

The Aviation Industry Leaders Report 2020:

# Steering the Supercycle



# CONTENTS



**5 Foreword from Joe O'Mara, Head of Aviation Finance & Leasing, KPMG Ireland**

**2 List of Contributors**

**7 A Decade of Growth**  
This chapter considers the macroeconomic and geopolitical factors that influenced the market in 2019, before moving onto assessing the fundamentals in both the airline and aircraft leasing sectors.

**33 The MAX Impact**  
The grounding of the MAX has severely distorted the entire aviation market in 2019. Industry experts share their views on the impact of the grounding and opine on its reintroduction and future market impact.

**43 A Decade of Liquidity**  
Aviation experts share their views on the health of the aviation finance market, noting specifically the continued dominance of the capital markets.

**57 A New Decade**  
Climate Change is world news and Environment, Social and Governance issues are taking centre stage in the aviation world. Investor ESG concerns and the industry's response to carbon emissions and future technology are evaluated by the industry.

**THE AVIATION INDUSTRY LEADERS REPORT 2020**

EDITOR & AUTHOR

**Victoria Tozer-Pennington**  
victoria@aviationnews-online.com

CONTRIBUTORS

**Joe O'Mara**  
**Kieran O'Brien**  
**Tom Woods**

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

Annual subscription:  
£425 (+VAT where applicable)

**John Pennington**  
john@aviationnews-online.com

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**CONTRIBUTORS TO THE 2020 AVIATION INDUSTRY LEADERS REPORT (IN ALPHABETICAL ORDER BY COMPANY)**

|   |
|---|
| <b>Ali Ben Lmadani, Chief Executive Officer, ABL Aviation</b>                                 |
| <b>Paul Sheridan, Chief Executive Officer, AMCK</b>   |
| <b>Khanh Tran, Chief Executive Officer, Aviation Capital Group (ACG)</b>                      |
| <b>Aengus Kelly, Chief Executive Officer, AerCap</b>  |
| <b>Paul Meijers, Executive Vice President, Leasing &amp; Financing – Customers, Airbus</b>    |
| <b>Mike Inglese, Chief Executive Officer, Airastle</b>  |
| <b>John Plueger, Chief Executive Officer, Air Lease Corporation (ALC)</b>                     |
| <b>Arnaud Fiscel, Head of Transportation, Bank of China (UK)</b>                              |
| <b>Bertrand Dehouck, Head of Aviation, BNP Paribas</b>  |
| <b>Mike Poon, Chief Executive Officer, CALC Group</b>   |
| <b>Robert Korn, President, Carlyle Aviation Capital</b>                                       |
| <b>Evan Carruthers, Chief Investment Officer, Castlake</b>                                    |
| <b>Munawar Noorani, Global Co-Head of Aviation, Citi</b>                                      |
| <b>Helene Becker, Managing Director, Cowen</b>  |
| <b>Firoz Tarapore, Chief Executive Officer, DAE Capital</b>                                   |
| <b>Richard Moody, Managing Director, Global Head of Transportation Finance, Deutsche Bank</b> |
| <b>Tom Barrett, Chief Executive Officer, Engine Lease Finance (ELF)</b>                       |
| <b>John Slattery, Chief Executive Officer, Embraer</b>  |
| <b>Philipp Prior, Managing Partner, EMP Structured Assets</b>                                 |
| <b>Florian Maier, Managing Partner, EMP Structured Assets</b>                                 |
| <b>Declan Kelly, Chief Commercial Officer, GECAS</b>  |
| <b>Karl Griffin, Chief Executive Officer, Genesis</b>   |
| <b>Ruth Kelly, Chief Executive Officer, Goshawk</b>   |
| <b>Ajeeth Narayan, Global Head of Aviation, Investec</b>                                      |
| <b>Marjan Riggi, Senior Managing Director, KBRA</b>   |
| <b>Gerry Butler, Chief Marketing Officer, Merx</b>  |
| <b>David Goring-Thomas, Global Head of Aviation, MUFG</b>                                     |
| <b>Bénédicte Bedaine-Renault, Head of Aviation Finance EMEA, Natixis</b>                      |
| <b>Frank Wulf, Head of Aircraft Finance, NordLB</b>   |
| <b>Hani Kuzbari, Managing Director, Novus Aviation Capital</b>                                |
| <b>James Meyler, Chief Executive Officer, ORIX Aviation</b>                                   |
| <b>Yassine Berrada, Chief Financial Officer, Royal Air Maroc</b>                              |
| <b>Betsy Snyder, Director, S&amp;P Global Ratings</b>   |
| <b>Austin Wiley, Chief Executive Officer, SKY Leasing</b>                                     |
| <b>Peter Barrett, Chief Executive Officer, SMBC</b>   |
| <b>Kieran Corr, Global Head of Aviation Finance, Standard Chartered</b>                       |
| <b>David Butler, Chief Executive Officer, Stellwagen</b>                                      |
| <b>Stephen Hannahs, Chief Executive Officer, Wings Capital</b>                                |

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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 INTERVIEWS ARE AVAILABLE ONLINE AT [HTTP://WWW.AVIATIONNEWS-ONLINE.COM/AVIATION-INDUSTRY-LEADERS-REPORT/](http://www.aviationnews-online.com/aviation-industry-leaders-report/)

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# STEERING THE SUPERCYCLE

We are delighted to present you with our Aviation Industry Leaders Report 2020: Steering the Supercycle. The report captures the views of over 40 industry leaders across the leasing, airline and banking markets and includes the views of the rating agencies and analysts covering the sector.

With oil prices relatively stable and the low interest rate environment continuing, the aviation industry continues to enjoy a record period of profitability. 2019 represented the tenth consecutive year of global airline profitability (\$25.9bn) and it was the fifth highest on record. In a sector where business cycles typically last eight or nine years from peak to peak, we are in uncharted territory. Passenger traffic continues to grow (4.2% RPK growth in 2019) and IATA expects this supercycle to continue into 2020 for a record eleventh year.

However, all is not rosy in the garden. While the headline figures for 2019 are positive, they represent a decline from 2018 where profits stood at \$27.3bn and RPK growth was 7.4%. We have also seen a spike in airline bankruptcies during the year. The consensus of the industry leaders interviewed for this report is that the cycle has peaked, and a slow downturn has commenced. Our report last year focused on significant headwinds such as the volatile geopolitical environment, slowing economies, rising interest rates, a strong US dollar, increasing production rates and capacity constraints. Aside from interest rates (which ultimately fell during 2019), these concerns have either remained or, in the context of the global trade war, exacerbated.

Significant new challenges have also arisen, the most pressing of which is the grounding of the Boeing 737 MAX. At the time of issuing this report, Boeing has suspended production of the aircraft and there remains no clear line of sight as to when it will return to service. The situation is unprecedented. Over 80 airlines have taken delivery of 385 MAX aircraft which are not currently in use and there are in the region of another 400 aircraft currently held in storage by Boeing. This issue is significantly distorting the market, both for airlines and lessors, and it has the potential to cause even further disruption in 2020.

An area that was not of particular focus in last year's report was climate change. There has been a dramatic shift over the last 12 months, with the climate change agenda now having an ever-increasing impact on the aviation sector. '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. Improvements are being made through new aircraft technology efficiencies and significant investment is being made into alternative fuel sources. However, most participants agree that the sector as a whole (OEMs, airlines and lessors) needs to better promote these technical innovations, as well as highlighting the social benefits that air travel brings. This is an area we will no doubt revisit in next year's report and beyond.

In the context of aviation finance, while the above headwinds are concerning, the overall outlook remains broadly positive. In a world where air travel is expected to grow, where

significant capital is needed to fund aircraft deliveries, and where the percentage of leased aircraft continues to trend upwards towards 50%, lessors are well placed to continue to thrive. Even though capital continues to flood into the sector and competition is fierce, there is also a belief that pricing is rationalising somewhat.

While the number of publicly-listed lessors is small and decreasing, aircraft leasing continues to become more mainstream and there is greater market confidence in the business model. This can be seen from the increased number of aircraft lessors that have achieved investment grade status, with unsecured funding now representing more than two thirds of the debt being raised by aircraft lessors.

One of the defining characteristics of the aviation financing market is the ability to continually innovate and create efficient and suitable funding to meet the market's needs. In this respect, the tradeable E Note structure has helped drive the ABS market to a record year with almost \$10bn worth of assets financed and the population of E Note buyers significantly widening. The common consensus is that this trend will continue in 2020.

Overall, the outlook of the industry leaders was cautiously optimistic, more so than 12 months ago, with an appreciation that while there remains some uncertainty, such an environment may also drive opportunity. I would like to thank all those who participated for their time and insights.

Joe O'Mara  
KPMG - Head of Aviation Finance & Leasing



JOE O'MARA,  
HEAD OF AVIATION  
FINANCE & LEASING,  
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 and KPMG have advised on aviation transactions in over 150 countries worldwide.*

# A Decade of Growth

This chapter considers the macroeconomic and geopolitical factors that influenced the market in 2019, before moving onto assessing the fundamentals in both the airline and aircraft leasing sectors.



The aviation industry's famously long benign period of growth, now referred to as a "supercycle", is slowly coming to an end. Barring any exogenous market shocks, the industry is expecting a softer rather than a hard landing, at least for now. The aviation industry remains awash with liquidity as investors continue to search for yield as interest rates remain at ultra-low levels. However, nervousness remains. Airline bankruptcies have seen an uptick in 2019, demonstrating that airline credit risk is clearly increasing, with some airlines addressing capacity issues and reducing growth plans heading into 2020. The market picture today is much more complex than in previous years, primarily due to the distortion caused by the grounding of the Boeing 737MAX in March 2019 with still no firm date for its return to service. Aircraft lessors are enjoying a short-term bounce in demand due to the absence of the expected MAX capacity, with airlines seeking to extend leases and secure short-term lift. The experienced lessors are keeping a sharp eye on those building headwinds to ensure they benefit from opportunities both now and once the market turns in earnest.

### MACROECONOMIC AND GEOPOLITICAL FACTORS

On a macroeconomic level, global economic growth in 2019 has been the weakest since the global financial crisis a decade ago. Global GDP growth was hovering around 2.9% in the fourth quarter of 2019.

Rising trade barriers – trade wars between US and China, as well as the continuing fallout of Brexit in the UK – and the associated uncertainty has impacted business growth around the world. This has been coupled with country-specific weaknesses in large emerging market economies such as Brazil, India and Russia, as well as a stressed financial environment in Argentina, social unrest in Venezuela, and continuing geopolitical tensions in the Middle East.

Trade wars and political disputes between the US and China have had a significant negative impact on the aviation industry, particularly on the air

cargo market due to the slowdown in world trade. Figures from International Air Transport Association (IATA), in the December IATA Airline Industry Economic Performance report, track the impact on the airline industry. Passenger traffic growth reduced in 2019, down to 4.2% RPK growth, from 7.4% in 2018. Capacity growth was also down to 3.5% from 6.9% in 2018, which can certainly be attributed in part to the MAX impact. Global airline revenue growth rose by only 3.2% over 2018 figures, totalling \$838bn; net profit however fell to \$25.9bn from \$27.3bn in 2018. Although fuel costs were largely static, non-fuel expenses increased. The impact of foreign exchange costs on non-dollar-earning airlines has been a constant problem for the past few years, while the constraints on capacity from the grounding and other unrelated delivery delays, resulted in additional aircraft-related costs for airlines.

Low interest rates have helped soften the general downturn in the world economy. Despite expectations at the start of 2019 that rates were likely to continue to rise, they in fact edged downwards. The US Federal Reserve Interest rate fell from 2.50% in January to 1.75% in December. The European Central Bank rate remains at zero, while the Bank of England has kept its 0.75% rate since the hike from 0.5% in July 2018. Japan's interest rates also remain at zero. A significant rise or change in this low interest rate environment is not expected by economists, barring any black swan event. This ultra-low interest rate environment means that investors need to continue to look elsewhere for yield. Aviation has certainly benefitted in this respect over the past decade and there are no signs that this wall of liquidity is easing. This is distorting the macro picture for the aviation industry and is arguably shielding some of the weaker companies.

Airlines have benefitted from stable oil prices over the course of 2019. Despite attacks on oil supply lines in Saudi Arabia, spikes have been short-lived. Although oil prices rose to \$71 a barrel immediately after the attack, they then sank back down again faster than anyone anticipated. Oil prices lowered back to the \$60-65bbl range – although

they again spiked above \$70bbl in early January 2020 after tensions escalated between the US and Iran. IATA reports that annual global airline fuel costs were \$188bn in 2019, representing 23.7% of total airline operating costs. IATA expects this to fall back to 22.1% of expenses in 2020, with a total spend of \$182bn. The decline, says IATA, is due to the delaying effect of hedging and the expected continuation of low oil prices. Moreover, concerns about the widening of the spread between oil and jet fuel prices, due to the impact of IMO 2020 environmental regulations, have "diminished", says IATA.

Despite the risks, the low oil price has the more prudent airlines seeking to hedge their fuel needs. "We try to manage the volatility of oil prices by hedging our future consumption for 12 months," says Yassine Berrada, chief financial officer of Royal Air Maroc. "This is something we do annually. This cost we try to manage. The main difficulties we see in the future are more about the availability and cost of qualified labour, plus the threat of new taxes for the environment. A lot of countries are very innovative in terms of taxation. This creates some uncertainty, as not all taxes can be passed through to the customer."

Although oil remains the largest operating cost for airlines, over the past 12 months or so, the cost concern for most airlines has been the foreign exchange rate against the US dollar, which has negatively offset the low oil price.

"The benefits of a low oil price have been felt more by US dollar-denominated economies or currencies that haven't weakened against the dollar," says Aengus Kelly, chief executive officer of AerCap. "The reduction in oil price hasn't really flowed through to the bottom line for some of the emerging market countries."

Despite the impact of FX, hedges are not as prevalent for currency as they are for oil. "We don't hedge our foreign exchange exposure," says Berrada. "We have natural hedge by having debt in euro, and the majority – 40% – of our revenues are in euro. We may use hedging products in the future. We are currently still looking at the market, the dollar may go down..."



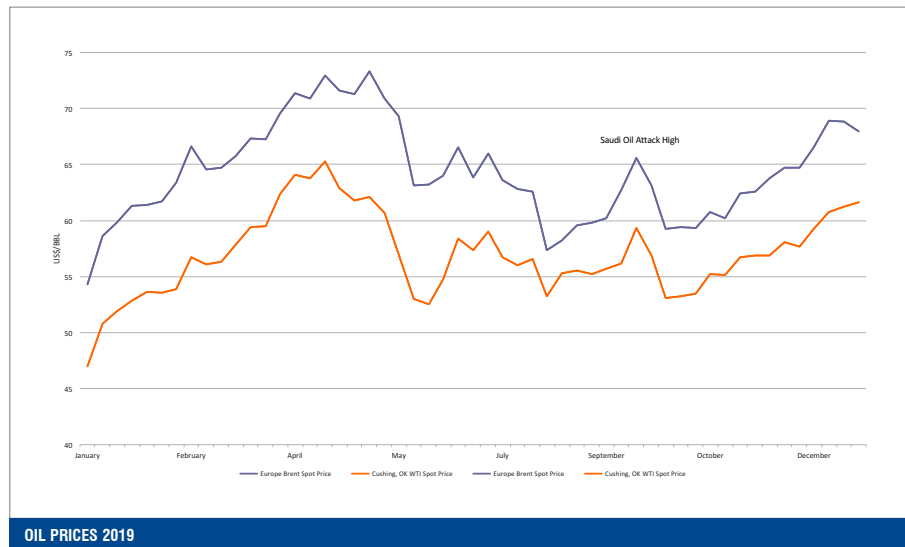
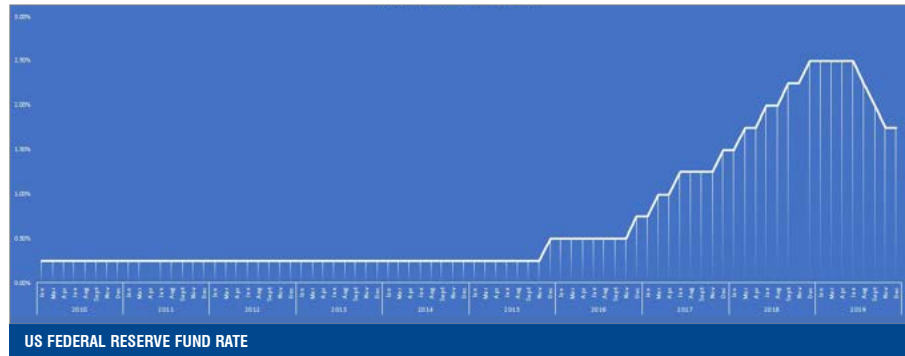
Another way to negate the impact of oil price fluctuations is by using less fuel – many airlines are in the process of renewing their fleets with more fuel-efficient aircraft, saving 6-7% on fuel consumption per flight, and are also answering to the call for more environmentally sound flights.

For Evan Carruthers, chief investment officer at Castlelake, FX issues combined with jurisdictional weaknesses remain a headwind heading into 2020: “One macroeconomic headwind related to the trade disputes is some significant disruption in the currencies in the emerging markets. Those FX issues, in our opinion, combined with weakness in certain macro regions, have caused some disruption and have led to an uptick in defaults and credit risk in the global portfolio. Although a lot of those issues take time to materialise, we do see more stress in the system today than we did 12 months ago. So we’re quite cautious, and that’s the proven approach at this point in the cycle.”

The market is more or less aligned to the notion that the aviation industry, like the global economy, has entered a downturn, but those market distortions discussed above – liquidity, new aircraft delays, low oil prices – are resulting in these early days of a possible downcycle having a softer impact.

According to David Goring-Thomas, Global Head of Aviation at MUFG: “On a macro level, we are past the peak – passenger growth is decreasing, and air cargo is in negative territory. In the equipment market, the (used) twin aisle segment is under pressure, and single aisles may be at risk once the MAX and NEO deliveries gain momentum. On the airline side, the industry seems very competitive, but the reason we have not seen so many airlines suffer is a combination of still-manageable traffic growth alongside low capital cost, ample financing and fuel costs remaining low. Once these conditions change, expect a lot more marginal carriers to default.”

John Slattery, chief executive officer of Embraer Commercial Airplanes, agrees that while the industry is probably well into the downcycle, the impact is being dulled by the overall health of airline profits. “We’re probably two-and-a-half years into the downcycle,” he says. “Some



**“The benefits of a low oil price have been felt more by US dollar denominated economies or currencies that haven’t weakened against the dollar. The reduction in oil price hasn’t really flowed through to the bottom line for some of the emerging market countries.”**

*Aengus Kelly, AerCap*

people are not feeling that yet because the return that airlines are generating is still above the weighted-average cost of capital. If we aggregate the numbers around the world, it's now down to about 100 basis points above the weighted-average cost of capital. The trajectory for the last two and a half years has been quite solidly down."

He adds: "We're seeing a correlation of OEM orders following the downcycle. We're seeing a lot of bankruptcies, starting with the European Union environment, but not exclusively in Europe. So, these are all big indicators to us that we're certainly into what I would describe as a relatively soft landing. It is hard to predict how much longer, but certainly I see another two or three years, at least two years of the downcycle, and then maybe a softer landing before the market takes off again. Our business is a cyclical business. Typically, the peak-to-peak or trough-to-trough has been about seven years. We've started to live a little bit of a double cycle this time around, but cyclicity is not bad. It helps the industry reset itself from a competitive perspective."

