults are likely in the coming quarters.

Many lessors have sought to boost liquidity and reduce capital spending by deferring new deliveries and drawing down on credit lines. In its July 2020 financial results, Aercap stated it had $10 billion in liquidity, $27 billion of unencumbered assets, a low debt-to-equity ratio and capital expenditure mitigation measures which would allow it to emerge from this crisis stronger than before. Aercap has since put its money where its mouth is – almost literally – by announcing its intention to acquire GECAS in March 2021, utilising this liquidity to produce a combined entity with more than 2,000 owned and managed aircraft for about 300 customers worldwide.

Lessors with aircraft on lease to good credit lessees of high importance are likely to benefit indirectly from government bailouts. For instance, Aercap has a significant portion of its fleet placed with Chinese flag carriers and US majors that have received government support. Lessors doing business with less prominent operators which may not have the same access to government funds will likely see less indirect benefits from state aid.

Bank-owned lessors such as BOC Aviation, ICBC Leasing and SMBC Aviation Capital are likely among the most stable and secure given strong parent support and will be better equipped to carry out new deals, but that does not mean midsize

Figure 13: Government aid to airlines because of Covid-19, by type ($ billions)



Note: Information as of March 31, 2021

lessors are at immediate risk. Many independent lessors have drawn down a significant amount of debt to enhance liquidity and are active in the sale and leaseback market.

Some concern exists around lessors which do not have strong shareholdings and banking relationships over their ability to weather the storm. However, there are spots of opportunity for lessors in this crisis. New lessors could see the pandemic as an entry point to the leasing market and existing lessors may find an opportunity to engage carriers which were previously difficult to access.

DAMAGE THAT HAS BEEN DONE

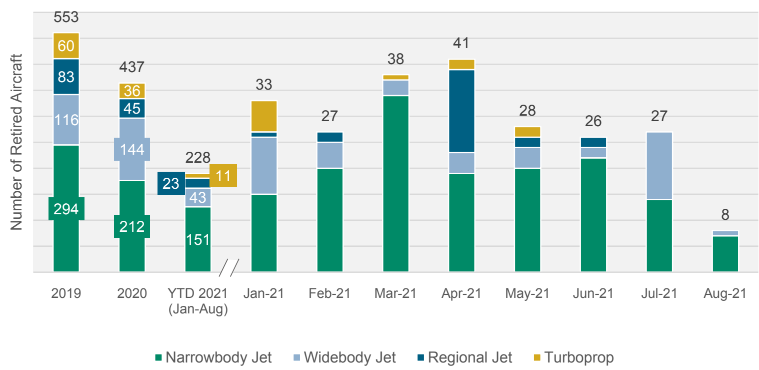
While Covid-19 forced the industry to face unprecedented short-term headwinds, the need for air travel in the future remains inevitable. Passengers have begun to return to the skies to do business, visit friends and relatives, and once again go on holiday, albeit at a slower rate than expected and with some markets or regions not yet participating in the recovery, given vaccine hesitancy and new Covid variants.

The industry has gone through cycles of downturns and exogenous shocks before – most notably after 11 September 2001 and the global financial crisis in 2008. But the effects of the Covid-19 pandemic will linger long after the aviation industry resumes a more normal operating schedule.

The aviation industry traditionally contributes about 3.6% of world GDP through employment, freight services, tourism, and many other factors. Its importance has forced world governments to support the sector during the pandemic by providing more than $225 billion in aid, nearly half of it in the form of direct aid such as loans, cash injections and equity financing.

Despite this, more than 50 airlines have failed since February 2020. They have either ceased operations or entered either liquidation or administration/bankruptcy reorganisation. Filing for bankruptcy reorganisation is not uncommon and several airlines underwent such proceedings after 9/11 and the 2008 financial crisis.

Figure 14: Passenger fleet retirements per month, by aircraft segment



When an airline enters administration/bankruptcy reorganisation, it typically has 30 to 60 days of protection from creditors and lessor payments. After this period, it either pays for the lease or returns any lessor-owned aircraft. If a lessor believes the right thing to do is remove the aircraft, it will not hesitate to do so. In several cases, the airline can emerge from reorganisation and, in these situations, it has historically maintained the majority of its fleet. Liquidation, on the other hand, is a more extreme circumstance, wherein the airline's assets are reduced to cash for payment distributions to creditors.

The demand evaporated by Covid-19 has caused an oversupply of aircraft, and airlines with the flexibility to do so are downsizing their fleets and commitments. Even before the pandemic, there were reports of some difficulty placing forward orders with operators, particularly Max aircraft and widebodies. Given the current market, lessors with orderbooks likely see them as a liability and are subsequently trying to shed such commitments where possible.

The backlog for the Max stood at 4,545 at the end of 2019, but through July 2021, the backlog was reduced to 4,087 – only some of which can be attributed to deliveries.

The Max programme had sustained more than 600 cancellations as of August 2021. However, these have been offset by large Max orders, such as the 200 requested by United in June 2021, and deliveries of the aircraft are restarting.

Most aircraft order cancellations since the start of the pandemic have involved the Max. This could be driven by the fact these aircraft unlike other types can be cancelled without penalties or significant penalties because of the long delivery delays caused by the type's grounding, which has still not been lifted in some markets.

Lessors are looking to right-size their fleets for reduced future demand, with Avolon, Aercap, Air Lease, GECAS and Japan Investment Adviser all trying to minimise their near-term obligations.

It is not just Boeing bearing the brunt of order cancelations – Airbus has seen cancellations and deferrals from Easyjet, Cathay Pacific, Iberia, Saudi Gulf, LATAM and others.

The European manufacturer reported a negative net orderbook in early 2021 after Norwegian cancelled an order for 92 aircraft. The Airbus cancellations have been mainly driven by bankruptcies, which allow airlines to cancel orders that otherwise cannot easily be negotiated.

Initially, the prepandemic trend of low aircraft retirement rates was expected to continue into 2020, bolstered by low fuel prices and high levels of demand, but Covid-19 has forced airlines worldwide to execute accelerated retirement plans as they look to restructure their fleets and remove aircraft with higher maintenance and operational costs, while simultaneously dealing with the current oversupply in the market.

In 2020, narrowbody aircraft experienced the highest number of retirements (212 aircraft) followed by widebodies (144 aircraft). Eight months into 2021, the number of retirements is slightly above half of the entirety of 2020. It should be noted that there is a significant delay in reporting aircraft retirements, and it is likely that many more aircraft may have been retired as *Airfinance Annual* went to press.

By historical standards, the useful life of an aircraft has been between 20 and 30 years. In recent years, however, retirements before the age of 25 have been seen, sometimes motivated by part-out opportunities with attractive values (particularly for engines) compared with the available options for subsequent leases, for example.

Most aircraft retired between 2019 and 2020 were 25 years of age or older, followed by those between 21 to 25 years. Going forward, particularly post-Covid, there is an expected increase of retirements across both age brackets, and even of younger aircraft in the 16- to 20-year range.

Aircraft that are more costly to operate and maintain, as well as larger, older-generation aircraft in need of heavy maintenance or with better early part-out value will be the most likely candidates for retirement.

Additionally, a proportion of the current parked fleet is likely to be permanently retired, particularly ageing widebodies such as the A340, 777-200/-200ER, 777-300, older A330s, older 767s, A380s, A340s as well as older narrowbody platforms such as the McDonnell Douglas MD80/90, and passenger 757s. A380 retirements will be particularly younger than normal, with several aircraft that are less than 10 years old likely to be retired.

PATHS TO RECOVERY

Demand for air travel has not historically wavered long in the face of exogenous shocks. Most significantly, the events of 11 September 2001 and the 2008 global financial crisis negatively impacted traffic demand in the short term (and profitability in

Figure 15: Retired passenger fleet per month, by aircraft age

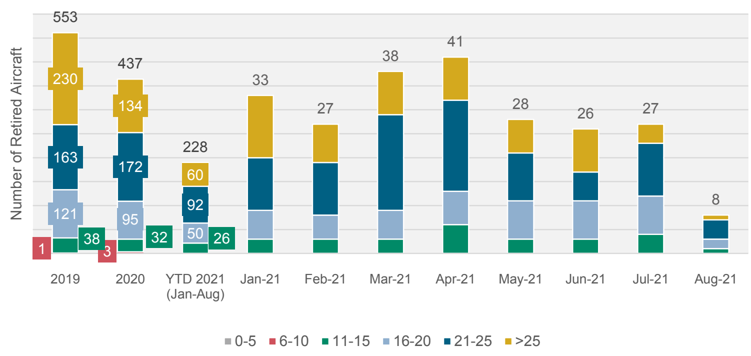


Figure 16: Historical global airline net profit margins, 2000-2021F

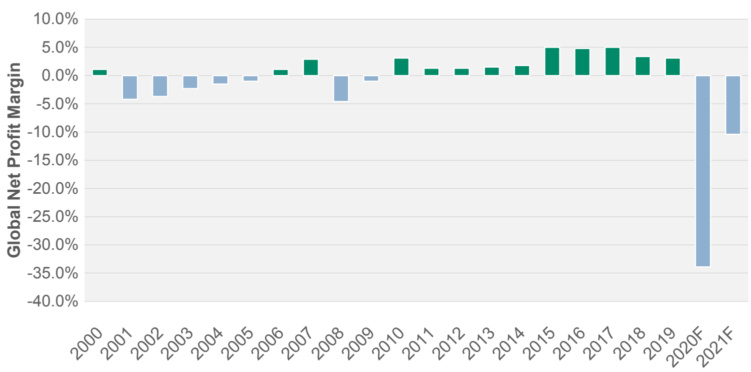
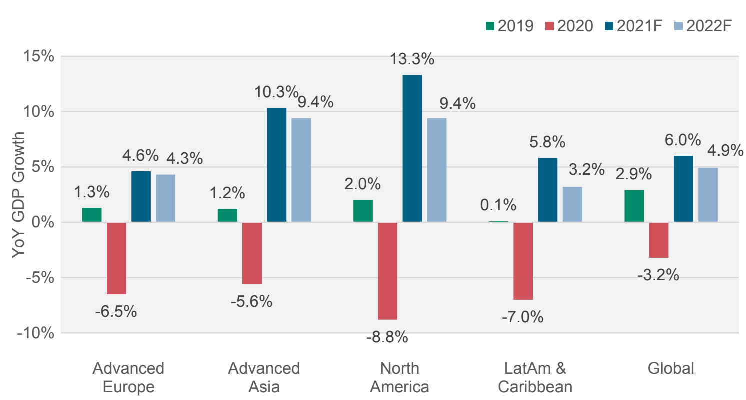


Figure 17: IMF GDP projections, by region



the medium term), but subsequently, demand has rebounded.

Furthermore, in the wake of these crises, many bankruptcies ensued spurring merger and acquisition activities that consolidated the market and resulted in restructuring to more robust operating models. They also triggered a cost consciousness and financial discipline in many airlines which have endured.

Although the airline industry was historically a challenging area for investment returns, the industry enjoyed more stable and profitable returns in the years immediately preceding Covid.

From 2000 to 2009, the industry experienced losses in all but three years, while conversely, the industry has seen profits in each year from 2010 to 2019 and, according to IATA, was originally anticipated to continue to see positive margins in 2020 onwards.

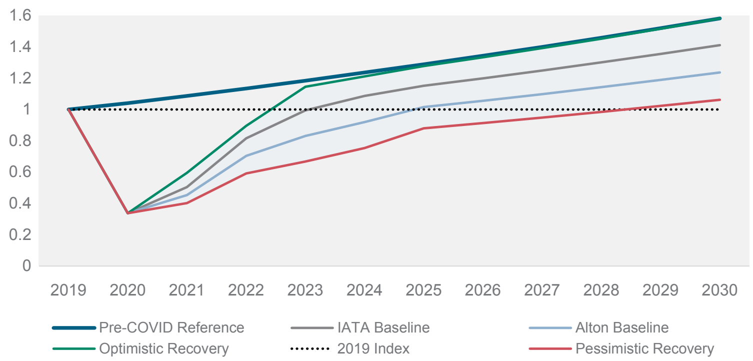
IATA's latest forecast estimates that 2020 operating margins were -28.2% and are forecast to be -9.4% in 2021. Net margins for 2020 were -33.9% and are forecast to be -10.4% in 2021. Furthermore, even in the event of a full recovery, the large volume of debt accumulated by airlines to survive the pandemic will likely impact investor returns for the immediate future.

Economists forecast that in the best-case scenario, dependent to a significant extent on the success of containment measures, GDP will return to 2019 levels in 2021. After the recession in 2021, the IMF forecasts a 6% growth in GDP in 2021, with a slightly smaller 4.9% growth in 2022, as countries continue to open and vaccines roll out more fully across the globe.

While the return of economic growth should drive a return of air passenger growth, the correlation is likely to be different in the post-pandemic environment because of structural shifts in air travel patterns, which for now remain very hard to predict.

Emerging markets that accounted for a majority of air passenger growth before the pandemic will also take longer to recover from an economic perspective because of slow vaccine rollouts and lingering lockdowns. In some emerging markets, particularly

Figure 18: Indexed RPK growth of demand scenarios, 2019 through 2030



in Asia, there could be a temporary reduction in middle-class populations, which had expanded significantly in the years before the pandemic, driving a large portion of global air transport growth.

Contingent on how the macroeconomic and global health factors of the pandemic are handled going forward and their impact on the aviation industry, Alton outlined in last year's *Airfinance Annual* a range of recovery scenarios. We noted that Covid-19's lack of historical precedence meant there was not a strong basis for predicting which of the conceptual scenarios would be most likely. However, exploring the assumptions and implications of the following four scenarios is informative:

1. Optimistic Recovery
2. IATA Baseline
3. Alton Baseline
4. Pessimistic Recovery

Optimistic recovery

The first potential post-Covid-19 scenario assumed an admittedly optimistic and rapid full recovery of the industry, reaching prepandemic normalcy with little long-term impact. This Optimistic Recovery scenario required a highly effective public health response to slow down the spread of the virus in the near term with limited or non-existent subsequent waves of infection.

Critically, this scenario also assumed the vaccine to be widely distributed across developed countries followed quickly by distribution in developing countries thereafter. In addition, government support and stimulus packages would be effectively deployed to limit the recessionary impact and spur a faster-than-expected economic recovery in late 2021 and 2022.

Air traffic, aircraft and the global economy

In the event of a full recovery, the initial decreased traffic demand would be limited to 2020 and 2021, with airlines seeing pre-Covid domestic traffic levels by 2022 and international traffic levels by 2023. Given a limited change in propensity to travel, airlines would benefit from a long-term RPK growth rate of about 4.2%. The overall trend in air traffic would be cautious, steady growth.

After this return to air traffic growth, production rates of narrowbody aircraft would return to 2018 levels as soon as 2022. For widebody aircraft, the recovery would be slower, not reaching 2018 production levels until early in the next decade. There would also be a surge in aircraft retirements for a couple of years. The long-term impact on the cost of financing to facilitate fleet growth past 2023 would be limited.

Underlying these trends would be a rapidly recovering global economy. In this scenario, global GDP would be expected to grow by the end of 2021 at a rate stronger than expected.

International trade would also be expected to exhibit strong growth. Within the aviation sector, there would be some operator exits and moderate levels of consolidation.

Iata baseline

The second potential post-Covid-19 scenario assumed a more modest pace of recovery within the industry, resulting in a sustained weaker industry because of the pandemic. This IATA Baseline scenario assumed a public health response sufficient to reduce, but not control, the spread of the virus. Subsequent waves of infection would occur but within control. Vaccine distribution would likely be smooth with limited delays, resulting in high rates of vaccine distribution across developed countries by late 2021. In addition, government support and stimulus packages would be effectively deployed to limit the recessionary impact and spur a resumption of economic growth in 2021 and 2022.

Air traffic, aircraft and the global economy

In the event of a more modest recovery, there would be decreased traffic demand with soft demand recovery in the following years. Airlines would see a return to pre-Covid domestic traffic levels by 2023 and international traffic levels by 2024. Given moderate structural changes in the industry, airlines would see a long-term RPK growth rate from 2019-30 of about 3.2%. The overall trend in air traffic would be a decreased industry growth rate when compared with prepandemic growth.

After this return to air traffic growth, production rates of narrowbody aircraft would be expected to return to 2018 levels in 2024-25. For widebody aircraft, there would be an extended decrease in demand and, as a result, the recovery would be far slower, not reaching 2018 production levels until the middle of the next decade. There would also be a wave of aircraft retirements for several years, especially among widebody aircraft.

With regards to the long-term impact on the availability and cost of financing, strong credit investments would see limited impacts, but higher spreads would be required for asset-based investments of older aircraft with poorer credits.

Underlying these trends would be a global economy in the midst of an L-shaped recovery. In this scenario, global GDP and international trade would experience stagnant levels of growth for one to two years. Within the aviation sector, there would be some operator exits and moderate levels of consolidation.

Alton baseline

The third potential post-Covid-19 scenario assumes a modest pace of recovery within the industry, resulting in a sustained weaker industry because of the pandemic. This Alton Baseline scenario assumes a public health response sufficient to reduce, but not control, the spread of the virus. Subsequent waves of infection occur but are within control. The vaccine is assumed to be smoothly distributed with some delays in developed and developing countries, resulting in a high rate of vaccine distribution in developed countries by the end of 2022.

In addition, government support and stimulus packages would be effectively deployed to limit the recessionary impact and spur a resumption of economic growth.

Air traffic, aircraft and the global economy

In the event of a more modest recovery, there would be decreased traffic demand with soft demand recovery in the following years. Airlines would see a return to pre-Covid domestic traffic levels by 2024 and international traffic levels by 2025. Given moderate structural changes in the industry, airlines would see a long-term RPK growth rate from 2019-30 of about 1.9%. The overall trend in air traffic would be more delayed industry growth when compared with previous scenarios.

After this return to air traffic growth, production rates of narrowbody aircraft would be expected to return to 2018 levels in 2025-26. For widebody aircraft, there would be an extended decrease in demand and, as a result, the recovery would be far slower, not reaching 2018 production levels until the middle of the next decade.

A wave of aircraft retirements would continue until 2024, especially among widebody aircraft, and like the IATA Baseline scenario, strong credit investments would see limited impacts, but higher spreads would be required for asset-based investments of older aircraft with poorer credits.

Underlying these trends would be a global economy in the midst of an L-shaped recovery. In this scenario, global GDP and international trade would experience stagnant levels of growth for one to two years. Within the aviation sector, there would be some operator exits and moderate levels of consolidation.

Pessimistic recovery

The fourth potential post-Covid-19 scenario assumes a slow pace of recovery within the industry, resulting in a profoundly weaker industry because of the pandemic. This Pessimistic Recovery scenario assumes a public health response that is not effective in slowing down the spread of the virus. Moderate to severe subsequent waves of infection occur, including the emergence of multiple virus variants that ultimately lower vaccine efficacy. The vaccine is assumed to be distributed across remaining developed countries by mid-2022, but developing countries face further delays to receive and distribute vaccines.

In addition, there is ineffective execution of government support and stimulus packages. A potential 2022 recovery is stymied by more new virus variants and delays in vaccinations, which all negatively affect business outlooks.

Air traffic, aircraft and the global economy

In the event of a weak recovery, there would be decreased traffic demand with soft demand recovery in the following years. Airlines would see a return to pre-Covid domestic traffic levels by 2026 and international traffic levels by 2028.

Given significant structural changes in the industry and a decreased consumer propensity to travel, airlines would see a long-term 2019-30 RPK growth rate of about 0.5%. Compared with pre-Covid growth rates, the overall trend in air traffic would be significantly reduced industry growth rates. In this scenario, the negative effects of the pandemic on the aviation industry would be clear throughout most of this decade.

After this nearly stagnant air traffic growth, production rates of narrowbody aircraft would be expected to return to 2018 levels in 2027-28. For widebody aircraft, there would be an extended decrease in demand and, as a result, the recovery would be far slower, not reaching 2018 production levels until after 2035.

There would also be a wave of aircraft retirements until 2027, especially among widebody and parked aircraft. In this case, the production rate increases planned by Boeing and Airbus would be significantly delayed and any production ramp-up would be far slower than anticipated.

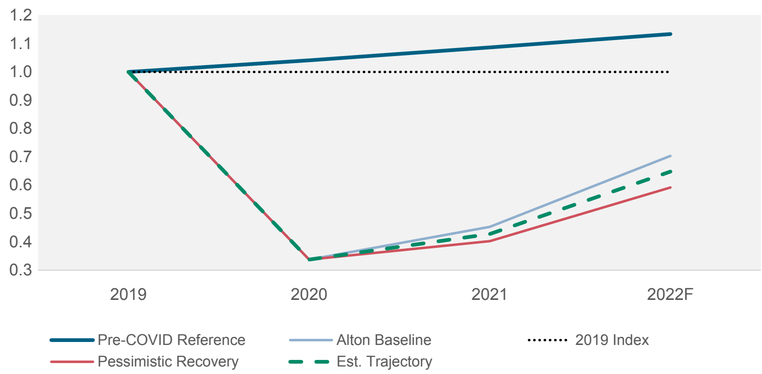
Underlying these trends would be a global economy in the midst of an L-shaped recovery. In this scenario, global GDP and international trade would experience stagnant levels of growth for two to three years. Within the aviation sector, there would be a heightened level of operator exits and industry consolidation. In these conditions, it would be difficult for new airlines to launch successfully, and many planned launches would either be cancelled or delayed. Larger operators that can capture a greater share of the reduced air travel demand would be most successful.

WHERE ARE WE NOW?

As of writing this in August 2021, given the surge in cases and rapid spreading of variants caused by vaccine hesitancy and regional refusal of mask mandates and preventative measures, the early phases of the Optimistic Recovery and IATA Baseline seem to have passed us by. And while the future is difficult to predict, the current trajectory we are seeing puts us somewhere between the Alton Baseline and Pessimistic Recovery scenarios.

At this point in 2021, even given the vaccine rollout and slowly opening economies, hopes of a near-term snapback to pre-Covid levels have all but faded. We may be looking down the barrel of a longer-term recovery

Figure 19: Indexed RPK growth of demand scenarios, 2019 forecasted through 2022



that would not reach expected levels at some time between 2025 and 2028. But, of course, this all depends on actions taken and progress made in the remainder of this year and the first part of next year.

Traffic recovery is likely to be uneven depending on the region and type of traffic. While it is very hard to make predictions at this juncture given all the external factors and variables, it is safe to assume a continued more rapid recovery in domestic traffic compared with international traffic.

The rate of traffic recovery in the Asia-Pacific, excluding China, will also likely continue to lag behind other regions and the recovery will be slower at least in the initial phases in developing countries compared with developed countries. Developing countries, particularly in Asia, will eventually resume their lead role in driving global air transport growth but for at least a few years it could be developed countries that drive any possible recovery in global traffic levels.

Domestic traffic has already fully or nearly fully recovered in some major markets including China, Russia and the USA, as well as several smaller markets such as Kazakhstan, Mexico and South Korea. Domestic traffic is currently a small fraction of 2019 levels in several domestic markets – particularly in the developing world – because of domestic travel restrictions. However, vaccination rates in most of these markets are increasing rapidly and several will achieve widespread vaccination by the end of this year. When this occurs, domestic demand, particularly leisure demand, could recover rapidly because international travel options are likely to remain limited for some time.

Globally, it is possible domestic travel will return to 2019 levels by the end of 2022 as most of the main, as well as most of the smaller domestic markets, will have fully recovered. This is roughly in line with the IATA Baseline scenario, which expects domestic traffic to be back at 2019 levels by 2023, and faster than the domestic forecasts under the Alton Baseline or Pessimistic Recovery scenarios.

However, international traffic could take longer to recover fully than the IATA Baseline, which forecasts a return to 2019 levels by 2024. The international traffic recovery will not necessarily be driven by economic recovery or a return of GDP growth as has been the case after previous crises but will be impacted by lingering travel restrictions and border closures.

Even where international travel is permitted, it will likely be much less convenient than international travel before the pandemic because of onerous requirements and various hurdles, impacting demand and the appetite for discretionary travel.

There will also likely continue to be spikes in Covid cases and the emergence of new variants, which could impact international demand much more than domestic demand. International travel has been perceived as riskier than domestic travel as requirements for returning to the country of residence can change while overseas. These risks and the associated uncertainties could particularly impact international business travel, potentially for several years.

Covid-19 is not about to go away and will likely continue to impact international travel significantly for the foreseeable future. Domestic demand will likely be much more resilient and could globally even grow well beyond 2019 levels in certain scenarios while international traffic remains well below 2019 levels. International traffic may not fully recover for several years, in line with the pessimistic scenario, which sees recovery of international traffic by 2028.

Several parameters could be useful to track given the uncertainty in the outlook, particularly for the international market. For this crisis, it may not be prudent to focus entirely on traffic and economic indicators.

Covid cases, testing and vaccines will be key factors as well as the related Covid strategies used by governments to try to contain the spread even in a potentially endemic environment.

Countries and regions have diverged considerably with their Covid strategies. Some countries continue to pursue widespread testing and have plans to ramp up testing even further as restrictions ease, while other countries have much more limited testing and have no plans to rely on testing as part of their future strategies. It is likely there will continue to be significant divergence between countries in terms of both strategies and air travel protocols, which could make international travel difficult.

As new waves of cases and new variants emerge, some countries may respond by closing borders again or reintroducing quarantine requirements, which stifles demand. In theory, widespread vaccination should enable countries to open borders and keep borders open as well as transition away from focusing on case numbers. But some countries with high vaccination rates have so far been reluctant to open up with other high vaccination rate countries and instead are insisting on both low case numbers and high vaccination rates as well as rigorous testing regimes.

As more countries reach widespread vaccination, it is likely many, particularly in Asia-Pacific, will not swing open their borders to all countries with high vaccination rates. A much more cautious approach could be pursued for at least several months and perhaps even years. Quarantine requirements could be reduced but may not go away entirely and will therefore continue to impact demand irrespective of economic indicators.

Vaccine effectiveness is another related variable that will be important to track. Effectiveness levels vary by vaccine and therefore effectiveness rates vary by country given every country relies on a different combination of vaccines. This makes it even harder for countries, particularly countries with conservative strategies, to open up fully to vaccinated travellers or all countries with high vaccination rates. Vaccine effectiveness for each country will likely further diverge as booster shots start to be implemented by some but not all countries.

The emergence of new strains negatively impacts vaccine effectiveness while, conversely, the release of new or updated vaccines and the implementation of booster shots should lead to improved effectiveness. How this all pans out in terms of overall effectiveness globally and each region is impossible to predict. However, it is now critical to track vaccine effectiveness closely as it impacts government policies and strategies that in turn have a huge bearing on the pace of the recovery.

Government support is another key factor to track as the crisis drags on, impacting the ability of airlines to survive and recover. Strong support from governments and industry partners including lessors has so far enabled almost all airlines to survive the crisis. There have been very few examples of consolidation and a relatively small number of major airline collapses. However, continued strong support from governments and industry partners cannot be assumed. While some airlines should be able to secure more government support or may not require additional support, there will likely be many airlines which will require additional support but will not be able to secure additional packages and or extensions of current government benefits.

Securing further support from industry partners will also become increasingly difficult as the financial position of some partners weakens. Some partners may also decide to pull the plug on certain weaker airlines, particularly in regions that are slow to recover, as better opportunities start to emerge with airlines which are in a better financial position and are based in regions that have stronger near-term demand.

The pace of airline exits and consolidation could pick up considerably in the remaining phases of the crisis. While new airlines and expansion of existing airlines could fill some of the voids, the overall market could shrink even if economic indicators become more favorable. Government support and industry exits could become important indicators in determining which recovery scenario ultimately materialises.

BRIDGES TO POST-COVID GROWTH

Regardless of which scenario – or combination of scenarios – comes to pass, there are options for the aviation industry to leverage this crisis into an opportunity, especially given the current downtime afforded to all sectors.

Lessors

Established lessors require structured plans to weather the crisis. With airline revenues in sharp decline, most lessees have sought commercial concessions from lessors, either from near-term rent deferrals or broader contract restructurings. When considering the scale of airline revenue deterioration, continuing these concessions will be vital mechanisms for airline liquidity preservation, and the absence of such concessions could directly impact the survival prospects of certain operators.

While most global airlines are severely affected by Covid-19, each operator's positioning to deal with the crisis varies in terms of existing capital structure, as well as government and shareholder support. With more restructuring requests likely, lessors should not shy from digging deeply into airlines' business plans and forecasts to make objective decisions on what support to provide.

For most lessees, initial relief has come in the form of lease deferrals, and hopes were pinned on a recovered summer 2021 industry. However, given the muted recovery, particularly in Asia, lessors are being forced to provide further rent relief or early lease termination, leading to revenue reductions and increased exposure to deferred income from riskier lessees.

To mitigate these effects, lessors must look for win-win solutions such as accepting lower lease rates in exchange for lease extensions beyond the current term. These outcomes will allow airlines to achieve short- to medium-term liquidity relief, while lessors secure further lease terms and avoid future remarketing and reconfiguration expenses.

Lessors can also take steps such as accepting lease rate reductions or prolonged payment deferrals in exchange for sale and leaseback arrangements on airlines' forward orders. As shown by several high-profile sale and leaseback deals in the first half of this year, including Delta Air Lines, Easyjet, Cathay Pacific, and many others, airline demand for liquidity created the opportunity for lessors to gain exposure to top-tier credits at reportedly better yields compared with the pre-Covid-19 environment.

Given the pressure on values and rates and a limited market for remarketing, it is not surprising that lessors have so far been reluctant to initiate aircraft repossessions. As additional airlines enter bankruptcy and administration processes, repossessions will become more frequent and lessors will face significant cost and revenue impacts as even new and younger aircraft will experience off-lease periods. Lessors face trade-offs between securing aircraft onto lease at low rates with lower-tier credits and allowing longer downtime in search of more preferred counterparties while waiting for rates to improve.

Lessors with orderbook obligations may see committed lessees unable to take delivery. The pressure to place new aircraft could lead lessors to retire some of their mid-life fleets prematurely, before realising the value they initially anticipated. At the same time, the oversupply of new aircraft may significantly reduce demand for secondary aircraft, forcing mid-life aircraft lessors to reassess their asset valuation strategy and turn to passenger-to-freighter (P2F) conversions of applicable aircraft types to provide some relief.

Some prepandemic funding options may be returning to prominence in the near to medium term, however. For example, while many potential ABS deals had ceased during the deepest phases of the crisis, six new deals have been issued since the onset of Covid-19 through August 2021. This stands in contrast to the milieu after the global financial crisis, when the market did not return for more than five years.

Airlines

Airlines can use the time of Covid overhang to streamline their operations both internally and externally. The focus must be turned to network strategies, adapting and improving existing planning and scheduling processes that typically take weeks to complete for them to run weekly, keeping up with the rapidly changing demand profile as operations ramp up.

As we transition to recovery, airlines need clear rules for route reopening and scheduling, drawing on the insights from their intelligence task forces, closely monitoring competitor actions and taking a hard look at their airport slots. Given the impetus to retain or reattract customers, it also behooves airlines to improve customer service and over-communicate with passengers to help manage operations in these times of uncertainty.

Most importantly, to maintain stability in their bottom line, airlines must look toward cost reductions through productivity improvements, contractual arrangements, basing strategy, process redesign and outsourcing. They must also re-evaluate non-aircraft capital expenses, and institute processes to avoid cost creep and ensure any savings are reallocated to critical areas of need. Many may emerge from the crisis with much smaller operations.

Many airlines have adapted new long-term strategies during the pandemic while also addressing immediate challenges, leading to restructurings and recapitalisations. The pace of adaptation could increase as the crisis continues and as more airlines recognise how the landscape has permanently changed.

Digitalisation is a major theme that has already emerged with many airlines adopting new digitalisation strategies or accelerating digitalisation plans that were already in place before the pandemic. Many airlines have used the downtime to upgrade systems that should improve customer experiences, particularly given the increased focus on touchless options in the post-pandemic environment, as well as improve efficiencies. There are still opportunities for airlines to pursue further digitalisation in many areas – both internal or backend and customer-facing – although for some airlines financial constraints make it difficult to invest at this time.

Diversification is another trend that has been accelerating during the pandemic, because airlines are eager to pursue new revenue streams to offset the huge drop in passenger traffic. Several airlines have launched new products aimed at loyal customers and designed to leverage their brands, particularly in their home markets. Most of these airlines are selling lifestyle-related products that complement their traditional offering but some have pivoted more significantly. For example, Air Asia has developed a super app that is now offering food delivery, package delivery, groceries and ride-hailing along with typical airline-related products such as hotels and insurance.

Most airlines also have increased their focus on cargo, which is another example of revenue diversification. While passenger revenues have plummeted, cargo revenues for the overall industry have surged to all-time highs. Cargo airlines and passenger airlines that already have large freighter operations have benefitted the most from this surge but passenger airlines which had limited cargo businesses before the pandemic also have adapted their strategies to tap into this opportunity.

Some airlines have launched passenger aircraft freighter operations by removing seats or loading cargo in the passenger cabin.

While these operations peaked in 2020, many airlines have continued to operate some passenger aircraft freighters and are planning to again increase these operations in the fourth quarter of 2021 to meet peak season cargo demand.

Low-cost carriers

Low-cost carriers (LCCs), which traditionally have shied away from cargo because of concerns it would compromise their business model, have particularly been keen to start pursuing cargo opportunities. Cargo has been a lifeline during the pandemic and many LCCs have now also adjusted their long-term strategies to focus on cargo permanently. Some have even started operating or wet-leasing full freighters and have established logistics businesses aimed at growing e-commerce demand.

While cargo opportunities are not limited to LCCs, they have some potential advantages in the e-commerce sector, which has boomed during the pandemic. Some traits of the low-cost model can be leveraged for cargo operations, enabling LCCs to offer relatively inexpensive cargo capacity. This particularly applies to narrowbody operations.

While widebodies account for most cargo flown globally, the narrowbody segment is important and growing rapidly because of the e-commerce boom. LCCs can effectively offer e-commerce customers a high-frequency service in domestic and regional international markets.

LCCs are also well positioned as leisure travel recovers. While LCCs are still much smaller than full-service carriers (FSCs) in terms of overall revenues, they generally rely much less on business traffic, which is expected to recover slower than the leisure and visiting friends and relatives segments. LCCs also generally rely much more than FSCs on domestic markets, which have and will continue to recover faster than international markets.

One of the most significant drivers of pre-Covid growth was the increased proliferation of the LCC. LCCs subscribe to a different business model from that of the traditional FSCs, enabling them to attract passengers with lower fares because of their lower cost base.

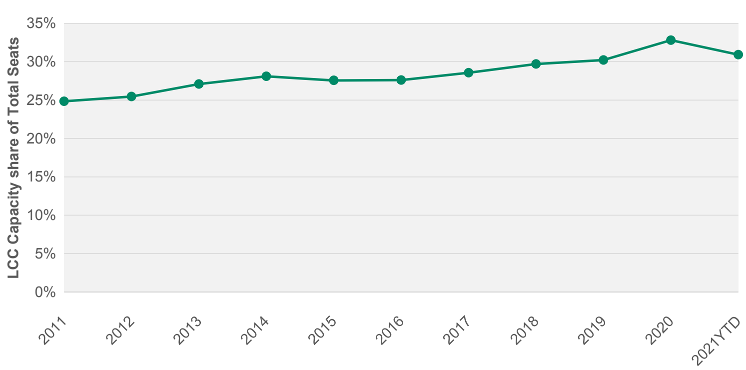
The general characteristics of the LCC model feature a standardised fleet type of single-aisle aircraft that operate at high utilisation levels with short turnaround times in a point-to-point mode, often to secondary airports. They distribute sales primarily through direct channels and have eliminated many of the full-service customer offerings while debundling fares so that passengers pay for only what they need. In 2019, LCCs accounted for 30% of the global market by seat capacity. In the first eight months of 2021, the LCC share was 31%.

