The Aviation Industry Leaders Report 2021:

Route to Recovery

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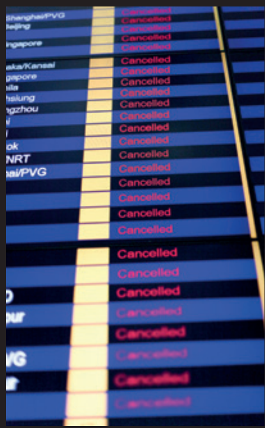

THE AVIATION INDUSTRY LEADERS REPORT 2021

EDITOR & AUTHOR
Victoria Tozer-Pennington
victoria@aviationnews-online.com

CONTRIBUTORS
Joe O'Mara

ADVERTISING & SPONSORSHIP ENQUIRIES
Philip Tozer-Pennington
philipt@aviationnews-online.com

Ted Tomlin
ted@aviationnews-online.com

PRODUCTION AND ONLINE
Dino D'Amore
dino@aviationnews-online.com

CONFERENCES & EVENTS
Louise Abbots
louise@aviationnews-online.com

SUBSCRIPTION ENQUIRIES
subscriptions@aviationnews-online.com

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CONTRIBUTORS TO THE 2021 AVIATION INDUSTRY GLOBAL LEADERS REPORT (IN ALPHABETICAL ORDER BY COMPANY)
Paul Sheridan, Chief Executive Officer, AMCK
Aengus Kelly, Chief Executive Officer, AerCap
Ramki Sundaram, Chief Executive Officer, Airborne Capital
Mike Inglese, Chief Executive Officer, Aircastle
John Plueger, Chief Executive Officer, Air Lease Corporation (ALC)
Gary Rothschild, Head of Aviation, Apollo Global Management & Chief Executive Officer, Merx Aviation
Robert Korn, President, Carlyle Aviation Capital
Pat Hannigan, Chief Executive Officer, CDB Aviation
Helane Becker, Managing Director, Cowen
Firoz Tarapore, Chief Executive Officer, DAE
Richard Moody, Managing Director, Global Head of Transportation Finance, Deutsche Bank
Tom Barrett, Chief Executive Officer, Engine Lease Finance (ELF)
Karl Griffin, Chief Executive Officer, Genesis
Derek Wong, Aviation Finance, Investec
Bénédicte Bedaine-Renault, Head of Aviation Finance EMEA, Natixis (podcast)
Betsy Snyder, Director, S&P Global Ratings
Austin Wiley, Chief Executive Officer, SKY Leasing
Peter Barrett, Chief Executive Officer, SMBC
Kieran Corr, Global Head of Aviation Finance, Standard Chartered
David Butler, Chief Executive Officer, Seraph Aviation Group
Stephen Hannahs, Chief Executive Officer, Wings Capital

THANK YOU TO ALL OF THOSE EXECUTIVES WHO GAVE THEIR TIME TO ASSIST WITH THIS REPORT

THIS LIST DOES NOT INCLUDE THE MANY INDUSTRY EXPERTS, BANKERS, AIRLINE AND LEASING EXECUTIVES WHO PROVIDED THEIR COMMENTS TO AIRLINE ECONOMICS BUT HAVE OPTED TO REMAIN ANONYMOUS.

THE FULL VIDEO AND PODCAST INTERVIEWS ARE AVAILABLE ONLINE AT HTTP://WWW.AVIATIONNEWS-ONLINE.COM/AVIATION-INDUSTRY-LEADERS-REPORT/

About this report

For the fourth year running, *Airline Economics* and KPMG interviewed major aviation industry leaders in a series of in-depth interviews that delve deep into the impact of the global pandemic crisis on the commercial aviation industry.

Airline Economics and KPMG conducted virtual interviews with more than 30 senior industry executives at leasing companies, banks and airlines, over Zoom or telephone in December 2020 and January 2021.

The full video interviews and podcasts are available online at http://www.aviationnews-online.com/aviation-industry-leaders-report/. The themes discussed in this report were presented during a presentation from Joe O'Mara, Head of Aviation Finance at KPMG, at *Airline Economics* Growth Frontiers Dublin Virtual 2021 conference on January 20, 2021, which can also be viewed by subscribers and delegates at www.aviationnews-online.com after the event.

KPMG and *Airline Economics* would like to thank all of the industry leaders and experts who contributed to this report for their time.

ROUTE TO RECOVERY

We are delighted to present you with our *Aviation Industry Leaders Report 2021: Route to Recovery*. The report captures the views of industry leaders across the leasing, airline and banking markets and includes input from rating agencies and analysts covering the sector.

Our report last year focused on the unprecedented supercycle of growth in aviation, with a record tenth consecutive year of global airline profitability and the fifth highest level of profits recorded. There was an acknowledgement that the cycle had peaked, that there were material headwinds facing the sector, but also a general belief that any regression would be measured, barring an unforeseen black swan event. Little did we know the size of the incoming swan.

The health and social impact of COVID-19 has been devastating. We pass on our deepest sympathies to those who have been so severely impacted by the crisis. We all now hope for the vaccines to deliver a brighter future.

Airline survival

For aviation, the pandemic has clearly delivered the largest exogenous shock the sector has ever faced. The financial and performance metrics are startling. 2020 resulted in the worst ever global airline financial performance. From a position where 2019 profits were just under $26bn, losses are expected to be over $118bn in 2020.

We have generally seen the cyclical tracking of global GDP growth against the growth in air travel. The 2020 figures highlight the outsized impact the crisis has had on aviation. Global GDP is expected to contract by less than 5% in 2020. By comparison, Revenue Passenger Kilometres (RPKs) fell 65% in 2020, with a reduction of 88% in international RPKs and 41% in domestic RPKs.

From a regional perspective, the only positives to be taken were in respect of certain domestic markets. Some much needed optimism was gleaned from the fact that in China, domestic RPKs dropped only 5% year on year. There is widespread hope that this is a harbinger for a wider recovery as the vaccines roll out.

However, despite these stark numbers, 2020 resulted in fewer airline failures and formal restructurings than expected. The primary driver of this has been the remarkable levels of government support, which has now topped $170bn and come in the form of loans, guarantees, wage subsidies, tax deferrals and equity injections.

We have also seen airlines (predominately in the US) raise significant debt on the capital markets, where the demand was reflective of the wider yield chasing environment. A further sign of airline resilience has been the innovative fund raising that has been backed by the use of loyalty programmes, gates, slots and routes.

These levels of additional debt and support will have wider long-term repercussions for the airline sector, but the here and now is about survival and every dollar is welcome.

Airline survival has also been aided by an environment where enforcing on one's security (either as a lessor or a banker) is a zero-sum game. With no current market for repossessed planes, lenders and lessors have been flexible creditors, if at all possible. Better to have your asset with a distressed customer than none at all.

There is widespread acceptance that more pain is coming. IATA's early expectation is that losses will reduce to a still monumental figure of $38bn in 2021. The vast majority of airlines that emerge from the pandemic will be smaller in scale. The prevailing hope is that the vaccine will allow for some form of summer season, but this remains to be seen. Like previous downturns, there will be winners and losers. Those that manage cash burn and maintain liquidity will be best placed to prosper.

Fleet focus

The crisis will accelerate the retirement of certain older types of aircraft and will have a greater impact on widebody aircraft. Airlines that have the bandwidth to act strategically will take the opportunity to avail of the replacement cycle and move to newer technology, more fuel-efficient equipment. The A320neo family and the 737 MAX (more anon) will remain in high demand.

There is an acceptance that values have been materially impacted, but given there has been very limited trading, the true extent of the impact is hard to gauge. Publicly issued information on impairment provisions provides a useful guide. However, given the subjective level of judgement involved in that process, the trading market reopening will be the more telling factor.

On the OEM side, the duopoly of Boeing and Airbus is expected to continue to act rationally and manage the supply side in a reasonable fashion. For Boeing, coming off their lowest production numbers in 40 years, the recertification of the 737 MAX is a major milestone. As can be seen from recent sale and leaseback activity, the aircraft has widespread support across the airline and lessor community. It is hoped that customer trust can be quickly earned. How the dislocated market responds to the 400 manufactured aircraft that were awaiting delivery will be interesting to observe.

Financing

Given the market uncertainty, the traditional aviation banks have retrenched and the ability to obtain warehouse facilities or non-recourse debt is extremely limited. On the positive side, we have seen the enhanced equipment trust certificate (ETTC) come back in a real way, financing over $9bn in transactions in 2020.

Aircraft lessors have felt the impact of the crisis from the outset as they dealt with widespread deferral requests from their airline customers. As the challenging environment prevailed, these deferrals in some cases have morphed into more complicated lease restructurings. However, by the end of 2020 the level of deferrals had reduced significantly. The general view of the participants is that the crisis has also served to strengthen the relationships between lessors and their airline customers.

Given the quantum of additional liabilities airlines have assumed, it is generally expected that there will be an increase in the importance of the leasing channel for airlines as a funding tool. The broad consensus is that the percentage of leased aircraft will break the 50% barrier in the coming years. There is a hope amongst the leasing sector that this will lead to a greater appreciation by the OEMs of the importance of their role.

How will lessors meet this funding requirement without a functioning banking market? The primary outlet will likely be the capital markets. From June onwards, after AerCap were the first to return to the bond market, investment grade lessors have shown a remarkable ability to raised unsecured debt at reasonable rates.

While this is reflective of the macro environment, it also highlights how aircraft leasing continues to become more mainstream and that there is significant market confidence in the business model. This is further supported by the additional equity that has been committed to the sector in recent months and there remains an expectation that private equity will continue to be attracted to the space. The focus on the experience of asset managers will increase in this uncertain environment, and there is expected to be a flight to quality.

Aided by the strong liquidity position of lessors at the outset of the crisis, we have seen limited public distress in the leasing community, with few formal debt restructurings. Those at risk are perceived to be newer entrants, who lack a committed deep pocketed shareholder and do not have an investment grade status to support them accessing the bond market.

We have seen many new entrants into the space in recent years, thought there has been a lack of large-scale M&A. It is natural to expect that this crisis may drive consolidation. Past crises have seen a time lag of two-to-three years before significant M&A has occurred. There is a belief that the time period could be shorter here, given the scale of this downturn.

Distress drives opportunity. While it is clear there will be financial losers as a result of the pandemic, those that invest at the right time in this new cycle will make significant returns. As always, timing is key.

The ABS market has become a key pillar of aviation finance and it funded $10bn of aircraft purchases in 2019, attracting new investors to the space via the tradeable E-Note structure. The ABS market has been effectively shut to aviation since March and there are mixed views as to when it will reopen, though there is consensus that initial deals will likely be solely debt focused. The return of aviation ABS will be important in driving the trading market, particularly given that the bank market will likely be constrained for some time.

ESG & climate change

The issue of climate change has not gone away. In last year's report we noted the dramatic shift in focus on the area over the previous 12 months. 'Flight shame', the imposition of environmental related taxes and the increased Environment, Social and Governance (ESG) focus of investors are real concerns for the industry. Some of the government support provided over the course of 2020 also had certain 'green strings' attached.

Improvements are being made through new aircraft technology efficiencies and significant investment is being made into alternative fuel sources and hybrid-electric technology. Most participants agree that the sector as a whole (OEMs, airlines and lessors) needs to better promote the significant positive efforts that are being made. There is less consensus on who should own and promote this message.

In closing

2020 was the most challenging year the aviation sector has ever faced. Its resilience in the face of those challenges has been extremely impressive. More difficulties lie ahead, but most of the participants for this report remained optimistic that air travel will recover and that the vaccine will hopefully be pivotal in driving a faster recovery than anticipated.

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

Joe O'Mara
KPMG - Head of Aviation Finance

JOE O'MARA,
HEAD OF AVIATION FINANCE, KPMG IRELAND

+353 1 700 4205
JOE.OMARA@KPMG.IE

KIERAN O'BRIEN,
HEAD OF AVIATION FINANCE ADVISORY, KPMG IRELAND

+353 1 410 2456
KIERAN.OBRIEN@KPMG.IE

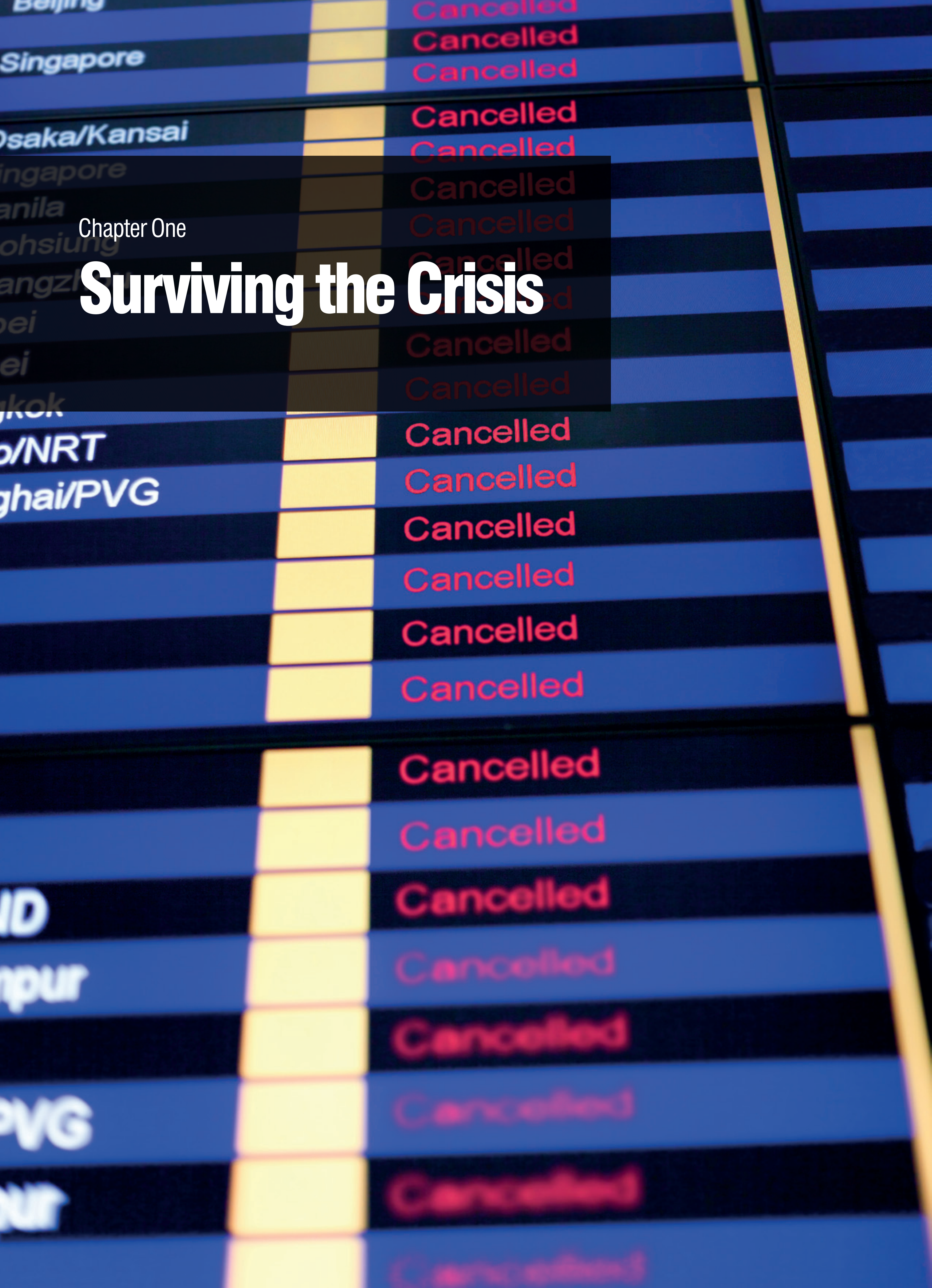
KILLIAN CROKE,
HEAD OF AVIATION FINANCE AUDIT, KPMG IRELAND

+353 1 410 2446
KILLIAN.CROKE@KPMG.IE

KPMG Ireland is the leading and largest transaction advisory firm in the global aviation finance market. KPMG is globally recognised as the centre of excellence for the aircraft leasing industry. Almost every aviation finance industry player of any significance can be found on our client list. We have been identified as one of the 30 most influential companies operating in the global aviation sector. We have advised on aviation transactions in over 150 countries worldwide.

Chapter One

Surviving the Crisis



The world at the end of 2020 has a substantially altered landscape from when this report was published in January of last year.

At the close of 2019, the end of the so-called aviation industry supercycle – the decade of growth enjoyed by the sector – was being predicted by many. This was despite the continued growth of air travel and the increased and abundant liquidity that was being invested into aviation assets as confidence in long-term returns continued to grow. However, while the overheated marketplace and the cyclical nature of the industry had many predicting an end to the good times, no one inside or outside the industry predicted an exogenous shock of such magnitude and global reach that the COVID-19 pandemic has wrought on the world.

The coronavirus pandemic has decimated the aviation industry, with many airlines being effectively grounded as a result of severe restrictions on air travel, with demand being significantly curtailed. This disruption has continued into the first quarter of 2021. Despite three separate coronavirus vaccines being approved for use and being rolled out in the United Kingdom (UK), the United States (US) and the European Union (EU), with China and Russia with their own vaccination programmes, progress has been slow amid a sharp rise in confirmed cases as a new, more infectious, variants of the virus, identified in the UK and South Africa, spread rapidly across the world causing the death rate to rise once more.

The COVID-19 global health crisis, which to date has cost almost two million lives and infected almost 90 million people, has triggered the deepest global recession since the Second World War. The global economy and per capita incomes contracted in 2020 and are predicted to remain depressed for the next year at least. The Global Gross Domestic Product (GDP) contracted 4.4% in 2020 from average growth of 2.8% at the end of 2019. The International Monetary Fund (IMF) forecasts 5.5% GDP growth in 2021 although this assumes continued monetary support from governments and fiscal lifelines for businesses.

In its World Economic Outlook report, the IMF stresses that global growth remains at risk due to a spike in vulnerabilities, which includes the rising levels of debt countries and firms have taken on to cope with cash shortages during the pandemic crisis. Many economists expect those ongoing corporate liquidity pressures to morph into insolvencies, especially in a protracted recovery scenario. Significant downside risks include the resurgence of the virus in more countries leading to further lockdowns, causing job losses and renewed pressures on balance sheets, while the removal or reduction in central bank support may also cause market turbulence and tighten financial conditions.

> **"The IMF stresses that global growth remains at risk due to a spike in vulnerabilities, which includes the rising levels of debt countries and firms have taken on to cope with cash shortages during the pandemic crisis. Many economists expect those ongoing corporate liquidity pressures to morph into insolvencies, especially in a protracted recovery scenario."**

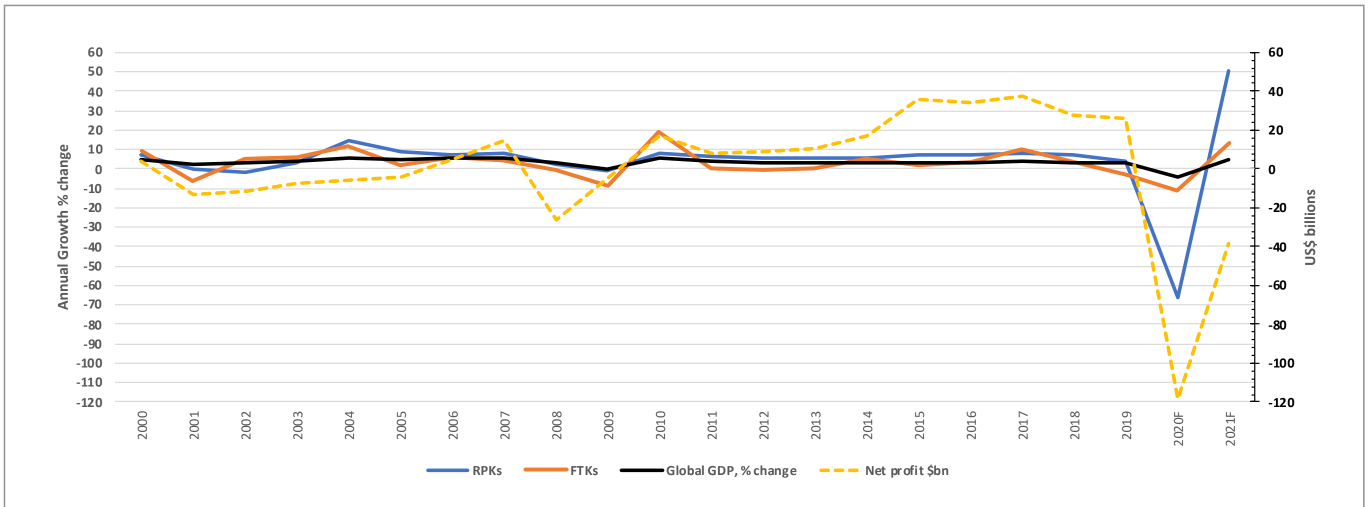


CHART 1: WORLD ECONOMIC GROWTH, AIR TRAVEL AND CARGO GROWTH, AND AIRLINE PROFITABILITY

Source: IMF, IATA, World Bank

Air travel demand remains tied to the global economy. The aviation supercycle showed a slight widening of the correlation between RPK and GDP growth in the decade following the global financial crisis from 2009 to 2019 leading some to suggest that the ratios had decoupled (see *Airline Economics* Aviation Industry Report 2018, pp8-10). There was certainly a widening of those ratios during the supercycle, which arose as a result of strong air travel growth in the emerging economies and the strengthening of airline profitability. This profitability was aided by the benign and very low interest rate environment immediately following the financial crisis, which also attracted a wave of investors into the aviation sector searching for yield.

The yellow dotted line on Chart 1 (see previous page) tracks airline profitability. Prior to 2010, the airline industry had rarely made a profit but over the past decade the sector has enjoyed a sustained period of profitability peaking in 2017 with a net profit of $37.6bn. In 2019, the industry posted profits of $26.4bn despite being impacted by the grounding of the Boeing 737 MAX aircraft, geopolitical uncertainty and a general economic slowing. Chart 1 clearly shows the devastating impact of COVID-19 on RPKs, global GDP and airline profitability in 2020, demonstrating that the two measures are indeed in sync. Global RPK growth tracked the decline in GDP in 2020 and the two measures are predicted to track upwards together in 2021. Profitability will be much slower to return than travel demand due to the heavy debt burdens airline have been forced to shoulder as well as a predicted – albeit debateable – sluggish return of the more lucrative business travel segment.

At the end of 2020, the volume of commercial flights fell 41.7% from 2019 levels. Total flights finished the year 27% below 2019 levels, according to figures from Flightradar24 (see Chart 2). Commercial traffic bottomed out in mid-April 2020 before making a moderate recovery in August before slowing again. The slow rebound occurred again in December, aided by festive holiday travel, but still remained 36.5% below 2019 levels (-39.8% in November).