Traffic growth is indeed expected to rebound in 2020, hence the expectation for a relatively soft landing. Global GDP growth is expected to recover to 3.4% over the next year. The International Monetary Fund and other bodies predict that next year's growth will come from a more secure environment as trade tensions begin to ease, as well as an improvement in the emerging markets and an improving outlook in Europe.

IATA suggests that this "combination of a moderate pick up in global growth and world trade, a modest reduction in fuel costs, tempered by an expected increase in capacity growth, should help bring some stability to airlines' financial performance in 2020". The industry body is forecasting a small rise in net post-tax profits to \$29.3 billion and an EBIT or operating margin of 5.5% next year. Although these results are down from the peak years of 2015-2017, they reflect a better performance than that of earlier decades. IATA warns, however, that financial sustainability "remains narrowly based, concentrated in a relatively small number of airlines globally". More positively, with stable

fuel prices, passenger travel (measured in Revenue per Kilometres (RPKs)) is expected to grow on a par with 2019 at 4.1%. This is below the 20-year average pace of 5.5%, which IATA says shows that the industry has now entered a period of below-trend growth for air travel. Despite the expected rebound in international trade, IATA expects only moderate growth for air cargo, with Freight Tonnes per Kilometre (FTK) of 2.0% in 2020, compared to the estimated decline of 3.3% this year.

Financiers tend to be more cautious and, despite passenger growth, the downcycle pressures will continue.

"There will be headwinds, of course – the question is how strong they are. Everybody is waiting for a downturn in growth. But central banks are still helping with cheap-cheap money," says Florian Maier, managing partner of EMP Structured Assets.

His co-managing partner, Philipp Prior, agrees but says that the industry-specific challenges are creating their own problems. "We see too much capacity in the market in terms of equipment. We see too much money in the market, too much capital flying around with a lot of new investors from mainly Asia or private equity. The question is whether this fits together with the needs of the airlines. There's still potential passenger growth, but we have too much equipment, and we have too much money. For us, now, in the finance industry, I think it's getting really interesting how cheap rates will stay, how cheap banks will still lend money into this market, and how cheap the lessor will give the aircraft to the airlines."

Frank Wulf, global head of aircraft finance at NordLB, expects the tougher market conditions to continue well into the next decade. "The number of airline bankruptcies over the last two years is a clear indicator that the market environment is getting tougher. I am certain that this trend will continue for the next few years. Furthermore, airline profits are falling sharply across the board and with additional taxes or environmental charges to be imposed, this will even worsen. The situation is somewhat distorted by the 737 MAX grounding. Had all these aircraft been delivered as scheduled, I believe we

**"We're probably two-and-a-half years into the downcycle. Some people are not feeling that yet because the return that airlines are generating is still above the weighted-average cost of capital. If we aggregate the numbers around the world, it's now down to about 100 basis points above the weighted average cost of capital. The trajectory for the last two and a half years has been quite solidly down."**

*John Slattery, Embraer*



would have had some serious excess capacity and lease rates (as well as values) would even be under even more pressure. As such, I fear that this will be the case in 2020 or 2021.”

The impact of the MAX grounding on the aviation sector has been significant. It is discussed in a special section later in this report.

Aviation is a global industry and has benefitted enormously from globalisation – connecting people across oceans more efficiently than other forms of transport – but it is also a very noticeable polluter. Even though the Air Transport Action Group figures show that commercial flying accounts for about 2% of global carbon emissions and about 12% of transport emissions, the industry has been targeted by environmental activists in 2019.

Concerns about the environment took centre stage in 2019, and aviation has been in the firing line. Protestors have glued themselves to aircraft roofs and airport floors in London, there have been countless marches in cities around the world in support of the Extinction Rebellion movement and Greta Thunberg, a teenage activist from Sweden, began a one-woman crusade by striking from school every week outside the Swedish parliament in the summer of 2018, which grew to a climate strike of 4 million people across 161 countries in 2019. Thunberg has addressed the United Nations, US Congress, and UK Parliament on climate issues and has now been named as Time Magazine’s 2019 person of the year.

All of these pressures are contributing to the spread of the phenomenon of flygskam or ‘flight shame’, which is prevalent in Europe, especially Scandinavia. Although IATA and the major aircraft manufacturers are predicting that passenger numbers will continue to grow at around 4% per annum until 2035, other analysts – namely banks like UBS – have produced studies suggesting that such high-profile environmental awareness campaigns are beginning to trigger a change in flying habits in wealthier parts of the world, particularly in the US and Europe. After surveying more than 6,000 people in the US, Germany, France and the UK, UBS found that 21% had reduced the number

of flights they took over the last year. UBS believes this trend may deepen and continue into developed markets.

Environmental, Social and Governance (ESG) issues impacting the aviation industry are addressed throughout this report, but they are addressed in more detail in the final chapter.

### AIRLINE FUNDAMENTALS

Fundamentally, air travel is growing – albeit more slowly – and is predicted to continue to do so for the next decade, despite the environmental lobby and prevalence of flight shaming. However, 2019 can be characterised as having seen a major spike in airline bankruptcies. Although the actual number of bankrupt airlines was not so far out of step with previous years, the size of the airline fleets involved has increased. Thomas Cook and Jet Airways are probably the largest airlines by fleet size to fold in recent years, while bankruptcies of well-known brands like WOW Air and Germania, and Avianca in South America, caused ripples throughout the aviation sector.

“In 2019, we’ve probably seen more bankruptcies than the norm,” says John Plueger, chief executive officer of Air Lease Corporation (ALC). “Some of it is coincidental timing and many of these airlines weren’t going to make it anyway.... These failures happen because of the airline business models and those idiosyncrasies. I don’t think there is necessarily one fundamental thing that’s driving an increase in the [bankruptcy] rate. At this time, all these different airline models were finally reaching the end of their ropes, and so we saw a few more bankruptcies this year.”

Plueger uses the Jet Airways bankruptcy as an example. Although many aircraft were on lease to Jet, those planes were soaked up by other Indian carriers that took advantage of the restrictive slot situation. “There wasn’t a fire sale,” he explains. “There wasn’t a crisis in aircraft supply. The value of those slots and gates is very high and several Indian carriers could only gain access to them by taking a number of Jet’s aircraft. Despite all these bankruptcies, Thomas Cook for example, we haven’t had difficulty placing our aircraft. Nobody

**“The number of airline bankruptcies over the last two years is a clear indicator that the market environment is getting tougher. I am certain that this trend will continue for the next few years. Furthermore, airline profits are falling sharply across the board and with additional taxes or environmental charges to be imposed, this will even worsen.”**

*Frank Wukf, NordLB*



likes these situations but it's been a fairly orderly transition from these bankrupt situations."

For most aircraft leasing executives, airline bankruptcies are a normal component of the business. "Bankruptcies are a fact of life," says Aengus Kelly, chief executive officer of AerCap. "It's the daily cut and thrust of our business. On average we repossess one airplane a month. I don't see the long-term bankruptcy average changing – I think it will stay at normalised levels."

James Meyler, chief executive officer of ORIX Aviation, agrees: "Looking at the research, the number of airline bankruptcies hasn't really spiked last year, but the number of aircraft available from those bankruptcies has hit the highest levels since after 9/11 – over 350 aircraft in 2019. So, in that sense, there has been a huge flush onto the market of aircraft from bankruptcies. However, they've definitely been soaked up by the market demand, partially because of the MAX grounding, but in general the passenger demand has continued. [For airlines] that have had a faster growth spurt than their original business plan, the only option they have to get aircraft in the short-term is in the leasing channel because of the manufacturer order backlog and delivery delays. But most of the very large lessors will tell you they've placed already almost all of their 2020 aircraft in, and a lot of their 2021 aircraft. Strong airlines and growing airlines have taken advantage of other airlines' bankruptcies by taking extra lift."

Portfolio management in a choppy environment is essential, says Peter Barrett, chief executive officer of SMBC Aviation Capital. "[The number of bankruptcies in 2019] is a reflection of the environment, which is probably not as good overall as it was perhaps two years ago. Therefore, airlines with a strategic weakness that are over-leveraged and have a poor strategy, are going to be exposed in an environment like we have today. Well-managed airlines, big or small, with good balance sheets, good strategies, are probably doing okay. We put a lot of focus on our portfolio management. The number of European airlines that have gone out of business this year, we have either

#### AIRLINES THAT CEASED OPERATIONS IN 2019

| Airline                 | Country     | Fleet size             |
|-------------------------|-------------|------------------------|
| Adria Airways           | Slovenia    | 10                     |
| Aerolíneas de Antioquia | Colombia    | 4                      |
| Aigle Azur              | France      | 10                     |
| Air Philip              | South Korea | 3                      |
| Al Naser Wings Airlines | Iraq        | 1                      |
| Asian Express Airlines  | Tajikistan  | 3                      |
| Astra                   | Greece      | 1                      |
| AtlasGlobal             | Turkey      | BACK IN SERVICE        |
| Avianca Argentina       | Argentina   | 2                      |
| Avianca Brasil          | Brazil      | 43                     |
| California Pacific      | US          | 2                      |
| Far Eastern Transport   | Taiwan      | 7                      |
| Fly Jamaica Airways     | Jamaica     | 1                      |
| Flybmi                  | UK          | 17                     |
| Germania                | Germany     | 31                     |
| Insel Air               | Curacao     | 3                      |
| Jet Airways             | India       | 99                     |
| New Gen Airways         | THAILAND    | 3                      |
| Peruvian Airlines       | Peru        | 6                      |
| Silverstone Air         | Kenya       | 11                     |
| Tajik Air               | Tajikistan  | 7                      |
| TAM Bolivia             | BOLIVIA     | 6 (ONLY 3 OPERATIONAL) |
| Taron Avia              | Armenia     | 1                      |
| Thomas Cook             | UK          | 34                     |
| Via Airlines            | US          | 3                      |
| Wisdom Airways          | Thailand    | unclear                |
| WOW                     | Iceland     | 15                     |
| XL Airways              | France      | 4                      |

\*includes leased and owned aircraft; at the time they ended operations in 2019

Source: Ascend by Cirium & Airline Economics Research

avoided full stop or we have traded out of over the last number of years because we've had some concerns. We did have exposure to Jet, which is probably the most material one for us, and that's actually worked out reasonably well and we got the airplanes back quickly. Generally, I think the experience of the aircraft leasing industry continues to be pretty good despite the fact that there have been a number of airlines going out of operation. Our ability to get the assets, redeploy them, and get them back to generating revenue has been effective. That shows the underlying strength of the leasing model, which has proven to be resilient even when there has been a little bit of a spike in bankruptcies."

While many lessors are benefitting from this uptick in short-term demand, some are still wary of the underlying issues that may affect the industry further into the downcycle.

"It's been a tough year," says Tom Barrett, chief executive officer of Engine Lease Finance (ELF). "Although some days it's been a normal year for the number of bankruptcies, there has been a lot of our engines. We've had 4% of our portfolio redeliver unexpectedly as a result of them this year. That's unscheduled downtime. We've been protected in the current cycle because the demand has been so strong from the severe consequences of EIS issues. Were it not for the MAX issues, particularly the demand on the current technology that we provide, that would be quite a drag."

Ali Ben Lmadani, chief executive officer of ABL Aviation, admits that the bankruptcies are a concern for smaller players. "Most of the returned aircraft are now flying because they are marketed very well but it's still a fear for small players like us. When the price of oil is low, the cost of funds is low. The leasing community is willing to give very, very low lease rental factors to the airlines and we still have bankruptcies. The fact that airlines are going bankrupt when the markets cannot be better scares me a lot more than the MAX issues. Currently, it's an amazing market; airlines should be making the highest profit levels of their lifetime. But airlines are going bankrupt, and that's what scares me more than rising interest rates and the cost of fuel."

Over the past few years, more airlines have been filing for bankruptcy during the summer season, notably in Europe, which worries financiers. "The process started a couple of years ago and a significant number of airlines have gone bankrupt in Europe, namely Air Berlin, Monarch, Wow, Primera, and more recently Thomas Cook," says Arnaud Fisel, Head of Transportation at Bank of China (UK). "There have also been some players in promising and fast-growing Asia, such as Jet Airways. Some operators unfortunately start experiencing cash shortages immediately after the peak of the summer season, which is quite unusual, but evidencing deep structural financial weaknesses. From an air operator standpoint, the peak of the current cycle has most certainly been reached."

#### TAKING A REGIONAL VIEW

The airline industry is global but split by regions provide a more detailed picture of the general health of the sector.

Every year as part of this study, Airline Economics asks participants to provide their optimism levels for the various regions on a range of 1-5, 1 being the most pessimistic and 5 being the most optimistic. The chart shows optimism levels rising in most parts of the world, except for Europe and the Middle East.

Indeed, airline bankruptcies need to be considered within the jurisdiction or region in which those airline are operating. This section focuses on each region with an eye on expected performance, consolidation and operating environment.

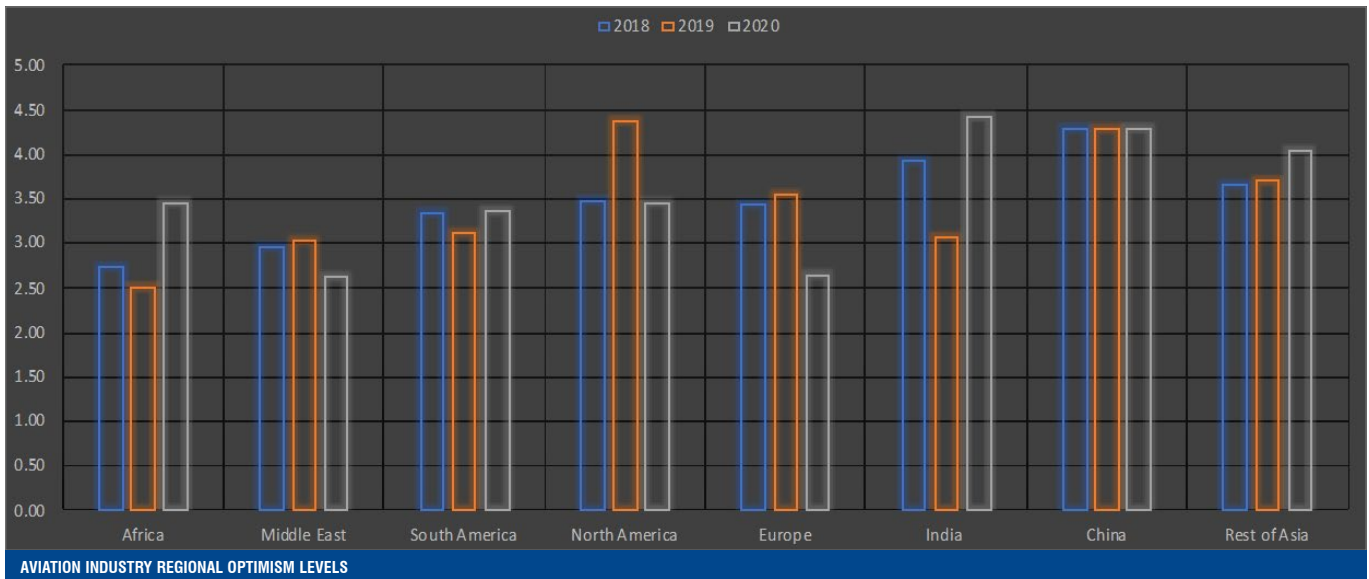
#### EUROPE

With the rise in bankruptcies and the weaker trading environment, further airline consolidation is expected in 2020, although this is restricted to certain regions. Most consider Europe to be overdue for more airline consolidation. In 2019, one of the largest deals was the acquisition of Air Europe by International Airlines Group (IAG), but there has also been a move to expand by some of the other large players – Ryanair, Aer Lingus, Wizz Air – to push for growth, making an already competitive market even more so for weaker players such as Norwegian. Overall net airline

**"[The number of bankruptcies in 2019] is a reflection of the environment, which is probably not as good overall as it was perhaps two years ago. Therefore, airlines with a strategic weakness that are over leveraged and have a poor strategy, are going to be exposed in an environment like we have today. Well-managed airlines, big or small, with good balance sheets, good strategies, are probably doing okay."**

*Peter Barrett, SMBC Aviation Capital*





profits for Europe are more subdued than other mature markets due to the highly competitive market and strength of the low-cost carriers. IATA reports European airline net profits were \$6.2bn in 2019, caused by low yields. However, the industry body is predicting a better performance in 2020, with profit up to \$7.2bn driven by a reduction in capacity expansion plans and subdued fuel costs.

Europe is a very mature market with arguably too many airlines in the region; however, the rise in bankruptcies and the move towards further consolidation seems to be generally welcomed by the major market players since it is clearing out weaker airlines and boosting profits for the strongest airlines that remain. "More consolidation is inevitable, but it's healthy," says one senior executive. "The fact that consolidation happens in a healthy environment is a good thing, because it keeps the market more productive. In Europe, there's a lot more room for consolidation, just because of the number of players."

Europe is often compared to the US market, where the airlines have spent the past few years consolidating their cost bases, restoring their financial strength and employing greater capacity discipline.

Mike Inglese, CEO of Aircastle, says: "The US bankruptcy laws enabled the carriers to consolidate and fix their cost structures. Now, the top four or five airlines control 80% of the traffic. At the present time, you do not see a similar concentration or dynamic in Europe or

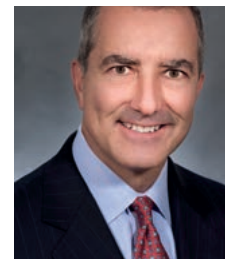
in other places in the world. Over time, airlines will see the benefits of more consolidation, like the IAG model where you let regional people run their airline with the scale benefits of managing a broader and bigger fleet along with the leverage it provides with OEMs and lessors."

James Meyler sees a similar trend: "The US really is a prime example of what can be achieved with consolidation. Europe definitely is in need of a similar process and there are signs it is starting with IAG taking on Air Europa, and it has considered Norwegian in the past. There is a move to that IAG Group-type consolidation, similar with Ryanair expanding with Laudamotion. There is still some way to go though; the five largest carriers in the US control 70% of their market; Europe's top 5 only 50% of theirs. Asia is further behind because its low-cost carrier growth is still in its infancy and the legacy government state-owned carriers are only just starting to become independent and profitable airlines on their own right rather than being a traditional flag carrier, an offshoot of the state. I think that's going to be slower to happen but ultimately, they will follow the same trend."

Aside from the group approach to consolidation, certain airlines have also been taking equity stakes in other airlines as a first step. In Europe, Air France-KLM, Delta Air Lines and Virgin Atlantic signed a joint venture agreement where Air France-KLM would acquire a 31% stake in Virgin Atlantic for £220

**"The US bankruptcy laws enabled the carriers to consolidate and fix their cost structures. Now, the top four or five airlines control 80% of the traffic. At the present time, you do not see a similar concentration or dynamic in Europe or in other places in the world."**

*Mike Inglese, Aircastle*



million. However, the two-year planned stake sale was abandoned by Richard Branson, who opted to retain control and expand the airline he founded by securing more operating slots at an expanded London Heathrow airport to establish Virgin Atlantic as a second UK flag-carrier to rival British Airways.

