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Financial intelligence for commercial aviation

CHINA CONFERENCE REVIEW /14
From strength to strength

NEWS ANALYSIS /32
Living without ECA-backed funding

WIDEBODY REPORT /38
No let up in battle of competing twins

AIRCRAFT PROFILE /43
Bombardier Q400 – a powerful option

LESSOR INTERVIEW

Wait is over for BOC Aviation's IPO / 24

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12th Annual Latin America Conference

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EDITOR'S LETTER

Despite Brexit, Boeing's Iran deal is moving forward

The sooner Boeing and Airbus can get their historic deals with Iran ratified by the US government, the better it will be for an aviation industry still coming to terms with the UK's exit from the EU.

The UK's decision to leave the European Union sent the financial markets into disarray. During the referendum count, the pound plummeted against the dollar, at one stage dropping to $1.3304 – the lowest it has been in more than 30 years. It is unclear how Brexit will affect the aviation industry as a whole, although it will become clearer in the coming weeks. What we do know though, is that the City of London will take a hit, thousands of jobs will be at risk and banks may consider the possibility of relocating, with Morgan Stanley reportedly already leading the way. UK carriers will also be hurt – British Airways owner, IAG, became the first FTSE 100 company to warn that the result of the UK referendum would have a negative impact on its earnings.

But there is more hopeful news on the other side of the Atlantic. A week before the referendum, Boeing and the government of Iran signed what could be the most important aviation deal of the year, and arguably the century so far. After being dogged by UN and US sanctions since the late 1970s, Iran and its national carrier, Iran Air, finally struck a deal with the US aircraft manufacturer to buy 80 Boeing jets, worth up to $17.6 billion at list prices. It also plans to lease 29 737s, with deliveries expected to begin next year.

At first glance the deal seems like a large step forward from the relieving of UN and US sanctions in January. Iran is in desperate need of new-technology aircraft, being the second-largest country in the Middle East and having a combined average fleet age of 23.8 years.

Airbus signed a deal with Iran in January for 118 aircraft, but the European manufacturer has not firmed it up yet. Like the Airbus order, Boeing's is not yet firm: the obvious next step is to overcome regulation. Both manufacturers claim they are working with the US authorities to make their deals happen.

A Boeing spokesman told *Airfinance Journal:* "Boeing will continue to follow the lead of the US government with regards to working with Iran's airlines, and any and all contracts with Iran's airlines will be contingent upon US government approval." Some sources suggest there may be a formal announcement from both Airbus and Boeing on Iran at July's Farnborough Airshow.

But even if the deal is approved, Boeing faces a new challenge of working out how Iran will finance the aircraft without violating international sanctions law. Sanctions on Iran that were not affected by January's nuclear deal and are still in place prohibit dollar-denominated transactions from being completed in Iran. Boeing may have to run its deal through an offshore company or turn to non-US banks to finance its aircraft if it wishes to do business in Iran.

Another obstacle manufacturers face is that, if the aircraft incorporates 10% or more of US equipment, then the seller has to obtain permission from the US Office of Foreign Assets Control to sell the aircraft. This applies to all new-technology aircraft from both Airbus and Boeing.

Although the dollar sanctions may present an opportunity for European banks, many of them are still seeking more assurance from the US authorities that they can do deals in Iran without the fear of being fined millions of pounds by Washington's enforcement agencies. In the past, the penalties have been severe. In 2015, French bank BNP Paribas agreed to a record $8.9 billion settlement over claims it violated sanctions against Sudan, Cuba and Iran.

The laws surrounding the sanctions are complicated, and banks need to have concrete legal assurance that they will not get fined for attempting to close deals in Iran. Now that Barack Obama is in his last six months as US president, he needs to work with Congress to allow Iran to access the global financial markets. The election of a new president in November has potential to change US-Iran relations completely.

Profound geopolitical changes such as Brexit only add to the financing challenges faced by the likes of Airbus and Boeing in Iran. Although the market sentiment has changed, if the Iran deal comes to fruition, it will be a cause for optimism in the aviation industry.

JACK DUTTON
Editor
Airfinance Journal

COVER STORY

Wait is over for BOC Aviation's IPO/24

Robert Martin, chief executive officer of BOC Aviation, explains why the public offering is part of a larger plan to open up Asia's capital markets.

NEWS

People News /3
Slattery to lead Embraer Commercial Aviation; Boylan joins CDB Leasing; Latam CFO to start in July; Plueger to lead ALC; Awas names managing directors; Fuji Dream appoints president and COO; Barron joins Amedeo Air Four Plus board.

Financier News /4
ICBC agrees $340 million secured loan facility; American prices $844 million revenue bonds, Westjet prices notes at 3.5%; ABC Leasing makes debut in offshore bond market; SMBC Aviation Capital's unsecured notes rated BBB+.

Deals News /6
Guggenheim acquires Delta Air Lines' A330s; Virgin Atlantic finances 787 with cash; THY closes French tax lease for two A321s; Japan Airlines uses cash for 787s; Garuda agrees six-aircraft deal.

Secondary Market Deals /8
Kahala Aviation sells 737Fs; Iberia offloads A320s for part out; IndiGo leases A320s from Awas; Austral grows E190 fleet; Jet Midwest adds six Fokker 100s; Wow Air takes SIA A330.

ANALYSIS AND INTERVIEWS

NAC expands regional portfolio /12
Olivier Bonnassies rounds up the main points surrounding the Danish lessor's recent expansion.

China Airfinance conference report /14
The Chinese yuan, stock market listings and new leasing companies were among topics high on the agenda, writes Michael Allen.

CIT hedges bet on portfolio sale /16
CIT Group decided to offload its portfolio last year. Joe Kavanagh reports on the latest developments.

Carnival stops for airlines as recession bites deep /18
Brazilian carriers feel the pressure from Latin America's two-year recession, *Airfinance Journal* reports.

How FPG shook up Jolco market /20
The Japanese equity arranger's CEO and founder, Hisanga Tanimura, speaks to Michael Allen about the growth of its aviation business in the ultra-competitive Jolco market.

Airline CFO Interview: Air Astana /22
Jack Dutton speaks to Peter Foster, chief executive officer of Kazakhstan's national carrier, about the country's economic crisis, his hopes for profitability and the airline's plan to go public.

Appraisers differ by 8% on 777 valuations /28
There are contrasting views on what United Airlines' 777s are worth. Olivier Bonnassies reports.

Kroll plans for next step /30
The ratings agency has become the leader in aircraft asset-backed securities. But just a few years ago, the agency was nowhere to be seen. Joe Kavanagh reports.

Living without ECA-backed funding /32
The aviation market is in an unprecedented situation with both the major aircraft manufacturers facing a shut-down in government export credit financing.

Engine Survey: Golden oldies back in fashion /34
Engines such as the CF56-5A and -5C are enjoying a new lease of life. Joe Kavanagh reports.

No let up in battle of competing twins /38
Widebody aircraft are viewed with some scepticism by investors, but Airbus and Boeing do not share their concerns. Geoff Hearn investigates.

Have Boeing and Airbus overstepped the production line? /41
Jack Dutton looks at whether ramped-up production lines are ambitious against the backdrop of slowing orders.

REGULARS

Aircraft profile: Q400 /43
Data /46
Pilarski /52

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NEWS

People

Slattery to lead Embraer Commercial Aviation

John Slattery has been named president and chief executive officer of Embraer Commercial Aviation. Since November 2012, Slattery served as the unit's chief commercial officer.

He joined in March 2011 as vice-president customer finance and asset management. Before that he spent 15 years in executive and leadership roles at a variety of aircraft lessors and financial institutions.

The outgoing president and chief executive officer, Paulo César de Souza e Silva, has been promoted to chief executive officer of Embraer.

He will step up after the retirement of Frederico Fleury Curado, who has been at the manufacturer for 32 years.

César has been a senior executive at Embraer since 1997. As head of the commercial aircraft division, he has led the development of the E2 programme.

Boylan joins CDB Leasing

Donal Boylan has joined China Development Bank's leasing arm, indicate sources at *Airfinance Journal's* China Airfinance conference in Shanghai.

He joins from the Hong Kong Aviation Capital, a subsidiary of HNA and a Bravia Capital affiliate, where he served as chief executive officer from 2011.

Boylan previously served as the head of aerospace and defence at the Royal Bank of Scotland. His previous experience includes 20 years in technical and commercial roles at GPA Group and Gecas.

Vivian Wang (Wei Wang) left the Shenzhen-based lessor earlier this year after serving as CDB Leasing's general manager of aviation.

Latam CFO to start in July

Latam Airlines has named Ramiro Alfonsin as the company's new chief financial officer, effective 12 July.

Alfonsin will replace Andres Osorio, who will leave the company in August.

Previously, Alfonsin worked for the energy company Endesa in Spain, Italy and Chile.

He also served as deputy director of planning and investment in Europe and regional director of planning and control at Enersis.

Plueger to lead ALC

John Plueger will suceed Steven Udvar-Hàzy as chief executive officer and president of Air Lease (ALC).

Plueger was previously chief operating officer and president at the lessor, which he joined in 2010, shortly after it was formed.

Steven Udvar-Hàzy, will assume the role of executive chairman of the board.

ALC has also promoted Gregory Willis to executive vice-president and chief financial officer He was previously a senior vice-president and CFO. Willis joined ALC in March 2010 as vice-president finance and chief accounting officer.

Awas names managing directors

Dublin-based lessor Awas has promoted two members of its team into senior positions.

Jennifer Moulton becomes managing director Europe, Middle East and Africa (EMEA) within the commercial team. She was previously senior vice-president EMEA, having joined Awas in 2000 from Morgan Stanley's aircraft group.

Moulton will report directly to Marlin Dailey, Awas's chief commercial officer.

Alex Rasnavad has been promoted to managing director trading. He will lead the firm's global aircraft trading activity.