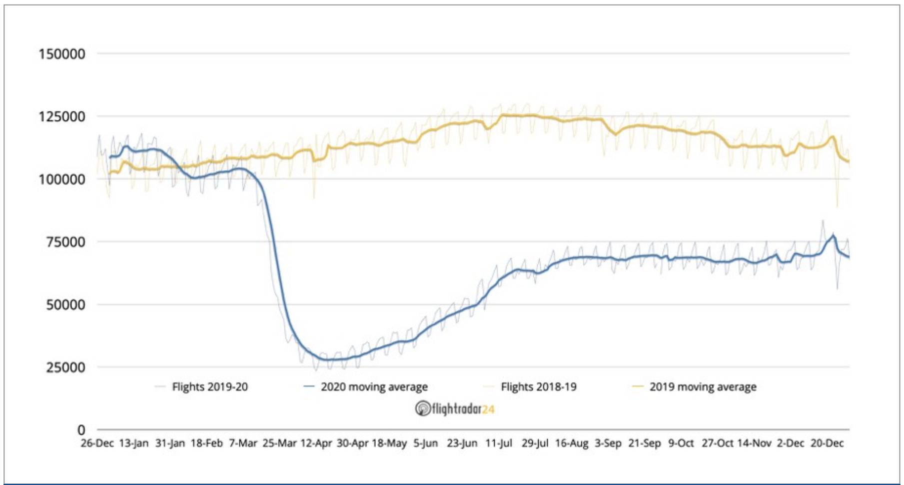


CHART 2: 2019-2020 COMMERCIAL FLIGHTS

Source: Flightradar24

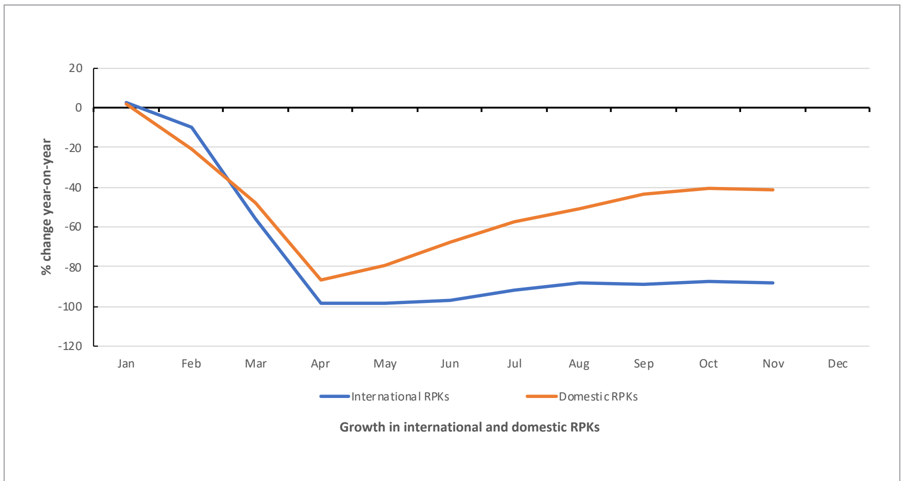


CHART 3: AIR TRAVEL DEMAND 2020

Source: IATA Air Passenger Monthly Analysis

The severity of the COVID-19 impact on air travel is clearly shown by tracking global RPKs, which fell by 65.6% in the Jan-Nov 2020 period compared to 2019 figures. In the six months immediately following the September 11 terrorist attack on New York – which is considered to be the most severe aviation crisis prior to 2020 – RPKs declined by just 12%, according to IATA figures.

IATA monthly figures for 2020 show that domestic traffic began to improve ahead of international traffic as borders remained closed and quarantine measures tightened for international passengers deterring travel. That trend is continuing as domestic travel continues on a upwards trajectory with international travel recovery stalling from August.

Airlines have needed to react quickly to the rapidly changing travel environment, with various countries closing and reopening borders, imposing and changing quarantine requirements with little notice. Airlines have been required to curtail capacity quickly and yet retain the flexibility to return those grounded aircraft to the air as demand returns, all while working to reduce cash burn as far as possible.

The average passenger load factor for the year to November 2020 is 65.5%, which is an improvement on its lowest point at 36.6% in April when much of the world was in total lockdown. Such record low levels of air travel demonstrate the stark challenge for airlines to remain solvent now and during the recovery, which is predicted to begin in Q2 2021 after the vaccination programmes in play should be largely complete, at least for those most vulnerable to the disease.

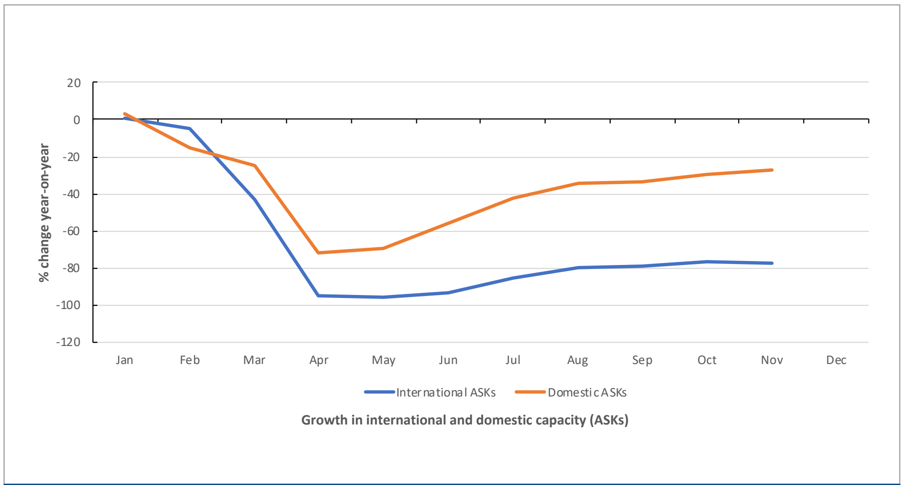


CHART 4: AIR TRAVEL CAPACITY 2020 (MEASURED IN ASKS)

Source: IATA Air Passenger Monthly Analysis

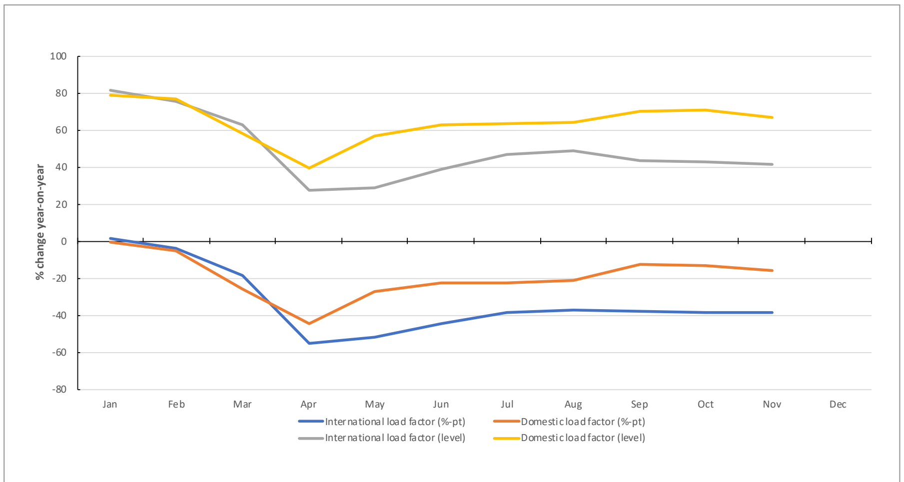


CHART 5: AIRLINE PASSENGER LOAD FACTORS 2020

Source: IATA Air Passenger Monthly Analysis

Regional review

The coronavirus pandemic has impacted every region of the world, with cases and sadly deaths, continuing to rise daily. The World Health Organization's (WHO) recommended approach to contain the virus has been to lockdown the population in affected areas. As the disease spread, these lockdowns extended beyond towns and cities, to countries and entire regions. Borders have been closed by governments and quarantine restrictions placed on foreign travel. Entire fleets have been grounded, primarily during the first quasi-global lockdown in March/April 2020, but also periodically throughout the year to the latest December/January lockdowns, mainly in the UK and Europe, in response to soaring cases. However, the situation in China and some parts of Asia-Pacific, has been more positive. The Chinese government was the first to lockdown its population when the disease was first discovered in Wuhan in December 2019. That swift and severe response seems to have brought the disease under control and travel is returning. Domestic travel in China in particular has been recovering steadily during the second half of 2020 and into the new year.

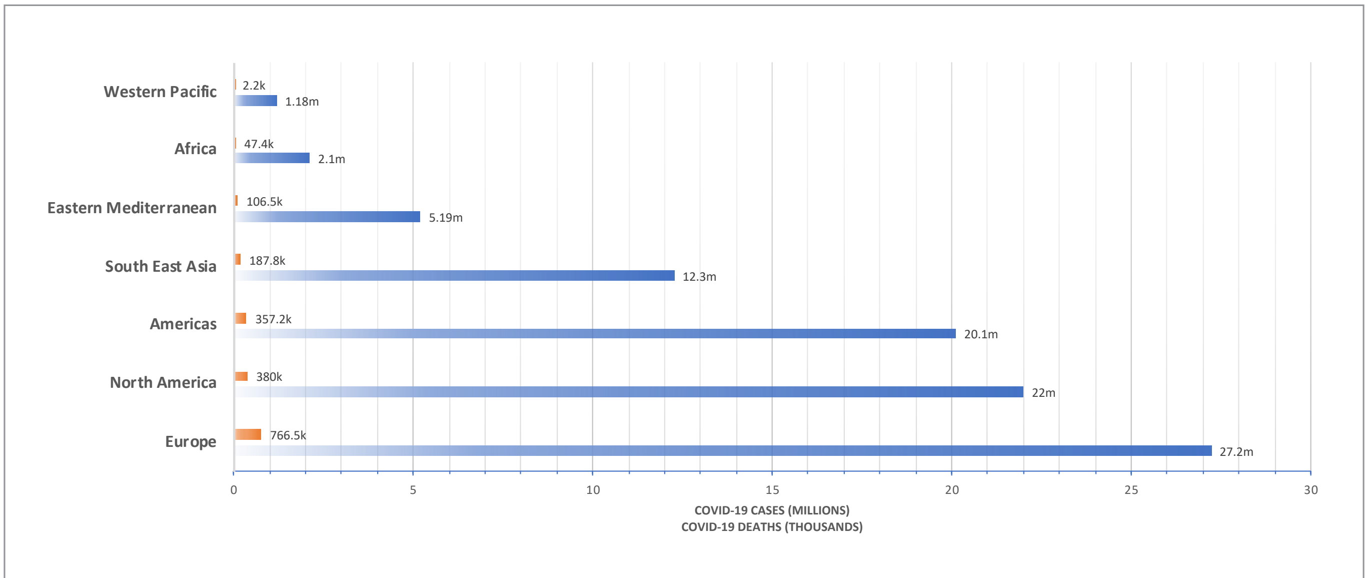


CHART 6: COVID-19 CASES/DEATHS

Source: World Health Organization (data correct 10 January 2020)

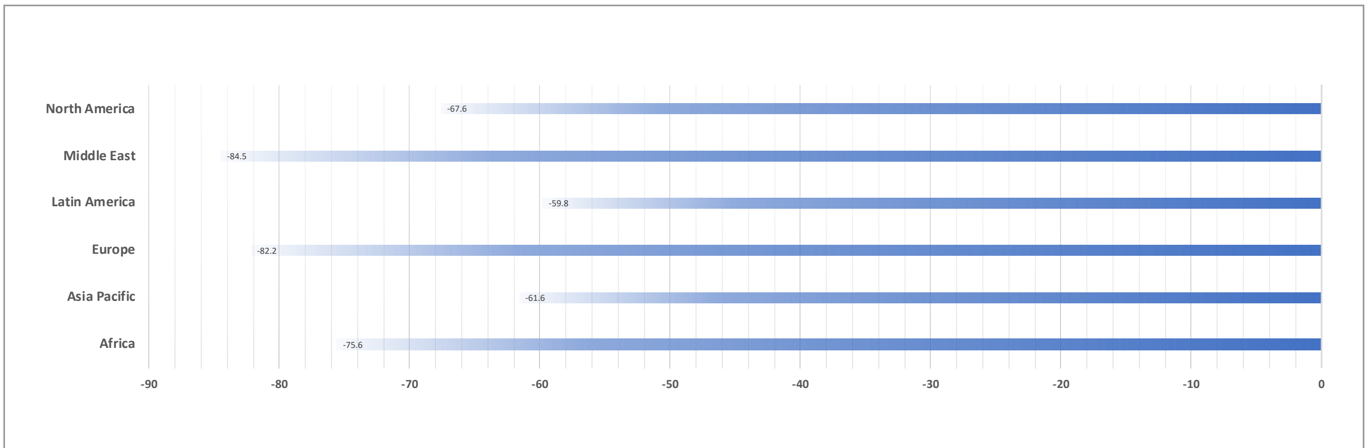


CHART 7: RPK JAN-NOV 2010 (% YEAR-ON-YEAR)

Source: IATA Monthly Statistics

INTERNATIONAL PASSENGER MARKETS

	NOV 2020 (% YEAR-ON-YEAR)				JAN-NOV 2020 % YEAR-TO-DATE			
Airline	**RPK**	**ASK**	**PLF (% change)**	**PLF (LEVEL)**	**RPK**	**ASK**	**PLF (% change)**	**PLF (LEVEL)**
International Total	**-88.3%**	**-77.4%**	**-38.7%**	**41.5%**	**-74.7%**	**-67.6%**	-18.1%	64.0%
Africa	**-76.7%**	**-63.7%**	**-25.2%**	**45.2%**	**-70.6%**	**-62.8%**	-14.9%	56.4%
Asia-Pacific	**-95.0%**	**-87.4%**	**-48.4%**	**31.6%**	**-79.0%**	**-73.0%**	-17.9%	62.9%
Europe	**-87.0%**	**-76.5%**	**-37.4%**	**46.6%**	**-73.0%**	**-65.8%**	-18.1%	67.7%
Latin America	**-78.6%**	**-72.0%**	**-19.5%**	**62.7%**	**-71.4%**	**-67.6%**	-9.7%	73.3%
Middle East	**-86.0%**	**-71.0%**	**-37.9%**	**35.3%**	**-71.9%**	**-63.5%**	-17.6%	58.5%
North America	**-83.0%**	**-66.1%**	**-40.5%**	**40.8%**	**-75.0%**	**-65.8%**	-22.6%	61.4%

Source: IATA Monthly Statistics

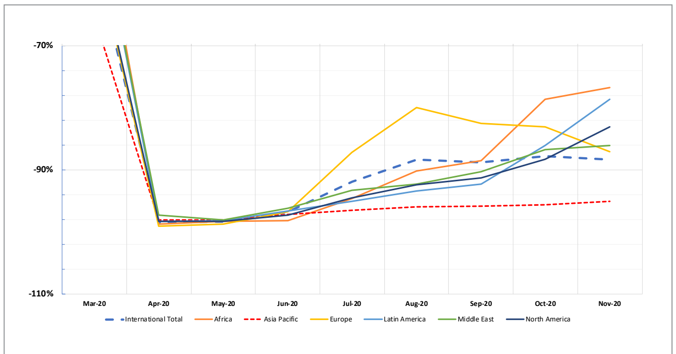


CHART 8: INTERNATIONAL TRAFFIC GROWTH

Source: IATA Monthly Statistics

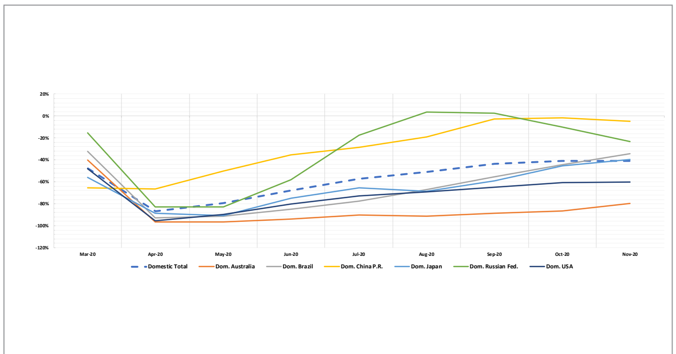


CHART 9: DOMESTIC RPK GROWTH BY MARKET

Source: IATA Monthly Statistics

DOMESTIC PASSENGER MARKETS

	NOV 2020 (% YEAR-ON-YEAR)				JAN-NOV 2020 % YEAR-TO-DATE			
Airline	**RPK**	**ASK**	**PLF (% change)**	**PLF (LEVEL)**	**RPK**	**ASK**	**PLF (% change)**	**PLF (LEVEL)**
Domestic Total	**-41.00%**	**-27.10%**	**-15.70%**	**66.60%**	**-49.3%**	**-36.6%**	-16.8%	66.8%
Dom. Australia	**-79.80%**	**-70.80%**	**-25.80%**	**57.80%**	**-70.2%**	**-64.5%**	-12.9%	67.6%
Dom. Brazil	**-34.50%**	**-36.00%**	**1.80%**	**84.50%**	**-50.6%**	**-49.1%**	-2.5%	80.1%
Dom. China P.R.	**-4.80%**	**6.00%**	**-8.50%**	**74.70%**	**-32.6%**	**-21.8%**	-11.7%	73.1%
Dom India	**-49.60%**	**-37.80%**	**-17.00%**	**72.80%**	**-56.9%**	**-50.0%**	-12.1%	75.2%
Dom. Japan	**-39.50%**	**-25.60%**	**-14.70%**	**64.00%**	**-53.9%**	**-33.9%**	-22.5%	51.7%
Dom. Russian Fed.	**-23.00%**	**-14.00%**	**-8.40%**	**71.60%**	**-24.4%**	**-12.8%**	11.1%	72.5%
Dom. USA	**-59.90%**	**-39.90%**	**-27.40%**	**54.80%**	**-59.4%**	**-41.5%**	-26.1%	59.2%

Source: IATA Monthly Statistics

AMERICAS

Following periods of consolidation, the USA has financially strong airlines, which have enjoyed a lengthy period of profitability immediately prior to the pandemic and which operate large domestic networks. However, as a result of the crisis, IATA estimates that airlines in North America will post a net loss of $45.8bn in 2020.

Although North American international travel is down by 75% in the 11 months to end November 2020, domestic travel fared slight better and fell nearly 60% in the same period but showing a steady recovery from the record low of April 2020. Over the year-end 2020 festive period, domestic traffic in the US was at the highest level it's been since the pandemic began but COVID-19 cases are again surging in the region, resulting in ongoing and increased lockdowns and quarantines requirements that restrict travel.

IATA expects the recovery in North America in 2021 to be prompt, driven by the presence of large domestic markets, with profit margins forecast to improve to –6.8% from –41.4% in 2020.

"This crisis is very different to previous crises for North American carriers, because they entered the crisis in a much stronger financial state than they had been previously, their balance sheets were stronger," says Pat Hannigan, CEO, CDB Aviation, which has boosted its portfolio this year with sale-leaseback deals with United and WestJet.

Although all airlines are experiencing intense financial pressure, stronger airlines from a balance sheet and a route network perspective, have been more successful in accessing additional capital. "Right now performance is all about liquidity," says Gary Rothschild, Head of Aviation, Apollo Global Management. "Airlines with a strong management team, which can access liquidity to strengthen balance sheets and manage cash burn are the stronger airlines. They are the airlines that are going to get through this and will probably emerge in an even better competitive position on the other side of the recovery."

The US carriers are in this strong position thanks to the market being consolidated following the last crisis, which resulted in stronger carriers with a robust domestic market. Many lessors are betting on US airlines to emerge from this crisis as the "winners" even though they are all expected to be much reduced in size. "The major US carriers will emerge post-crisis with an even more dominant position, but probably reduced in scale," says Kieran Corr, Global Head of Aviation Finance, Standard Chartered. "We also expect to see the emergence of more start-up carriers in the US markets."

US airlines have all raised significant amounts of liquidity during 2020 to construct "fortress" balances sheets to ensure their survival – tapping the debt and equity capital markets, accessing bank facilities and securing new term loans, as well as leveraging aircraft assets from aircraft sale-leasebacks, to monetising frequent flyer schemes and other alternative assets, from slots/gates/routes to spare parts. The ability of airlines to tap into the capital markets has been an essential factor in the survivability of airlines around the world, which was only made possible, and on such a scale, by the intervention of the US Government with much needed support for the airline sector (more on this in Chapter 3, which covers aviation finance in detail).

Canadian airlines have not yet received any substantial government support and have been struggling especially since the country has some of the most restrictive COVID-19 measures, which have essentially shut down most air connectivity. As of 7 January 2021, the Canadian government mandated that passengers provide proof of a negative COVID-19 molecular polymerase chain reaction (PCR) test taken within 72 hours before planned departure to Canada. The 14-day quarantine rule also remains in place.

Despite the significant challenges, Air Canada has succeeded in raising significant amounts of liquidity in the capital markets – both debt and equity – and has also worked to reduce cash burn by slashing jobs and cutting capacity by almost 80%, with measures including the retirement of certain aircraft and deferral of new deliveries. Air Canada ended the third quarter of 2020 with cash of $8.189 billion at September 30, 2020. However, the airline posted a $785 million operating loss in the third quarter of 2020 compared to operating income of $956 million in 2019, as total revenue passengers carried fell 88% over last year's figures.

Carriers in South America have been the most hard hit by the pandemic. Prior to the crisis some airlines were already facing a challenging economic and operating backdrop, which has now only been compounded by the onslaught of the coronavirus pandemic. With little to no support from their respective governments, it is unsurprising that most of the insolvencies and restructuring filed in 2020 are from carriers in the region. "One of the big issues the airlines in Latin America had was the lack of political will to put money into airlines to bail out investors from the United States," observes one banker.

The major airlines in Latin America have a large proportion of US-based shareholders. For example, Colombia's Avianca airline, which filed for Chapter 11 bankruptcy protection in New York on May 10, is 14.46% owned by Kingsland Holdings, which is controlled by United Airlines. Colombia closed its airspace in mid-March and the majority of the countries Avianca flies to were also shut to air travel. The airline received approval for its $2bn debtor-in-possession (DIP) financing in October, which comprises: $1.27bn Tranche A senior secured financing and a $722m Tranche B secured subordinated loan, provided in part by Kingsland and United, which refinance their existing debt commitments. The Colombian government contributed 20% to the total DIP financing.

Delta Air Lines is a major shareholder in LATAM with a 20% stake, while Qatar Airways owns 10%, the company was also listed on the New York Stock Exchange. LATAM filed for Chapter 11 bankruptcy protection in the US in May 2020 after passenger traffic declined by 95% and the company posted a $2bn loss in the first quarter of 2020. At the end of Q1 2020, LATAM's financial debt was US$7.6 billion. LATAM Argentina ceased operations in June, while LATAM Brazil filed for bankruptcy in July. LATAM secured a total debtor-in-possession (DIP) financing of US$2.45bn, comprising: (tranche A) $1.125bn from Oaktree Capital Management and $175m from Knighthead Capital; and (tranche C) $750 million from shareholders Qatar Airways, the Cueto Group and the Eblen Group; $250 million from Knighthead Capital; and $150 million from LATAM minority shareholders.

LATAM's restructuring shook the aviation finance market when as part of its Chapter 11 filing in May, the company rejected the 2015-1 enhanced equipment trust certificates (EETC) secured on a portfolio of 11 A321-200s, two A350-900s and four 787-9s. At the time, the move was received unfavourably by the industry. At the time, one banker said: "The rejection by LATAM of all the aircraft of their EETC may not help to attract investors for non US EETCs. In the US, no US airline can treat EETC investors too badly because it is a very important source of funding for them."