For Cowen analyst Helene Becker, the stark reality is that there are simply too many European airlines with too many hubs. “The problem in Europe is every country wants an airline and it’s so important for national pride to have an airline and to provide jobs. In the US, we had industry consolidation and we had hubs shut down. In Europe, you don’t have that. IAG is a holding company for five or six different airlines and they still have hubs in Ireland, Spain, the UK. Likewise, Air France-KLM has hubs in Paris, Amsterdam; Lufthansa has hubs in Frankfurt and Munich. Do they really need so many hubs? The answer is absolutely not, especially with more efficient aircraft that can over fly the hubs.”

Becker recalls the exponential growth of the large gulf carriers, which were overflying Europe into the United States and connecting people in the Middle East, thus cutting out the main European hubs. “Today, though, you can fly non-stop from San Francisco to Tel Aviv, for example. All these airlines are overflying all those hubs and it’s an increasing trend.”

Using the US airline success as an example for European carriers is reasonable but there is a question mark over whether European airlines could initiate a similar restructuring of the market in the absence of US Chapter 11 bankruptcy protection laws, which enabled financially weak airlines in the US to restructure while continuing to operate.

After Thomas Cook filed for insolvency following several months of attempting to secure further sources of funding, the company had little choice but to halt operations. The UK Civil Aviation Authority, effectively and efficiently, quickly launched the largest emergency repatriation programme – dubbed “Operation Matterhorn” – to return 150,000 passengers to the UK over a period of 14 days. Similar programmes



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*James Meyler, ORIX Aviation*



were launched after the collapse of Monarch and XL Airways, which provoked a government review into airline insolvencies. Recommendations issued in the final report in May 2019, suggested that the UK consider reforming the insolvency regime for airlines to allow the CAA to use that airline's own aircraft to fly passengers home. The new Airline Insolvency legislation was set out in a little more detail during the Queen's Speech that marked the opening of the UK Parliament on 19 December 2019. The main elements of the proposed legislation include the introduction of a special administration regime for airlines to support passengers' needs post-insolvency and to keep aircraft fleet flying long enough for passengers to be repatriated. It will also enhance the CAA's regulatory powers to improve their oversight of airlines in distress, and mitigate the impacts of a future airline failure, and extend the CAA's remit to apply for the repatriation of both ATOL and non-ATOL protected passengers. ATOL, or Air Travel Organiser's Licence, is a UK financial protection scheme that protects most air package holidays sold by travel businesses that are based in the UK. (Currently the CAA does not have to repatriate non-ATOL passengers.) The new legislation will also establish what the government describes as a repatriation "toolkit of mechanisms for companies and passengers", including measures to make it easier for the CAA to grant a Temporary Airline Operating Licence so that an airline can continue repatriating passengers following insolvency.

Meanwhile, the UK continues to be unsure about the impact of Brexit, which will now be executed on 31 January 2020. Although, since the UK election in December, the uncertainty around whether Brexit will happen at all has lifted, uncertainty remains regarding the impact on the country and the European Union (EU) more broadly in terms of the aviation industry. The UK and the EU still need to reach some sort of agreement that will allow operations to continue between the two regions to continue. One industry observer suggests that large UK carriers, such as easyJet, Virgin Atlantic, and British Airways, will need to find alternatives to compensate potential

outbound traffic due to the relative weakness of the pound against the euro.

#### NORTH AMERICA

North America is the region with the highest optimism level from among the report participants, which is unsurprising due to the very strong airline market. Net post-tax profits for 2019 rose to \$16.9bn, according to IATA year-to-date estimates, up from \$14.5bn in 2018. In 2020, profits are expected to be \$16.5bn with a net margin of 6%, impacted only slightly by the expected decline in yield as capacity rises. IATA expects consolidation to continue to help sustain load factors, although it is difficult to see how much further the region can consolidate. The US airlines in particular have demonstrated over the past few years how adept they have become at managing costs, fleet and route networks.

"The airlines in North America have become more disciplined with regards to optimising networks, reducing costs, and identifying those routes that are profitable and where they can be competitive," says Karl Griffin, chief executive officer of the Dublin-based, full-service commercial aircraft leasing company. "North American carriers have provided a blueprint for many other regions and operators. The key for operators outside of the US is to understand where their market space is with a focus also on reducing costs."

There has been some consolidation in Canada, with Air Transat acquired by Air Canada and WestJet acquired by private equity firm Onex. However, true consolidation in the US airline sector is restricted by the large homogenous market; that said, some observers fully expect the entrance of new competitors. "The US will see new airlines," says Peter Barret, SMBC Aviation Capital. "This is part of the story that doesn't get told. There continues to be competition in the US, there continues to be new airlines that have grown up over the last five or 10 years that are cutting out a niche for themselves. It's going to be a continually evolving market. However, the type of consolidation and the scale that they've achieved in the United States is going to be much harder to achieve in other markets."

**"The problem in Europe is every country wants an airline and it's so important for national pride to have an airline and to provide jobs. In the US, we had industry consolidation and we had hubs shut down. In Europe, you don't have that."**

*Helene Becker, Cowen*





There may be some further consolidation in the US market, but this will be limited to the smaller airlines. The major US airlines are now too large to acquire other US airlines without triggering serious anti-trust rules. However, US airlines are looking outside of the region to expand their networks using equity acquisitions. Delta Air Lines is preparing to acquire a 20% stake in LATAM Airlines for \$1.9bn, and was also seeking to expand its share in Virgin Atlantic before the deal was pulled at the last minute. Moreover, Delta has also acquired a 10% stake in Haijin-KAL, the largest shareholder of Korean Air. American Airlines has tried a similar strategy, buying into China Southern in 2017, but has not expanded further. United Airlines owns a small share in Brazilian carrier Azul, as well as a minority stake in US regional carrier Express Jet, and intended to launch a joint venture initiative with fellow Star Alliance members Avianca and Copa to better compete against Delta in the South American region, although these plans were curtailed by the former's financial difficulties.

“Over the course of the last 15 or 20 years, the South American market is of increasing relevance to the North American market and to the Western Continental European Market,” says Embraer’s Slattery. “Equity investments are being made by European and North American airlines into the Latin American airlines to effectively hardwire their partnership for the next cycle. You’re also seeing equity investments changing, companies divesting an equity investment, and new players are replacing them. South America is a robust market where we’re starting to see good growth. It’s a market that’s going to continue to be in demand, particularly by the North American airlines and by the European airlines.”

Although US airlines have shown solid profits for more than five years, sustained by a strong market due to past consolidation and a strong US economy, in 2019, the on-and-off trade war with China has put pressure on imports costs and private consumption from 2020. The threat of an escalating trade war has dimmed in recent months, but still remains.



**“North American carriers have provided a blueprint for many other regions and other operators. The key thing really for operators in or outside of the US is to really understand where their marketplace is rather than focusing on market share.”**

*Karl Griffin, Genesis*



“The issue I am most worried about is the US-China trade war,” said Declan Kelly, chief operating officer of GECAS, speaking on camera in Hong Kong at the beginning of November 2019. “It is so important for everybody that it is resolved quickly.”

Earlier in the year, ORIX Aviation’s James Meyler was concerned that the slowing passenger growth due to the trade wars might impact the leasing business, but this not materialise. “There was a concern that the trade wars between China and the US would affect the airlines’ demand, but actually what we’ve seen is that all of our aircraft that were due to come off lease, not just in 2019 but actually through 2020, have now all been either extended, placed on a new lease or sold. So again, the concerns of the softening haven’t materialised.”

For others, the trade dispute becomes a more significant threat if it impacts interest rates further: “Presently, the US economy is pretty robust because interest rates are low,” says Stephen Hannahs, chief executive officer of Wings Capital. “The manufacturing sectors are not performing as well as the consumer sector because of tariffs and global economic uncertainty. It is my view that it is unlikely that the Federal Reserve cuts rates much further. They will try to keep some dry powder to ensure that the economy keeps going. I am concerned about the low rates because I’ve seen significant evidence of people chasing yields, paying excessive prices for assets and doing things that are commercially mistakes. Eventually, this will be a problem. So, it’s a challenging environment.”

Despite the concern, most believe the trade disputes will eventually die down. “There clearly has been some negative impact – especially on airfreight from and to China,” says NordLB’s Wulf. “We can only hope that, despite all the sabre-rattling, a certain sense of rationalism prevails and there is a strong intention on all sides to find amicable solutions to avoid a further escalation of the situation. If that is not the case and the spiral of slamming punitive tariffs on goods continues, this will definitely have a noticeable longer-term impact on the aviation industry.”

### SOUTH AMERICA

South America is a mixed picture. Overall, the market seems more positive about Brazil, which has weathered its own challenges and is improving – this is a major positive, because it is a quarter of the whole Latin American market. In fact, the demise of Avianca Brasil is viewed as a positive since it helped stabilise the market for other players. Elsewhere in the continent, conditions are much more challenging.

“We’re seeing signs of recovery in Brazil,” says AerCap’s Kelly. “Although the Real hit an all-time low in [early December] at R4.26 to the dollar but the finance minister did not seem too concerned about it. We saw Brazil recover more, certainly over the course of 2019, which was encouraging because that’s really driving the rest of South America.”

The political instability issues in certain jurisdictions such as Argentina, Venezuela and Chile are a source of concern, although there is some hope that the new administration in Argentina will help improve the situation there. Foreign exchange issues have hit Latin American countries particularly hard. “It’s a more challenging macroeconomic situation in Central and South America, which is evident in some of the defaults and some of the what I would categorise as stress deal activity in those regions,” says ELF’s Barrett.

The low performance of Latin Americas economies as a whole, the depreciation of local currencies in emerging markets, and the lower volume of commodities trades (excluding Brazil) have a negative impact on airlines, especially on domestic airlines with no hard currency revenues.

Despite these stresses, participants in this report are in general “cautiously optimistic” about Latin America, and fully expect the region to recover heading into 2020. IATA also expects some restructuring in the airline sector to improve the overall performance, with net profits estimated at \$0.1million, an increase over the \$400,000 loss posted in 2019.

### ASIA-PACIFIC AND CHINA

Airlines in the Asia-Pacific region were most exposed to the trade war between

**“There was a concern that the trade wars between China and the US would affect the airlines’ demand, but actually what we’ve seen is that all of our aircraft that were due to come off lease, not just in 2019 but actually through 2020, have now all been either extended, placed on a new lease or sold. So again, the concerns of the softening haven’t materialised.”**

*James Meyler, ORIX Aviation*



China and the US, which is reflected in the fall in passenger and cargo traffic figures as well as net profits. IATA notes that net profit in 2019 for APAC airlines was \$4.9bn – a fall from \$6.1bn in 2018, which is where it is expected to return to in 2020 as world trade recovers and if fuel remains at lower levels.

Although international travel has been impacted by the trade disputes, domestic travel in China has been very strong. China has a large domestic market driven by a growing middle-class, which could support long-term air traffic growth even if part of the international traffic is slowing down; hence optimism levels remain relatively high.

“China continues to grow and our expectation is that the government will continue to ensure that it grows for the foreseeable future although there are other issues that are more idiosyncratic to China,” notes Castlelake’s Carruthers. “There is an abundance of leverage in the system, clearly, and there are some issues with the smaller airlines and with the HNA-related airlines in China, which has been a challenge for all of the lessors that have been exposed to that region. This is a different issue than what you see in Europe where you’ve got a lot of fragmentation and high competition. China’s issue is more about idiosyncratic debt issues at the corporate level and we’re having that stress work its way through the system – that will resolve itself over time, possibly, through some insolvencies and some M&A activity, where some of the smaller less stable airlines will get rolled into the larger more stable players.”

Outside of China, the Asia-Pacific market yields are under pressure; this has only been exacerbated by the protests in Hong Kong, which have caused traffic to fall dramatically. However, many regard this as a short-term issue that will be resolved, and remain optimistic regarding the broader region due to the strong underlying market fundamentals.

“Over the past five years or even longer, the larger growth has come, and will come, from Asia,” observes Khanh Tran, chief executive officer of Aviation Capital Group (ACG). “When you’re talking about the dynamics and demographics of that market, many people are gaining more wealth and are willing to spend more to travel for leisure

or for business. There are infrastructures issues in certain countries with big populations like Indonesia, and you have big population countries like India. There have been airline failures in India and the infrastructure is not very conducive for travel. That will change; the demand for traveling abroad remains.”

Indonesian traffic shrunk in 2019, and there have also been some issues in Thailand. However, as Tran states, the overall Asian market still wants to travel, and traffic has risen regionally. “Next year, it will probably be closer to double-digit growth, which is more like the emerging market that Asia is. But if that was a down cycle, I think we would all take it.”

Hani Kuzbari, managing director of Novus Aviation Capital says that although further bankruptcies are likely, new airlines will emerge to fill the gap: “Airline failures are an inconvenient way for new carriers to acquire resources, such as more pilots, aircraft, landing slots, for example. Startup airlines or airlines requiring capacity will emerge to fill up the gap in the market from the failures of some of the incumbent or exploit fast-going markets demand in countries or regions. Some markets in Asia are a good example, where airlines have been inducting a number of aircraft that came out of some of the European operators that went out of business.”

Regardless of the fall of Jet Airways in India, the optimism levels for the airline industry in that country are increasing.

“India is a billion people. Aside from China, other countries are significantly smaller but with higher traffic numbers – that shows the potential,” says Cowen’s Becker. “As India’s economy continues to improve, more people will want to travel. The Indian aviation market has been oversaturated with start-ups that have failed – Kingfisher, Jet – which put a lot of aircraft on the ground at one time and and there’s still too much capacity, which means airlines suffer the same thing that US markets suffered 20 years ago; over capacity. But if they grow in a measured way, you don’t have those issues. We’re certainly expecting improvement from where we were with the Jet bankruptcy, but we’re not expecting the robust growth we saw earlier in the decade, which is a good thing.”

**“It’s a more challenging macroeconomic situation in Central and South America, which is evident in some of the defaults and some of the what I would categorise as stress deal activity in those regions”**

*Tom Barrett, Engine Lease Finance*



Lessors have had issues repossessing aircraft from India – especially with Kingfisher – but those painful jurisdictional legal tanglings were not quite so painful during the Jet bankruptcy. “Lessors have managed it very well,” says Austin Wiley, chief executive officer of SKY Leasing. “India, as well as Brazil, are tricky markets to repossess aircraft, there have been stumbling blocks there before. On the whole, it was a pretty efficient process this time. Lessors have learned lessons from the past. No question the lessors benefitted from manufacturer production delays. Sometimes it’s better to be lucky than good, but on the whole, it’s been very impressive in terms of the re-deployment of assets.”

Positive experience is returning lessors to India. “India has been a growth market for us,” says Aircastle’s Inglese, “and over the past few years, we’ve expanded our Asian relationships with the likes of AirAsia, Lion Air, and IndiGo in India. We were also able to quickly and seamlessly transition seven aircraft from Jet Airways to SpiceJet in 2019.”

### MIDDLE EAST

While the Middle East market has encountered some challenges over recent years, the ongoing restructuring efforts on networks, schedules and fleet capacity are resulting in a slowdown of capacity growth in the region, to the benefit of all airlines. The closure of the Dubai runway for a month also impacted schedules. The general consensus is that the restructuring has put the main airlines back onto a growth footing, albeit one of slower growth than seen in the past, which is viewed as a healthier growth path for the region. This positive trajectory has prompted IATA to predict a reduction in net profits for the Middle East in 2020 to a loss of \$1bn, down from a \$1.5bn loss in 2019.

### AFRICA

Optimism levels are rising for the Africa region, although the overall level remains muted compared to the rest of the world. In aviation, Africa has always been the weakest region, although breakeven load factors are low (as yields are above average) and costs are also low.

That said, few airlines can achieve those breakeven load factors, and growth remains slow. IATA is predicting an improved performance for the region but net profits will still post a loss in 2020.

Royal Air Maroc (RAM) is bullish on the region, which could be revolutionised with an Open Skies agreement. “There is a high potential in terms of traffic to Africa and from Africa and OpenSky will definitely have an impact,” says CFO Berrada. “We have seen that just between Morocco and Europe, for example, when we started with OpenSky in 2004 and it was fixed in 2006, traffic grew between Morocco and Europe by double digits for 10 years. So, there is a potential within Africa, especially due to the lack of road or rail infrastructure.”

Most RAM traffic is international, connecting passengers to and from Africa to Europe and the Americas. “We don’t have much traffic between Morocco and Africa as an origin and destination but it has grown. We have a lot of more new Africans living in Morocco now, and Morocco investing in West Africa banks and insurers, so there’s a lot of traffic between them. We are advocating more OpenSky in the African skies. There is a lot of potential; we are trying to invest in that potential, especially in West Africa.”

### LESSOR FUNDAMENTALS

The leasing market is awash with liquidity, and investors unable to find yield in more traditional markets are still exploring more “esoteric” avenues to secure a better return on their investments. This is not a new phenomenon; investors have been attracted to the stable returns enjoyed by aircraft leasing for some time since the global financial crisis ushered in a new ultra-low interest rate environment. And although the “gold rush” age where investors piled into leasing vehicles at a significant rate has passed in recent years, there is still enormous interest in the area.

In 2019, the leased aircraft portfolio increased to 12,954 aircraft, according to analysis from Ascend by Cirium.

Richard Moody, global head of transportation finance at Deutsche Bank, observes: “Aviation has evolved significantly over the last five to 10

**“Lessors have managed it very well, India, as well as Brazil, are tricky markets to repossess aircraft, there have been stumbling blocks there before. On the whole, it was a pretty efficient process this time. Lessors have learned lessons from the past. No question the lessors benefitted from manufacturer production delays. Sometimes it’s better to be lucky than good, but on the whole, it’s been very impressive in terms of the re-deployment of assets.”**

*Austin Wiley, SKY Leasing*



years in terms of its acceptability as an asset class to which people will provide capital. It used to be the case that for a lot of funds, capital that flowed into commercial real estate was going to fixed income instruments, or equity, or infrastructure, but the whole bucket of alternative investments has grown significantly post-financial crisis as money managers, insurance companies, and anybody with capital obviously is looking to put money to work. Also, aviation return on investment value is impressive when you compare this to different asset classes. The interest in aviation has benefited from more transactions, which are bringing more liquidity, and increasing aviation's relative value versus other asset classes."

Aviation's value relative to other asset classes is critical. Many see it continuing for some years yet, considering aviation as no longer burdened with the 'esoteric' moniker and as more of a conventional investment avenue, while others remain less optimistic and more cautious about further, risky investment in this sector.

"Aircraft as an asset class has become mainstream," says Peter Barrett, CEO of SMBC Aviation Capital. "I think that will continue. I'm not an economist and I'm certainly not a soothsayer so I don't know what's going to happen in the future, but I do think that capital – the price of it, the availability and the liquidity of it – will ebb and flow; that's the nature of the long-term economic cycle. At some point that will change for our industry, for aviation generally, but I don't think it's going to change just for aviation. I think it will change for everybody, but aviation will still remain as a meaningful and vibrant and attractive asset class, although there might be less liquidity so money might get more expensive or there might be less of it – and then when the cycle returns, it will broaden. So, aviation is here to stay, but I think it will wax and wane with the macroeconomic cycle."

New leasing companies have continued to emerge onto the scene over the past 12 months, with many more new joint ventures and sidecars being set up to capitalise on the continued healthy liquidity in the aviation industry in the leasing space.