Covid-19 has posed a significant challenge to the LCC business model, which typically relies on high load factors and operating frequencies. Additionally, there are not many LCCs that are government-owned or linked, particularly outside Asia. Generally, governments have not offered aid to the independent LCCs in the way they have to FSCs. However, given the health of LCCs before the crisis, they – or at least the strongest among them – may not need as much help going forward.

Those in a healthy position can take advantage of their strategy of driving down fares in their markets. These low fares will allow them to stimulate a great degree of demand that will return during the recovery period, and put them on an equal footing with larger carriers which have also turned to fare-cutting as a mitigation strategy. Given that Europe and the domestic market in the USA should hold strong during reopening, LCCs are well poised to take advantage. In Asia, LCCs are also generally well positioned but many were not that strong financially before the crisis and are now struggling more than FSC competitors which have benefitted from government support.

It is evident that LCCs have driven down fares in the markets in which they operate and that there is a degree of demand that is stimulated by these low fares. The LCC model first put down roots in the US market, then penetrated the European market and, in more recent years, rapidly inundated the Asia-Pacific market. Specifically, by the end of 2020, LCCs accounted for 51% of available seats in South-East Asia and 64% in India. LCC fares have declined at a greater

Figure 20: Annual global low-cost carrier capacity share of total seats



rate than global averages in regions such as the Asia-Pacific, where the concentration of LCCs is high.

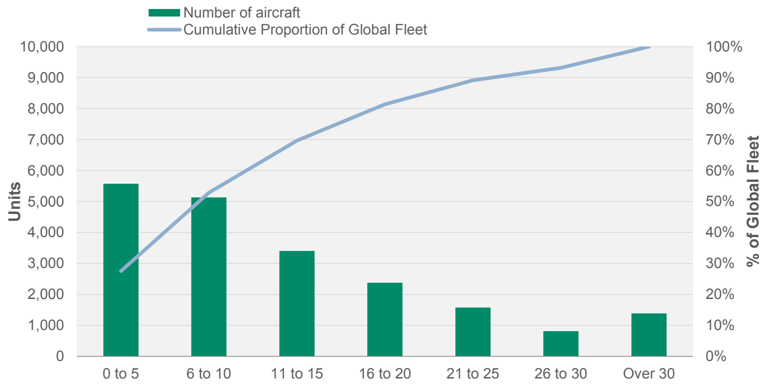
The LCC model has proven particularly effective where populations are dense and major population centres and leisure destinations are close. South-East Asia, one of the world's most densely populated regions, was one of the first to see LCCs overtake FSCs by available seat capacity in 2019 and 2020. In Europe, LCCs accounted for 39% of available seats in 2020; in Latin America for 43%; and in North America for 34%. While the largest two markets (by seat capacity), Europe and North America, have a high LCC presence, in China, the third-largest market, LCCs accounted for just 12% of available seats – the Chinese passenger aviation industry is still heavily dominated by three government-owned carriers and their subsidiaries. If regulations in China were relaxed, the market would likely be poised for a rapid increase in LCC penetration, as was the case in many other markets.

The LCC business model is heavily supported by ancillary revenues beyond ticket sales. Industry research from IdeaWorks suggests that ancillary sales accounted for 22.1% of the airline industry as a whole in the second quarter of 2020; for some major LCCs it accounts for significantly more – Volaris (Mexico) and Ryanair (Ireland) each reported ancillaries as 48% of total operating revenue in the fourth quarter of 2020; Spirit Airlines (US) earned as much as 50% of its revenue on ancillaries in 2019.

As passenger numbers fell in 2020, LCCs also sought to compensate by collecting more ancillary revenues – ancillaries grew 27% year-over-year in the fourth quarter of 2020 as a share of Ryanair's revenues and 35% as a share of Easyjet's (UK) in the same period.

As LCCs have grown in market share, many FSCs have also taken to unbundling certain products and raising ancillary revenues, introducing basic economy fares that mimic the stripped-down fare model of an LCC and incorporating fees for baggage, seat assignments and even in-flight catering services in economy cabins on short- and medium-haul routes.

Figure 21: Distribution of in-service passenger aircraft age, year-end 2020



NOTE: Excludes aircraft parked at 2020 year-end

Market liberalisation

Ongoing market liberalisation stemming from the deregulation of the commercial airline industry in the late 1970s has allowed airlines to supply the demand as they see fit in markets they find attractive, with less government involvement. Not only has liberalisation enabled greater competition, it has also enabled greater cooperation among airlines. The Open Skies Agreement has opened up more routes for competition and laws about foreign ownership have been relaxed.

Domestic deregulation has increased within specific markets, such as India, adding more domestic routes and, in so doing, increasing demand, particularly for narrowbody aircraft. The overall effect has been a reduction of barriers to entry, enabling more new entrants, most notably LCCs which would not otherwise have been able to overcome regulatory constraints. LCCs have opened up more secondary destinations and added more point-to-point routes while driving down fares for consumers.

However, with Covid-19 severely impacting travel between regions and countries, we expect some of this progress to reverse in the near term.

First, governments worldwide have put travel restrictions beyond airlines' control, some of which are expected to remain in the near term as countries try to avoid unnecessary travel from bringing secondary waves of infections. As these restrictions are slowly lifted, we expect governments to maintain control over which routes are deemed operational.

Second, airlines worldwide have been asking for government aid to survive the fallout of the Covid-19 pandemic. Having infused financial support to airlines, governments will be more actively involved in the industry. Some governments have implemented or are considering moratoriums on awarding licences to new airlines to protect airlines they have bailed out and provide an opportunity for all existing competitors to recover.

Some governments have implemented or are considering domestic airfare floors and caps that could also stifle competition. In some cases, air service agreements may be reopened and become more restrictive rather than continue the pre-Covid trend towards liberalisation and open skies. Foreign airline ownership restrictions are unlikely to be eased – and could, in some cases, even be tightened – making it even more difficult to pursue cross-border consolidation.

Progressive deregulation since the 1970s has liberalised the commercial airline industry, spurring both fiercer competition and more efficient cooperation between airlines. Open skies agreements have opened routes for global competition, and laws restricting foreign ownership of airlines have been relaxed. In many markets, domestic regulation has also been curtailed – India, in particular, has seen a boom in the number of domestic routes and destinations served, and an accompanying rise in demand for aircraft, particularly in the narrowbody segment.

Deregulation has also had the overall effect of lowering the barriers to entry for carriers into the aviation market – most notably LCCs, many of which would have been otherwise unable to overcome regulatory requirements and restrictions. The proliferation of point-to-point LCCs saw a great increase in new routes and unique city pairs; immediately before the pandemic downturn in 2020, the global airline industry served more than 20,000 unique city pairs, up from just over 10,000 20 years previously. By April 2020, this figure had fallen to less than 5,000 and, although there has been some recovery since that trough, full recovery in unique city pairs may not be seen for years.

Aircraft retirement demand

An aircraft is retired when it reaches the end of its economic life, which is when the cost of operating and maintaining the aircraft exceeds its profit-making ability.

By historical standards, the useful life of an aircraft has been between 20 and 30 years. In recent years, however, retirements before the age of 25 have been seen, sometimes motivated by part-out opportunities with attractive values (particularly for engines) compared with the available options for subsequent leases.

At the end of 2020, nearly 20% of the global active and parked commercial aircraft fleet, numbering more than 7,500 units, was older than 20 years of age. This cohort of aircraft is perceived to be likely candidates for retirement in the coming years.

Additionally, as shown in Figure 21, a significant number of aircraft were delivered 16 to 20 years ago and remain in service; fleet demographics such as these will cause retirements to increase over the next decade, especially with Covid-19 accelerating aircraft retirement plans.

The rate of retirements has grown over the decades as the global fleet has aged. While the average retirement rate in the mid-1990s was about 0.6%, retirements reached about 2.5% of the global fleet in the 2009-13 period. The slowdown over the past five years has been caused by a combination of strong growth demand and a more modest fuel price environment.

The more significant decrease in narrowbody retirement rates can be partly attributed to the 737 Max grounding because operators are forced to extend the operation of older aircraft that were slated for replacement by the 737 Max.

Amid the Covid crisis and beyond, a wave of retirements is expected to remove older aircraft from the global fleet earlier than expected. But while this may remove much existing metal from play, it does allow for airlines and lessors an opportunity to reconsider their fleet make-up. Whether this means switching to newer, more fuel-efficient technologies or targeting aircraft to suit their most profitable segments, Covid-19 may be the push aircraft owners and operators need to replace and optimise their fleet to their specific needs.

Initially, low retirement rates were expected to continue into the 2020s, but the Covid-19 pandemic has forced airlines worldwide to execute accelerated retirement plans as they look to restructure their fleets and remove aircraft with higher maintenance and operational costs. This is a signal that the industry will experience a spike in retirements throughout the next few years.

Freighter conversion demand

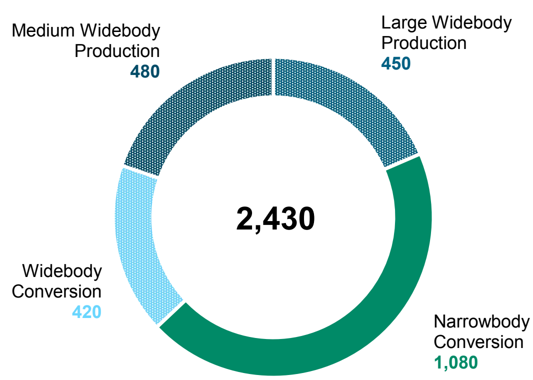
Freighter conversion is also a driver of passenger aircraft demand for replacement. A significant proportion of the global freighter aircraft fleet – especially narrowbody aircraft -- is conversions from passenger aircraft as opposed to purpose-built production freighters. Conversions are economically feasible when values of passenger aircraft decline sufficiently to make the investment attractive enough for freight operators.

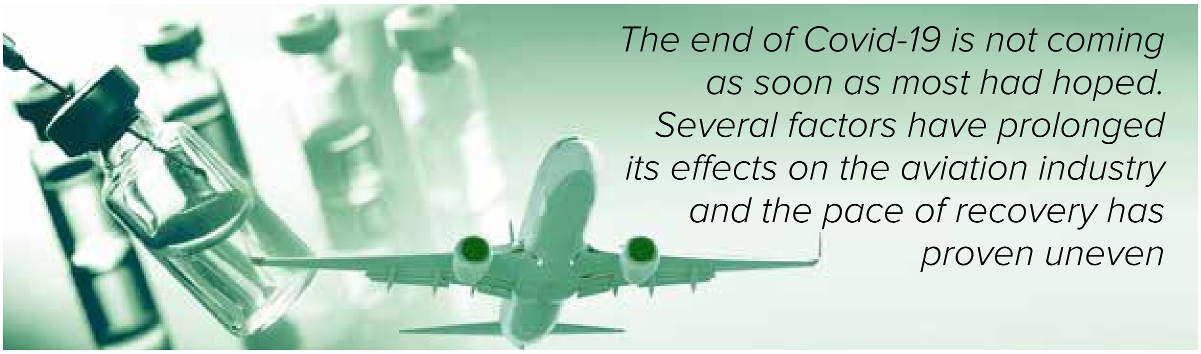
P2F conversion programmes are only available for certain aircraft models. The programmes have historically served to extend the life and buoy the residual values of those aircraft. Boeing forecasts that 61% of the freighter deliveries expected in the next two decades will be passenger aircraft conversions.

Recently launched conversion narrowbody programmes are providing attractive options; in late 2017, the first 737NG freighter conversion was completed, offering additional capacity and next-generation efficiency advantages over current generations.

The conversion programme for the A320/A321 marks the first for an Airbus narrowbody. The converted A321 entered into service in late 2020. With a capacity of up to 14 pallets, it expects to be positioned as a 757-200 replacement. For the 737NG and A320/A321 P2F programmes,

Figure 22: Boeing freighter demand forecast 2020-2039





the availability of attractively priced feedstock would seem to be a limiting consideration.

However, as Covid-19 forces some airlines to accelerate retirements of older models, including those in the 737NG and A320 families, the freighter conversion market may see an uptick in feedstock availability.

IF YOU'RE GOING THROUGH HELL, KEEP GOING

The end of Covid-19 is not coming as soon as most had hoped. Several factors have prolonged its effects on the aviation industry and the pace of recovery has proven uneven, currently at levels below the prepandemic norm.

The landscape remains altered and while the fight for survival continues, industry players need to carry on with their medium-term planning and look for ways to increase cash coming in, reduce costs and keep operations running – all while managing the continuing health and safety issues for customers and employees.

Business-as-usual planning will not suffice. Companies must continue to plan for extended recovery, carefully evaluating their financial stance and preserving flexibility. Ultimately, they will need clear action plans incorporating no-regret moves, strategic bets and a set of triggers to activate these actions as the situation continues to evolve.

But there still may be light for many at the end of the tunnel. With the rollout of vaccines, the deep phase of the crisis is more than likely over. Countries are gradually lifting quarantine measures for vaccinated individuals and domestic and international travel has resumed at a lower level. In the coming overhang phase, expect further dips and rebounds as various global regions are impacted until a vaccine is widely available internationally, and dangerous variants are quelled.

At the same time, we are confident that players across the entire value chain who can take advantage of the shakeout will emerge from this crisis smarter, more focused and more risk-averse. For industry stakeholders, this means a continual weathering of ambiguous, challenging times that are continually evolving – but also an opportunity to come out of the crisis better positioned than before.

ALTON AVIATION CONSULTANCY

Alton Aviation Consultancy is a global advisory firm serving the aviation and aerospace industries. It was founded by veteran aviation industry executives, globally recognised for their thought leadership, quantitative analytics and innovative solution development. The firm offers full value chain coverage with clients including airlines, manufacturers, maintenance, repair and overhaul and aftermarket service providers, lessors and the broader financial and investment community.

With offices in New York, Dublin, Hong Kong, Beijing, Tokyo and Singapore, Alton's diverse team of professional advisers bring a global perspective with deep regional expertise across the entire aviation value chain to its client engagements. Typical client engagements include strategy and business plan development, operational performance improvement, restructuring and transaction support.

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Data and charts presented in this report analyzed by Alton and sourced from the following: Airbus, Boeing, FlightGlobal, ICAO, IATA, IMF, Johns Hopkins University, OAG, Our World in Data, TSA

The Changing Tax Landscape for Aviation Finance

KPMG looks at the imminent tax changes that "may result in the greatest realignment of global taxation in living memory".

The world of international tax is undergoing a period of great turbulence. The taxation of aviation lessors has been subject to significant change over the past 10 years. Previously reliable tax structures have fallen away. Airlines are demanding more robust tax structuring. New tax laws are emerging in key customer jurisdictions, and the OECD, EU and USA are driving changes to which lessors have to react.

Plentiful capital raised in a tax-efficient way contributed to a sustained period of booming growth in the industry in the 2010s. Asset-backed securitisation (ABS) debt and unsecured debt issued by lessors enjoyed a buoyant level of demand in the capital markets. Neat, tax-efficient structures supported these transactions, even as high-growth lessee jurisdictions turned their attention to lessor taxation and substance.

In 2020 and 2021, as the Covid-19 crisis devastated aviation, global leaders met to agree a fundamental reorganisation of international tax rules. The still-unfolding BEPS 2.0 process will have a defining effect on taxation and returns in the aviation finance industry over the coming years. Changes are on the horizon which may result in the greatest realignment of global taxation in living memory, and aircraft lessors will need to understand the potential impact on their businesses.

In this article, we review the impact of tax changes which have emerged in recent years on the aviation finance community, at investor, lessor and lessee levels. We also consider the future direction of travel in international tax and its possible effect on aviation finance.

Tax structuring in aviation finance

An investor entering the aircraft leasing market for the first time will find there are certain tried and tested structures which have long served investors and lessees well. Tax efficiency is at the heart of these structures (see diagram below), which typically feature an Irish leasing platform with aircraft held in asset-owning special purpose vehicles (SPVs) leased to airlines around the globe.

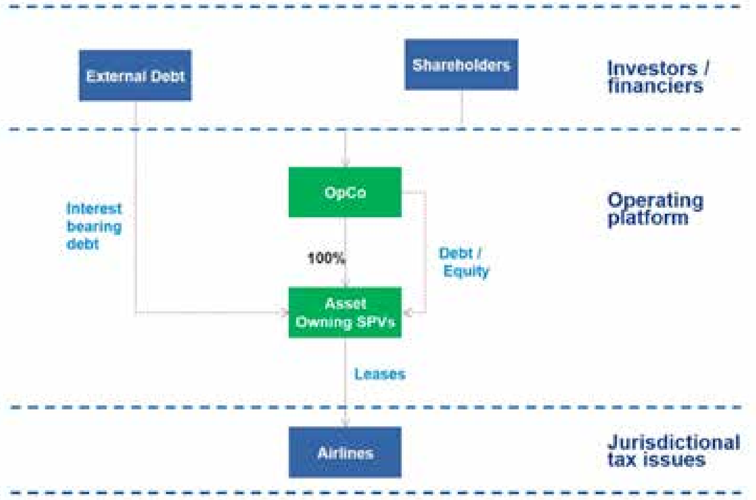
Capital is invested into the Irish platform from overseas, by way of debt raise or equity, and is pushed down into the SPVs in a tax-efficient way. Employees are generally separated from the assets and are employed by an operating company, or services are bought into the group from an Irish-based lease manager. Rentals are paid to the SPVs and are returned to the investors by way of interest or dividends.

These structures broadly operate across three levels (investor, platform and lessee), and at each level there are specific tax issues to be considered and managed. At a high level, these are:

- **investor level:** withholding taxes on returns of interest and dividends are a key concern for investors. Equity investors will also need comfort on potential future exit taxes which may arise on a disposal of their investment;
- **platform level:** key platform-level tax concerns include the rate of tax applicable to profits earned, the deductibility of operating costs incurred, the availability of accelerated tax depreciation on aircraft costs and ability to offset accrued tax losses against profits to defer cash tax payable; and
- **airline level:** at the level of the airlines, a key concern is managing withholding tax exposures on lease rentals returned to the platform. Transfer taxes on aircraft novations, and local income tax and VAT/ sales tax exposures, also require management.

As the aviation finance industry has developed and boomed, an Irish leasing structure with clean, efficient answers to the tax questions posed at

Typical aircraft leasing structure



each level has proven very effective.

The diagram provided is greatly simplified for illustrative purposes. However, as platforms grow and expand into multiple SPVs, parallel/side-car structures, foreign presences and numerous holding companies, bond issuers, treasury companies and legal orphan offshoots, the fundamental tax questions and answers generally remain consistent.

At each level, the basic principles of certainty and predictability in tax treatment have been key to supporting growth. However, developments over recent years have tested that predictability, with lessee jurisdictional tax issues in particular putting pressure on some aspects of the traditional leasing structure.

In the next section, we will review some significant tax changes over the past 10 years and consider the impact they have had on lessor/lessee relationships.

BEPS 1.0: first steps towards change

The OECD's Base Erosion and Profit Shifting (BEPS) project in its first iteration in October 2015 set out 15 "actions" designed to guide member jurisdictions in reforming domestic and international tax law to counter the erosion of the global corporate tax base.

One of the underlying aims of the process was to bring about greater alignment of taxation and substance. The most significant of the actions from an aircraft leasing perspective was Action 15, the Multilateral Instrument (MLI).

The MLI

The MLI was an instrument which overlaid and amended existing double tax treaties, including those entered into by common leasing platform jurisdictions such as Ireland, Hong Kong SAR and Singapore. The MLI sought to change the terms of existing treaties to tighten up key definitions and restrict access to benefits, bringing a greater focus on the substance of any company seeking to claim treaty benefits. It has the potential to deny treaty relief from withholding tax on lease rentals.

The MLI started coming into force for Ireland's treaty network from 2019. It is now effective for many key airline

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jurisdictions, where double tax treaty relief is being availed of.

Among the changes introduced into tax treaties by the MLI was the Principal Purpose Test (PPT), which effectively eliminated the availability of treaty relief from withholding tax on lease rentals where "treaty shopping" was suspected.

The PPT states that relief will be denied where it is reasonable to conclude that obtaining a tax benefit was one of the principal purposes of entering into a transaction. The PPT places very significant pressure on what had historically been one of the primary methods of managing income tax and withholding tax risk on leases to jurisdictions such as Australia, Japan and Indonesia – the use of leasing intermediary companies, or lease-in, lease-out companies (Lilos).

The MLI also introduced into some treaties additional tests under the definition of permanent establishment (PE). These changes mean that where an employee "habitually plays the principal role leading to the conclusion of contracts" in a given jurisdiction, a PE can be triggered and corporate income tax become payable.

While Irish treaties do not contain the expanded definition of PE, this suggested change at OECD level has heightened countries' awareness of the level of activity employees of foreign organisations (such as lessors) have in their jurisdictions, and has significantly raised the risk that negotiations and interactions with airlines on their home turf may lead to local tax exposures for aviation lessors.

Demands for substance

Even before BEPS 1.0 formalised anti-treaty shopping and PE exposures in the MLI, airlines were beginning to respond to the direction of travel in international tax by tightening the demands they were making of lessors. In particular, aircraft lessors have seen an increased focus from airlines in certain key customer jurisdictions on the level of substance in the lessor entity or group.

Airlines in India, South Korea, Russia and Poland, among others, have issued lessors with detailed questionnaires and letters of representation to be completed and signed before lease commencement. These documents have posed challenging questions of lessors, seeking onerous and detailed representations of their facts and circumstances. Airlines have insisted on SPVs being incorporated in the jurisdictions in which they are tax resident, ruling out the use of Cayman or Bermudan incorporated SPVs.

In addition, airlines have requested the release of commercially sensitive information such as numbers of employees in the lessor SPV, properties owned or leased by the SPV, and copies of board minutes, tax returns, group structures and financial statements.

In many cases, airlines' demands are driven by developments at local tax office level. Airlines in India, Russia and China have been subject to investigation by the tax authorities in their home jurisdictions, with questions being asked in relation to leasing contracts.

Tax authorities have queried the entitlement of airlines to apply treaty benefits to payments of lease rentals to lessors resident overseas. The airlines have responded by insisting on the provision of what they (mistakenly) understand to be evidence of Irish tax residence or the SPV's beneficial ownership of rental income.

Demands for evidence of substance in the asset-owning SPV have posed a particular problem for lessors using intermediary leasing entities to manage withholding tax or income tax in the airline jurisdiction. They have also challenged structures holding assets offshore, in zero tax jurisdictions (such as the Cayman


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Islands or Bermuda), and leasing them via intermediaries resident in Ireland, Singapore or Hong Kong SAR.

Some lessors have responded to the challenges of recent years by seeking to own multiple assets in a single entity (as opposed to bankruptcy remote single asset-owning SPVs). The airlines' preferred model of a lessor with employees and assets held in one entity remains rare, however.

EU responses

While airlines have pushed lessors to amend their structuring to address substance concerns, at a macro level tax changes driven by the EU in response to the BEPS 1.0 project have imposed new reporting requirements and additional significant structure challenges. The EU's Anti-Tax Avoidance Directive (ATAD), introduced in 2016, set out a number of measures it required member states to implement in order to address perceived tax abuses among multinationals.

ATAD included requirements that member states introduce Controlled Foreign Company (CFC) rules to tax profits held offshore in low tax jurisdictions, anti-hybrid rules to counter loopholes between tax systems, exit taxes, General Anti-Avoidance Rules (GAAR) and interest limitation rules.

From an Irish tax perspective, some of these rules were already in place in Irish law. However, some (CFC, anti-hybrids) have had a significant impact on lessors' structures and on the tax deductibility of expenses incurred by lessors.

Commencing in 2022, the introduction of interest limitation rules in Ireland will require aircraft lessors to consider their financing arrangements in detail, with the risk of tax deductions for interest on borrowings being partly denied.

Alongside ATAD, the EU's introduction of the Common Reporting Standard (CRS) and the Mandatory Disclosure Regime (DAC 6 reporting), also in response to BEPS 1.0, have added to the information gathering and disclosures burden being placed on business.

Separately, tax reform in the USA, now being revisited by the Biden administration, has created new costs and difficulties for the structuring of US investment into aviation finance. Collectively, these new rules have significantly upped the ante on lessors in terms of the complexity of their tax structuring and the tax reporting required by them.

Different structures, different challenges

The tax developments of recent years have posed different kinds of challenges for different kinds of structures. Broadly, we have seen the following impacts:

- **mature leasing platform:** full-scale leasing platforms with significant substance and a history of transactions with existing customers have not been immune to the developments of recent years. In particular, lessors have found that Lilo structures which served them well in the past have fallen away, in some cases necessitating significant restructuring. Irish lessors with offshore presence have also had to consider CFC rules;
- **ABS structure:** lessors' ability to place aircraft leased to certain airlines into ABS structures has come under significant pressure. Novations of Russian, Indian and Korean leases have been slow, with airlines uncomfortable with the change from an existing substantial leasing platform to a legal orphan structure without employees or a physical presence. The payment of returns to E-note investors have given rise to complex anti-hybrids questions;
- **US investment:** US funds typically invest into leasing structures by way of partnerships and LLCs, entities which are treated as transparent for US tax purposes. Airlines in less sophisticated jurisdictions have been known to request group structures giving details of entities above the level of the leasing SPV, all the way to the ultimate investor. Aside from the commercial sensitivity of what is occasionally requested, some airlines have difficulty understanding the taxation of income streams received by entities typically used by US funds, and some lessors have encountered lessee resistance with novations and new leases as a result. The entities used by US investors into Irish structures have on occasion given rise to anti-hybrids problems; and
- **offshore ownership:** lessors which have historically structured their leases by way of asset ownership offshore in tax-friendly jurisdictions with head leases to (for example) Ireland and sub-leases to the ultimate airlines have faced pressure from lessees seeking evidence of a substantial presence in Ireland.

All Irish resident structures will be required to consider the impact of the introduction of interest limitation rules from 2022 onwards, and all have been required to consider the DAC 6 reporting implications of new transactions being entered into.

Since the introduction of the MLI, the general direction of travel in international taxation for aviation finance has been clear. The more substance that can be demonstrated in the lessor SPV and its wider group, the easier the deal. The PPT in particular has crystallised what were already well-established moves towards insisting on greater substance from lessors. While lessors have minimised the representations given and documents delivered, ultimately, in order to be commercial and get leases signed, accommodations have been made – and costs incurred.

The demands imposed by BEPS 1.0 have not gone away; however, minds are turning now towards the further, very significant changes in the global tax landscape proposed by BEPS 2.0.

In what follows, we will introduce the expected rules and provide an overview of how they might apply to aviation lessors.

BEPS 2.0: new direction of travel

Notwithstanding the sweeping changes introduced in the first phase of the OECD's BEPS project, the rapid digitisation of the global economy and the growth of the tech sector has sharpened calls for a further radical overhaul of international tax law. At the conclusion of the BEPS 1.0 process in 2015, certain countries remained unhappy with the ultimate output; however, it took a further number of years before any real movement towards further change emerged.

The speed of progress has accelerated rapidly over 2020 and 2021, with the publication of detailed blueprints in 2020, and G7 and G20 level agreement on broad principles earlier this year.

Collectively, the proposed further changes are known as BEPS 2.0. Across two "pillars" of rules, BEPS 2.0 proposes in some specific circumstances (though most likely not for lessors) to reallocate taxing rights to customer jurisdictions, with tax arising where revenues, rather than profits, are generated, and to set a global minimum effective tax rate applicable to all multinationals over a certain size.

New rules

As of September 2021, we have a broad general sense of how the rules might fall. First, it is important to note that what is proposed under BEPS 2.0 is expected to apply only to multinationals with consolidated global revenues of more than €750 million ($890.1 million). No account of inflation is taken in the rules, however, therefore monitoring will be needed going forward. There is also the risk of individual nations introducing domestic rules which apply to multinationals at a lower revenue threshold – this is a point to watch out for in the years ahead.

Pillar One seeks to reallocate taxing rights to jurisdictions in which revenues are realised, looking at where sales are made rather than where profits booked. There are carveouts from Pillar One for certain classes of regulated financial services, not including leasing – however, overall it is agreed that Pillar One is less likely to be of immediate relevance to aircraft lessors.

The calculations in Pillar One limit its scope to multinationals with annual turnover of more than €20 billion only (expected to shrink to €10 billion in seven years).

Minimum global effective tax rate

From an aviation finance perspective, Pillar Two is likely to be the most impactful. The aim of Pillar Two is to establish a minimum global effective tax rate (ETR), and to put in place

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rules designed to ensure that ETR is realised by multinationals.

Much recent media attention has been focused on the minimum global ETR. The agreements reached earlier this year at G7 and G20 levels and subsequently signed by more than 130 OECD member jurisdictions reference an ETR of "at least" 15%. Earlier in discussions it was hoped that the ETR would fall at between 10% and 15%. It is known that the USA under President Biden prefers a higher rate of up to 21%, and it remains to be seen what ETR will be settled on.

In order to ensure that in-scope multinationals with consolidated revenues of more than €750 million are subjected to the agreed ETR, a framework of rules has been agreed. While much detail remains to be worked out, at a high level these are as follows:

- **the Income Inclusion Rule (IIR):** a CFC-style rule will tax income held offshore in jurisdictions which do not impose the agreed global minimum ETR;
- **the Under-Taxed Payments Rule (UTPR):** tax deductions on payments to jurisdictions which do not impose the agreed global minimum ETR will be denied; and
- **the Subject to Tax Rule (STTR):** this rule will overlay tax treaties, denying withholding tax relief on related party payments to jurisdictions which do not impose a nominal rate of tax above a (to be agreed) 7.5% to 9% rate.

A complicated system of formulae has been proposed to ensure that taxable amounts are fairly shared across jurisdictions. Given the scope of the rules and the number of countries which have agreed to implement them, it appears likely that there will be limited scope for restructuring to manage exposures.

Application of the rules

The practical impact of the BEPS 2.0 rules on aviation finance will vary depending on the jurisdictions in which the investors, asset-owning SPVs and (if different) leasing SPVs are resident for tax. The different rules and calculations will pose different problems for different kinds of structures.

The clearest impact to model is that of a change in the applicable ETR. Many of the details around ETR calculation, including the availability of carried forward losses, allowances to be made for substance in a given jurisdiction and the rate itself, are yet to be ironed out.

The following points consider at a high level the possible impact of BEPS 2.0 on three well-known leasing regimes, subject to finalisation of the detail of the rules and assuming an agreed global minimum ETR of 15%:

- the Irish regime has a headline corporation tax rate of 12.5% and this is the rate which aircraft leasing companies are generally subject to on their trading profits. Therefore, a move to a 15% minimum ETR could result in additional tax of 2.5% (ie, an increase in your tax charge of 20%);
- Hong Kong SAR has a headline corporation tax rate of 16.5% but its concessionary regime for qualifying aircraft leasing activities, introduced in 2017, offers a net headline 1.65% rate (8.25% on 20% of profits), but with no deductions available for tax depreciation. This generally results in an ETR for a leasing group in Hong Kong SAR around the 4% to 6% range. Therefore, a move to a minimum 15% ETR could result in additional tax of 9% to 11% (ie, an increase in your tax charge of between 250% to 375%); and
- Singapore has a headline corporation tax rate of 17%, however under the concessionary Singapore Aircraft Leasing Scheme, leasing companies can avail of reduced ETR of 8% (generally for an initial

agreed period of five to 10 years but it is possible to renew). A move to a 15% ETR could result in additional tax of 7% (ie, an increase in your tax charge of 87.5%).

While ultimately the devil will be in the detail of what is agreed at OECD level and how it is implemented in national legislatures, some possible impacts on aviation finance structures are as follows:

- **US investment:** US structures which feature offshore blockers or Cayman holding companies may find the IIR and UTPR render the use of these entities uneconomical, imposing top-up taxes to eliminate previous benefits. The expectation of further US tax reform alongside the continuing BEPS 2.0 process means that US investors may incur additional tax costs in aviation finance structures over the coming years (though this may be the case for sectors other than aviation finance as well);
- **Japanese operating lease (JoI) structures:** many JoI structures are managed by large, third-party Irish leasing platforms. Japan's corporate tax system imposes sufficiently high rates of tax such that the UTPR would not be expected to impact on lease rentals paid from Ireland to Japan. The STTR also should not apply in a third-party leasing arrangement;
- **offshore ownership:** the UTPR is designed to catch payments to jurisdictions which operate a rate of tax below the agreed global minimum. The rule is likely to increase the costs of structures which hold assets offshore in low or nil tax jurisdictions such as Bermuda or Cayman. From the perspective of the STTR, this is most likely to impact on payments within groups to countries which tax the receipt at a nominal rate of less than 7.5%. Consequently, lessors owning assets in SPVs resident in jurisdictions such as the UAE may also find that the STTR has an impact on their tax costs; and
- **Chinese investment:** Chinese-headquartered leasing groups will need to be careful when paying interest and fees from platforms to Hong Kong SAR group entities to make sure the Hong Kong SAR sourcing rules do not apply. Where amounts received in Hong Kong SAR are subject to a nominal rate of tax of less than about 7.5%, the STTR may deny tax treaty relief. The UTPR will also need to be considered in such a scenario.

What happens next?

The speed of progress in the BEPS 2.0 negotiations has picked up significantly since the inauguration of US President Biden in January. Agreement on elements of the proposals was reached at G7 and G20 levels in June and July – however, there remains a large amount of detail to be worked through.

Once a complete and final agreement is reached at OECD level, national legislatures will have further work to do to implement the agreement in domestic law. The USA is pushing for a 2023 implementation and the OECD has stated its agreement; however, in reality it may take a number of years before the real impact of the changes are seen.

As mentioned earlier in this article, very significant aspects of the incoming rules are yet to be finalised. A final ETR needs to be settled on, with the current open-ended wording referencing a rate of at least 15%.

The specifics of the calculations of the IIR and UTPR alongside the method for allocation of taxable amounts to the various jurisdictions in which a multinational has a presence need to be worked out. Certain nations have requested carve-outs from the rules for favoured industries and sectors, and the knock-on effect of any such concessions will need to be understood.

There is a long road left to travel before we can be in a position to say with confidence exactly how much of a bearing BEPS 2.0 will have on aircraft lessors two, five or 10 years into the future.

One notable roadblock standing between the proposals and their implementation is the Biden administration's razor-thin margin in the Senate and House of Representatives, and its ambitious domestic agenda. Having already won significant political victories domestically, with the 2022 mid-term elections on the horizon, the administration is likely to encounter significant resistance in attempting to pass BEPS 2.0 alongside domestic US tax reform late this year or early next year. Without the USA onboard, the likelihood of the BEPS 2.0 proposals being implemented would be significantly reduced.

BEPS 2.0 and Ireland

US Treasury secretary Janet Yellen has been liaising with the six OECD member jurisdictions which remain outside the agreement, applying pressure in an effort to reach unanimity. Of the six, Ireland is the only significant one from an aviation finance perspective (the others are Hungary, Estonia, Nigeria, Kenya and Sri Lanka).

Ireland's position on the BEPS 2.0 project has been clearly stated by the current government, in that Ireland supports the process and is committed to international tax reform but cannot sign up to the agreement given its current lack of detail.

Ireland has also defended its 12.5% rate as an appropriate and fair rate and within the ambit of healthy tax competition.

The Irish government has noted that tax policy is a legitimate lever to compensate for advantages of scale, location, resources, industrial heritage and the real, material and persistent advantages enjoyed by larger countries. That said, as the BEPS 2.0 process evolves and the detail of the plans are developed, it remains a possibility that Ireland will commit to joining the agreement and corporate tax changes could follow in the coming years.

Conclusion

The past decade has seen material levels of change in the taxation of aviation finance, with a direct effect on the structuring of transactions and the related knock-on costs for lessors. Further great change is expected as the second round of BEPS proceeds towards a final agreement. The ultimate impact of the rules and the extent to which they will hit lessors' bottom lines remains to be seen.