There was concern that the move may severely curtail the drive to promote the EETC product outside of US airline names. Those concerns may have been misplaced since Air Canada successfully tapped into the EETC market shortly after and British Airways also successfully placed a EETC in November. However, both names are top tier airlines and repeat issuers; future inaugural issuers may struggle.

Fitch Ratings called the rejection of the EETC transaction by LATAM as "unexpected" but stated that it was a "stark indicator of the market disruptive impact of the coronavirus crisis on airlines' need for aircraft, at least in the near term". The severity of the downturn has caused fleet sizes to shrink, with airlines abandoning large fleets of aircraft types, which calls into question the efficacy of the cross-collateralisation in EETC structures (this issue is discussed further in Chapter 2: Aviation Finance).

Looking ahead, the region faces a protracted recovery. Having lost $5bn in 2020, IATA is forecasting the airline industry in the region to post a $3.3 billion net loss in 2021.

"The major US carriers will emerge post-crisis with an even more dominant position, but probably reduced in scale,. We also expect to see the emergence of more start-up carriers in the US markets."

Kieran Corr
Global Head of Aviation Finance
Standard Chartered

EUROPE

Europe's fragmented airline market was already suffering from overcapacity before the pandemic and its reliance on international travel and the economic downturn will impede its recovery. In 2020, IATA estimates net losses for the region to be $26.9 billion. IATA forecasts Europe to be the worst-hit global region in 2021 in terms of airline losses, which are expected to in the region of -$11.9 billion with EBIT margins down to -9.5%. Passenger traffic (measured in RPKs) is estimated to have fallen 70% this year, the worst performance of any region with the exceptions of Africa (-72%) and the Middle East (-73%). RPK growth next year is expected to be a weak 47.5%, trailing the comparable regions of Asia Pacific (50%) and North America (60.5%).

IATA expects a further deterioration in revenues, job prospects and economic activity across the entire continent. IATA estimates that more than seven million jobs have already been lost or are at imminent risk due to the COVID-19 shutdown. "Our projections for this year and next are little short of a disaster for European air transport. Border restrictions and quarantine measures have brought demand to a halt and the region has been affected even worse than most other parts of the world. There is optimism over a vaccine, but as our forecast for next year shows, this is unlikely to come in time to prevent hundreds of thousands more job losses in the industry unless governments take immediate action," said Rafael Schvartzman, IATA's Regional Vice President for Europe in December 2020.

The impact of travel restrictions and quarantine on travel has ensured intra-EU bookings remain depressed and are 81% down for the period to 10 January 2021 compared to the usual curve.

The airline failures in Europe to date were weaker airlines going into the crisis. Flybe was an early victim and ceased operations in February. Virgin Atlantic Airways (VAA) entered a private recapitalisation process in July and filed for Chapter 15 bankruptcy protection in the US in August. The c.£1.2bn refinancing package, which was finally approved in September 2020, comprised £600m from shareholders (including £200m from the Virgin Group), the deferral of c.£400m of shareholder deferrals and waivers, cost savings of c.£280m per year and c.£880m rephasing and financing of aircraft deliveries over the next five years. New partner Davidson Kempner Capital Management, a global institutional investment management firm, provided £170m of secured financing. Creditors have supported the airline with over £450m of deferrals.

VAA has further shored up its balance sheet with the recent sale-leaseback of two 787s in partnership with Griffin Global Asset Management and Bain Capital Credit. Oliver Byers, Chief Financial Officer, Virgin Atlantic said: "Since the beginning of the crisis, we have taken decisive action to reduce our costs, preserve cash and protect as many jobs as possible. As provided for in the recent privately funded solvent recapitalisation of the airline, we have continued to explore additional financing opportunities to strengthen our balance sheet into the new year… This deal will allow Virgin Atlantic to further bolster our cash position and we are confident that we will emerge a sustainably profitable airline, with a healthy balance sheet."

Norwegian has been the most high profile airline failure in Europe, with a year-long series of restructuring negotiations culminating in the airline filing for examinership in Ireland on 18 November (chosen because its assets are held mainly in Ireland) and for bankruptcy protection in Norway on 8 December. Norwegian Air's shareholders voted to support its restructuring plan during an extraordinary general meeting on December 17, which included raising up to NOK4bn ($454.4 million) from a proposed rights issue of shares or hybrid instruments in February 2021, and carrying out a reverse split of the company's shares where 100 old shares give one new share. Norwegian is still renegotiating its debt and liabilities of 66.8 billion Norwegian crowns ($7.8 billion) with its creditors, which include Airbus, Boeing, Avolon, US Export-Import Bank (Eximbank), Wells Fargo and the Irish Revenue.

Most recently, Norwegian has announced that it will refocus operations on a simplified short-haul route network, abandoning its low-cost long-haul transatlantic routes and its 787 fleet, which has been grounded since March 2020. The airline plans to serve a reduced short-haul network with a fleet of 50 narrowbody aircraft in 2021, which it plans to increase to around 70 narrow body aircraft in 2022.

Certain European airlines have been successful in gaining government support – significant aid in the case of Lufthansa and Air France-KLM (full details in Government Lifelines section below) – which has allowed them to continue to operate. As the pandemic drags on into 2021, more airlines are beginning to access government-backed funds. In the UK, British Airways for example confirmed a $2bn commitment for UKEF-guaranteed loan in December. As discussed further below, while the support from national governments during the crisis is viewed as a positive for the industry, there are concerns that in the longer-term, it may prevent the airline consolidation, which has been badly needed in the European market for some time.

The winners in the European market are likely to be the stronger low-cost carriers. Ryanair has bolstered its liquidity position with capital markets debt despite its continued battle against the EU for granting state aid to its rivals. In September, Ryanair raised €400m from shareholders and its €850m five-year secured eurobond with a 2.875% coupon raised orders in excess of €4.4bn. Ryanair's balance sheet is one of the strongest in the industry with over €4.5bn cash in the bank as of 30 September. Ryanair is also one of the few airlines to have retained its investment grade credit rating – rated BBB by S&P and Fitch (Southwest is the other), which will have been helped by the recent cash raising that has eliminated its refinancing risk for debt maturities in 2021, which includes the £600m CCFF in March and its €850m bond in June.

Wizz Air has also weathered the crisis well so far. Speaking at *Airline Economics* Growth Frontiers Dublin virtual conference, Bill Franke, founder of Indigo Partners and chairman of the board of Wizz Air, credited this success to its position and hub in Central and Eastern Europe, where the appetite to travel has driven "dramatic growth over the last five years" as well as its "excellent senior management team" and "well-prepared cost structure, where costs are now or equal or below that of Ryanair". Franke adds that what sets Wizz Air apart from its rivals is the fact that it hasn't been required to "dramatically restructure its balance sheet, which differentiates it dramatically from most airlines in Europe and there hasn't been any significant additional state funding or borrowings or equity issues" leaving it well positioned. Wizz Air has also pressed ahead with the launch of a new start-up airline in Abu Dhabi, which commences operations in mid-January 2021, which Franke states gives "great potential to expand Wizz Air into markets that it doesn't serve today".

József Váradi, Chief Executive Officer of Wizz Air, also spoke at the *Airline Economics* Dublin virtual conference, who spoke at length about the airline's highly disciplined liquidity strategy and plans for the future (full interview in *Airline Economics* magazine Issue 59 and at www.aviationnews-online.com).

easyJet has also succeeded in boosting its liquidity in January 2021 with a new five-year $1.87 billion term loan facility, which has been underwritten by a syndicate of banks and supported by a partial guarantee from UK Export Finance (UKEF) under its Export Development Guarantee (EDG) scheme. The EDG scheme for commercial loans is available to qualifying UK companies, does not carry preferential rates or require state aid approval, and contains some restrictive covenants including around dividend payments.

This five-year facility, which will be secured on aircraft upon drawing, will allow easyJet to repay and cancel part of its shorter term debt, comprising its fully drawn $500m revolving credit facility and term loans totalling c.£400m, which will free up a number of aircraft assets to further strengthen easyJet's balance sheet.

"This facility will significantly extend and improve easyJet's debt maturity profile and increase the level of liquidity available. easyJet has taken swift and decisive action, having now secured more than £4.5bn in liquidity since the beginning of the pandemic," said Johan Lundgren, easyJet CEO. "The loan facility, provided on commercial terms, reflects constructive and collaborative work between easyJet, multiple banks and UK Export Finance.

British Airways accessed the EDG facility in December when it received commitments for a £2bn five-year term loan underwritten by a syndicate of banks, partially guaranteed by UKEF, which the airline intends to draw down in January 2021. BA is entitled to repay the loan at any time with notice but, like easyJet, is restricted from making any dividend payments to IAG.

Flag carriers are expected to survive but be much reduced in scale and restricted in scope due to conditions on government funding restricting short-haul flights for environmental reasons (see Government Lifelines section below). Flag carriers will find it difficult to compete with low-cost carriers who are positioned to capitalise on the expected pent-up demand for leisure travel when restrictions are finally lifted and the vaccination programmes are well under way. Hybrid carriers in Europe – those airlines that focus on both the charter market and the low fare market – are expected to continue to struggle and will be restricted by the government aid that they have already received, such as Tui for example.

In 2020, IATA estimates net losses for the region to be $26.9 billion. IATA forecasts Europe to be the worst-hit global region in 2021 in terms of airline losses, which are expected to in the region of -$11.9 billion.

ASIA-PACIFIC

The Asia-Pacific region is large and diverse, with a very mixed picture for airlines. Overall, Asia-Pacific airlines suffered from a 61.7% fall in passenger traffic (RPKs) in the Jan-Nov 2020 period. International traffic was down 79% in the year to date period and down 95% in November. As the first region to be exposed to the COVID-19 outbreak, the decline in traffic started at the very start of 2020 but as a result the recovery has already begun. China domestic passenger traffic has already returned to pre-pandemic levels even though its international traffic remains depressed due to border restrictions around the world.

Analysts are bullish on China. "We thought China would lose a year of growth, and they did, but they are now back to pre-pandemic traffic levels in their domestic market (we can't speak to air fares, just to demand). They have clearly handled this pandemic better than other countries," says Helane Becker, Cowen.

Although airlines are lowering fares to stimulate demand, IATA expects Chinese airlines to cash breakeven by the year-end. Overall for the region, net losses in 2021 are forecast to decline to $7.5 billion, almost one fourth of the losses in 2020, according to IATA's latest predictions.

Elsewhere in the region, airlines dependent on cross border traffic continue to suffer. In Thailand, the decline of Thai Airways came as a shock to the industry. It was expected that the Thai government – which owns 51% of Thai – would step in and recapitalise the struggling flag carrier but the state rejected its request for a THB58.1bn bailout loan in May and the airline entered administration with debts of THB300bn (US$10bn). The Thai Central Bankruptcy court approved its restructuring plan in September but the airline remains in difficulty and needs to reach an agreement with its creditors soon or risk ceasing operations.

The AirAsia Group of companies has felt the full force of the pandemic's impact on aviation. The group is experiencing a very public deterioration in the operating strength of its airlines and in October AirAsia Japan ceased operations.

At the same time, AirAsia X announced its intention to restructure and since then has been conducting protracted negotiations with its lessor creditors. AirAsia X's restructuring plan includes the proposed debt settlement and waiver of debts involving unsecured creditors, along with a revised business plan that includes: route network rationalisation, aircraft fleet right-sizing, cost base overhaul and workforce optimisation.

In December, in a bid to avoid liquidation, AirAsia X proposed raising fresh funds by way of a RM300 million rights issue from existing shareholders and a share subscription of shares of up to RM200 million from new investors. Several of its creditors are reported to have objected to the restructuring scheme, which is a prerequisite for the recapitalisation.

Philippine Airlines (PAL) is struggling to manage its debt burden and so far has resisted entering formal restructuring processes and has downplayed rumours it is poised to seek court protection from creditors. However, the airline is seeking to return leased aircraft and make further staff cuts to secure cost savings of $1bn. Cebu Pacific is also pursuing a restructuring plan to cut costs and was approved to pursue $500m in fresh capital with the issuance of $250 million in new convertible preferred shares and $250 million in privately placed convertible bonds.

Cathay Pacific was experiencing difficulties prior to the crisis given the troubles in Hong Kong but the pandemic has only exacerbated its financial problems. In October, under a new corporate restructuring plan, Cathay's wholly-owned regional subsidiary Cathay Dragon ceased operations. The Hong Kong-based airline also reduced its headcount by 24% and cut capacity significantly. In November, Cathay Pacific passengers figures fell by 98.6% compared to 2019, with a cut in capacity by 90.9% year-on-year. The airline's passenger load factor dropped by 61.5 percentage points to just 18.5%. The airline continues to rely on its cargo business to generate some revenue, with cargo and mail revenue per tonne/km down by 26.2% over 2019 figures.

"We thought China would lose a year of growth, and they did, but they are now back to pre-pandemic traffic levels in their domestic market (we can't speak to air fares, just to demand). They have clearly handled this pandemic better than other countries."

Helane Becker
Managing Director
Cowen

In Japan, after reporting a loss of ¥280.9bn (approx. $2.7bn) for the six months to end Sept. 30, 2020, the ANA Group announced a significant restructuring. ANA retired a total of 35 aircraft in 2020, 28 more than its initial plan of seven. The airline delayed delivery of its 777s and one A380 and reduced capex payments for pre-existing aircraft orders to net ¥150bn savings in FY20/1, and approximately ¥250bn in FY 2021/2.

Because ANA expects leisure travel to remain buoyant following the crisis and business travel to remain depressed for some time, the group has created a third airline brand, a low-cost carrier based on the Air Japan entity, for medium-haul routes to destinations in Southeast Asia and Oceania that will utilise 787 aircraft configured in two classes. The new airline is expected to launch in FY2022.

Peach will continue to serve the short-haul LCC market but with the addition of certain medium-distance routes being served by the A321LR aircraft, while also entering the air cargo business. ANA plans to continue as the long-haul, full service carrier.

In a bid for survival, Korea has chosen to merge its two main airlines – Korean Air Lines and Asiana. In December, Hanjin KAL and Korean Air agreed to acquire Asiana Airlines for KRW 1.8 trillion (approx. US$1.625bn). In order to secure this amount, Korean Air states that it plans to raise KRW 2.5 trillion worth of capital by issuing new shares early in 2021. Shareholders of Asiana already approved a share capital reduction plan, where three common shares in Asiana will be worth one, which has been structured to help the airline offset part of its KRW1.5 trillion (US$1.3bn) deficit. The merger of the two airlines is expected to further enhance the competitiveness of the Korean aviation industry with more streamlined route operations and lower costs.

Singapore Airlines has been recapitalised by its state-backed shareholder and has raised significant liquidity but the airline remains absolutely dependant on international traffic, and will continue to burn cash until borders fully reopen. However, the airline is in a strong position. Since the start of its 2020/2021 financial year, SIA has raised approximately S$12.7bn in additional liquidity. This includes S$8.8 billion from SIA's successful rights issue, S$2bn from secured financing, S$850m via a recent convertible bond issue, and more than S$500m through new committed lines of credit and a short-term unsecured loan. In December SIA successfully raised a further S$500 million via a private placement of new 10-year bond with a 3.5% coupon, which was upsized from the initial offer size of S$300 million due to demand from what SIA calls a "select group of private investors". For the period up to July 2021, the airline also retains the option to raise up to S$6.2 billion in additional mandatory convertible bonds and is considering sale-leaseback agreements to raise further funds if necessary.

Airlines in smaller countries such as Vietnam, Malaysia, Thailand, Singapore and Indonesia will continue to struggle as borders remain closed because they are so dependent on international traffic. The majority of leasing company arrears are coming from airlines in South East Asia and this is expected to continue.

MIDDLE EAST/AFRICA

Middle Eastern airlines are also heavily dependent on international hub travel and have suffered coming into this crisis with existing capacity pressures. IATA expects Middle Eastern airlines losses to rise to $7.1 billion in 2020, with a loss of $3.3bn predicted in 2021 with the net loss margin at double digit levels (–10.8%).

Although not disclosed, the large Gulf carriers are understood to have received some government support. Only Qatar Airways has indicated it received a sizeable government bailout of almost $2bn, while Emirates is rumoured to have received a similar amount.

African airlines have been deeply impacted by the pandemic, with losses of ¢2bn predicted for 2020 and $1.7bn loss forecast for 2021. South African Airways (SAA) went into the crisis with a heavy debt burden and has spent a large part of the crisis reorganising into a brand new state-backed flag carrier for South Africa.

Kenya Airways remains in nationalisation talks with the government as the airline continues to suffer deep losses and continues calls for bailout funding. Air Namibia is negotiating a state bailout of ¢11.6m to restart operations. Royal Air Maroc received $623m from the Moroccan government as part of a bailout plan that also includes some route cancellations and job losses. Ethiopian remains the most healthy African airline. The airline has converted 25 of its 777 passenger aircraft to freighters to capitalise on the surge in demand for air cargo, but it is suffering losses due to the closure of international borders but has not yet requested any government support.

Government Lifelines

Surviving rather than thriving is now the prime objective for airlines and other aviation companies. For some airlines, the sudden loss of revenue has been too great a burden and there have been a number of insolvencies and airlines filing for bankruptcy protection regimes.

UK regional airline, Flybe, was an early victim of the crisis as it was already suffering from significant financial pressures. After Flybe collapsed, airlines began to access government support in various forms, which has helped to stave off further bankruptcies for many large and small airlines.

The level of government support for the aviation sector has been dramatic and impressive but it varies widely between jurisdictions. Chart 14 (see page 23) details the state aid granted to airlines around the world in 2020.

The USA has been a prolific supporter of its airline industry. Under the Payroll Support Program set out in the Coronavirus Aid, Relief, and Economic Security (CARES) Act, first passed in March 2020, the US Treasury Department was authorised to provide up to $32 billion to compensate aviation industry workers and preserve jobs. In December, an additional stimulus package was passed into law that provides for a further $45 billion in transportation aid, including $15 billion to help airlines keep their employees on the payroll.

The UK has supported airlines with furlough payment schemes, with larger firms being eligible for the Covid Corporate Financing Facility (CCFF) scheme, designed to boost liquidity to bridge coronavirus disruption to cash flows through the purchase of short-term debt in the form of commercial paper. British Airways, easyJet, Ryanair and Wizz Air have all raised funds in the UK via CCFFs. An important source of government support for the aviation sector in the UK is the UK Export Finance's Export Development Guarantee (EDG), which helps large UK exporters access high value loan facilities (typically between £100m-£500m) for general working capital or capital expenditure purposes. In June 2020, Rolls-Royce was the first company to access this funding and secured a £2bn five-year term loan under this facility, which was 80%-backed by UKEF. This deal has since been replicated by BA and easyJet, as detailed in the regional review section above.

The UKEF has also significantly expanded the scope of its working capital scheme for smaller businesses. Under the new scheme, the General Export Facility (GEF) announced in December 2020, UKEF is able to provide an 80% guarantee on financial support from lenders to support general exporting costs, up to the value of £25 million. Five of the UK's largest banks – HSBC, Lloyds, Natwest, Santander and Barclays – are participating in the scheme aimed to offer firms the ability to meet costs and ease cash flow constraints.

European countries have been more direct in their support of national airlines. In April, the Air France-KLM Group secured a €7 billion funding package comprising: a €4bn French state-backed loan with a syndicate of nine banks, priced at Euribor plus 0.75% in year one, 1.5% in year two, and 2.75% in year 3; and a subordinated four-year (with two one-year extension options) €3bn direct shareholder's loan from the French state, granted by a syndicate of six banks to Air France-KLM and Air France, priced at Euribor plus 7% for the first four years, 7.5% for the fifth and 7.75% for the sixth. The €4bn state backed loan must be partially repaid (75%) by any new money raised by Air France-KLM or Air France from financial institutions or through debt capital markets. The loans come with environment and economic commitments. At the time the deal was announced, French finance minister Bruno Le Maire indicated that the "green strings" attached to the aid package would include targets for Air France to halve carbon emissions per passenger and per kilometre against 2005 levels by 2030, with domestic flights carbon emissions to be halved by 2024, which would include reducing its number of short-haul flights. Air France has also agreed to source 2% of its aviation fuel requirements from sustainable sources and commit to renewing its fleet with more fuel efficient aircraft.

KLM secured a €3.4bn package of aid in June 2020, comprising: a €2.4bn five-year revolving credit facility with a syndicate of 11 banks priced at equal to Euribor plus 1.35%; and a €1bn direct 5.5 year term loan to KLM, priced at Euribor plus 6.25% for year 1, 6.75% for years 2 and 3, and 7.75% for years 4 and 5. Under the agreement, KLM has also committed to becoming more environmentally sustainable, and restoring its performance with a robust restructuring plan. Dividend payments to its shareholders are also suspended until the two loans have been repaid in full.

Germany too has propped up flag carrier Deutsche Lufthansa with the largest single support package to a European airline with a €3bn state-backed loan and €6bn recapitalisation package financed by the German Economic Stabilisation Fund, Wirtschaftsstabilisierungsfond (WSF), established by Germany to provide financial support to German companies affected by the pandemic. The recapitalisation includes €300 million equity participation through the subscription of new shares by the German state, corresponding to 20% of Lufthansa's share capital; €4.7bn silent participation with the features of a non-convertible equity instrument; and €1bn silent participation with the features of a convertible debt instrument. The package contains several conditions, including limits on dividends and buybacks, and divestments of slots at Frankfurt and Munich airports. At the time, the state indicated that it aims to exit from the airline's capital by 2026.

AIRLINES THAT CEASED OPERATIONS IN 2020

Airline	Country
Leeward Islands Air Transport - LIAT	Antigua
Flyest	Argentina
LATAM Argentina	Argentina
Tigerair Australia	Australia
LEVEL Europe	Austria
Air Georgian	Canada
One Airlines	Chile
Jet Time	Denmark
TAME EP	Ecuador
Germanwings	Germany
German Airways (Luftfahrtgesellschaft Walter)	Germany
SunExpress Deutschland	Germany
Cathay Dragon	Hong Kong
Air Deccan	India
Air Italy (prev. Meridiana)	Italy
Air Asia Japan	Japan
Avianca Perú	Peru
Montenegro Airlines	Republic of Montenegro
Go2Sky	Slovakia
South African Airways	South Africa
South African Express	South Africa
NokScoot	Thailand
Atlasglobal	Turkey
Flybe	UK
Nantucket Express	USA
Trans States Airlines	USA
Compass Airlines	USA
Ravn	USA
Miami Air International	USA
Shoreline Aviation	USA
Expressjet	USA

The support in Asia for airlines has been more sporadic, from the almost total support shown by Singapore for its flag carrier and Chinese airlines also benefitting from state aid, to Thailand where its own flag carrier entered into administration after being denied government support. Indonesia and Malaysia have also been slow to provide significant support and airlines there are struggling as a result.

The list of airlines that have ceased operations, as well as those that have entered some form of debt restructuring, is relatively modest when compared to a more normal year and particularly considering the profound scale of the current health crisis and forced grounding of airlines. Government support has been critical for airlines that have seen revenue cut by 80-90% for the past year and, with cash burn continuing to outpace income generation, more support may be required to ensure the survival of some of the world's airlines. However, government aid is limited and with more lockdowns weakening airlines further, pouring additional taxpayer funds into failing businesses is not a popular move politically. Norwegian, for example, after receiving substantial government aid and working to restructure its debt burden with its creditors all year, warned it could not continue operations without further government funds. When the Norwegian government refused more aid, the airline entered administration proceedings first in Ireland and then in Norway.