He joined Awas in 2012, based in Singapore, as vice-president trading from Skyworks Capital, the boutique aviation investment-banking firm.

Rasnavad will also report directly to Dailey.

Fuji Dream appoints president and COO

Yoshihiro Miwa is the new president and chief operating officer at Fuji Dream Airlines.

Miwa succeeds Koji Sugawa, who has been appointed as auditor.

Yohei Suzuki continues to be the airline's chairman and chief executive officer.

Airfinance Journal's Fleet Analyst indicates that Fuji Dream Airlines has a fleet of 10 Embrear 170 aircraft, comprising three E170s and seven E175s.

Barron joins Amedeo Air Four Plus board

Laurence Barron will assume the role of an independent non-executive director of Amedeo Air Four Plus.

Barron has been a consultant to the company since last October.

The aircraft acquisition and leasing company recently acquired its sixth and final Airbus A380. The aircraft, MSN 208, was placed under a 12-year operating lease with Emirates.

Dublin-based lessor Amedeo listed Amedeo Four Plus on the London Stock Exchange in May 2015.

In January 2013, Barron was appointed chairman of EADS China, since rebranded Airbus Group China. He joined Airbus in 1982 as an in-house lawyer specialising in aircraft finance.

NEWS

Financiers

ICBC agrees $340m secured loan facility

ICBC Financial Leasing has agreed a secured a $340 million loan facility with Bank of China Hong Kong.

The facility involved five Airbus A320-200s and two Boeing 737-800s leased to Spring Airlines, Sichuan Airlines, Dalian Airlines and Air China.

"This transaction is complex because it involves four lessees and there are numerous negotiations regarding documentation," Simon Wong, a partner at Stephenson Harwood Hong Kong, who advised ICBC FL on the transaction, tells *Airfinance Journal*.

"In our negotiation with BOC, we had minimised the extent to which lessees' cooperation was required so as to avoid a delay to drawdown. We also assisted our client in liaising with multiple lessees to speed up the negotiation process and eventually the transaction was closed in a timely manner," Wong adds.

American prices $844m revenue bonds

American Airlines has priced an $844 million refinancing with bonds secured against its leasehold interest in Terminal 8 at New York's JFK airport.

The issuances are a range of serial bonds and term bonds that mature between 2017 and 2031. All the bonds carry an interest rate of 5%, and their yields range between 1.85% for the 2017 bonds and 3.50% for the 2031 bonds.

The bonds have been issued by the New York Transportation Development Corporation (NYTDC), which is a special vehicle that issues debt for infrastructure projects.

NYTDC will loan the proceeds of the bonds to American, which will use them to refinance its 2002 and 2005 series of special facility revenue bonds. The existing bonds were issued to finance the development of Terminal 8.

The new issuance consists of about $850 million of new special facility revenue bonds maturing between 2017 and 2031.

Fitch Ratings has rated the bonds BB, which is one notch higher than the airline's long-term issuer default rating. This is because of the strategic importance of American's position at JFK airport, which Fitch believes would lead the airline to affirm the lease in the event of a default.

Airfinance Journal understands that Citi is the bookrunning senior manager. Bank of America and Barclays are co-senior managers.

Goldman Sachs, JP Morgan, Morgan Stanley, US Bancorp, Loop Capital Markets and Rice Financial Products Company are co-managers.

Westjet prices notes at 3.5%

Canadian carrier Westjet Airlines issued $400 million in five-year senior unsecured notes at 3.5%.

The airline tells *Airfinance Journal* that Morgan Stanley and Citi were joint bookrunning managers.

TD Securities acted as senior co-manager: the other co-managers were Bank of Montreal Capital Markets, Canadian Imperial Bank of Commerce Capital Markets, HSBC, Royal Bank of Canada Capital Markets and Scotiabank.

Westjet intends using the net proceeds from the offering for general corporate purposes, which includes the purchase of aircraft.

In June, the carrier firmed up purchase options for nine Bombardier Q400 aircraft. Deliveries are scheduled between April 2017 and June 2018.

Paul, Weiss, Rifkind, Wharton & Garrison acted as US counsel for Westjet, while Blake Cassels & Graydon advised on Canadian law. Shearman & Sterling advised the initial purchasers.

ABC Leasing makes debut in offshore bond market

Chinese lessor ABC Leasing has tapped the US dollar bond market for the first time with a $500 million, five-year offering, which priced at 2.5%.

The bond was issued by ABCL Glory, an offshore special purpose vehicle wholly owned by ABC Leasing International but managed by ABC Leasing, according to GlobalCapital.

ABC International, Agricultural Bank of China and China International Capitol Hong Kong Securities are joint global coordinators.

ABC Leasing's bond came with a guarantee from ABC's Hong Kong branch.

Fitch Ratings has assigned a rating of 'A' to the issue – a move that is on par with the rating of the guarantor.

Proceeds from the bond will be used for general corporate purposes by ABC Leasing or any of its subsidiaries.

ABC Leasing's aircraft leasing department initially focused on business jets, but is now doing more commercial passenger aircraft business.

Emirates repays $1bn in bonds

Dubai-based Emirates Airline has repaid a $1 billion bullet bond for the value of $1 billion on its maturity date.

The five-year unsecured bond was issued in 2011 to address the carrier's working capital requirements.

Airfinance Journal understands that Emirates was not considering refinancing the bond and had always planned to repay it in cash. The 2011 bond was the last bond the carrier issued to raise working capital, and a source says the airline is looking to raise money to finance aircraft.

The Middle Eastern carrier will also be repaying a S$150 million ($110.86 million) bond, which was issued in 2006, off of its balance sheet.

SMBC Aviation Capital's unsecured notes rated BBB+

SMBC Aviation Capital's (SMBC AC) potential issue of senior unsecured notes have been rated BBB+ by Fitch Ratings.

At the same time, the issuing entity of the notes, SMBC Aviation Finance DAC, has received an issuer default rating (IDR) of 'BBB+', which is in line with SMBC AC's long-term IDR, reflecting Fitch's expectation for average recovery prospects given that the majority of SMBC AC's consolidated debt funding is unsecured.

The note issue is dependent on market conditions, says the ratings agency.

Though representing only a "small portion" of Sumitomo Mitsui Financial Group's (SMFG) total assets, Fitch says SMBC AC is viewed as "strategically important to SMFG and its core banking subsidiary", Sumitomo Mitsui Banking.

NEWS

Financiers

In terms of SMBC AC's standalone credit profile, Fitch considers the quality of the aircraft fleet a "significant strength" because it is largely unencumbered and comprises "young Airbus A320 and Boeing 737 families, with more on order".

These strengths are counterbalanced, says Fitch, by SMBC AC's "concentrated funding profile" and its elevated balance sheet leverage.

Third-party funding represented 41.2% of SMBC AC's total debt funding as of 31 March and is 45.2% pro forma for the unsecured notes offering.

Leverage, defined as debt-to-tangible equity, on a consolidated basis was 4.6 times at 31 March and is five times pro forma for the unsecured notes offering. "This pro forma level represented the highest leverage among Fitch-rated aircraft lessors," states the ratings agency.

Fitch expects some reduction in SMBC AC's balance sheet leverage during the next three years, but it anticipates this level will "likely remain higher" than most of its lessor peers.

Delta closes $450m of private refinancings

Delta Air Lines has closed $450 million-worth of private placement deals, in a transaction arranged by investment bank Burnham Sterling.

Speaking to *Airfinance Journal*, Michael Dicky Morgan, executive managing director at Burnham Sterling, said the senior secured debt would refinance a range of mid-life aircraft owned by Delta.

He adds that there are 26 assets in total, manufactured between 2001 and 2009. These include Airbus A319s, A320s, A330s and one Boeing 737-700.

All of the secured loans have terms of five years or shorter. The deal closed in two tranches in February and March.

Morgan declines to name the investors on the deal, but says the bulk of the capital is provided by seven new investors to Delta. He says that some of the investors have not invested in commercial aviation "in a long time", but have been brought back into the space by this deal.

Burnham Sterling has arranged private placements for Delta in the past. In 2014, the bank arranged a $647 million refinancing of 17 aircraft.

The bank also has arranged debt for Colombian carrier Avianca, closing a $379 million private placement at the end of 2015.

Debevoise & Plimpton advised Delta on the recent deal, while Hughes Hubbard advised Burnham Sterling and the investors.

NEWS

Deals

Guggenheim acquires three Delta Air Lines' A330s

Guggenheim Aviation Partners will acquire a total of three new Airbus A330-300s from Delta Air Lines in a sale and leaseback deal, say sources.

The three units, which are powered by General Electric's CF6-80E1A4 engines, are part of a 10-aircraft order placed with Airbus in September 2013.

Airfinance Journal understands that two aircraft, MSNs 1716 and 1720, were delivered to the US carrier in April and May, respectively.

Both aircraft were financed under a debt facility arranged by DVB Bank.

Stephenson Harwood acted for Guggenheim Aviation Partners as the lessor's counsel, while Vedder Price advised DVB on the transaction.

A third aircraft was scheduled to deliver as *Airfinance Journal* went to press.

Delta took delivery of the first enhanced 242-metric ton A330-300 aircraft in May 2015 and added another three units last year. This year it will receive four aircraft, while the remaining two are scheduled for 2017.

Virgin Atlantic finances 787 with cash

Virgin Atlantic has taken delivery of one new Boeing 787-9 aircraft and has financed the unit with internal cash resources, say sources.

In December, the carrier strengthened its liquidity position with a slot financing transaction that raised £220 million ($333.8 million) from the capital markets. At the time, Virgin said the senior secured notes would fund Virgin Atlantic's long-term investment programme, which includes the purchase of new aircraft.

The carrier, which also financed a delivery with cash last year, has 11 aircraft of the type in its fleet.