As always, those systems of taxation which provide business with certainty, stability and predictability in the face of increasing complexity will be most attractive to new investment.

Ireland – centre of excellence for aviation restructuring

The country has been a centre of excellence for aviation financing, and now it is leading the way in aviation-related multijurisdictional restructurings, writes Irish law firm Matheson.

There are a number of well-known reasons why Ireland continues to attract investment in aviation: its favourable tax regime; a wide double tax treaty network; ease of access to the EU and OECD; a well-developed common law legal system; decades of professional experience and expertise in aviation; and a competitive business environment.

These factors, combined with a government which is committed to growing and supporting the industry, mean that Ireland is the obvious location to acquire, finance and lease aircraft.

The Covid-19 pandemic had a major impact on the aviation sector in general, and highlighted some of the challenges and complexities involved in cross-border insolvencies and restructurings, having regard to the jurisdiction of the airline's/lessor's centre of main interests and the location of its assets. Despite the pandemic, Ireland continues to build on its global reputation and thrive as a centre of excellence for aviation finance. This enviable position which Ireland has achieved has been further enhanced having regard to the approach of the Irish High Court over the past 18 months to approve the use of both schemes of arrangement and examinerships, the two principal Irish restructuring tools, to facilitate complex multijurisdictional aviation restructurings.

Schemes of arrangement

A scheme of arrangement is a statutory procedure under Part 9 of the Irish Companies Act 2014 (as amended), which is very similar to a scheme of arrangement under the laws of England and Wales. It is a flexible restructuring tool, requiring: the approval of at least 75% in value and also a majority in number of each scheme meeting of affected creditors, and court approval to be binding.

A significant distinction between an Irish scheme of arrangement and its counterpart in England and Wales is that an Irish court may, on application, grant a moratorium with regard to creditor actions to facilitate the formulation and approval of the scheme. This is a feature of examinership also – the more widely used restructuring process in Ireland, although, in the case of examinership, the moratorium automatically commences on the court filing for examinership (or on the appointment of an examiner – interim or otherwise – in the case of a related company).

The directors and shareholders are usually instrumental in putting together the scheme and running the process. As with an examinership, the company can continue trading and the directors can stay in control of the company.

Nordic Aviation (2020)

With respect to Nordic Aviation, the Irish High Court approved a scheme of arrangement under Part 9 of the Act. Although ultimately unopposed, the judgment of the Irish High Court very helpfully clarified a number of matters, including the following:

- it reaffirmed, following *Re Ballantyne plc [2019] IEHC 407*, the ability to affect third-party liabilities. The Irish High Court went one step further on this occasion in that the company which proposed the scheme was the guarantor of the relevant liabilities and the third parties were the principal creditors;
- following case law in England and Wales, it confirmed that the order approving the scheme was a judgment enforceable under the Brussels regulation; and
- it held that, because of the overwhelming creditor support the scheme received, it did not constitute a non-consensual restriction on an enforcement remedy for the purposes of Article XI of Alternative A of the Aircraft Protocol to the Cape Town Convention.

Recognition of the Irish court order under chapter 15 of the US Bankruptcy Code was also entered by the New York Bankruptcy Court.

Examinership

Examinership is a statutory framework and the principal rescue process for companies in Ireland. Although there are a number of differences, international corporates will recognise examinership as being similar in many respects to the Chapter 11 procedures in the USA and, to a lesser extent, administration in the UK.

In an examinership, the maximum period in which a company may be under the protection of the court is 100 days. It should be noted, however, that in response to the pandemic and to address operational issues in respect of compliance arising under the Act, the Companies (Miscellaneous Provisions) (Covid-19) Act 2020 was commenced for an interim period (which will expire on 31 December 2021 unless extended beyond that date) and provides for the temporary extension of the 100-day period to 150 days (subject to certain conditions being satisfied).

An examiner (a court-appointed insolvency practitioner) must have formulated a scheme, convened creditors' meetings and reported back to the court on the outcome of the vote within the statutory timeframe, and the scheme must be approved by more than 50% (in value and number) of at least one impaired class of creditor before the jurisdiction of the High Court is engaged to consider and sanction the examiner's scheme.

Provided an examiner delivers their report on the outcome of the vote of the creditor meetings to the court within the prescribed statutory timeframe, the court can extend the protection afforded to the company beyond that period so as to afford it sufficient time to consider and rule on the scheme.

In an examinership, the company will continue to trade and the directors usually remain in control of a company during the protection period. This is subject to the court's discretion to direct, on application, that the examiner assumes some or all of the director's functions only for the period of examinership. In practice, this is rarely done, and usually only when there has been a suggestion of some sort of wrongdoing on the part of the directors. The examiner's scheme of arrangement requires court approval before it becomes binding.

Norwegian (2021)

On 26 May, Norwegian Air Shuttle successfully exited the examinership process in Ireland. Matheson advised Norwegian and its affiliated group companies on the implementation of a global restructuring which resulted in a write-down of the airline's debt; discontinuation of its long-haul operations and the downsizing of its operations with a focus on Nordic and European routes.

A number of interesting observations can be made from the decision of the Irish High Court:

- **sufficient connection to Ireland:** it was held that the Irish High Court had jurisdiction to appoint an examiner to Norwegian, on a related company basis, being a non-Irish debtor which did not have its centre of main interests in Ireland (or any other member state of the European Union to which the EU Insolvency Regulation applies), but which did have a "*sufficient connection*" to Ireland on the basis that "*the commercial operations of the Group taken together with the range of legal transactions entered into by both NAS and its subsidiaries are so closely linked and interdependent that NAS has a real and deep connection to the State*";

- **parallel restructuring processes:** the Irish High Court reconfirmed that an examinership can be used in parallel with other restructuring processes, running outside of Ireland, for the purposes of giving effect to cross-border restructuring plans. In this respect, the principal restructuring process for Norwegian and a number of its Irish affiliates was the Irish examinership. Running parallel to this Irish process was a reconstruction process governed by Norwegian law, which effectively replicated and fully implemented the Irish scheme of arrangement under Norwegian law;

- **repudiation of foreign law contracts:** as part of the examinership process, a number of applications were made by Norwegian and its affiliated companies in examinership for leave to repudiate various aircraft leases, security assignments, guarantees and other operational contracts with third parties which were governed by various laws, including English and New York. While a number of parties opposed the repudiation applications, the Irish High Court ultimately gave judgment in favour of Norwegian and its affiliates on the grounds that the repudiations were necessary to allow the examiner to formulate a scheme of arrangement for the survival of Norwegian and its corporate group as a whole. Interestingly, this was also the first time an Irish Court has granted leave for a company to repudiate guarantees, having satisfied itself that the guarantees, the subject of the applications, contained both monetary and non-monetary obligations (predominantly relating to performance obligations under existing operating leases);

- **examinership and the Cape Town Convention:** in the Nordic statutory scheme, given the overwhelming creditor support, the Irish High Court did not need to make any determination *vis-à-vis* the Cape Town Convention and statutory schemes under Part 9 of the Act. Accordingly, whether statutory schemes of arrangement constitute "insolvency proceedings" for the purposes of the Cape Town Convention and Aircraft Protocol is a matter yet to be formally determined as a matter of Irish law. Examinership, on the other hand, is quite clearly an "insolvency proceeding" and was not disputed by any contesting party. In giving judgment, Mr Justice Quinn clarified a number of important points with respect to the Cape Town Convention and Aircraft Protocol:

  - in approving applications for leave to repudiate certain leases, and relying on the judgment of the Federal Court of Australia in *VB Leaseco Pty Ltd (administrators appointed) v Wells Fargo, National Association (trustee) [2020] FCAFC 168*, the Irish Court made a determination that the obligation of lessees to "give possession" in accordance with Article XI(2) of the Aircraft Protocol did not include any obligation to redeliver the aircraft in accordance with the redelivery conditions of the lease;
  - an application for leave to repudiate contacts as part of the examinership process is an act of termination and not modification. Accordingly, the repudiation applications did not conflict with the provisions of Article XI(10) of the Aircraft Protocol which prohibits modification without the consent of the other party; and
  - "insolvency administrator" for the purposes of the Cape Town Convention includes a "debtor in possession if permitted by the applicable insolvency law". Under Part 10 of the Act, the parties in examinership were each a debtor in possession and therefore the repudiation of leases was not prohibited.

How can Matheson help you?

More than 720 people work across Matheson's six offices, including 97 partners and tax principals and more than 520 legal, tax and digital services professionals. Matheson services the legal needs of internationally focused companies and financial institutions doing business in and from Ireland. Our clients include more than half of the world's 50 largest banks, seven of the world's 10 largest asset managers, seven of the top 10 global technology brands and we have advised the majority of the Fortune 100 companies.

Matheson has market-leading aviation and corporate restructuring groups. Having played a lead role in every airline and lessor restructuring and insolvency proceeding commenced in Ireland as a result of the Covid-19 pandemic during 2020 and 2021, we have the necessary experience, skills, resources and innovative solution-orientated approach to assist with any aviation-related restructuring involving Ireland.

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International tax reform: new era for aviation structuring

The soon-to-be-introduced Interest Limitation Rules will impact on the manner and extent of debt financing introduced into, particularly, an Irish aircraft leasing platform, states Deloitte.

The new decade began with numerous countries globally shutting down their borders in response to the arrival of Covid-19. The aviation industry was and continues to be impacted greatly by the spread of coronavirus, with the number of global passengers decreasing dramatically and record numbers of aircraft on the ground.

The sharp decline in global travel had a massive impact on the profitability of the aviation industry during 2020. Despite a global shutdown, however, the international tax reform train continued to steam forward resulting in significant changes to tax regimes worldwide, with more to come; most of which is of significant relevance to the aviation industry.

A notable change was in relation to transfer pricing, with the publication of the OECD's long-awaited Transfer Pricing Guidance on Financial Transactions published in February 2020. In countries such as Ireland, new transfer pricing documentation requirements came into effect for accounting periods commencing on or after 1 January 2020, and new debt capacity rules also became part of the Irish transfer pricing regime, impacting the extent of allowable related party leverage in aircraft leasing platforms.

The revised transfer pricing rules, while of critical importance to most aircraft leasing platforms, is not the focus of this article. Instead, we have focused on a potentially far more reaching development that will impact on the manner and extent of debt financing introduced into, particularly, an Irish aircraft leasing platform. This development is the impending introduction of the Interest Limitation Rules (ILR) as is required under Article 4 of the EU Anti-Tax Avoidance Directive (EU ATAD) into Irish tax law with effect from 1 January 2022.

ATAD Interest Limitation Rule in Ireland

Article 4 of the EU ATAD requires the introduction of a fixed ratio rule that links a company's allowable net interest deductions (ie, deductible interest expenses in excess of taxable interest income) directly to its level of economic activity, based on taxable earnings before deducting net interest expense, depreciation and amortisation (EDITDA). Article 4 requires domestic provisions implemented in member states to place a limit on deductible interest equal to 30% of EDITDA. The limitation on interest deduction may be subject to certain exemptions and group ratios, the latter of which may allow higher interest deductions to a taxpayer by reference to the position of the wider group.

The implementation of the rules have been progressing well in Ireland, with the government actively engaging in fruitful and constructive consultation with industry and practitioners such as ourselves. The result of this has been the publication of two feedback statements by the Irish Department of Finance, the most recent of which was released on

2 July. The latter outlines a range of policy and technical considerations, including a number of proposed definitions and a suggested mechanism for the operation of the ILR in Ireland.

The consultation period closed on 16 August and is being followed by a period of discussion between the Department of Finance and stakeholders which have submitted their responses to the feedback statement, including ourselves.

As mentioned above, domestic legislation is expected to be introduced in Finance Bill 2021 to implement these interest restriction rules with effect from 1 January 2022.

The introduction of the ILR provided for in ATAD is the first time that Irish companies will have to contend with a restriction on the deductibility of interest (both related and unrelated parties) calculated as a percentage of tax-adjusted EDITDA (ie, EDITDA as calculated for tax purposes). The intention, based on the feedback statements issued to date by the Department of Finance would be to layer the ILR on top of existing interest relief rules. Accordingly, Irish taxpayers currently obtaining tax relief on borrowings will now be required to consider the application of the ILR as part of their compliance and tax return preparation processes.

Given the capital-intensive nature of the aviation finance industry and the high levels of relative leverage, a restriction calculated as a percentage of tax-adjusted EDITDA could have a significant impact for some in the industry, potentially resulting in increases in the effective tax rates of certain platforms, and cash tax being payable in a platform earlier than expected.

Broad outline of latest proposed ILR rules in Ireland

The ILR is intended to limit the deductibility of in-scope taxpayers' net interest expense (taxable interest and other interest equivalent taxable revenues less deductible borrowings). The greater the proportion of a company's income which is treated as taxable interest income and other interest equivalent taxable revenues, the lesser the effect of the ILR. The question for aviation platforms is whether an element of aircraft lease rentals can be regarded as being economically equivalent to interest?

Pieter Burger: Lead Tax Partner Aviation Finance & Leasing

It is clear from the definition in the feedback statement that finance lease income/expense would be considered interest equivalent. However, specific to the aviation finance industry, an operating lease could be argued as also being a financing activity and at least a portion of an operating lease return should be regarded as "interest".

At present, however, the definition of "interest equivalent" in the feedback statement does not include any portion of an operating lease payment. It is hoped that the Finance Bill (to be published likely in October) would include a final version of the ILR that at least affords the taxpayer the option also to have the "interest" component of an operating lease payment under IFRS 16 included in the definition of interest equivalent.

This should alleviate any adverse impact for an operating lessor and there is also precedent for this approach elsewhere in the EU. It is not yet clear whether this request from the industry would be acquiesced to.

A further important question relevant to large aircraft leasing groups consisting of many separate legal entities is to which entities do the restriction apply? While the ILR applies to each taxpayer (which in Ireland means each separate legal entity), a local group (defined as an "interest group") can be considered to be a single taxpayer for the purposes of the restriction.

The feedback statement explains that an "interest group" should be linked to the same definition as applies for Irish loss group purposes (ie, a group for corporation tax loss sharing relief purposes). The current feedback statement provides that where such a loss group is present, the separate entities will essentially be regarded as one taxpayer for the purposes of the ILR rule, unless an entity or entities in the group elects out of the interest group.

It is currently proposed that such an election shall apply for a period of three years. This election would be critical and may have far-reaching consequences, especially for aircraft leasing groups which consist of many separate special purpose vehicles (SPV), for reasons as set out in further detail below.

An important point to bear in mind is that even though the ILR has the effect of limiting an interest deduction to 30% of tax-adjusted EDITDA, the "disallowed" portion would be allowed to be carried forward indefinitely for utilisation in future years. As such, the true nature of the impact of the ILR could more accurately be described as a deferral than a disallowance. However, in several instances the excess carrying forward may never be effectively utilised and careful modelling would be required to assess the total potential adverse impact, if any.

In addition to excess interest carrying forward, excess "total spare capacity" can also be carried forward for a period of five years. Total spare capacity refers to the taxpayer's ability to claim an interest deduction under the ILR and is made up of the sum of "limitation spare capacity" (the extent to which net interest expense in a year is less than the 30% limit) and "interest spare capacity" (the amount of net interest income in a year).

In summary, therefore, the basic effect of the ILR on Irish aircraft leasing platforms is that the deductibility of interest incurred during a year by the Irish "group" for loss relief purposes would be limited to 30% of the tax-adjusted combined EDITDA of that group (calculated by disregarding any transactions between entities within that group).

Alternatively, an election (which would be effective for three years) could be made for the ILR to apply instead on an individual SPV by SPV basis (ie, an SPV can be elected to be excluded from the group). In both cases, the excess interest carries forward indefinitely to future years.

Important available exemptions

The above, however, is only a broad outline of the basic rules and is by no means the final impact. The ATAD and the feedback statement further provides for a number of exclusions and exemptions, which in several cases that we have reviewed will ultimately result in a zero adverse impact for some aircraft leasing platforms. These can be summarised as:

- a de minimis exemption for net interest expense of up to €3 million ($3.6 million) per taxpayer per 12-month accounting period pro-rated accordingly for shorter periods. This is a critical exemption because if the ILR is elected to apply on an SPV-by-SPV basis, we have found that SPVs with narrowbody aircraft typically suffer no restriction at all because the annual interest expense is below €3 million;
- an exemption for "standalone entities". This may be relevant for several leasing entities set up as "orphan" vehicles in certain circumstances;
- an exclusion for loans concluded prior to 17 June 2016 to the extent such loans have not been subsequently modified; and
- an exclusion for financial undertakings. This would be relevant to aviation platforms considering to be set up as an exempt Irish regulated fund.

In addition to the above, the feedback statement provides for the two-group ratio options (the "Group Ratio rule" and the "Equity Ratio rule") outlined in the ATAD, which may allow a higher deduction to an individual taxpayer by reference to the position of the wider accounting group.

The Equity Ratio rule allows taxpayers to deduct fully all their interest expense without limit where the ratio of the taxpayer's (which as mentioned above could be elected to be a specific SPV, or the Irish interest group as a whole) equity to total assets is not more than two percentage points below the equivalent ratio of the worldwide consolidated group as a whole.

In other words, if the ultimate consolidated group of which the aircraft lessor is part has an equity-to-total-assets ratio of 10%, then the Irish taxpayer will be able to deduct all its interest expenses if its equity-to-total-assets ratio is 8% or more. Note certain anti-avoidance rules are proposed to prevent a group from injecting equity within a period of time before the year-end with the main purpose of availing of the Equity Ratio rule.

The other group ratio option is the Group Ratio rule, which increases the 30% EDITDA restriction limitation to the ultimate consolidated group's net interest expense to EDITDA ratio (as calculated for accounting purposes).

In other words, if the ultimate consolidated group of which the Irish aircraft lessor forms part has a net interest expense to EDITDA ratio of 40%, then the Irish taxpayer will be allowed to deduct its interest expenses up to 40% of tax-adjusted EDITDA, not 30%.

A taxpayer may only avail of one of these two group rules in any given period but the manner in which the formulas are drafted in the feedback statement (which is in line with the ATAD) is that the Equity Ratio rule is applied first. Where a taxpayer meets this rule, there is no restriction. Where, however, the taxpayer does not meet that ratio, then it may apply the Group Ratio rule which may then serve to increase the 30% limit.

The availability and usefulness of either ratio will depend on the facts of each particular aircraft leasing platform, based on their group and capital structures. The impact of Covid-19 alone has seen volatility in earnings, interest costs and asset values which may create difficulty in forecasting the impact of the application of one ratio over another.

We recommend that leasing platforms perform early modelling exercises to determine the availability of these ratios because the impact could vary greatly depending on the nature of the platform.

For example, leasing platforms that are ultimately owned by banks may find that the Group Ratio rule is of no use (as the ultimate consolidated group may have net interest income, not net interest expense) whereas leasing platforms that are part of large non-financial conglomerates may find that the Equity Ratio rule is of little use because the ultimate consolidated group may have a higher equity to total assets ratio than the highly leveraged aircraft leasing business.

The way forward

The impending introduction of the ILR and the advance availability of the feedback statements presents a welcome opportunity for the industry to timeously revisit their existing structures and plan for the tax-efficient financing structure of the future. Detailed modelling exercises should be undertaken to assess the potential impact along with a number of mitigation strategies. On publication of draft and final legislation in Ireland (expected from October 2021 onwards), such models should then be refined and the preferred mitigation strategy selected.

For new platforms being established, careful consideration of the potential impact of the rules is vital because it would impact on the effective tax rate of the Irish platform and ultimately the return on equity for the investors.

Potential structures that should be considered include the use of funding types that falls outside of the scope of the proposed ILR rules, consolidation or non-consolidation structures that maximise the availability of the equity or group ratio rules, and structures that utilise the exempt Irish regulated fund as part of the overall platform.

From numerous modelling exercises that we have performed for clients, we have found that each platform structure should carefully consider the impact based on its own specific facts and circumstances. But in the vast majority of instances, we have found that the available exemptions or other solutions either significantly minimise or even eliminate any adverse impact of the ILR.

Other future International tax developments of note

It should be borne in mind that the introduction of the ILR in Ireland is by no means the result of an isolated tax development, but was brought about by ongoing international tax reform following the publication of the final OECD BEPS reports in October 2015.

That was the first phase of international tax reform, ultimately culminating in the ATAD in the EU, and numerous other measures that have since been implemented worldwide including but not limited to the Multi-Lateral Instrument and the Principal Purpose Test (in force in some countries since 2018), the anti-hybrid rules enacted in Ireland and effective from 1 January 2020, the revised transfer pricing rules referred to above, the EU Council Directive 2011/16 in relation to cross-border tax arrangements, known as DAC6 (in force since June 2018), and others.

The next phase of the OECD's BEPS project is currently underway, occasionally referred to as BEPS 2.0, originally aimed principally at addressing the tax challenges arising from the digitalisation of the economy. This led to the publication of two detailed blueprints in October 2020 on potential rules for addressing nexus and profit allocation challenges (Pillar One) and for global minimum tax rules (Pillar Two). The proposals were updated and simplified by the US Biden administration in April and formed the basis for the political discussions by the G7.

On 5 June, the G7 finance ministers published a communiqué which sets out high-level political agreement on global tax reform, including the reallocation of a share of the global residual profit of certain businesses to market countries and a minimum effective tax rate in each country in which a business operates of at least 15%.

With respect to Pillar One, the statement explains that in-scope companies are the multinational enterprises with global turnover above €20 billion and profitability above 10% (ie, profit before tax/revenue) with the turnover threshold to be reduced to €10 billion, contingent on successful implementation including of tax certainty on the new taxing right described as "Amount A" in the Pillar One blueprint. Pillar One should generally not be relevant to the aviation finance industry.

Pillar Two, however, is of relevance. The three areas of Pillar Two of importance to aircraft lessors are the Income Inclusion Rule (IIR), which imposes top-up tax on a parent entity in respect of the low taxed profits of a subsidiary; the Undertaxed Payments Rule (UTPR), which denies deductions for payments made to low taxed entities; and the Subject to Tax


Kate McKenna: Tax Manager Aviation Finance & Leasing

Rule (STTR), which seeks to impose a withholding tax on payments to low taxed entities.

The IIR is envisaged to operate in such a manner that will result in a top-up tax being imposed on profits or gains held offshore in low effective tax rate (ETR) jurisdictions and will apply to multinational enterprises that meet the global €750 million consolidated annual gross revenue threshold as determined under BEPS Action 13 (country by country reporting). In other words, several aircraft leasing platforms would not be affected by this rule but aircraft leasing platforms with an effective tax rate below 15% owned by large groups may be affected.

The IIR is intended to apply first, with the UTPR intended to apply as a fall-back position if the IIR does not apply. This could be the case, for example, if the ultimate parent company itself is tax resident in a low ETR country or has not implemented the IIR.

The intention of the UTPR is to deny a tax deduction for related-party payments to low ETR jurisdictions (ie, tax rate below 15%). The UTPR also would only apply where the €750 million threshold has been met. Note that the UTPR would not be applicable to payments between third parties – therefore, aircraft lease payments to low ETR countries would not be impacted, unless the lessor and lessee are related (eg, in captive lessor airline structures or lease-in-lease-out structures) and the €750 million group revenue threshold has been met. As such, the impact of the rule in an aviation finance context is expected to be more relevant to interest payments made to low ETR jurisdictions within large aircraft leasing groups (or aircraft leasing platforms owned by large multinationals).

The other rule of relevance is the STTR. Currently, it is envisaged that the STTR will apply to payments made where a double tax treaty is in force between the entities with the aim of allowing the paying country to impose a withholding tax on certain payments (interest, royalties and a defined set of other payments) where paid to a country that has a nominal tax rate below a certain rate. Note it appears the €750 million threshold would not apply to the STTR measure such that any related party payment within scope may be impacted.

Based on the communiqué, the minimum rate will be between 7.5% and 9%. In other words, where a related party interest payment is made to an entity tax resident in a country that has a nominal tax rate below 7.5%, the result would be that the paying company would be allowed to impose a withholding tax (up to a certain limit) where under the current treaty such payment may be exempt from WHT.

There remains a long way to go in the BEPS 2.0 project because it remains to be seen whether the multiple stakeholders in the project can reach agreement on how the rules should function. At this stage, however, it is worth taking note of these developments.

A particularly important point to take note of, in addition to the uncertainty as to whether these measures will ultimately be agreed, is that the future tax developments will not apply to all taxpayers in all circumstances. The previous and future international tax reform measures do not have as their objective to eliminate any and all forms of tax planning for all taxpayers in the world.

Therefore, there continues and will continue to remain opportunities for both existing and future aircraft leasing investment platforms to be structured in a tax-efficient manner in order to maximise the return for investors into this industry.

Pieter Burger is the Lead Aviation Finance & Leasing Tax Partner at Deloitte and Kate McKenna is an Aviation Finance & Leasing Tax Manager.

Market review: **turboprops punch above their weight**

Angus von Schoenberg, industry officer, TrueNoord, and aviation journalist Michael Doran put the case for turboprop aircraft.

In September 2021, the global commercial airline fleet numbers about 35,500 aircraft, with some 5,750 of those being turboprops. About 40% of those turboprops come from two manufacturers, ATR and De Havilland Aircraft of Canada, and operate in the large turboprop market of 46- to 90-seat aircraft.

ATR, a partnership between Airbus and Leonardo, produces the most popular current-generation turboprop with about 1,200 aircraft in operation. The aircraft is considered a workhorse of the fleet and was first launched in the late 1980s as the ATR72-200. The -200 was superseded by the -500 series in 1995, followed by the current ATR-600 series from 2011.

The ATR42-600 can be configured with up to 50 seats, and the first ATR42-600S, a short take-off and landing aircraft that can be used on airstrips as short as 800 metres, will be delivered over the coming years.

The ATR42 has also been successfully converted to use as a freighter and, more recently, the first ATR72-600F, a purpose-built freighter, was delivered to launch customer Fedex.

De Havilland Canada took over the Dash 8 type certificate and manufacture in 2019 when Bombardier exited the market and made a solid start by delivering 11 Dash 8-400 aircraft in 2020. However, when Bombardier left the business, it sold the plant where the Dash 8 is currently produced so De Havilland needed to find a new facility at a time when fresh orders were stalling.

In February, De Havilland announced it would not produce new Dash 8-400 aircraft at the existing site beyond currently confirmed orders in what it called a “production pause”. The company says it is committed to the Dash 8-400 programme and will be ready to meet new aircraft demand as the industry recovers but will not rush into a decision on a future production location.

On the aircraft side, the Dash 8-400 is a high-speed turboprop (360 knots high-speed cruise compared with 270 knots for the ATR72-500/-660). It also has about a 35% range advantage over the ATR72-600. The Dash 8-400 can carry up to 90 passengers and is an impressive performer, flying faster and further with 12 more passengers than the equivalent highest density ATR72-600.

Turboprops are used for all manner of regular passenger transport and freight operations, starting from the world’s shortest flight of 1.7 miles between two Scottish islands, although more generally on trips of up to 90 minutes. In terms of range, the sweet spot is about 250 to 350 nautical miles (nm) because the faster speed of a jet has a marginal impact on sectors of this size, shortening the journey by 10 to 15 minutes at best.

It is not uncommon to see large turboprops at major airports on every continent, but an area in which they come into their own is in regional and remote locations, often where the existing infrastructure is limited or virtually non-existent. An ATR is a truly self-contained aircraft that can land on a gravel airstrip, turn around, go into hotel mode with the right-side engine instead of an APU to keep power running on the non-boarding side, load and unload passengers and take-off.

Turboprops also perform many public service obligations to keep communities connected where no viable air service would otherwise be available and have played a major role in getting medical personnel and supplies out to distant communities during the Covid-19 crisis.

In these times of “flygskam” (flight shame) and banning of short flights, although two-and-a-half hours is hardly a short flight, having green credentials is important, and on this aspect the current-generation turboprops have plenty to talk about.

Flight shame is still predominantly a European consumer sentiment. However, because of their lower fuel burn, and emissions, any effect is likely to influence positively the balance between jets and turboprops in Europe where the proportion has skewed in favour of jets in recent years. But the turboprops will only gain where no high-speed rail connections are feasible.

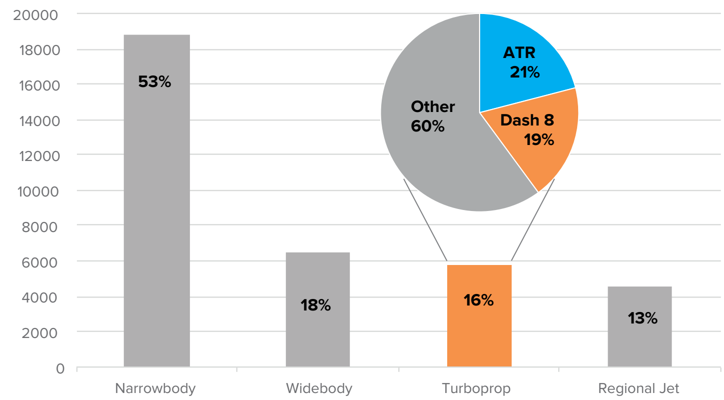
On the back of environmental arguments, turboprops also have good prospects of regaining territory in the USA that was previously lost to 50-seat aircraft. Major airlines are considering the replacement of at least some of the sizeable 50-seat aircraft population in the country with turboprops.

Although only feasible for shorter sectors, it still leaves a sizeable replacement market in which Embraer has also set its sights. Turboprops use less fuel and, therefore, have less emissions than jets, with ATR claiming the ATR72-600 consumes up to 40% less fuel per trip than similar capacity regional jets and emits 40% less CO_2 than a regional jet on an average route of 550 kilometres.

Many readers would be aware of the 2019 Perfect Flight when sustainable aviation fuel was used to power a Braathens Regional Airlines ATR72-600 carrying 72 passengers on a one-hour flight between Halmstad and Stockholm in Sweden. The fuel was produced by Neste from non-palm renewable and sustainable raw materials and is claimed to reduce emissions by up to 80%.

Turboprop manufacturers and operators have a good story to tell about their efforts to reach carbon-neutrality but they need to educate lawmakers, media and the broader community on what they are achieving today. This is particularly pertinent as alternative sources such as electric and hydrogen power engines have many years of development ahead before they find their way onto a large commercial aircraft.

Figure 1: Global commercial aircraft fleet



Global footprint

Turboprops represent a relatively small proportion of the world's commercial aviation landscape. Of the aircraft in the global commercial fleet, the split is distributed between 53% narrowbody, 18% widebody, 16% turboprop and 13% regional aircraft.

Turboprops of all sizes total about 5,750 aircraft, with more than 1,200 ATRs and nearly 1,050 Dash 8s. These two have a combined market share of 40%, the balance being made up of multiple types and sizes of aircraft.

Narrowbody, widebody and new-generation regional aircraft have all been going through a step-change in both airframe and engine technology, in particular, producing a surge of new aircraft such as the Airbus A220, A320neo, A350, Boeing 737 Max, 787 and Embraer E2 onto the market.

By contrast, there has not been similar development in turboprops and, while cabin interiors have benefitted greatly from makeovers, the airframes and engines show little near-term signs of development.

While step changes in air transport efficiency have primarily been driven by engine technology rather than airframe changes, the present turboprop engines (Pratt & Whitney Canada PW100 and PW150 series) have been in production since the 1980s and late 1990s, respectively.

Both ATR42/72 and Dash 8-300/-400 aircraft have an average age of more than 13 years, which increases when the out-of-production, smaller 30-seat variants are considered. In the case of the Dash 8, this pushes its overall average age up to 18 years. This compares with an average age of 10 years for the A319/A320/A321 and 12 for the 737NG and Max aircraft.

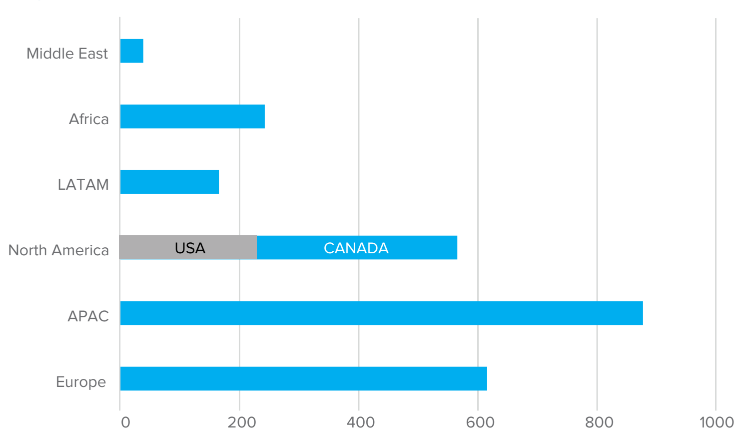
This lack of new technology in turboprops can in part be attributed to their efficient engines and the overall fit-for-purpose nature of the turboprop fleet, where their construction and performance characteristics suit the more remote environments in which they often find themselves. It also reflects the lack of incentive for engine original equipment manufacturers (OEMs) to bring new, conventionally powered turboprops to a market that is currently served by one established player and a second whose future is uncertain.

To date, this market has seemingly been satisfied with the economics and capabilities of its current aircraft, irrespective of age.

With aviation under increasing environmental scrutiny and regulation, such as the move in France to ban flights that can be made by train in less than two-and-a-half hours, the push for hybrid, electric, hydrogen or other sustainably powered regional aircraft is accelerating. However, the current state of technology will not allow for the application of these in 50-plus-seat turboprop aircraft until the next decade.

The ageing nature of the turboprop fleet is at odds with the preferences of those lessors and financiers which trade primarily in new or young aircraft, but for those that look

Figure 2: Distribution of 50-plus-seat turboprops



beyond age, there is still the promise of productive operational life in these aircraft.

Looking at turboprops with greater than 50 seats, the most popular region for these types is in Asia-Pacific (APAC) where 35% of the fleet is located, followed by Europe with 24%, North America 22%, Africa 10%, Latin America (LATAM) 7% and the Middle East 2%.

APAC is by far the greatest market for large turboprops with more than 850 aircraft in the region. This is unsurprising given the need to connect remote and island communities, challenging operating conditions and the demand for domestic services from rapidly growing populations.

It is the largest market for ATR with about 550 aircraft and almost 60 operators in the region, compared with the Dash 8, which has more than 250 aircraft in use by 25 operators. By country, Indonesia has the largest combined fleet with 115 aircraft, followed by Australia 96 and India with 90.

While North America makes up 22% of the fleet, the figures are skewed heavily in Canada's favour with more than 350 large turboprops located there compared with just 210 in the USA. Consequently, the USA currently has the smallest proportion of turboprops of any large domestic market.

While there are concerns in the USA about customer acceptance and some older ATRs having only rear-door entry and therefore no airbridge connection, there appears to be an opportunity to replace a portion of the ageing US fleet of 50-seater jets, such as the Bombardier CRJ100/200 and Embraer ERJ135/140/145, with the more fuel-efficient and therefore more environmentally friendly turboprops.

That process gained some ground when Silver Airways introduced the 46-seat ATR42-600 series in 2019, almost 25 years since a passenger ATR had last flown in the USA. The initial order of 20 aircraft is replacing Silver's Saab 340 fleet with a mix of ATR72/42 aircraft now operating routes in the southeastern United States, the Bahamas and the Caribbean.

ATR is also increasing its visibility with logistics giant Fedex using a fleet of about 40 ATR aircraft on its Fedex Feeder network. The Fedex fleet is made up of ATR42-300F, ATR72-200F and ATR72-300F aircraft and has a substantial order for dedicated ATR72-600 freighters, of which two have been delivered.

In the rest of the world, the fleet is more fragmented, with Europe having only three turboprop operators with more than 20 aircraft – these being Widerøe 40 (Dash 8), Binter Canarias 24 (ATR) and Swiftair 22.