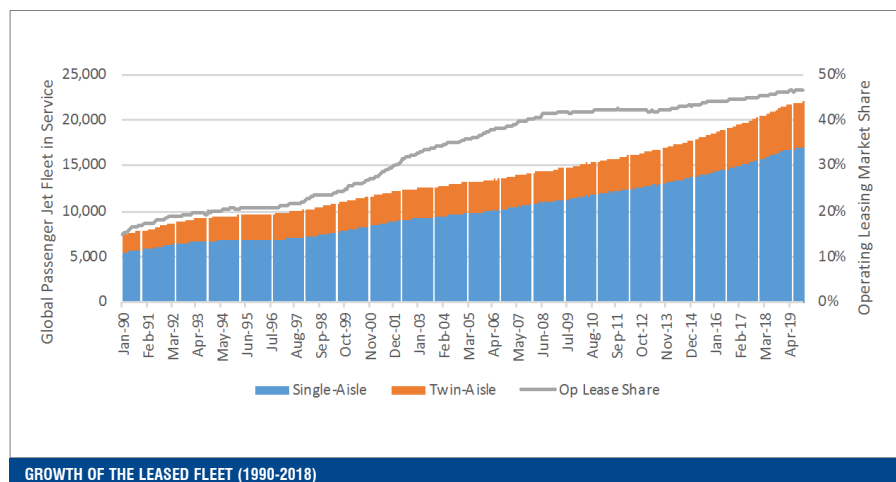
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*Richard Moody, Deutsche Bank*



| TOP 30 LEASING COMPANIES (RANKED BY NUMBER OF AIRCRAFT) |  |                   |                        |                    |
|---|--|-------------------|------------------------|--------------------|
| Rank  | Company                                | Current Portfolio | Portfolio Value (\$mn) | Firm Order Backlog |
| 1   | GECAS                                  | 1,144             | 22,938                 | 351                |
| 2   | AERCAP                                 | 1,019             | 33,492                 | 306                |
| 3   | AVOLON                                 | 529               | 19,627                 | 362                |
| 4   | BBAM                                   | 509               | 21,067                 |                    |
| 5   | NORDIC AVIATION CAPITAL                | 487               | 6,021                  | 62                 |
| 6   | SMBC AVIATION CAPITAL                  | 416               | 15,681                 | 254                |
| 7   | ICBC LEASING                           | 402               | 15,090                 | 123                |
| 8   | AIR LEASE CORPORATION                  | 384               | 17,662                 | 316                |
| 9   | BOC AVIATION                           | 356               | 15,590                 | 151                |
| 10  | DAE CAPITAL                            | 354               | 10,102                 |                    |
| 11  | AVIATION CAPITAL GROUP                 | 318               | 9,465                  | 153                |
| 12  | AIRCASTLE                              | 275               | 5,846                  | 25                 |
| 13  | CDB AVIATION                           | 227               | 7,875                  | 185                |
| 14  | CARLYLE AVIATION PARTNERS              | 225               | 3,246                  |                    |
| 15  | ORIX AVIATION                          | 223               | 7,036                  |                    |
| 16  | BOCOMM LEASING                         | 212               | 7,598                  | 30                 |
| 17  | CASTLELAKE                             | 210               | 3,552                  |                    |
| 18  | MACQUARIE AIRFINANCE                   | 195               | 4,081                  | 60                 |
| 19  | BOEING CAPITAL CORP                    | 193               | 1,813                  | 29                 |
| 20  | GOSHAWK                                | 177               | 6,816                  | 40                 |
| 21  | JACKSON SQUARE AVIATION                | 174               | 6,937                  | 30                 |
| 22  | AVMAX AIRCRAFT LEASING                 | 149               | 443                    |                    |
| 23  | AMCK AVIATION                          | 145               | 4,396                  | 20                 |
| 24  | CHINA AIRCRAFT LEASING COMPANY         | 137               | 4,495                  | 190                |
| 25  | STANDARD CHARTERED AVIATION FINANCE    | 129               | 4,159                  |                    |
| 26  | AVIC INTERNATIONAL LEASING             | 123               | 3,834                  |                    |
| 27  | FALKO                                  | 114               | 1,244                  |                    |
| 28  | CARGO AIRCRAFT MANAGEMENT              | 99                | 1,293                  |                    |
| 29  | GTLK - STATE TRANSPORT LEASING COMPANY | 97                | 2,217                  | 4                  |
| 30  | REGIONAL ONE                           | 97                | 395                    |                    |

Source: Ascend by Cirium (data supplied end December 2019)



Source: Ascend by Cirium

John Plueger has observed this influx of new competition since starting ALC, and even previously during his long tenure at ILFC. “This has happened for two reasons: one is the abundance of liquidity, but the second is because aircraft have proven to be a very consistent and a high-yielding asset for decades,” he says. “Aviation becomes an attractive asset class when there’s more liquidity. As the airline industry has grown and as leasing platforms have grown – with many of us now publicly traded and with many more different ABS vehicles – aircraft has been placed in the mainstream spotlight for investment. Despite all the capital inflows that have happened, aircraft continue to perform very well as assets and as asset classes.”

As a consequence of those new entrants seeking to build market share over the past decade, the capital inflow has been most influential on the aircraft sale-leaseback market, driving down lease rate factors and returns. Over the past year, however, there are signs that those falling returns have begun to cause those newer players to a pause their more aggressive bids.

“You don’t quite see as many respondents to sale-leaseback proposals today as you did two years ago,” says Plueger. “Despite lowering interest rates, which is generally helpful to all capital-intensive industries, there are some players that are just putting on the brakes as the sale-leaseback market reaches levels that just don’t work for them anymore.”

ORIX Aviation’s James Meyler agrees that there are signs of greater discipline returning: “Now that some new entrants have reached a certain scale, they are acting in a more rational manner, but you still have certain players that, for whatever reason, require a transaction at a certain time. They may be coming towards a quarter-end or year-end target, a stretched business plan, or whatever it may be. There’s usually somebody who has a real requirement to get a transaction done at a given point in time, and they’re the ones that pay up and win the deals... In terms of S&LBs, what we have seen is where maybe 18 months ago, we lost out in the first round, now, in the last six months, on those types of deals where



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*John Plueger, Air Lease Corporation*

we believed we'd be competitive, we're now getting into the last two or three or winning bids."

"Bottom line, the evolution continues. The rush starts at the beginning, floods the market, depresses yields, people start to exit, etcetera. It's just a natural part of the growth of the industry," adds Plueger.

Plueger further notes that the influx of Chinese leasing companies being formed has halted with some exiting the market altogether, selling their portfolios. Minsheng, for example, sold its portfolio to Castlelake in 2019, and there are others companies that have changed ownership. In December, Mizuho entered into a joint venture with an Ping An to form the newly named leasing company Clover Aviation Capital.

Mike Poon, CEO of CALC Group, sees continued growth coming from China, however: "We established the Chinese platform 10 years ago as the first aircraft lessor in China. Then many more lessors started up in China. If you look at the track record, most of them are making quite good money. But the next liquidity opportunity in my view is in Hong Kong. Hong Kong has changed the aircraft leasing industry with their recent efforts. Now, the Hong Kong effective tax rate is sometimes even lower than in Dublin. Hong Kong has a lot of liquidity. As it becomes the gathering point for more leasing companies, more and more money will flow into this sector and we expect the leasing market in China to keep growing, especially in Hong Kong."

## CONSOLIDATION

Another natural part of the evolution process of the leasing industry is consolidation. 2019 was not a particularly standout year for consolidation in the leasing industry, but there were some significant deals. Tokyo Century took full control of Aviation Capital Group, while Aircastle was acquired by a newly-formed entity controlled by affiliates of Marubeni and Mizuho Leasing; moreover, Singapore's GIC completed its investment in Nordic Aviation Capital. There was further aviation industry M&A activity – Bombardier completed its sale of the CRJ program to Mitsubishi Heavy Industries as well as its Q400 program to Longview, in order to focus

on its corporate jet business. Apollo acquired PK Airfinance from GECAS and MUFJ bought the aviation finance franchise from DVB.

For ACG CEO, Khanh Tran, the full takeover by Tokyo Century from Pacific Life, has re-energised the company. "When we originally began having discussions with Tokyo Century investing in ACG we were excited to have an ideal, informed, institutional investor because they had already invested in this business on their own, in Tokyo, for quite a while. Having a shareholder and owner who understands the fundamentals of the business is important."

ACG has already tapped into Tokyo Century's JOLCO expertise as well as enabled the company to diversify its services with the introduction of its financing arm, Aircraft Financing Solutions. "AFS is a model after the US Export-Import Bank guarantee and we recruited four members from the Eximbank. To my pleasant surprise, we were able to put business on the books within less than nine months. We don't provide the loan ourselves, but we arrange 'credit-enhanced lending opportunities' where ACG is the credit enhancing party. This is version 1.0; we're working now towards version 2.0 and 3.0." (AFS is discussed in further detail in Chapter 2.)

Castlelake's Evan Carruthers expects those smaller-scale lessors that have been created in the past decade to be ripe for acquisition: "Some of the leasing businesses that are small and subscale that don't grow into real sustainable businesses ultimately will be targets for consolidation. In addition to that, there are a few large leasing companies that will likely look for a different source of equity capital over the next call it 24 to 36 months."

Firoz Tarapore, CEO of DAE Capital, which acquired the AWAS platform in 2018, has been surprised at the relatively low levels of M&A activity in 2019. "In the last year or two, origination has become more difficult because pricing levels are low as a result of increased supply. A 20-aircraft fleet lessor hoping to increase to a 40-50 aircraft fleet, or for a 100-aircraft lessor hoping to get to 200, is now starting to realise that it is not going to get there. Such

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*Mike Poon, CALC Group*





companies cannot maintain the status quo because they're getting marginalised every single day, so they either need to make the decision to sell or do something completely drastic to keep their objectives alive. In our business, because the leases are so long, lessors are subsidised to put their heads in the sand for a longer period of time than an economic person would, but that runs out as well. In the next two to three years, there will be more rational decisions taken, and more of those smaller lessors will decide that selling is the right thing to do. It's only the much stronger players that are able to use different channels to originate."

ORIX Aviation, which celebrated the one-year anniversary of acquiring a 30% share in Avolon in November 2019, can boast of having one of the longest-lasting constant shareholders in ORIX (although General Electric holds that crown with its ownership of GECAS). James Meyler says that such companies are rare and that there is a natural evolution in the turnover of lessor ownership: "Every five to ten years, there's been quite a large turnover in ownership base and we're going to see that continue," he says. "What's interesting though is that ten years ago the top 10 lessors controlled over 60% of the leasing market; today, the top 10 companies control only about 40%. The larger lessors' share of the market has been eroded by new entrants pushing through. That will continue because a lessor needs scale – with the order backlog, you can't grow from 100 to 300 or 400 aircraft within a three- or four-year period unless you acquire a company or a very large pool of aircraft, which is more difficult to do than people think."

Meyler adds that he expects the exit mechanism for some entrants to continue to be characterised by a portfolio sale, rather than a platform sale.

Scale is all-important for lessors if they are to provide required services for customers as well as certainty of execution. It is also essential for progressing the company towards securing an investment grade corporate credit rating, which opens the door to more efficient and cheaper sources of funding.



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*Firoz Tarapore, DAE Capital*

ORIX Aviation's acquisition of a 30% stake in Avolon enabled the latter to reach that investment grade rating, which in turn has boosted ORIX Aviation's profit share and equity value in the business, as well as opening up new relationships with airlines and investors. Joining these two businesses, which had little overlap – Avolon focuses on new aircraft, while ORIX Aviation is more an asset manager and trading company – has brought scale to both companies. "There was a very little overlap in our business models," says Meyler. "We've been very complementary in terms of our investment. There's been certain synergies in terms of trading aircraft into the Japanese market, but also in terms of being able to offer airline solutions at scale."

Meyler adds: "Because of the capital required for this business, 200-plus aircraft is at least the size an aircraft lessor needs to be, which tends to be at least an \$8-20 billion balance sheet size. To do that without either being an investment-grade company or being owned by an investment-grade company is virtually impossible if you want to be competitive with other players that are."

Scale also tends to give customers confidence of execution. In the past, lessors have recounted stories of competitors that have won bids with ultra-low lease rates or few or light return conditions but then sought to renegotiate terms. This is also true for new entrants that are purchasing aircraft from competitors. James Meyler observes that certainty of execution is one of the main challenges for new lessors to overcome: "One of the challenges for the new entrants, even in the US market where you're competing against reputable large lessors with certainty of execution and availability of funds, to be able to beat them in any bidding campaign, you have to pay a reasonable premium to allow the customer to take the risk on a new entrant. That has pushed up pricing for new entrants because they need to pay for execution risk. It's been good for sellers, but it's been definitely a challenge for many of the new entrants."

Cost of capital is king in aircraft leasing. For smaller lessors that have a 100 basis points spread between their

funding costs, profit margins are greatly reduced at similar lease rates compared to the IG-rated competition. There are always niche players, however, which prove the exception to this rule.

Novus Aviation Capital's Kuzbari confirms that he always considers any M&A mandates that come to market, and would seriously consider any avenue to gain scale, for the right price. "We're witnessing more parties seeking a potential exit to monetise their investments, because they are having difficulty finding relevance into the market due to continuous competitive pressures, because they are too small and finding difficulty growing or feeling a little jittery about the outlook particularly with increased airline bankruptcies," he says. "On the other hand, we're seeing continuous flow of liquidity coming to the space, despite the pressure on returns. M&A is a relevant avenue to create scale quickly, accessing a talent pool, widening customer base or gain access to an order book for instance.... M&A opportunities are something we monitor closely and at the right price, the right terms, it's something we would consider. But we are in a good shape and hence not under pressure to do either."

#### JOINT VENTURES AND SIDECARS

One way to secure a lower cost of capital and growing in size at the same time is by entering into a joint venture (JV) or sidecar investment with new investors.

Many participants in this report remark that sidecars, JVs and/or strategic alliances will be increasingly used as a primary channel of deploying new capital into the sector. Forming a new venture, by whatever means, is an efficient way for new money to step into owning aircraft with an experienced partner with an established platform at their side. This method should also be considerably cheaper than buying an entire leasing company, as it avoids any goodwill payments for a platform. For lessors, such vehicles enable them to avoid excessive lessee-concentrations by right-sizing their portfolios without eroding the relationships with their airline clients. And of course, there is a considerable fee-earning potential for the leasing company as the asset manager.

**"We have our joint investment company with Sichuan Development Holdings, You will see more industry participants setting up joint investment companies as a good way for new entrants to the sector to participate, but also gain access to the capabilities of the industry experts through their marketing and technical expertise. This is also a way for some leasing companies to manage client and/or asset concentrations. It allows lessors to underwrite larger deals by transferring some of the risk to joint investment partners."**

*Kieran Corr, Standard Chartered*



Kieran Corr, global head of Standard Chartered's Aviation Finance business, agrees that sidecars make sound investments. "We have our joint investment company with Sichuan Development Holdings," he says. "You will see more industry participants setting up joint investment companies as a good way for new entrants to the sector to participate, but also gain access to the capabilities of the industry experts through their marketing and technical expertise. This is also a way for some leasing companies to manage client and/or asset concentrations. It allows lessors to underwrite larger deals by transferring some of the risk to joint investment partners. Certainly, we are looking for similar opportunities in the future on a global basis, and you'll also see many of our competitors establishing similar platforms."

Aircastle has also tested this model in the past. "It's an interesting model," says Inglese. "We've done it on a small scale in the past through a joint venture with Ontario Teachers' Pension Plan, which was once a minority shareholder in our company. We had a joint venture which owned a number of aircraft. The Teachers' investment team that worked on our deal moved on, and the people who inherited the investment had a different focus, so they exited our stock a few years ago. We recently sold off the remaining assets in that portfolio to one of the newer players from the hedge fund world. There are benefits to leveraging your platform and your skills to manage assets for other players. The difficult part in that equation is always managing the conflicts associated with placement cycles."

Manging conflicts of interest is essential for the success of any sidecar venture. Most lessors recognise the paramount importance of setting out clear investment criteria in legal documentation ahead of any new investment vehicle. But alongside the legal requirements, the leasing partner in any sidecar is equally protective of their reputation.

"Our brand is our lifeblood, and we take that corporate fiduciary responsibility very seriously," says SKY Leasing's Wiley. "Ultimately, it's the airlines that decide whether they want

this aircraft or that aircraft, so there is rarely a situation where you have that same aircraft type available from two portfolios. This is where you have to have the right processes in place. It's how you manage your team. You can't take better care of the assets you own over a managed asset – that's just a recipe for trouble. Ultimately, the investors speak with their wallet. They will go away if you do a poor job."

SMBC Aviation Capital's Barrett agrees: "We are in this for the long game and we certainly plan to be here in 20 years' time. If you don't do the right thing for your investors, it will come back and bite you. So, we treat every aircraft in our business exactly the same, as whether it's owned by us or owned by somebody else."

For ORIX Aviation's Meyler, ensuring that joint ventures are in different market sectors is a good way of avoiding any conflict issues. "Obviously, documentation is key in terms of when you're entering into the agreement and transparency is critical. Also it is important to be careful about which joint ventures you enter into in the first place. Typically, we will try not to have multiple joint ventures in the same space. So, one might be mid-life aircraft, one might be new aircraft, and one might be end-of-life product type."

In fact, Meyler adds that in reality having a certain amount of healthy conflict is a positive factor since it demonstrates your effectiveness as an asset manager.

"If you're not really active in the market, placing multiple aircraft every month, buying and selling aircraft, you're actually not going to be a relevant and appropriate manager for the investors," he says. "That's one of the key differentiators that successful asset managers bring – they have so much activity that they're able to marry up deals in portfolio trades or selling into ABS vehicles where they can pull aircraft from different investors, and indeed, with airlines in terms of lease requirements. Very rarely does an airline want just one aircraft. Airlines will typically give a premium for getting sistership aircraft or multiple aircraft from the same channel. Being able to put one of your own aircraft and one of

**"Our brand is our lifeblood, and we take that corporate fiduciary responsibility very seriously. Ultimately it's the airlines that decide whether they want this aircraft or that aircraft, so there is rarely a situation where you have that same aircraft type available from two portfolios."**

*Austin Wiley, SKY Leasing*



your investors' aircraft together into a two aircraft transaction will get better results for everybody."

For Investec's Narayan, the investors in his funds are all professional investors that understand conflicts, and more importantly, understand how to manage them in a transparent manner. "Most of our investors are professional investors; they are not retail investors. Conflicts are discussed, managed with these professional investors in the transaction documents for those particular funds. They know what they are signing and they actually go through all of these issues and conflicts very, very carefully. No one just gives away the money."

However, even with the most stringent investment criteria and oversight, there are some industry players that remain deeply sceptical of any sidecar vehicles created by established leasing companies.

Bank of China's Arnaud Fisel, for example, is much more cautious: "Sidecars and JVs present an inherent conflict of interest, willingly or not. It may prove difficult to properly assess the equity injection actually made by a leasing sponsor, and accordingly whether investors' interests are fully aligned. In certain circumstances, it may appear slightly challenging to demonstrate a fair treatment of a sidecar portfolio with the operating lessor's own portfolio of the exact same aircraft, leased to the exact same operators. One would similarly advise new, less experienced investors willing to join the aviation industry to focus on recourse transactions."

More and more lessors are becoming asset managers using these vehicles, or indeed through the prevalence of asset-backed securitisation vehicles that allow lessors to sell off their assets but remain as the servicer to the secured portfolio of aircraft. For ABL Aviation's Ali Ben Lmadani, this trend is worrying. "Four or five years ago, there were very few asset managers. Today, we see more and more of the lessors becoming asset managers. They are not willing to invest their own equity, but they're willing to manage assets. The conflicting issue is obvious. But when you see lessors moving out of investing their own equity to manage other assets, that tells you something about the market."