In May, it closed an inaugural Japanese operating lease with call option (Jolco) transaction for a 2015 delivery. Financial Products Group Asset and Investment Management acted as the overall arranger of the transaction. FPG arranged and underwrote the equity. The senior loan was arranged and underwritten by DVB Bank, which acted as the sole lender on the deal.

Virgin has also financed a total of six new deliveries with Aercap and Avolon under sale and leaseback deals.

One unit is financed under German institutional financing and another under a Jolco. The remaining 787-9 has been sold to Bocomm Leasing.

UK-based MDT has arranged all of the carrier's 787 financings.

Virgin Atlantic has orders for a total of 16 787-9s.

Transasia agrees A321 sale and leasebacks

Transasia Airways has agreed the sale and leaseback of two Airbus A321 aircraft with an unidentified lessor, sources indicate.

The first aircraft (MSN 7206) was expected to deliver by the end of June. The second aircraft is scheduled for delivery in October.

The aircraft were part of a request for proposal (RFP) originally issued last year.

Both aircraft are from Transasia's purchase agreement with Airbus. Transasia originally intended to mandate parties in February, but delayed the decision-making because of "other more urgent transactions".

Sources declined to name the leasing company involved in the transaction.

Awas secures funds for VivaAerobus A320 delivery

Operating lessor Awas has closed financing on a new Airbus A320 delivery acquired under a sale and leaseback deal through a commercial loan from Bank of America.

The lessor says the delivery, MSN 7043, is the fourth and final aircraft under a sale and leaseback deal with Mexican carrier VivaAerobus.

The transaction marks the second funding provided by Bank of America. In March, the US bank closed financing on a new A320 delivery, MSN 7020, for the lessor.

AFC closes another A380 deal

Aviation Finance (AFC) has confirmed the sale and leaseback of its eighth Airbus A380 (MSN 213) with Emirates. This unit marks the second A380 that will be owned by its parent company, the Stellwagen Group.

Seraph Aviation Management, a sister company, will provide lease management services for the term of the lease.

The deal involves an ijarah lease for a period of 12 years.

Dubai Islamic Bank (DIB) and Commercial Bank of Dubai (CBD) are the lenders.

Allen & Overy represented AFC and Pillsbury acted for Emirates. Clifford Chance acted for DIB and CBD.

Marc Bourgade, chief executive officer of AFC, says: "AFC completed its first transaction in the aviation industry precisely three years ago this month. The team we have built, combined with our low-cost private placement process and our innovative financing products, will help us secure even more market share."

He expects the business to complete 2016 with "well over $7 billion" of transactions.

In May, AFC launched Stellwagen Capital and the company expects to launch an initial capital raise of $1 billion in the fourth quarter of this year.

SMBC Aviation Capital places first A320neo

SMBC Aviation Capital has taken delivery of its first Airbus A320neo, MSN 7047, and placed it with Indian carrier GoAir.

It is the Indian airline's first A320neo, with a second due to arrive under a sale and leaseback transaction as *Airfinance Journal* went to press. The lessor would not disclose the term of the lease.

Milbank acted for SMBC Aviation Capital in the transaction.

The new delivery brings the number of aircraft

NEWS

Deals

leased by SMBC Aviation Capital to GoAir to five. In total, SMBC Aviation Capital has 110 A320neos and five A321s on order from Airbus.

GoAir operates a fleet of 19 A320s, according to *Airfinance Journal's* Fleet Analyst.

Air Berlin leases A321

German carrier Air Berlin has taken delivery of an Airbus A321 aircraft under an operating lease agreement with Avolon.

The aircraft, MSN 7171, is the seventh aircraft on lease to Air Berlin, confirms the lessor. Air Berlin operates 102 aircraft, according to the *Airfinance Journal's* Fleet Analyst database.

THY closes French tax lease for two A321s

Turkish Airlines (THY) has closed a French tax lease for two new Airbus A321s (MSNs 7139 and 7146), finance sources indicate.

Crédit Agricole Corporate and Investment Bank (CA-CIB) arranged the transaction. Norton Rose Fulbright advised the bank.

THY also closed a commercial financing in May for three Boeing 737-800s (MSNs 60020, 60021 and 60030) and one 777-300ER (MSN 44129) aircraft, with a commercial loan bridge financing provided by Standard Chartered Bank and CA-CIB.

Juneyao agrees second A320 financing

Juneyao Airlines has agreed yuan-denominated financing for a second Airbus A320 with the Industrial and Commercial Bank of China (ICBC), say sources.

Juneyao's affiliated leasing company, Harvest International Financial Lease, is the borrower and lessor in the deal, which is structured through Harvest's special purpose vehicle in the Shanghai Free Trade Zone.

The aircraft (MSN 7169) was due to deliver as *Airfinance Journal* went to press.

>>>

NEWS

Deals

Etihad mandates lessor for 787-9 financing

Etihad Airways has mandated Bbam for the sale and leaseback of five Boeing 787-9 aircraft, say sources.

Airfinance Journal previously reported that the Abu Dhabi-based airline had mandated Sumitomo Mitsui Finance and Leasing Company to provide a Japanese operating lease with call option (Jolco) financing for two 787-9s.
Last year, the UAE-based carrier financed one delivery through a Jolco structure, with Australia and New Zealand Banking Group acting as the debt provider. Japanese investment firm Nomura Babcock & Brown was the equity arranger.

JAL uses cash for two 787s

Japan Airlines (JAL) paid cash for two Boeing 787 units, in line with its policy of paying cash for all aircraft deliveries, say sources.

The carrier is believed to have taken delivery of the two Boeing Dreamliner aircraft in May.

A 787-8 (MSN 38136) delivered on 25 May and a 787-9 (MSN 34858) delivered on 31 May.

JAL now has 28 Dreamliners in its fleet: 24 787-8s and four 787-9s.

Garuda agrees six-aircraft leasing deal

Garuda Indonesia has agreed a leasing deal for six Airbus aircraft with Bank of Communications Financial Leasing (Bocomm), say sources.

The airline will take four A320s and two A330s on operating lease from the Shanghai-based lessor.

The deal is Bocomm's first foray into the Indonesian market.

Deliveries of all six aircraft will be completed by the end of this year. The first aircraft delivered in May.

Allen & Overy acted for Garuda and Milbank acted for Bocomm.

Air Canada enters sale and leaseback on 787-9

Air Canada has taken delivery of a new Boeing 787-9 aircraft from Gecas as part of a sale and leaseback agreement.

The unit is part of a two-aircraft deal with the lessor.

Airfinance Journal's Fleet Analyst identifies the aircraft as MSN 35270. The latest delivery is the 20th 787 aircraft to join Air Canada's fleet. The carrier has ordered a total of 37 units.

Easyjet returns to sale and leasebacks with RFP

Easyjet issued a request for proposal (RFP) on

31 May for sale and leaseback financing covering 25 Airbus A319 aircraft, say sources.

The airline has not issued an RFP for sale and leaseback financing since 2012; however, its last sale and leaseback deal occurred in 2013.

Bids on the narrowbody fleet were due as *Airfinance Journal* went to press.

Easyjet's group treasurer, Mike Hirst, says that the carrier plans to complete sale and leaseback financing on about 10 mid-life Airbus A319s a year, during the next five years.
Hirst says the idea is "to lease them [the A319s] out between three and five years" and if the carrier chooses to do so, "exit the aircraft at year 16".

Cityjet taps EDC financing for eight CRJ900s

Irish carrier Cityjet has tapped financing from Export Development Canada (EDC) to fund the delivery of eight Bombardier CRJ900s, a source tells *Airfinance Journal*.

EDC provided financing of 80% of the value of the aircraft.

Four of the aircraft have been delivered this year. The remaining four aircraft will deliver in February and March 2017.

Allen & Overy and Maples and Calder acted for the airline. Norton Rose Fulbright acted for EDC. Mason Hayes & Curran acted for EDC in Ireland.

Calc finances A320

China Aircraft Leasing Group (Calc) has closed the commercial financing of a new A320 (MSN 7145), according to a source.

The aircraft is on lease to Turkish carrier Pegasus.

Crédit Agricole Corporate and Investment Bank acted as mandated lead arranger, security trustee and facility agent.

Watson Farley & Williams advised Calc, while Clifford Chance advised the banks.

SAS mandates lessors for 13 aircraft RFPs

SAS has mandated lessors for the sale and leaseback of 13 Airbus A320neos, say sources.

The Scandinavian airline has selected SMBC Aviation Capital and Jackson Square Aviation to provide leases for the Airbus narrowbodies.

In April, the airline took delivery of its fourth Airbus A330-300 from the Bank of Communications Financial Leasing. The aircraft marked the final delivery of its four-aircraft deal involving 12-year sale and leaseback transactions.

NEWS

Secondary Market Deals

Wow Air takes former SIA A330

Iceland's Wow Air has agreed to take an Airbus A330-300 under a lease agreement with ICBC Leasing.

The 2010-vintage aircraft was previously operated by Singapore Airlines, according to *Airfinance Journal's* Fleet Analyst.

The aircraft will join a pair of former Air Europa A330-300s under a lease agreement from CIT Aerospace. The first aircraft (MSN 1624) was delivered last month. The second unit (MSN 1607) is expected this quarter.

The three A330s will help launch services by the Icelandic low-cost carrier to the USA.

In May, Air Lease announced the placement of three new A321s, one new A321neo and one new A320neo aircraft on long-term leases to Wow Air.

One A321 delivered that month; the remaining two A321s are due in the second half of this year. The A320neo and A321neo aircraft are scheduled to deliver in the first quarter of 2017 and the first quarter of 2018, respectively.

Gecas to sell eight aircraft to CCB Leasing

Gecas is in the process of selling an eight-aircraft portfolio to China Construction Bank Financial Leasing (CCB), say sources.