Africa is a region where Dash 8 aircraft dominate with more than 60% of the market, driven by their superior hot and high performance compared with ATR aircraft. Ethiopian Airlines is the largest Dash 8 operator with 23 aircraft, followed by Air Algerie's 15 (ATR), with the balance of the market made up of smaller operators with less than 10 aircraft. In LATAM, more than 30% of the fleet is concentrated in just two ATR operators: Azul Brazilian Airlines with 33 and Colombia's Easyfly with 17.

Challenges for financiers

Irrespective of the current pandemic or any previous crises, there are a range of market characteristics or risks that need to be considered, some of which have been discussed at length elsewhere in this article:

- owning or financing turboprops is a niche business within aviation finance, requiring a specific skill set different to mainstream aircraft at all levels, including technical management, oversight, counterparty risk and specialised aircraft remarketing;
- the value of the assets involved are lower than mainstream aircraft but managing those assets is just as onerous as that required for more highly valued aircraft;
- turboprops are often used by smaller, niche operators which can entail greater counterparty risk, unless they are a subsidiary of a major airline;
- overall, this a relatively small market niche with less liquidity;
- any change in the competitive landscape including, for example, the launch of a large new turboprop by Embraer, could similarly impact the market for existing types;
- any technological step change, particularly with reference to propulsion systems, could impact the attractiveness of used large turboprops. However, there is a wide industry consensus that such technology will not become available for 30- to 50-seat aircraft for at least 10 to 15 years with the impact on large turboprops likely to be even further away; and
- any major disposal programme by a large operator could leave significant fleets on the market for a short period, which would increase supply and thereby lower values and lease rates.

Notwithstanding these risks, the financing of turboprops also offers a number of advantages compared with mainstream aircraft. While no aircraft type is totally immune from external shocks, the turboprop sector, with its lower capital and operating costs, high reliability and focus on domestic connectivity, appears better equipped than most to absorb them and bounce back strongly. In many smaller markets, the turboprop is the only aircraft that can operate viably on routes that are shunned or flown infrequently by airlines with larger aircraft.

A testament to the resilience of turboprops is that in the devastated 2020 market, ATR added nine new operators, launched services in another three countries and saw 84 new routes opened with its aircraft. This is also shown by the relatively high utilisation rates of turboprops in some regions as shown in Figure 5. This would suggest that operating cash flows are better protected.

Turboprops also benefit by serving many routes that are inherently loss making but subsidised by governments, such as the EU Public Service Obligation (PSO) and the US Essential Air Service (EAS) programmes. These routes are typically tendered for by governments, with the selected operator gaining a monopoly on routes not viable without subsidy.

Communities that benefit from these programmes change depending on their circumstances but are usually remote, low-population areas with no other way of connecting to regional hubs.

In the USA, there are about 160 EAS airports with around one-third located in Alaska, while in Europe PSO routes include some connecting France, Italy, Scotland and Greece to their islands and remote regions within Scandinavia. Similar programmes exist in all parts of the world with turboprops figuring largely in their operation, including many significant developing markets such as Indonesia.

Such monopolistic protection also occurs naturally in most regions. In many cases, the typical low-density routes flown by turboprops are only serviced by a single operator because competition would generate too much capacity.

Furthermore, although distances travelled are usually short, and therefore could compete with other transport modes, the reality is that such alternatives are more often than not very slow because either geographical constraints preclude them, or ground-based transport infrastructure is underdeveloped. Indeed, there are few city pairs connected by turboprops where fast road or rail options exist even in some of the world's richest nations such as Norway. Such natural monopoly protects the demand and revenues of turboprop operators to serve their obligations to financiers, among others.

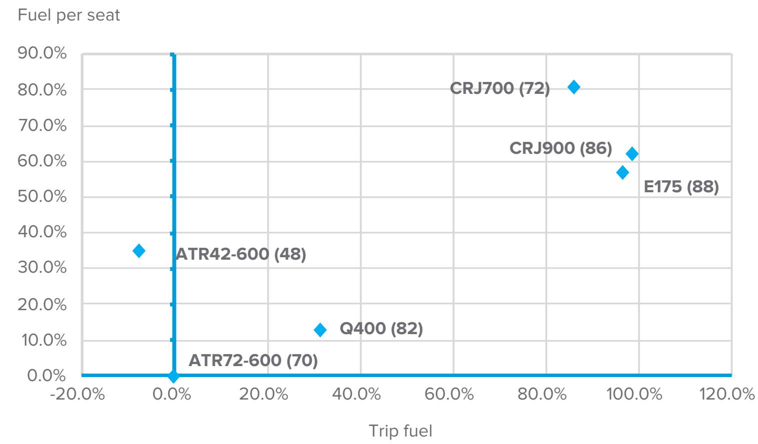
Economic comparison

The elements of operating costs, apart from the aircraft capital portion, are often referred to as cash operating costs and the elements that are driven by the aircraft itself are reviewed in the chart below.

Fuel burn

The ATR72-500/600 has generally been considered to have lower operating costs than any of its competitor aircraft in a similar seat capacity. In the example shown in Figure 3, the ATR72-600 burns some 850kg compared with 1,100kg for the Dash 8-400, which represents a substantial 30% difference in the trip cost.

Figure 3: Block fuel relative to ATR72-600 (300nm at $0.79/kg fuel)



While De Havilland agrees that the ATR72-600's fuel consumption for a 300nm trip is in the region of 850-900kgs, it now claims the Dash 8-400 consumption to be about 980kg, or a more modest 10% to 12% difference.

Nevertheless, the ATR72-600 still has the lowest fuel burn of any regional aircraft on both a cost per trip and a per seat basis at this sector length. As the trip length increases (not shown), the faster speed of both the Dash 8-400 and the regional jets begin to erode the fuel efficiency of the ATR72-600 so that the fuel burn advantage against the Dash 8-400 reduces to below 20% on a per seat basis, and under 50% for the regional jets.

Maintenance

As the ATR72-600 and Dash 8-400 are both mature aircraft there is a strong base of real maintenance data available. While maintenance intervals differ between types, there are similarities in the costs, although these will vary considerably according to how the aircraft are operated and the environments in which they fly.

For example, although scheduled maintenance costs for the Dash 8 are generally a little higher principally in relation to engines, in harsh climatic environments, the ATR72-600 is often less robust than Dash 8-400 aircraft and additional findings at major events can often increase the maintenance costs significantly.

The maintenance cost estimates are based on fixed intervals, except for engines, which are maintained on condition. With regard to engines, there is considerable disparity between benign and inhospitable climates with several historical examples of engine removals below 5,000 flight cycles in harsh environments.

Performance and economic comparison points

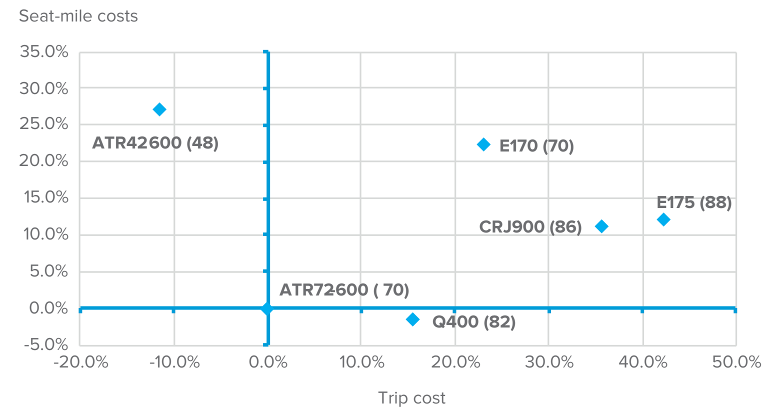
The ATR72-600 has a number of benefits over its principal competitor the Dash 8-400, but the latter also has some advantages, which does mean that both types are not entirely head-to-head competitors in the same way as typical mainstream aircraft.

Despite its smaller size, the ATR has best-in-class operating economics, particularly in relation to fuel burn, weight-based airport charges and, to some extent, maintenance costs.

Figure 4 shows the direct operating costs, which include capital costs for the aircraft, and confirms that the ATR72-600 remains marginally the most attractive turboprop for most markets. The exceptions are those areas where superior performance characteristics, mainly in terms of climb and operational ceiling, are needed where the Dash 8 is stronger. This is important for those carriers operating at inner city obstacle restricted airports, mountainous regions, or hot and high climates.

The Dash 8-400 also has a faster cruise speed that enables it to compete with, or more effectively

Figure 4: Direct operating costs relative to ATR72-600
(300nm at $0.79/Kg fuel)



complement, regional jets. In regions where sector lengths can be long, such as certain North American markets, this can be beneficial and provide greater operational flexibility.

ATR has developed a high-capacity 78-seat variant, which is particularly well adapted to competitive Asian regional markets and has contributed it to being the undisputed leader across Asia. However, now that the 90-seat EC version of the Dash 8-400 is in service with 12 additional seats compared with the ATR72-600, the seat costs of both have converged, although the trip costs still favour the ATR.

Covid-19 impact and recovery

Before 2020, any discussion on risk factors for aviation would most likely have centred on five major events: the 1990 Gulf war; the 1997 Asian financial crisis; the 2001 9/11 terrorist attack; the outbreak of Sars in 2002; and the global financial crisis of 2008. As difficult as these times were for aviation, the industry was able to bounce back strongly relatively quickly after each event and continue its long-term growth path to recover from the shocks.

Covid-19 is different in so many ways in that after each of the above events world passenger traffic stalled or dipped slightly whereas with the coronavirus, traffic fell by more than 60% in 2020, leaving an unprecedented hole from which to climb.

When the pandemic struck in early 2020, thousands of perfectly good aircraft were parked, stored or retired and headed for the desert. With international borders slammed shut, widebody aircraft, such as the 747 and A380, were immediate casualties, while the impact on single-aisle aircraft was shared across all types.

However, the impact on turboprops was less dramatic. Focusing on monthly flights in Europe and the CIS as an example, Figure 5 shows a generally similar picture for both jets and turboprops, surfing the same wave generated by new Covid-19 variants and the arrival of colder weather in the winter low season. This illustrates that ATR utilisation did not fall to the same extent as other types and it has managed to hold onto and then accelerate that gap over the past 12 months. It is now closer to flying at prepandemic levels.

The ATR has also performed consistently better than other narrowbody aircraft, which also reinforces the role turboprops play in connecting people and freight on routes where jets are not commercially viable.

For the Dash 8, the picture is skewed by the demise of some major users and planned aircraft retirements being brought forward because of the Covid-19-induced lower demand and flight activity.

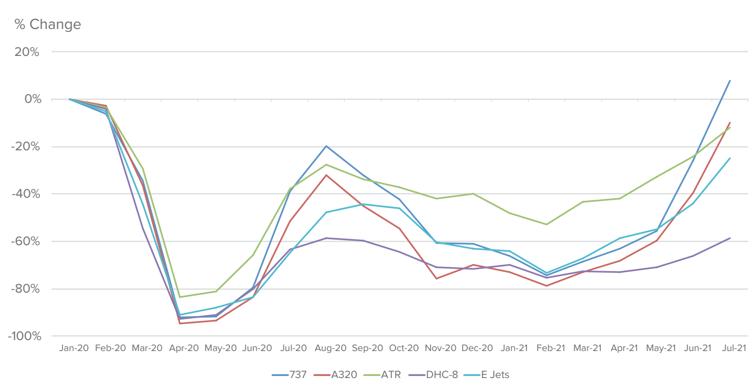
UK airline Flybe operated almost 40% of the UK domestic market. When it collapsed in early 2020, it took 55 Dash 8 aircraft out of the European market permanently, reducing the global Dash 8 fleet by more than 10%.

About 10 more Dash 8s disappeared when German airline LGW folded, to be followed by the 12 at Air Baltic that went into early retirement. This loss of more than 70 aircraft, more than half the European fleet of Dash 8s, accounts for a large part of the gap between it and ATR, with the fleets at Widerøe (40), Luxair (11), LOT (12), Olympic Air (10) and Croatia Airlines (4) doing comparatively well and following a similar trajectory to the ATRs.

In June, Greek airline Sky Express took delivery of the first of six ATR72-600s with the balance to join the fleet by the end of 2021. Sky Express is an existing ATR operator, with ATR42-500 and ATR72-500 aircraft serving a blend of domestic and international destinations.

With many international borders closed or constrained by red, amber

Figure 5: Monthly flights in Europe and CIS region



Maintaining connections

TrueNoord
Regional Aircraft Leasing

or green lights, countries with large domestic aviation markets have rebounded the quickest, although sudden closures can change that in the blink of an eye.

Australia's domestic market, where turboprops play an important role in connecting remote communities, reached prepandemic levels mid-year only to have state borders instantly closed when the Delta variant arrived.

In April, China continued to be the world's largest domestic market, about 20% larger than in 2019, while the USA, previously the largest, shrank by 27% in the same period. Out of the top 10 domestic markets, only Indonesia and Japan were smaller in April than a year ago, with South Korea and Vietnam growing strongly.

With domestic markets growing, and more people looking to travel internally, similar opportunities exist for turboprops to be the right-size aircraft on thinner routes, be it to connect communities or transfer to central hubs.

While gaining access to the China market is problematic, the sheer size of the opportunity demands attention from turboprop OEMs, be they the existing ones or perhaps those which are developing the emission-free technology discussed later.

In China only about 3% of its fleet comprises aircraft with 100 seats or less compared to the global average of 25%, and, although the country has about 238 airports, some 83% of all traffic is concentrated through just 39 of them.

ATR says that the 164 regional airports in China handle just 7% of total passenger traffic and the ATR42-600, in a 30-seat configuration, would be the ideal solution to provide essential connectivity and grow local economies.

The pandemic has also heightened the need to move medical personnel, supplies and equipment quickly and often into remote environments where road access may not be possible. Turboprops are the ideal platform for such operations.

An aircraft with a distinct role to play in these situations is the ATR42-600S (STOL) with its capability to take off and land on runways as short as 800 metres carrying 40 passengers. The STOL aircraft moved from design to industrialisation in June, meaning all critical reviews have been passed, the design architecture frozen and parts manufacturing can commence.

The launch customer is PNG Air of Papua New Guinea, which will be replacing its current fleet of 30-seat STOL aircraft with the new ATRs.

PNG Air has been an ATR72-600 operator since 2015 and uses STOL aircraft to connect communities and access mining operations using remote airstrips across the mountainous country.

The ATR72-600F freighter is also gaining traction with launch customer Fedex inducting its second aircraft, from its order of 30, with an option for 20 more in May. Before the launch of the ATR72-600F, Fedex was already operating about 40 ATRs in a mix of 42/72 aircraft converted for cargo operations.

The way ahead

On the surface, it seems that current turboprop technology is in a state of suspended animation. With few new engine or airframe projects under way, other than the GE Catalyst engine for smaller aircraft and the Deutsche Aircraft D328eco, OEMs are waiting to see which way the sustainable aviation debate impacts their businesses.

From a technology perspective, the main movement looks to be on new propulsion technologies that could still be a decade or so away from reaching large turboprop aircraft, although Universal Hydrogen suggests hydrogen fuel cells could be possible in a 30- to 50-seater-category Dash 8 or ATR by 2025.

What is concrete is that the large but ageing US fleet of CRJ and ERJ regional jets will come under more environmental scrutiny and their higher operating costs will present an opportunity for ATR and De Havilland to increase their market share. Both OEMs have invested considerably in upgrading their cabins to a high standard, and with Covid-19 making direct flights more desirable but less available, the opportunity for turboprops to capture some of the regional jet replacement market is real.

Although Universal Hydrogen is targeting Dash 8s and ATRs, and has commitments from Icelandair, Air Nostrum and Ravn, most projects on zero-emission aircraft are targeting the nine- to 19-seat market. While there are still many hurdles to be overcome, particularly in battery technology, power distribution and hydrogen storage, test flights are happening and lessons being learnt that will encourage more players into this market.

With the push for aviation to become more sustainable unlikely to diminish any time soon, the developments that will ultimately find their way into large commercial aircraft are already happening in the turboprop sector.

Supporting the view that turboprops have a viable place in the commercial aviation ecosystem, Embraer is considering a clean-sheet design 70- to 90-seat aircraft with rear-mounted engines. This will be targeted at the operators of the ageing ERJ and CRJ 50-seat regional aircraft.

While the aircraft still remains a concept at this stage, Embraer says it will have a similar cross-section to the E-jets and a quieter cabin because of the rear-mounted engines. Embraer suggests the engine would be a jet-like prototype that will use 20% to 40% less fuel and emit up to 40% less carbon than regional jet equivalents.

Separately, Embraer has already committed to 100% compatibility with sustainable aircraft fuels by 2030 and has commenced flight tests of its electric propulsion EMB203 Ipanema demonstrator. When the electric tests are completed, Embraer plans to convert the EMB203 into a hydrogen fuel-cell propulsion demonstrator to be ready for flight in 2025.

Taking its future into its own hands, De Havilland is working with Pratt & Whitney Canada (P&WC) to integrate hybrid-electric technology into a Dash 8-100 flight demonstrator, with ground testing to start in 2022 leading to flight testing in 2024. De Havilland will install the propulsion technology, which includes an electric motor and controller from Collins Aerospace, within the Dash 8-100 airframe by designing a modified nacelle structure to house the hybrid-electric technology.

They will also be responsible for the cockpit interfaces needed safely to monitor and control the system, conducting the flight tests and demonstration programme and working with Transport Canada for the experimental flight permit.

P&WC estimates the hybrid-electric technology will target a 30% reduction in fuel burn and CO_2 emissions, compared with a modern regional turboprop airliner, by optimising performance across the different phases of flight. However, it remains to be seen whether this will be sufficiently attractive if Universal Hydrogen or others succeed with cleaner options within a similar timeframe.

In addition to the Universal Hydrogen projects, the Dornier Do328, first flown in 1991, may also be in the vanguard of clean and green aviation in 2021. Now under new ownership as Deutsche Aircraft (DA), and with the aircraft relaunched as the D328eco, it is heading in the right direction. The D328eco will be stretched by two metres, increasing capacity to 40 seats in a standard configuration. With new Garmin avionics, it is being designed for future single-pilot operation. Power will come from PW127S engines capable of running on 100% sustainable airline fuel or jet-A fuel. DA says the aircraft will have the lowest cash operating cost per trip in its class and will have the highest cruise speed of any 30- to 50-seat turboprop. The D328eco is planned to come to the market by 2025.

While DA has also partnered with Universal Hydrogen to evaluate how its system could be applied, in July, DA signed a memorandum of understanding with H2FLY, a German start-up developing hydrogen fuel cell systems for aircraft, to work together on the research and development of hydrogen fuel cell technology for commercial regional aircraft.

The smaller RUAG-owned Dornier aircraft are becoming popular test-beds with two twin-engine 19-seat Do228 aircraft procured in June 2021 by Zeroavia for its hydrogen-electric aviation programme. The aircraft came from Aurigny and AMC Aviation and were previously in-service for regional flights in the UK and US, respectively.

Zeroavia has operations in the UK and US and has already secured experimental certificates for two prototype aircraft from the CAA and FAA. After passing significant flight-test milestones, Zeroavia is planning to commence commercial operations in 2024 with its initial focus on a 500-mile range with nine- to 19-seat aircraft used for commercial passenger transport, cargo and agricultural operations.

In 2020, it successfully completed the UK's first electric-powered flight in a commercial-scale aircraft using a Piper M-class six-seater and followed that later in the year with the Piper aircraft completing taxi, takeoff, a full pattern circuit and landing powered by a hydrogen fuel cell.

The 19-seat programme is Zeroavia's second project to be backed by the UK government to target the development of a hydrogen fuel cell powertrain and is based on a 600kW powerplant, significantly larger than the 250kW one in the Piper aircraft. Initial ground tests in the US were successfully completed in August paving the way for flight-testing later this year.

The ultimate aim for Zeroavia is to develop a zero-emission engine for a 50-plus-seat aircraft that will be built from the learnings of its six- and 19-seat hydrogen-electric powerplants.

The march to emissions-free aviation may have started with electric systems and batteries, but a clear signal that hydrogen is becoming the fuel of choice came when Cranfield Aerospace Solutions' Project Fresson changed course this year. Cranfield Aerospace Solutions is leading the Project Fresson consortium (which includes Britten Norman) which is seeking to deliver the world's first truly green passenger carrying airline services using hydrogen fuel cell technology.

The project started in 2019 aiming to develop an electric propulsion system for Britten-Norman BN-2 Islander aircraft, but, in 2021, the power source was switched from hybrid-electric to hydrogen fuel cells with wing-mounted fuel tanks. In simple terms, the project realised a pure battery electric solution would not give it a useable range and that a hybrid-electric range extender system with its weight implications and charging needs was not feasible either for fulfilling range or green targets.

With new partners in fuel-cell systems, and hydrogen storage on board, the consortium is planning on a hydrogen-fuel cell demonstrator to be flying by September 2022. There are some 230 operators of the nine-seat Islander around the world, mostly tiny airlines and public sector-run utilities, and Britten-Norman says the simply engineered aircraft is ideal for pioneering future technology, while longer-range aircraft will benefit from the work being done now.

Based on the above selection of projects, real progress is being made and, in the next few years, it is entirely possible a nine-seat, hydrogen-powered aircraft will be flying, with the 19-seat versions coming after. However, the systems under development are a step change in technology and certification challenges are very real so that projected programme timescales may yet prove challenging.

The 50-plus-seat turboprop will be around for many years in its present form but it remains to be seen if ATR and De Havilland can protect their market dominance with either their own developments, or those of Universal Hydrogen, or lose their places to some of the start-ups discussed previously.

The implications for lessors and financiers for either or a combination of both outcomes are potential game changers. While the opportunities and risks are substantial, it is clear that those with an interest or appetite for current-generation turboprops will for better or worse experience these developments before those that focus exclusively on larger aircraft.

Turboprop conclusions

Although the financing of turboprops has been a challenge for many years (for operating lessors and other financial institutions primarily because of the smaller scale of the market in terms of absolute numbers, which impacts liquidity, and the value of each individual aircraft), this segment also offers strong opportunities.

Turboprops operate predominantly in short-haul domestic and neighbouring country markets on low-density routes with little competition from either other carriers or suitable alternative surface transport modes. Often this natural monopoly is reinforced by public service obligation contracts. This combination creates a level of demand and therefore revenue stability greater than for large aircraft fleets.

Historically, the impact of economic shocks had a smaller effect on turboprops because they operated in distinct local markets so that a local or regional economic downturn was often matched by growth elsewhere. Although the economic impact of Covid-19 has been felt globally for all aircraft including turboprops, the negative impacts, despite being worse than previous crises, have been less than for other aircraft types.

Despite the relative recent lack of engine technology innovation, turboprops remain highly fuel-efficient aircraft. To date, reducing fuel burn has been about lowering operating costs, but in the current age of ESG, this second and arguably more important motivation is now dominating the minds of airline fleet planning departments. Modern existing turboprops meet carbon reduction targets effectively.

The next generation of emissions-friendly aircraft will be small and gradually creep towards 50- and then 70-seat capacity propeller driven aircraft many years before a mainstream-sized aircraft with hydrogen or electric propulsion becomes commercially viable.

If Universal Hydrogen's ambitions become a reality, such technology could be retrofitted to existing turboprop platforms, thereby generating the next step change in aircraft technology. In turn, this will impact not only the demand for aircraft and the manufacturers, but also downstream suppliers, maintenance organisations and the leasing and finance community.

However, on a final note of caution and without wishing to spoil the party, the certification of any new aircraft takes years even for one that is conventionally powered. Rightly so, the aviation industry's paramount concern is safety. The push for carbon neutrality cannot be allowed to compromise safety even if this means delayed service entry. Among the other technology challenges remaining, we believe that certification time alone is likely to preclude full electric or hydrogen propulsion in this decade.

Strengths

- best operating economics of any sub-150-seat aircraft on sectors up to 300 nautical miles with insignificant speed penalty on short routes;
- optimised for performance-driven missions – eg, short runways and climb capability;
- increasingly well diversified global operator base;
- class leader for low emissions footprint;
- relatively resilient to economic shocks including Covid-19 with greater proportion of turboprops returned to commercial service; and
- significant protection offered by both essential public service contracts and natural monopolistic route structures.

Weaknesses

- turboprops often operated by smaller and financially weaker carriers;
- lower value aircraft for financiers that require the same asset management input;
- average fleet age is higher than mainstream aircraft;
- lower appeal to network carriers compared with regional aircraft for hub-and-spoke operations particularly in US market;
- much smaller and less commoditised market compared with larger aircraft; and
- lack of significant technological advancement in this century, particularly in relation to powerplant.

Opportunities

- significantly underserved markets ideal for turboprops remain in Asia, Latin America and Africa;
- above-average fleet age for both turboprops and smaller regional aircraft creates substantial fleet-replacement opportunity for lessors of turboprops, in particular;
- any continued fuel price increases or new taxes on aviation fuel imposed at national or supra-national level will increase the attractiveness of turboprops relative to other types because of their lower fuel burn; and
- electrification or hybridisation of existing airframes.

Threats

- continued technological and economic improvement of regional aircraft could erode benefits of large turboprops;
- introduction of a new 90- to 100-seat turboprop by Embraer could reduce the appeal of current-generation 70- to 90-seaters; and
- future hybrid and electric-powered aircraft will probably affect existing turboprop fleets and small aircraft before any other larger aircraft types thereby increasing obsolescence risk.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Surviving the pandemic

Aviation is one of the fastest-growing industries in India but it has suffered more than most through the pandemic, says Indian law firm Taybji Dayabhai.

With the onset of the Covid-19 pandemic in early 2020, the aviation sector has been one of the world's worst hit industries and airlines in India have been no different. While many airlines are witnessing a slow path to recovery, Indian carriers are faced with a varying set of pandemic restrictions in different states and the continued suspension of international flights, at least until the end of September 2021.

Whether it is Air India, the government-owned carrier, or private airlines such as Indigo, Spicejet, Go First (formerly Go Air) and Vistara, the steady fall in passenger traffic during the country's eight-month lockdown has resulted in deep losses. Airlines in India incurred losses worth Rs16,000 crores ($2.15 billion) in the previous financial year. Some private carriers are seeking periodic deferrals in payments towards lease rentals. Mounting operational costs resulting in further defaults in the payment of lease rentals are readying aircraft lessors to pull the plug on the leases and repossess their aircraft.

Though not a consequence of the pandemic, the corporate insolvency resolution process of Jet Airways (India) Limited, which began in June 2019, has been prolonged for two years and is now complete with the passing of the Order of the National Company Law Tribunal on 22 June 2021. A resolution plan proposed by a UAE-based consortium specialising in restructuring businesses has been approved for the airline. A fresh start is on the cards for Jet; however, a major hurdle to overcome is regaining its erstwhile slots once the airline becomes operational. The former Jet slots, which were temporarily allotted to other airlines, could not be kept reserved or vacant until, and if, Jet emerged from the insolvency process and resumed operations. Before it begins operations, the airline will also have to put in place fresh regulatory approvals.

While the industry eagerly awaits the turnaround of Jet Airways, 2021 is abuzz with news of the upcoming low-cost carrier Akasa Air funded by investor Rakesh Jhunjhunwala with up to 40% equity stake. The proposed airline aims to start operations by mid-2022 and will be headed by Jet's former chief executive officer, Vinay Dube.

On the legislative front, the civil aviation authority in India is taking steps to recognise various aspects of the Cape Town Convention and Aircraft Protocol under local legislation. The ratification of the convention and protocol by India in July 2008, recognition of the Irrevocable Deregistration and Export Request Authorisation (IDERA) executed by aircraft operators in favour of lessors, to carry out deregistration and export of leased aircraft by the lessors without recourse to the operator, chalking out a standard operating procedure for deregistration and export of leased aircraft by lessors are some of the changes brought about to give comfort to leasing

Nimish Vakil

Sneha Gaikwad

companies. These changes have been consequential to the challenges experienced in aircraft repossessions from private airlines over the years. During the fall of Kingfisher Airlines in 2012-13, many aircraft were leased prior to the Cape Town ratification and did not have the benefit of the IDERA. As a result, lessors had to rely on active cooperation by the airline, and negotiations with various authorities to proceed with each step and even court processes. The Spicejet repossessions in 2014-15 gave way to the all-important rules relating to the recognition of repossession rights under the Idera, followed by deregistration and permissions for export of aircraft within a definite time period. In October 2018, just before the start of Jet Airways' downfall, the aviation authority laid down clear steps to be followed by lessors for the repossession of aircraft, setting definite timelines for a response from authorities involved in the process, which led to relatively hassle free and straightforward repossessions. Of course, the active cooperation of the Jet management has helped further to smooth the process. Since June 2020, the aviation authority has put in place provisions for officially recording the IDERA with the aviation authority.

With a view to setting up and promoting an aircraft leasing business from India, in February 2021, the government issued a framework for aircraft operating lease to enable offshore aircraft leasing companies to set up operations in India in designated free-trade zones in the state of Gujarat, known as the Gujarat International Finance Tec-City (Gift City). The Ministry of Civil Aviation had first announced its vision of setting up an aircraft leasing and financing ecosystem in the form of Gift City in January 2019 in its report titled, Project Rupee Raftar. Under the framework, aircraft leasing is classified as a financial product, which would include an operating lease or a finance lease or any hybrid of operating and financial lease of an aircraft or helicopter or engines or any other parts thereof. Aircraft lessors fulfilling certain criteria may set up operations in Gift City and are permitted to undertake activities which include: operating leases for aircraft lease arrangements including sale and leaseback, purchase, novation, transfer, assignment and such other similar transactions in relation to aircraft leases; and any other related activity with prior approval of the regulating authority. In addition, tax benefits have also been offered. This will help Indian airlines to save on foreign exchange costs. The government made another attempt this year to disinvest from Air India. It is hopeful of completing its 100% stake sale in the national carrier and its subsidiary Air India Express and 50% stake sale in the ground handling unit AISATS by 2021-22. In its first attempt in 2018, Air India sought to sell only 76% of its stake but no bids were submitted.

The DGCA which had banned operations of Boeing Max aircraft in March 2019 has not given Spicejet its go ahead to resume its Max fleet operations which is scheduled for as early as September this year but will also allow foreign airlines to fly their Max aircraft into India.

In a definitive move to strengthen aviation infrastructure in the country, the government has commenced the third stage of its airports privatisation programme, with the sale of the residual shares of the Airports Authority of India (AAI) in the airports at Mumbai, Delhi, Bengaluru and Hyderabad. Another 13 airports operated by the AAI have been identified for privatisation by combining a profitable and a non-profitable airport as a package deal to make it an attractive investment for the private bidders. The AAI controls and maintains 126 airports in the country. Last year, in stage one of the airports privatisation, the Adani Group, the market leader in transport and energy and large-scale infrastructure development in India, emerged as the successful bidders for the privatisation of six airports in the cities of Lucknow, Ahmedabad, Jaipur, Mangaluru, Thiruvananthapuram and Guwahati. The Adani Group already owns a 74% controlling interest in Mumbai International Airport Limited, which owns and operates Mumbai airport and is also working on constructing another greenfield airport close to Mumbai. Another strong private player is the GMR Group, which owns the controlling stake and operates the two major airports at Delhi and Hyderabad. The GMR Group has also undertaken construction of greenfield airports in Goa and Andhra Pradesh. With more and more airports in India coming under the public-private partnerships, the government aims to monetise the operational public infrastructure assets to raise finances for new infrastructure development.

India is the third-largest domestic civil aviation market in the world and the aviation sector is one of the fastest-growing industries in the country. Currently, the industry is reeling from the effects of the second wave of the Covid-19 pandemic, which has only further deepened the losses reported in the 2020-21 fiscal year. Passenger traffic, which had declined during the pandemic period, is reported to have revived since June. While existing airlines struggle to maintain market share and cut losses, the emerging ones are hopeful of taking advantage of the recent turbulence experienced by the industry to establish their foothold.

LEAP engines maintain their dominance

The LEAP-1A tops this year's engine poll in what has been a challenging year for the sector.

The first quarter of 2021 was disappointing from an engine lessor's perspective as the anticipation that airlines will be more active in terms of capacity adjustment, balancing existing fleets, or even with new aircraft deliveries did not materialise.

One lessor's representative points out that airlines have been delaying capacity projections for the second and third quarter, and the challenge for every airline is how efficiently to shape to the right size in terms of capacity/fleet to release into the market.

"The moment airlines release more capacity in the market, in order to protect their market share, it exposes them to potential losses associated with flying. Load factors are more in the 40-60% bracket range, and adjusting (weak) capacity-utilisation is an issue for airlines to minimise exposure to low load factors, yields and revenues," says the lessor.

Flying a small fleet is also proving expensive despite the urgency to generate revenues. In this context, the spare engine topic is no longer a priority, he says.

This affects the leasing industry because airlines were also returning engines to lessors as part of their restructuring process. "We were taking back engines without a clear vision of where to put them next," adds the lessor.

Traditionally, the first quarter is active in terms of short-term leases because operators use the low utilisation of their fleet to put engines into the shop in preparation for busier periods in the year. This is in addition to traditional heavy maintenance visits as airlines work on capacity projections for the rest of the year.

The part-out business has had its challenges, because its business is related to the number of shop visits. Traditionally, this section of the market is driven by the demand for serviceable used materials from the maintenance, repair and overhaul (MRO) companies.

"Airlines don't want to put engines for full performance restoration shop visit, and demand for materials remains weak," says a source, who adds that, consequently, the part-out business is flooded with materials and literally very low demand.

"There is a lot of engine shop visit avoidance, deferral, engine exchange and/or a reduction in maintenance costs through higher use of USM and reduced workscope," says one source.

"Given all the uncertainty and focus on the nearer-term, many airlines prefer 'shorter-build' engines, as in used life limited parts (LLP) with 10,000 cycles remaining (corresponding to approximately 5-6 years of life) instead of brand-new with 20-25,000 cycles as there is no guarantee the aircraft will fly that long. Demand for green-time leasing should be on the rise."

One engine leasing participant admits his main worry is what is the critical point beyond which a certain airline may not survive.

"My concerns are on those airlines that are still on the verge of bankruptcy and who are strongly dependent on the summer operations. If they cannot come across the summer with fair amount of revenues, they will have difficulties surviving," he says.

He explains: "Last year, we were more optimistic. There was a developing process of developing a vaccine, but now, despite having the roll-out of those vaccines, people are more realistic and therefore more pessimistic for the short-term future of flying."

For him, last-minute ticket purchases require airlines to be very flexible in terms of capacity, and an aircraft such as the Airbus A319 market gives airlines more flexibility to get the right balance in terms of available seat miles and load factors.

Narrowbody aircraft

	Investor appeal (out of 7)	Remarketing potential (out of 7)	Residual value (out of 7)
BR715 (717)	1.38	1.50	1.25
CFM56-3C (737 Classic)	2.07	2.17	1.73
CFM56-5A (A320 family)	2.07	2.20	1.97
CFM56-5B (A320 family)	4.73	4.23	4.80
CFM56-7B (737NG)	5.07	4.37	4.73
CFM LEAP-1A (A320neo family)	6.30	5.52	5.74
CFM LEAP-1B (737 Max family)	6.00	5.11	5.41
IAE V2500-A1 (A320 family)	1.57	1.57	1.57
IAE V2500-A5 (A320 family)	4.27	4.10	4.37
PW2000 (757s)	2.41	2.52	2.22
PW1100G (A320neo family)	5.93	5.15	5.63
PW1500G (A220 family)	4.48	4.19	4.63
RB211-535 (757s)	2.27	2.47	2.10

Source: *Airfinance Journal*, April 2021

Higher activity in sale and leasebacks

Some airlines have been more proactive to generate liquidity, through sale and leasebacks, compared with a year ago.

"We see lot of demand on the engine sale and leaseback market, with an aggressive approach from customers that realise the necessity to raise funds for operations. That appetite for engine sale and leaseback was not observed to that extent in the first half of last year, as airlines were cautious and had no strategies as to which asset to sell or store," he says.

In January, there was not much appetite for sale and leaseback transactions but February and especially March were the tipping point for that market, he says.