**“Sidecars and JVs present an inherent conflict of interest, willingly or not. It may prove difficult to properly assess the equity injection actually made by a leasing sponsor, and accordingly whether investors’ interests are fully aligned. In certain circumstances, it may appear slightly challenging to demonstrate a fair treatment of a sidecar portfolio with the operating lessor’s own portfolio of the exact same aircraft, leased to the exact same operators.”**

*Arnaud Fisel, Bank of China (UK)*

Ben Lmadani explains that as a pure asset manager, his company charges each client the same advance fee, the same asset management fee, and the same marketing fee. “So, we have the same incentive for all aircraft under management. We also educate our investors as much as we can and, in some cases, we also put our money with their investment. We lose our money before we lose our investors’ money. However, we tell them not to expect very high double-digit returns, because we cannot achieve that. We are very honest about what we’re going to achieve. If a deal is conservative and makes sense, we will do it rather than go for an insane return that we don’t think we can achieve.”

The leasing market remains ultra-competitive, despite some experts saying that some discipline is returning to the market, particularly in the sale-leaseback sector. The concern regarding such a crowded market where new investors are piling into the space, having only experienced a decade of growth and solid returns, is what happens when those building headwinds result in losses.

“If some investors gets burned in this market, they will go away and it will affect all of us,” says Ben Lmadani. “Some of the deals on offer to equity investors scare me. If the markets have a bad reputation, it will not affect one company, it will affect all of us because nobody will trust us. We saw it in the past in the shipping market, for example. Our industry is all about trust. When the equity investors give us money, it’s because they trust us. If one of us, as an industry, betrays their trust, it will affect all of us.”

For new entrants to the leasing market, the need to build market share quickly, resulted in some very tightly priced deals being closed some years ago. The worry is that those deals will mature in the coming years and that investors will start to lose out – a situation that may arrive even sooner if the market turns further downward and more airlines begin to return aircraft.

“Dropping fares to sustain demand and fill excess capacity will prove uneconomical in the long run and airlines will naturally start returning less desirable aircraft which are under flexible operating lease,” explains Bank

of China’s Fiscal. “As many airlines return aircraft, you could expect an even more acute drop of lease rates for certain aircraft type, which would incidentally have an impact on certain investors, financing less liquid assets with significant non-recourse balloons. In this context, I wouldn’t be surprised if latecomers in the leasing market start facing financial issues with the re-leasing of the asset at a significantly lower lease rate.”

Robert Korn, CEO of Carlyle Aviation Partners, warns that in a harder downturn, some leasing platforms will begin to struggle to make promised returns and passive investors may pay the price: “There are now many more passive investors that allow others to manage their assets,” he says. “We’re already seeing some of those pools where capital was deployed two, three, four, five years ago not having the expected returns and being shut down, and those are kept very private. We don’t see that investor distress or frustration in our space. The airplanes continue to fly, the airlines continue to operate, the asset manager quietly moves on to the next investor, and the first investor’s left with an unpleasant experience of not making the profits that they expected. They either have to decide do I continue in the space and raise a different pool of capital, or lick their wounds and move on. Today, the alternatives to deploy capital are very challenged in today’s market. The ultimate come back is that aviation is very large, there are a lot of opportunities for capital that wants to be here.”

Stephen Hannahs, CEO of Wings Capital, also predicts a harder fall in the coming years: “I felt a little bit uncomfortable about the airline industry during the last 12 months,” he says. “When we were completing our securitisation in September, many lenders and investors asked me about the state of the industry. I noted that I feel that a downturn is coming. I base this view on some of the recent airline failures, the length of the economic upcycle and our own experience with late payments. I’ve seen some cracks and some airlines are struggling. In the end, this is a cyclical industry. I don’t think airlines are struggling because they’re

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*Robert Korn, Carlyle Aviation Partners*



not selling seats. The yield for airlines has been difficult because of competition. It seems that there is an airline start-up every month. There is over capacity in many markets. Some jurisdictions are having trouble, and they exist in all parts of the globe. They come from the Asian market. They come from Latin American markets. They come from the European markets. We've had some customers that historically haven't been slow payers, become slow to payer. We're working with each airline on a case-by-case basis as the airline sorts through their challenges. As people searched for yield, this brings in excess capital and some deals probably shouldn't be done. I don't think that there will be a recession in 2020, but I think it could happen in 2021."

#### AIRCRAFT TRADING

Despite the headwinds, 2019 has been a relatively good year for lessors, with good airline demand, and improving lease rates for the right products. Although the new entrants to the leasing space have resulted in increased competition, the situation has also provided a busy aircraft trading environment, as smaller lessors try to build up their portfolios for scale and more firms look to tip assets into ABS structures, an ever-more popular trend. All of these factors have inflated prices for certain product types.

For Castlelake's Carruthers, the increase in aircraft trading is a consequence more of the availability and low cost of capital than the supply and demand of aircraft. "On the front end of the market, although sale-leaseback trade is still at incredibly rich valuations, aggressive bids from Chinese leasing companies have subsided and so pricing is a little bit more sane today than it probably was 18 or 24 months ago. When you move to older airplanes, it's influenced first and foremost by the fact that leverage is still readily available. When the capital structure of an airplane acquisition is still 75%-80% debt, if there is more debt available and if that cost of financing has gone down because interest rates are low, it has a significant influence on the pricing of that airplane. The second factor is simply the amount of equity capital that's been raised around the sector over the last three

to five years. A lot of smaller start-up leasing companies have been capitalised with equity and are pressured to acquire airplanes and substantiate their business plans. When you have that marginal equity capital flowing into the system, it is clearly going to create an environment where you have a lot of money chasing fewer and fewer opportunities, which has the tendency to inflate pricing."

This current situation is not expected to change in the short-term, barring a sharp economic shock that would weaken or close down the capital markets. "The capital markets, chiefly the ABS product, has been a large exit avenue for many of the large leasing companies that are looking to sell portfolios of airplanes into the market, and it has been an efficient financing vehicle for a lot of the smaller players that are trying to build up portfolios," says Carruthers. "Whether it's in the e-certificate market or it's just the debt market, if there's weakening there or if the cost in that financing goes up, there is going to be an adjustment to the pricing of airplanes that have been trading into that marketplace. The ABS market is one of those markets that is open until it isn't. It's likely going to be more dependent on the health of the overall capital markets than the health of the aviation industry and the aircraft leasing industry."

That being said, the more airline defaults there are, the more likely it is that new capital entering the aviation space will diminish. In such a scenario, long-term sustainable platforms that are ready to work their way through a downcycle where capital is less available and defaults are creeping up, will win over the much smaller, less experienced platforms that lack the capability to work their way through a more challenging market environment.

#### GATS PROGRESS

In the meantime, high-volume aircraft trading is set to continue into 2020. The pain associated with novating aircraft, however, still remains. The Global Aircraft Trading System (GATS) promises to revolutionise aircraft trading between lessors – this will relieve both airlines and lessors from the increasing volume of lease novations, as well as bringing the archaic trading system for

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*Evan Carruthers, Castlelake*



aircraft bang up to date. The aim is for the GATS platform for electronic trading, developed by the Aviation Working Group (AWG), to launch by the end of the first quarter of 2020. The programme is currently on schedule.

Leasing companies are for the most part convinced of the benefits of GATS and are starting to place aircraft into a GATS trusts. Moreover, all AWG members – specifically SMBC Aviation Capital, Avolon, GECAS and BOC Aviation – are very supportive of the platform and are expected to use the platform from its launch at the end of March 2020. Airlines, while initially more sceptical, are also starting to embrace GATS as an industry-wide solution for making lease novations more efficient for everyone. GATS may also bring broader macroeconomic benefits, since the platform is expected to generate more liquidity in the market – more aircraft trading – which should theoretically translate to more supply and lower lease rate prices for airlines.

SMBC's Barrett confirmed in December that the lessor had signed its first GATS lease, which he describes as a landmark. "We're very committed to the GATS platform but it is going

to take time and it won't be a panacea for everybody. But, if we stick at it collectively as an industry, and we begin to demonstrate the benefits of it, then we can make a progress, but it's not going to happen overnight."

Barrett further notes that the main challenge is to demonstrate to their airline customers that it is also in their interest to support GATS. "Sometimes airlines view novations as an opportunity to renegotiate or engage with their supplier on some minor points, but when they see the benefits of the ease of doing GATS, the consistency, the protection of their position – because it isn't always going to be that the airline is going to be in the stronger position, sometimes it's the other way around – in that situation, having a fair and transparent process in terms of novation is a good thing."

There are reports of airlines requesting fees for novations, which is understandable given the amount that some are asked to complete and the consequent strain on their resources. "Some airlines are asking to put transaction fees into their leases," says Robert Korn, CEO of Carlyle Aviation Partners. "This phenomena of novations

– the number of novations and the speed and the amount – is overwhelming to some airlines that have to put full-time people onto this. So, they're asking for those fees to cover their direct and indirect costs. So, I have sensitivity for the airlines; at the same time, we have contracts that have a process of how you go through a novation."

Some participants in this study still require more clarity on how the GATS platform will work in practice, along with its limitations for certain jurisdictions. The AWG has held a series of events explaining how the GATS platform will work. Moreover, in March ahead of its go-live date, it is initiating a simulated testing period where users can generate fictional trusts and novate aircraft using the system, which should help alleviate these concerns. Meanwhile, Fexco, which is the IT service provider building the GATS platform, has created a video that provides a sneak peek of what the platform will look like. The video can be accessed here: <http://aviationnews-online.com/downloads/fexco.mp4>

All of the GATS documents and more are available from the AWG website: <http://www.awg.aero/project/gats/>





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# The MAX Impact

The grounding of the MAX has severely distorted the entire aviation market in 2019. Industry experts share their views on the impact of the grounding and opine on its reintroduction and future market impact.



In October 2018, Lion Air Flight 610 crashed just minutes after taking off from Jakarta, Indonesia, killing 189 people. In March 2019, another 737 MAX, Ethiopian Airlines Flight 302, crashed minutes after takeoff; all 157 people on board died. These tragic events resulted in the worldwide grounding of the 737 MAX aircraft.

Subsequent investigations have shown that the design of the anti-stall system, known as the Manoeuvring Characteristics Augmentation System (MCAS), causes the 737 MAX nose to be pushed down automatically, leaving pilots fighting for control. Both crashes involved the repeated activation of the MCAS after it received faulty sensor input.

Boeing has updated the software to provide additional layers of protection; for example, the MCAS now compares information from both angle of attack sensors before activating, and will only respond if data from both sensors agree; moreover, MCAS will only activate a single time, and MCAS will never provide more input than the pilot can counteract using the control column alone. Boeing says that these changes will prevent the flight control conditions that occurred on the Lion Air 610 and Ethiopian Airlines 302 flights from ever happening again.

Given the pressure the US Federal Aviation Administration (FAA) is under to ensure the aircraft is safe to return to service, the expected recertification date has been pushed back several times, and there is still no certain date for its return as of the end of 2019.

The loss of life in these two terrible tragedies is horrific, and the grounding of the aircraft was a necessary step to ensure the safety of the flying public. This essential action and the ever-longer period before the aircraft is returned to flight has had a significant and wide-ranging impact on the aviation industry.

Cirium's Fleets Analyzer shows that there are 385 MAX aircraft which were delivered to airlines prior to the grounding and are presently in storage. It additionally shows another 378 aircraft presently in the production cycle that have flown for the first time but that are not yet able to be delivered

to customers as a consequence of the grounding. There are also 81 airlines that expected the MAX to be flying, and have thus been forced to find short-term lift to address their capacity shortfall.

Peter Barrett, SMBC Aviation Capital, describes the situation as "unprecedented". For airlines that expected to have aircraft delivered over the past year, the cost burden of finding aircraft to lease at short notice and for an indeterminate length of the time has been significant. For aircraft leasing companies that also expected to take delivery of MAX aircraft to place with their customers, the delay has also been significantly disruptive.

"Our first priority and maybe the only priority in the industry is getting the aircraft back in the air safely," says SMBC's Barrett. "That is the first thing that we should be focused on... Looking at the impact it's had on our business, there were the airplanes that we were expecting to deliver to our customers from Boeing, and that just hasn't happened. Our balance sheet is going to be smaller than what we might have anticipated."

Lessors that ordered the MAX have been disrupted, with balance sheets likely to have shrunk over the past year. However, those that have large diversified fleets have been able to capitalise on the situation and lease other aircraft types to their customers, where they have aircraft available.

Air Lease Corporation has 135 outstanding orders for the 737 MAX, down from 150 orders in October, when the lessor converted 15 MAX orders into five 787 orders. ALC CEO John Plueger says that the MAX situation has significantly affected his customers. "The shortage created by the MAX grounding has definitely enhanced lease rates for the immediately obvious replacement aircraft or substitute aircraft 737-800s and A320CEOs, etc. Demand for those types has increased and will remain fairly strong for the next several years. But the disruption to the airlines have just been horrible. They're not able to make their schedules, they have to get substitute lift. For us, out of our fleet of 320 or so aircraft that we have today, only fifteen are MAXs that have already been delivered and are unfortunately now grounded with our

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*Peter Barrett, SMBC*



airline customers. In terms of its impact on us, it has temporarily dampened our capital expenditure growth rate. Fifteen MAX aircraft grounded is fifteen too many .... but relatively small within the overall context of our fleet and balance sheet size. We still have a very strong growth rate this year despite the MAX delays, despite the grounding and the Airbus delays. It's had an impact but I worry more about the impact to our customers."

Airlines are bearing the brunt of the grounding, leading many to seek – and in some cases secure – compensation from Boeing, while some MAX customers have filed legal cases against the manufacturer. Until the aircraft is cleared to fly, airlines remain in fleet planning limbo, as AerCap's Aengus Kelly explains.

"We have customers who were supposed to receive these airplanes in 2019. They didn't get them, so they had to pay someone else to carry the passengers for them or they had to lease in capacity at very short notice, so it was extremely disruptive for the customer base. My concern now is if this airplane doesn't get back into service soon or at least achieve FAA approval by the end of the first quarter of 2020, customers are not going to have confidence that they will have the aircraft for summer," says Kelly.

That approval was not forthcoming at the end of 2019, and there is no certainty as to when it will arrive. As Kelly explained, since aviation is a northern hemisphere-dominated industry, the summer season is when airlines make their money. If the grounding extends into the second quarter of 2020, which is now accepted by many, airlines will need to make alternative plans for summer now rather than leave it too late again and have to lease in more expensive options. "I think that a lot of customers will have to lease in and pay for additional capacity, pushing back on Boeing and delay taking delivery of the MAX when it does come back into service," adds Kelly.

Royal Air Maroc's CFO, Yassine Berrada, expressed his hope when interviewed in October 2019 that Boeing would be ready to begin MAX deliveries by the end of the year: "As far as we are discussing with Boeing, and like any



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*Aengus Kelly, AerCap*



airline, we don't have any clear visibility regarding the MAX issue. We do hope Boeing will deliver the aircraft by the end of the year. This depends on FAA and EASA certification; if we have the aircraft in March or April of 2020, that would be fine for us. Obviously, it will impact our summer season. We were expecting to have four aircraft... in peak season it's definitely important to have four aircraft, so we have quality issues with our customers, a lot of cancelled flights, delayed flights. It is a great problem that we will be trying to solve that in the coming months."

Until the aircraft does come back into service, airlines and lessors will continue to lose money. "It's very hard for us right now, because we're supposed to have these aircraft out on lease," adds AerCap's Kelly. "We're supposed to earn money, and at the moment, we're not. Clearly, we're in discussions with Boeing about what's the impact on the market when this comes back. How are we going to work our way through this when the market reopens, and how will those risks and rewards be shared? So, that's a complicated discussion at Boeing at the moment – but yes, we are losing money right now."

SMBC Aviation Capital has been able to manage through the lack of MAX by speeding up deliveries from Airbus and managing its trading book "more proactively", but "it has effectively meant that there was revenue that we thought we have but we don't have".

Like other lessors, SMBC Aviation Capital has been able to capitalise on the spike in short-term demand by extending existing leases and leasing out other unencumbered assets. However, despite the increase in demand for used aircraft, there is also a recognition that this unprecedented situation will have a long-term and significant impact on the industry. "This will be both in the practicality of the situation, but also in other areas such as the relationship between the regulators and the manufacturers," says Barrett. "In my view, that will be the long-term impact of this situation – it will fundamentally change the relationship between the OEMs and the regulators."

Due to the increased demand for narrowbody aircraft to replace the

missing MAX, lease rates for A320CEOs and 737NGs initially spiked (but have since stabilised), with airlines mostly seeking short-term placements, which is not necessarily ideal for most leasing companies. "We've seen a greater demand for 737-800s, for lease rates and security packages, that we probably wouldn't have predicted," says Gerry Butler, Merx Aviation. "However, because there's uncertainty as to when MAX will return, there is also some uncertainty on airline fleet capacity and fleet planning. We're seeing an appetite for short-term leases for A320s, as well as for 737-800s, but we are holding out for longer-term leases. We don't see the short-term lease for eight-to-twelve-year old aircraft being ideal for our business."

Karl Griffin, CEO of Genesis, which offers narrowbody commercial aircraft for lease across the aircraft's life cycle, highlights some positives for the industry following the MAX grounding. "In the months after the MAX grounding announcement, airlines were still unsure as what the next step would be. They are realising now that it is not going to be a short-term issue, and nor it should be," he says. "But there can be some positive takeaways including a resilience of release rates, more certainty on longer term leases for used aircraft, and most importantly, is expectation of reliability. Once you take that for granted, which definitely the industry has, you focus on things like fuel burn and utility of aircraft. Utility of aircraft is principally, how far it can fly and how many people can fly on it, but I think we've taken the eye off the prize with regards to the reliability side, and that's where the sweet spot is in the midlife aircraft. You can get a used aircraft today anything from \$250,000 per month way down to \$100,000, depending on its age, which is an extremely reliable product with competitive operating economics compared with younger and newer technology aircraft."

The renewed importance of the reliability of current generation aircraft is a factor touched on by Austin Wiley, CEO of SKY Leasing, which closed its first aircraft leasing fund with a \$300 million equity investment from asset manager M&G Investments (M&G) in October 2019.

**"However, because there's uncertainty as to when MAX will return, there is also some uncertainty on airline fleet capacity and fleet planning. We're seeing an appetite for short-term leases for A320s, as well as for 737-800s, but we are holding out for longer-term leases. We don't see the short-term lease for eight-to-twelve-year old aircraft being ideal for our business."**

*Gerry Butler, Merx Aviation*



“Lessors that expected to have the MAX and the NEO delivered and acquired using sale-leasebacks have dipped into the secondary trade market to fill that capital expenditure hole, so that’s made that market more competitive, overall,” he observed. “It has made airlines more cautious on their order books. They are a lot smarter around some of these clauses related to the air worthiness of aircraft. But, 24 or 36 months down the road from now, this will not be an issue. The MAX will be a successful aircraft, it will be produced in large numbers with many operators, and so it’s just something that’s a matter of time that we as an industry have to work through – but I don’t see it as a long-term structural change to how we do business.”