The government financial support that has been provided has disrupted the airline business landscape significantly. Profitable airlines with strong parent companies and/or robust shareholders have received government aid, as have some weaker airlines that have been saved from formal restructuring for now with a state lifeline. Although some strong airlines in other jurisdictions have been denied significant government aid and have been required to rely on raising crippling levels of debt, while many weaker airlines are floundering at the start of 2021 without any support from the state and as creditors' forbearance begins to expire. Heading into a recovery scenario over the next 12-24 months, this unlevel playing field will shape the future aviation operating landscape.

State aid financing is regarded as credit positive in the short term since it boosts airline liquidity ensuring they can continue to operate through the crisis while restrictions remain on air travel. Indeed, banks and lessors have tightened their credit due diligence of airlines which almost all contributors to this report have indicated that whether or not the airline has secured government support is a major input into that decision making process.

"When our airline clients first come to us for funding, my first question is always 'what is your government doing to help you?'," says one banker, "and then also finding out what support lessors and export credit agencies are offering. All of that has to be part of the conversation before banks can commit to any lending. Government support was, and is, a very important question for lenders because it's not just about aircraft financing, banks have a lot of unsecured exposure to the aviation sector. Every lender

"When our airline clients first come to us for funding, my first question is always 'what is your government doing to help you?'," says one banker, "and then also finding out what support lessors and export credit agencies are offering. All of that has to be part of the conversation before banks can commit to any lending."

An aviation banker

expected the Thai government to step up and help the airline. When it didn't, lenders were thrown into a quagmire and began to question the future of government-owned airlines. This happening in a country where the airline is so important to the economy sent negative messages to the market and as a result made the lives of other airlines much more difficult."

In many cases, government support has been pivotal to companies' ability to raise finance with commercial banks or in the capital markets. In March and April 2020, airlines in the US were effectively closed off from raising debt apart from very high coupons. "In March investors just didn't want to put money into airlines," said one financier at the *Airline Economics* Growth Frontiers Dublin 2021 virtual conference. "But after the US Government – and in other jurisdictions – pumped in unprecedented levels of liquidity, the markets regained the confidence to buy into even the largest offering by an airline by Delta and into a EETC with a portfolio of 20 year old aircraft, spare parts and engines."

Government money has succeeded in boosting investor confidence around the world. In the UK, the success of Rolls-Royce's £5bn recapitalisation package, completed in November 2020, comprised £2bn of new equity, £2bn in new bonds with maturity in 2026/2027 and a £1bn two-year bank facility, was boosted by UKEF's in-principle support for an £1bn extension of its 80% guarantee of the company's existing £2bn five year term loan. As the US carriers will attest, having that government backing in place, offers comfort to investors, boosting the ability of aviation companies to raise funds in the capital markets.

Government support is clearly essential to assist airlines and manufacturers weather this crisis, but the type of support will impact greatly on the fortunes of the company in the recovery. In the post-pandemic operating environment, Fitch Ratings expects airlines to operate in smaller and more competitive markets due to the lagged demand recovery, which will require them to strengthen their capital structures by deleveraging, executing

AIRLINES THAT ENTERED BANKRUPTCY PROTECTION OR RESTRUCTURING IN 2020

Airline	Country
Virgin Australia	Australia
LATAM	Chile
LATAM Brazil	Brazil
Air Mauritius	Mauritius
Aeromexico	Mexico
Avianca	Panama
BRA	Sweden
Virgin Atlantic Airways	UK
Norwegian	Norway
Condor (exited bankruptcy protection in Dec. 2020)	Germany
Thai Airways	Thailand
EasyFly	Colombia
Interjet (no official restructuring but flight cancelled; staff, IATA fees and fuel bills unapid)	Mexico

"In March investors just didn't want to put money into airlines, But after the US Government – and in other jurisdictions – pumped in unprecedented levels of liquidity, the markets regained the confidence to buy into even the largest offering by an airline by Delta and into a EETC with a portfolio of 20 year old aircraft, spare parts and engines."

One banker speaking at the Airline Economics Growth Frontiers Dublin 2021 virtual conference.

cost and capex saving programmes, and implementing more conservative strategies to remain competitive. Airlines that have received government aid with stringent conditions attached, may have sacrificed some of their operational and financial flexibility. In a recovery environment, decarbonisation targets, job retention conditions, minimum air fares, curbs on share buybacks, restrict flexibility, disadvantage other creditors, and of course increase debt burdens. With increased state ownership, comes operational interference. As airlines begin to generate revenue once more, their first requirement will be to de-lever and especially refinance those more restrictive government loans.

"Airlines will want to de-lever, particularly if they have government funding," says Aengus Kelly, CEO of AerCap. "Government funding hampers your strategic ability to act and, very importantly, it hampers your ability to remunerate. Post the global financial crisis, financial institutions that had taken on tremendous leverage, particularly government leverage, sought to exit that leverage as soon as possible to regain control of strategy and renumeration."

However, certain government aid packages will be much more simple to refinance in the commercial markets than others. UKEF-backed facilities, for example, are much easier to refinance than direct government loans such as those secured by Air France and KLM.

State aid restrictions could also hinder airline M&A activity, which in certain circumstances could be critical for survival.

Despite the extensive government support that has already been committed, more is likely to be required the longer the vaccination programmes take to roll out. "We remain concerned about the outlook for airlines worldwide," says Cowen analyst Helane Becker. "Clearly most airlines would have gone bankrupt without government aid. Our view is that without a robust airline industry there cannot be robust economies, so we continue to expect governments to help their airlines through this pandemic. That said, we would not be surprised to see airlines that are not getting government aid fail."

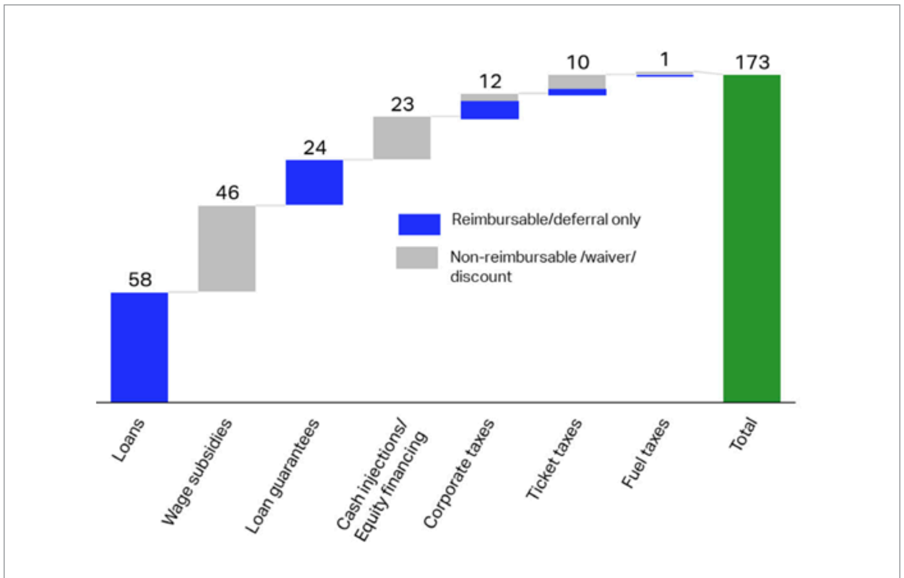


CHART 9: GOVERNMENT AID PROVIDED TO AIRLINES DURING COVID-19 (US$BN)

Source: IATA Airline Industry Economic Performance (Nov. 2020)

"Airlines will want to de-lever, particularly if they have government funding, government funding hampers your strategic ability to act and, very importantly, it hampers your ability to remunerate. Post the global financial crisis, financial institutions that had taken on tremendous leverage, particularly government leverage, sought to exit that leverage as soon as possible to regain control of strategy and renumeration."

Aengus Kelly, CEO of AerCap

STATE AID FOR AIRLINES 2020

Country	Airline	Total Amount	Details
Australia	Australia	AUS$2.7bn	The general aviation support package comprises A$715m aid for refunds and forward waivers on fuel taxes, and domestic air navigation and security charges, an additional A$300m package comprising $A198m to support regional aviation and a A$100m directly to support regional airlines.
Austria	Austrian Airlines	€150m	€150 state-backed loan (that may be converted into a grant pending 2020 results)
Belgium	Brussels Airlines	€290m	€290m government loan PLUS €170m capital injection by parent Lufthansa
Brazil	AZUL	R$1.2bn	BNDE backed loan, Brazil also postponed air navigation and airport fees in 2020
Brazil	GOL	R$1.2bn	BNDE backed loan, Brazil also postponed air navigation and airport fees in 2020
Burkino Faso	Air Burkina	US$6m	State loan
China	China Eastern Airlines	31bn yuan	State capital injections from China Life Investment (11bn yuan), Shanghai Jiushi Group (10bn yuan), China Reform Holdings Corporation and China Tourism Group will inject 5bn yuan each.
Croatia	Croatia Airlines	€12m	€11.7m state grant
Egypt	Egypt Air	$191m	EGP3bn state-guaranteed loan
Estonia	Nordica	€30m	€30m inc. share capital interest and loan
Finland	Finnair	€286m	€501m share offering - €286m stake bought by state
France	Air France	€7bn	€4bn state-backed loan, €3bn shareholder (French gov) 4-yr loan . France also granted €700m in tax aid for the airline sector.
France	Corsair	€137m	€106.7m restructuring aid; €30.2m compensation
Germany	Lufthansa	€9bn	€6bn recapitalisation via WSF (economic stabilisation fund took 20% share); €3bn state-backed loan
Germany	Tui	€3bn	€1.8bn state loan, €1.2bn second credit line and bond; €500m capital increase; €420m WSF convertible loan and €280m non-convertible loan
Germany	Condor	€550m	€550m state loan comprised €294m aid & €265m bridging loan refinancing
Greece	Aegean Airlines	€120m	Direct government grant as part of a wider capital increase
Hong Kong	Cathay Pacific	HK$39bn	Recapitalisation plan comprises: HK$19.5bn preference shares with detachable warrants to the Hong Kong Special Administrative Region (HKSAR) Government; HK$11.7bn rights issue; HKSAR Government HK$7.8bn bridge loan.
Indonesia	Garuda Indonesia	$580m	Rp8.5 trillion government funds raised via bond issuance
Israel	El Al Israeli Airlines	$148m	State capital increase plus $250m 75%-government backed loan
Italy	Alitalia	€199m	€199.45m direct grant (pre-COVID €400m state loan)
Japan	ANA	$3.8bn	JBIC-backed loan
Kenyan	Kenyan Airways	$50m	$50m state-backed loan, request out for further $500m
Latvia	Air Baltic	€250m	Government recapitalisation increased gov stake from 80% to 96%.
Mexico	Avianca	$370m	State-backed loan as part of DIP financing package
Netherlands	KLM	€3.4bn	€2.4bn 90% state guaranteed 5-yr RCF; €1bn direct loan
New Zealand	Air New Zealand	NZ$900m	NZ$900m loan facility plus additional NZ$600m relief package for the aviation sector
Norway	Norwegian	NrKr3bn	€344m state-backed facility following debt-for-equity swap agreement. Norway granted this as part of a NKr6bn state loan-guarantee for its aviation industry
Poland	LOT Polish Airlines	PLN 2.9bn	PLN1.1bn capital injection; PLN1.8bn state-backed liquidity loan
Portugal	TAP Air Portugal	€1.2bn	Portuguese government acquired additional 25% stake in TAP as part of €946m state loan - further €254m available
Portugal	SATA	€133m	Portuguese support package
Romania	Blue Air	€62m	€62m government loan (€28m public guaranteed loan, €34m rescue aid guaranteed loan)
Russia	Aeroflot	$1.15bn	Russia pledged Rb23.4bn support package for airlines - Aeroflot reported to have received one third.
Singapore	Singapore Airlines	S$19bn	Funding package from Temasek - S$5.3bn in equity and up to S$9.7bn in convertible notes. S$4bn bridge loan facility with DBS Group.
South Africa	South Africa Airways	$680m	Funding plan approved to relaunch airline
Spain	Iberia	€750m	€750m state-backed loan
Spain	Vueling	€260m	€260m state-backed loan
Spain	Air Europa	€475m	€240m equity-backed loan, €235m loan - both six yr tenor
Sweden/Denmark	SAS	€ 1,583	Denmark and Sweden support SKr11bn recapitalisation via new shares and rights issue. Denmark provided additional Skr3.5bn and Sweden €2.5bn in state hybrid bonds
Switzerland	Swiss/Edelweiss	Swfr1.5bn	€1.52bn 85% state guaranteed loan
Tahiti	Air Tahiti	$77m	Support in subsidies
Thailand	Thai Airways	THB50bn	State backed loan in April
Turkey	Turkish Airlines	unspecified	Turkey has offered unspecified support to Turkish Airlines as part of a $11.6bn fiscal stimulus package
UAE	Emirates	$2bn	Unconfirmed funds of Dh7.3bn provided by government
UAE	Qatar	$1.95bn	QR7.3bn government bailout confirmed
UK	Ryanair	£600m	£600m Covid Corporate Financing Facility (CCFF)
UK	EasyJet	£600m	£600m CCFF
UK	British Airways	£2300m	£300m CCFF; £2bn 5-yr UKEF loan facility
UK	Wizz Air	£300m	£300m CCFF
USA	Alaska Airlines	$1.9bn	$992m CARES loan comprising $725m grant and $267m loan, upsized to $1.9bn total in Oct.
USA	Allegiant	$194m	PSP funds $171.9m ($21m as a 10-yr term loan) upsized by $22.2m in Q3.
USA	American Airlines	$10.5bn	$5.477bn secured term loan; $5.8bn PSP funds - increased to $7.5bn in Oct.
USA	Atlas Air Worldwide	$407m	PSP funds comprise $207m grant and $199.8m loans
USA	Delta Air Lines	$5.4bn	$701m under the payroll support program (PSP) of the CARES Act, consisting of $491m additional grant funds and a $210m increase in the low-interest, unsecured 10-year loan. This includes an incremental $157 million beyond the initial $5.4bn Delta was allocated in April 2020.
USA	Hawaiian Airlines	$289m	$240m US Treasury loan - $45m drawn
USA	JetBlue	$963m	$936m original PSP allocation comprises $685m grants and $251m in unsecured term loan. Allocation raise to $963m in Sept. $114m drawn Q3
USA	Mesa Air	$195m	$195m 5-yr Treasury term loan
USA	SkyWest	$573m	$573m 5-year loan and guarantee with US Treasury - $60m drawn
USA	Southwest Airlines	£3.5bn	$3.4bn PSP proceeds, additional $94m PSP funds in Q3
USA	Spirit Airlines	$344m	Original PSP allocation of $334.7m, which includes $70.4m low-interest, 10-year loan. PSP allocation raised by $9.7m - $2.9m of which is in the form of a low-interest, 10-year loan.
USA	United Airlines	$4.95bn	$7.491bn secured term loan with US Treasury - $520m drawn as of Dec. 2020. PSP

Airline Survivorship

Many industry experts are already aware of a number of airlines that are poised to enter restructuring. Speaking at the *Airline Economics* Growth Frontiers Dublin 2021 virtual conference in January, IATA Director General and CEO, Alexandre de Juniac, asserted that at least 50 airlines had disappeared in 2020 and he expects more to follow over the next six-to-eight months.

Cowen's Helane Becker expects a few additional restructurings this winter, "mostly for airlines in Europe or southeast Asia as they had a horrible summer and don't have the capital to get through the winter". She adds that if the recovery starts "in earnest with the delivery of these vaccines into arms, then it is possible the airlines will make it through without additional restructurings".

Apollo's Rothschild noted the relatively low level of airline insolvencies in 2020 compared to 2019 numbers: "The total level of government support is north of $140 billion worldwide, be it loans, equity injections, and waivers on fees and taxes," he says. "This is buttressing many airlines and … that support has deferred some struggling airlines from having to restructure, and the willingness of lessors and lenders to defer arrears because they are not willing to take back aircraft in this environment. Obviously there's a limit to that government support. And there are a number of airlines that many expect to restructure either in or out of court."

While there is likely a limit to taxpayers' support of airlines but many observers do not foresee airlines, many have secured government investment already being allowed to fail. As one financier comments: "I imagine that flag carriers will survive; be it further cramdowns to lenders and lessors, or increased government support. Now the end seems near, it seems unlikely they will let them let fail now. It might be expensive to rescue an airline but it will be much more expensive in the long run to replace one."

Like many other lessors, Peter Barrett, CEO of SMBC Aviation Capital, agrees there will be more bankruptcies but also praises the resilience of the airline industry: "I don't think we've seen the bottom of this yet; we will see some more

"The total level of government support is north of $140 billion worldwide… that support has deferred some struggling airlines from having to restructure… Obviously there's a limit to that government support. And there are a number of airlines many expect to restructure either in or out of court."

Gary Rothschild
Head of Aviation
Apollo Global Management

restructurings. The next four or five months are going to be challenging for the industry until there has been a meaningful rollout of the vaccine, which we start seeing some impact in the summer of 2021. There has been a lot of damage done to balance sheets and the cash position of airlines around the world and we will see the consequences of that; not just for the next number of months, but the next number of years. But airlines are very resilient, and it is hard to kill them. There will be further challenges, some failures, more restructurings; but airlines are very focused on survival. Many airline business models are built on the return of passenger demand recovering in the middle of this year in meaningful way."

John Plueger, CEO of Air Lease Corporation (ALC), agrees, observing that even though the impact on the industry has been "breath-taking", there are few other industries that can survive a 80-90% hit on revenue and cashflow for 10 months and survive. "The airline industry has survived and has put in place defensive measures that has enabled most carriers to draw upon all their capital resources," he says. "The level of government support provided speaks to the fundamental importance of air transport to the global economy."

Plueger disagrees with the view that the level of airline failures in 2020 was low compared to previous years considering the depth of the crisis. "I'm not a hundred percent of the view that we haven't seen that many airlines failures. If you count informal restructurings with airlines that have entered bankruptcy restructurings, instead of just shutting down, I feel there has been a substantial amount of those," he says. "Aside from Aeromexico, ALC avoided all these other major bankruptcies or restructurings. But we very much expect to see airlines continue to restructure for the next couple of quarters, and perhaps some will fold."

Speaking in December, AerCap's Kelly observed the resilience of carriers but also predicted some casualties. "There's no question that there are airlines in difficulty," he says. "As we reported on our Q3 earnings, all of the airlines that are in a formal bankruptcy process or are in restructuring accounts for 15% of our book, which is significant, but that leaves 85% that are not. The vast majority of the world's airlines will make it through to the far side of this but it's a given that there's going to be casualties."

At the outset of the crisis in March 2020, airlines were forced to pivot rapidly away from a business strategy focused on growth and increasing profit margins to shrinking fleets and conserving cashflow, notes Robert Korn, president of Carlyle Aviation Partners. "Most airlines have now repositioned themselves, formally or informally restructuring their payment terms with their stakeholders, to find a way through the winter. As we emerge into spring, many airlines have speculated traffic will pick up as we get into the summer."

The survival of many airlines hinges on that predicted return of meaningful levels of air travel for summer 2021 but stress will continue to impact the market into 2022. Airlines will need additional liquidity and stricter cash cutting measures to ride out what is predicted to be a rocky road to recovery in late 2022-23.

"The ability for airlines to survive rests on their ability to manage their capex, but also the timing of the recovery," says Corr. "Carriers that rely on the medium- and long-haul markets will have the greatest struggle. The stress may not be seen until the second half of 2021 and into 2022, because a number of the carriers have shored up their liquidity to get them through this winter. But again this is very dependent on the robustness of the summer season and the demand for traffic in 2021."

LESSOR SUPPORT

As the lifeblood of the aviation industry, the survival of airlines is paramount. An early and major part in their survival journey has come from the aircraft leasing companies. When travel was halted, airlines with leased aircraft approached their lessor partners first for assistance in reducing costs with payment deferrals and lease renegotiations.

Speaking at the *Airline Economics* Growth Frontiers Dublin 2021 virtual conference in January 2021, Scott Haralson, CFO of Spirit Airlines, commented on how helpful their lessor partners were during the outset of the pandemic, despite their own issues, assisting the airline as best they can in a common goal to keep the partnership in

"The airline industry has survived and has put in place defensive measures that has enabled most carriers to draw upon all their capital resources. The level of government support provided speaks to the fundamental importance of air transport to the global economy."

John Plueger
CEO
Air Lease Corporation (ALC)

place. He praised the open and honest communications between the airline and lessors that has continued as the crisis has lengthened, indicating that those strong relationships are essential as the airlines continued to access liquidity in the sale-leaseback market.

Robert Neal, treasurer and VP of fleet and corporate finance at Allegiant, echoed those sentiments. Even though the airline has only three leased aircraft, Neal experienced very strong support from the leasing community especially in the sale-leaseback space, even for older aircraft assets, and added that the same level of support was also extended by lenders and vendors. "While we didn't have to make calls about postponing lease payments, certainly we were making calls to our airports and ground handling and maintenance providers to a little bit of extra time… and we just saw tremendous support across board."

In Brazil, this support was not as immediate says Alex Malfitani, CFO of Zaul, observing however that lessors were much more willing to negotiate after several airlines in Latin America filed for Chapter 11 bankruptcy protection. After that "fork in the road", Malfitani observed a "clear shift in willingness to negotiate", adding that he was "very thankful" and that he fully recognised the value of the support the airline has received from lenders and lessors.

In spring 2020, lessors reported an average deferral request rate of between 70-80% of their customers as fleets were grounded due to lockdowns and an inability to travel. In December, however, lessors reported that this had reduced to 35-60% of customers requesting further deferrals.

AerCap's Kelly observes that the second quarter of 2020 was the peak period for deferral requests from airlines as traffic levels collapsed. Speaking in December for this report, however, he remarked that the level of deferral activity had reduced by about 75%.

As the crisis continues, with restrictions expected to last for at least the first half of 2021, airlines are left with a surplus of aircraft and are working to shrink their fleets further. This has already led to airlines restructuring aircraft lease agreements, some under court protection and some more informally working with lessors to find an amicable agreement. As the operating environment remains depressed, more formal restructurings are predicted over the course of 2021. Lessors with exposure to troubled airlines will continue to negotiate for the most favourable outcomes but, the longer airlines are restricted from flying and generating revenue, the greater the burden shifts to leasing companies.

The general perception is that larger aircraft leasing platforms with strong shareholders or parents will be able to weather the crisis well, so long as they are able to retain access to capital, either via their shareholders or the capital markets. To date, the largest lessors have continued to raise substantial amounts of capital at relatively low interest rates.

"In terms of lessors raising capital and strengthening their liquidity profile, the result has been nothing short of exceptional," observes DAE CEO, Firoz Tarapore. "The markets are functioning correctly and all the lessors – at least the observable ones – have behaved in such a responsible way to maintain the right level of liquidity and the right profile." But he notes that smaller lessors are in some difficulty, pointing out the downgrading of certain lessors.

Nordic Aviation Capital – which has already succeeded in restructuring its debt – Voyager and Avation have all been downgraded by various rating agencies. The main areas of concern aired by rating agencies for Voyager and Avation are their liquidity levels and repayments of maturities.