"We now see demand for sale and leasebacks on the LEAP-1B engine that was not there in the past, especially over the past 18-24 months. The momentum is there now, and it is encouraging for airlines and investors," he adds.

Some lessors may keep focusing on mature engines that power current-generation aircraft.

"It depends on the type of portfolio objectives but, overall, lessors are looking at increasing their market share in new engine types. They can be a strategic play by investing, as lessors, into new types of engines as part of a package that includes current engine models like the -5B and -7B," he says.

The -5B and -7B engines remain prime candidates for a recovery, although both variants are a notch down on last year's scores. Both benefit from a strong investor appeal despite a relatively high supply at the moment.

In the -7B market, there is a consensus that more than 50% of those engines have never reached a shop visit.

"There is a chance that if the aircraft manufacturer doesn't want to take the risk to push for production rates too high, airlines may see the opportunities to fill the gap in capacity by taking those [Boeing] 737-700s that are exiting the Southwest Airlines fleet," says one participant in the engine poll.

He adds that there might be a potential for more full performance restoration shop visits whereby the MRO will be demanding used materials, because the only way to optimise the cost of the shop visit is to use used serviceable material.

The -5B engine model maintained second place in the narrowbody mature market. Its scores and its popularity are still growing: 4.73 for investor appeal, 4.23 for remarketing potential and 4.75 for residual value. However, those scores are well down on the pre-pandemic totals.

"There is still demand for this engine as some operators and lessors have delayed Neo and the Max orderbooks," observes one participant.

"The -5B still remains popular as an engine to acquire for lease pools despite some lessors focusing on new-technology engines," comments another.

The V2500-A5 is expected to exhibit higher mature shop visit costs than the -5B and we should expect to see a more defined trend towards shop visit avoidance strategies among operators, driving lease demand.

It is also worth pointing out the V2500-A5 has the larger market share of the two engine variants on the A321, which is widely anticipated to have strong operator demand in a post-pandemic climate.

While not affecting the breadth of the fleet that was impacted by previous airworthiness directives (AD), the recent AD on the high-pressure turbine 1 disk will drive some engine removals and resultant lease demand, says a trading source.

The pre-pandemic period showed a trend of continued resurgence of mature narrowbody engines. The pandemic has seen a limited market beyond the -5B, -7B and V2500-A5 engines – beside the new-technology engines. And most agree that the -3C market is almost dead. The engine scored 2.07 out of seven for investor appeal, 2.17 for remarketing potential and 1.73 for residual values.

At the other end of the spectrum, the LEAP-1A is the best engine for investor appeal, remarketing potential and for residual values.

The LEAP-1A scored 6.3 out of seven for investor appeal, 5.52 for remarketing potential and 5.74 for residual values, although those scores were lower than the previous year.

Once again, CFM products led the engine poll in the narrowbody sector. The LEAP-1B probably benefitted from the 737 Max family recertification in various jurisdictions and re-entry into service.

Like the LEAP-1A, the PW1100G scored slightly less than in 2020, but as Pratt & Whitney has continued to solve the engine's technical problems, acceptance is reflected in the scoring.

Widebody aircraft

	Investor appeal (out of 7)	Remarketing potential (out of 7)	Residual value (out of 7)
CFM56-5C (A340-300)	1.19	1.22	1.30
CF6-80C2 (747s, 767s)	2.85	3.15	2.81
GE90 (777s)	3.27	2.43	3.00
GEnX (787s, 747-8s)	5.15	4.26	4.93
GP7200 (A380)	1.04	0.93	1.00
JT9D (747s, 767s)	1.07	0.97	1.07
PW4000 (A330s, 747s, 767s, 777s)	2.50	2.80	2.50
RB211-524 (767s, 747s)	1.48	1.48	1.30
Trent 553/556 (A340-500/600)	0.87	0.87	0.90
Trent 700 (A330s)	2.50	2.33	2.13
Trent 800 (777s)	1.52	1.52	1.52
Trent 900 (A380)	0.81	0.81	0.92
Trent 1000 (787s)	3.22	3.44	3.22
Trent 7000 (A330neo)	3.56	3.22	3.22
Trent XWB (A350s)	4.96	3.74	4.41

Source: *Airfinance Journal*, April 2021

Illiquid markets

The worst-performing engines in the poll are those for the aircraft in the most illiquid markets.

For example, the Trent 900, which powers the A380, performed the worst in the widebody market, scoring very low in all three categories.

The Rolls-Royce BR715 engine, on the other hand, has no prospects of recovery, especially after Volotea Airlines decision to release its remaining Boeing 717s.

One participant points out that the days are over for the -5A and -A1 engine types. "The market is gone for good," he says. While the prospects for the RB211-535 engine.

"There is little appeal to mainstream investors. But niche players continue to make good returns on these engines and the declining quality of spare engines and parts available," he adds.

Widebody troubles

The widebody market has traditionally lagged behind narrowbodies; just like aircraft investors, engine investors are typically less attracted to this market.

With a smaller installed base and a less-liquid market, the twin-aisle sector is seen as a riskier space in which to operate. There has always been a view that by taking more steps to address investor concerns about the aftermarket, original equipment manufacturers could do more to make twin-aisle engines a more attractive investment.

Widebody engines have typically scored less than those that power single-aisle aircraft, and the pandemic has accelerated investors' views of this market, with the exception of the GEnx and Trent XWB engines. Both are viewed as long-term winners in the widebody space.

The GEnx remains the best performer of the two engines but the Trent XWB is narrowing the gap. It scored 4.96 in investor appeal (versus 4.22 last year), 3.74 in remarketing potential (3.5 last year) and 4.41 in terms of residual values (4.22 last year).

Powerplants on four-engine aircraft such as the A340, 747 and A380 fleets, in particular, have done badly, reflecting investor concerns about remarketing potential and residual value on those aircraft types.

Sentiments are divided on the GE90 engine.

One financier agrees there is aircraft oversupply, which will keep the spare engine market soft for the foreseeable future. Long-term post-recovery, it is expected to retain its place in the widebody market.

Another participant points out the start of the 777-300ER freighter conversions at the end of 2022 and the reasonable appetite for them. But he also indicates the continuing trend for retirements. Still, the 777-300ER model benefits from a relatively large installed base.

There is a positive market sentiment towards the Trent 700 engine but A330neo market penetration remains to be seen and will ultimately determine the engine's desirability, observes one participant.

Regional aircraft

	Investor appeal (out of 7)	**Remarketing potential** (out of 7)	**Residual value** (out of 7)
CF34-8C (CRJs)	3.10	3.27	2.67
CF34-8E (E170/175)	3.67	3.60	3.03
CF34-10E (E190/195)	3.33	3.09	2.85
PW123 (Dash 8)	2.90	3.38	3.00
PW127E (ATR42-500)	3.48	3.95	3.52
PW127F (ATR72-500)	3.76	4.10	4.10
PW127M (ATR72-600)	4.19	4.33	4.14
PW150A (Q400)	3.24	3.38	3.19
PW1919 (E190/195-E2)	3.81	3.10	3.52

Source: *Airfinance Journal*, April 2021

> *"CF34 shop visit costs can run well in excess of $1 million depending on the level of high-pressure turbine work involved, as that's where the big exposure is at the moment."*

Regionals

Demand has picked up for CF34-10 engines, says one source, but the market is limited to few players.

The CF34-8C market has been more active. There has been a fair amount of activity in the CRJ700 second-hand market with US carrier Skywest Airlines acquiring subfleets over the past year.

The Utah-based carrier acquired 10 CRJ700s from Go Jet Airlines last year, along with 11 units from Air France's Hop subsidiary.

The biggest drive in the CRJ700 market has been the engine condition. "Shop visit costs can run well in excess of $1 million depending on the level of high-pressure turbine work involved, as that's where the big exposure is at the moment," says a trading source.

Some aircraft have been offered at less than $850,000 while others are in the $3 million to $5 million range.

The CF34-8C market has been the most stable and arguably the best-performing engine throughout the downturn. "The utilisation of the large CRJ fleets has been OK mainly because US operators have been flying the type through the pandemic," says one source. The E-jets have also been used in Europe as main European carriers have parked narrowdoby aircraft.

There are also some positive signs in the Embraer 190 market because the aircraft has been the most traded type over the past 15 months.

The PW150A market has been relatively quiet, but demand for the type has started to recover, as recently seen with the former Flybe aircraft transitioning to Canada. The PW150A is expensive to be put through the shop at $1.5 million to $1.6 million, and sources indicate that Pratt & Whitney has been impacted by the Flybe total care package.

The PW127M ranked first in the regional category with the PW127F engine lagging just behind. One trading source observes that lots of ATR72-500s have been parked or stored over the past year with engines not necessarily looked after. He reckons this market will see more retirements with the engine part-out activity coming along.

"As time goes," he adds, "there will be a bigger differential between the PW127M and the PW127F engine."

Airbus A320neo family retains lead

Investors' appetite clearly remains in mainstream aircraft, especially in the widebody market.

Few investors venture outside the most popular types of the Boeing 787/Airbus A350 models. Of the top 10-favoured aircraft in 2020, seven were narrowbodies, two were widebodies and one aircraft was a turboprop (the ATR72-600).

Seven years ago, the favoured model was the 777-300ER and the top six included three narrowbodies (737-800/Max 8/A320neo), as well as three widebodies (777-300ER/787-9/A350-900).

The environment in 2018 and 2019 favoured current-technology narrowbody aircraft as oil prices globally remained at reasonable levels, making a viable case for these types.

The Covid-19 pandemic is set to accelerate airlines' transitions to new-technology aircraft. Airbus current-technology narrowbody productions are almost completed. By December 2020, Airbus's backlog for the A320 family included five A319s, 18 A320s and 29 A321s. But in the first 11 months of last year, the European manufacturer had delivered only 14 current-technology narrowbodies.

On the widebody side, Airbus delivered five new A330s and nine A330neos for the first 11 months of 2020.

The second market for the A330-200 and A330-300 models was difficult before the pandemic.

"The A330 entered the Covid-19 era against a landscape of oversupply and declining values and lease rates. There is therefore little surprise that the impact of the global pandemic on international traffic has further harmed its fortunes," says one pollster.

Placements are possible but lease rates are low. Owners are trying to hold onto the type. The market for the A330-300 has been particularly bad. Mid-life aircraft have been placed at between $210,000 and $250,000 a month.

The market was more than $250,000 to $280,000 a month by mid-2019 and above $300,000 two years ago, but the bankruptcies at XL Airways and Thomas Cook Airlines did not help.

The lease rates of the A330-200 are more into the $200,000 range depending on age, condition and configuration.

Both A330s, along with the 777-300ER model, have expensive transition costs, and the cargo conversion market, although developing at a relatively slow pace, could absorb some of the fleet.

Twin-aisles

Aircraft type	Residual value	Value for money	Operational success	Remarketing potential	Overall score	Last year's score	Difference
787-9	3.83	4.05	4.29	3.64	**3.95**	**3.84**	0.11
A350-900	3.74	3.90	4.10	3.50	**3.81**	**3.97**	-0.16
767-300ER	3.18	3.53	4.00	3.29	**3.50**	**3.91**	-0.41
787-10	3.18	3.68	3.75	3.00	**3.40**	**3.53**	-0.13
A350-1000	3.04	3.48	3.62	2.91	**3.26**	**3.17**	0.09
787-8	2.91	3.21	3.45	2.76	**3.08**	**3.16**	-0.08
777-300ER	2.38	3.14	4.18	2.26	**2.99**	**3.21**	-0.22
A330-900neo	3.00	3.29	2.85	2.82	**2.99**	**3.21**	-0.22
777-9	2.88	3.07	2.70	2.67	**2.83**	**3.33**	-0.50
A330-300	2.09	3.29	3.71	2.18	**2.82**	**3.17**	-0.35
A330-200	1.73	2.65	3.55	1.67	**2.40**	**2.7**	-0.30
A330-800neo	2.33	2.47	2.14	2.15	**2.27**	**2.51**	-0.24
777-8	2.38	2.57	2.10	2.00	**2.26**	**2.71**	-0.45
777-200ER	1.65	2.45	2.90	1.55	**2.14**	**2.52**	-0.38
747-8 pax	1.64	2.32	2.15	1.43	**1.89**	**1.9**	-0.01
777-200LR	1.59	2.21	2.25	1.38	**1.86**	**2.34**	-0.48
A380	1.00	1.90	1.90	0.95	**1.44**	**1.81**	-0.37

The Boeing 787-9 model topped the widebody category

The first 777-300ERSF is expected to enter into service in 2022.
The A350-900 and 787-9 are the strongest performers in the widebody market, but as one pollster writes: "Despite the positive acclaim, these aircraft will never achieve the investment ratings of the most popular narrowbodies."

The 787-9 aircraft was the clear winner in the twin-aisle category. Its notable market popularity significantly outstrips the other options, with the A350-900 trailing behind. The Boeing aircraft took the top spot for all four criteria: residual values, value for money, operational success and remarketing potential. Covid-19 has heavily impacted some airlines such as Norwegian, which has released some 787s back to lessors. The aircraft are being placed with other operators, despite a relatively difficult long-haul market.

The 787-9, along with the A350-1000 model, was the only aircraft in the widebody market to score better than the previous year. The 767-300ER maintained a relatively strong position in the ranking because of freighter demand, according to one trader.

Narrowbodies

The A320neo family benefitted from the woes at Boeing last year and was positioned, for a second year in a row, at the top of the narrowbody rankings.

The A321neo maintained its position at the top in the narrowbody aircraft market category scoring 4.54 overall (out of five), a small increase over the previous year.

The type continues to be the most popular aircraft at present. For the first 11 months of 2020, the A321neo variants received 145 net orders, representing half of Airbus overall net orders. Another 75 net orders were for the A320neo type, while 47 orders had been placed by Spirit Airlines for the A319neo.

At the end of November, Airbus had delivered about 429 A321neos to operators and had orders for 3,446 units. In comparison, 1,120 A320neos had been delivered and orders totalled 3,925.

Investors are comfortable with the A320neo family and again this is reflected in this year's poll.

The A321neo led the way in three of the four criteria in *Airfinance Journal*'s investor poll: residual values, value for money and potential remarketing.

In particular, the model scored better in three criteria than in the previous year.

If the Boeing Max family had not been impacted too much until now, especially in the residual value and value for money criteria (because the consensus is the aircraft is a good investment), its remarketing potential has dropped dramatically over the past 12 months.

This may be a cause of concern because airlines and lessors have cancelled orders, and also because some customers may not want to take delivery yet as a result of the Covid-19 crisis in the airline industry.

The Max 8 is the least impacted of the four-aircraft family. Its overall score was only a few points below its 2019 total. The Ryanair order for the high-capacity Max 8-200 model in December 2020, along with the positive news on recertification in the final quarter, has provided more confidence in the type.

The A220-300 recorded one of the best improvements of any single-aisle aircraft

Single-aisles

Aircraft type	Residual value	Value for money	Operational success	Remarketing potential	Overall score	Last year's score	Difference
A321neo	4.64	4.35	4.43	4.75	**4.54**	**4.45**	0.09
A320neo	4.44	4.26	4.39	4.46	**4.39**	**4.36**	0.03
737-800	3.72	4.14	4.70	4.21	**4.19**	**4.14**	0.05
A321	3.80	4.04	4.35	4.00	**4.05**	**4.01**	0.04
A220-300	3.80	3.89	4.00	3.84	**3.88**	**3.76**	0.12
A320	3.36	3.96	4.52	3.67	**3.88**	**4.08**	-0.20
737 Max 8	4.00	4.05	2.81	3.88	**3.69**	**3.73**	-0.04
737-900ER	2.84	3.32	3.48	2.79	**3.11**	**2.94**	0.17
737 Max 10	3.18	3.37	2.67	2.90	**3.03**	**3.37**	-0.34
737 Max 9	3.00	3.25	2.67	2.91	**2.96**	**3.1**	-0.14
737-700	2.27	3.00	3.30	2.38	**2.74**	**2.93**	-0.19
A319	2.12	2.91	3.35	2.17	**2.64**	**2.91**	-0.27
A319 neo	2.17	2.40	2.59	2.00	**2.29**	**2.27**	0.02
737 Max 7	2.32	2.63	1.77	1.94	**2.17**	**2.37**	-0.20

Airfinance Journal's Deal Tracker shows that lessors acquired 24 aircraft in the final quarter of 2020 under sale and leaseback transactions. In 2020, Avolon, BOC Aviation, CDB Aviation and DAE have been active in this sector.

Should the return of the Max family expand to the European and Asian skies in 2021, the aircraft type is expected to challenge the top narrowbodies in the next Air Investor's poll. In 2018, the Max 8 scored 4.21 points.

The market has not improved and remains limited for the Max 7 type, as well as the A319neo, which are now under pressure from the A220-300.

The A220-300 recorded one of the best improvements of any single-aisle aircraft, perhaps because the market is more accepting of the model.

Financing of the A220-300 has broadened over the past two years and airline request for proposals (RFP) are proving popular for the type.

A recent RFP saw 37 bids submitted, according to sources.

Air Baltic opened up the sale and leaseback market, and start-up Breeze Aviation is financing its future deliveries in the sale and leaseback market with GECAS, Einn Volant Aircraft Leasing, a joint venture between GECAS and Canadian pension fund manager Caisse de depot et placement du Quebec, and Voyager Aviation.

Lessors are placing aircraft. Recently, US lessor Air Lease signed its first operating lease commitment in Europe regarding its A220 orderbook. Deliveries are commencing mid-2022.

Interest has accelerated because the focus on domestic recovery is linked to growing interest in the A220 family, primarily the A220-300 model, says Air Lease.

In the meantime, Airbus has registered some cancellations for the A220 programme with leasing company Macquarie Airfinance taking seven aircraft out of its initial 40-aircraft order while Gulf Air cancelled a 10-aircraft order in November.

Air Canada has also cancelled 12 orders and is deferring 18 A220s due for delivery in 2021 and 2022.

The A321 remains the best performer of the Airbus current-technology product line, but there is an increasing distinction between models, with eight years of age, or 2012, models still benefitting from its success.

"Older models won't share the same success," says one pollster. However, the A321-200 has a bright future as a converted freighter.

The 737-800 retained its third position in the narrowbody ranking. The model benefitted from strong demand in 2019, albeit short- to medium-term lease requirements, as airlines needed uplift to cover the non-Max deliveries.

In 2020, demand for the type was lower, but more 737-800s headed for cargo conversion. But the consensus is that as the Max returns, the 737NG family, especially the 737-800, will experience a softening in values and lease rates.

Milbank comes out on top

Milbank is the winner of *Airfinance Journal*'s legal survey, which recognises the most active law firms in 2020 by regions and financing structures.

Law firm Milbank secured the number one spot in 2020 with its aviation team "firing on all cylinders" particularly with a strong performance in North America, Latin America, commercial loans and capital markets.

Clifford Chance was second, although it almost closed a similar number of transactions.

K&L Gates completed the podium, while White & Case and Pillsbury came fourth and fifth. Hughes Hubbard & Reed was the law firm which progressed the most year-on-year.

Airfinance Journal would like to thank all the law firms which participated in this year's survey. Our annual legal survey includes aviation finance deals based on submissions from law firms as well as *Airfinance Journal*'s Deal Tracker transactions.

Those are subsequently aggregated to create the winners.

Airfinance Journal received submissions from 18 firms, compiling 1,035 deals overall, including transactions gathered from Deal Tracker.

This is the fifth year *Airfinance Journal* has used data transactions from Deal Tracker for our legal survey. It provides a more accurate picture of the 2020 activity because it includes law firms which were not able to submit or decided not to submit. The firms that did submit have the most accurate representation of their deals in 2020.

In 2020, *Airfinance Journal* recorded 391 unique transactions compared with 947 the previous year.

The survey also highlighted more activity in the capital markets and commercial loans, reflecting the need for liquidity in the sector.

Europe represented 350 transaction points, or a third of last year's volume. Asia-Pacific was the second region with 326 transactions, or 31%. North America remained third by region but its market share increased to 23% from 20% in 2019.

Winner

Drew Fine, a Milbank partner, says the firm's global aviation team was very active.

"We had a high level of activity globally, particularly in North America, Latin America, Europe and Asia. The Covid-19 pandemic resulted in airlines having unprecedented liquidity needs. During the year, we saw both innovation and the largest airline financings in history," he says.

With Covid effectively closing down aviation, airlines needed to generate liquidity in a quick and efficient manner.

"Initially, we worked on 364-day liquidity financings and that led to longer-term financings. The dire need for liquidity led to innovation resulting in loyalty programme financings, initially for United Airlines, but then for Delta Air Lines, Spirit Airlines and others. The loyalty programme financings were among the largest financings for airlines in history. Later in the year, Milbank was involved in the development of the current incarnation of the lessor EETC [enhanced equipment trust certificate], particularly to finance sale and leaseback transactions," says Fine.

Methodology

The legal survey reviews transactions for calendar year 2020 only. Aviation law firms were invited to submit deals to be included in Deal Tracker. The *Airfinance Journal* data team then reviews the different deals and selects those eligible for Deal Tracker.

All of the deals used to judge the winners are eventually loaded into Deal Tracker and can be reviewed by our readers. In this sense, our survey is unique. Our researchers assess each deal to verify them and to avoid double counting.

The benefit of using Deal Tracker is that we can offer a granular presentation of law firm activity by both product type and region. There are limitations to the survey. Client confidentiality may be an issue for law firms when submitting deals and some firms opted not to participate. As a consequence, the survey does not represent all of the deals happening in the market, but it remains the most comprehensive survey of its type and crucially offers a real insight into the aviation market.

The survey gives a strong indication of which law firms are most favoured for certain product types and for certain regions.

Last year, we modified the evaluation criteria to reflect the transaction complexity as well as the law firm's role in a transaction rather than simply count the number of deals.

As a result, law firms are asked to self-assess the complexity of each transaction and their role in the transaction according to the following new set of criteria for which the specified points were awarded:

Complexity

- groundbreaking pioneer transaction – 10 points;
- complex transaction, some new parties or jurisdictions – 7 points;
- average complexity, repeat transaction with same players and jurisdictions – 5 points;
- less complex transaction – 3 points; and
- low complexity – 1 point.

Role

- drafting counsel for major transaction documents – 10 points;
- primary counsel to major transaction parties – 7 points; and
- secondary counsel to transaction parties – 3 points.

For all Deal Tracker transactions that were not part of the submitted deals, *Airfinance Journal* assigned one point for the complexity of a transaction and three points for the role played by the law firm. This resulted in a total score of four that was assigned to all Deal Tracker transactions which were not part of the submitted deals.

Legal Transaction of the Year: **Delta SkyMiles loyalty programme financing**

The *Airfinance Journal* editorial team selected the Delta SkyMiles loyalty programme financing as the winning submission in 2020.

Delta Air Lines drew a massive crowd for its $9 billion package of bonds and loans secured against its SkyMiles loyalty programme in September 2020, aimed at further buffering its liquidity position.

The Atlanta-based carrier became the third airline – after United Airlines and Spirit Airlines – to use its valuable rewards programme to raise liquidity as it continues to burn cash in a depressed travel market.

The financings involved multiple banks. Joint bookrunners Barclays, Goldman Sachs, JP Morgan and Morgan Stanley upsized the overall deal from an initial $6.5 billion. Goldman was left lead on the bonds; Barclays was left lead on the loan.

Delta, which at the time said it was burning $27 million a day in cash, revealed earlier in the month that it would not chase a $4.6 billion federal loan available under the Coronavirus Aid, Relief and Economic Security Act.

Milbank was involved in this innovative transaction, which provided the US carrier a total of $9 billion in liquidity.

The deal marked the largest airline financing in history at the time of the closing. The transaction involved a unique, cutting edge structure whereby all of Delta's loyalty assets – brand, customer information, co-branding agreements –were contributed to a new loyalty programme company and then financed. This structure has been copied for several subsequent financings by other airlines.

The three-tranche financing was structured as secured bond offerings from the capital markets as well as term loan facility. It consists of $2.5 billion senior secured notes at 4.5% with a five-year term as well as $3.5 billion senior secured notes at 4.75% due 2028.

The transaction also includes a $3 billion term loan with an eight-year tenor.

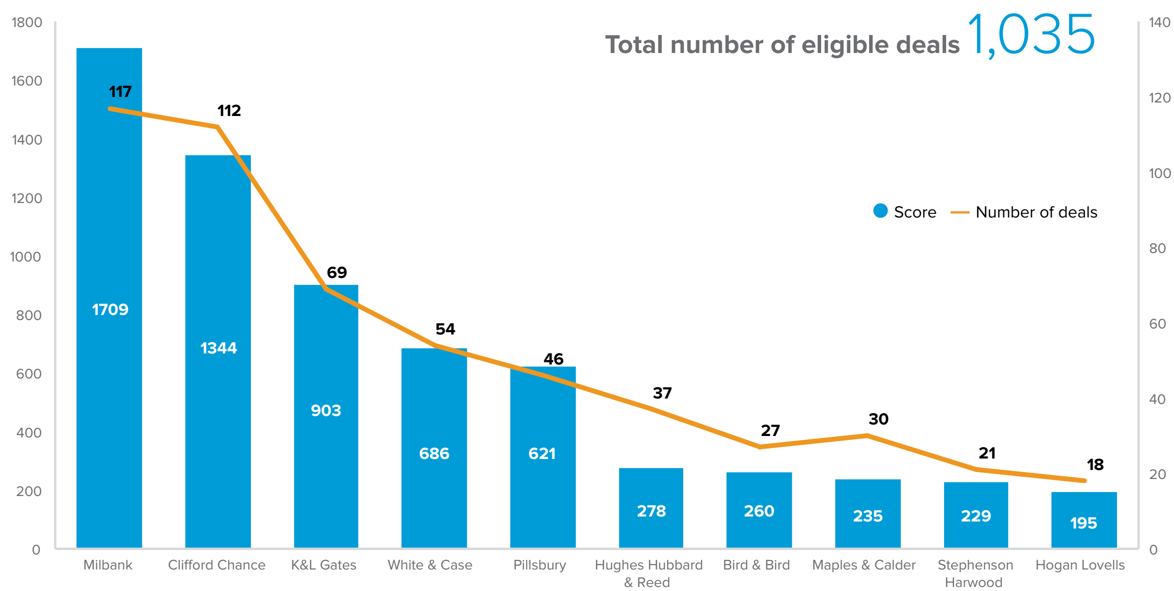
The blended average annual rate was 4.75%.

Milbank was the drafting counsel for major transaction documents and was the law firm advising the lenders. David Polk advised Delta Air Lines on the transaction.

"The Delta SkyMiles loyalty programme financing was particularly unique since Delta's loyalty assets were all owned by the airline and a new loyalty programme company was formed specifically for the financing," says Milbank partner Drew Fine.

He adds: "All of Delta's loyalty assets – brand, customer information and co-branding agreements – were contributed to the new loyalty company and then financed. The transaction was structured in a way to strongly encourage the airline to continue the financing even after a potential future bankruptcy filing."

Top 10 law firms by number of deals



Source: law firm submissions and *AFJ Deal Tracker*

Asia-Pacific

The types of financings in the Asia-Pacific (Apac) region continue to diversify. Commercial loans represent 31% of transactions in the region, closely followed by operating leases (29%) and capital markets (28%).

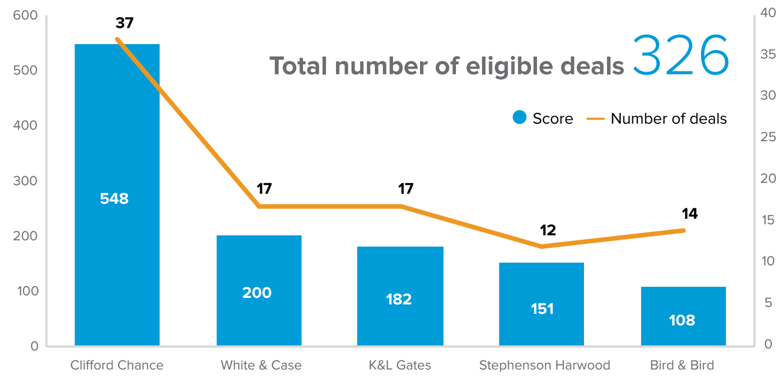
Asia was the first to experience the Covid-19 downturn, yet, with the principal exception of Singapore, none of the governments in the Association of Southeast Asian Nations region has supported its airlines.

The Cathay Pacific Airways and Virgin Australia restructurings were the highlights of last year's airline headlines. Singapore Airlines Group (SIA Group) was also active in the equity market through a S$5.3 billion ($3.9 billion) rights issue and a mandatorily convertible S$9.7 billion bond issue for a total of S$15 billion. The group also closed commercial loans, as well as sale and leasebacks, to protect its liquidity position.

For the first few months of 2020, borrowing on an unsecured basis was almost impossible. Exceptions include the SIA Group, which was able to secure a S$4 billion unsecured loan from DBS Bank and some airlines in China which could access the domestic short-term notes market.

The Asia-Pacific market recorded 326 eligible deals last year, compared with 410 transactions in 2019.

Still Clifford Chance performed well above its peers with 37 eligible deals.



Source: law firm submissions and *AFJ Deal Tracker*

Clifford Chance says 2020 was an extremely challenging year for the aviation sector in the APAC region, with travel becoming very restricted from early on in the year and with a number of high profile airline restructurings commencing as the year wore on (eg Thai Airways, Malaysia Airlines, Virgin Australia, Nok, Philippine Airlines, HNA) and government backed capital raisings for others (eg Singapore Airlines and Cathay Pacific).

"On the investor side, a number of APAC based lessors (including tax structured lessors) encountered their first major airline restructurings (especially US Chapter 11 proceedings) as well as having to deal with continuing challenges to repossession and redeployment. Much of the year was spent working on restructurings and rental deferrals but there were some airlines across APAC which had entered the pandemic with unencumbered owned aircraft in their fleets and so were still able to raise new money through arranging financings or sale and leasebacks of such aircraft," says Clifford Chance.

White & Case came second in the region with about the same number of transactions as in 2019, when it ranked third.

Partner Simon Collins says: "Recovery in Apac continues to take time. While the large domestic markets such as China are active, regional and long-haul passenger traffic remain subdued. Additionally, confidence of investors and financiers has been impacted by the complex restructurings they have encountered. While the long-term forecasts for APAC are positive, the road to recovery in this region is long."

"Similarly, a number of lessors (APAC based and otherwise) were able to seek funding from shareholders in China and Japan. By the end of the year, domestic travel had largely recovered in the bigger domestic markets such as the PRC, Japan and Australia but airlines in most of the rest of APAC (especially those dependent on international travel) were still badly affected by travel restrictions."

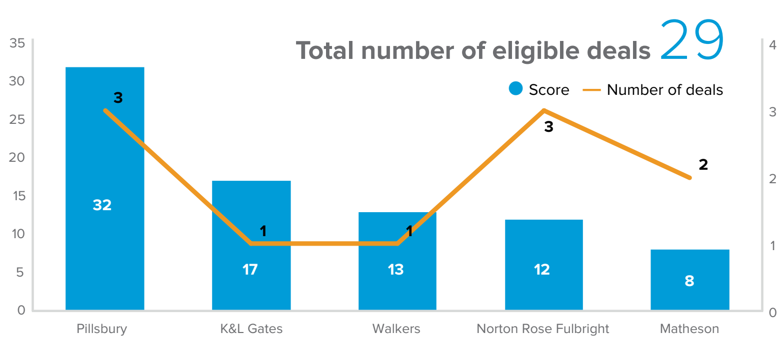
Africa

Over the past few years, South African banks, such as Nedbank and Investec, have been among the more active in the region.

Air Côte d'Ivoire, Air Tanzania, Cabo Verde Airlines, Comair, Egyptair, Royal Air Maroc and Rwandair have benefitted from government-guaranteed loans, while some of the major carriers in the region are going through restructurings (Air Mauritius, South African Airways, Tunisair).

Kenya Airways is holding discussions with lenders to renew moratoriums on loan repayments signed last year in response to the Covid-19 crisis.

Ethiopian Airlines is the exception regarding its ability to access financing because of its scale and ability to adapt to the market. Romain Ekoto, chief aviation officer, African Development



Source: law firm submissions and *AFJ Deal Tracker*

Bank, recently told *Airfinance Journal* the African Union Commission has estimated, together with aviation stakeholders, that about $20 billion of financial assistance would be required to bolster the airline sector's inability to withstand the impacts caused by the Covid-19 pandemic.

Pillsbury Hong Kong SAR managing partner, Paul Jebely, has been involved in many financings in Africa. His teams at Pillsbury and Clyde & Co have ranked first for six years and consistently remained in the top three law firms since the *Airfinance Journal* survey began in 2012.

He says: "It takes a concerted effort to be present in and patient with this market. The deal work is never easy, and the non-deal work (including restructuring) is seemingly never ending. Still, the work matters, because there is at some level an escapable development narrative for each commercial passenger (or cargo) aircraft that takes to African skies."

The region's ageing fleet is in need of replacement but there are pockets of fleet-renewal activity. Operating leases represented almost 50% of the activity in Africa last year. Some placements in the region have included regional aircraft. Over the past year, new carriers such as Green Africa Airways have started operations with used ATR72-600s ahead of a planned A220-300 fleet.

K&L Gates partner Sidanth Rajagopal confirms this trend. "Capitalising on the reduction in long-haul flights, regional carriers in Africa appeared to focus on taking regional aircraft on operating leases. This also gave rise to the region seeing the mushrooming of various low-cost airlines – ie, Green Africa, which only received its first aircraft in 2021."

TAAG Angola Airlines financed six Dash8-400 deliveries through a finance lease structure last year with African Export-Import Bank and Absa Bank.

One interesting financing was a structured term financing for Egyptair Cargo. The facility was raised to part fund the acquisition and conversion costs of three A330-200P2F aircraft. The financing is secured on revenues generated by Egyptair Cargo through the International Air Transport Association's cargo accounts settlement system, the first time this has been done for an African airline.

Europe

K&L Gates recorded fewer eligible transactions last year in the European market than Clifford Chance but pipped the law firm for the number one spot, thanks to a better scoring.

Sebastian Smith, K&L Gates partner, says Covid lockdowns sent the European airline industry into disarray resulting in some difficult restructurings and enterprising solutions.

"Restructured lease terms had to be negotiated with the majority of European airlines. Many aircraft that were redelivered early in an as-is basis now had to be repaired, stored, insured and registered with CAMO [continuing airworthiness management organisations] arrangements in place, as there was simply no secondary aircraft for some aircraft types. Thankfully, we saw a surge of freighter lease conversions, using facilities such as EFW, and assisted in the negotiation of freighter conversion documentation and new leases with freighter operators."

Smith observes that difficult decisions ultimately had to be made with some equipment being sold piecemeal to part-out operators. "This all made for a very intense albeit interesting year."

The commercial loan market accounted for more than 40% of the transactions in Europe last year. Many governments rescued airlines through state-guaranteed loans and, in some cases, via the equity market.

The UK government quickly stated that it will not offer any industry-wide support programmes for the airline industry but rather bespoke solutions. That said, Easyjet, British Airways, Jet2, Ryanair UK and Wizz Air UK were able to access a generic Covid-19 Bank of England commercial paper programme for more than £2 billion ($2.73 billion).In December 2020, British Airways announced plans for a £2 billion facility with a five-year tenor partially guaranteed by UK Export Finance under its Export Development Guarantee scheme.