The sale is for five Boeing 737-800s and three Airbus A321s.

Four of the 737s are on lease to China Southern Airlines and the other is on lease to Hainan Airlines. The three A321s are on lease to Thomas Cook.

Clifford Chance is acting for Gecas. Norton Rose and William KK Ho & Co are acting for CCB Leasing.

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NEWS

Secondary Market Deals

Avation disposes of A320

Avation has sold a 1993-build Airbus A320 (MSN 429) on lease to Virgin Australia Regional to an unidentified customer. It has nine other A320s in its fleet, with build years ranging from 2001 to 2016.

GTLK leases SSJ100 to IrAero

State Transport Leasing Company (GTLK) has delivered the first Sukhoi Superjet 100 to Russian domestic carrier IrAero Airlines under a long-term lease agreement.

The lease agreements are for 12 years, states the leasing company.

Irkust-based IrAero says three more units will be delivered as part of the deal. The 2012-vintage units were previously operated by Red Wings, according to *Airfinance Journal's* Fleet Analyst.

The Russian domestic carrier will use the SSJ100 model in a dual configuration, including eight business-class seats and 85 economy-class seats.

GTLK and Sukhoi Civil Aircraft signed a firm contract for 32 Sukhoi Superjet 100s at last year'. The agreement includes 28 options.

ALC sells Embraer portfolio to NAC

Air Lease (ALC) has agreed to sell 25 Embraer aircraft to Nordic Aviation Capital (NAC).

The sale is part of ALC's strategy of reducing its exposure to regional aircraft to focus on mainline aircraft. ALC also sold 25 ATR aircraft to NAC last December.

The transfer of the aircraft will begin this quarter and is set to conclude in the first quarter of 2017.

Kahala Aviation sells 737Fs

Kahala Aviation has sold three Boeing 737 freighters to separate buyers.

The lessor sold one 737-400F (MSN 25372) to West Atlantic Group. According to *Airfinance Journal* 's Fleet Analyst, the 1992-vintage aircraft was previously owned by ILFC (now Aercap) and was operated by Turkish Airlines and Sky Airlines before it was converted into a freighter.

Kahala also has sold one 737-300F (MSN 27460) to an unnamed buyer. A source on the deal tells *Airfinance Journal* that Wells Fargo is acting as trustee on behalf of the beneficial owner, which has bought the aircraft. The source adds that the aircraft is being operated in Southeast Asia, but did not specify the carrier.

The company also agreed the lease of a further 737-300F (MSN 27459) to Texel Air. Awas previously owned the 1998-vintage aircraft.

Iberia offloads A320s for part out

Spanish carrier Iberia has sold a total of six Airbus A320 aircraft for part out, sources indicate.

The units (MSNs 158, 173, 207, 224, 266 and 356) were built between 1990 and 1992.

The A320s, which were acquired new on delivery, were on the Spanish carrier's balance sheet.

The units are powered by CFM International CFM56-5A1 engines.

Last year, AELS purchased a pair of A320s from Iberia for tear down. The units (MSNs 176 and 323) were built in 1991 and 1992.

IndiGo leases A320 from Awas

Indian carrier IndiGo has taken delivery of an Airbus A320 under a lease agreement with lessor Awas.

The aircraft (MSN 2457) is equipped with International Aero Engines (IAE) V2500-A5 engines, according to *Airfinance Journal's* Fleet Analyst.

The 2005-vintage aircraft was previously operated by Avion Express for Wow Air.

Awas says the unit is the second A320 delivered to IndiGo in 2016.

Austral grows E190 fleet

Austral Líneas Aéreas is in the process of adding new and used Embraer 190 aircraft to its fleet as the Argentine carrier further expands operations.

Austral signed a four-aircraft deal with Jetscape, now part of Nordic Aviation Capital (NAC), last year and has received the first second-hand unit (MSN 19000275).

The second aircraft (MSN 190000291) was due to deliver as *Airfinance Journal* went to press, says one source.

The final two used aircraft are expected to join Austral's fleet over the coming weeks.

The E190s were originally delivered to Republic Airways in 2009 with a single class and 100-seat configuration.

NAC will also place two new deliveries with Austral, confirms a source. The deliveries (MSN 19000715 and MSN 19000716) were expected as *Airfinance Journal* went to press.

Austral will operate a total of 26 E190s.

Jet Midwest adds six Fokker 100s

Jet Midwest Group has purchased six Fokker 100 aircraft. The units are equipped with Rolls-Royce 650-15 engines and are available for immediate sale, states the company.

A company source told *Airfinance Journal* that three of the aircraft (MSNs 11418, 11435 and 11436) have already arrived at its facilities at Kansas City International Airport. The source did not reveal the MSNs of the other three aircraft.

Kevin Lee, vice-president of Jet Midwest, said that some of the aircraft would be parted out in order to support the aftermarket for parts. Jet Midwest has committed to 20 other Fokker 100 aircraft during the past two years.

According to the *Airfinace Journal's* Fleet Analyst database, the three aircraft mentioned were previously owned by Synergy Group, the Brazilian industrial conglomerate which owns Avianca Holdings. The aircraft, which were all manufactured in 1992, were previously on lease to Avianca Brasil.

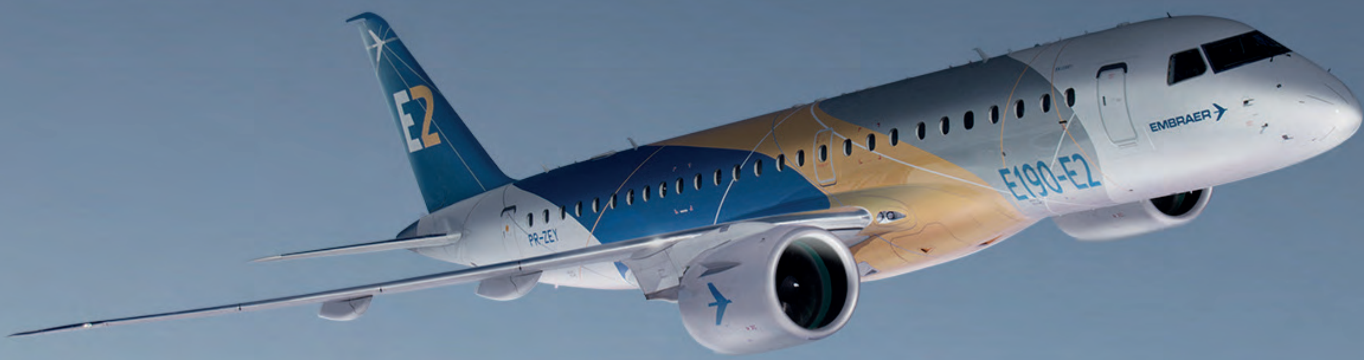
Avolon closes A320 sale

Avolon has closed the sale of an Airbus A320 (MSN 4628) to Chishima Real Estate, according to a source.

Aviation Management Services KK arranged the deal.

K&L Gates acted for Chishima Real Estate.

Chishima has already purchased one Boeing 737-800 from Avolon, in December 2015.


E2
EMBRAER
E190-E2

ANALYSIS

NAC expands regional portfolio

The Danish lessor's E-Jet expansion is far from over, writes Olivier Bonnassies.

Nordic Aviation Capital (NAC) has purchased two regional aircraft portfolios in the space of six months from Air Lease, as the Danish lessor looks to carve out a niche in the hugely competitive operating lease industry.

The most recent announcement includes the purchase of 25 Embraer 175 and 190 aircraft portfolios, after the addition of 25 ATR42/72 aircraft in December.

NAC said the rationale behind the ATR acquisition was "pure volume" at the time of the purchase, although it expanded its customer base through the move.

That fleet includes two ATR42-600s along with 18 ATR72-600s, all on lease, as well as five ATR72-600 deliveries scheduled for this year.

Its recent purchase of 25 E-Jets also brings new customers to the fleet, such as Belavia and Bulgaria Air. However, the purchase mainly consolidates the lessor's presence with AeroMexico Connect, Alitalia Cityliner, Air Astana, Kenya Airways TACA and TAP Express.

The portfolio, which includes units delivered new to customers between 2011 and 2016, also complements NAC's exposure to the E-Jet programme.

Before the ALC announcement, NAC's Embraer exposure included 16 E170s, 13 E175s, 32 E190s and eight E195s through the acquisition of the Aldus Aviation and Jetscape portfolios in the spring.

Those 69 aircraft are on lease to different credits around the world such as Aeromexico Connect, Alitalia Cityliner, Air Astana, AirNorth, Azul, Austral, BA Cityflyer, BoraJet, Compass Airlines, Flybe, Kalstar Aviation, LOT Polish Airlines, Kenya Airways, Regional, Royal Air Maroc, Royal Jordanian, Sky Regional, TAME, TAP Express and Virgin Australia.

Another two E190s units are on backlog.

More E190 acquisitions

A recent surge in E190 availability has started to plateau as more units are being placed in the second-hand market.

There are about 30 E190s stored or in-transition between operators, according to the *Airfinance Journal's* Fleet Analyst database.

Airfinance Journal's database shows three E195s stored along with seven E170s and a single E175. At this time last year, there were nine aircraft in storage.

In comparison, Bombardier's 70/90/100-seat product equivalents have 11 aircraft in storage, including six CRJ700s and five CRJ900s, the data shows.

The added capacity in the E190 market has come mainly from Air Canada, which has shed its fleet during the past year.

Last June, Delta Air Lines agreed to acquire 20 former Air Canada E190s, manufactured between 2005 and 2008, from Boeing, along with 40 additional Boeing 737-900ERs.

Of the 20-aircraft fleet, one former Air Canada E190 unit was sold last autumn to BeauTech Power Systems for resale to engine part specialist Intertrade. The airframe was eventually sold to Gecas earlier this year.