With the exception of smaller lessors that are experiencing some financial pressures, to date, the resilience of the leasing market and the ability of lessors to grant forbearance to their client for long periods is testament to the maturity of the leasing market. Robert Korn observes how the sector has progressed over the past two decades: "We're in a very different place than we were 20-plus years ago. We are now considered a mainstream institutional business. And a very resilient business. The large lessors have demonstrated that this year by continuing to issue phenomenal transactions that reflect the confidence in the stability of our industry." (More on lessor financing in Chapter 3 below).

"In terms of lessors raising capital and strengthening their liquidity profile, the result has been nothing short of exceptional. The markets are functioning correctly and all the lessors – at least the observable ones – have behaved in such a responsible way to maintain the right level of liquidity and the right profile."

Firoz Tarapore
CEO
DAE

Chapter Two

Fleet Focus

Airlines have been reducing capacity throughout 2020 to reduce cash burn and operate only a skeleton service during the lockdown periods. However, that reduction in capacity is becoming more permanent as airlines seek to downsize their fleets to better compete in a restricted marketplace. Almost every major airline – flag carriers in particular – indicated in 2020 that they will emerge from the crisis as smaller airlines, both in terms of headcount and fleet size.

Airlines have been reducing their fleets by retiring older aircraft earlier than planned as well as deferring deliveries of new aircraft where they can. With the sharp decline in long-haul, international travel, widebody aircraft – particularly older vintages – have borne the brunt of aircraft retirements during the crisis. But many narrowbody aircraft have also been taken out of the operational fleet, especially older A320s and A319s. Figures from Cirium (Chart 16) shows actual retirements were lower than in 2019 but the parked fleet (Chart 17) shows that more aircraft are on the ground and may be retired at a later date. It also shows that aircraft owners are not yet parting out their aircraft due to the depressed aftermarket space, and may be waiting for values to rise.

Alaska Airlines plans to exit its Airbus fleet by 2023 with the retirement of its older A319s and A320s, and the sale of its 10 A320neos as it ramps up deliveries of its 737 MAX order. Alaska entered into a sale-leaseback with Air Lease Corporation (ALC) in November for 10 of its A320s and at the same time leased 13 737-9s, which is in addition to the 32 MAX aircraft Alaska has on order from Boeing.

Delta Air Lines has been the most aggressive US carrier in streamlining its fleet to better compete in the altered marketplace, with the retirement of over 200 aircraft last year (four entire fleet families, MD90, MD88, 737-700s and 777s, have exited the fleet in 2020) with plans for this number to increase to 383 by 2025. Delta is moving to a more cost-efficient widebody fleet based on the A330 and A350 family and will retire its 777s and aging 767-300ERs. Indeed Delta has recently offloaded 11 767-300s to Amazon Air as its first direct purchase.

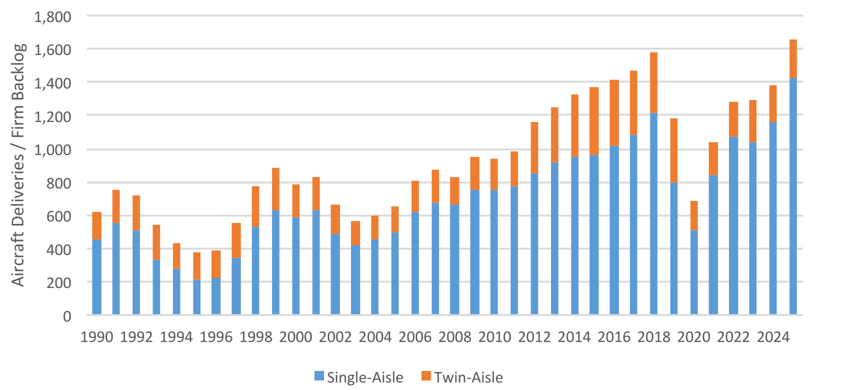


CHART 18: AIRCRAFT DELIVERIES (SOURCE CIRIUM CORE)

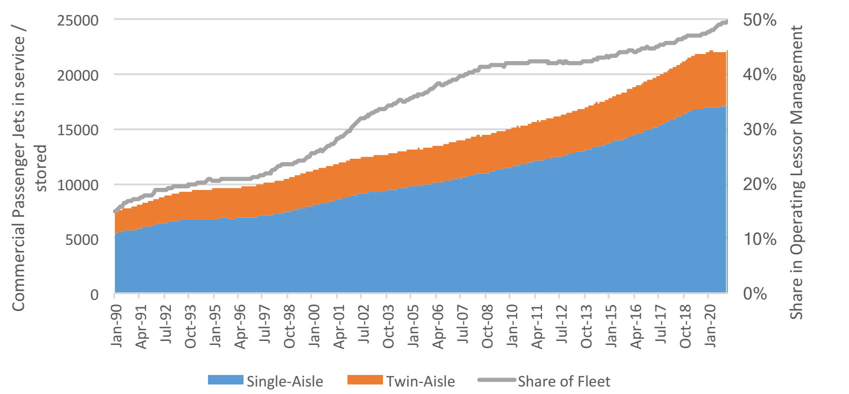


CHART 19: AIRCRAFT IN SERVICE/STORED (SOURCE: CIRIUM CORE)

Source: Cirium

"[American Airlines] will emerge from the crisis a smaller airline than we had anticipated prior to the virus, and go into 2021 as a smaller airline."

Doug Parker
CEO
American Airlines

American Airlines retired 114 of its mainline aircraft – 757s, 767s, A330-300s, E190s and CRJ200s – in 2020 and plans to take delivery of around 39 new aircraft (16 A321neos, 10 737 MAX 8s and 13 787s) in 2021 after reaching an agreement with Boeing to defer up to eight 737 MAX deliveries. American Airlines CEO Doug Parker told analysts in July that the carrier will emerge from the crisis "with a smaller airline than we had anticipated prior to the virus, and go into 2021 as a smaller airline."

British Airways' then CEO Alex Cruz offered a similar statement in an impassioned open letter published in June in a UK newspaper. He wrote: "At BA, 98.2 per cent of our business is international. We know we will emerge from the Covid-19 crisis as a much smaller airline. We will have fewer customers and fly to fewer routes for years to come. Our business will be laden with hundreds of millions of pounds in new debt, much of which must be repaid over a short term, so any revenues we make when we return to flying will be swallowed up by loan repayments. Meanwhile, fleet-of-foot overseas competitors will be waiting in the wings to take the landing slots at Heathrow." Although BA has now received a much-needed liquidity boost from the UKEF-backed loan facility, with international traffic still depressed, the airline is continuing to reduce its fleet, retiring its entire fleet of 31 747s early in the fourth quarter of 2020.

Qantas also retired its remaining 747s in July rather than at the end of the year as planned, and the future for its currently stored A380 fleet is uncertain. The A380 has been a major casualty of this crisis, with Air France the first to announce the permanent and accelerated retirement of its fleet of 10 A380s by 2022. SIA has permanently retired seven A380s and parked the remaining 19 aircraft. Lufthansa, which took out all of its A380s as well as other older widebodies, has removed all of its A340-600s. As of December 1, Cirium fleets data shows 21 A380s in service and 219 in storage, with three retired.

John Plueger, CEO of ALC, comments that the most perceptive airlines are using this crisis to rightsize their fleets sooner than planned. "The pandemic is accelerating retirements. Airlines are

"There has been a very non-uniform plan to retire and simplify fleets. We've seen planned retirements accelerated, where airlines had intended to extend leases until they receive their new deliveries but they're now simply returning the airplanes."

Robert Korn
President
Carlyle Aviation Partners

in a survival mode, so they're going to operate the cheapest airplanes but the most astute airlines, and especially the larger carriers, are using this situation to their maximum advantage to accelerate planned retirement of aircraft to leapfrog and push forward their environmental sustainability initiatives."

Plueger observes an excess of older aircraft in operation that was needed to cope with the air travel demand over the past decade, which have been operated for "longer than their time", adding that the pandemic has forced a "clearing out" of that older technology equipment. "We are witnessing a huge replacement cycle, which is only muted because there are fewer airplanes flying. There will be less airplanes flying, but the question is which airplanes remain parked and don't fly again. That's a big part of our calculus to determine who we think is going to be a survivor long-term by being able to replace older aircraft now and enhance their environmental sustainability and improve their profile for the long-term future."

Lessors too have been reducing exposure to the widebody market – at least for certain types – young A330s and 777s, will make up the majority of the widebody fleet, while 787s and A350s remain desirable assets over the longer-term.

"There has been a wholesale move to take the 747s, 757s, 767s, A380s, A340s, and the very old A330s out of the passenger business," says Carlyle Aviation's Robert Korn. "There has been a very non-uniform plan to retire and simplify fleets. We've seen planned retirements accelerated, where airlines had intended to extend leases until they receive their new deliveries but they're now simply returning the airplanes. This has allowed for a very rapid reduction in a significant number of aircraft, as opposed to just airlines parking airplanes for a periodic storage. When we emerge from this, there will be a much more uniform fleet of A320 and 737-families of airplanes, and a much reduced fleet of widebodies in terms of aircraft types. We will see a much larger percentage of the continuing in-service widebodies be A330s and 777s. And as the widebody fleet grows, it'll be with the new types. Only very few of the older types will remain in service over the next few years."

Engine Lease Finance, which invests in all aero engines types, has seen its portfolio impacted by the reduction in demand, but CEO Tom Barrett remains convinced that capacity demand will return. "We will have some engines more greatly affected by an early part-out or retirement. However, based on previous experience, as the capacity returns, many of those stored aircraft are going to be required. There's no question about that. There will be pockets where a return to service would be more challenging creating short-term leased opportunities. As long as you've got the right infrastructure to react to that, and as long as you've got the professional team with developed relationships with the airline customers over the years and all of your various partners in the industry, and the MRO shops also, most of the workhorses of the business – the CFM56-5/7B and the V2500-A5 – they've got a good life ahead yet."

Many widebody aircraft – and some narrowbody aircraft – will transition to the air cargo market, which has been a real bright light in the darkness of the aviation industry in 2020. There is a clear demand for more feedstock for the PRF conversion market, as air freight demand remains high and belly cargo space is limited due to the restrictions on international, long-haul travel, due to the COVID-19 pandemic, which is expected to remain depressed for the near-term future.

The continued lack of belly cargo space has led to the rise of "preighters", passenger aircraft converted to carrying cargo as an interim solution, as airlines seek to generate revenue as passenger travel remains depressed. However, the long crisis period and the even longer predicted recovery, preighters are not a long-term solution since cargo has to be loaded by hand, which is costly and time consuming. Those airlines may now be considering a more permanent expansion in the air cargo space.

In January 2021, World Star Aviation launched P2F Funding Programme, a new passenger to freight (P2F) conversion funding programme, which aims to offer a number of financing solutions to airlines and aircraft owners, including sale-leaseback financing as

> **"We will have some engines more greatly affected by an early part-out or retirement. However, based on previous experience, as the capacity returns, many of those stored aircraft are going to be required. There's no question about that."**
>
> *Tom Barrett*
> *CEO*
> *Engine Lease Finance*

well as senior secured and high loan-to-value financing, secured by the converted aircraft. Speaking to *Airline Economics*, Marc Iarchy, a partner at World Star, first discussed the idea for a P2F fund with Oaktree last year when the demand for additional air freight were peaking. "We have always liked freighters generally and have carried out many conversions over the years but there has been a massive demand for air freight over the past year. Added to that is the fact that P2F conversions slots have been booked by airlines and aircraft owners for the next three years as they reduce and replace their fleets. Those conversions will need to be financed at a time when airlines are massively cash constrained."

The final composition of the world fleet depends very heavily on how long it takes for demand to return with analysts forecasts ranging from forecast range from 2022 to 2025. Robert Korn says when the market has a clearer picture of when that demand will return, it will play a large role in manufacturers' delivery plans as well as permanent aircraft retirement planning.

"We are watching, waiting, hoping to understand and appreciate as an industry, what the demand for seats and travel will be, and therefore how we can program the underlying needs of our industry," says Korn.

Signs of a pick-up in demand is being keenly observed by airframe and engine manufacturers, which are eager to ramp up production once more to generate revenue. Prior to the crisis, there was a general acceptance in the market that there was an oversupply of aircraft from the OEMs that put significant pressure on lease rates. After the onslaught of the health crisis the manufacturers were first hit by the loss of workers due to lockdowns and the need to make COVID-19-safe workplaces. But even once they reopened, production needed to be reduced because aircraft weren't able to be delivered to clients safely (although this was soon overcome with the first remote, e-deliveries that began with three A320neos to Pegasus in May).

With expectations of a wave of deferrals and even cancellations as fleets remained grounded, in April, Airbus had cut production by a third to produce 40 A320neos a month, down from 60 a month.

Despite deliveries being down by 34% in 2020 to 566, Airbus chief executive Guillaume Faury has commented that the manufacturer would increase production in the second half of 2021, with further ramping up in 2022 and 2023. Unconfirmed reports suggest that although the 40-rate per month would remain for the beginning of this year, Airbus has warned suppliers to prepare for a ramp up in production to 47 aircraft a month from H2 2021.

Rival Boeing has had a very difficult year in 2020. Already reeling from the impact of the grounding of the MAX, Boeing was compelled to end its merger agreement with Embraer as the pandemic hit revenues and it grappled with the need to cut production, rationalise its workforce, and raise eye-watering amounts of debt.

Boeing also rounded off the year with a three-year deferred prosecution agreement with the US Department of Justice (DOJ), which settles the charges, including one count of conspiracy to defraud the US, and resolves the Department's investigation into the evaluation of the 737 MAX by the Federal Aviation Administration (FAA). Under the agreement, Boeing will pay a penalty of $243.6 million and provide $500 million in additional compensation to the families of those lost in the Lion Air and Ethiopian Airlines accidents. The agreement also includes a commitment to provide $1.77 billion to Boeing's airline customers as part of the company's ongoing efforts to compensate those customers for financial losses resulting from the grounding of the 737 MAX.

In January, Boeing issued its latest orders and deliveries tally shows that the company delivered only 157 aircraft in 2020 – its lowest figure for more than 40 years. Despite the health crisis, Boeing did book more orders for the MAX in 2020 as commented above. However, the company is no longer confident of delivering the 500-plus outstanding orders due to the depressed market conditions and potentially looming airline cancellations. Boeing's order backlog is reported at 4,223 planes at the end of 2020.

Boeing has not indicated any plans for the imminent increase in production, indeed it may reduce the rate further

"The duopoly of Airbus and Boeing ultimately acts rationally. This year, Airbus and Boeing could have put many airlines out of business by forcing airlines to take the airplanes they ordered and take the pre-delivery payments... they didn't do that because they know that they would lose orders and they know that most airlines come back after a crisis."

Aengus Kelly
CEO
AerCap

for some types. In September, Boeing confirmed that due to the impacts of COVID-19 on customer demand, it is currently producing 787s at a rate of 10 per month with plans to reduce that to six per month in 2021. Despite the MAX being cleared to fly, Boeing is keeping production rates low and has only commented that it would gradually increase output to 31 aircraft per month by the start of 2022.

AerCap's Kelly is confident that Airbus and Boeing will continue to ensure that supply doesn't overwhelm the market. "The duopoly of Airbus and Boeing ultimately acts rationally," he says. "This year, Airbus and Boeing could have put many airlines out of business by forcing airlines to take the airplanes they ordered and take the pre-delivery payments, and if the airlines don't take the aircraft, they could force them into bankruptcy. But they didn't do that because they know that they would lose orders and they know that most airlines come back after a crisis. This is the same behaviour we saw from the OEMs after 9/11 and after the global financial crisis – they manage supply into the market in a regulated fashion. If they allowed the market to regulate supply, the result would be chaotic where airlines would be filing for bankruptcy all the time, and Boeing and Airbus would lose their order books."

Gary Rothschild also commended the market impact of the airframe manufacturing duopoly, which he believes will balance the supply-demand curve. "One of the nice things about the aviation market is the quasi duopoly that exists, which gives the OEMs the ability to better match the supply of aircraft to the demand. This is very different than other industries, such as shipping where manufacturers continue to build vessels throughout a downturn despite a lack of demand, in turn flooding the market and depressing prices. Such a situation is not in the interest of the aviation OEMs that are able to better calibrate deliveries in production to the demand."

That said, OEMs are still in the business of selling airplanes and engines. Although production rates are remaining depressed as the lockdowns continue, all manufacturers will want to increase output – especially of narrowbody aircraft like the A320neo family and the 737 MAX – to deliver those outstanding orders to restore positive cashflow to the business. With airlines in significant financial stress, leasing companies will become much more important to the OEMs and indeed they already are.

"There will be substantial pressure placed on airlines by the OEMs to take the aircraft they have ordered," says David Butler, CEO of Seraph Aviation Group. "The problem is that most airlines won't be in a position to take them as their balance sheets and liquidity have come under pressure. The leasing community will have an important role to play with the OEMs and these airlines, for example through sale-leasebacks. I see the OEMs and the larger lessors working very closely together in the years ahead."

Kelly, however, sees Boeing and Airbus being much more cautious about who they are willing to take orders from in the future to ensure they can deliver on those orders. "The OEMs know in their heart of hearts that taking orders from someone with a pulse is not good business, and only serves to inflate their orderbooks in the short-term... Over the course of the last two or three years, we saw a number of lessors coming into the business, who claimed to be able to order airplanes and place them, but ordering airplanes, dealing with specifications with vendors requires the right systems, technical knowledge, and experience, which takes years to develop. And so I think that with the manufacturers, we'll definitely see, a more selective element. Although I've no doubt they will forget this in five or six years and revert to past form."

> **"One of the nice things about the aviation market is the quasi duopoly that exists, which gives the OEMs the ability to better match the supply of aircraft to the demand"**

Engine OEMs too have been heavily impacted by the pandemic in terms of production levels.

"They're producing less than half the engines this year than might have been expected, which was on the back of a ramp up in production expected by both the aircraft manufacturers," says Tom Barrett, CEO of Engine Lease Finance (ELF). " They have had to cut staff and have to face the reality that production will probably remain closed for at least next year, if not further. That's a huge planning issue for manufacturers who will focus on core engine production as a priority for the next 12 months, to get back to pre-crisis production levels."

He adds though that the engine market is unlikely to see a shortage in supply for some time. "There is so much capacity still to come back into the system – all of the parked aircraft, all of the new MAX aircraft – so there is going to be plenty of engines available for some time. There will be pockets of opportunities and we will continue to invest through the recovery but it will be for quality assets. It's no surprise that the new technology aircraft and engines will be most in demand but there is still life for the NGs and CEO aircraft, which will be delivering capacity in the market for many years to come."

SHIFT TO LESSORS

Despite the obvious pressures on leasing companies to offer rent deferrals and renegotiate leases with their more troubled clients, lessors with available capital have been able to capitalise on the airlines' dire need to leverage assets to increase their liquidity coffers. The demand for sale-leaseback transactions has skyrocketed and this time deals are being won at prices that make more economic sense than they have for the past decade in an overheated market. This market trend has attracted more lessors to the sale-leaseback sector than ever before – from new names, with new capital, to more mature leasing platforms re-entering the space. Cirium figures show that operating lessors acquired more than 500 passenger aircraft via purchase and leaseback transactions in 2020 – 60% of which were used aircraft – and forecasts show that 150 new deliveries are already scheduled for purchase and leaseback.

"We were never very competitive in a new aircraft sale-leaseback market because the implied returns in those transactions didn't meet our return hurdles," says Apollo's Rothschild. "Since the pandemic, there has been a significant switch from where our opportunities are coming from. Pre-pandemic, we saw 80% of our sale-leaseback opportunities in the secondary market, buying aircraft from lessors, with 20% coming from direct sale leaseback opportunities in the midlife space. That has now flipped. About 80% of our opportunities are coming directly from airlines for new aircraft. We now have the opportunity to move into the new aircraft space because of the imbalance between supply and demand and the challenges for airlines to finance those deliveries with stressed balanced sheets. As deliveries are ramped up – especially the MAX aircraft – there will be opportunities for us to find new sale-leasebacks that offer good risk-reward metrics and meet our return hurdles."

Gary Rothschild's comments have been echoed by almost every lessor that has contributed to this report. Airlines are struggling to find financing for new deliveries due to the reduced commercial bank market and as they seek to raise liquidity, they are turning to leasing capital as another survival resources.

Austin Wiley, CEO of Sky Leasing, comments on the number of airlines coming to the sale-leaseback market, some for the first time. "We have seen airlines that haven't traditionally used the lessor channel in a major way, utilising it now to fund deliveries. JetBlue, for example, had not done a sale-leaseback transaction for the better part of 13 years prior to closing the deal with us," says Wiley. "Those are the rare opportunities that we wanted to grab. We also see a recognition of a more balanced approach for the different financing channels that the airlines want to use. We see the trend for sale-leasebacks continuing because they provide balance sheet and fleet flexibility. There are many opportunities coming with airlines

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>
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> *CEO*
> *GENESIS*

that have good business models but they didn't have the balance sheets to withstand this kind of crisis. So we're focused on a number of airlines that we think are going to rebound, with strong management teams and sound value propositions in their markets. Our advantage is that we can have a different conversation with the airlines because we are fortunate not to have a legacy fleet to deal with any restructurings, which means we can provide capital for their go-forward fleet plans."

Larger leasing platforms, which have raised copious amounts of liquidity in the second half of 2020 when the capital markets floodgates opened, are taking advantage of this trend to not only acquire new assets at attractive price points, they are also leveraging sale-leaseback demand to ensure other assets keep flying. Smaller lessors, which have capital to deploy – as a result of prudent portfolio management or simply good timing, are also pouncing on this opportunity to launch relationships with tier one airlines for brand new technology assets.

"For companies whose balance sheets are in order and those with available capacity to acquire aircraft, there are good opportunities out there," says Karl Griffin, CEO of GENESIS. "But nothing is simple in this market. Asset and credit quality together will be important. The market is at the right point in the cycle to take calculated risk, and companies, like GENESIS, will get rewarded for that in due course. So, there are opportunities to support airlines that have built up an encumbrance in their own aircraft and potential for sale-leasebacks. In addition to this, prices for the new-technology aircraft have now adjusted to the appropriate range, allowing for increased participation in this space. Over the next 6-to-12 months, focus will be placed on selecting the right counterparty and asset types. Debt will be more challenging to find than it was pre-COVID, but as the market improves and airlines start to recover, our expectation is that GENESIS will be able to opportunistically purchase aircraft and, if necessary, refinance them over the next 24 to 36 months".