He added: “The airlines will take delivery of the MAX, they need the capacity, but they now value current-generation equipment a lot more for its reliability; the on-time performance of the current generation equipment is just remarkable, and the cost is lower, ultimately. We have a lot of uncertainty around the cost of the new aircraft, and the reliability still needs to be proven out. So, I think you’re going to see airlines hold on to aircraft longer – they may not need to fly them all 12-14 hours a day, but they’re going to be a lot more cautious about returning the aircraft.”

### THE REINTRODUCTION OF THE MAX

The absence of the MAX has eased concerns over excess capacity in the system that had delayed the decrease in lease rates and residual values for older aircraft. Aircraft that would previously have been destined to cascade down from first- to second- and third-tier airlines hasn’t occurred yet as airlines have been forced to extend leases on older equipment. This situation has artificially kept lease rates higher, to the benefit of many mid-life players. However, the impact of the reintroduction of the MAX is going to be significant and that cascade of aircraft to lower-tier airlines will resume, although all of this will take time and there will be a period of adjustment.

On December 17, Boeing announced the suspension of MAX production. After the FAA indicated that the Boeing

737 MAX recertification process would run into 2020, Boeing was left with little choice but to suspend production of the aircraft, starting from January 2020. Suspending production will help Boeing to prioritise pushing out the stacked up deliveries once the aircraft is recertified, and it will also help the manufacturer’s cashflow.

Boeing confirmed the halt in production in an announcement, along with a note that it remains committed to a robust approval process for the MAX and that the timeline for this process is effectively out of its hands.

“As we have previously said, the FAA and global regulatory authorities determine the timeline for certification and return to service. We remain fully committed to supporting this process. It is our duty to ensure that every requirement is fulfilled, and every question from our regulators answered.”

Boeing confirmed that it now has 400 737 MAX aircraft in storage, which need to be delivered once the aircraft is deemed safe to fly.

“We believe this decision is least disruptive to maintaining long-term production system and supply chain health. This decision is driven by a number of factors, including the extension of certification into 2020, the uncertainty about the timing and conditions of return to service and global training approvals, and the importance of ensuring that we can prioritise the delivery of stored aircraft. We will continue to assess our progress towards return to service milestones and make determinations about resuming production and deliveries accordingly.”

Boeing has also made promises that the affected employees will continue on what it calls 737-related work, or will be “temporarily assigned to other teams”.

Restarting a production process is no easy task for any company, and this will impact suppliers – the extent of this impact is as yet unknown given that there is still no firm deadline for the certification process, and after that time, the delivery backlog will take some time to reduce. Boeing said in a statement that it “will keep our customers, employees, and supply chain top of mind as we continue to assess appropriate actions. This will include efforts to sustain the

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*Austin Wiley, SKY Leasing*



gains in production system and supply chain quality and health made over the last many months.”

Cowen managing director and senior research analyst, Cai von Rumohr, has stated that Boeing has never delivered more than 69 aircraft in a single month, but that they may be able to deliver up to 100 aircraft a month. That rate depends on the airlines having the ability to take delivery of the aircraft within the Boeing timeframe and ensuring that the financing and other paperwork is in place. It also depends on the engine manufacturers being able to meet any accelerated timeframe.

“We have MAX customers who want the airplane but they want it safely and in a timely and organised fashion,” says SMBC’s Peter Barrett. “Don’t underestimate the challenge of getting the MAX back in the air, hopefully soon and safely getting the whole programme back on track. That’s going to take time. There are 370 airplanes that are delivered but grounded. There’s 400-plus that are built but not delivered, and then the backlog of airplane orders. It’s a complex process and it’s going to take time. It’s not like there’s suddenly going to be a ‘bang’, and there’s hundreds of airplanes hitting the market. It’s going to be over time due to the practical requirements: you’ve got to think about training, you’ve got to think about logistics, scheduling. Delivering an airplane is not a simple thing. There’s a lot of flight testing and snagging resolving. The capital raising, the funding, the legal documentation, that all has to be done for every airplane. That’s going to be complex and is going to take time.”

One of the biggest challenges facing both lessors and the airlines over the next 12 to 18 months is undoubtedly going to be the re-introduction of the MAX. James Meyler, CEO of ORIX Aviation, says: “It’s going to be quite a difficult process between new delivery MAXs that were scheduled for 2020 delivery on top of the aircraft that have already been manufactured and parked but need to be returned to service. That’s going to put a lot of pressure on Boeing, the engine manufacturers and their other suppliers but also on maintenance facilities to get these aircraft ready for service. At the same time, it’s going to essentially flow



*Caption: SKY Leasing's Austin Wiley being interviewed in Hong Kong by Joe O'Mara*

500-plus aircraft into the market. Some of those are desperately needed and will slot into routes that have already been planned out, but I think unfortunately some of them will come a little bit too early for those airlines that have either extended aircraft or added used aircraft with the uncertainty and are going to have a little bit of oversupply in 2020 and 2021.”

Managing the MAX return and the potential oversupply that it will provide to the industry in the short-term is going to be a major challenge for the entire industry.

“Had all the MAX aircraft been delivered as scheduled, we would have had some serious excess capacity, and lease rates as well as values would be under even more pressure. As such, I fear that this will be the case in 2020 or 2021,” says one senior aviation banker.

Others have a different view and are more confident that Boeing will redeliver the MAX to meet demand. “Even though the capacity wasn’t there this year, the fundamental demand was, and even though capacity has under grown in 2019, the balance between supply and demand has actually widened as demand has continued to grow with capacity artificially constrained,” says one industry expert. “The demand is still there, and in fact, some of the demand wasn’t satisfied because the capacity wasn’t able to be delivered. In 2020, airplanes will return to service and delivery will realign with the demand that exists in the marketplace already.”

The same commentator also expects some of the short-term capacity measures taken by airlines to replace the lost MAX capacity, to exit the system concurrently with the MAX return, which therefore will not result in an imbalance between supply and demand.

Boeing has indicated publicly that it is working with customers daily to ascertain how their delivery needs align with the additional lift that they already have in place for their scheduled services. It remains to be seen how this will play out, and how Boeing can structure its redelivery schedule, once the MAX is recertified.

Wings Capital’s Hannahs agrees that the market will be able to absorb the delivery of many MAX aircraft, but notes



**“When a sufficient number of MAX aircraft have already been delivered, NG values will be negatively impacted. However, there are over 8000 NGs that have already been sold and most are still in service. If Boeing can sort out the MAX problems and return to an annual delivery profile of 800 to 900 aircraft per year, it will take probably take around three to four years before there are enough MAX aircraft in the system to impact NG values.”**

*Stephen Hannahs, Wings Capital*

that in time, this will cause some distress in the value of older assets. When a sufficient number of MAX aircraft have already been delivered, NG values will be negatively impacted. However, there are over 8000 NGs that have already been sold and most are still in service. If Boeing can sort out the MAX problems and return to an annual delivery profile of 800 to 900 aircraft per year, it will take probably take around three to four years before there are enough MAX aircraft in the system to impact NG values. Of course, this, assumes that there are no additional problems with the MAX and that it will receive a good customer acceptance. There is some disagreement among aviation industry executives in terms of the length of the adjustment period following the MAX's return to service.

Hannahs adds that although his company has benefitted from the short-term bounce in demand for older 737NGs, the time period for reintroducing the MAX will be elongated. "People underestimate how long it will take Boeing to redeliver the MAX aircraft that have been stored. There are over 400 aircraft in storage today. It will take Boeing anywhere from 18 to 24 months to return those airplanes to service. Some folks think that as soon as the MAX is certified, Boeing will flip the switch and airplanes will be back in service. These aircraft have been in a deep storage. Systems need to be run, fluids replaced, travellers from original production corrected, probably some pilot simulator training and recertification by various air authorities. It's going to take a long time. It will help some of the older NGs in that they may secure extended leases with airline customers."

#### FINANCING THE MAX

A further concern is the impact that the return of the aircraft type will have on the values for older MAX aircraft that were delivered prior to the grounding. "The MAX grounding has had a positive effect on the demand for used narrow body aircraft and has therefore eased the pressure on lease rates," says NordLB's Wulf. "What concerns me more is what impact the grounding will have on the values of 737 MAXs that were delivered prior to the grounding, or on those

that were built in 2019 but will only be delivered sometime in 2020. Currently we are not in a position to commit to financing any MAX aircraft until the type has been recertified by all major airworthiness authorities."

For the financiers interviewed for this report, the impact of the MAX grounding has been minimal; however, the return will flood the market with demand for financing for this aircraft. The question is whether financiers will have the appetite to fund this aircraft type.

Ajeeth Narayan, head of aviation at Investec, says that such concerns are unfounded. "New technology aircraft like the MAX and the NEO, the more efficient aircraft, command a premium price," he says. "The MAX at this point in time, when it comes back, will be one of the top aircraft. Once airlines start running that aircraft and once the proper certification is obtained, I think it will be fine."

Moreover, Deutsche Bank's Richard Moody says: "We had a number of facilities in place that had the ability to finance MAXs, and obviously because of the delays and what's happened, clients haven't drawn down against that. There was an expectation that the MAX product would require a fair amount of financing, which obviously hasn't happened. Our philosophy at Deutsche Bank is to understand what it is that we're financing. We need to understand what the technological issues and other challenges are with the MAX. It's the same approach when we previously considered financing other new assets types like the 787s and the challenges on the Trents or the A320 NEOs and the Pratt GTF engines. It's incumbent on us to try to understand and analyse what the risks are and then find a solution accordingly. We're not sitting here today saying we won't finance the MAX or any other new generation aircraft. We're saying that we will look at each transaction on its own merits, and we consider client requirements as part of that analysis as well."

Although the impact of the MAX grounding on NordLB's portfolio has been limited, since it has no MAX exposure currently, Wulf believes that in the short term Boeing's assumed

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*Ajeeth Narayan, Investec*





discounting on new orders will put pressure on appraised values and consequently finance levels: “Longer term, we expect values to stabilise, but as the 737 is losing out to the A320, Boeing may have to launch a successor single aisle sooner, potentially shortening the life cycle of the MAX. The MAX 8 should be fine, but MAX 7, 9 and 10 will likely be less unpopular with financiers.”

Ali Ben Lmadani, CEO of asset management firm ABL Aviation, warns that once the MAX returns, there will be an oversupply of MAX RFPs. “I’m sure Boeing and Airbus are going to manage the return of the MAX properly to make sure that there’s no oversupply,” he says, adding, “But there will be many deals coming to market and the lenders are going to be more picky, and if debt becomes more expensive, lease rentals are going to increase.”

For BNP Paribas the direct impact of the MAX has been immaterial, at least as of December 2019. “The full ramifications are still unknown, and it will take some time for them to play out fully,” says Bertrand Dehouck, head of aviation at BNP Paribas. “There are a host of possible scenarios that are still ahead of us. We continue to monitor the situation but it is difficult to say what the acceptance of the aircraft is going to be if and when it returns to operation – if it’s accepted by the airline, and by passengers. Boeing is working extremely hard for it to re-enter into service as soon as possible and to ensure that people, their customers and their customer’s customers, the passengers, but also the flight attendants and pilots, are all convinced that it’s a good aircraft that will be flying for several decades.”

### FUTURE IMPACT

Ruth Kelly, CEO of Goshawk - which placed its first order for 20 A320neos and 20 B737 MAXs in 2018 - says that the negative impact has been very far-reaching and that the uncertainty regarding the timing of the MAX’s return is a major issue. “Uncertainty is never a good thing, and uncertainty around timing of deliveries has an impact on everyone – on airlines and lessors who have an orderbook and who have built that into their future financial forecast. Our order doesn’t begin to deliver until



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*Bertrand Dehouck, BNP Paribas*





2023, but the whole market dynamics are going to be different in 2023 now versus what we'd hoped they would be when we ordered the aircraft in 2018."

Although most industry experts are in agreement that there is still demand for the MAX, despite some uncertainty, the entire issue has again raised the question around the design of the MAX versus the NEO. Wings Capital's Hannahs, who in his past role as CEO of ACG ordered 30 NEOs in 2011 and 60 MAXs in 2012, explains how the MAX issue has brought into question the need for the new-technology aircraft.

"I ordered those aircraft on the basis that ACG needed growth and oil was at \$100 a barrel in 2012 with a forecast and future oil contracts predicting much higher oil prices. The entire business case made by the OEMs was based on fuel economics. Airbus needed to do something with the A320CEO because it didn't have the same operating envelope, range specifically, of the NG. I think Virgin America really pushed

Airbus to develop an aircraft capable of flying between the West Coast and Hawaii. In the case of Boeing, they didn't want to build the MAX. They could sell all the NGs that they could produce. Their backlog was over five years. Boeing was still sorting through the 787 delivery issues and they wanted to start on an improved 777. Ideally, in my view, Boeing would have rather waited until these capital programs were completed before developing a new clean-sheet aircraft. However, they were pressured into it because they feared that some of the large Boeing customers might become a significant Airbus customers, so they pushed forward with the MAX. With oil at \$50-60 a barrel today, the business case is frankly not great. In fact, I, like others, suggested to Boeing to just keep producing the NG. However, supply chain issues would prevent this today, and now it'll be impossible to go back. Boeing will need to press forward. Boeing will fix the problems with the MAX, and it will get certified. It will

return to service, and it'll have good fuel economics, but the capital costs will be significantly more than expected. The MAX will probably have more reliability than the NG, with a little cost savings. However, the original business case is gone, and I don't currently see it returning."

Although the aviation industry is confident that the MAX will be recertified and be safe, the travelling public may take longer to convince, which is why the future impact on the wider market is still so highly uncertain. The tragic loss of life has triggered a massive confidence crisis among the public regarding the diligence and prudence of the OEMs and the airworthiness authorities. Restoring that public trust will be an industry-wide effort that will start with Boeing and the authorities and continue for many months through the airlines communication with their customers. There are no quick fixes for restoring public trust.

# A Decade of Liquidity

Aviation experts share their views on the health of the aviation finance market, noting specifically the continued dominance of the capital markets.



Aviation finance remains a “borrowers’ market”, as banks tussle for deals while airlines and leasing companies benefit from the continued wave of liquidity eager to deploy capital into the sector.

Bankers report a continued clear deterioration of the general terms and conditions; while this of course applies to margins and fees, it has also spread to advances, balloon amounts and a host of other terms and conditions, including covenants, grace periods, voting rights, information requirements, etc. One banker sees this continuing until the aviation sector “hits a real downturn”, when he predicts that number of debt facilities with such cov-lite features will face difficulties. “Banks need to understand that they have to stay disciplined or else get into serious trouble,” he says.

Karl Griffin, CEO of Genesis Aviation Capital, says that he focuses on those financial covenants to ensure the maximum flexibility for his assets: “For us in the midlife space, we are focused on those covenants and constraints that exist within our financing facilities to ensure that we can operationally manage the assets to extract or optimise their value with regard to moving engines or extending aircraft or selling aircraft at a particular time. We start off with underlying margins, but it’s not only about the cost of funds – we really focus on those covenants that may restrict our ability to generate the turnaround value for our shareholders.”

There are signs that margins are beginning to pick up from “surprisingly low levels”, as there is a renewed realisation that there still needs to be a return on capital.

“In recent months, have seen some pricing stabilisation, and in fact, the Deutsche Bank research team suggests that credit spreads generally in the markets will increase in 2020, that we’re talking generously across the board, and the question is by how much,” says Deutsche Bank’s Moody. “As we go into 2020, we don’t think pricing will see too much further tightening – but don’t forget, you’re coming from a pretty low level anyway. In terms of your actual financing cost for a borrower, they still

get competitive funding on an all-in basis given that we are in a low interest rate environment. Remember rates are low as well, and for a lot of these fixed income instruments, it’s the absolute yield they are focused on as opposed to the spread/margin. At the end of the day financiers still need to make a return on their capital and if that can’t be achieved in aviation then that capital will seek an alternative home.”

The finance environment is similarly competitive for all asset classes. In leverage finance today, there has also been a disappearance of covenants, which has been a lot more pronounced than the aviation market. As Investec’s Narayan explains: “If you look at the corporate lending market, many of those deals all feature covenant-lite balloon debt. I don’t think the aviation market has reached that stage. If you just put the aviation debt on par with general corporate debt, leverage finance, you’ll see that the aviation debt terms are still pretty good and quite secure.”

Aviation commercial banks have traditionally provided the bulk of the funding requirements for airlines and leasing companies, alongside export credit agency support as well as some customer financing support from the OEMs and some capital market sources. Over the past decade, this mix has shifted, and the level of capital market financing has increased exponentially along with new liquidity provided by a wave of new investors from private equity, insurers and institutional money that have flocked to aviation assets in search of yield.

James Meyler, CEO of ORIX Aviation, states that as leasing companies have moved more into the unsecured capital markets for their funding needs, the traditional banks have been more eager to regain their business. “The traditional debt market has been crying out for its own growth, and they’ve been finding it difficult to compete against the bond market and the ABS market, for example,” he says. “So, if there is a softening in any of the capital markets and the bond markets, the traditional debt markets are all too willing and ready to step back in to lend more money.”

**“As we go into 2020, we don’t think pricing will see too much further tightening – but don’t forget, you’re coming from a pretty low level anyway. In terms of your actual financing cost for a borrower, they still get competitive funding on an all-in basis given that we are in a low interest rate environment.”**

*Richard Moody, Deutsche Bank*



Once the upcoming final changes to the Basel IV banking capital requirements regulations – once they have been finalised, this shift towards the capital markets will likely become even more pronounced, putting more pressure on European banks to become more creative with their market offerings.

“The basis of the Basel risk capital regulation is that, historically, risk weights allocated to asset backed transactions by banks were inadequate to reflect the risk they were taking,” says Deutsche Bank’s Moody. “There is certainly a view taken by regulators in Europe in terms of the European Capital Market Directive to try and generate a more efficient and deeper market, and that longer-term financing should be provided by those institutions that are more efficient in providing this. Although we’re waiting for the rules to be finalised, what we do know is that we are going to be moving towards a capital floor construct that will result in holding higher risk-weighted assets. For banks and in the run up to full implementation, the cost of capital will increase, a likely focus on shorter to medium term financing will prevail, and a smaller balance sheet focused on aviation lending will probably be the result of all of this.”

Many commercial banks, particularly European aviation and shipping finance banks, are already shifting their business models to prepare for limitations that will be imposed once Basel IV is implemented in 2021. For Deutsche Bank, for example, this means that the bank is now having to be more creative in the way it provides capital to its clients. “Under the current drafting, with the change in regulation, there will be a ratchet on capital floors starting from 2022 to a 72,5% level, but this timing may be moved out. This means that if you are factoring in these changes today when analysing transactions, longer-term deals will be increasingly more penal,” adds Moody. “The transactions that we’ve been involved in today, tend to be shorter-term in nature. The traditional banking model in the industry is to provide 10 or 12 years of secured debt amortising to zero or to a balloon. However, if you apply what we



**“[Basel IV will] wash away the bank’s experience and the banks will actually be incentivised to take far greater risks.”**

*Bertrand Dehouck, BNP Paribas*



understand the new Basel regulations are for that transaction, it will result in a significant increase in capital. As a result, we're actually factoring in the implications of the potential Basel changes now to understand the impact on returns and RORWA. For us, it means that medium-term more structured deals work better as we can deploy capital more efficiently."

For non-European banks, the new regulations should bring opportunities as their key competitors reduce their balance sheet capabilities.

Once the Basel rules are finalised, the aviation market will move even further towards a reliance on institutional money at the expense of banks. The question then is what those future products will look like and how banks will play a part in that overall funding construct.