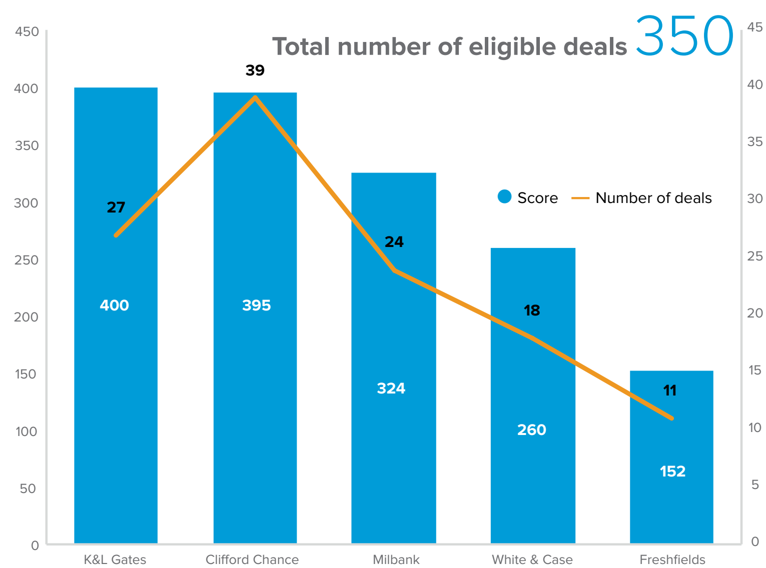
Easyjet followed through earlier this year signing a new term loan facility for $1.87 billion underwritten by a syndicate of banks.

The UK carrier was also proactive in securing some assets in the commercial loan market during 2020. As a result, its unencumbered fleet now accounts for 41%. Ryanair recently noted that more than 85% of its aircraft fleet is unencumbered.

France and The Netherlands offered loan support to Air France-KLM, while Lufthansa and its subsidiaries received support from different governments. Airlines in Spain, Portugal and the Nordic countries also received government-guaranteed loans. The Portuguese government recently increased its stake in TAP to 72.5% to support the carrier during the pandemic.

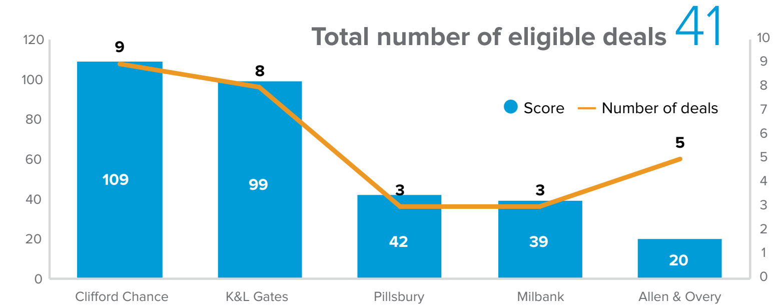
Clifford Chance says the impact of Covid-19 on the aviation industry within Europe has been significant. "Many airlines in the region have been forced to seek accommodation from their creditors in the form of lease and debt restructurings, both in and out of court. In particular, we have seen a number of airlines, both European (e.g. Virgin Atlantic) and others (e.g. MAB Leasing) seeking to utilise English schemes of arrangement as a flexible tool to implement these restructurings without having to implement a formal insolvency process, as well as some airlines using Irish examinership (e.g. Norwegian)."

Looking through to 2021, as vaccination rates rise across Europe, Clifford Chance expects to see the continued recovery of aviation within Europe, but significant headwinds remain for many European airlines, particularly if there is disruption to 2021 summer traffic.



Source: law firm submissions and *AFJ Deal Tracker*

Middle East



Source: law firm submissions and *AFJ Deal Tracker*

K&L Gates significantly closed the gap on Clifford Chance last year in the Middle East region but Clifford Chance maintained its first position.

Rajagopal of K&L Gates says last year was a 'mixed bag' in the region from carriers looking at restructuring their fleet, to various requests for deferred rent payment, to carriers utilising various financing structures to shore up liquidity. The Middle East continues to have a microclimate which is different from the rest of world, he comments.

"We acted for lessors involved in various sale and leaseback transactions where the lessor community tapped into local banks providing funding through Islamic structures. In addition, all major carriers continued to discuss fleet rationalising methods with OEMs [original equipment manufacturers] including dealing with the Max aircraft," he says.

Commercial loan structures once again topped the ranking in the Middle East region last year but the region also saw some activities in the sale and leaseback market for new deliveries and older assets. Etihad Airways signed a landmark deal with Altavair Airfinance for the sale and leaseback of 13 A330s as well as the forward sale agreement for 16 Boeing 777-300ERs.

The highlighted deal in the region was Etihad Airways' $600 million sukuk which was described as the "world's first transition sukuk", a form of Islamic bond issuance financing linked to Etihad's carbon reduction targets and investments in next-generation aircraft. Clifford Chance and Allen & Overy represented the parties in this landmark transaction.

Clifford Chance says Covid-19 has had a substantial impact on the aviation industry in the Middle East. "With many airlines in the region relying on connecting passengers for a significant portion of their traffic, the travel restrictions imposed by governments around the world have caused them significant hardship, notwithstanding high domestic vaccination rates. Many of the Middle East airlines have relied on significant direct and indirect state funding in order to support them during this period, as well as raising funds through secured financings and sale and leaseback transactions," says Clifford Chance.

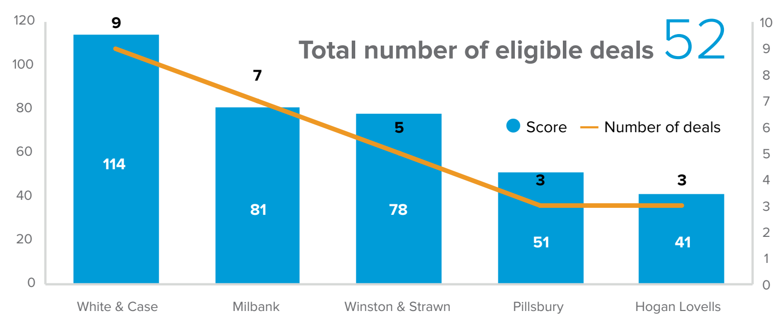
"Etihad Airways also became the first airline to issue a sustainability-linked sukuk, another sign of the increasing focus of aviation market participants on sustainability issues. Looking forward to 2021, we expect that recovery will start to take hold in the region based around domestic and regional traffic, but with a full recovery likely to take longer than in other areas given the reliance of many carriers in the region on long-haul flights."

The Middle East region is also attracting more asset manager/boutique players reflecting the financing requirements in the region in the future.

Sirius Aviation Capital commenced operations in ADGM during March 2020 and in just over a year has grown its fleet to 10 aircraft. The company plans to grow its fleet to 100 aircraft over the next three years.

Magi Aviation Capital, a more established boutique financing company expanded its footprint in the Middle East with the opening of a regional office in Doha, Qatar last year.

Latin America



Source: law firm submissions and *AFJ Deal Tracker*

Chris Hansen, partner at White & Case, says 2020 initially seemed like it would be another solid year for Latin American aviation finance.

"Early in the year, Aeromexico issued its first unsecured bond in the international markets in many years. The sale and leaseback market for new and used aircraft was strong, and the Jolco [Japanese operating lease with call option] market remained open to carriers in the region, with several deals completed or in the pipeline during January and February," he says.

Hansen adds that the problems faced by all airlines because of the Covid-19 pandemic were arguably more acute in the region.

"Most governments in Latin America were forced to focus their limited resources on directly fighting the pandemic and supporting populations that depend on the informal economy to a large extent, leaving airlines to fend for themselves to survive. This was in contrast to other regions such as Asia, Europe and North America, where in many cases significant government financial support helped keep local airlines afloat," he says.

Although there have been some commercial fundraisings in Latin America, there has been very little government support in the region.

A major development in the region last year was the use by LATAM, Avianca and Aeromexico of legal protection under the US Chapter 11 regime to carry out their respective restructuring programmes.

"There is now a growing confidence that each of these airlines will emerge from Chapter 11 and the Covid crisis in a strong and very competitive position," says Winston & Strawn partner Mark Moody.

"White & Case clearly benefitted in 2020 from having very strong restructuring and aviation finance practices that have worked closely together for a long time and having been particularly active in Latin American aircraft finance for many years, working with airlines, lessors, lenders and ECAs [export credit agencies] on transactions in the region. This helped us to secure mandates on behalf of airlines in Chapter 11 (Aeromexico's special aviation counsel), DIP [debtor-in-possession] financiers, ad hoc bondholders and other creditors in the Chapter 11 cases," says Hansen.

Milbank was also active in the airline bankruptcies. "The Latam market was very active in 2020 due to the need for liquidity as well as the airline bankruptcies, including LATAM, Avianca and Aeromexico," says Drew Fine, a partner at Milbank. "We have represented Avianca as well as four of the five largest secured creditor groups in the LATAM bankruptcy."

Milbank also participated in the different financings of Brazilian carrier Gol Transportes Aereos: sale and leaseback transactions, engine financings, as well as US Ex-Im-supported financings.

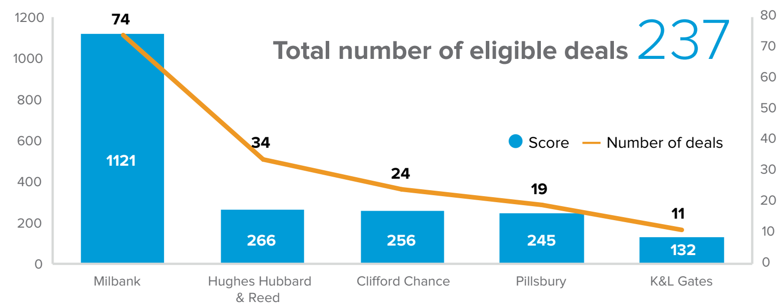
White & Case's Hansen says investor interest in Latin American aviation remained high notwithstanding the pandemic. "Copa was able to secure convertible bond financing on favourable terms very early in the pandemic and other carriers such as Viva Aerobus in Mexico have also been able to tap that market lately."

Hansen says there is ample room for optimism that most or all traditional financing sources will return to the region in the coming years, but significant challenges remain.

"Though the signs are good, none of the Chapter 11 cases has yet reached its conclusion so there remains a level of uncertainty in the market," he says.

Hansen adds: "In addition, South America is currently the epicentre for the Covid-19 pandemic, with Argentina, Brazil, Peru and Colombia particularly hard hit. This is causing social and political upheaval in the region as well. As in other jurisdictions, it is extremely important that vaccination rates increase quickly in Latin America to secure a vibrant air travel market in the rest of 2021 and beyond."

North America



Source: law firm submissions and *AFJ Deal Tracker*

Airfinance Journal's Deal Tracker shows that more than $407 billion was raised in 2020, of which $108 billion was government-supported financings.

The response of governments in supporting their airlines through the Covid-19 crisis was varied. The USA has offered the largest and most comprehensive support package with a programme of grants and between five- and 10-year unsecured and secured loans. The top US airlines signed up early for the payroll-support programme, a 70% grant/30% unsecured loan offering plus equity warrants.

Milbank was the clear winner in this region, doubling the number of transactions from 2019. Milbank's Fine points out the firm's involvement in almost every product. Milbank helped develop the lessor enhanced equipment trust certificates (EETCs), which were largely used to finance sale and leasebacks for aircraft leasing companies but also worked on loans and capital markets offerings. "The year 2020 was an unprecedented year for raising liquidity for US airlines," he says.

Over the course of the year, Milbank worked on deals to raise more than $50 billion for airlines in North America. Fine says the collateral for the loans included aircraft, engines, spare parts, slots, gates and routes and loyalty financings.

"Due to the urgent need for liquidity, the financings were completed quickly and efficiently. And since many of the early financings were 364-day financings, they all needed to be refinanced," he comments. Fine says the loyalty financings were particularly interesting because they were a new financing product which needed to be structured properly to protect investors but give airlines operating flexibility.

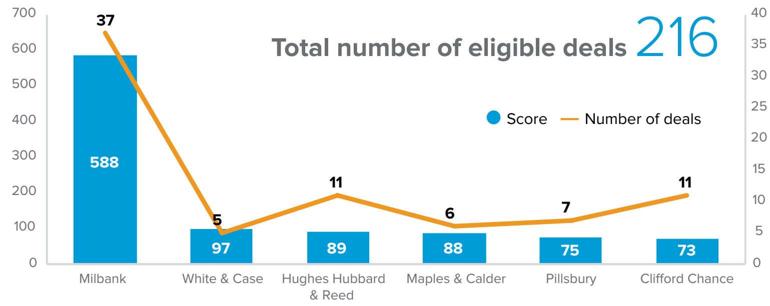
"These financings proved to be very popular for airlines and investors," he adds. The capital markets also played a key role in North America last year. The lessors issued unsecured bonds from the end of the second quarter to protect their liquidity levels while 12 EETC issuances raised almost $10 billion.

The asset-backed securities (ABS) market paused in March 2020 after a flurry of deals were 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.

"The aviation sector once again demonstrated its deep resilience as streamlined business models built during prior "black swan" events, such as the 2008 financial crisis and 9/11, enabled industry participants to remain flexible while working with their customers and clients to navigate yet another unprecedented challenge," says Steve Chung a partner at Hughes Hubbard & Reed. "This included proactively seeking unique financing alternatives; in fact, many of our industry-leading clients, Air Lease Corporation, Delta Air Lines, Griffin Global Asset Management, Hawaiian Airlines and United Airlines, managed to exceed expectations during this last year by capitalizing on their ability to adapt. As borders continue to open up, vaccination rates reach all-time highs and travel confidence returns, the future is again bright and optimistic for aviation," adds Chung.

"2020 was a devastating year for the aviation industry in North America. With the exponential increase in the Covid-19 cases in the region in 2020, the airlines grounded most of their aircraft and a complete lockdown was imposed in most of the countries. The sudden halt in air travel completely disrupted the aviation industry in the region. Airlines based in the U.S. raised capital through a mix of financing techniques including heavily utilizing government support through the pool of funds available under the CARES Act," Clifford Chance says.

Capital markets



Source: law firm submissions and *AFJ Deal Tracker*

Airfinance Journal's Deal Tracker estimates that $142 billion-worth of capital market transactions closed in 2020.

Milbank's capital markets activity was off the charts in 2020. The firm was involved in 37 transactions, seven more than the previous year.

"Pre-Covid, the ABS market got off to a strong start with five ABS closing in January and February. Once Covid closed ABS down in March, the need for airline liquidity resulted in an unprecedent amount of capital markets financings, including some of the biggest deals in history. This included the $6.5 billion United loyalty financing and the $9 billion Delta loyalty financing," says partner Drew Fine.

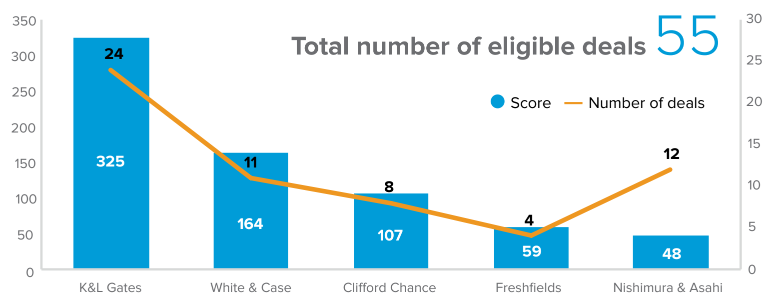
The firm also represented underwriters on EETCs for United Airlines, Delta Air Lines, Alaska Airlines, Federal Express, British Airways, Air Canada and Hawaiian Airlines. And then the substantial uptick in sale and leasebacks led to the development of the modern lessor EETC for aircraft leasing companies.

The collateral for the secured bonds included aircraft, engines, spare parts, slots, gates and routes and loyalty programmes. Several airlines also issued secured notes and did common stock offerings.

Hughes Hubbard & Reed and Clifford Chance recorded 11 capital market transactions each but White & Case came second in this category.

Justin Benson, global head of asset finance based in White & Case's London office, says: "The unprecedented impact of Covid-19 on the industry led to numerous capital-strengthening measures taken by airlines to bolster their equity and debt capital and to reinforce their cash liquidity positions. As a result, we saw a significant uptake in capital markets transactions, particularly in Europe and North America, with significant issuances by Air France-KLM, Aeroflot, Finnair and many others. Overall, 2020 was a strong year for airline issuances in the capital markets."

Structured leases



Source: law firm submissions and *AFJ Deal Tracker*

Over the past 12 months, the big wigs in aircraft financing have decried that demand for 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.

Airlines continue to be preoccupied with securing government bailouts rather than structuring new aircraft deals.

The flow of new aircraft deliveries dried up significantly between the second and fourth quarter of last year, limiting the Jolco market. In the meantime, equity investors were hesitant to commit to the market. The lack of commercial debt for the most part of 2020 did not help.

This was a step back from 2019 when almost 110 deals closed as Jolco financings represented about two-thirds of the structured lease market. In 2019, the overall funding volumes increased, reflecting the confidence in the product and the credits, but also as a consequence of larger transactions requiring larger Japanese equity underwriting capabilities.

First Jolco transactions reached El Al Airlines, Royal Air Maroc and Air Mauritius, while LATAM tapped the market for new and used assets, as Jolco underwriters became more open minded on the risk.

Last year, Jolco investors were hit by some airline bankruptcies and are still digesting some restructurings, including returned/rejected aircraft and equity inventories. In total, 55 aircraft transactions closed in the structured lease market in 2020.

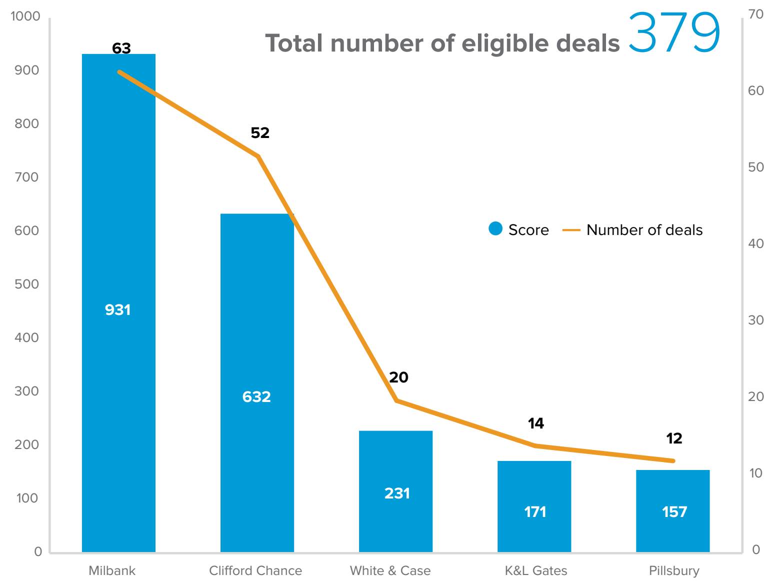
K&L Gates increased its lead position accounting for 45% of all transactions in this market.

"We have seen resiliency on the part of the Jolco equity market in the face of the Covid-19 pandemic," says Robert Melson, K&L Gates partner and global head of aviation finance.

He adds: "Although the number of debt providers for the Jolco market certainly contracted significantly, we worked with a few nimble Japanese leasing companies to structure a significant number of equity-only Jolcos. We also did quite a few traditional debt and equity Jolcos for long-term airline Jolco participants that continue to be seen as relatively safe by debt providers."

Melson says the equity never left and anticipates the number of Jolco transactions to increase in 2022 as Covid-19 travel restrictions decline and more and more debt providers return to the market.

Commercial loan



Source: law firm submissions and *AFJ Deal Tracker*

The commercial loan market accounted for 36.6% of the eligible deals in 2020. This was up from 20% the previous year.

Before Covid-19, the banking market had been resilient despite the abundance of liquidity and structured loans available for borrowers.

Covid-19 highlighted the importance of the banks, especially from the second quarter of the year. It also marked the pause or retreat from aviation of certain capital providers. Meanwhile, the alternatives offered to borrowers have increased. Over the past year, new players have come to the industry in search of reasonable yields.

Looking back at 2020, commercial loans were prevalent across North America, Europe and, to a certain extent, the Asia-Pacific, which reflects the general need for aviation financing.

The number of aircraft deliveries from manufacturers plummeted last year, but airlines and lessors turned to commercial loans for liquidity purposes.

As a result, 2020 saw a massive increase in commercial loans. According to *Airfinance Journal*'s Deal Tracker, this category accounted for almost $167 billion in financing last year, up from $75 billion in 2019.

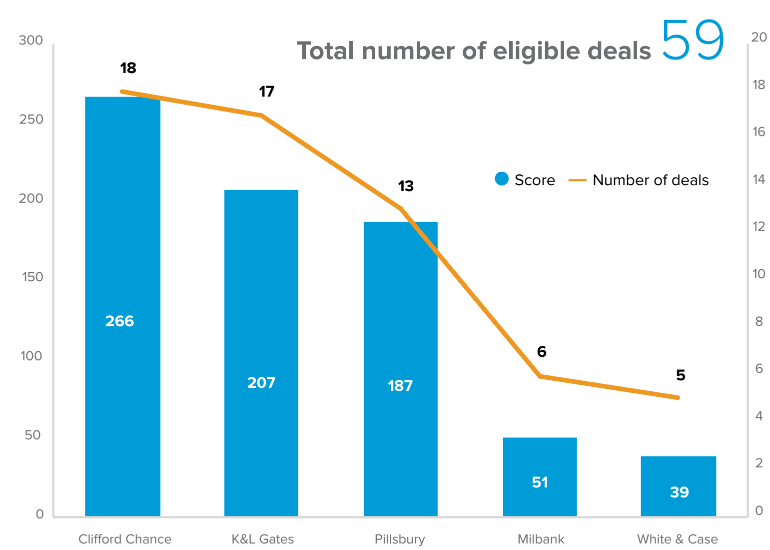
Commercial loans also include insurance-supported financings, which have become more popular with airlines over the past few years.

Milbank headed this category with 63 transactions, or 11 more than Clifford Chance.

"As soon as Covid-19 closed down aviation, airlines needed substantial liquidity. Many relatively short-term liquidity financings were provided to airlines. These liquidity financings were ultimately refinanced with longer-term financing. The collateral for the commercial loans included aircraft, engines, spare parts, slots, gates and routes and loyalty financings," says Milbank's Fine.

The firm was also involved in warehouse facilities for Aercap, Sky Leasing and Carlyle Aviation Partners during the year, while it represented the investors in connection with a term loan B for Fly Leasing.

Sales & purchases



Source: law firm submissions and *AFJ Deal Tracker*

Clifford Chance and K&L Gates were the most active law firms in the sale and purchase market.

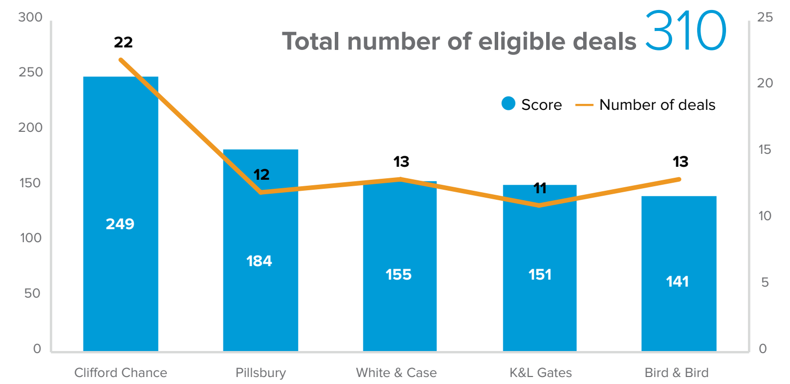
But the absence of liquidity as well as plans for buyers, in light of the Covid-19 pandemic, limited this market to about 60 transactions. This was only a fifth of the previous year's tally, when 300 transactions were recorded. There were about 345 transactions the year before that.

Some sale and leasebacks were performed on new equipment in 2020, while some airlines such as Easyjet sold unencumbered assets to raise their liquidity position.

"The sale and purchase market saw an overall decline in 2020 when compared with 2019; however, the US and European markets in particular remained buoyant through the midst of the pandemic," says Amanda Darling, a partner at K&L Gates.

"We also saw some aircraft trading activity among our Japanese investor clients, but less than we see outside pandemic conditions," she says.

Operating leases



Source: law firm submissions and *AFJ Deal Tracker*

The operating lease market was not very active in 2020, mainly because of the level of capacity it could offer concerned airlines.

As airlines searched for a way of surviving the Covid-19 pandemic, balancing the fleet remained the priority. Many airlines halted growth plans to concentrate on the existing fleet and the stored/active aircraft.

Covid-19 has provided some opportunities for some airlines to benefit from market conditions for leasing aircraft, and this was reflected in lease rates.

Compared with 2019, the number of transactions last year halved.

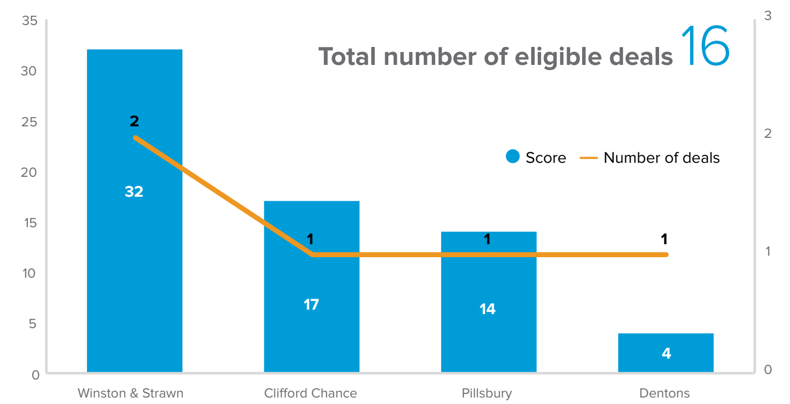
Clifford Chance was a clear winner of this category but four law firms – Bird & Bird, K&L Gates, Pillsbury and White & Case – were neck and neck in the operating lease market.

"While operating lease transaction volumes between new counterparties softened in 2020, the pandemic nevertheless gave rise to a new trend of instructions involving the fast-paced re-leasing of portfolios of aircraft as several airlines moved their excess fleet capacity to group airlines in other jurisdictions necessitating revised lease structures, replacement security and reregistration in highly compressed time frames," says Pillsbury partner Debra Erni.

Europe continues to lead this category with almost 40% of transactions in 2020.

Operating leases continue to be the most popular financing solutions in the market of new aircraft deliveries. Lessors have large orderbooks with the manufacturers but also account for an increasing amount of purchase and leaseback transactions on new deliveries.

Export credit



Source: law firm submissions and *AFJ Deal Tracker*

ECAs are still underwriting financings, although the introduction of ECA premiums by the new Aircraft Sector Understanding rules almost a decade ago have impacted their attractiveness to airlines.

The transactions recorded in 2020 include some A380s for Emirates Airline, as well as A350-900 deliveries for Turkish Airlines and Ethiopian Airlines. Another Turkish carrier, Pegasus Airlines, tapped the ECA market for a total of 10 A320neo family (eight A320neos and two A321neos) deliveries last autumn.

Turkish Airlines also financed the purchase of two 787-9s with loans guaranteed by Ex-Im Bank in the first transaction completed by the ECA since it was reauthorised in July 2020.

Winston & Strawn topped the rankings in this category.

"It has clearly been a very difficult time for airlines during Covid, in particular those airlines with no access to support from their national governments," says Winston & Strawn partner Mark Moody.

"The ECAs have certainly played their part in trying to support airlines who have ECA-supported financings in place – this has included the ECAs developing an ECA common approach to airlines seeking certain restructuring terms during the pandemic, which has been implemented quickly in several cases," adds Moody.

Pillsbury partner Graham Tyler says: "From a borrower's perspective, like many other counterparties on secured aircraft financings, during the pandemic the ECAs have looked to preserve existing transactions as far as has been possible through deal restructurings not least because there have been few, if any, options for financial institutions or lessors to place aircraft that are returned early or repossessed.

"Looking forward, the ECAs will continue to have an important role in supporting the financing of new aircraft, perhaps for more financially challenged airline borrowers, but we don't anticipate the levels getting anywhere near those seen in the financial crisis back in 2008."

Tyler adds: "As the sector recovers, there will be many alternative options for borrowers to consider alongside ECA financings including raising money in the debt capital markets, the insurance-backed products of AFIC [Aircraft Finance Insurance Consortium] and Balthazar, secured commercial debt and the sale and leaseback market."

Airfinance Journal's 2020 deals of the year awards

***Airfinance Journal* reveals the winners of our prestigious annual Awards, recognising the most innovative deals, individuals and teams in aviation finance.**

Africa Deal of the Year: TAAG Angola Airlines **$145m commercial loan for six Dash8-400s**

Borrower/issuer: TAAG Angola Airlines
Structure: Commercial loan
Assets financed: Six Dash8-400s
Lawyers: Pillsbury, Walkers Global, Miranda and Associates and Cliffe Dekker Hofmeyr acted for the lenders. Norton Rose Fulbright represented TAAG Angola Airlines and the government of Angola
Banks: Absa Bank and African Export-Import Bank acted as mandated lead arrangers and lenders. Absa Bank was security trustee and facility agent
Amount: $145 million
Date mandated: 14 November 2019
Date closed: 13 May 2020

The financing in the commercial debt market of six de Havilland of Canada Dash8-400 turboprop aircraft won the Africa deal of the year category.

This is a uniquely African deal, with an African airline financed by an all-African banking consortium. However, the deal team was truly international and reached from Luanda to Cape Town to Johannesburg to Cairo to Dublin to London, to the Caribbean, to Montreal to Vancouver and Hong Kong.

Walkers acted as Cayman Islands counsel in connection with the financing by Absa Bank and African Export-Import Bank of six aircraft to TAAG Linhas Aereas de Angola Airlines. The deal is supported by a sovereign guarantee issued by the government of Angola.

The borrower, Cunene Ltd, a special purpose vehicle incorporated with limited liability and existing under the laws of the Cayman Islands, entered into a finance lease with TAAG, incorporated in Angola and the operator and guarantor of the aircraft.

The lenders, Absa Bank and African Export-Import Bank, advanced the funds to the borrower and received a sovereign guarantee from the Ministry of Finance of the Republic of Angola for the total debt amount.

Absa provided the pre-delivery payments (PDP) in the transaction. This was also the first PDP financing transaction by the South African bank, and one of its first aviation transactions. The deal also marked the first PDP financing transaction for de Havilland Aircraft of Canada.

Critically, it is understood to have been the first new aircraft type delivered by any commercial aircraft manufacturer to a new customer during the Covid-19 pandemic.

There were numerous complexities in closing this transaction during the Covid-19 pandemic, including: the manufacturing facility came to a standstill, which resulted in a postponement in the delivery date; there were difficulties with the aircraft deliveries as the manufacturing country (Canada) and receiving country (Angola) were in lockdown – TAAG appointed a third-party Canadian inspection delegate to inspect the aircraft in Canada and ferry the aircraft to Angola; and the transaction was then closed during the Covid-19 lockdown period and TAAG took delivery of its first aircraft remotely from the de Havilland manufacturing plant in Canada.

Asia-Pacific Deal of the Year: Cathay Airways **HK$39bn recapitalisation plan**

Borrower/issuer: Cathay Pacific Airways
Structure: Bridge loan facility, shares subscription
Financial adviser: Goldman Sachs
Lawyer: Clifford Chance
Amount: HK$39 billion ($5 billion)
Date closed: August 2020

On 9 June 2020, Cathay Pacific Airways announced a triple-tranche HK$39 billion ($5 billion) recapitalisation proposal involving: an issuance of HK$19.5 billion of preference shares and HK$1.95 billion of detachable warrants to Aviation 2020 Limited with an exercise price of HK$4.68; a rights issue of HK$11.7 billion on the basis of seven rights shares for every 11 existing shares held with a subscription price of HK$4.68, which represented a 35% discount to the theoretical ex-rights price (TERP) or 46.9% discount to the closing share price as at 8 June 2020; and a committed bridge loan facility of HK$7.8 billion to be extended by Aviation 2020 Limited, with a 12-month availability period and 18-month repayment period from draw down.

The transaction was the second-largest government-led airline recapitalisation package in the Asia-Pacific region.

Swire Pacific (owning 45% of Cathay Pacific's shares), Air China (29.99%) and Qatar Airways (9.99%) signed irrevocable undertakings to take up their pro-rata portion of the rights issue (HK$10 billion). The Hong Kong SAR government committed a total of HK$27.3 billion to Cathay Pacific. The rights issue was oversubscribed by 137%.

The bridge loan has security over certain aircraft and related insurances of the Cathay Pacific Group. The loan was made immediately available for draw down, while the preference shares with warrants and the rights issue were subject to conditions precedent, including shareholder's approval at an extraordinary general meeting in July 2020.

The multibillion recapitalisation was proposed in response to a series of unexpected events outside the Cathay Pacific's control, including the outbreak of the global Covid-19 pandemic which has created significant challenges for the airline industry.

The recapitalisation plan was essential to the airline's survival, Cathay Pacific's chairman, Patrick Healy, said at the time.

Cathay Pacific reported an attributable loss of HK$9.9 billion for the six months ended 30 June 2020, compared with an attributable profit of HK$1.3 billion during the same period in 2019.

Cathay Pacific started 2020 with about HK$20 billion in unrestricted liquidity, and the current cash burn is in the region of about HK$2.5 billion to HK$3 billion a month.

Healy notes that the government will not have voting rights in Cathay Pacific. "It is an investment by the government," he says. "The government is expecting and planning to make a reasonable return on the investment funds through preference shares, warrants and loan facility. The government does not have the intention to remain a long-term shareholder and also does not have the intention to engage in operations."

Europe Deal of the Year: Virgin Atlantic **£1.2bn recapitalisation plan**

Borrower/issuer: Virgin Atlantic Airways/Barbados Enterprises

Assets financed: Take-off and landing slots at London-Heathrow airport and an Airbus A330 aircraft leased to Virgin Atlantic Airways

Lawyers: Watson Farley & Williams, counsel to the bondholders and various finance and operating lease creditors. Allen & Overy, counsel to Virgin. Herbert Smith Freehills, co-counsel to Virgin. Linklaters, counsel to bond trustee and security trustee. Ashurst, counsel to Davidson Kempner; Raines & Co, counsel to Barbados Enterprises. Clifford Chance, counsel to Virgin's lessors. Freshfields, counsel to revolving credit facility lenders.

Amount: £1.2 billion ($1.57 billion)

Date mandated: 1 April 2020

Date closed: 2 September 2020

The £1.2 billion ($1.57 billion) recapitalisation of Virgin Atlantic Airways wins the European Deal of the Year.

Not only does Virgin's London-Heathrow slot portfolio represent its single most valuable asset, the preservation of the slot entitlement is paramount in any financial and operational reconstruction.

The London-Heathrow airport slot portfolio secured in favour of the bondholders comprised the greater part of the carrier's operations and without which it would not be able to operate.

As part of the restructuring plan, the existing bonds were upsized and amended, with additional bonds being subscribed by funds managed by Davidson Kempner.

The specialist nature of slot financings and the complexities of the underlying legal and regulatory basis on which take-off and landing slots are allocated, owned and retained by airlines, particularly in an insolvency situation, required the combined experience of Watson Farley & Williams' cross-discipline team, including its structured finance, aviation finance, regulatory, restructuring and insolvency specialists, all of which have market-leading knowledge of the European slots financing market.

The restructuring plan involved multiple classes of disparate creditors who voted on the plan, including traditional lenders, lessors and trade creditors. A number of other creditors provided their support outside of the statutory mechanism by way of bilateral consensual arrangements with Virgin Atlantic Airways.

Under the terms of plan, the Virgin Group provided £200 million, while Delta Air Lines was deferring or waive debts and charges owed by the airline worth £400 million.

Hedge fund Davidson Kempner Capital Management provided £170 million of secured financing while the largest creditors supported the airline with more than £450 million of deferrals and Virgin said it continued to "have the support" of credit card acquirers Lloyd's Cardnet and First Data.

The recapitalisation takes effect over an 18-month period and is tied to a restructuring plan which includes cost savings of about £280 million a year and about £880 million of "rephasing and financing of aircraft deliveries" over the next five years.

Virgin Atlantic Airways was the first to use the new UK restructuring plan to implement its recapitalisation, making use of Part 26A of the Companies Act 2006, which was introduced by the Corporate Insolvency and Governance Act 2020.