TOP 30 LEASING COMPANIES (RANKED BY NUMBER OF AIRCRAFT)

Manager	Total Portfolio	On Order	Est Portfolio Value ($mn)	Current Rank
AerCap	1,022	288	29,732	1
GECAS	989	253	19,377	2
Avolon	578	240	18,368	3
BBAM	516		18,250	4
Nordic Aviation Capital	483	72	4,573	5
SMBC Aviation Capital	473	223	16,670	6
ICBC Leasing	457	108	15,785	7
BOC Aviation	404	135	15,929	8
Air Lease Corporation	396	369	16,085	9
DAE Capital	365		8,737	10
Aviation Capital Group	336	67	8,678	11
Aircastle	280	25	4,664	12
BoComm Leasing	249	30	7,916	13
CDB Aviation	240	137	7,280	14
Carlyle Aviation Partners	232		2,761	15
Castlelake	227		3,414	16
ORIX Aviation	207		5,462	17
Macquarie AirFinance	191	52	2,962	18
Boeing Capital Corp	182	23	1,394	19
Goshawk	182	40	5,690	20
Jackson Square Aviation	181	30	6,365	21
AVIC International Leasing	154		4,807	22
China Aircraft Leasing Company	142	247	3,769	23
Standard Chartered Aviation Finance	134		3,739	24
AMCK Aviation	131	20	3,243	25
Cargo Aircraft Management	114		1,468	26
Falko	111		1,087	27
CMB Financial Leasing	109		3,761	28
GTLK - State Transport Leasing Company	106	1	2,158	29
Chorus Aviation Capital	99	1	1,252	30

Source: Cirium Core

Return of the MAX

Boeing's 737 MAX aircraft was cleared for return to service after the US Federal Aviation Administration officially rescinded the grounding order for the aircraft on November 18, 2020 together with a list of required return-to-service maintenance and pilot training tasks for operators before their aircraft can return to service. The entire fleet of the MAX aircraft type was grounded in March 2019 after two separate crashes which killed 346 people.

The first commercial 737 MAX flight was made by GOL on December 9, with domestic flights from its hub in São Paulo. Aeromexico, which has six 737 MAX 8 aircraft, was the next commercial airline to fly the MAX, followed by American Airlines, which resumed two MAX flights per day from Miami (MIA) to New York LaGuardia (LGA) on December 29 with more scheduled to be added throughout January.

American is providing passengers with full details on which aircraft the flight will use and is allowing passengers to change flights with no charge if their flight is changed to use the MAX aircraft.

Rebuilding passenger confidence in the aircraft is paramount to its success. All of the airlines that are resuming MAX services are highlighting their absolute confidence in the safety of the aircraft, which has been checked and double checked by regulators over the 20 months it has been on the ground.

Celso Ferrer, VP of Operations at GOL, who is a commercial pilot and already trained to fly the 737 MAX, described the re-certification of the MAX as the "most comprehensive safety review in the history of commercial aviation" and as a result of the new certification approved by the FAA and ANAC, the National Agency Civil Aviation Administration in Brazil, he is "fully confident in the MAX's return to service".

Before reintegrating the MAX-8 into its fleet, GOL confirmed that it had conducted training for 140 of its pilots in conjunction with Boeing using a MAX simulator in the US, meeting all the technical and operational requirements outlined by regulators. GOL also stressed the fact that it had completed a rigorous series of technical flights that exceeded the requirements set out by aviation regulatory agencies, which "reinforced the meticulous work of removing the MAX-8 aircraft from storage by the aviation engineers at GOL Aerotech".

GOL operates a single fleet of 127 Boeing aircraft, and has orders for 95 737 MAX aircraft to replace its NGs, scheduled for delivery in 2022-2032.

CEO Paulo Kakinoff stated: "We are pleased about the return of the Boeing 737 MAX to our network. The MAX is one of the most efficient aircraft in aviation history and the only one to undergo a complete recertification process, ensuring the highest levels of safety and reliability... We reiterate our trust in Boeing, our exclusive partner since GOL's inception in 2001."

American Airlines too issued a number of similar statements detailing its trust in Boeing and the re-certification of the MAX. The US carrier has an entire webpage dedicated to the aircraft type, which sets out in detail the airline's process for ensuring the aircraft's safe return to service: "American has put in place rigorous processes to ensure that every plane in the air is safe and our pilots, flight attendants, team members and customers are confident in the return of the 737 MAX." American adds that it has invested in extensive pilot training and that its storage program has enabled the airline to keep its aircraft in excellent condition with regular care and maintenance in anticipation of its return to service. The webpage details the extensive maintenance requirements the team will complete and have signed off by FAA-licensed technicians before the aircraft returns to the skies.

Repairing the MAX

In a virtual conference hosted by Boeing Capital Corporation in late 2020, Mike Flemming, vice president, 737 MAX Return to Service, Global Aviation Safety System and Customer Support at Boeing Commercial Airplanes, gave a thorough overview on the recertification process, including the software changes, and the processes for returning to MAX to full service. The main changes to the aircraft from Boeing concerned the manoeuvring characteristics augmentation system, or MCAS, which is the flight control software that decreases pitch-up tendency at elevated angles of attack. The fault with the previous system was that it was inputted with data from a single angle of attack (AOA) vane that erroneously caused the software to fire numerous times that required the pilots to trim during manual flight. Boeing has addressed that problem in the software in three ways:

1. The flight control system will now compare inputs from both AOA sensors. If the sensors disagree by 5.5 degrees or more with the flaps retracted, MCAS will not activate. An indicator on the flight deck display will alert the pilots.
2. If MCAS is activated in non-normal conditions, it will only provide one input for each elevated AOA event. There are no known or envisioned failure conditions where MCAS will provide multiple inputs.
3. MCAS can never command more stabilizer input than can be counteracted by the flight crew pulling back on the column. The pilots will continue to always have the ability to override MCAS and manually control the airplane.

These changes have been rigorously tested and examined by the regulatory agencies to ensure the software now functions as intended. Boeing has conducted 390,000 engineering test hours developing those solutions and had over 1,800 hours in flight simulators testing the solutions as well as more than 3000 flight hours to evaluate the software on the airplanes.

Boeing also refined the training programme for MAX flight crews, starting with amended reference documents to provide pilots with more information on the manoeuvring characteristics, augmentation system on the aircraft as well as additional training materials to utilise to become more familiar with the aircraft. A series of training modules has been developed to provide guided instruction around MCAS, and other areas such as airspeed and accidental manual trimming, as well as simulator training hours where pilots will fly a series of conditions like a runaway stabilizer condition and an unreliable airspeed condition to demonstrate they can handle those problems.

Aside from the software changes, after such a thorough review of the aircraft, Boeing has also made changes in some of the wiring and software systems to put in more protections for the airplane procedures.

Boeing is assisting operators with returning the stored aircraft to service. The manufacturer has created a 24-hour operations centre operations with a dedicated team of MAX engineers that will be solely focused on the safe operation of the aircraft to resolve any issues as they arise. Boeing is also providing entry-into-service, on-site support to its customers to ensure their aircraft exit the preservation process efficiently and safely.

At the time the aircraft was grounded, Boeing had delivered 387 MAX aircraft, and had more than 400 manufactured aircraft on the ground waiting to be delivered. The logistics of returning such a large amount of aircraft to the air will be a significant challenge but Boeing will be keen to ramp up deliveries as much as possible to improve cashflow. In December, Boeing's latest Orders & Deliveries report confirmed it had delivered 27 737 MAX aircraft. Financing those deliveries, although difficult in this stressed environment, has already begun, primarily with support from the leasing sector.

Boeing resumed deliveries of the 737 MAX on December 9, with one 737 MAX 9 – the first MAX delivery in more than 21 months – to United Airlines. On December 15, Dubai Aerospace Enterprise (DAE) delivered the first of 18 737 MAX 8 aircraft to American Airlines as part of a purchase and leaseback agreement signed in the third quarter of 2020. Delivery of the remaining aircraft is expected to be completed in next few months.

Firoz Tarapore, Chief Executive Officer of DAE, used the delivery as an opportunity to express his own confidence in the aircraft: "We are pleased to further invest in these technologically advanced and fuel-efficient aircraft types in line with our commitment to environmental sustainability. The Boeing 737 MAX boasts superior fuel efficiency and reduced emissions and noise pollution, underpinning DAE's commitment to transition its fleet to newer technology assets, reducing the environmental impact of our business and supporting DAE's customers' ambitions to become more sustainable operators." DAE's owned and committed fleet includes 22 737 MAX 8 aircraft.

Meghan Montana, Vice President and Treasurer of American Airlines, commented that DAE's ability to "facilitate an agreement of this size in today's environment is a testament to their reputation and their confidence in American Airlines".

In December, CDB Aviation also completed the financing for nine 737 MAX 8 aircraft under the purchase and leaseback agreement with WestJet. The aircraft were originally delivered to WestJet over the past three years. In October, Tui agreed a $90 million sale and leaseback deal for two new 737 Max-8 aircraft with BOC Aviation. The aircraft are expected to be delivered during winter 2020-21. More sale-leaseback deals with MAX aircraft are expected.

Rob Morris, Global Head of Consultancy, Ascend by Cirium, commented that the healthy sale-leaseback (SLB) market – as airlines seek to leverage any assets they can to boost liquidity – will be a willing recipient of the MAX aircraft type.

"Airlines taking delivery of a new Boeing 737 MAX will be able to offer the aircraft in the sale and leaseback market immediately," he says. "We have already seen appetite for Max sale-leasebacks with several lessors and thus those airlines will be able to liberate the cash they have paid for the aircraft (deposit, PDP, final payments) and even potentially book an immediate profit on the sale. There are some airlines, Spicejet for example, whose business model depends upon sale-leasebacks at delivery and such airlines will be very pleased to see the MAX back in service and deliveries available again."

Speaking at the *Airline Economics* Growth Frontiers New York virtual conference held in October, ALC CEO John Plueger also gave his backing to the MAX, despite having cancelled a few of the aircraft type on the wishes of ALC's airline customers. He acknowledged the challenge Boeing has in delivering its backlog and finding finance for those deliveries but stated lessors can be very helpful with the placement of those aircraft, commenting that "in the good times, the airlines need us for our delivered positions, but in the bad times, they need us for our balance sheets... we can play a vital role in helping the Boeing company place those aircraft going forward". He added however that this will take time – estimating up to two years to place all those aircraft: "The simple fact is that Boeing has an inventory problem in in a world that needs much less capacity," commented Plueger. "The economics are obvious... but we can help."

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John Plueger
CEO
ALC

ALC has recently placed 13 new Boeing 737-9 MAX aircraft on long-term lease placements with Alaska Airlines, which scheduled to deliver between the second half of 2021 through the end of 2022 from ALC's order book with Boeing.

Commenting on the deal, Steven F. Udvar-Házy, Executive Chairman of ALC, described the Boeing 737-9 aircraft as the "most technologically advanced and environmentally attractive aircraft type", which will be introduced into Alaska's network, "just in time as we expect the airline industry will undergo a sustainable recovery starting in 2021".

The Export-Import Bank of the United States (Eximbank) has also begun to support MAX aircraft and is seeking final authorisation to guarantee a $327 million preliminary loan to Copa Airlines by Citi for the purchase of several 737 MAX 9s. Although export credit guaranteed loans can lower the risk of default for the lending banks, many aviation financing banks are reported to have withdrawn from several aircraft deals and are restricting their support to relationship clients and higher yielding products than ECA deals. But confidence is key here too. One banker said: "The MAX is part of our lending strategy going forward but I don't want to be the first. I will wait to see that there are no technical issues for the next few months but we will finance the MAX, more likely as part of a portfolio with other aircraft types."

In such a fragile market, however, Boeing may also need to step up to support the financing challenge until banks and other investors are reassured that the aircraft type is fully operational and safe. In a market update, Peter Sladic, MD Capital Markets & Outreach at Boeing Capital, presented at its virtual conference that Boeing is seeing heightened interest from institutional investors that are searching for yield in a depressed interest rate environment. He also expects more support from ECAs as well as credit enhanced offerings from AFIC and Aviation Capital Group's AFS product. The problem here is that bank debt is still required, and those banks are demanding a better return for committing the capital they have to offer. Valuing the MAX is also a problem in the depressed environment and following its lengthy grounding. IBA has not adjusted base values for the MAX, however, and believes that there is still enough of a backlog to support a liquid secondary market trading environment and that even though market values have dipped below base, they are holding slightly above soft.

Although Boeing suffered cancellations for the MAX since its grounding in 2019 and again in 2020, it received a shot in the arm from Ryanair with an order for a further 75 MAX-8200 aircraft.

Ryanair is a savvy operator and, not only does it believe in the airplane, it will have baked in a significant discount (even though Ryanair described receiving a "modest discount" as compensation for the delayed delivery of its original order).

Ryanair now has a firm order for 210 MAX-8200 aircraft, with a total value of over $22bn, and it is the launch customer for the high-capacity 737-8 variant, having placed its first order for 100 airplanes and 100 options in late 2014, followed by firm orders of 10 airplanes in 2017 and 25 in 2018. Ryanair expects to take the first deliveries of these new aircraft from early 2021, and the remainder over a four-year period between Spring 2021 and December 2024. Ryanair's Group CEO Michael O'Leary, expressed his hope that the airline will be able to take delivery of at least 50 aircraft in 2021, "subject to Boeing recovering its manufacturing output to deliver them". The aircraft will replace some of Ryanair's older Boeing NG fleet, which will remain grounded until pre-COVID demand returns, said O'Leary.

Like American and GOL, in a bid to reassure passengers, Ryanair has also pressed home the safety of the aircraft, calling it the "most audited, most regulated [aircraft] in aviation history". O'Leary says that the airline is working closely with Boeing and its senior pilot professionals to assist the European regulator EASA to certify the aircraft in Europe, and also complete the training of its pilots and crews using its three new Boeing MAX simulators in Dublin and Stansted.

"The MAX is part of our lending strategy going forward but I don't want to be the first. I will wait to see that there are no technical issues for the next few months but we will finance the MAX, more likely as part of a portfolio with other aircraft types"

Importantly, Ryanair describes the aircraft as "fuel efficient and environmentally friendly" – noting the industry remains acutely aware of its need to focus on reducing emissions under ESG pressure from governments and investors. Although the headlines on ESG and aviation have subsided due to the crisis, that pressure remains (see final chapter of this report on sustainability). American and DAE also stressed the environmental advantages of the aircraft type, which are already being considered by lenders when providing secured loans on aircraft as well as other equity investors in aircraft operators.

Cirium's Morris also points and the equally important benefit of being more fuel efficient, which is lower costs – which will be essential in the post-COVID recovery period.

"The aircraft will, of course, be around 15% more fuel efficient than the 737-800s that it will be replacing," says Morris. "Even though fuel prices are low today and utilisation is also reduced over 2019 levels, that fuel saving could still account for something like $750-$1,000 per aircraft per day. For an operator like Southwest or United, that would soon multiply up to savings in excess of $1 million per month which in today's environment where airlines want to preserve as much cash as possible is very welcome."

After Ryanair's order announcement, the market now expects other airlines to work to secure further MAX orders as discounted prices. In the US, Southwest and Delta are mooted to be in discussions on a new order.

Boeing's MAX order book was cut by up to 30% due to cancellations and the manufacturer will be keen to get those positions filled with incremental orders from existing customers for the new aircraft type. When demand for the air travel returns, and the aircraft has proven its safety profile over the next six to 12 months, airline orders are expected to return. Building passenger confidence to fly after the COVID-19 crisis and also to fly in a MAX aircraft, is a challenge the entire industry is working hard to solve.

"As soon as the COVID-19 virus recedes – and it likely will in 2021 with the rollout of multiple effective vaccines – Ryanair and our partner airports across Europe will – with these environmentally efficient aircraft – rapidly restore flights and schedules, recover lost traffic and help the nations of Europe recover their tourism industries."

Michael O'Leary
CEO
Ryanair Group

Chapter Three

The Credit Challenge

AIRLINES THAT CEASED OPERATIONS IN 2020

Rank	Loyalty Program	Associated Airlines	2020 Valuation (US$m)	Change	2017 Valuation (US$m)
1	SkyMiles	Delta Air Lines	25,931	↑	21,752
2	Aadvantage	American Airlines	23,440	↑	19,582
3	MilegaePlus	United Airlines	20,172	↑	14,687
4	Rapid Rewards	Southwest Airlines	8,013	↑	6,353
5	Miles & More	Lufthansa Group	7,418	↑	5,760
6	Flying Blue	Air France-KLM, Kenya Airways, tarom	6,675	↑	6,270
7	Aeroplan	Air Canada	6,331	↑	-
8	Avios	International Airlines Group	5,138	↑	4,750
9	KrisFlyer	Singapore Airlines Group	5,032	↑	2,739
10	Asia Miles	Cathay Pacific	4,701	↑	3,531
16	TrueBlue	JetBlue Airways	4,029	↑	3,095
41	Free Spirit	Spirit Airlines	623	↑	523

Source: OnPoint Loyalty (Top 100 Most Valuable Airline Loyalty Programs, January 2020)

At the start of the pandemic crisis in March, when aircraft were essentially grounded, commercial aviation finance banks shouldered the immediate financial burden when airlines and lessors drew down on their committed lines of credit at the earliest stage. Figures show that banks have provided more than $110bn in liquidity in 2020, mainly to airlines but also to lessors and OEMs. As a result, long-term funding for aviation companies are being restricted by certain commercial banks to relationship plays and then only secured deals – blind warehouses and non-recourse financing will be in short supply for some time to come or at least until the bulk of that liquidity has been refinanced elsewhere, which again requires the return of air travel demand. Airline treasurers report that in the early days of the crisis, bilateral loans were getting all the way to banks credit committees before being rejected as banks pulled back from increasing their exposure to the sector.

Before the crisis, some banks could have been accused of having lost discipline in extending credit. The pandemic has demonstrated the need for stringent underwriting due diligence. One veteran banker in the aviation finance world bases all aviation transactions on three pillars – the issuer/credit, the asset and the structure. "You can afford to have one weak pillar if the two others are strong enough, but in the last quarter of 2019 to the beginning of 2020, we turned down some transactions such as non-recourse and blind-portfolio warehouses because the issuers asked us to accept loose terms and conditions with a concentration of weak lessees, less liquid aircraft and more importantly loose structures in term of advance rate, amortisation, cash flow protections, maintenance cost assumptions, etc., only because they gambled that the warehouse would be refinanced in ABS markets. When we finance a portfolio, our policy is to behave as if the ABS refinancing may not happen as scheduled, and we must be comfortable holding the asset in our books for longer time than expected."

The banking market has returned to a much more conservative state, with funding limited to "top tier" credits – ideally those with access to funds via state support or capital markets, and new technology aircraft or liquid classic narrowbody aircraft. Lower rated credits are being considered but only when transactions are well secured with high quality assets, including strategic routes, slots and gates, low loan-to-value ratios (LTVs) and if there is the reasonable expectation of refinancing in capital markets.

"The more traditional bank private financing market essentially closed post COVID and activity was limited to a just a handful of players including Deutsche Bank," says Richard Moody, Managing Director, Global Head – Transportation Finance, Global Credit Trading at Deutsche Bank. "Many banks had their own challenges managing their portfolios and dealing with amendments and restructurings and coupled with the sentiment in the industry effectively ceased lending apart from a few specific situations like supporting core clients or national airlines. With institutions now holding loans that are in default, the challenge is to know how to work these out. Given the relatively benign nature of the aviation industry over the last few

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Richard Moody
MD, Global Head – Transportation Finance, Global Credit Trading
Deutsche Bank

years and especially for institutions who are relatively new entrants, there may be insufficient experience or expertise to do this and this is often made even more challenging where there are large lending syndicates with differing views operating to different timescales.

"It is likely that the volume of bank lending that has traditionally been seen in the past will not return. Some banks have already started to exit the space and others likely to follow, although timing for provisioning for loan losses will be a key driver here, and capital that continues to be available will, certainly in the near term, be more selective and strategic. COVID has also distracted from some challenges that the banking community already faced such as BIS IV/capital floors and an agenda to become more ESG focused and these combined with the current aviation environment will mean that alternatives to bank lending will continue to evolve like debt funds and private placements ."

Some banks are also still working with airlines that have the full backing of their respective countries, although this perception has been dented by carriers like Thai Airways entering restructuring. "Airlines, even with government and private support, are facing challenging times," says one financier. "Nevertheless, no one expects any flag carrier to fail at this point, with low- and ultra-low-cost carriers expected to survive. In the US, however, there are still some concerns that Chapter 11 will be used as a financing tool."

Assessing airline survivorship has become an essential skill for lessors and lenders alike. One aviation banker says that in this stressed environment, the bank's primary concern is airline liquidity and cash burn per day. Added to this calculus is an assessment of the available amount of unpledged assets the airline has in order to raise new debt and increase its liquidity cushion, and the level of liquidity below which the airline will have no alternative but to file for bankruptcy protection. A further consideration is the amount of leverage the airline already has and its debt/bond maturities, as well as the percentage of its fleet that is under

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Ramki Sundaram
CEO
Airborne Capital

operating lease since they are generally considered much easier to renegotiate than bonds or bank debt.

"For tier one airlines with strong balance sheets and liquidity pre-Covid and/or which have proven state support or that are strategic for their country, commercial bank debt will still be available but structures will be more conservative with a focus on new technology aircraft," says the banker.

For lessors, even though the asset remains the key assessment metric for investment, counterparty credit quality has gained additional significance.

"As far as new transactions are concerned, you need to have a razor-sharp focus on assets and credit," says Ramki Sundaram, CEO, Airborne Capital. "What used to be very asset oriented-lending – as long as the asset is right, you were able to go down the credit tier – is no longer the case and won't be for months, maybe a year or two years, until the market recovers, simply because no one wants aircraft on the ground at this time. This is driving a flight to quality. Nimble airlines, with a strong business model, which have enough liquidity and a dominant market position, are expected to come out stronger after the crisis, and so there is a drive to identify those 'winners'."

For Aengus Kelly, CEO of AerCap, the quality of the asset is the primary metric, even in a distressed scenario. "It all starts with the right assets, at the right price," he says. "For a large operating lessor, that is the most important part. Only then do you want to get stronger credits on a relative basis. No airline is as strong today as they were nine months ago, that's a given. So everyone is weaker and you want to try and get as strong a credit as you can. But frankly, if you pay too much or you buy the wrong assets, the third part is irrelevant because you're going to lose money anyway."

Lessors are assessing airlines ability to not only survive the crisis but if they are conditioned to take advantage of the recovery. "The major airline metric is cash – access to cash and how much they are burning. We have been conducting more analysis on airline cash management during the crisis and their predicted cash position for the next number of months and several years into the future," says Peter Barrett, although he adds that fundamentally the company's focus remains on acquiring "good aircraft with good counterparties, with thought-out strategies that will help the airline to survive and thrive for the long term".

The expectation of further airline bankruptcies and restructurings has impacted bank debt pricing, which prior to the crisis was at historically low levels. When pricing a new deal, banks are factoring in future internal rating downgrades since all airlines will show significant losses for full year 2020 as well as higher leverage. Banks internal credit modelling will lead to a rating downgrade for airline clients, and they will also take a more conservative view on the asset, again favouring liquid new technology narrowbodies, with faster amortisation and full pay out structures.

For lessors, banks are considering more carefully the quality of the franchise, the quality of management and the quality of the portfolio. One banker says: "We would support a high-BB rated lessor if we feel that they are smart in managing their liabilities on the principle of diversifying their funding sources in addition to be a good asset manager. During the Covid-19 crisis, the lessors which have diversified their source of funding instead of relying only on warehouses to ABS have better chance to overcome this crisis."

Airlines' ability to top up liquidity from a diverse range of sources is paramount for financiers, but specifically their ability to raise equity. "Access to equity – be it from government or private investors – will be vital for airlines since debt needs to be re-paid," says another banker, who adds that "arguably, any and all unencumbered assets should be valued and considered".