NAC has now agreed to purchase the 19 remaining E190 units from Boeing after the Atlanta-based carrier's decision to order 75 Bombardier CS100s in April.

Buoyant market

Of the four E-Jet models, the E190 has been the most popular with operators. Recent transactions have included several former Azul aircraft being placed in Europe and some former Republic models heading to Argentina.

TAP Portugal agreed to take a total of 17 aircraft from Brazilian carrier Azul.

In May, the Portuguese carrier took delivery of the first of nine E190s for TAP Express, the regional subsidiary replacing Portugalia after a recent change in ownership. The entry into service of the 106-seat aircraft is part of TAP's regional fleet-renewal strategy, which also includes eight ATR72s.

The E190s will replace the entire Fokker 100 fleet, which has been in service since 1989.

BA Cityflyer, the wholly owned subsidiary of British Airways, is also taking delivery of former Azul units. The carrier has agreed to lease two 2008-vintage E190s from NAC, sources indicate.

Republic Airways is dropping some of its E190 capacity with four units, new and used, heading to Austral Líneas Aéreas.

The Argentine carrier signed a four-aircraft deal with Jetscape last year and is adding two second-hand units, which were originally delivered to Republic in 2009. By the end of the summer, Austral will operate a total of 26 E190s.

Arkia Israeli Airlines leased an E190 in April that was previously in operations at Virgin Australia, while Aeromexico Connect is taking two aircraft from Gecas that were previously with Copa Colombia. The Mexican-based carrier will also take a pair of E190s that were operated by Avianca El Salvador.

In March, German Operating Aircraft Leasing acquired three used E190s from Airfleet Credit, with leases attached to the Swiss carrier, Helvetic Airways.

Two more former Republic E190 units were traded in by Embraer's leasing arm, ECC Leasing, say sources.

Through the ALC purchase, NAC has increased its presence in the 70- to 110-seat regional market. The expansion drive corresponds with last year's investment by EQT, the largest private equity firm in Scandinavia, into NAC.

As part of the agreement, NAC's chairman, Martin Møller, injected some of his proceeds from the sale of the company shares back into the company. EQT also injected additional equity to acquire ALC's turboprop fleet.

Earlier this year, Møller told *Airfinance Journal* that there was "more to come" in terms of investments from both parties.

While the lessor's acquisitions during the past few years have surprised many in the industry, a direct order for regional aircraft cannot be written off, sources indicate.

"NAC is using the dry powder that Møller and EQT provided them," says a leasing source.

Investing in E-Jets rather than waiting for an E2-Jet slot can be seen as a short- to medium-term strategy, but NAC knows it provides quicker deployment of cash and immediate revenues.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CHINA AIRFINANCE CONFERENCE 2016

From strength to strength

The Chinese yuan, stock market listings and new leasing companies were among topics high on the agenda, writes Michael Allen.

Asia is expected to be the largest air travel market in the world, growing at 6.1% a year, states Boeing's Current Market Outlook through 2034. Which is just as well, because the Chinese market is all about growth.

China's domestic passenger traffic has grown 12% annually during the past decade, according to data from the Civil Aviation Administration of China.

Airfinance Journal's 14th Annual China Airfinance Conference in Shanghai was a reflection of this continued growth, with a 28% increase in delegate registrations compared with last year's event.

Held at the Ritz Carlton Pudong, delegates spent two days debating the latest developments in the aircraft finance market in China.

Weaker yuan

Chinese airlines and leasing companies have increasingly been financing their aircraft using the local currency rather than the US dollar since the devaluation of the yuan started in June last year. The message from the conference was that this trend is set to continue.

Conference sources note that local Chinese banks have provided most of the yuan financings this year, because low pricing levels have locked international banks out of deals.

However, sources also say that, in the not-too-distant future, international banks will lend in yuan to Chinese airlines and lessors. Hong Kong-based banks are tipped to be the first financiers to do so.

"The days of people thinking the US dollar will continue to go up are gone," said a lawyer on the currency situation that is pushing financiers into the local currency.

Another delegate from an international law firm says that, for the past few years, he has been working on structures where lenders, which traditionally do not have a yuan-backed funding base, can raise funds in the Chinese currency and fund leases.

"The clients are saying there is a clear trend towards yuan-denominated leases," adds the source.

More mainland listings

BOC Aviation listed on the Hong Kong Stock Exchange in a $1.1 billion initial public offering and CDB Leasing is preparing a similar move. The Shenzhen based company has issued a detailed document to the stock exchange outlining its plan.

A senior lawyer who works with Chinese leasing companies tells *Airfinance Journal* that he expects more listings to come. However, he anticipates that more Chinese companies may opt to list on the mainland instead of Hong Kong.

The source says he is witnessing a divergence in China between those lessors which "want to do everything" and those which are "being much more controlled in their risk-taking and have less pressure in their orderbooks".

Another source says that lessors should be more cautious about building up their portfolios, because they are being "misled by banks who encourage them to build up a big portfolio quickly" in order to have a "more balanced portfolio and more bargaining power to negotiate transactions".

New leasing companies

SinoSinga Aircraft Leasing is one of the new leasing companies that used the conference as a platform to announce itself to the market. The company started operations in January.

SinoSinga is headed by Donald Liu, who previously spent almost 10 years as customer business director for Pratt & Whitney in Beijing.

Liu announced the company's first deal, the acquisition of a Boeing 737-800 from Bohai Leasing, at the conference.

"We will start with portfolio acquisition and then some sale and leasebacks and, in proper time, will do some speculative orders," he says.

Liu adds that what makes SinoSinga different from other lessors is that it can use the existing facilities of its parent, Haite Group, a Chinese company which has interests in aircraft maintenance and aviation IT and electronics. It also has an aviation-training centre in Singapore. The specific "lease-linked capabilities" between Haite Group and SinoSinga have yet to be developed but are planned for the future, says Liu.

>>>

Liu notes SinoSinga has platforms both in Tianjin and Ireland. It can structure deals through either of these depending on the needs of the customer.

"We look to start with the narrowbody 737-800s and Airbus A320s. We will start from China and South-East Asia and… [then] the world."

Hong Kong as a leasing hub

The development of Hong Kong as a centre of excellence for aerospace financing and leasing was also on the minds of various delegates, particularly those who had made the journey to the conference from the financial hub.

One tells *Airfinance Journal* that "nearly every Chinese leasing company" he has spoken to is in the process of trying to set up an offshore platform.

"I think the leasing companies are looking at Hong Kong very closely. Even if they have lessor special purpose vehicles in Ireland, I think they are looking at structures in Hong Kong to keep that capital offshore," he says, adding: "Hong Kong is definitely going to play a part."

EETCs for Asian carriers?

Whether Asian airlines are likely to tap the enhanced equipment trust certificate (EETC) market any time soon is usually a topic of discussion at *Airfinance Journal*'s Asia conferences, and the Shanghai event was no different. The past 12 months have seen several non-US airlines come to market with EETCs, including Norwegian, Air Canada and Turkish Airlines.

Cristina Chang, managing director at Citigroup global markets Asia, says she expects Asian carriers to enter the EETC market soon, but that it will require a lot of resource investment as well as a mindset change before carriers can pursue capital markets issuances.

"There isn't still the gap of financing that will drive airlines to look at EETCs, but I think having said that, a number of airlines in the region have been mulling over EETCs for the last 12 to 18 months," she says, adding: "Every time one of those new [non-US] issuers comes out, I think the Asian airlines do sit up and notice and review the terms, review the pricing, ask us, 'Why are they doing this? Should we do it?'"

She notes that, although European export credit agencies and the US Export Import Bank (Ex-Im) have "stepped back", there is "growing access to the domestic bond markets, which are providing a new source of very cheap and strong financing" for carriers.

Dewey Yee, head of aerospace finance and leasing advisory at BaoQiao Partners Capital, argues that while bank debt will continue to be the preferred financing type for Asian carriers because of its "simplicity, cheapness and availability", other investors in the capital markets are becoming more sophisticated and have the capability to provide an "only slightly more expensive alternative".

He says: "Coming up in sophistication are other investors in the capital markets that say, 'We're a trust company, we're pension funds; we're not going to finance as cheap as the bank debt, but it's going to be much cheaper than private equity or other types'.

"So you're at this lower band and it's in this band called fixed income. Fixed income, in my opinion, is one of the biggest pools of capital growth. This fixed-income return can match perfectly with an insurance asset and a liability."

Export credit agencies

Robert Roy, vice-president of transportation at US Ex-Im, says he cannot do commercial aircraft transactions because those need to be approved by the bank's board of directors, which is missing its third member. Ex-Im requires a board of three to make a quorum, but now only has two directors.

"For now, I'm still struggling because I do not have a board," he says, adding that a third member has been nominated.

"We're still waiting. Hopefully, it will happen quickly. I look at any of this as a short-term problem anyway. Ultimately, Ex-Im will be back in business entirely."

Roy adds that Ex-Im has a lot of transaction work in house, estimating that it is working on $2.5 billion-worth of transactions for various airlines, operating lessors and financial customers.

He says: "So, there's still activity going on, but I do need the full board in order to approve these transactions, and that's what's causing us to be sort of in business but not entirely."

NEWS ANALYSIS

CIT hedges bets on portfolio sale

CIT Group decided to sell off its aircraft-leasing platform last year. Joe Kavanagh reports on the latest developments.

CIT is in the process of selling its aircraft-leasing platform, CIT Aerospace, having first signalled its intention to do so last November.

The first round of bids for the portfolio, which were due 21 June, attracted multiple offers, including several from Chinese lessors, sources indicate.

Dublin-based lessor Accipiter, a unit of Cheung Kong, launched a joint bid for CIT's fleet alongside Apollo Aviation, sources says.

HNA Group and ICBC Leasing also submitted bids.