Latin America Deal of the Year: Azul **R$1.74bn convertible bonds**

Borrower/issuer: Azul

Structure: Convertible bonds

Lawyers: Hogan Lovells and Machado Meyer Advogados advised the anchor investors. Shearman & Sterling and Pinheiro Neto Advogados advised Azul. Pinheiro Guimarães advised the underwriter, Banco Itau BBA

Banks: Banco Itau BBA as underwriter of the offering

Adviser: Seabury Securities as financial adviser to Azul

Amount: R$1.74 billion ($325 million)

Tenor: Five years

Date mandated: 1 September 2020

Date closed: 12 November 2020

Many of Latin America's biggest airlines have struggled during the Covid-19 pandemic, with Avianca, LATAM Airlines and Aeroméxico all filing for Chapter 11 protection in the US courts during 2020. Azul's convertible debenture offering, however, should provide the airline with sufficient liquidity to survive the pandemic-driven industry downturn. Azul publicly stated in its third-quarter 2020 earnings release, immediately following settlement of the offering, that adding the proceeds of the offering to its existing cash balance would allow the airline to operate for more than five years at its then-current cash burn levels.

Anchor investors, Knighthead Capital Management and Certares Management, structured, negotiated and documented the terms of an issuance of R$1.74 billion ($325 million) principal amount of convertible debentures in September 2020 by Azul.

The debentures are convertible into preferred shares of Azul, mature five years after issuance, are indexed to the US dollar and pay interest of 7.5% in the first year in kind through an increase in the par value of the debentures, and thereafter at an interest rate of 6% per year payable semi-annually in cash.

The debentures are redeemable for cash at Azul's option at any time, after 36 months, but only if the last reported share price exceeds 130% of the conversion price for a specified period of time. The debentures have a conversion price of R$32.2649 per preferred share, resulting in an initial conversion premium of 27.5% based on the 30-trading day volume weighted average price.

Azul elected to accept the financing proposal from Knighthead and Certares in lieu of alternative funding made available by Brazil's development bank, BNDES. Azul and BNDES had agreed in September 2020 that the bank was going to provide a R$2 billion financing from its emergency programme created to support sectors affected by the Covid-19 pandemic.

Knighthead and Certares also committed to ordering an additional R$560 million in convertible debentures if Azul decides to carry out a new public offer on similar terms within the next 12 months.

Convertible note offerings to US investors by Brazilian issuers are exceedingly rare because of structuring complexities related to a variety of issues, including withholding tax and statutory pre-emptive rights.

Middle East Deal of the Year: Qatar Airways **$800m finance lease for seven 787-9s**

Borrower/issuer: Qatar Airways

Structure: Finance lease

Assets financed: Seven Boeing 787-9s

Lawyers: Dentons acted counsel to Qatar Airways. Vedder Price acted as counsel to Standard Chartered Bank

Banks: Standard Chartered Bank

Amount: $800 million

Date mandated: 29 March 2020

Date closed: 16 April 2020

Standard Chartered Bank closed a circa $800 million senior secured financing covering seven Boeing 787-9 aircraft for Qatar Airways. The deal was structured, financed and arranged exclusively by Standard Chartered Bank. The bank also acted as facility and security agent.

The large transaction was one of – if not the – largest solely underwritten loans advanced by a bank post the onset of Covid-19 at the time, which stands as testimony to the longstanding and deep relationship between the airline and bank.

Qatar Airways is a long-standing client of Standard Chartered Bank.

In 2016, Qatar Airways mandated the sale and leaseback of eight new Airbus A320s to Standard Chartered subsidiary Pembroke Capital. The CFM International CFM56-5B4/3-powered A320s were acquired from the Doha-based carrier's leasing arm, Qatar Aviation Leasing (QALC).

In 2014, Qatar Airways closed sale and leasebacks for three 777-300ERs and five 787-8s with the bank in a deal that represented its first sale and leaseback transaction.

Standard Chartered was one of the joint arrangers and lenders of a 12-year $500 million finance lease for two 777-300ERs and one 777-200LR deliveries for the carrier in 2008.

In 2003, the Doha-based carrier signed a $736 million interest rate swap transaction with Standard Chartered Bank. The financing provided an interest rate hedging facility to Qatar Airways to fix its long-term borrowing costs for a total of 12 aircraft. The transaction followed a long-term financing covering two A320 aircraft in which Standard Chartered Bank participated as one of the lenders.

North America Deal of the Year: Jetblue Airways **$550m revolving credit facility**

Borrower/issuer: Jetblue Airways

Structure: Senior secured revolving credit facility

Lawyers: Debevoise advised Jetblue Airways. Milbank represented the lenders

Banks: BNP Paribas sole sustainability structuring agent. Citibank was administrative agent. Other participating banks included Morgan Stanley, Bank of America, Goldman Sachs, Barclays, Credit Agricole, Apple Bank and Columbia State Bank

Adviser: Vigeo-Eris, ESG rating agency

Amount: $550 million

Tenor: Four years

Date mandated: 10 January 2020

Date closed: 20 February 2020

In February 2020, Jetblue Airways became the first airline to deploy a sustainability-linked loan (SLL) by amending its existing $550 million senior secured revolving credit facility (RCF) due July 2023.

The general mechanisms of an SLL – where the interest rate or commitment fee paid on the RCF increases or decreases based on whether a company achieves agreed-on sustainability metrics – give borrowers a financial incentive to attain their targets as part of their corporate sustainability strategy.

In Jetblue's financing, the US airline's borrowing costs depend on whether it achieves a predetermined environmental, social and governance (ESG) score. This score will be provided on an annual basis by independent third-party data specialist Vigeo Eiris, a provider of ESG research and services for investors and other organisations.

"Our owners, many of whom are also crew members, want to see how ESG initiatives are connected to our financials. As the first airline to accomplish this type of transaction, we are directly linking our commitment to addressing environmental and social issues with our bottom line. We are proud of what we have accomplished, but also understand we have more to do in reducing our carbon footprint and meeting the needs of our stakeholders," says Sophia Mendelsohn, chief sustainability officer for Jetblue.

The transaction complements the company's previous sustainability commitments.

In 2020, Jetblue was the first US airline to announce it would operate carbon neutral on all domestic flights by offsetting emissions from jet fuel, ramping up to eliminate more than 17 billion pounds of CO2 emissions a year;

Jetblue will also start flying with sustainable aviation fuel (SAF) on flights from San Francisco. SAF has up to an 80% smaller carbon footprint versus regular jet fuel.

Jetblue has previously placed orders for 70 Airbus A220s powered by Pratt & Whitney geared turbofan PW1500G fuel-efficient engines reducing emissions per seat by 40%.

The SLL transaction built on Jetblue's sustainable finance strategy.

In 2018, the US carrier started formally to review its financial partners' sustainability strategy and commitments, shifting business to financial partners with stronger ESG policies.

The following year, BNP Paribas helped the company move to sustainable cash management by creating tailor-made solutions that meet the airline's ESG and treasury guidelines.

The SLL financing was well received by Jetblue's bank group: the company's nine existing lenders committed to the SLL feature as part of this amendment. As sustainability structuring agent, BNP Paribas advised Jetblue on various SLL options and provided structuring advice.

BNP Paribas' co-head of global banking Americas, Florence Pourchet, says the Jetblue transaction is just one element of the airline's comprehensive ESG and sustainable finance strategy.

"As a leader in sustainable finance," she says, "BNP Paribas is dedicated to working with our corporate clients to identify tailored solutions that align with their specific efforts and commitments toward achieving their ESG goals."

Bank Loan Deal of the Year: Bleriot Aviation **Funding $300m warehouse facility**

Borrower/issuer: Bleriot Aviation Funding DAC
Structure: Non-recourse secured, revolving warehouse facility
Lessor: JLPS Holding Ireland Limited as servicer
Equity sponsors: Airbus Financial Services and JP Lease Products and Services
Banks: BNP Paribas as sole structuring agent, sole global coordinator, agent, account bank and security trustee. BNP Paribas and Credit Agricole CIB acted as joint bookrunners, joint mandated lead arrangers, lenders and hedge counterparties
Lawyers: A&L Goodbody acted as Irish transaction counsel to Bleriot Aviation Funding. Milbank as English counsel to the lenders. K&L Gates as English counsel to Bleriot Aviation Funding as borrower
Amount: $300 million
Tenor: Three years
Date mandated: 1 October 2020
Date closed: 10 November 2020

Airfinance Journal's bank loan-winning transaction is a leading example of increased joint-venture activity in the aviation finance and leasing market in light of Covid-19 with Airbus capitalising on an opportunity to further diversify its business with an aim to develop a foothold in the aircraft leasing market.

Bleriot Aviation Funding, a joint-venture leasing vehicle of JP Lease Products & Services and Airbus Financial Services (a 100% subsidiary of Airbus), entered into a $300 million limited recourse secured warehouse loan facility arranged by BNP Paribas and Credit Agricole Corporate and Investment Bank (Credit Agricole CIB).

JP Lease was appointed as the sole servicer of the joint venture.

The facility has a two-year availability period to 20 December 2022. The final maturity date is 20 December 2023.

This was a significant transaction initially sized at $300 million but with an accordion option feature which if fully committed to would increase the size to $750 million.

It is structured to address the strategic needs of each stakeholder under Covid-affected market conditions. For Airbus, it represents a strategic financing solution for its clients to support the optimisation of its product line delivery schedules during the health crisis.

For JP Lease, one of the major underwriters in the Japanese equity market, it is a conduit to secure aircraft lease transactions with major airlines for future distribution to Japanese investors.

The facility is designed for new-generation Airbus aircraft such as A320neo family, A350 family and A330-900. Its first utilisation was one A320neo delivery to Spirit Airlines.

The transaction had a number of innovative features including on the financing of deferred lease commencement aircraft. It provided the borrower with further flexibility in running its business while also including additional protections for the finance parties.

The timing of the transaction was challenging at a time when a number of warehouse facilities were being restructured. Financiers were more demanding with respect to provisions that they need in the facility documents to better protect their interests.

Structured Lease Deal of the Year: BOCOM Leasing-China Postal Airlines **operating lease for two 737-800s**

Borrower/issuer: Two special purpose vehicles incorporated in Tianjin, China, each a wholly owned subsidiary of Bocom Leasing
Structure: Sell-out, buy-in
Law firms: King & Wood Mallesons as People's Republic of China (PRC) counsel for Bocom Leasing. Han Kun Law Offices as PRC counsel for China Postal Airlines
Assets: Two Boeing 737-800s
Amount: Exceeding $70 million
Lessor: Bocom Leasing as parent of the lessor, namely each Tianjin special purpose vehicle
Date mandated: 8 September 2020
Date closed: 21 November 2020

The 2020 Structured Lease Deal of the Year was innovative for combining with asset trade in order to conduct the conversion in a tax-bonded zone by the relevant maintenance, repair and overhaul company in the People's Republic of China (PRC) and matching the payment requirements to Boeing from customs and the Civil Aviation Administration of China (CAAC) requirements for the conversion.

The two Boeing 737-800 aircraft, previously leased to a Chinese carrier through the Irish special purpose vehicle (SPV) and PRC SPV of Bank of Communications Financial Leasing (BCOML) were returned in 2020.

BCOML leased the two aircraft to China Post Airlines on a back-to-back base together with a simultaneous arrangement of passenger-to-freighter conversion with Boeing.

The transaction marked the first lease deal that achieved the combination of the return of used aircraft in the previous lease and the passenger-to-freighter (P2F) conversion and operating lease in the next lease simultaneously in China.

It was also the first operating lease using the lessee's P2F slot with Boeing by way of assignment (but not novation) of such slot to BCOML's China free-trade zone SPV. The aircraft is the first 737-800 aircraft, with the youngest age, in the passenger-to-freighter conversion programme worldwide.

It was a milestone for BCOML because it expanded into new territories on asset management and disposition of used aircraft in the fleet at the end of its first lease term.

BCOML's induction of such aircraft in to P2F at the beginning of the second lease term, reflects the lessor's excellent performance in risk control in respect of assets management, and ability and capacity in coordinating with other parties and multi-government authorities. It also represents the ability of a Chinese leasing company to access multiple channels to accomplish lease and conversion programme.

The extremely creative sell-out, buy-in structure between the BCOML PRC SPV and Irish SPV was tailored by the BCOML team for the purpose of this deal to overcome the obstacles within, CAAC and customs compliance requirements.

This deal opens up a new era of the passenger-to-freighter conversion and operating lease in China.

Sale and Leaseback Deal of the Year: United Airlines
22 aircraft sale and leaseback

Borrower/issuer: United Airlines
Structure: Sale and leaseback financing
Assets: Six Boeing 787-9 and 16 Max 9 aircraft
Lessor: BOC Aviation
Date mandated: April 2020
Date closed: April 2020

Aviation has been one of the hardest hit sectors by the Covid-19 crisis, which had seen (by April 2020) more than 30 airlines declare bankruptcy protection since the start of the year.

During the onset of the Covid-19 crisis, BOC Aviation proactively contacted its airline customers to provide assistance through the difficult environment. This included various levels of support to help airlines with their liquidity via purchase and leaseback transactions.

United Airlines was the first US airline to make aggressive capacity reductions.

By this time, United Airlines had cut about 80% of its capacity for April 2020 and was taking decisive steps to mitigate the operational and financial impacts of Covid-19 by making deep schedule reductions, drastically reducing spending and aggressively raising liquidity.

This resulted in a sale and leaseback agreement with BOC Aviation for 22 Boeing aircraft in April 2020 that contributed to part of the many steps United Airlines took in mitigating the impacts of Covid-19 on its business.

The transaction comprised six Boeing 787-9 and 16 737 Max 9 aircraft.

The size of this transaction is testament to BOC Aviation's ability to carry out large transactions across multiple aircraft types. It also reflects the speed and agility at which the BOC Aviation team was able to move, and its access to liquidity and high level of management autonomy meant it was able to move quickly to secure some of the most attractive investment opportunities available, focusing on customer selection and improving the credit quality of its portfolio.

Guaranteed Financing Deal of the Year: Skywest Airlines
$80m AFIC-supported financing for four E175s

Borrower/issuer: Skywest Airlines

Structure: AFIC-supported financing

Advisers: AFIC Credit Specialties (of Marsh UK) acted as non-payment insurance adviser to BNDES. AFIC Advisory & Operations (of Marsh USA), as aircraft finance adviser to the AFIC insurers

Insurers: AXIS Capital, as AFIC insurer (risk mitigator) and as insurer representative. Sompo International acted as AFIC insurer (risk mitigator). Endurance Worldwide Insurance Ltd

Banks: Banco Nacional de Desenvolvimento e Social (BNDES) acting through its affiliate, Agencia Especial de Financiamento Industrial. US Bank National Association as security trustee

Lawyers: Clifford Chance, as counsel to the AFIC insurers, Parr Brown Gee & Loveless, as counsel to Skywest Airlines. White & Case acted as counsel to BNDES. Shipman & Goodwin was counsel to US Bank National Association, in its capacity as security trustee

Amount: $80 million

Tenor: 12 years

Date mandated: 21 September 2020

Date closed: 23 December 2020

Aircraft Finance Insurance Consortium (AFIC) closed its first non-Boeing transactions in late December with four Embraer E175 aircraft.

The transaction, covering four deliveries for Skywest, was underwritten by AXIS Insurance and Sompo International. Brazilian Development Bank (BNDES) was the lender.

In the January-February issue of *Airfinance Journal*, AFIC managing director, Robert Morin, said the firm extended its offering to Embraer aircraft last year and recently closed the first AFIC-supported Embraer transaction. "We are willing to support the financing of new or almost-new Embraer E1 and E2 aircraft," he said.

The transaction closed on 23 December 2020 when Skywest took delivery of the four new aircraft in one day. Agencia Especial de Financiamento Industrial (FINAME), an affiliate of BNDES, acted as the lender and provided a 12-year secured loan facility, covered by AFIC's aircraft non-payment insurance (ANPI) policy issued by AXIS Specialty Europe, London Branch, and Endurance Worldwide Insurance Limited.

The transaction marked many firsts.It represents the first expansion of AFIC's product offering to include an additional commercial aircraft original equipment manufacturer. When AFIC was first established in 2017, it exclusively focused on supporting the financing of new and almost new Boeing aircraft. However,

for AFIC to be as successful as possible, the intent was always to expand AFIC's product offering to include other types of aircraft. This is because the AFIC insurers highly value diversity, in terms of aircraft types, the number and types of airlines, airline business models, regions of the world and sources of funding.

The transaction was also the first AFIC-supported financing for an airline based in the USA, as well as the first transaction for a regional airline. It was the first time Skywest Airlines used an AFIC-supported financing.

The deal also marked the first AFIC-supported financing for commercial aircraft funded by an export credit agency (ECA) and the first time BNDES used an entirely private sector risk mitigator (instead of a Brazilian government-supported risk mitigator such as ABGF or SBCE).

Although not a large size, the transaction has the potential to lead to a significant number of follow-on transactions for various regional airlines in the USA. The supported financing also represented a "new aircraft financing tool in the Embraer customer finance team's aircraft financing toolbox".

Tax Lease Deal of the Year: Pegasus Airlines €55m Jolco financing for one A321neo

Borrower/issuer: Pegasus Airlines

Structure: Japanese operating lease with call option

Adviser: ABL Aviation acted as global equity arranger for SBI Leasing Services

Bank: Bank of China

Guarantor: ACG acted as guarantor for the loan amount

Lessor: SBI Leasing Services

Lawyers: Nishimura & Asahi acted as legal counsel to the lessor and equity underwriter. Norton Rose Fulbright as legal adviser to the lender and the facility agent. Smith, Gambrell & Russell as legal adviser to the guarantor. Holland & Knight as legal adviser to the lessee

Amount: €55 million ($67 million)

Term: 12 years

Date mandated: 1 November 2019

Date closed: 9 April 2020

The Pegasus Airlines Japanese operating lease with call option (Jolco) financing of an Airbus A321neo delivery was innovative in many respects.

It was also the first Jolco-financed aircraft with debt guaranteed by Aviation Capital Group (ACG).

In March 2018, ACG launched its Aircraft Financing Solutions (AFS) programme offering an alternative and cost-effective aircraft financing option for airlines. The AFS programme fills a market gap left by export credit agencies, which traditionally offered airlines non-payment guarantees to help support aircraft exports and domestic manufacturers. On the equity side, ABL Aviation's Japanese partner, SBI Leasing Services, provided a competitive source of equity.

The transaction also marked the first aircraft delivered fully remotely from a manufacturer's production line. The innovative process was a result of the challenges raised by the ongoing Covid-19 pandemic. The closing of this transaction took place at a time when the uncertainty surrounding the global pandemic was at its highest and as the majority of Europe, Asia and the USA were in a strict lockdown. The aircraft was due for delivery in April 2020 when most of the participants required to attend were unable to travel. Government restrictions and quarantine requirements posed a major threat to the delivery taking place. ABL Aviation and Pegasus Airlines worked closely with

Airbus to ensure that the delivery could proceed and alternative processes were put in place to overcome all challenges presented by the pandemic.

There are two main stages in the new remote delivery approach. First, the technical acceptance completion (TAC) task was delegated to Airbus to perform, on the airline's behalf, all the necessary actions. TAC, which is a prerequisite for the transfer of title (ToT), includes the ground-check, the acceptance test flight, acceptance manuals and procedures.

Second, the ToT was completed electronically with a remote ToT digital signature. This process obviates the need for any of the airline's staff to be physically present at the Airbus delivery centre.

Operating Lease Deal of the Year: ST Engineering Aerospace Resources A321 aviation fund

Borrower/issuer: Keystone 1 Limited (Guarantor – Keystone Holdings Global Pte)

Structure: Operating lease financing

Bank: MUFG Bank as arranger, lender, facility agent, security agent and fixed-rate provider

Asset: One Airbus A321 and freighter conversion costs

Lessor: Keystone 1 Limited

Lawyers: Vedder Price as counsel to MUFG Bank. Bird & Bird acted as counsel to Keystone Holdings

Date mandated: 15 November 2020

Date closed: 30 December 2020

In early 2020, Keystone Holdings, a joint venture between ST Engineering Aerospace Resources and SJ Aviation Capital, signed a letter of intent with Qantas Airways to undergo a freighter conversion for an Airbus A321 into an A321P2F aircraft.

The parties agreed to continue the lease as a freighter.

The passenger aircraft, which is on lease to the Qantas Group, will be converted by ST Engineering and delivered at the end of 2021.

Lender MUFG had initially financed a portfolio of aircraft, which included a mid-life A321 leased to an Australian operator.

MUFG was in close dialogue with Keystone and provided a creative solution to meet financing requirements. The short timing, at two months, demonstrates MUFG's ability not only

to finance older aircraft, but also a new asset type in the converted freighter space.

The secured conversion and operating lease financing with multiple drawdowns was in line with the conversion payments.

The secured asset-based deal for the conversion of an A321 aircraft to freighter marked the first A321P2F conversion financing.

Keystone Holdings is focused on mid-life narrowbody aircraft.

Used Aircraft Deal of the Year: Altavair/KKR **$600m warehouse facility for 38 aircraft**

Borrower/issuer: Altavair and KKR

Structure: Warehouse facility

Asset: Predefined list of narrowbodies and widebodies

Amount: $600 million

Banks: BNP Paribas and Citi as joint mandated lead arrangers. MUFG acted as lead arranger. BNP Paribas, Citibank, MUFG and Societe Generale acted as lenders

Lessor: Altavair as servicer

Law firms: Pillsbury representing the lenders. Milbank representing Altavair

Date mandated: 15 December 2019

Date closed: 21 February 2020

KKR and Altavair Airfinance agreed to purchase 38 Airbus A330 and Boeing 777 widebody aircraft from Etihad Airways in 2020.

The $1 billion acquisition was made through aircraft leasing investment platform Altitude Aircraft Leasing, which was established by KKR's credit and infrastructure funds in 2018 to acquire aircraft serviced by Altavair.

The aircraft portfolio included Etihad Airways' owned fleet of 777-300ERs and Rolls-Royce Trent-powered A330-300s and A330-200s.

The transaction provides for the 777-300ERs to be leased back to Etihad on purchase, while the Airbus A330s will be delivered over the next 22 months and placed on lease with other international operators for either passenger operations or as converted freighters.

At the time, Altavair's chief executive officer, Steve Rimmer, told *Airfinance Journal* that there was a chance that Altavair will look to convert the A330s (16 -200s and six -300s) in the "near term", but foresees a "reasonable amount of passenger demand" too. "Airlines are getting scared of technological risk with new aircraft and reasonably priced proven aircraft are becoming attractive. Where else can you get 22 sistership aircraft without going to the OEM [original equipment manufacturer]? Airlines like to look at a baseline consistent standard even if they intend to reconfigure," he says.

The lessor will also consider at 777-300ER conversions.

Altavair obtained a $600 million aircraft secured warehouse facility to fund partly the $1 billion acquisitions.

The transaction was characterised by a prompt closing and signing at the beginning of the Covid-19 pandemic, with funding during the pandemic's spread with strong credit-standing lessees and young narrowbody aircraft for a good share of the portfolio (in addition to the widebody aircraft from Etihad Airways).

In the wake of the unfolding pandemic, Altavair has successfully managed to ramp-up the warehouse with strong lessees and for new-generation aircraft for a good portion of the portfolio.

Cargo Deal of the Year: Fedex **$970m EETC for 19 freighter aircraft**

Borrower/issuer: Federal Express

Structure: Enhanced equipment trust certificate class 2020-1AA certificates

Assets: 13 Boeing 767-300 freighters and six 777 freighters

Amount: $970 million

Banks: Citi, Deutsche Bank and Morgan Stanley acted as joint structuring agents and lease bookrunners. BNP Paribas acted as joint bookrunner

Law firms: Davis Polk acted as counsel to the issuer. Milbank represented the underwriters

Date mandated: 1 May 2020

Date closed: 13 August 2020

As a part of the airline's efforts to diversify its investor base and take advantage of the attractive rates in the enhanced equipment trust certificate (EETC) market, Federal Express (Fedex) successfully issued a $970 million class-AA tranche in the second quarter of 2020.

This transaction achieved several firsts for Fedex and the broader market. The class-AA notes were issued with a 13.5 years final maturity and an 8.8-year average life at 55.1% loan-to-value (LTV). Not only did Fedex issue the only AA tranche during the Covid-19 pandemic (at the time), but also achieved the highest LTV for that rating category.

Despite the challenging marketing environment, Fedex 2020-1 class AA generated significant investor demand and upsized from $670 million to $970 million. The final orderbook was about 2.4x oversubscribed, with a significant portion of orders from investment-grade, high-quality investors. The transaction was ultimately allocated to 84 investors, a significant portion diversifying Fedex's investor base and can be leveraged for future EETC issuances.

Investor demand helped to achieve a 1.875% coupon, the tightest EETC coupon since 1994. This execution level

demonstrated the resiliency of demand in the EETC market.

Fedex 2020-1 marked the re-establishment of the company's EETC programme, allowing it to diversify its investor base and financing sources.

The transaction refinanced 13 Boeing 767-300 freighters and six 777-200Fs, with a combined weighted average age of 2.3 years, marking the first time these two aircraft types featured in this type of financing.

Fedex 2020-1 is the first freighter-only EETC in nearly two decades and the first Fedex new issuance since 1999.

New Fund/Alternative Financing Platform of the Year: Castlelake up to $5bn Boeing aircraft fund

Borrower/issuer: Castlelake

Structure: Secured loan

Amount: Up to $5 billion

Tenor: Initial two years partnership with two-year extension

Date mandated: 9 July 2020

Date closed: 9 November 2020

Castlelake worked closely with Boeing to develop, structure and execute a customer financing programme whereby the firm would commit up to $5 billion in capital for new Boeing commercial aircraft deliveries through senior secured financing, mezzanine financing and high loan-to-value finance leases.

As part of the agreement, Castlelake holds full discretion over which deals the firm pursues and the terms of those transactions. This allows Castlelake to analyse deals on a case-by-case basis and provide the best possible bespoke financing solutions.

Castlelake's deep sector expertise and experience thoughtfully designing specialised financing structures enabled the investment team to finalise this collaboration with Boeing in four months, and sign the definitive documentation on 9 November 2020.

Castlelake designed the aircraft financing collaboration with Boeing to fill the new delivery financing gap via committed capital dedicated to particularly high loan-to-value (LTV) lending which helps solve the risk pullback at commercial banks and liquidity crisis at airlines. This also helps the global fleet transition from older technology to newer, more fuel-efficient and environmentally friendly aircraft.

The offerings under this financing include first lien senior secured at 65%-75% LTV, high LTV first lien secured unitranche financing at 90%-95% and LTV, mezzanine secured financing through 90%-95% LTV.

The initial two-year partnership includes an option to extend for an additional two years. The airline financing shall be provided for five to 12 years.

The unprecedented pandemic and subsequent economic fallout of 2020 have caused what many would consider to be the airline industry's most severe dislocation in history. For Castlelake, finding a meaningful investment opportunity that has the capacity to withstand continued uncertainty proved difficult, but not impossible, as the firm remained steadfast in its commitment to source attractive investments.

The largest ongoing obstacle is raising the capital to fund this venture, which Castlelake is confident it will be able to achieve through many conversations with its investor base and other deep relationships. Castlelake's aviation presence in investing and servicing track record spans 15 years across more than 650 aircraft and $15 billion of capital.

Equity Deal of the Year: Norwegian Air Shuttle $1.6bn recapitalisation

Borrower/issuer: Norwegian Air Shuttle

Structure: Debt-for-equity swap

Amount: $1.6 billion

Lessors: More than 20 leasing companies involved

Banks: DNB Bank acted as arranger of the Norwegian state-supported loan. DNB Bank ASA, Sundal Collier and Danske Bank (Norwegian Branch) acted as managers for the equity issuance

Lawyers: Hogan Lovells advised Norwegian Air Shuttle. BAHR acted as Norwegian counsel, Matheson as Irish counsel to Norwegian Air Shuttle. Thommessen acted as counsel to the managers. A number of other firms were involved advising the various lessors, including Clifford Chance, Norton Rose Fulbright, Vedder Price, Bird & Bird and McCann Fitzgerald

Restructuring and financial adviser: Seabury Securities

Date mandated: 1 March 2020

Date closed: 20 May 2020

Already overindebted and undercapitalised at the start of 2020, and with revenues plummeting as a result of the Covid-19 crisis, Norwegian Air Shuttle's cash reserves were rapidly running out.

With no alternative sources of funding readily available, support from the Norwegian state was crucial to the airline's ability to survive. But the Norwegian government made it clear that its support was conditional on the airline raising new equity and more than doubling its equity ratio to 8%. This required Norwegian and its advisers to produce an innovative solution that would meet the government's requirements while also restructuring the airline's balance sheet, all to be achieved in the few weeks before the carrier's cash ran out.

It was against this background the innovative lessor debt-for-equity scheme was devised. In normal circumstances, it is extremely uncommon for lessors to take equity in their airline customers, but Norwegian was able to take advantage of the unique market situation resulting from Covid-19 to persuade its lessors that this innovative proposal was the best option available to them.

More than $1.25 billion of liabilities from Norwegian's balance sheet were converted to equity, including over $900 million of lease liabilities involving more than 20 separate leasing companies.

As a result, Norwegian's equity ratio increased to 17% following completion of the recapitalisation from about 4.8% at the turn of the year. This significantly exceeded the 8% requirement imposed by the Norwegian government.

The initial ask to Norwegian's lessors, while bold and innovative, was fundamentally simple – rent reductions and power-by-the-hour rental in return for equity in the airline.

The complexity arose from tailoring this generic ask to the specific requirements and concerns of each of the 20 or more lessors involved, while remaining within the constraints imposed by Norwegian securities law, by the deals agreed with the bondholders and by the requirements associated with Norwegian government support, and negotiating all of this to completion within the required timeline.

Norwegian's recapitalisation and lease restructuring was the first by any significant sized airline after the start of the Covid-19 crisis.

M&A Deal of the Year: Bain Capital A$3.5bn recapitalisation and restructuring of Virgin Australia

Structure: Asset sale
Amount: A$3.5 billion ($2.7 billion)
Assets: Aircraft, spare engines, flight simulators, rotable components
Lawyers: Herbert Smith Freehills acted as advisers to Bain Capital. Clayton Utz acted as advisers to Deloitte, as administrators
Advisers: Alton Aviation Consultancy advised Bain Capital. Additional advisers included Korda Mentha, 333 Capital, Norton White, Paul Weiss, Bain & Co, Goldman Sachs
Date mandated: 15 April 2020
Date closed: 17 November 2020

Bain Capital completed its landmark acquisition of Virgin Australia Group after the iconic business fell victim to the global pandemic and entered voluntary administration on 21 April 2020 with about A$6.8 billion ($5.3 billion) in debt owing to a broad and diverse group of stakeholders.

The corporate rescue of Australia's second-largest airline represented the largest of its kind in the past two decades. With the future of the airline and its 9,000 employees and 12,000 creditors at risk, it was one of the highest-profile and most complex deals of 2020 and of the past decade.

Initially, there were 20 interested parties, but the administrator shortlisted this to four bidders.

On 26 June, Bain Capital was named the successful bidder in a highly publicised process run by the voluntary administrators and their advisers, which culminated in the signing of a binding agreement for the sale of the Virgin Australia business.

The 10 deeds of company arrangement proposed by Bain Capital at the second meeting of creditors of the Virgin Australia companies were overwhelmingly approved by the creditors and, on 17 November 2020, were fully implemented, with Virgin Australia emerging from external administration as a recapitalised business under Bain Capital's ownership.

The transaction was structured as an asset sale with an undertaking from Bain Capital to put forward a deed of company arrangement (DOCA) proposal at a premium price for creditors to vote on at the second creditors' meeting. This was an innovative structure which ensured that Bain Capital was assured of securing ownership of the business at the time of ongoing economic risk ahead of the creditor vote, and that Bain Capital could therefore provide execution certainty for all stakeholders.

The multiple DOCA structure also ensured that the business could still be successfully acquired by Bain Capital if the creditor vote succeeded for some entities and not others, by enabling completion of the sale through a combination of DOCAs and asset sales (although that was not ultimately required).

Virgin Australia's emergence from administration after about seven months is viewed as one of the fastest turn-arounds in the context of airlines and Australian companies.

Lessor Unsecured Bond Deal of the Year: Aercap $1.25bn bond issuance

Borrower: Aercap Ireland Capital DAC, Aercap Global Aviation Trust
Structure: Unsecured bond
Amount: $1.25 billion
Tenor: Five years
Banks: Citigroup Global Markets, Deutsche Bank Securities, HSBC Securities (USA), Mizuho Securities USA and Morgan Stanley are served as joint bookrunning managers for the underwritten public offering. Credit Agricole, Goldman Sachs, MUFG, Societe Generale and TD Securities were passive bookrunners. Citizens Capital Markets, Fifth Third Bank and Scotiabank were co-managers
Lawyers: Cravath, Swaine & Moore acted as counsel for the issuers. Simpson Thacher & Bartlett acted as advisers to the underwriters
Auditor: PricewaterhouseCoopers
Date mandated: 3 June 2020
Date closed: 8 June 2020

On 3 June 2020, Aercap, via issuers Aercap Ireland Capital DAC and Aercap Global Aviation Trust, priced $1.25 billion of five-year fixed-rate senior unsecured notes at a yield of 6.75%.

After the Covid-19 pandemic dislocation, while secondary trading levels in many sectors recovered following Fed action in April, the lessor complex remained illiquid, inverted and elevated despite many leasing companies demonstrating sufficient liquidity to weather the storm.

Following the announcement and initial price talk at 8.25% yield, the orderbook began to grow quickly and peaked at $11.1 billion (9x oversubscribed). With only marginal drops, the transaction was upsized to $1.25 billion from an intended $750 million size. It launched at 6.75% yield, 0.125% through the lower end of guidance. The 150 basis points (bps) movement over the course of the day resulted in an outcome that was 50bps inside of the company's secondary trading.

The transaction represented the lessor's first bond issuance post-Covid-19.

In a relatively short period of time, Aercap was able to generate a high-quality orderbook with more than 250 final investor orders ahead of pricing. It first mandated Deutsche Bank on 4 March, days before Black Monday (9 March) and the height of the Covid-19 market dislocation.

Aercap proceeded to put the transaction on hold twice over three months before the issuer and lead bookrunners deemed the market firm enough to launch a transaction.

Aercap and the bookrunners needed to thread the needle between initial price thoughts based on illiquid secondaries and the ability to price through the curve in the event of proven investor demand.

The offering represented Aercap's largest-ever senior debt tranche and set a new benchmark at about 50bps inside of where their curve was trading in the secondary market for a five-year issuance.

Airline Unsecured Bond Deal of the Year: Etihad Airways **$600m sukuk**

Borrower/issuer: Unity 1 Sukuk Limited (Etihad Airways)

Structure: Unsecured bond

Amount: $600 million

Tenor: Five years

Banks: HSBC and Standard Chartered Bank acted as joint global coordinators and joint sustainability structuring agents. Abu Dhabi Islamic Bank, Dubai Islamic Bank, Emirates NBD Capital, First Abu Dhabi Bank, HSBC and Standard Chartered Bank acted as joint lead managers and bookrunners. Abu Dhabi Commercial Bank acted as joint lead manager

Lawyers: Clifford Chance acted as counsel for the issuer. Allen & Overy acted as legal adviser to the banks

Adviser: Mashreq Bank

Date mandated: 1 September 2020

Date closed: 3 November 2020

In November 2020, Etihad Airways issued its inaugural $600 million sustainability-linked transition sukuk transaction coupled with a tender for liability management (early redemption) of $300 million of 2021 sukuk maturity.

The transaction marked the first sustainability-linked issuance for the aviation sector, first transition issuance for the aviation sector, first combination of transition and sustainability linked issuance globally including conventional bonds and sukuk markets, new ratchet structure for issuer pay-outs (in this case, purchase of carbon offsets) and the first sustainability-linked bond structure to adopt purchase of carbon offsets instead of coupon step-ups.