Airlines have been creatively leveraging any and all assets in a bid to boost liquidity. The largest airlines first tapped their bank facilities, then those that were able tapped the debt and equity capital markets and then sought to raise secured financing, using an array of products on a range of assets from the more usual aircraft, engines and spare parts, to the more intangible

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Peter Barrett
CEO
SMBC Aviation Capital

assets including slots, gates and routes. But also, for the first time, loyalty programmes have been leveraged to raise significant amounts of liquidity in the capital markets

CAPITAL MARKETS

The real saviour of airlines, lessors and OEMs during 2020 has been the robustness of the capital markets. Following the global financial crisis, there was a drive for airlines and lessors to build up their presence on the capital markets, getting rated – publicly or privately – and educating potential investors.

"We've been pushing airlines to get access to the capital markets for years," says one US banker. "Everyone credits government support, but each airline in the US is expected to make it through the crisis primarily because they accessed the capital markets at a time when there was substantial liquidity swashing about. It is a big indictment on airlines that do not have access to the deepest market. Banks can support BAU acquisition of aircraft and BAU corporate finance needs, but bank capacity is not deep enough to deal with this kind of crisis. Part of the reason so many airlines have been thrown onto the largesse of governments is because they didn't have another credible alternative. Those that did, including some that are outside of the United States, had many more options to deploy than others."

As mentioned above, airlines have needed to access every and all sources of capital they can to weather this crisis. Airlines that had not previously accessed the capital markets were at a significant disadvantage to those that are regular issuers but the full picture is much more complex. Access to capital markets alone has not been sufficient. Airlines issuing such large amounts of debt in the capital markets were compelled to ensure they also went to the equity markets and could show government backing before investors were willing to participate at reasonable pricing levels.

Investment banks, while marketing recapitalisation packages for airlines, were frequently asked by investors how the debt tranches/offerings would sequence with concurrent equity issuances. "Debt investors wanted reassurance that there was going to be some equity support below the debt to support the transaction," says one investment banker.

Two examples of these interdependent recapitalisation packages are Southwest and America Airlines.

In April, Southwest issued a $2bn senior unsecured notes offering and a $3.683bn 364-day bridging loan with a $1.6bn stock offering and $1bn convertible bond. Few doubted investment grade-rated Southwest's survival prospects, or its ability to refinance the bridging loan in the capital markets, but it was a different picture in June when American Airlines followed a similar deal pattern. The airline went to the market with a $2.5bn secured bond offering in conjunction with a $1.2bn stock offering and $1bn convertible notes issuance. All of which came to the market at the same time as doubts around the carrier's long-term viability was making headlines in the US. The ultimate success of this package was a validation of American's access to the markets, which enhanced perceptions of the airline's survivability.

Although both packages are similar, the airlines went to the market for very different reasons, explains one source. "Southwest wanted to demonstrate that they were going to maintain a fortress balance sheet throughout the crisis, while at the time American badly needed the liquidity to shore up its rapidly depleting balance sheet," says one investment banker. "The steps airlines take in the next year to either show that they can generate enough operating cash flow to repay the debt they have taken on or by taking a capital markets decision to rebalance the balance sheet through equity issuance, are going to be the critical to securing future bank support."

Southwest's unsecured bond in April is widely credited for reopening the "floodgates" of the unsecured markets for airlines.

United Airlines and Delta Air Lines have also had well publicised success raising capital in the capital markets, with both airlines – as well as Spirit Airlines – leveraging their frequent flyers programmes to raise additional

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funding. American has one of the largest and most valuable loyalty programs but rather than wager on untested collateral on wary investors, the airline opted to use its loyalty program and IP as collateral for a US Treasury loan, rather than privately placed financing. Officially, after examination, American decided that its Advantage loyalty program was integral to its business – and importantly wasn't in a separate entity – and, concerned about data confidentiality and security, preferred to trust the US government with its crown jewel asset. It was also much less expensive than other methods open to the airline at the time. Another important factor to consider was the sheer amount of American paper investors have already booked and the doubts over the airline's future, meant that not only were investors much more full on American than United when it issued its loyalty deal, they were also more wary and had other options to invest in.

United opened up the market for loyalty program finance in June 2020, raising $6.8bn in a transaction backed against its MileagePlus loyalty programme.

United's wholly-owned subsidiaries, Mileage Plus Holdings (MPU) and Mileage Plus Intellectual Property Assets (MIPA) issued the $3.8 billion of 6.50% senior secured notes due 2027 and also secured a $3bn term loan B facility. The proceeds replaced United's existing committed term loan facility.

Goldman Sachs was the sole structuring agent and lead arranger, with joint arrangers Barclays and Morgan Stanley.

In the innovative structure, the MileagePlus financing is secured on a first priority basis by the assets of the Mileage Plus program and subsidiary companies, which includes specified cash accounts into which MileagePlus revenues are, or will be, paid by its marketing partners and by United. The deal also pledges the equity in MIPA, MPH and certain additional subsidiaries. All intellectual property has been transferred to a special purpose company, which has a licence agreement between MPU and United, providing an additional level of comfort for investors.

> **"For years airline and investment banks have thought about ways to extract the value from airline loyalty programmes.The problem is that in the past its always been thought on in terms of raising equity rather than debt."**
>
> *Gerry Laderman*
> *CFO*
> *United Airlines*

MileagePlus has 100 million members and over 100 program partners – an essential asset for United. Multiplying MPH 2019 EBITDA by a factor of 12 equates to a MileagePlus valuation of about $21.9 billion.

Although the airline went to market with a $5bn target for this deal, the book raised was in excess of $16bn. On the back of such substantial demand, the deal was upsized to $6.8bn from $5 billion, which was the limit agreed with the credit rating agencies to maintain the BBB- investment grade rating. The demand is even more impressive considering the week in which it went to market, which was crowded with large-scale deals from two other airlines.

United's MileagePlus transaction monetises the company cashflow – a first for the industry.

"For years airline and investment banks have thought about ways to extract the value from airline loyalty programmes," Gerry Laderman, United's CFO, told *Airline Economics* at the time the deal closed. "The problem is that in the past its always been thought on in terms of raising equity rather than debt. Any debt transaction has been generally limited to prepaid miles purchased by the airline's co-brand credit card partner. The biggest drawback is the relatively small amount that the co-brand bank is usually willing to do."

Delta Air Lines and Spirit Airlines followed suit. Spirit raised $850 million – upsized from $600 million – in a privately placed deal, issuing 8.00% senior secured notes, rated BB+ to by Fitch and Ba3 by Moody's, due 2025 through two newly-formed subsidiaries: Spirit IP Cayman (the Brand IP Issuer) and Spirit Loyalty Cayman (the Loyalty IP Issuer). The notes are guaranteed by Spirit and secured by Spirit's customer loyalty programs, including revenues from its co-branded credit cards and $9 Fare Club, and associated intellectual property along with its brand IP. According to independent appraisals, the total value of the loyalty program and IP is $2.9 billion.

Barclays acted as sole structuring agent and joint lead bookrunners with Citi, Deutsche Bank Securities and Morgan Stanley.

Delta by far raised the most funds using these assets. The airline secured $9bn in an upsized private offering with SkyMiles IP to issue $2.5bn of 4.5% senior secured notes due 2025 and $3.5bn of 4.75% senior secured notes due 2028. Concurrently with the issuance, Delta and SkyMiles IP closed a $3bn term loan B facility, priced at L+375, with a 1% Libor floor.

Together, the notes issuance and new credit facility raised gross proceeds of $9bn for Delta, which is an increase of $2.5bn from the anticipated original $6.5bn deal size, at a blended average annual rate of 4.75%. Joint lead bookrunners were Goldman Sachs, Barclays, JPMorgan and Morgan Stanley.

EETCS

An ever-popular source of debt finance for airlines, the enhanced equipment trust certificate (EETC) product, has surged in popularity. Some 12 EETC deals closed in 2020 to date, worth above $9.4bn in total. The last time the volume and number of deals was that high was 2013 when there was a flurry of international deals from Air Canada, Virgin Australia and Doric. In 2020, new issuers, such as Alaska Airlines, and re-entrants into the market, like Hawaiian Airlines, JetBlue and FedEx, tapped the airline EETC product to raise debt, and raise it successfully with attractive pricing for both the issuer and investor.

One banker says: "Generally we're seeing anything that has fixed wing can be financed no matter if it's a brand new asset or an older vintage, the EETC structure can be adjusted so that it makes sense for everybody as we have seen with freighters with the FedEx EETC, and with more vintage assets like with the Air Canada deal, or brand new assets as seen in the Delta and JetBlue transactions, for example."

In this stressed operating environment, however, the buyer base for EETCs has shifted slightly, with alternative capital showing more interest in more subordinated tranches but nonetheless this market is described as "remarkably well bid" compared to other aviation finance products. "It is almost surprising the amount of interest that we're getting given everything else that it's happening in this sector," says the banker. "So there is still more money to be deployed in the space; we just need collateral to finance."

As well as new EETC issuers – or like Hawaiian airlines that haven't played in this space for many years – existing issuers, such as Delta Air Lines, after completing one EETC in February 2020 (which was essentially in the pre-COVID period) has returned to the market to add junior tranches. In the case of Delta, it added a B tranche in the private placement space.

The private placement market has certainly evolved during this crisis period. A panel discussion during the *Airline Economics* Growth Frontiers New York virtual conference in late 2020, noted that private market investors initially pulled back from smaller credits hoping to issue in this space, preferred higher tier airlines with more robust collateral pools.

High quality collateral is significantly important, now more than ever before, as asset values are called into question as trading drops off and utilisation has collapsed.

The EETC cross-collateralisation structure traditionally provides comfort to investors that the portfolio is a safer investment because an airline is unlikely to reject an entire portfolio in a bankruptcy scenario. Equally, over-collateralisation is also paramount since the ability to sell the aircraft is the "last line of defence, but arguably the most important line of defence for these transactions" in the opinion of one rating agency expert speaking at the *Airline Economics* Growth Frontiers New York virtual conference, who highlighted that if all the aircraft were rejected by the airline, at least there were liquid assets that could be easily traded. But as values decline, the level of over-collateralisation decreases and that that safety cushion goes away. There have been some rating actions for some EETC portfolios to date but nothing significant as yet at least for the senior tranches. This does not mean that this won't happen in the future, however, and rating agencies are stressing their methodologies in light of the current situation.

"Generally we're seeing anything that has fixed wing can be financed no matter if it's a brand new asset or an older vintage, the EETC structure can be adjusted so that it makes sense for everybody as we have seen with freighters with the FedEx EETC, and with more vintage assets like with the Air Canada deal, or brand new assets as seen in the Delta and JetBlue transactions, for example."

As previously referred to in this report, following its filing for US Chapter 11 bankruptcy protection, the decision by LATAM in May to reject the 19 aircraft leases in its EETC portfolio came as a shock to the market. At the time, one aviation banker commented: "No US airline can treat EETC investors this badly because it is a very important source of funding."

Some months on from the LATAM decision, the market is taking a more pragmatic view. "The likelihood for aircraft to be affirmed in a bankruptcy situation, will be an airline by airline decision, and certainly not a wholesale change," says one rating agency expert. "There are transactions and portfolios out there with older fleet types for example or aircraft that are not going to be core to the airline in this new environment that could be rejected. But for many EETCs, especially the most recent transactions with new delivery narrowbodies, they should still have a place in an airline's fleet, and particularly if they were closed in the last several years, they were probably financed at very low rates. Those are the types of assets that would stick through a bankruptcy."

Ultimately, fleet decisions will drive a decision on the life of a EETC transaction. Although the LATAM EETC pool included all new assets, it also contained two A350s – an aircraft type the airline decided to abandon as a strategic decision. "In the LATAM case, considering their post-restructuring situation and fleet size as well as their need for future financing, you could understand their decision because they didn't access the market as frequently as the US airlines do."

In the current environment, investors would be very reluctant to take back any aircraft – even very good aircraft – due to the fall in demand, which leads many to suggest that in any bankruptcy situation there will be negotiated outcomes, which would technically involve the rejection of the leases but keeping the planes with the airlines and compromising the junior tranches.

Steven Chung, partner at Hughes Hubbard, suggests that the cross-collateralisation structure puts the airline in a strong negotiating position. "An airline that only wants to keep five of a 10-strong EETC portfolio, they have some leverage because they either have to accept or reject them all. You could see a situation where airlines negotiate and barter with their various financiers to keep all those planes but with lower lease rates for the whole pool."

LESSORS DEBT RAISING

Until now the focus has been on the airlines raising record amounts of capital in the debt markets but the real stars of this capital pool have been the leasing companies, which have raised substantial funds at competitive prices in the second half of 2020 in particular.

Perhaps the most significant issuance, was in June 2020 from AerCap, which came to the market with $1.25bn of five-year senior notes at 6.50%.

Citi, Deutsche Bank, HSBC, Mizuho and Morgan Stanley were joint bookrunners on the deal, with CA-CIB, Goldman Sachs, MUFG, Société Générale, and TD Bank were passive joint bookrunners.

This transaction has been described as "remarkable" by one banker because it was launched at a time when there was a legitimate question mark regarding whether these independent lessors could issue debt at competitive levels in the midst of the crisis. "The AerCap bond was pivotal because it was the first true vote on an independent, unsupported company that had leasing exposure in the aviation sector," says the banker. "Its success, opened up the market for other leasing companies."

S&P Global's Betsy Snyder, agrees, commenting: "After AerCap's initial post-pandemic unsecured debt issuance at a relatively high price, we've seen most of the other lessors successfully issue unsecured debt at increasingly lower pricing, at times even at historically low rates."

AerCap's Kelly is rightly proud of the company's success in the capital markets. "We have raised approximately $7bn as of 1st December over the course of the last eight months, using the secured and unsecured markets mainly, but the majority of the debt has been issued in the unsecured markets. Overall our cost of funds is coming in less than four percent. Given that at the height of the

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>
> *Banking source*

pandemic in March and April spreads were all over the place and the market was closed, that is a very competitive level for unsecured funding. Especially considering that airlines were failing to get deals done at 11% coupons in May. There are very few – maybe seven or eight – leasing companies who can access the unsecured market on a standalone basis. We came into the crisis with $10bn of liquidity, which gives investors substantial confidence."

That renewed investor confidence was demonstrated again in July by the success of a $500 million five-year unsecured bond, maturing July 1, 2025, from ALC. Due to the six times oversubscription, attracting all of the largest institutional investors such as Fidelity, BlackRock, GIC, Loomis, Vanguard, ALC upsized the offering to $850 million and succeeded in tightening the credit spread above the benchmark treasury from 375bps to 325bps. This is a far lower rate than achieved by some of the largest US and European airlines and other lessors. BofA Securities, JPMorgan, MUFG and Wells Fargo were joint bookrunners.

Speaking to *Airline Economics* at the time, Steven F Udvar-Hazy, Executive Chairman of ALC, said that the company's liquidity position was strong with no maturities falling due until 2021 and a $6.2bn unsecured and undrawn revolver at the company's disposal, and with capex declining due to a delay in aircraft deliveries. As a result, the issuance was not essential but Udvar-Hazy noted that it demonstrated to the market the strength of the company and the long-term industry. "This bond shows that there is still strong investor demand for quality aviation companies, rather than attracting high-yield investors," he said. "We felt that it was important for ALC to go to market to demonstrate that the street still places value in a quality operating lessor franchise."

The ALC bond may have been assisted – and perhaps helped to squeeze the pricing– by the company being named on the Federal Reserve corporate bonds purchase program, announced in June when the US government announced plans to purchase existing securities of highly rated, investment-grade firms on the open market. "We were gratified to see ALC included in the Fed's list; it may have also helped to squeeze down a few basis points," added Udvar-Hazy.

Although there was concern in mid-2020 that investors may have pulled back from aviation assets in the midst of the crisis, this deal and the earlier AerCap transaction demonstrated that investors were buying paper from quality issuers.

Many more lessors have tapped into the deep capital markets with a high degree of success. DAE has also found demand to be high for its paper.

"We accessed the capital markets twice in the past two months. We raised an aggregate of $2 billion and in both instances our deals were heavily oversubscribed," says Tarapore. "This is not unique to us. There is investor demand for solid franchises like DAE that can deliver value over the long term. The capital markets are wide open, and many lessors over the years have shifted their reliance on capital markets away from the traditional bank markets. Similar to their action in previous downcycles, fair weather aviation banks have retreated

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Steven Udvar-Hazy
Executive Chairman
ALC

to the sidelines – either they've actively reduced their exposure, or they have set pricing in a way that doesn't make much sense."

In November 2020, CDB Aviation issued $500m of senior unsecured notes in a Regulation S bond offering, under its $3bn Medium Term Note Program.

The notes were priced at the 1.500% three-year senior unsecured fixed rate of 99.909% to yield 1.531%, or Treasuries plus 135bp, well inside the initial price guidance of 170bp area. The new bonds achieved a negative new issue premium, as well as the lowest-ever priced coupon for a China-based lessor's fixed-rate public US dollar bond.

The bond sale attracted good demand from investors, reflecting strong interest and continued support from global funds and asset managers who like the quasi-sovereign credit of both CDB Leasing and CDB Aviation. Despite a congested primary market with 11 trades coming from Greater China on the same day, orders were over US$1.7 billion when final price guidance was announced, including US$800 million from the leads.

Standard Chartered Bank, Bank of Communications, China Citic Bank International, Mizuho Securities, ANZ, Haitong International, ICBC Singapore, Guotai Junan International, CMB International, and Natixis were joint global coordinators. They were also joint bookrunners and joint lead managers with China Minsheng Banking Corp Hong Kong branch, ABC International, China Securities International, and CTBC Bank.

CDB Aviation CEO Patrick Hannigan comments: "[Our bond] was well taken up by the markets and there was plenty of appetite, it was oversubscribed, and our eventual all-in price was about 150 basis points. This reflects our experience for the year in terms of funding. We have a good mix; mainly issuing secured funding. We use a lot of Chinese banks, but we have a good mix of international banks as well. In total our capital raising in 2020 was about $3.3bn. We also have some secured debt from a combination of Chinese banks, Asian banks, and international banks. There are traditional lenders to the sector that are definitely more cautious at the moment and are only funding existing customers and rolling over existing facilities."

ABS

The aviation asset backed securitisation (ABS) product was predicted to have another record year in 2020 before the pandemic hit. ABS deals were being prepped to launch around the end of February and into March but COVID-19 suddenly shut down the market completely. One source states that two issuers actually tried to proceed in March in the hopes that this crisis was a short-term "blip" and by launching they would be ahead of everyone else in the market, but they realised by April that the market was going to remain closed for some time.

New issuance for aviation ABS deals remain on hold, and existing deals have been downgraded as some deals had to rely on liquidity facilities to maintain payments to bondholders. However, it is worth noting that by the end of 2020, these liquidity facilities had been repaid.

The debate now has turned to what the next iteration of the aviation ABS product will look like. The past few years, the market had been transformed by the creation of the tradeable E-Note structure. Many bankers are now convinced that those transactions are "dead and will be for some time" according to one banker. There is speculation that aviation ABS 3.0 will be much more simpler structures, with lessors retaining the equity slice or that being sold to one investor.

One banker opines: "ABS transactions that are used by the issuer (lessor) to raise

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CEO
CDB Aviation

senior/junior debt only with the issuer retaining 100% equity and servicing, should have a future provided that the structuring be much more conservative (lower initial advance, etc) given the current experience of rental deferrals, pressure on the future residual values, expected deterioration of the lessees' credit, less appetite for widebodies with high transition/remarketing costs for example."

The timing of that return is open to debate, but one lawyer suggests this could be as far out as 2022. "My gut feeling is, based on lessons from prior crises, if the airline market doesn't recover for the next six or 12 months, it could be well into 2022 as the earliest period for a true aviation ABS deal to come back to the market."

Lessors are more bullish on the return of the ABS product – at least those companies that are regular issuers in the market, and which are not reliant on it for portfolio management strategies, and or asset trading, and can retain the equity. Seraph's David Butler comments: "Several leasing companies have become very reliant on the ABS product, as its seen as a reliable financing and portfolio management vehicle for lessors and allows for a further diversification of funding sources. The challenge for those lessors, if the ABS market is not going to be available or is going to be slow to return, will be coming up with innovative solutions for portfolio management to move risk and concentrations off their balance sheet. Without this market available, those lessors will need to revert to more-traditional asset trading venues which may not have sufficient capacity to provide for the amount of trading required."

Stephen Hannahs, CEO of Wings Capital, has raised financing in the bank market and refinanced in the ABS market, executing transactions in 2017 and 2019. "Those ABS structures have proved to be very durable and very flexible. This is by design. Wings has benefited significantly by having this kind of a long-term debt profile for our asset base," he says.

Commenting on whether the market will return, Hannahs is confident of the demand for the product but it less certain on timing. "There are some signs that in some of the non-aviation ABS products, containers for example, that there has been some very aggressive pricing on ABS issuance. This demand will eventually spill over to aviation ABS, but this will take some time. Too many investors and lenders still have many questions around which airlines are going to survive; and what the future aviation industry will look like to be aggressively seeking investments. Nevertheless there's a huge amount of liquidity that people need to deploy. I'm hopeful that the ABS market returns sooner but I don't think we'll see a reasonably financeable market until at least the second half of 2021, and even then I'm not sure what the pricing will look like."

The improved margins for aviation assets however have been atracting more high yield investors. Butler has seen more hedge funds taking an interest, seeing opportunities for the future. He adds that there is a clear division between two different groups of lessors. "Major lessors have had excellent access to both debt capital markets and the bank market for the last few months and should continue to have such access. In recent months we have seen several successfully tap the public bond markets. Smaller lessors with more challenging capital structures will continue to struggle to raise money from both banks and bond markets and will require innovative solutions to meet their financial goals."ALC's Plueger appears more confident that the ABS market will come back relatively rapidly in the spring/summer period of this year. "The ABS market has largely been shut off, understandably. Many are watching how various different funds that have had ABS financing are going to perform. It's an important product for lessors and for our own funding – we find it to be a very efficient way for us to sell groups of aircraft as they approach mid-life. We're not dependent upon it, but its efficiency and convenience is really helpful. I do think going into the spring and the summer we will see some green shoots and the debt marketplace will come back."

Given the ABS market funded more than $20bn of aircraft purchases over the last three years, its return (in whatever form it takes) will be important in driving the trading market. Particularly given that the traditional aviation bank market will be likely constrained for a period of time following the crisis.

> **"Several leasing companies have become very reliant on the ABS product, as its seen as a reliable financing and portfolio management vehicle for lessors and allows for a further diversification of funding sources. The challenge for those lessors, if the ABS market is not going to be available or is going to be slow to return, will be coming up with innovative solutions for portfolio management to move risk and concentrations off their balance sheet."**
>
> *David Butler*
> *CEO*
> *Seraph Aviation Group*

Chapter Four

The post-Covid world

Industry analysts, airlines and all aviation industry participants have revised their forecasts for a return in air travel demand several times over the course of 2020, and there is no clearer picture at the start of 2021. However, short-term indicators will be forward airline bookings for the Easter/Passover and Spring break, expected later in January, followed by the all-important summer booking numbers in April.

"We are hoping that after the virus peaks (according to experts) in January, we will see enough people vaccinated for countries to want to reopen to get those tourist dollars," says Cowen analyst Helane Becker. "In addition, without knowing how to open their companies, we do not see how business travel can re-start. We think companies are trying to figure out how to safely get their employees back to work; once they do that, they'll be able to figure out how to accept visitors."