"Basel III and IV will have a significant impact on our lending business," confirms one aviation banker. "Particularly, the Basel IV regulations will penalise secured lending by requiring higher equity ratios and thereby making long-term bank lending considerably more expensive. As such, I foresee banks taking on more of an arranger/underwriter role with a clear focus on placing out the majority of the arranged loans to third parties, including institutional investors."

For BNP Paribas' Dehouck, Basel IV will cause less differentiation between banks, which will completely "wash away the bank's experience and the banks will actually be incentivised to take far greater risks".

While the precise details of the impending regulations remain uncertain, banks have continued to fund their aviation clients, although with a more reduced pipeline than they were expecting due to the MAX grounding. The funding mix for aviation assets tends to be around 30-35% each for bank debt and capital markets funding, with export credit agency (ECA) and other supported financing taking a small 5% share of the market and institutional investors making up approximately 5-10%. Finally, cash accounts for around a quarter of the funding mix. This is expected to remain more or less the same heading into 2020, given that real

regulatory change will not come online until 2021 at the very earliest, and with the real impact more likely to hit in 2024 or 2025.

### SUPPORTED FINANCE

Export credit support remained muted in 2019, as the US Export-Import Bank (Eximbank) was effectively muzzled for much of the year. Even though, in May, the bank regained the quorum (that had been lost in 2015) needed to allow the board to approve spending over \$10 million, the bank has also had to fight to regain its reauthorisation. However, President Donald Trump signed legislation on 20 December 2019 reauthorising the bank for seven years; this is the longest extension in the agency's 85-year history, and formed part of the \$1.4 trillion spending package that helped avert a potential government shutdown. Bankers expect Eximbank to come back on stream for Boeing aircraft in 2020 – hopefully in time to help support deliveries of the MAX aircraft once it is safely recertified.

Airbus ECA transactions were also few and far between in 2019, as the manufacturer retains a conservative approach to ECA financing following the SFO-investigations. That dearth of export credit agency-supported deals did however help the growth of other supported financing products.

Marsh USA's Aircraft Finance Insurance Consortium (AFIC), which is a syndicate of insurance companies, has supported the financing of approximately \$4bn of aircraft assets, including narrowbody, widebody and cargo aircraft for airlines and leasing companies.

In 2019, AFIC closed its most significant aircraft financings to date and introduced a new Japanese consortium, Japanese AFIC, to support the DBJ-funded, Sampo of Japan-fronted, AFIC-supported JOLCO financing for two Boeing 787-9 aircraft for EL AL Israeli Airlines, which was arranged by ABL Aviation. AFIC also supported the French Overseas LODEOM tax lease of two Boeing 787-9s for Air Tahiti Nui, which was awarded the Airline Economics Aviation 100 Asia-Pacific Supported Deal of the Year 2019. AFIC also supported the financing for Carlyle

**"Basel III and IV will have a significant impact on our lending business. Particularly, the Basel IV regulations will penalise secured lending by requiring higher equity ratios and thereby making long-term bank lending considerably more expensive. As such, I foresee banks taking on more of an arranger/underwriter role with a clear focus on placing out the majority of the arranged loans to third parties, including institutional investors."**

*Senior aviation banker*

Aviation Securities Partners (CASP) of a Boeing 787-9 aircraft for Norwegian, which was funded by seven Japanese regional banks.

A similar insurance backed consortium for Airbus aircraft, Project Balthazar, also closed its first deal in 2019 using a 12-year, dual-currency, Balthazar French Lease for five new A321NEO aircraft delivered to Turkish Airlines, arranged and funded by BNP Paribas.

A further insurance-supported structure will be launched in 2020 by BGC Insurance Group (BGCI), which created its new global aviation and space (re)insurance brokerage in June 2019. Bruce Fine joined the company in September 2019 as managing partner for US Aviation and Aerospace as well as president of its Aviation Industry Financial Solutions Division. Fine was previously the global leader of the team at Marsh that devised AFIC in 2017. Moreover, after a long career at Boeing Capital, Kostya Zolotusky has joined the BGC Aviation Industry Financial Solutions Division, which is working on a set of credible aviation financing products backed by insurance guarantees to offer alternative sources of financing for airlines and aircraft operators. Rather than focusing only on new aircraft, this new venture will assess midlife aircraft, as well as looking at products like pre-delivery payments and mezzanine debt, along with aviation assets such as engines, spare parts, and maintenance reserves.

Outside of insurance-backed products, Aviation Capital Group established its own supported-finance division, Aircraft Financing Solution (AFS). In August 2019, AFS structured, arranged, and provided a guarantee of a senior secured loan by Apple Bank to finance a portion of the purchase price of one Airbus A350-1000 aircraft delivered to Virgin Atlantic Airways. Rand Merchant Bank, through FirstRand Bank (London Branch) (RMB), provided a subordinated secured loan for a portion of the remainder of the aircraft purchase price.

“There are several firsts for the AFS program connected with this transaction,” said Robert Lewandowski, managing director of ACG, at the time

the deal closed. “This is the first Airbus aircraft to be funded through the AFS program, and Virgin Atlantic is a new customer for ACG. In addition, this is the first AFS transaction that included a subordinated loan in the structure. Together with the cooperation and hard work of Virgin Atlantic, Apple Bank, RMB and all the transaction participants, the AFS team was able to successfully structure and arrange this financing in a way that addressed everyone’s needs.”

### JAPANESE EQUITY

Since only very few rated airlines are able to access the public bond markets, most aircraft will be financed with secured loans, supported debt or other tax-efficient products. The most popular and available low-cost equity structures in the aviation market today are Japanese Operating Leases with Call Option (JOLCOs) and French Tax Leases.

The JOL and JOLCO market has matured substantially over the past few years. The negative interest rate environment in Japan has contributed to the demand for dollar denominated, tax-efficient investment products. Over a period of about five years, the JOL and JOLCO market has more than doubled in size as investors clamour for aviation lease deals that deliver very attractive returns compared to what investors would earn on any deposits or other investments that are available in Japan. For airlines, JOLCO products provide 100% finance at very competitive rates, while the JOL operating lease has a value risk that is also very competitive.

ORIX Aviation is an investor-focused leasing company where most of its clients are the top 40 credit airlines in the world, which means they are suitable for the Japanese operating lease market. ORIX has sold over 50 aircraft this year, half of which have been sold to the Japanese market. Being such an active player, CEO James Meyler has observed a noticeable increase in demand for the operating lease product in Japan. “The JOL market has matured and developed. Historically, it was more JOLCO products, so a finance lease with a purchase option, very much kind of a quasi-lease – essentially, the investors were less comfortable with the metal

**“The JOL market has matured and developed. Historically, it was more JOLCO products, so a finance lease with a purchase option, very much kind of a quasi-lease – essentially, the investors were less comfortable with the metal and the leasing environment”**

*James Meyler, ORIX Aviation*



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and the leasing environment. However, many new players are now looking at the operating lease space on the JOL side and are getting comfortable with the product. Aviation is very stable and dollar assets are very attractive to many Japanese. We've seen this proliferation of investors that are not coming for the tax benefits, they're actually coming because they like operating leasing the dollar assets and the return they're getting. If there are some tax benefits available as well that's on top but it's not the primary driver that it was maybe 10-plus years ago."

Japanese investors are also becoming less stringent regarding the airline credits in which they are willing to invest. Ten years ago, only the top rated, tier one airlines had access to the market. Today, as investors become more educated and gain experience with different airlines, different products and the broader market, they have become more receptive to other names such as Aeroméxico and Pegasus, for example. Industry experts believe that the market will continue to go from strength to strength with much more competition. The change in Japanese law in 2019 requires lenders to book the majority of the debt in Japan. Although there are still concerns that the debt capacity in Japan will be insufficient to serve demand, this does not seem to have curtailed deals so far. In fact, many arrangers have become more creative when syndicating debt in Japan, finding new players eager to enter this market for the first time.

While players such as ORIX Aviation, SMBC Aviation Capital and FPG Amentum have been very active in this space for many years, there has also been a flurry of new entrants. In November 2018, ABL Aviation formed a partnership with SBI Group to offer aircraft investment opportunities to Japanese investors using JOL and JOLCO products. ABL is able to leverage SBI's debt capacity in Japan to secure deals. A major transaction for ABL Aviation with SBI in July 2019 was the AFIC-supported JOLCO for EL AL Israeli Airlines, which Airline Economics dubbed the "Jerusalem JOLCO".

"This 100 percent Japanese deal was very attractive to the market in Japan," says Ben Lmadani. "The debt and equity

were Japanese and the AFIC insurance was fronted by a Japanese insurance company. The fact that this was all Japanese meant the bank was able to sell more than 50% to the Japanese local banks within a few months."

Combining a JOLCO with insurance-backed debt gave the deal a higher loan-to-value ratio, providing a more competitive product in the crowded Japanese market. "In the last few years, exactly the same JOLCO products are being sold again and again in the market. Having a more innovative JOLCO structure is more appealing to the Asian banks. They don't want to just invest in debt," adds Ben Lmadani.

In November 2019, ABL Aviation followed up this deal with another JOLCO for EL AL with \$125 million financing for one 787-8, this time combined with UK Export Finance (UKEF)-supported debt provided by ING.

Innovation is another way to improve returns for investors. In a crowded market, returns for lenders have been falling, even though they are very attractive for airline customers since because they are so thinly priced.

Bank of China's Fiscel believes that the strain on Japanese bank debt capacity, along with the huge pipeline for JOL and JOLCO deals, could cause pricing to tick upwards. "Japanese players are strong lenders in aviation and many of the other key players including Bank of China have a Tokyo office. The question is whether the increasing pipeline of JOL and JOLCO transactions can be solely absorbed by financial institutions booking in Japan. We could start seeing re-pricing on both the debt and the equity sides, with lower returns going back to airlines or lessors so that the equity investors can absorb the tax cost associated with the booking of a significant share of the loan outside Japan."

The one factor that could quickly curtail the Japanese market is any further change in tax regulation. Changes in tax laws almost always have a dramatic effect on tax-efficient financing structures, as was seen over the past 20 years in aviation finance with the loss of the US leverage lease, the German KG product and others. However, a downturn will also impact this market first since the

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*Ali Ben Lmadani, ABL Aviation*



investors are very conservative; in the words of one airline treasurer, “Japanese investors all run for cover as soon as you start making a loss”.

### SECURED VERSUS UNSECURED LENDING

Over the past few years, the shift from secured to unsecured lending has increased significantly. Financiers expect this trend to continue, especially since more and more aircraft leasing companies are achieving an investment grade rating, making capital markets funding in particular much more attractive (this issue is discussed in more detail in the lessor section earlier in this report). For leasing companies, a ratio of 80% unsecured debt to around 20% secured debt is preferable to enabled it to gain a higher, IG rating.

The benefits of investment grade credit ratings are clear, but the process of achieving them can be a long and laborious one. However, as Aircastle’s Ingles explains: “We started with 100% secured debt in the first four or five years of our existence. With the global financial crisis, many traditional aviation banks pulled back completely from lending against mid-age aircraft. All they would finance were brand new planes. Before the crisis, we had a portfolio of roughly \$4 billion that was funded in the secured market and in the ABS market. We started to see great investment opportunities, but nobody was willing to lend. We decided to take our pre-crisis track record and balance sheet to the rating agencies and secured ratings of BB+ from both Moody’s and S&P. We entered the unsecured debt market in the US in 2010, and our initial offering was extremely pricey: effectively a 10% yield for \$300 million. At the time we were investing in aircraft with 15% levered returns. We believed if we could build the unencumbered asset base and become a repeat issuer in the unsecured market, we’d be able to meaningfully drive our funding costs down. It took a while, but ultimately with that transformation, we became effectively 80% unsecured, 20% secured. We were upgraded in the spring of 2018 to BBB- and equivalent from Fitch, Moody’s and S&P, and that’s enabled us to continue to drive down the cost of debt.”

DAE Capital is still on the IG journey, but remains focused. “When we acquired AWAS two and a half years ago, both companies were secured funders, and in the investment grade metric, having a large portion of your balance sheet funded with unsecured debt is key,” says Tarapore. “So, we embarked on that very conscious journey. We met all of those quantitative criteria not too long ago, and now we’re qualitatively figuring out what the next steps should be. Getting there sooner rather than later is an essential priority from our perspective.”

Although the 80:20 ratio of unsecured to secured debt is the one used as a benchmark by many in the industry, the rating agencies take a more complex view on whether a company warrants the IG rating. “We don’t have a specific number that we go by,” says Marjan Riggi, senior managing director at Kroll Bond Rating Agency (KBRA). “The ratio of unencumbered assets to total assets isn’t the only measure since a company may not have that much unsecured debt; it’s really the senior unsecured debt volume that matters. For us, that’s a much more important ratio. But we also look carefully at each businesses model that all have a different dynamic. If a leasing company only does sale-leasebacks, it’s okay to have a secured portfolio, because those deals are all match funded. If you don’t have a lot of unsecured debt, it doesn’t really matter, and you have a lot more flexibility in these match-funded debts; so, in a liquidity crisis, you don’t have to worry about it because you don’t have big bullets coming in. For aircraft leasing companies that have orderbooks, it’s even more important, since they need to be stronger because they have a lot of PDP liabilities.”

### CAPITAL MARKETS

On the secured side of the aviation capital markets, as in 2018, 2019 was a major year for asset backed securitisation (ABS) transactions, with fewer enhanced equipment trust certificate (EETC) deals coming to the market.

The aviation ABS product has become far much more commoditised over recent years, while the introduction of the tradeable equity portion – the E Note – has allowed many more ABS portfolio sales to come to market as the

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*Marjan Riggi, KBRA*

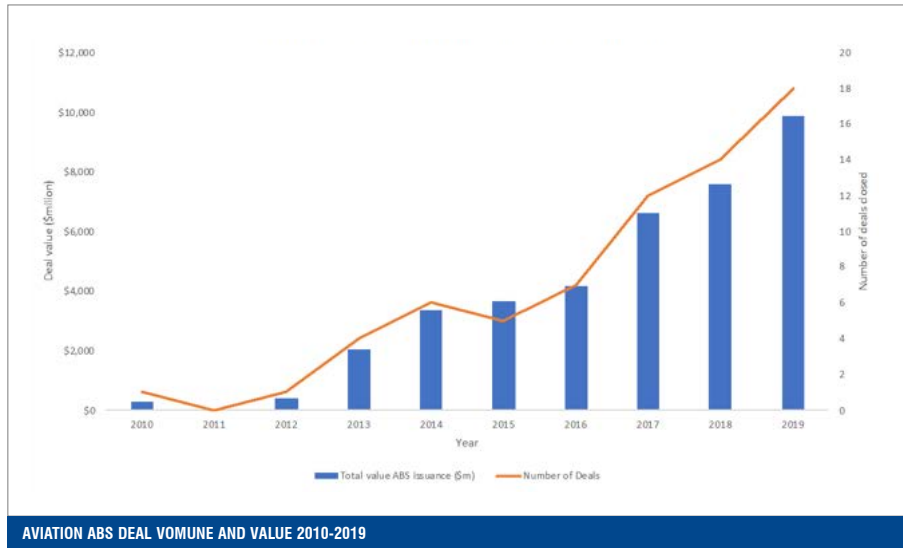


struggle to find an equity buyer has eased somewhat. The ABS product is also still being widely used by lessors as well as being an efficient form of refinancing. Indeed, as well as new issuers coming to the market, 2019 also saw a number of older ABS deals being refinanced back into the ABS market. In 2019, 18 ABS deals were closed, with a total value of \$9.87bn.

GECAS, BBAM and Carlyle Aviation Partners each came to the ABS market twice in 2019. GECAS was the largest issuer with two STARR deals totalling \$1.020bn, while BBAM's two Horizon deals reached a total of \$925 million. Moreover, Carlyle's ASSET programme in 2019 reached a total value of \$895 million. Other regular issuers such as Castlelake, ALC's Thunderbolt series, DAE Capital, Global Jet Capital and Wings Capital, also came to market with notable deals in the past 12 months. New issuers also dipped into the ABS market for the first time with noteworthy deals, including ACG with its inaugural MACH ABS brand that brought in Korean equity and achieved the lowest blended yield on A and B tranches on any aviation ABS portfolio sale – A at 3.5% for five-year WAL bond, and B at 4.375% for five-year WAL bond. Stratos and JP Lease also stunned the market with their innovative JOL Air 2019-1 ABS, which brought in Japanese equity via the JOLCO market for the first time in this structure.

Other first-time issuers in 2019 include Airborne Capital and Stellwagen, which closed their inaugural ABS transactions in the fourth quarter. Airborne Capital's \$637 million Tailwind 2019-1 ABS, which was secured on a portfolio of 17 aircraft, comprised three tranches of notes. Airborne purchased at least 10% of the equity certificates supporting the E Note issued by Tailwind 2019-1. The deal was led by Deutsche Bank, Mizuho and Credit Agricole-CIB as joint lead structuring agents and joint lead bookrunners.

Stellwagen's ABS, the \$726 million Raptor Aircraft Finance I, was secured on a portfolio of 19 aircraft, comprising three series of notes. Seraph Aviation Management was the servicer, while Stellwagen Group was the administrative agent. Lead bookrunners were Deutsche Bank, BNP Paribas and Standard Chartered.



**“The ABS market continued its year-over-year growth in 2019 and we expect the same trend to continue in 2020 as investors become more comfortable with the asset class. The majority of capital continues to come from developed markets, e.g. US and Europe, however Asian investors are becoming a growing presence and we would expect to see more capital come from this region as investors gain more comfort and experience with the product.”**

*David Butler, Stellwagen*

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“The Stellwagen Group closed our first ABS transaction under the name of Raptor,” says David Butler, chief executive officer of Stellwagen. “In terms of looking forward, the ABS market continued its year-over-year growth in 2019 and we expect the same trend to continue in 2020 as investors become more comfortable with the asset class. The majority of capital continues to come from developed markets, e.g. US and Europe, however Asian investors are becoming a growing presence and we would expect to see more capital come from this region as investors gain more comfort and experience with the product.”

He adds: “Stellwagen intends to be a repeat ABS issuer, the execution of Raptor 1 was a major milestone for Stellwagen and we are pleased with the overwhelming support from Institutional partners on the execution of this transaction and validation of our platform.”

CALC Group has also participated in the ABS market, albeit in China. “We launched the first ABS product in Shanghai Stock Exchange two years ago,” says CEO Mike Poon, who notes that the company continues to monitor the global ABS market. “The global ABS market is a growing, mature market. I have no doubt that ABS will continue to be a key funding source for lessors and other players in this industry. I look forward to seeing more ABS deals in China.”

The tradeable E Note structure gained in popularity in 2019 and also continued to evolve. BBAM’s Horizon Aircraft Finance III \$541 million ABS was the first-ever 144A aircraft equity Dutch-auction process with streamlined bidding, as well as the first-ever non-anchor equity portfolio sale. The deal also achieved the lowest yield on Class A tranches on any aviation ABS portfolio sale – Class A at 3.45% for five-year WAL bond.

Ruth Kelly, CEO of Goshawk, which closed its Pioneer ABS with a tradeable E Note structure in 2019, comments that the ABS vehicle is an essential part of its toolkit as a major trader of aircraft. “We trade aircraft all the time and the ABS product is a good vehicle for that. It gives investors access to aircraft leasing without needing a stand-alone platform.