But CIT has invited bids from a range of lessors and financial institutions. Names include CDB Leasing, Century Tokyo Leasing, China Investment, HNA Group, ICBC Leasing and Orix. Other pension funds and insurers may also be involved. Estimates of the final price for the lessor range between $3 billion and $4 billion.

Airfinance Journal understands that the lessor is using a dual-track process, which means it is conducting an auction for sale at the same time as filing for an initial public offering (IPO).

The dual-track allows a company to take a decision on its exit strategy – whether a sale or a float – late in the process, so CIT's choice to follow this route suggests that the parent bank is still evaluating how to extract the most value possible from the deal. It allows CIT to hedge its bets by judging the market's response to its offering before making a decision.

The company had not made a firm decision as *Airfinance Journal* went to press. It indicated in February that it planned to sell the lessor as a single legal entity, with all the assets and staff together in one platform. This requires the parent to bring all the different legal structures together into one company with financial statements, which has taken several months to do.

As far as the auction process goes, the company has not revealed any more. When contacted, a spokesman for the lessor said it does not comment on "pending M&A activity or market rumours".

A source tells *Airfinance Journal* that JP Morgan has been advising CIT on the sale, although neither the bank nor the lessor would comment on that. The bank does have recent experience in this area: it led the US IPO for Avolon and then advised the lessor on its sale to Bohai Leasing.

A purchase of the leasing platform by a large Asian investor would certainly be in keeping with the current trend. The last major leasing company sale was concluded in January, when Bohai Leasing, a subsidiary of Chinese conglomerate HNA Group, invested $1.2 billion of equity capital into Irish lessor Avolon.

Before that, in November 2014, Cheung Kong agreed to buy 60 aircraft in a multi-portfolio deal worth more than $2 billion.

Cash-rich Asian lessors are also adding competition to the sale and leaseback market, which airline sources say is very competitive right now.

Why is CIT selling?

When CIT announced its planned sale, the then chief executive officer, John Thain, told analysts that the group had decided to explore new options for several reasons.

At first, the company said it was exploring either a sale or a spin-off, but it now seems more likely that the deal will be a sale.

Discussing the parent bank's reasons for selling the aircraft lessor, Thain first said that a growing orderbook of new aircraft was leading to restrictive capital charges.

He said: "Our orderbook now is much bigger versus the aircraft we own than it was five years ago, and so we're just taking capital charges on that orderbook – and many of those aircraft were not going to get delivered for three, four, five years. And that bigger orderbook and longer timeframe of those capital charges was really constraining our ability to grow the business."

Thain also said that the aircraft-leasing business was undervalued in the company's share price. "We're not getting the correct valuation for that business in our share price," he said, "and so separating it out, allowing it to be a pure play so you can see its value, and then making CIT itself simpler, I hope will improve the valuation of both pieces."

The list of companies that have the ability to buy CITs platform is relatively short, but whichever one does will become an even more substantial force in aircraft leasing.

The portfolio

When *Airfinance Journal* published its Leasing Top 50 in September 2015, CIT was the world's fifth-largest lessor by number of aircraft and the sixth-largest by fleet value. Although Bohai Leasing's acquisition of Avolon has disrupted that order, the leasing platform is still a serious player in the space.

According to the *Airfinance Journal's* Fleet Analyst database, CIT Aerospace owns and manages more than 320 aircraft. At current market value, this fleet is estimated to be worth $10.4 billion.

The portfolio mostly consists of in-production narrowbodies, such as the Boeing 737 and Airbus A320-family of aircraft. According to the database, 72% of its fleet (234 aircraft) is comprised of these aircraft types.

Its widebody exposure mostly consists of A330s (both the -200 and -300 variants), of which it has 38 units. These account for 12% of the fleet by number of aircraft. The lessor had agreed to lease three of the aircraft to Skymark when the Japanese airline announced it would cancel its leases in an attempt to cut costs.

The lessor also owns Bombardier CRJ900s and Embraer E-Jets.

CIT Aerospace has next-generation jets on order from both Boeing and Airbus. The lessor has orders for 50 A320 Neo family (47 A320neos and three A321neos), according to Airbus, and for 30 737 Max aircraft, according to Boeing.

SPECIAL REPORT: SOUTH AMERICA

Carnival stops for airlines as recession bites deep

Brazilian carriers have not been immune to a two-year recession in Latin America's largest economy, *Airfinance Journal* reports.

Latin America and the Caribbean economies will grow only 0.2% this year because of the continued turmoil in the commodity markets and declining investment, according to latest projections unveiled by the United Nations Economic Commission for Latin America and the Caribbean (ECLAC).

While Central America is expected to grow about 4.3% in 2016, South America will see its gross domestic product shrink 0.8%, mainly because of the projected contractions in Brazil (2%) and Venezuela (7%), as well as limited growth in Argentina (0.8%).

ECLAC says the volatility and uncertainty observed in 2015 will continue into this year, and there will be impacts from the steady appreciation of the dollar and the potential rise in US interest rates.

One country that has been particularly affected is Brazil, Latin America's largest economy, which contracted by 3.8% in 2015.

In its latest report, the Organisation for Economic Co-operation and Development says the deep recession is set to continue in Brazil this year and in 2017 against the backdrop of high political uncertainty and ongoing corruption revelations. This is undermining consumer and business confidence, leading to a continuous contraction in domestic demand. Brazil is predicted to have a negative growth over the next two years.

The International Air Transport Association (Iata) says airlines generated a global aggregate profit of $35.3 billion last year but Latin American carriers reported a $1.5 billion loss. Latin American airlines have faced a harsh environment, with weak home markets and currencies, despite a degree of consolidation and some long-haul success, says Iata.

The industry body expects Latin American carriers to report $100 million in profits this year, while the financial outlook for global air transport industry profits is forecast at $39.4 billion in 2016.

Fewer aircraft deliveries

Against this backdrop, it should come as no real surprise that commercial aircraft deliveries in South America have dropped 20% during the past two years and fewer deliveries are planned this year.

For the first five months of 2016, there were 14 new Airbus and Boeing aircraft delivered in the region. Boeing handed over two 737-800s and two 787-9s. Airbus's output comprised one A320, seven A321s and two A350-900s.

A total of 63 aircraft were delivered in the region in 2015, according to *Airfinance Journal's* database, with Airbus representing 41 units: one A319, 18 A320s, 17 A321s, four A330-300s and one A350-900. Boeing delivered six 737-800s and five 787s in 2015. Embraer's deliveries totalled nine – two E190s and seven E195s – while two ATR72-600s were delivered.

The South American market absorbed 81 new deliveries in 2014: 18 Boeings, 17 ATR turboprops, nine E-Jets and 37 Airbus aircraft.

In its latest airlines economic performance report, Iata says revenue per seat kilometre is to shrink to 4.2% this year down from 7.6% in 2015. Capacity is forecast at 3.7% compared with 6.9% last year.

Azul

Air travel demand in Brazil has tumbled to the lowest levels since 2012 after dropping for the ninth straight month in April, according to the Brazilian Airline Association trade group.

Azul, the third-largest airline with an estimated 32% market share in Brazil, was one of the first carriers to reduce its fleet when it announced plans last December to cut capacity as much as 5% in 2016.

The carrier dropped part of its regional fleet earlier this year when it secured the sale of aircraft to Nordic Aviation Capital. The transaction involved four ATR72-600s, three E190s and one E195.

The carrier is studying further reductions to its fleet, according to lessor sources.

As at mid-June, Azul's fleet stood at 131 aircraft, with about 50 aircraft being ATR72-600 turboprops.

"Azul is doing the right thing and I have confidence in the management," said one leasing source. He predicts more turboprops and Embraer units to come out of the fleet.

The carrier is also set to take delivery of its first of 50 A320neo aircraft this year. Next year will see the addition of a new aircraft model – the A350-900 – to the fleet. The carrier has four units under an operating lease commitment with Aercap. In 2020, Azul is scheduled to start receiving the first of 50 new E195-E2 aircraft.

It has postponed its planned initial public offering several times as the Brazilian stock market has slid. But the carrier boosted its cash position last November through the agreement to sell 23.7% of the company from $460 million to Chinese conglomerate HNA Group.

The Airline Analyst Financial Ratings (TAAFRs), a subsidary of *Airfaince Journal*, shows Azul's overall ratings have worsened since 2013.

The carrier's average fleet age has been relatively stable at about four years old, but other key metrics highlight a deterioration in financial terms.

Azul's earnings before interest tax and rents (Ebitdar) is still above 20% but over the past three years it has come down to 21.1% from 23.1%. Ebitdar has further reduced with the currency impact.

Fixed-charge coverage, which represents the number of times Ebitdar covers the sum of net interest expense plus aircraft rent, has come down from 1.4 to 0.8, the data shows.

Equally, liquidity, or unrestricted cash, represented 14% of the last 12 months of revenues at 30 September 2015. This compared with 4.8% in 2013.

Leverage, defined as adjusted net debt/Ebitdar, has deteriorated since 2013. The latest financial figures show the ratio at 9.2 times at 31st March, compared with 5.6 times in 2013.

Gol

São Paulo-based Gol improved its first-quarter net profit to R757.1 million ($208.4 million), reversing a R672.7 million loss in the year-earlier period, but the results followed a series of cost-savings measures, including a reduced delivery schedule.

Brazil's macroeconomic environment "has been negatively impacted by political instability and consequent economic volatility", said its chief executive, Paulo Kakinoff in a first-quarter earnings statement.

Ebitdar, according to TAAFRs, has marginally improved to 15% from 13.8% during the past two years but in US dollar terms, it has reduced by one-third between 2014 and 1016.

This has forced the carrier to cut its 2016 and 2017 aircraft delivery schedule from 15 units to one.

Kakinoff indicates the airline is in negotiations to reduce its leased fleet by 20 aircraft. The carrier is working with Skyworks Capital to manage this fleet reduction.