The industry – like the rest of the world – rests on the successful roll out and efficacy of the various vaccinations programmes currently in place, which it is hoped will enable the creation of vaccination passports that will free up air travel once more.

Robert Korn expects that scenario to lead to a significant recovery in the second half of 2021 or in the first half of 2022, but notes that this is a global issue and economies will remain depressed, with major business around crippled under debt levels that have become unsustainable.

The revival in domestic travel is expected to continue and recover first – good news for airlines in countries with a strong and sizeable domestic market. China is already recovering well, with the Russian market also showing strong signs of recovery. International travel will remain depressed until vaccinations programmes are fulfilled.

There has been much debate about the future of business travel – especially long-haul, and transcontinental travel. The industry is divided on this issue. Although many extol the virtues of virtual platforms and the considerable savings made by businesses – which will remain attractive in the coming economic recession – others, while admitting the benefits of virtual contact with existing clients, remain convinced that there is no substitute for face-to-face business meetings, especially for generating new business relationships. Global downturns will create a much more competitive marketplace with success resting on winning new clients. Yet, even the most bullish of supporters for business travel, admit that the recovery of the business air travel segment will be slow and be much reduced since it is likely intracompany travel – approximately 30% of the segment – will suffer more and there will be fewer connections as airlines cut back their networks, which will mean higher fares.

"Once [the vaccines] start to work their way throughout the world, people will regain the confidence to fly," says Paul Sheridan, CEO of AMCK Aviation. "Leisure and discretional, personal travel demand will increase, but it'll take a bit longer for business travel to kick off."

Speaking at the *Airline Economics* Growth Frontiers Dublin 2021 virtual conference, ALC's Steve Udvar-Hazy, commented that the "longer companies and government agencies are able to function in some semi normal manner without having to travel, the greater time it will take [business travel] to recover. He added that return of meaningful business travel levels depends on the global economic recovery in GDP and if the virus can be controlled by the vaccines to enable passenger confidence to travel. "There will be a long-term recovery in long-haul travel, but the question is if it will be a two-year recovery or a five-year recovery and certain markets will recover better than others," says Udvar-Hazy. "The North Atlantic market may recover better than others, but it is very difficult to predict. It is possible that for the next five years, we will not get back the level of high yield, business travel on the intercontinental operations."

He adds that one way for airlines to combat the phenomenon that business travel will not recover to pre-pandemic levels will be to reduce the gauge of aircraft: "On the intercontinental networks, the average number of seats per departure in 2019 summer versus 2022 summer we will probably see as much as a 25 to 30% reduction in the average number of seats for departure

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Paul Sheriden
CEO
AMCK

on these long-haul intercontinental schedule. Where [airlines] were flying in A380s before, maybe now they'll fly in 777 or 787s, or an A350; or where they were flying in an A340-600, maybe now they'll fly A350 or in some cases, even an A321neoLR or XLR."

A LEASING OPPORTUNITY

Over the past decade, the aviation industry has often referred to the wave of liquidity that has entered the sector. Heading into 2021, the perception is that wave has been depleted. And with good reason. The airline industry has taken on more cumulative debt in a year than it has over the last 40 years. The sheer scale of debt is truly breath-taking, as is the realisation that this debt burden will need to be paid back or refinanced over the next five-to-six year time period, with as yet no certain path to recovery.

The previous chapter referred to the decline in commercial bank debt capacity, which is likely to remain the case until meaningful demand increases. The capital markets should remain open for airlines with strong business models and prospects for the recovery period to refinance their debt and issue new equity – the success of this hinges on the timeframe and strength of the recovery.

The leasing community has been very active in assisting airlines to raise more funding and this is predicted to become an increasingly important source of funding as deliveries of new aircraft ramp up and the traditional means of support for aircraft financing in a downturn is restricted. Bank debt for export credit related financing is reduced, insurance-backed products will become much more important but again require bank debt. OEMs have been impacted severely by the pandemic and are no longer expected to have the financial capacity to have their captive financing companies provide PDP or bridge financing. The lack of OEM support places an even greater burden on the commercial banks and the aircraft leasing companies to finance that gap.

Even though profit margins at aircraft leasing companies have diminished during the pandemic as they work with customers to defer and restructure their leases, overall they have a much stronger credit rating than airlines and

> **"For the most part, [lessors] have maintained access to liquidity and their need for additional debt has been aided by reduced levels of capital spending as they have cancelled or deferred orders."**
>
> *Betsy Snyder*
> *Director*
> *S&P Global Ratings*

so have access to financing, debt and hybrid equity, at significantly lower rates than the airlines. Moreover, operating leasing is a good solution for airlines to help minimise capital expenditure, retain fleet flexibility and ease balance sheet pressure.

S&P's Betsy Synder notes that so far, lessors have been less impacted by the crisis. "For the most part, they have maintained access to liquidity and their need for additional debt has been aided by reduced levels of capital spending as they have cancelled or deferred orders," she says. "They learned from the financial crisis to stretch out their debt maturities and maintain large pools of unencumbered assets. Those aircraft lessors that could enter some form of restructuring are those that do not have access to capital and/or unencumbered assets, and who have substantial near term debt maturities, will have difficulty refinancing."

All leasing company executives interviewed for this report agree that demand for sale-leaseback transactions – from all airlines but importantly from tier one credits that are new to the space – is high and increasing, and which offer a reasonable yield opposed to the ultra-low lease rate factors that were being reported pre-crisis, as certain lessors sought to bump up market share at any cost.

"The biggest change to the marketplace will be the lessors will control a greater portion of the market going forward than they have in the past," says Cowen's Becker. "A year ago we thought it would take seven to 10 years for the lessors to control half the aircraft ownership market (based on projected deliveries and projected retirements), now we think it will be in three years, maybe four as some countries attached "green" strings to financial aid, i.e., we'll give you US$1.0 billion in grant money but between 2022 and 2029 you have to re-fleet and buy US$6 billion in new aircraft. The airlines don't have the balance sheet to do that, so they'll turn to the lessors."

Mike Inglese, CEO of Aircastle, maintains that, even with diminished returns, aviation assets remain an attractive investment on a relative basis compared to other asset classes. "Aviation is still a very attractive relative value investment target. We will still see a fair bit of capital coming into the sector and there are those have been positioning themselves for a different form of downturn that will be well positioned to take advantage of opportunities, whether it's sale leasebacks or picking up portfolios at discounts from companies that may not otherwise make it through."

Lessors that have substantial liquidity have been taking full advantage of this increase in demand. Aside from the larger players, such as AerCap, GECAS and ALC, smaller leasing companies are using this opportunity to build a portfolio of in-demand aircraft with stellar credits. Once such company is SKY Leasing, which executed a sale-leaseback deal for six A321-200neos with JetBlue.

"We've seen airlines that haven't traditionally used the lessor channel in a major way, utilising it to fund deliveries," says SKY CEO Austin Wiley. We see a recognition of a more balanced approach for the different financing channels that the airlines want to use. This will translate to an increase in sale-leaseback activity in the developed markets. We see that trend continuing to give that balance sheet and fleet flexibility, the ability to return aircraft at the scheduled lease expiry."

Wiley also sees further opportunities from airlines that had good business models, but didn't have the balance sheets to withstand this kind of crisis. SKY is focused on dealing with the US majors as well as selective asset type – namely the A321Neo – which Wiley views as the best long-term narrow-body asset type to own. "By owning the best aircraft type, we're protecting ourselves, even in the event that the airline needs to restructure its fleet or ask for at least deferral."

This focus is similar to Aergo Capital, which is another lessor in the fortunate position of having a small legacy fleet and available liquidity. Aergo acquired one A321-200 from Global Knafaim Leasing, which was on lease British Airways. The aircraft was financed by Volofin Capital Management.

Despite enhanced demand, some lessors maintain that the competition in

"We have seen airlines that haven't traditionally used the lessor channel in a major way, utilising it now to fund deliveries. Those are the rare opportunities that we wanted to grab."

Austin Wiley
CEO
Sky Leasing

the sale-leaseback market is depressing yield. “Deals are much more attractive than they were, but they’re still pretty competitive,” says Paul Sheridan, CEO of AMCK. “There are no slam dunk deals out there right now, but that’s also because of the contraction in the markets. As there is more and more supply, you might start to see some of those better deals. Nobody seems to be forced to sell just yet.”

Wings Capital’s Hannahs concurs: “We have actually reviewed quite a few transactions to acquire assets since the pandemic began,” he says. “Since July 2020, Wings has probably looked at 80 different opportunities, some from other lessors, some from sale-leaseback opportunities, some from banks, but there was still only half dozen that we thought met our investment criteria. There is still surprisingly a lot of competition for investments because there is so much capital available.”

Not all leasing companies will benefit from this swing to operating leasing. Some are busy working out defaulting lessees and are overwhelmed by deferral requests, and there are others that don’t have the capital to hand to pursue new business.

Becker notes that this changed environment “will ‘wash-out’ some of the poorly-capitalised lessors, especially the ones that haven’t taken maintenance reserves or don’t have strong liquidity. We expect to see portfolio sales over the next year, and it is likely to accelerate once the recovery starts in earnest.”

NEW MONEY

That wave of liquidity the industry has enjoyed is not expected to fall away completely but it will reduce in size and alter in composition. What Aengus Kelly has termed “tourist capital” – investors that entered the sector in the boom years – is expected to exit the market altogether but there is a renewed interest from higher yield investors that will become more important as the bank funding gap becomes more apparent.

Investec’s Derek Wong has observed clear opportunities in the financing space, especially for lenders ready to take asset risk and finance non-Tier 1 airline credits. “The current crisis will accelerate the trend to boost non-bank lending,” he says. “We have already seen various lessors get into the debt financing space and become solution providers across debt and equity.”

One such leasing company is Castlelake, which launched its Aviation Lending Program in December, which is focused on providing financing solutions for aircraft buyers, utilising mezzanine, senior secured and high LTV financing. “The best time to enter a lending business is when you know that the demand for capital exceeds the supply,” Evan Caruthers, chief investment officer and managing partner at Castlelake, told *Airline Economics* on the launch of the new programme. “Airlines are burning anywhere between $200 to $250bn of cash this year so there is a significant need for capital to flow to the sector.”

Castlelake will handle the debt origination process as well as build and manage the portfolios. As a long-term investment manager in the aviation sector, Castlelake’s philosophy remains vested in the longevity of the industry and as Caruthers notes it is all about managing through the cycle. “Aviation remains a good industry to be invested in over the long-term so long as you are comfortable with and can manage the risks presented by the cyclicality of the industry or some of the idiosyncratic risks, which includes unfortunate situations like 9/11 or COVID-19,” he says. “One of our kind of core principles is to build out a lending business alongside our servicing business. That is critical. Obviously, there is heightened awareness today around the risk profiles of investing in aviation and specifically in airplanes, which makes it an attractive period to leverage on our servicing capability and history with a lending business because if there’s another pandemic or downturn in the aviation leasing industry, investors are going to be keen to understand how they ensure they are investing in a risk controlled manner.”

In January there was a wave of new leasing companies and new aircraft investment funds announced. Ex-Vx Capital co-founders linked up with Ares Management Corporation to create

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Stephen Hannahs
CEO
Wings Capital

Vmo Aircraft Leasing, a new company committed capital of $500 million to invest in a global and diversified portfolio of next-generation aircraft.

Most recently, Arena Aviation Capital announced a strategic partnership with Kennedy Lewis Investment Management, described as an “opportunistic credit manager”, for a $1.5bn aircraft leasing platform, named KLA Aviation Finance (KLA), that will also acquire modern technology, young and new narrow-body aircraft.

Patrick den Elzen, Co-Founder and CEO of Arena said: “Our partnership with Kennedy Lewis, a world-class investor who shares our vision and investment strategy in aviation finance, represents a significant milestone in our development and we believe KLA is well positioned to address the substantial liquidity issues across the aviation industry as a result of COVID-19.”

These deals show the types of new investors the industry is already attracting, which will command a premium. “Investors will continue to want the most desirable aircraft, but will probably try to extract a premium to compensate for (what has turned out to be) the risk, which is clearly greater than they thought,” says Helane Becker.

But aside from opportunistic investors, there will be a mix of investor types coming into the market – from pensions funds, of which many have already realised the long-term benefits of investing in the sector – to sovereign wealth funds, which have played in this space before. Aircastle’s Inglese opines that investors who had “cashed out” of the industry before the crisis, may take another look at the sector and decide now is a good time to come back in. “There are always a handful of ex-aircraft leasing CEOs looking to raise funding or a new fund to buy aircraft, which will continue. With the right team, the right investors and the right outlook, you’ll find both new and familiar people continuing to drive investment into the space.”

Inglese adds that it will be the “grey hair” brigade – those with decades of industry experience of downturns – that will experience the most success in the volatile post-Covid operating environment.

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CEO
Aircastle

AIRLINE WINNERS

The prevailing sense is that investors will want to invest in young, fuel-efficient aircraft in the short term for leisure passenger travel, which plays into the business models for ultra- and low-cost carriers. The confidence in this sector is clearly demonstrated by the success of Wizz Air's debut €500m three-year eurobond, which built a book of $2bn, and squeezed pricing to 1.35% - substantially tighter than rival Ryanair's €850m five-year eurobond, which was also oversubscribed.

"The winners will be the big players that have the ability to tap the capital markets and which are operating in large domestic markets," says CDB Aviation's Hannigan. "The low-cost carriers in Europe – namely Ryanair and Wizz Air – are probably better positioned because the market is likely to be domestic or short-haul international." He adds that geographically there will be different speeds of recovery and different types of airlines that benefit. "There is going to be different recoveries depending on the different geographies of the world. The winners will predominantly be domestic, short-haul airlines, and the losers will those airlines that generate the bulk of their revenues from a long haul network, heavily reliant on business travel."

Helane Becker foresees a big increase in airline alliances and partnerships. "A year ago we thought that alliances would be less important going forward, but clearly they will be more important. For example, American was going to fly Philadelphia - Casablanca in summer 2020 and cancelled that plan. Now, without a 757 available (they retired the fleet) they don't have a suitable aircraft. As a result, they'll fly people to London so they can connect with a British Airways flight. There are many such examples; airlines will once again rely on their partners."

Many industry experts are also predicted a wave of new airline start-ups to enter the market. Beker says: "The fact that many airlines are smaller than they were a year ago will lead to opportunities for now airlines. In the US, we think of Xtra Airways, Global Crossing and Breeze as having an opportunity to fill the void left by the larger US airlines shrinking to their hubs. There will likely be others in Europe as well."

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Derek Wong
Aviation
Investec

THE SUSTAINABILITY IMPACT

The Environment Social Governance (ESG) and sustainability agenda was front and centre of the world agenda in 2019 and in the early months of 2020. Airlines and air travel were subjected to flygskam, or 'flight shaming' with calls for airlines to reduce carbon emissions and pursue greener technologies.

As a carbon emitter, aviation is an obvious target for environmentalists. Airports and aircraft were targeted by protesters in 2019. And despite statistics proving that net carbon emissions from the aviation industry are around 2% of the global total, the industry had slowly begun to emphasise how it was move to cleaner, more efficient new-technology aircraft, which can be recycled more easily, as well as investing into research exploring the use of biofuels.

The coronavirus pandemic pushed the sustainability agenda somewhat into the background, in terms of media headlines, while the world began to comprehend the impact of the virus on the global economy. As the world fleet was grounded for much of 2020 and the predicted slow recovery, aircraft emission levels have been reset to pre-2019 levels. Many older, less fuel-efficient aircraft have been parked for the long-term or permanently retired, with a focus on re-fleeting with newer technology aircraft.

The subject has not taken a backfoot in the industry, is the main message from airline and leasing company leaders. This has been clearly demonstrated in the environment and sustainable caveats included in many government support packages, particularly for Air France, KLM and SAS, with carbon emissions targets and commitments to utilise more sustainable aviation fuel (SAF).

But even without government directions like those seen in Europe, airlines are taking the initiative to reduce their carbon emissions in a bid to prepare for coming legislation. United Airlines for example has pledged to become 100% green by reducing its greenhouse gas (GHG) emissions by 100% by 2050 and has committed to a multimillion-dollar investment in revolutionary atmospheric carbon capture technology known as Direct Air Capture – rather than indirect measures like carbon-offsetting – in addition to continuing to invest in the development and use of sustainable aviation fuel (SAF).

Paul Sheridan says: "Government money is not coming without environmental related strings attached. It had to happen, and we have all calculated our carbon footprint this year. We'll see the difference between this year and last year when it comes to the leasing and the aviation world to meet the challenge that is coming."

Investors too are imposing 'green' caveats on clients. "Some banks have already self-imposed some restrictions when financing mid-life aircraft (such as a limit on maximum age of aircraft) and favour new technology aircraft with 15-20% fuel consumption saving," explains one aviation banker. "The green bond market has not yet started for aircraft finance but we believe that some "transition bonds/loans" market could emerge based upon the best current technology available to mitigate the CO2 emissions (as for LNG for shipping) when no alternative transportation mode is available. Some "sustainable linked bonds/loans" in relation to some sustainable corporate objectives of the airlines will be developed as unsecured corporate funding tools not linked to a specific asset type."

Given that some very high profile pension funds have exited carbon-emitting investments, Paul Sheridan expects more aviation companies to continue to advance their carbon reduction policies in expectation of regulation and investor demands. "Eventually, at some point, we'll have a big problem when it comes to attracting investment. Dealing with that is going to be very difficult because there's no getting around that they are financing aircraft, which for people who fly a lot, is by far the single biggest contribution to their carbon footprint. There is a lot more work to be done in this space."

Betsy Snyder agrees that the environment issue will continue to become more pressing on airlines and aircraft owners. "This is not going away – in spite of the pandemic," she says. In fact, recent, the US Environmental Protection Agency recently finalised new standards for greenhouse gas emissions for large commercial aircraft

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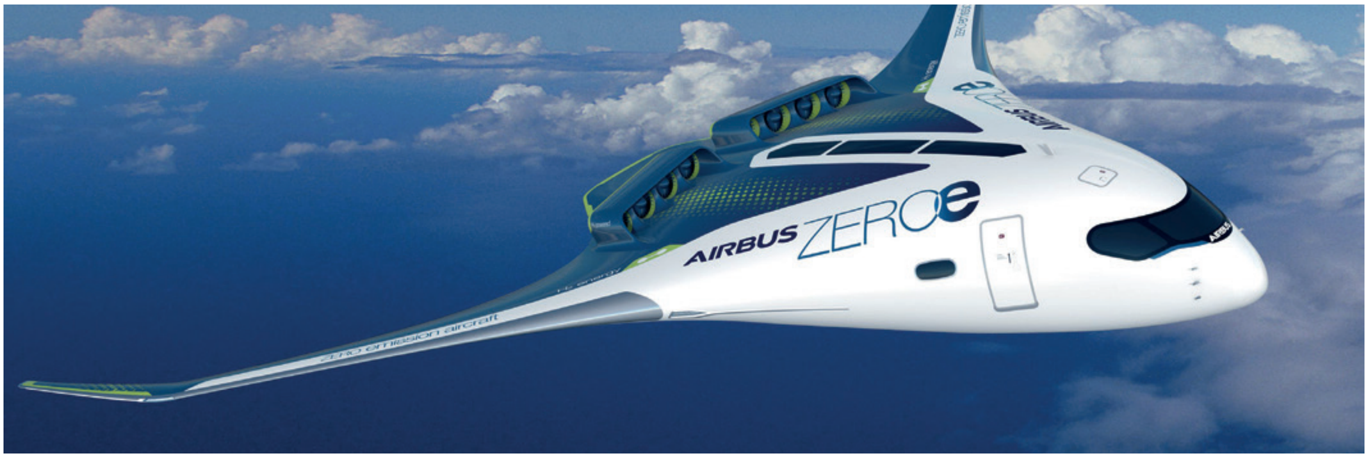
CEO
AMCK



and business jets that match those of the International Civil Aviation Organization proposed in 2017. This will result in the ongoing need for more fuel efficient aircraft and should benefit those airlines and lessors that own these more efficient aircraft."

At the end of 2020, the European Commission presented its plan for a more sustainable transportation infrastructure. The Sustainable and Smart Mobility Strategy sets out the EU's intention to decarbonise transportation to deliver on its Green Deal promise of cutting emissions by 90% by 2050. This plan includes a shift to the increased use of SAFs and limits on domestic short-haul air travel, as well as a milestone to have a zero-emission large aircraft ready for market by 2035. This likely refers to the concept aircraft developed by Airbus, three aircraft concepts codenamed ZEROe – two turbofans and one blended wing body design – which rely on hydrogen fuel as a primary power source. When the concept was released in September 2020, Airbus claimed that it aimed to put hydrogen-powered aircraft into service by 2035 "together with the support from government and industrial partners".

The plan also tackles the much needed goal of improving the efficiency of air traffic management (ATM), which is acknowledged will help to cut excess fuel burn and CO2 emissions caused by flight inefficiencies and airspace fragmentation. The plan targets the completion and effective implementation of the Single European Sky (SES) "without delay".

Peter Barrett notes that air traffic control is a major area for improvement: "The industry needs to do more to improve its sustainability credentials. We need to do real things on the ground, including having a more fuel-efficient fleet, approving new air traffic control and better managing assets on the ground. As an industry, airlines, manufacturers and aircraft owners, all need to make sure that people understand the work that is happening in the industry to improve our carbon footprint. We have to start telling our story in a way that's constructive."

The pandemic has thrust the industry to move to focus on newer technology aircraft and that pressure will continue following the recovery as more governments place limits and reduction targets for carbon emissions. The onus is on the manufacturers – especially engine manufacturers – to advance the development of even cleaner aircraft. The pandemic has caused R&D investment in that space to be halted, however. But with such government pressure and regulations to come, government investment will likely be forthcoming.

The best hope is currently for hydrogen-powered aircraft but that will involve a major change in the entire global air travel infrastructure. In the interim period, however, there will likely see a move to the use of more hybrid-electric technology, while the small regional sector may be the first to see all-electric powered aircraft. In the meantime, for international travel, on most routes aircraft still offer the most efficient way of transporting large amounts of people and cargo long distances, especially across oceans.

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Peter Barrett
CEO
SMBC Aviation Capital


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Final Thoughts

2020 was a year like no other for the aviation industry. The fact that at the beginning of 2021 most airlines are still in business is testament to the strength and importance of the industry but mainly due to the substantial levels of support the industry has received from governments, their banking relationships, the deep and robust capital markets, and importantly from their leasing companies, which have become an even-greater source of support. Heading toward the one-year anniversary of the COVID-19 pandemic crisis, although the vaccination programmes around the world have given hope that an end is in sight, there is still much pain to be borne. Many countries have travel restrictions in place, via testing and quarantine requirements, which is keeping international travel depressed for the short-term. The next two quarters will be pivotal for the survival of many airlines, and with more failures, the pressure increases on their partners - leasing companies, banks, suppliers and manufacturers. The recovery once it comes will be difficult for all of us, which is why so many airlines and companies have sought to raise such eye-watering amounts of capital while the markets were so robust in 2020 to build those fortress balance sheets to help them survive the recovery period. Given the challenges the industry faces, the many experts that contributed to this report remain optimistic for the return in demand, with complete faith that the fundamentals of the air travel market that has shown such rapid growth over the past decade – a growing middle class, focus on experience, that desire to travel – remain once the externally imposed barriers to travel are lifted.