It allows us to maintain the servicing of the aircraft, achieve our objectives around portfolio management, and earn servicing fees. For our ABS transaction in 2019, Pioneer I, we were really happy with market engagement, the product worked and the deal closed very quickly. We expect the ABS product to be utilised generally in the market for years to come.”

The jury is still out on the efficacy of the tradeable E Note market, which is still in its infancy. For SKY Leasing’s Austin Wiley, the debate over whether these E Notes are genuinely liquid misses the point. “Ultimately, this structure gives investors access to diversified pools of assets at a much lower overall ticket size. There is a lot of talk about if these E Notes are really liquid. What really matters is that these buyers can buy \$5 and \$10 million equity slices in a diversified portfolio of assets, whereas four or five years ago, if you were going to buy an ABS E Note, the ticket sizes were \$80 to \$120 million, which is a completely different investor profile. The tradable E Note market will continue to grow. I think the investment banks will be successful in getting CLO buyers and other structured product buyers into this asset class, and that’s ultimately good for the stability of these assets, and certainly for midlife aircraft.”

Despite its evident popularity, not all lessors are convinced of the benefits of the ABS product. AerCap CEO Kelly has not tapped the ABS since 2008 because he doesn’t see the value in effectively renting out his valuable franchise.

**“We were really happy with engagement with the market, with the product and the fact that the deal closed very quickly. We trade aircraft all the time and the ABS product is a good vehicle for trading, because it allows us to maintain the servicing of the aircraft; it’s good in terms of servicing fees and it helps us to achieve our objectives around portfolio management as well.”**

*Ruth Kelly, Goshawk*



“We’re always looking at the ABS market because we’re keenly aware that many of the 540 airplanes we have sold in the last five years end up in the ABS market,” says Kelly. “For every portfolio we sell, we model it against the ABS market. On average, about 44% of what we sell is widebodies. The ABS market hasn’t fully evolved for those aircraft types in large quantities. We feel that overall, we can better achieve our portfolio objectives over the longer term with outright sales rather than cherry-picking assets for the ABS market. AerCap is the best platform in the business. It’s the most active platform and the most capable platform. We’re light-years ahead of anyone else and we are not willing to rent it out on the cheap. In the ABS, the fees, on top of the waterfall, you get 3, maybe 3.5% lease revenue, but then your next fee is way down the waterfall with the equity and whether you’ll get that or not over the life is unknown. I should be doing a lot better if I’m using my platform than 3.5% lease revenue as my pre-tax margin.”

Although AerCap appreciates that the ABS market is an excellent and efficient market, for his franchise, more innovative transactions such as the company’s strategic partnership with Saudi bank NCB Capital make more sense. AerCap’s second deal with NCBS was financed through a \$500 million Shariah-compliant non-recourse revolving warehouse facility, with a two-year availability period and a five-year tenor, which is the first of its kind. Citi and BNP Paribas co-underwrote the warehouse Murabaha facility for a structure managed by NCB Capital initially used to finance the acquisition of a large seed aircraft portfolio from AerCap.

AerCap’s Kelly says: “This deal opened up a new equity investment market to us out of Saudi Arabia and they are the key player in that market. So, it was a different transaction to an ABS where you do one you’re done. This deal is repeatable.”

There are some concerns that there is an oversupply of ABS deals, with many in the fourth quarter of 2019 coming to the market around the same time. However, all of the deals that came to market have closed successfully, even if some took a

little longer than expected. The majority of industry experts that participated in this report do not expect ABS issuance to reduce in 2020; in fact, upon analysis of the first quarter 2020 pipeline, the annual issuance is expected to be on par with 2019. There are signs that investors are becoming more discerning about the servicers on the ABS transactions that they choose to invest in. This is simply good practice and possibly also the result of investors becoming more experienced with the aviation industry and ABS product. The bankruptcies in 2019 have impacted some ABS transactions; for now, however, those events have given the servicers the stage to display their remarketing skills, although this has been helped again by the buoyant leasing market, distorted as it is by the MAX grounding (as previously discussed).

“The whole idea behind an ABS is diversity,” says Carlyle Aviation Partners CEO, Robert Korn. “An investor has some exposure and there’s so much continuing cash flow from that pool that it should continue to remain healthy. It’s only when a significant amount of assets in a pool go bad that things start to unravel. I don’t know of an ABS vehicle that is struggling to continue to service the assets in the marketplace. I do think [the increased number of bankruptcies] raises the point of whether all of the ABSs are managed equally by different servicers. We certainly have a strong opinion about our capabilities as a servicer, and we’ve been very much a repeat issuer. Investors are aware of differences in managers, and investors are very much aware of differences in portfolio composition.”

Moreover, Castlelake’s Carruthers says: “We do see more differentiation across the spectrum of servicers, and so the bar is set higher for smaller sub-scale servicers to issue in the ABS market. Perhaps they can get the debt placed but they can’t sell equity, as an example. We do see that trend continuing. There’s also a more cautious approach today towards the pools of airplanes that are getting securitised. There is a heightened sense of scepticism around the credit risk inherent in the portfolios and the concentrations on widebody airplanes that is creating a more challenging environment for the issuers. The E certificate market is still fairly thin and

**“On average, about 44% of what we sell is widebodies. The ABS market hasn’t fully evolved for those aircraft types in large quantities. We feel that overall, we can better achieve our portfolio objectives over the longer term with outright sales rather than cherry-picking assets for the ABS market. AerCap is the best platform in the business. It’s the most active platform and the most capable platform. We’re light-years ahead of anyone else and we are not willing to rent it out on the cheap.”**

*Aengus Kelly, AerCap*





is therefore much more susceptible to weakening or shutting down than the debt market. The debt market is just deeper; there are more institutional players that are comfortable and willing to continue pooling debt capital than there are those willing to pool equity.”

With headwinds building, the more cautious industry players are wary that in an economic downturn, the capital markets are often the first to weaken and can even close down completely, usually without warning.

“Capital markets have windows of opportunity that open widely and can sometimes close down altogether,” warns Fiscel. “I believe it’s always important to keep a fine balance between banking and capital markets. The banking market remains strong in Asia and Europe, although certain banks in the latter have lately been more active in structuring and distributing, rather than balance sheet financing. However, with a potentially fading investor appetite, those very experienced banks may start using more of their balance sheet resources, for the right returns.”

Although there were few EETCs that closed in 2019, those that did come to market received unprecedented pricing due to the low interest rate environment and the dearth of airline paper.

JetBlue Airways’ \$772 million 2019-1 EETC, secured on a portfolio of 25

A321NEO aircraft, was the airline’s first issuance in this market since 2004; and as such, investor demand for a new name was high. JetBlue was able to secure pricing at 2.75% on the AA notes at T+95bps and 2.95% on the A notes at T+121bps due to significant oversubscription on both tranches. Citi and Goldman Sachs were joint structuring agents and lead active bookrunners with Morgan Stanley and Barclays. A further notable feature of this EETC structure is that Citi was able to optimise the issuance LTV to achieve 46.5% on the class AA notes compared to 37-42% on comparable airline EETC deals. The bank was also able to optimise the amortisation profile with a blended 8.5-year WAL on the class AA and A notes.

British Airways returned to the EETC market in 2019 – and remains one of only three non-US EETC issuers to date. The UK flag carrier priced its \$806 million Series 2019-1 EETC on July 15, 2019, secured on a portfolio of eight Airbus aircraft – seven A350-100s and one A320NEO – which combined EETC debt financings with JOLCO tax equity and allowed the airline to raise additional funds at a lower financing cost compared to US EETC issuers. Oversubscription allowed for pricing on the AA notes of 3.30% and 3.35% on the A notes, which resulted in a blended coupon of 3.31%.

Secured and unsecured bond issuances also continued to be a strong market in 2019. Aside from the usual jumbo issuances from the major leasing companies – AerCap and ALC, with its new MTN programme – TAP Portugal also came to market for the first time with a €375 million senior unsecured bond. After a troubled few years, the airline was privatised in 2015 by a consortium led by David Neeleman and Humberto Manuel dos Santos Pedrosa. Subsequent strong operational performance, allowed the airline to come to the market to offer €300 million in five-year senior notes at 5.625%. Demand for that paper allowed pricing to be tightened from the initial 5.875 area and the issuance to be upsized to €375 million.

Looking at the financing market in 2019, debt and equity investors remain eager to deploy capital into the aviation sector. Although there are no definitive signs that the status quo will change significantly heading into 2020, the headwinds remain, and the markets remains at the mercy of economic and indeed geopolitical events that could alter that trajectory in a heartbeat. Savvy issuers and investors are becoming more discerning regarding airline and servicer credit quality and track record, which is expected to continue to build as the year progresses.



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# A New Decade

Climate Change is world news and Environment, Social and Governance issues are taking centre stage in the aviation world. Investor ESG concerns and the industry's response to carbon emissions and future technology are evaluated by the industry.



Advances in computer technology are cited very often as a major disruptor in almost every major industry. Banking and finance, especially, is being challenged by the onslaught of digital firms offering user-friendly mobile and virtual Sustainability is the revitalised mission for the next decade. In the final year of the 2010s, the environmental agenda was thrust front and centre onto the world stage. The figurehead for this renewal in the green agenda is Greta Thunberg, a teenage activist from Sweden, who began a one-woman crusade by striking from school every week outside the Swedish parliament in the summer of 2018 her movement later grew into a climate strike of 4 million people across 161 countries in 2019. Thunberg has addressed the United Nations, US Congress, and UK Parliament on climate issues and has since been named as Time Magazine's 2019 person of the year. Thunberg's determination to remain carbon-neutral has meant that she has refused to fly since 2015, preferring to sail across oceans and travel by train so as to not contribute to carbon emissions. Her refusal to fly has contributed to the phenomenon of flygskam, or 'flight shaming', which is prevalent in Europe, especially Scandinavia. A UBS survey of more than 6,000 people in the US, Germany, France and the UK, found that 21% had reduced the number of flights they took over the last year. This is a trend that is predicted to deepen and continue in developed markets.

As a carbon emitter, aviation is an obvious target for environmentalists. Airports and aircraft have therefore been targeted by protesters. Despite statistics proving that net carbon emissions from the aviation industry are around 2% of the global total, the industry to date has been unsuccessful in relaying that message to the travelling public. This situation is changing, albeit slowly, in a charge led primarily by the manufacturers. They are emphasising the 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.

In his video interview, Paul Meijers, executive vice president, leasing and financing – customers, Airbus, points to the new technology now being delivered is slowly replacing the older equipment with more fuel efficient engines that are structuring double digit fuel burn improvements compared to the previous generation of aircraft. But adds that the manufacturer is looking much beyond the next few years, out towards 2030 and 2050, investing in new technologies that will address the challenge of reducing the industry's carbon footprint.

Airbus is pioneering more advanced future technology, such as hybrid-electric propulsion and new concepts known as 'wake energy retrieval'. The Airbus fello'fly demonstrator project seeks to assess the technical, operational and commercial viability of two aircraft flying together for long-haul flights, saving 5-10% on fuel consumption per trip.

Industry bodies are also working towards addressing aviation emissions with targets set by the International Civil Aviation Organisation (ICAO) and the Committee on Aviation Environmental Protection (CAEP). However, there are indications that these targets do not go far enough or fast enough. Although airlines are responsible for only a small portion of the total transportation sector emissions, other sectors, such as power generation and road transport, have made significant strides towards reducing emissions, while progress in the airline and aerospace market has been slower.

Figures from the 2019 European Aviation Environment (EVE) Report, published by the European Union (EU), show that air passenger numbers in the 28-member bloc had increased by 20% since just 2017, and by 60% compared to 2017, with a further 42% expansion being predicted by 2040.

These figures are echoed by the International Air Transport Association (IATA), as well as most major industry players, who are predicting a 4% annualised increase in passenger traffic over the same period. However, the improvements in airline fuel efficiency, and the resulting reduction of carbon emissions, are expected to move more slowly.

**“The climate crisis has put aviation in the spotlight with the introduction of a new phrase to the global vocabulary ‘flygskam’ or ‘flight shaming’. People should be concerned about the environmental impact of all industries. That includes aviation, which accounts for 2% of global human generated carbon emissions. However, they need to be reassured of our commitment to sustainability. We have been driving climate action for over a decade.”**

*Alexandre de Juniac, IATA*



Consider the recent ESG Focus report by ratings agency Moody's. This report predicted that the US utility and power sector, the second largest CO2 emitter in the world's biggest economy, is on course to achieve a 27% reduction in CO2 output by 2030. By contrast, even the most optimistic predictions expect improved fuel efficiency to reduce airline emissions per passenger mile by 15%, all while the total number of flights will increase.

The combination of increased passenger numbers and greater public attention on aviation means the sector is acutely exposed to Environmental, Social and Governance (ESG)-related risks, compared with certain other CO2 emitters. The risk of this turning into a change in investor sentiment towards the aviation sector is very real. Recently, the activist hedge fund TCI announced plans to target firms that fail to disclose their carbon dioxide emissions, a movie that makes environmental concerns an explicit threat to aviation industry players' balance sheets.

And it's not just hedge funds – the Principle for Responsible Investing, a UN-backed initiative to make ESG a mainstream investment factor that is supported by a number of the world's largest institutional investors, told Airline Economics, that airlines and aerospace were becoming more of a priority for the organisation, and that it was one of the sectors covered by the UN-based initiative Climate Action 100+.

IATA chief executive Alexandre de Juniac, speaking at the Sustainable Innovation Forum in Geneva on 10 December 2019, said that the climate crisis has put aviation in the spotlight and he restated the sector's commitment to reducing its emissions. The problem is that, relative to other industries, aviation faces major technological limitations due to the amount of power required to generate propulsion; electric batteries are not yet as efficient as a litre of kerosene.

One of the major positives for the aviation industry is that the entire market is united in the goal of reducing emissions by reducing fuel consumption, since it is the leading cost for airlines. More efficient



**“When you’re flying longer distances, or you’re crossing an ocean, it’s a whole lot more efficient to fly. In the 1980s, we were hush kitting aircraft due to the focus on noise restrictions. We’ve switched from three-crew, three-engine aircraft to two-crew, two-engine aircraft. Engines have become more efficient, aircraft are lighter and burn less fuel on a relative basis, and airlines are also more efficient, with more seats per plane so that we move more people”**

*Helene Becker, Cowen*

aircraft result in both higher profits and lower emissions. The emphasis to date has been on what the industry will do to reduce emissions, with the work it has already done to reduce emissions and the many economic benefits of aviation are being given less prominence. For example, flying across oceans is often the most efficient form of transport for leisure, business and emergency medical needs alike. The connectivity that aviation brings enables globalisation and GDP growth, which some see as critical in the fight for climate change.

“When you’re flying longer distances, or you’re crossing an ocean, it’s a whole lot more efficient to fly,” says Cowen’s Helane Becker. “In the 1980s, we were hush kitting aircraft due to the focus on noise restrictions. We’ve switched from three-crew, three-engine aircraft to two-crew, two-engine aircraft. Engines have become more efficient, aircraft are lighter and burn less fuel on a relative basis, and airlines are also more efficient, with more seats per plane so that we move more people.”

Better and further communication of the advances that have been made by the aviation industry is supported by almost every participant in this study.

Becker repeats again that aviation accounts for 2% of world emissions; this is far less than the maritime industry, which is less of a target, while auto emissions are also far greater. “People forget that aviation’s only 2%; it’s just a big, easy target. Every airline publicises what they are doing from a sustainability or an environmental perspective – from recycling to selling carbon offsets and working with manufacturers to reduce their carbon footprint. The industry is working on it and all manufacturers are working on building sustainability and being responsible for sure. If we as an industry don’t do something – and this is why IATA, CORSIA, and ICAO are taking the lead – it’s going to be done for us, and we’re not going to like it.”

It is clear that the aviation industry will be impacted in the short and longer term by the environmental concerns.

“Millennials and younger generations are much more aware of climate matters. Interestingly, they also tend to be attracted by cheap short

trips,” notes Fiscel. “These generations, increasingly concerned about climate matters, might cut on their aspiration to fly regularly to discover new cities. I wouldn’t be surprised if the expansion of the low-cost model slows down accordingly, although very significant offsetting initiatives have recently been undertaken by airlines, particularly in Europe.”

Short-haul travel is expected to take a hit in the coming years. Longer-haul travel will likely become restricted, and certainly more expensive, if environmental changes are forced upon the industry by regulations or additional taxes. The industry needs to work to improve its emissions on its own and the catalyst for ESG change may come from investors.

Cowen’s Helane Becker spends her working life meeting with investors; in 2019, she noted a significant change in investor interest in ESG. “I go to Europe probably six times a year and in 2019 the number two question from investors after ‘What’s your favourite stock?’ is ‘What’s going on from an environmental perspective with the group?’”

Other bankers concur that investors are asking these questions, but as yet, they are not pricing in ESG-weighting to deals or keeping out of aviation deals due to ESG concerns.

“It starts with the investors,” notes SKY Leasing’s Wiley. “We talked to a number of the ESG funds during our fundraising process. They’re effectively willing to accept a lower return if you can offer some sort of ESG angle. The question is whether new-technology aircraft, like a brand-new NEO, are considered an ESG-qualified product. Those are real-time discussions that are happening in the space. So, you may see a green fund one day but right now they’re still kind of preliminary discussions – but this really needs to be driven by the investors demanding that they want to see a different type of product from the lessors.”

Although green aviation bonds are certainly not on the horizon now, but green financing has arrived for aviation assets. Deutsche Bank acted as lender on the first ever green financed aircraft to Swedish regional airline Braathens

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*Arnaud Fiscel, Bank of China (UK)*



Regional Airlines (BRA). The 72-600 aircraft is leased from Avation and is part of a new order for five 72-600s. Vigeo Eiris, an independent agency providing ESG ratings, expressed the opinion that the project of replacing ageing regional jets with new ATR 72-600 aircraft is aligned with the Green Loan Principles (GLP) established by the Loan Market Association in 2018.

Some market observers believe that aviation could become subject to a framework similar to the Poseidon Principles, which assess and disclose the climate alignment of ship finance portfolios that are in line with the International Maritime Organisation's ambitions to reduce shipping's total annual emissions by at least 50% by 2050.

Although formal principles are not being earmarked for aviation at the moment, there are signs that

certain banks and rating agencies are applying "green" weighting to certain investments. "Investors have been and are becoming much more concerned about ESG issues and they will clearly play a growing role when making investment decisions," says NordLB's Wulf. "Aviation finance will not be spared by this trend. At NordLB, for example, we have had a policy for years that allows us only to finance aircraft that meet the latest CO<sub>2</sub> and noise emission regulations. Going forward, I believe this will become even stricter, and it could well be that some banks and investors will only be able to look at the latest-technology aircraft, or can only invest in airlines and/or lessors that also have a compensation scheme in place to offset their carbon footprint."

Florian Maier, managing partner of EMP Structured Assets, suggests that ESG could also have a price one day too:

"ESG is a big issue amongst investors. I was doing a roadshow in the Nordics this summer. You hear it everywhere. It's a big issue in Germany as well – not so much for investors who are already invested into our industry, but the new ones are concerned about an ESG conflict with aviation. Eventually, prices will go up. Investors will reflect that in the yields that they'd require. Maybe ESG will get a price someday, but this is an ongoing movement."

However, this concern could become a factor that curtails aviation investment in the future. The stark message to the aviation industry is that there is a need to work together as an industry in order to present a better and more united picture of how the industry has become much more efficient over the past three decades, as well as setting out how the industry plans to improve emissions going forward.





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