A sign of growing concern is Gol's fixed-charge coverage.

This has fallen to 0.7 from 1.3 during the past three fiscal year periods, according to TAAFRs. In other words, the only way Gol can cover interest and rents is by boosting its equity, debt or selling more assets.

Also, liquidity has halved, TAAFRs shows. At 31 March 2016, liquidity represented 14% of the last 12 months of revenues, down from 27.8% at March 2014.

Leverage also has deteriorated to 10.8 times at 31 March 2016, compared with 5.8 times three years ago.

Gol's total volume of departures decreased by 21.3% in May, and the total number of seats available to the market fell by 21.2% in the month. In the year to date, both indicators fell by 13.4%.

The Brazilian airline is seeking to restructure $780 million in US dollar-backed notes. It is asking bondholders to accept new securities due in 2018, 2021 and 2028, according to a regulatory filing.

According to the document, the new terms "offer a substantial premium to the current market value" and to when Gol announced the exchange offer in May.

Avianca

Avianca reported operating revenues of $1 billion and operating profit of $72.2 million for the first quarter of 2016, achieving an operating margin of 7.2%, 106 basis points higher than the margin reported for the same quarter of 2015.

Adjusted net income was $21.4 million with an adjusted net income margin of 2.1%. The results were mainly driven by a 10.9% reduction in operating costs, as the company captured some of the benefits of low oil prices.

Although the carrier's first-quarter results were strong, a weakened demand and local currency depreciation has negatively impacted its delivery schedule for this year. In August 2015, it had to defer five of the 11 aircraft deliveries scheduled for last year. As a result, it planned to reduce its capital expenditure by 50%.

TAAFRs shows that Avianca's average fleet age has remained below the five-year mark for the past three years.

The airline's Ebitdar has remained at about 18% over the past three years, but its fixed-charge coverage, liquidity and leverage have slightly deteriorated.

Fixed-charge coverage has fallen to 1.7 from 2.1. Equally unrestricted cash has decreased to 11% from 15% since the 2015 fiscal year, while leverage has increased to 6.9 times at 31st March from 4.9 times in 2014.

The carrier diversified its funding at the end of 2015, closing a $379 million private placement to finance six A320-family aircraft and two 787s. This marked the second time the Colombian carrier used Burnham Sterling's enhanced aviation investment vehicle structure to finance aircraft.

In accordance with the airline's fleet plan, between January and March 2016, Avianca phased-out two A319s and one A320. Avianca and its subsidiaries ended the first quarter with a consolidated operating fleet of 177 aircraft.

Latam

Latam has fared better than some of the other airlines in Latin America, although it is still feeling the pressure.

It suffered an 18.9% fall in revenues last year, caused by declining passenger demand and local currency devaluation. In response, Latam has reduced its fleet growth plans and has taken steps to boost its liquidity.

The Chilean airline announced last year that it plans to reduce its aircraft delivery commitments by 40% in response to its difficult operating environment. In its first-quarter 2016 report, it then announced a further fleet reduction, targeting a decrease of between $2 billion and $3 billion in expected fleet value by 2018.

The airline said it would seek delivery delays, cancellations, aircraft sales and the redelivery of aircraft once their leases expire. The carrier is still deciding how many aircraft to defer and cancel in order to reduce its capacity commitments further, but recently it said that some of the widebodies in its orderbook would be likely choices.

The airline's widebody orderbook consists of 10 orders for 787-9s, 12 orders for A350-900s and 12 orders for A350-1000s, according to the manufacturers data.

The airline has also tried to improve its liquidity position, by closing a new revolving credit facility of $275 million, which was subsequently boosted to $325 million. The structure is a three-year facility that is secured against nine aircraft, 20 engines and 500,000 spare parts.

Liquidity, or unrestricted cash, has not improved during the past three fiscal years and still is about 8% to 9%. In the meantime, leverage has also increased to 6.5 times at 31st March from 5.3 times three years ago.

The carrier's average fleet age has increased to 6.6 years from 6.3 years since 2014, but other key metrics such as Ebitdar and fixed-charge coverage have reached comfortable levels. Latam Airlines' Ebitdar is now in the 20% territory, while fixed-charge coverage is well above two.

CEO INTERVIEW

Air Astana on course to go public

Jack Dutton speaks to Peter Foster, chief executive officer of Kazakhstan's national carrier, about the country's economic crisis, his hopes for profitability and the airline's plan to go public.

Peter Foster does not want Donald Trump to win the US presidential election in November. He thinks it could lead to a devaluation of the dollar and the end of financing from the US Export-Import Bank (Ex-Im Bank).

Foster, whose airline has traditionally relied on export credit and operating leases to finance aircraft, is trying to secure a guarantee from Ex-Im Bank for the carrier's incoming deliveries of three Boeing 787-8s, which are due in 2019.

Last year, Foster received an OBE – awarded by the Queen – for his services to British aviation in Kazakhstan. But as chief of Air Astana, the country's national carrier, he has faced difficult times – the tenge, the country's currency, halved in value against the dollar from KZT185 to KZT390 during a period of weeks at the end of 2015.

Oil price plunge

Kazakhstan is a commodity-rich economy, and is one of the largest producers of oil in the world, but plummeting oil prices during the past year have had a negative effect on Kazakh energy revenues. The Russian ruble – another main driver of the tenge – also dropped in value because of low oil prices, having a knock-on effect on the Kazakh currency.

Speaking to *Airfinance Journal* from Air Astana's headquarters, a converted hotel building in the leafy Kazakhstani capital of Almaty, he says: "While the entire airline industry has benefited from cheap fuel over the last year or so, we have also benefited – but it's a slightly double-edged sword for us because investment in the local economy has reduced significantly. Government budget cutbacks have, of course, knocked on to the private sector, which has caused a significant slowdown in traffic."

The devaluation of the currency has also hurt the airline's domestic fares, which are sold in tenge, and this has had an impact on the carrier's domestic revenues.

International routes have been less affected, with revenue from those into Moscow being hit, but other routes, such as St Petersburg and Kiev, seeing an increase in revenues.

Before the devaluation, about 60% of the carrier's revenue came from international routes and about 40% from domestic routes.

"Following the devaluation of the tenge, all our domestic revenues halved," says Foster. "We were able to put in some fare increases, but only really at the top of the fare band, and those fare increases have in no way compensated for the fall in the currency. So that's resulted in our domestic revenues being very hard hit indeed."

Peter Foster in his office in Almaty.

Stronger second half

Despite Kazakhstan's economic difficulties, Air Astana – which was established in 2002 – has remained profitable for every year since 2003. The airline is a joint venture between the country's national wealth fund, Samruk Kazyna, and BAE Systems, with shares of 51% and 49%, respectively.

Since its inception, the airline has contributed more than $353 million to Kazakhstan's economy, and Foster says the carrier "has never received" any form of state subsidy.

Although the airline had a tough first half of 2016, Foster is optimistic about the second half. "The first five months of this year haven't been anywhere near as bad as they might have been, and we are going to declare a small loss for the first six months. But we are very hopeful and positive of the belief that we will be able to maintain our profitability records by the end of the year," he says.

Traditionally, the carrier makes most of its money in the second half of each year, primarily off the back of Air Astana's international routes.

"Following the devaluation of the tenge, all our domestic revenues halved. We were able to put in some fare increases, but those have in no way compensated for the fall in the currency."

Peter Foster, chief executive officer, Air Astana

Considering the CSeries

Air Astana operates a fleet of 30 aircraft – three Boeing 767-300ERs, five 757s, one Airbus A319, eight A320s, four A321s and nine Embraer E190s – with an average age of 7.1 years, making it the youngest fleet in central Asia. Three 767s, four A320s, two A321s and two E190s are owned and the remaining 19 aircraft in the fleet are on operating lease. The owned aircraft all received financing guarantees from the export credit agencies.

Along with the three 787-8s it wishes to fund through Ex-Im Bank, Air Astana has 11 A320neo-family aircraft on order, comprising three A320neos, four A321neos and four A321neo long-range (LR) units. Those will replace the carrier's fleet of 757s and subsequently bring the average fleet age down to four years old. The new Airbus aircraft will be leased from Air Lease and Aercap for seven years each.

The first A320neo is scheduled to deliver in September. The first A321neo is to be delivered in 2017, with the remaining nine aircraft arriving in 2018 and 2019.

"Our E190s start to come off lease in 2019 as well, so we're going to make a decision as to whether we replace it with the E2 and we also have to consider the CSeries," says Foster. "It's now out there and it's up and running, and they've just had that huge order from Delta, which obviously assures the programme."

Initial public offering

To drive further growth and fleet expansion, the carrier is planning to launch an initial public offering (IPO) in 2018. Foster says he is looking to begin the process of selecting banks to advise the airline on its IPO this autumn and is hoping to mandate the banks to advise the carrier by February 2017.

Asked how much capital the airline is looking to raise with the offering, he says: "It's really too early to say as we haven't worked out the amount of shares that are going to go on the market – whether that's 30% or 50%. We'll be guided by the investment bankers on that, and we haven't appointed them just yet – that process will start in September or October."

Foster is leaning towards having the secondary listing for the IPO in London. "Traditionally, the UK markets have been the vehicle for companies from this region. So if we were to do a dual listing in London, for example, there has to be a sensible amount of liquidity available," he adds.

Astana, Kazakhstan's new financial centre.

As well as London, the central Asian airline is considering Hong Kong and Singapore as options for a dual listing. The IPO will also list in Kazakhstan.

Nursultan Nazarbayev, the president of Kazakhstan, announced last year his intention to privatise dozens of national companies, including Air Astana, Kazakhtelecom, the country's main telecoms operator, and Kazakhstan Temir Zholy, the national railway. The move seeks to bring in foreign investment to some of Kazakhstan's main national companies.