The use of carbon offsets purchased under the Carbon Offsetting and Reduction Scheme for International Aviation (Corsia) above and beyond Etihad's existing commitments was an innovative structure that is well-received by investors. This format, which responds to general concerns around sale and leaseback structures, seems to reward investors for issuers' failure to meet sustainability performance targets (SPT).

The viability of this structure is demonstrated by how this model is later adopted by new world development's sustainability-linked bond framework, released in 2021. The SPT seeks to achieve 20% reduction in emissions intensity (CO_2/RTK) in its passenger fleet by 2025 from a 2017 baseline, contributing to Etihad's overall decarbonisation trajectory toward net zero. Etihad Airways' SPT trajectory up until 2024 exceeds the Corsia target to reduce emissions intensity by 2% a year to 2050 using a 2010 baseline and below transition pathway initiative's International Pledges Scenario.

In an interview with *Airfinance Journal*, Etihad Airways' group treasurer, Daniel Tromans, said: "What we have seen has been well received by investors and the market by having elements like the key parameter indicators link when you have some real skin in the game that make that real commitment."

In terms of use of proceed, Etihad Airways is financing the next generation of aircraft, specifically its fleet of Boeing 787-9/10 aircraft.

Tromans says that Etihad is looking towards other products with partners to develop green sustainable trade finance looking at a green letter of credit and sustainable supply chain finance options.

EETC Deal of the Year: United Airlines **352-aircraft $3bn Series 2020-1 Class A notes**

Borrower/issuer: United Airlines

Structure: Enhanced equipment trust structure with single equipment note

Amount: $3 billion

Banks: Goldman Sachs acted as structuring agent and lead left bookrunner. Citigroup, Barclays, JP Morgan, Morgan Stanley and BofA Securities acted as bookrunners

Lawyers: Hughes Hubbard & Reed as the issuer's counsel. Milbank acted as the underwriters' counsel

Date mandated: 20 October 2020

Date closed: 28 October 2020

United Airlines' $3 billion enhanced equipment trust certificates (EETC) transaction was the largest issuance.

The structure consisted of a single equipment tranche secured by a collateral pool comprised of more than 350 aircraft, 99 engines and substantially all of United's spare parts.

The transaction provided significant liquidity to United during the Covid-19 crisis, used in part to refinance short-term debt.

The transaction marked the first time an EETC was secured by a single pool of collateral comprised of aircraft, spare engines and spare parts.

It was the first EETC in about 15 years with multiple liquidity facility providers in a single class, with all the collateral Section 1110 eligible.

The single collateral pool comprised of substantially all of United's unencumbered aircraft and spare engines, and substantially all of its spare parts required enhanced diligence and rating agency process.

The transaction required bespoke structuring and non-traditional EETC features such as single equipment note and unique set of covenants to accommodate an off-the-run collateral pool, with weighted average age of 19 years.

The transaction was well received, with early momentum and significant oversubscription, allowing Goldman Sachs to optimise the transaction terms. It resulted in a tightened pricing to 5.875% versus talk of mid-to-low 6%s.

The successful syndication resulted in a high-quality and diverse orderbook, with strong demand from investment-grade, high-yield and structured products investors.

The transaction was distributed to 123 investors, with the top 10 comprising about 72% of the orderbook.

It included a loan-to-value test for each collateral group, which is a rare feature in EETC issuances.

Based on initial maintenance adjusted half-life base values, the initial loan to values for the class-A certificate is 51.6%, with an expected final maturity of seven years. Weighted average life is 4.1 years.

ABS Deal of the Year: WEST V $366.7m ABS for 57 engines

Borrower/issuer: Willis Engine Structured Trust V

Structure: Three tranche asset-backed securities

Amount: $366.69 million

Tenor: Eight years

Banks: BofA Securities acted as sole structuring agent and joint lead bookrunner. MUFG and Wells Fargo acted as joint lead bookrunners

Lawyers: Milbank and Norton Rose Fulbright acted as co-counsel for the issuers. Pillsbury Winthrop Shaw Pittman acted as counsel for the underwriters

Date mandated: 9 December 2019

Date closed: 3 March 2020

Willis Lease Finance Corporation (WLFC), through Willis Engine Structured Trust V, raised $366.2 million debt through the issuance of a three-tranche structure.

The notes issued are secured by lease payments and disposition proceeds on a pool of 54 aircraft engines and three airframe, with 24 unique lessees in 17 unique countries, acquired by WEST V from Willis Lease Finance Corporation (WLFC) and certain affiliates.

Of the 57 initial assets, 29 were already owned by Willis Engine Securitization Trust II (WEST II) and being refinanced with this transaction.

The $303 million A tranche featured a 72% loan to value (LTV). The $42.1 million B tranche and the $21.1 million C tranche had 82% and 87% LTVs, respectively.

Weighted average life is 6.5 years, 6.5 years and four years, respectively, for an eight-year anticipated repayment date.

WEST V represented the first time the issuer closed a three-tranche structure with a total size of $366.7 million.

The transaction featured a series-C reserve account to cover shortfalls on payments of series-C note interest and principal up to and including the expected maturity date of the senior notes.

The account will be initially unfunded and build to a target of $1 million from available collections. The account will be replenished back to its target amount following any drawings.

WLFC acted as sponsor, servicer and administrative agent in the transaction. WEST V was the fifth aircraft engine operating lease asset-backed security (ABS) trust sponsored by WLFC.

Consistent with the previous WEST transactions, during the rapid amortisation event, senior scheduled principal payments are by-passed to prioritise, first, series-A notes and than the B notes, which differs from many peer aircraft ABS transactions.

Similar to WEST IV, airframes are included in the portfolio, while the maintenance ratio trigger event remains, which differs from other aircraft ABS transactions.

The marketing of the transaction was challenging, being just before the outbreak of the Covid-19 pandemic.

With a strong execution and pricing in under three days, WEST V represented the lowest all-in debt cost for an aircraft ABS transaction as of February 2020, right before the global pandemic and about 140 basis points tighter than WEST IV.

News Event of the Year: GECAS-PIMCO $3bn aviation fund

Borrower/issuer: Gilead Aviation (Warehouse) DAC

Equity sponsors: GECAS and PIMCO

Lawyers: A&L Goodbody acted as Irish counsel to GECAS. Clifford Chance acted as US counsel to GECAS. Milbank served as US counsel to PIMCO. Walkers acted as Irish counsel to PIMCO

Amount: $3 billion

Tenor: January 2026

Date mandated: 19 October 2020

California-based fix-income investor PIMCO and GECAS established a $3 billion aviation leasing platform in October 2020.

The transaction creates a strategic investment platform to enable GECAS- and PIMCO-advised accounts to acquire new and young fuel-efficient aircraft to meet the needs of a diverse set of global airlines.

The deal involved a bespoke investment structure development to meet both PIMCO's and GECAS's detailed investment criteria and funding requirements.

GECAS and PIMCO have identified an area to be filled post-Covid-19 pandemic where a diverse and global set of airlines will need new and young fuel-efficient aircraft. The new entity will provide "much-needed" financing to carriers which are looking to upgrade their fleets with young and new aircraft.

GECAS will source transactions for the platform, act as servicer and provide asset management services.

While the new platform will initially focus on narrowbody aircraft, it will also have the flexibility to invest in "attractive opportunities" in the widebody market. The establishment of the platform is dependent on regulatory approval and customary closing conditions.

The transaction involved raising third-party debt and equity in addition to the investment from PIMCO-advised funds and GECAS.

The transaction will inject essential liquidity into this critical industry by providing financing solutions at a time when there are fewer traditional financing options for airlines.

"As the airline industry struggles with the effects of the Covid-19 pandemic, the PIMCO-GECAS platform will inject essential liquidity into this critical industry by providing financing solutions at a time when there are fewer traditional financing options for airlines," says Dan Ivascyn, PIMCO's group chief investment officer.

"Aircraft remain an attractive asset class in a critical infrastructure sector supported by solid long-term growth drivers," he adds. "GECAS's expertise as a world-class aircraft lessor aligns with our longstanding investment strategy in aviation finance."

Editor's Deal of the Year: Castlelake Lessor Term Financing

Borrower/issuer: CISec Holdings 22 T LLC

Structure: $420 million class-A notes, $64 million class-B notes

Banks: Certain client accounts managed by Guggenheim Investments are noteholders. UMB acted as security trustee and administrative agent

Lawyers: Milbank served as adviser to the noteholders. Vedder Price acted as adviser to the borrower and issuer

Amount: $485 million

Date mandated: 11 August 2020

Date closed: 13 November 2020

The sale and leaseback market, and consequently the financing market for sale and leasebacks, became very active during 2020. This transaction, however, was totally innovative because it combined technology from both traditional airline enhanced equipment trust certificate transactions and aircraft asset-backed securities transactions to create a new structure that appeals to a variety of investor types.

CISec Holdings 22 T LLC, a newly-formed special purpose company owned by certain funds managed by Castlelake, acquired two Airbus A350-900s, two A330-900neos and three A321-200ceos from Delta Airlines under a purchase and leaseback transaction.

The company borrowed the loans from a newly-formed special purpose limited liability company that, in turn, issued class-A notes and class-B notes to certain client accounts managed by Guggenheim to fund the loans.

It marked the first lessor secured notes financing using this innovative structure in almost a decade.

The transaction required a rateable instrument and drove the development of a new and innovative structure, building off familiar EETC technology, to accommodate both the lessor's financing needs and investor requirements.

Like a typical airline EETC, a default under the loans will provide the lenders, through the noteholders, the opportunity to exercise remedies. However, no event of default under the notes will occur unless interest on the notes is not paid or principal is not paid on final legal maturity. Interest on the notes is supported by a payment-in-kind feature for up to 18 months.

The borrower, the issuer and the aircraft and related leases are serviced by Castlelake.

The deal was negotiated and executed in a very short period of time with all documents being negotiated and the transaction being funded in less than four weeks. This is particularly notable taking into consideration the novel structure and lack of precedent documentation.

Overall Deal of the Year: United Airlines $6.8bn Mileage Plus Programme

Borrower/issuer: Mileage Plus Holdings, LLC

Structure: High-yield bonds and senior secured institutional term loans

Banks: Goldman Sachs Lending Partners acted as sole structuring and lead left arranger and bookrunner. Morgan Stanley acted as joint lead arranger and bookrunner

Lawyers: Milbank, Mayer Brown acted as counsel to Goldman Sachs. Kirkland & Ellis acted as counsel to United Airlines

Amount: $6.8 billion

Tenor: Seven years

Date mandated: 2 March 2020

Date closed: 14 July 2020

The United Airlines $6.8 billion Mileage Plus Programme transaction had all the ingredients to win the year's Overall Deal of the Year award.

Covid-19 decimated the airline industry. United Airlines' revenue plummeted, creating a $1.6 billion second-quarter loss compared with a $1 billion profit in the 2019 corresponding quarter. With expenses of more than $40 million a day, the airline needed to raise cash. One source of untapped value for the airline was its frequent-flyer programme, which generates $5 billion in annual revenue through its co-branded credit cards and other commercial relationships.

The first-of-its-kind transaction, pioneered by Mayer Brown, Milbank, Goldman Sachs and the United team, marked the first financing backed by a US airline loyalty programme, helping the US carrier to obtain cost-effective financing backed by its core asset.

At $6.8 billion, the financing is one of the largest in aviation history and is an hybrid transaction that melds concepts from corporate loan and bond transactions and from structured finance products, providing parent-level credit support as well as safeguards protecting the transaction and collateral in the event United files for bankruptcy. No other airline had previously leveraged its frequent-flyer programme in such a fashion.

The transaction was complex because the loyalty programme intellectual property was transferred to a special purpose subsidiary. Mayer Brown, with help from co-counsel Milbank, devised a structure that legally isolates United's Mileage Plus subsidiaries, including the entities party to its Mileage Plus-related co-branding agreements and intellectual property.

As a result, were United to default on this debt, it would be very difficult for the company to launch a new frequent-flyer programme post-bankruptcy. Instead, United has a strong incentive to continue making debt payments even in the event of a bankruptcy filing.

The structure allowed the loans and bonds to obtain a higher credit rating than would a financing that is unsecured or secured by other airline assets. United's credit rating is considered speculative non-investment grade. These bonds were issued at 6.5% (investment grade) and the deal was upsized because of investor demand.

The challenge was to create a structure that protected collateral and gave the airline better pricing terms while still ensuring the airline could operate its loyalty programme. Lead arrangers underwrote financing prior to syndication because of volatile market conditions in June 2020; however, the syndication of the bonds and loans was extremely successful, garnering significant market attention and investor orders.

Overall Capital Markets Deal of the Year: SAPA 2020-1 $620m ABS for 21xA/c

Borrower/issuer: Sapphire Aviation Finance II Limited and Sapphire Aviation Finance II LLC

Servicer/manager: Avolon

Structure: Three-tranche asset-backed securities

Banks: Mizuho Securities acted as left lead structuring agent and left lead bookrunner. Mizuho Securities USA and Deutsche Bank Securities acted as joint lead structuring agents and joint lead bookrunners. Credit Agricole Securities (USA) and MUFG Securities Americas acted as joint lead bookrunners. BNP Paribas Securities and Morgan Stanley acted as joint bookrunners. Natixis Securities Americas acted as a co-manager. Credit Agricole CIB acted as liquidity facility provider. UMB Bank acted as trustee, security trustee, operating bank and paying agent. Canyon Financial Services acted as managing agent

Lawyers: Milbank, Clifford Chance advised Avolon, the issuers and the certificate issuer. Milbank acted as counsel to the initial purchasers

Amount: $620 million

Date mandated: 11 September 2019

Date closed: 14 February 2020

SAPA 2020-1 represents Avolon's second asset-backed securities (ABS) transaction of the Sapphire vehicle after SAPA 2018-1. Such vehicles attract strong investor demand to the aircraft market.

The issuance comprises $490 million of 3.228% series-A fixed-rate notes, issued at a 3.25% yield, and a 65.6% loan-to-value (LTV).

The $86 million of 4.335% (4.375% yield) series-B fixed-rate notes have a 77.1% LTV.

Both tranches amortise on a 13-year straight-line schedule.

The $44 million 6.779% (6.875% yield) series-C notes have an 83% LTV and amortise on a seven-year straight-line schedule.

Libremax Capital was selected as the anchor investor in the equity certificates offered. The New York-based hedge fund committed to keep at least 20% of the equity certificates for two years and 10% for a third year. Avolon's interests were fully aligned with investors through a 9.5% equity retention, as well as a profit-sharing agreement starting when equity investors reach a 12% internal rate of return.

The transaction was well received during marketing, enabling Avolon to tighten its all-in yield by 1% since the last Sapphire issuance in 2018 despite extending the weighted average life of the notes.

SAPA 2020-1 represented the lowest blended yield across the entire debt stack in this post-financial crisis vintage of issuance. The 3.25% for A-rated aircraft ABS represented the lowest yield across all aircraft ABS A-rated bonds. The 375% for BBB-rated aircraft ABS was the joint lowest yield across all aircraft ABS BBB-rated bonds.

SAPA 2020-1 attracted strong investor demand with oversubscription occurring across all tranches, particularly within the senior part of the capital structure.

Despite announcing the transaction at price guidance, overwhelming demand for all the As and Bs enabled Mizuho to test at a lower yield of 3.25% for the A notes. The transaction recorded 39 unique investors across the capital structure. The A tranche was 5.1x oversubscribed, the B tranche 5.9x oversubscribed while the C tranche was fully subscribed.

The debt is backed by a diversified portfolio of aircraft with a weighted average age of 7.5 years and a weighted average remaining lease term of 6.4 years.

The portfolio is comprised of 18 narrowbody and three widebody aircraft on lease to 19 lessees, with 47% exposure to national flag carriers.

Innovative Deal of the Year: American Airlines $1bn bond issuance

Borrower/issuer: American Airlines

Structure: Secured senior notes

Banks: Street Strategic Solutions Fund I, and Broad Street Credit Holdings LLC, each of which is an affiliate of the merchant banking division of Goldman Sachs Group (Goldman Sachs Purchasers). Goldman Sachs acted as sole placement agent and bookrunner

Lawyers: Milbank as counsel to the Goldman Sachs purchasers. Latham Watkins as counsel to American Airlines

Amount: $1 billion

Tenor: 5.5 years

Date mandated: 1 July 2020

Date closed: 20 September 2020

The year 2020 required airlines to get creative in unlocking attractive assets to bolster liquidity. This was an important initiative for American Airlines and it demonstrated to lenders that there was untapped and arguably unappreciated assets in corporate brands.

The transaction was one of the first airline financings significantly to leverage brand and trademark intellectual property (IP) in the airline sector. It also represented the largest private placement in the USA by any investor in the airline sector.

American Airlines structured a $1 billion secured notes issuance with Goldman Sachs Merchant Bank with the company's corporate brand and IP as the underlying collateral.

The senior notes are secured by a first lien on the American Airlines trademark and aa.com domain name in the US and some foreign jurisdictions (the IP notes).

Derek Kerr, American's chief financial officer, said the company's IP was worth about $10 billion.

Another $200 million in senior notes (the LGA/DCA notes) are secured by a second lien on certain slots at New York's LaGuardia airport and Washington's Reagan National airport.

The notes are guaranteed by American Airlines Group, and mature about five-and-a-half years after issuance. They will bear interest at a rate of 10.75% a year, subject to certain rights of the company during the first two years the notes are outstanding, at its election, to pay interest at a rate of 12% a year payable one-half in cash and one-half in kind through the issuance of additional notes.

The transaction was a unique use of a valuable and previously unfinanced asset – the corporate brand.

It was also the first-of-its-kind brand intellectual property and take-off/landing slot financing.

The innovative second lien structure takes advantage of capacity under existing financings.

The $1 billion size allows an additional $4 billion of first lien capacity against the collateral.

Aviation Finance House of the Year: BNP Paribas Aviation Finance Franchise

The Covid-19 pandemic dealt a heavy blow to people's daily lives, on the economy at large and on the aviation sector as travel restrictions and national lockdowns pressured most of the passenger travel operators to reduce capacity or completely shut down for several months.

As the crisis deepened, several financiers and liquidity providers, paused or reduced their exposure or exited the aviation market, fearing a protracted hit to the market and to their returns.
As per its long-standing support to the market, BNP Paribas strongly reaffirmed its commitment towards aviation during 2020, by providing key support as early as a few weeks into the crisis, and supporting its core clients throughout a wide range of financing solutions, most of them specifically tailored or readjusted to tackle the unexpected challenges its clients were facing.

As can be seen in its transactions, the downturn of the aviation market did not stop BNP Paribas from taking part in more than $100 billion-worth of aviation-related financing products, representing more than double the size of 2019's deal flow.

This volume excluded any deals for which the bank performed restructuring or deferrals as a consequence of the Covid-19 crisis.

BNP Paribas underwrote $6.5 billion (up 4% year on year) of financings, and kept final takes of $4.4 billion (up 1% year on year).

The financier executed every type of financing transaction, including term loan, limited recourse financing, Murabaha term loan, warehouse facility, Japanese operating lease with call option (Jolco), French lease, Insurance-supported financing (Balthazar and AFIC), unsecured revolving credit facility, commercial loan, recourse portfolio financing and state-guaranteed loan on a total of 35 airlines.

The total volume of deals is mainly attributable to the liquidity needs the entire aviation sector has faced (airlines, original equipment manufacturers and lessors), which resulted in sizeable unsecured issuances (ie, $9 billion Skymiles securitisation and $5 billion high-yield notes and term loan B by Delta Air Lines, £5 billion – $7.1 billion – Rolls-Royce package, etc), alongside a wide range of rights issuances, at-the-market sales and convertibles (Easyjet, Cathay Pacific Airways, American Airlines, Lufthansa, etc), innovative portfolio structures (Bleriot Aviation Funding and Titan Aviation warehouses, Qantas's enhanced corporate loan, etc), sizeable and complex secured facilities (AFIC and Balthazar French leases with Turkish Airlines, Balthazar financing with Pegasus Airlines, which introduced Airbus's remote delivery procedures for the first time, Jolcos with AF-KLM, LATAM and Cathay, etc), added to the bank's continued commitment towards environmental, social and governance objectives through Jetblue Airways' $550 million sustainability-linked revolving credit facility.
Once again, BNP Paribas has proven – during a difficult period nonetheless – its ability to cater to its aviation customers' needs, providing innovative products in record time and efficiency, within a complex environment that continues to challenge the industry, operators and financiers.

Lifetime Achievement Award: Phang Thim Fatt

Phang Thim Fatt is the former deputy managing director and chief financial officer of BOC Aviation.

He stood down from the position on 30 September 2020 but remained with the company to ensure a smooth transition of his duties until his retirement three months later on 31 December. Thim Fatt's role included overseeing the finance, treasury, tax and risk departments.

Since Bank of China's acquisition in December 2006, Thim Fatt and his team have raised more than $31 billion in debt, with an average return on equity of 15%. At the time of his departure, BOC Aviation had reported $4.7 billion of cumulative profits since inception.

He joined the company in 1996 as chief financial officer and was appointed deputy managing director of BOC Aviation in July 2001. He graduated from the University of Malaya in Malaysia with a Bachelor's Degree in Economics (First Class Honours).

He worked with Robert Martin, managing director and chief executive officer, since 1998. This partnership successfully managed the group through multiple industry cycles.

Since 2000, its debt capital markets activity has allowed it to access multiple bond markets, including the Regulation S market, the offshore Chinese yuan bond market, the Singapore, Hong Kong SAR and Australian dollar bond markets and the US Rule 144A international market.
Over the years, BOC Aviation has demonstrated its ability to diversify into new sources of capital to fund its growth. The lessor has raised more than $8.2 billion in debt capital markets financing since 2000.

BOC Aviation was one of the few aviation success stories in 2009, and some prudent financial planning by Fatt Phang allowed the company to capitalise on the downturn in 2010.

In the aftermath of the financial crisis, BOC Aviation launched a $300 million multicurrency medium-term notes programme. Over the subsequent years, it tapped the debt market in Singapore dollars, US dollars, Australian dollars issuances, as well as reminbi-denominated currencies.

BOC Aviation priced its debut $500 million five-year senior unsecured notes at 2.875% in 2012. The notes were part of a $2 billion euro-denominated medium-term notes programme, which was launched in September 2012. At the time, debt capital markets financing represented only 5% of BOC Aviation's financing activity, according to Thim Fatt.

In 2015, the Singapore-based lessor priced its first issuance of Rule 144A/Regulation S $750 million notes under its $5 billion global medium-term note (GMTN) programme.

In 2015, BOC Aviation performed its first portfolio sale in the capital markets with the Shenton Aircraft Investment I Limited asset-backed securities (ABS) transaction. BOC Aviation returned to the ABS market in 2021 with another transaction, Silver Aircraft Lease Investment Limited.

In 2016, BOC Aviation closed a $1.5 billion unsecured syndicated revolving credit facility, increased from an initial launch size of $1 billion. The facility, which comprised two $750 million tranches with tenors of three years and five years, respectively, was the largest financing transaction closed by the lessor.

The lessor had already prepared for an expected downturn in 2020 and had put additional liquidity in place during 2019. In addition, it increased the GMTN programme's limit to $15 billion from $10 billion in the first quarter of 2020, to provide further flexibility and continue accessing the debt capital markets for its future funding needs.

BOC Aviation has one of the highest credit ratings in the aircraft operating lease industry, with investment-grade corporate credit ratings of A- from both S&P Global Ratings and Fitch Ratings.

Airline Treasury Team of the Year: Pegasus Airlines Aircraft Finance Team

Pegasus Airlines, the Turkish low-cost airline, is eager to diversify aircraft financing products in its portfolio in order to manage the financing cost and to minimise the risk allocation.

Being a small team which is responsible for managing the financing of the 93-aircraft fleet (as at year-end 2020), Pegasus's treasury team has 57 Airbus A320neo-family aircraft on backlog, which are to be delivered between 2021 and 2025.

Despite the negative effects of the Covid-19 pandemic to the aviation market, the treasury team was able to deliver 14 aircraft in 2020, as originally committed to Airbus, without any change in its original 2020 delivery stream.

It also managed to add diversified financing structures in the fleet.

The team notably excelled in diversifying its financing channel by closing different structures last year, including:

- **Insurance-supported financing product Balthazar** for four A320neos. Because of Covid-19 precautions taken globally, international flight limitations affected the deliveries of the second, third and fourth aircraft. The Turkish carrier applied Airbus's e-delivery concept, with the fully remote deliveries of these Balthazar aircraft;
- **Japanese operation lease with call options (Jolco) financings** of three A321neo aircraft. Despite the negative developments on the Japanese equity market after the pandemic, Pegasus was able to close two Jolco financings during the second quarter and one in the final quarter of last year. The financings were closed with different parties, and one transaction marked the first time that the Jolco structure was funded with the debt guaranteed by Aviation Capital Group under its Aircraft Financing Solutions programme.
- **Export credit agency-supported financings**. Pegasus obtained the UKEF's guarantee in April 2020 for the financing of up to 10 aircraft. This structure was used to fund five A320neo and two A321neo deliveries in 2020. Another three aircraft were funded with the export credit agency guarantee in the first quarter of this year. Pegasus was the fourth airline to obtain the guarantee after export credit agencies reopened support for Airbus.

Pegasus also made progress last year with the phase-out of its Boeing 737-800 fleet. The carrier reached an agreement with operating lessor Air Lease (ALC) for the sale and leaseback of four 737-800s under which the US lessor will place an A321neo with the airline in spring 2023. The carrier also announced plans in December to raise up to TRY2.5 billion ($320 million) from domestic qualified investors in one or more tranches.

The inaugural bond issuance closed in February 2021 with the TRY260 million transaction. The bond's principal payment has a one-year maturity and a variable interest of 300 basis points over the benchmark – the Turkish lira overnight interest rate.

Lessor Treasury Team of the Year: Avolon Treasury Team

Lessor of the Year: Avolon

Last year was the most challenging the commercial aviation industry has ever faced.

Lessors were not immune but the strength and resilience of Avolon's investment-grade platform was evident throughout the year, and its response to the Covid-19 crisis was built around three pillars: customers, liquidity and supporting its communities.

The Avolon treasury team is credited with an outstanding performance to lower yields and raising a massive amount of liquidity.

Dublin-headquartered Avolon worked to support its customers – quickly and in scale – through temporary rent deferrals.

Despite the challenging market environment, Avolon took delivery of 27 new-technology, fuel-efficient aircraft during the year, continuing to help support its customers' fleet renewal.

The lessor also supported airlines through sale and leaseback transactions for 44 aircraft, for a total of $2.3 billion. During the year, it delivered 57 new aircraft and transitioned another 10. The lessor also sold 29 aircraft, three of which were managed.

At year-end, its owned and managed fleet numbered 572 aircraft with an average age of 5.3 years and average remaining lease term of 6.8 years.

When the scale of the pandemic became apparent, Avolon focused on liquidity, realigning its capital deployment pipeline with a fundamentally different industry outlook.

The lessor cancelled a 75 Boeing 737 Max order in the first quarter of 2020, and another 27 aircraft of the type in the second quarter that were due to deliver between 2020 and 2022.

The cancellations subsequently reduced its capital and debt principal commitments in the 2020-24 timeframe by more than $9.5 billion, helping further strengthen its capital structure.

It successfully raised a total of $4.4 billion of debt in 2020, including $3.4 billion of senior unsecured notes, and $675 million of secured term loan debt – all while remaining an investment-grade-rated credit.

These activities allowed Avolon to maintain an excess of $5 billion of liquidity throughout the year and ended 2020 with a total available liquidity position of $6.8 billion – the strongest liquidity position in its history.

This capital position was achieved while maintaining the leverage of the business conservatively low, with a net debt to equity of 2.3x at year-end, one of the lowest in the sector.

Executing these debt-raising activities against one of the most challenging market backdrops in aviation history, highlighted the strong investor demand for Avolon's platform. These factors were further underlined with a $1.5 billion unsecured bond offering in January 2021, which was priced at Avolon's lowest-ever coupon.

Reflecting on 2020, Avolon's chief executive officer, Domhnal Slattery, says: "We worked closely with our customers to provide support while also prudently managing our own capital position. We proactively realigned our capital commitments and addressed near-term debt maturities to position our business for what we anticipated to be a gradual recovery."

Last year, Avolon also actively participated in combating Covid-19 in the early stages of the pandemic.

The lessor worked closely with a number of partners, to charter three flights from China to Ireland which transported four million individual pieces of PPE together with ventilators and other vital medical equipment. It created a public fundraiser and raised €350,000 ($426,000) from the general public to be put towards the cost of acquiring PPE for front-line staff.

Aviation Person of the Year: Greg Lee

Greg Lee is a managing director in the financing group within the Goldman Sachs investment banking division.

He is co-head of the structured finance group and also head of airline investment banking coverage in the Americas. As head of airline investment banking, Lee is responsible for the firm's relationships with major airlines in the Americas.

He joined Goldman Sachs as a managing director in 2007. Previously, he worked at Salomon Brothers, Salomon Smith Barney and Citigroup for 14 years, focusing on structured finance product development and execution across a wide variety of industries.

Lee led a team of financiers that worked on rescue financings for airlines last year, in coordination with the merchant banking divisions.

Goldman Sachs demonstrated its ability to continue driving strong execution in a stressed environment for the airline sector, especially in the second quarter of 2020.

In a challenged operating environment, Goldman Sachs offered innovative capital solutions in landmark deals:

United Airlines' $6.8 billion Mileage Plus Holdings debt financing: Goldman Sachs was the sole structuring agent and joint lead bookrunner of the $6.8 billion of the Mileage Plus Holdings debt financing. The issuance included $3.8 billion senior secured notes due June 2027 and a $3 billion senior secured term loan due June 2027.

The debt is backed by the intellectual property and cash flows associated with the airline's customer loyalty programme, Mileage Plus Holdings.

It was the first-of-its-kind transaction marking the first financing backed by a US airline loyalty programme, helping United obtain cost-effective financing in large size backed by its core asset. The innovative transaction structure leverages intellectual property of the airline loyalty programme and uses technology from structured finance and leveraged finance to achieve IG ratings.

At issuance, it was the largest capital markets offering by an airline. The transaction achieved significant oversubscription and led to a $1.8 billion upsize, tranche optimisation, and ultimately final pricing inside of initial whispers and price talk.


Greg Lee

Delta Air Lines' $9 billion Skymiles secured financing: Goldman Sachs was the sole structuring agent and joint lead bookrunner of the $9 billion Delta Air Lines Skymiles secured financing. The transaction represented the largest aviation financing transaction, raising $2.5 billion of senior secured notes due October 2025 and $3.5 billion of senior secured notes due October 2028. The transaction also included a $3 billion secured term loan due October 2027.

The innovative transaction structure leverages intellectual property and diversity of cash flows of the airline loyalty programme to achieve investment-grade ratings.

The significant oversubscription led to a $2.5 billion upsize, tranche optimisation, and ultimately final pricing inside of initial whispers and price talk.

The transaction garnered investment-grade ratings from both Moody's (Baa1) and Fitch (BBB), representing significant up-notching to investment grade from the parent unsecured rating of Baa3 and BB+.

American Airlines (AA) transactions: Goldman Sachs was one of the four banks acting as joint lead managers on AA's 'Big Bang' financing in June 2020.

The $4.65 billion transaction included $2.5 billion senior secured notes due 2025 for which it acted as joint lead bookrunner. The firm also acted as left lead bookrunner and syndicate trading manager for AA's dual tranche $1 billion common equity and $1 billion convertible offering with $150 million 15% greenshoe.

The firm acted as sole placement agent and bookrunner in AA's $1.2 billion issuance. The senior secured notes were purchased by Goldman Sachs' merchant banking division. The $1 billion notes offer first priority lien on American Airlines brand, related/successor trademarks and domain names (IP Collateral) and second priority lien on AA's owned DCA/LGA slots (Slot Collateral). The $200 million notes were first priority lien on slot collateral.

The transaction represented the largest private placement in the USA by any investor in the airline sector. It was also a novel transaction in the airline industry leveraging intellectual property as sole first lien collateral.

Goldman Sachs was also involved in two enhanced equipment trust certificate (EETC) transactions in 2020: one in Europe and another in the USA.

The $1 billion British Airways 2020-1 EETC priced well inside initial pricing talk on the class A and 25 basis points inside guidance on both class A and class B.

On the $3 billion United Airlines 2020-1 EETC, Goldman Sachs acted as sole structuring agent and lead left bookrunner and liquidity facility provider. This single tranche transaction represented the largest EETC financing issued and the first EETC transaction collateralised by three collateral pools. The transaction also represented the first post-global financial crisis EETC to include spare parts or spare engines and the oldest aircraft financed in a EETC to date.

Goldman Sachs also acted as sole structuring agent, global coordinator and sole bookrunner of AASET 2020-1 asset-backed securities (ABS), a portfolio sale of $490 million assets, financed with $409 million of debt. Despite having an older-than-average portfolio for the ABS space, AASET 2020-1 priced at the tightest debt yields to date in the aircraft ABS space and Carlyle's fund sold 100% of its equity position.

The firm acted as joint sponsor, joint financial adviser, joint global coordinator and joint bookrunner of the €2.74 billion ($3.3 billion) IAG rights offering.

Goldman Sachs acted as financial adviser in Cathay's triple tranche HK$39 billion ($5 billion) recapitalisation. The transaction was the second-largest government-led airline recapitalisation package in the Asia-Pacific region.

The Hong Kong SAR government committed a total of HK$27.3 billion to Cathay Pacific, and the airline also secured a HK$7.8 billion bridge loan facility over certain aircraft and related insurances of the Cathay Pacific Group.

Goldman Sachs was joint lead arranger and joint bookrunner of Avianca's $1.27 billion debtor-in-possession tranche A – the $1.029 billion Tranche A-1 and $240 million Tranche A-2.

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Since then, the aviation team have handled over $16 billion worth of transactions and have also carried out some of the most complex aircraft repossessions in the country. The Firm has also advised several international airlines in challenging market access transactions. In 2019, the firm successfully paved the way for the first deregistration and export of an aircraft under India's new Cape Town Convention and Aircraft Protocol Regulations.

Sarin & Co's noteworthy clients include the world's top aircraft manufacturers, leasing companies, international airlines, and banks.

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Dynam Aviation Ireland Limited (Dynam Aviation) is an Irish based aircraft leasing company with a focus on young, narrowbody aircraft.

Dynam Aviation was established in Dublin in 2019 and is 100% owned by Dynam Japan Holdings Co. Ltd. (DYJH). DYJH is the leading operator and service provider of pachinko halls (a popular form of entertainment in Japan) and is listed on the main board of the Hong Kong Stock Exchange (6889:HK).
DYJH's founder, the Sato family, established a second aircraft leasing company in 2015 - Sato Aviation Capital - which is partnered with Dynam Aviation. The partnership currently owns a fleet of eight aircraft, including two aircraft delivered in Q1 and Q2 of 2020. The short-term plan over the next 2-3 years is for the partnership to build a 30-aircraft portfolio (20-aircraft for Dynam Aviation and 10-aircraft for Sato Aviation). Current lessee's include: Wizz Air, Indigo, Vueling Airlines, Air France-KLM and Volaris. Dynam Aviation has a team of industry experts with over 50 years of combined experience in financing, origination and marketing. It is partnered with leading service providers including: FPG Amentum, Santos Dumont, KPMG and McCann FitzGerald.

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Kellstrom Aerospace specializes in Aviation Asset Management solutions, primarily focused on mid to mature aircraft, providing aircraft and engine lease, sale and exchange through to end of life supply chain. We support a diverse customer base of OEMs, airlines, leasing companies, financial institutions, air transport operators and MRO's worldwide. Differentiated by its operational heritage, green-time lease portfolio and in-house technical expertise through Kellstrom Aerospace Technical Services (KATS).

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