Foster says that the timing of the IPO depends on a combination of factors. "It's got to be at a time when business is clearly picking up and at a time when the markets are in a good shape and have an appetite for risk," he says. "It's also got to be substantial enough to be interesting, whilst retaining a degree of shareholder stability.

"Because we're not a large airline, if we are going to get any liquidity, there's going to have to be a reasonably substantial portion of shares that go on the primary listing stage. Otherwise there's going to be no liquidity and it's not going to be interesting."

From Almaty to Astana

Kazakhstan's financial industry is going through a phase of transformation, moving its financial capital from Almaty to the more modern city of Astana. After Astana hosts Expo-2017 to attract additional investment into Kazakhstan, the site will be transformed into the country's financial centre. It is due to be completed at the end of next year.

"I have no doubt whatsoever that Astana will become a financial centre of gravity and that the Kazakhstan Stock Exchange, presently in Almaty, will be absorbed into or come secondary to the Astana financial centre," Foster tells *Airfinance Journal*.

"The financial standard will be established within a UK legal framework. These things are going to be factors as to where companies like us and other companies in Kazakhstan do their secondary listings. Clearly, that's going to have an effect and influence on the decision, but ultimately, the decision will be taken on the basis of where the liquidity is," he adds.

As *Airfinance Journal* went to press, the value of the tenge had increased to KZT337 to the dollar, which Foster believes is because of a change in central bank policy and "a much more competent and controlled management through the central bank". Along with this, the oil price is recovering, rising from below $35 a barrel earlier in the year to $48 at the time of writing.

Although Air Astana is still weathering its country's financial crisis, Foster has not had to change his IPO plans. "We're assuming that by 2018, the oil price should be back at around $65 and the tenge will probably stabilise somewhere in the 270 mark," he says. "And air fares would have gone up by that stage and the market would have recovered."

LESSOR INTERVIEW

Wait is over for BOC Aviation’s IPO

Singapore-based lessor’s initial public offering is part of a wider plan to open up Asia’s capital markets.

Robert Martin BOC Aviation’s CEOand President Tian Guoli of Bank of China.

Bank of China Tower, where the parent company of BOC Aviation is based, is one of the most recognisable landmarks in Hong Kong central district and took several years to build.

On the day BOC Aviation closed its $1.1billion initial public offering its chief executive officer Robert Martin told *Airfinance Journal* that the listing was also several years in the making, and part of a much wider plan to open up Asia’s capital markets. “The plan all along was to list in Hong Kong,” said Martin. There was never any interest to list the operating lessor in New York, he confirms.

“From our perspective, now that we’ve opened up the Asian investor market, we’d love other people to come to market… we think this is positive for the market as a whole. I want to make sure research analysts and investors spend time looking at our industry. If they’ve got several people to compare, they will do that. You never want to be the only guy in your industry floating on the stock exchange,” adds Martin.

BOC Aviation first whet the appetite of Asian investors by issuing bonds, from 2000 onwards, on an unrated basis from Singapore. Then, in 2012, the lessor received its first corporate ratings of BBB from Standard & Poor’s and A- by Fitch Ratings. Standard & Poor’s has since upgraded the lessor to A-.

It went on to access the Reg S market, which is the market for debt offerings outside the USA for US and foreign issuers, before finally registering under both the 144A and Reg S together – a move that allows issuers to tap the US investor base.

This resulted in a $750 million, 10-year issuance backed by a $3.2 billion orderbook with a final pricing fixed at 99.59% on a coupon of 3.875% to yield 3.925%, or 215 basis points over US Treasuries.

The IPO has been 10 years on the mind and two years in the making, says Martin.

With 28 years’ experience in aviation finance, Martin is one of the longest-serving chief executive officers of the same company in the aircraft leasing business.

He has been at the helm of BOC Aviation for 10 years and was appointed as the managing director and an executive director in July 1998.

Bank of China acquired the lessor, then called Singapore Aircraft Leasing Enterprise, where Martin served as a managing director, for $965 million, in December 2006. Singapore Airlines and US lessor Boullioun Aviation Services each held 35.5% stakes in the lessor, while the Singapore government investment arms – Temasek Holdings and Government of Singapore Investment – each held 14.5% stakes.

Martin has been considering the IPO since the 2006 Bank of China acquisition. The lessor took the decision two years ago to start planning for the move.

However, it took nearly a year to get the necessary approvals for the offering.

“In some cases, the rules weren’t clear as to what actually we had to do to get the approval. As a subsidiary of a Chinese state-owned bank, we have a lot of regulators you need to get approval from before you can actually move forwards with an issue,” says Martin, noting that China still has a highly regulated financial industry compared with some other jurisdictions.

Bank of China still holds on to a 65.5% controlling stake in the lessor, after the IPO.

“What Bank of China cares about is long-term value in this company,” he says. “If you look at the cornerstone investors, four sovereign wealth funds, Boeing, China Life – these are people you would only dream of having in the cornerstone group.”

Boeing’s involvement

Having manufacturer Boeing on board as an investor has raised some eyebrows in the aircraft finance community and even sparked some critical comments from John Leahy, Airbus’s chief operating officer, customers.

Speaking to *Airfinance Journal* at a briefing in Hamburg, Germany, Leahy said he was surprised Boeing “did it” [the investment].

He said: “We believe in working with lessors, not picking one or two as the winners and trying to support them. If I were one of the other lessors, I’d have more than a few words to say to them [Boeing] about that.”

Boeing’s investment in the lessor’s IPO was $30 million, which is perhaps not an extraordinary amount for a company whose cheaper commercial passenger aircraft cost close to $100 million new at list price.

Martin is adamant that having Boeing on board is a good thing and that the investment will certainly have no impact on BOC Aviation’s aircraft ordering decisions. He says BOC Aviation will be actively talking to both manufacturers about aircraft and that Boeing’s move is just an “investment, full stop”.

Martin explains: “One of the reasons Boeing joined our shareholder group is that they also know that in future more than half of their production is likely to come to Asia-Pacific. So, to have an alternative market to New York where operating lessors can raise money is strategically important to them as well.”

Use of proceeds

BOC Aviation will use the proceeds of the IPO to finance incoming aircraft, says Martin. At the start of 2016, the company had 231 aircraft on order from Boeing and Airbus for delivery over a six-year period. In 2016, it is taking 62 aircraft, then a similar number in 2017.

“So some of the proceeds will support those deliveries, but, in addition, we’ll be looking to build on that by doing purchase and leaseback

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business, predelivery plus lease financing, so the normal type of add-on business that we do," says Martin.

But if Airbus and Boeing are hoping the company will now be more inclined to take its narrowbody aircraft, they will be disappointed. Martin wants to stress that new money from the IPO will not tempt the lessor to move into different types of aircraft, saying: "[W]e are staying within our box, which is 100 seats to mid-sized widebodies. We're not basically going to be doing very large aircraft or aircraft under 100 seats."

Martin adds that there has been some confusion about the proceeds of the IPO that he wants to clarify.

"People say your primary proceeds are $563 million, which they are, but remember we will leverage that roughly four to one. So the amount of additional money we'll be putting to work is $2.5 billion to $3 billion in total over the next two-and-a-half years. We'll be raising debt against the equity, and to keep our credit ratings where they are today, we need to stay roughly about four-to-one debt to equity."

New competition

BOC Aviation's IPO happens at a time when many new lessor entrants are coming into the market, particularly from mainland China.

Martin says he is not concerned about these new players and that it is just part of a cycle of new entrants he has seen come and go over the course of his career.

"Back in the late 1980s, it was the Japanese. Then you saw the Europeans in the next decade, then it was the Middle Eastern guys in the 2000s – now, it's the Chinese," he says.

"In every cycle we see new money coming in. The question is: 'Does it have staying power?' Some of them will, some of them won't. We've set the company up so that we have staying power and we can fund ourselves all the way through the cycle – and very important is to be able to buy in a downturn. There's nothing like a good downturn to buy as an operating lessor."

Having overseen all the major developments of the lessor during the past two decades, Martin calls the IPO "the latest milestone" in the company's journey.

"We've been through five different types of downcycles during that 18-year period. This is an industry where you take a long-term view and discipline is very important," he says.

"One thing we've always done is keep a young fleet. We always trade our older aircraft out of the portfolio. We're not going to do anything different going forward. We're going to stick to the model that has worked very well in the past and given us a very consistent 15% ROE [return on equity]."

IPO in line with BOC Aviation's funding sources

Olivier Bonnassies explains the details of the IPO and how it fits into BOC Aviation's overall funding strategy.

BOC Aviation became a public lessor on 1 June after it listed on the Hong Kong Stock Exchange in yet another move to diversify its funding sources.

The lessor says the net proceeds from the $1.1 billion initial public offering (IPO) will pay for predelivery payments for future aircraft deliveries.

The IPO was backed by 11 cornerstone investors: China Investment, Silk Road Fund, China Development Bank, China Life Franklin Asset Management, Oman Investment Fund, Hony Capital Group, Elion Resources Group, Fullerton Fund Management, Fosun International, Boeing and China South Industries Assets Management.

The investors agreed to purchase a total of 107.7 million shares worth HK$4.52 billion ($583 million), or 52% of the global offering size before the exercise of the overallotment option.

Now, sources indicate the Singapore-based lessor is looking to partner with these same investors to issue a repeat asset-backed securitisation (ABS).

Last autumn, BOC Aviation secured its first ABS transaction, SAIL – an $808 million deal backed by 24 aircraft.

US-based hedge fund Och-Ziff Capital Management Group acquired 100% of the equity interest in SAIL through a private placement.

The motive behind the ABS transaction was volume, because it provided BOC Aviation an opportunity to sell two dozen aircraft in a single transaction.

The lessor is likely to be looking to achieve the same through a repeat transaction, because it has commitments for 241 aircraft, which are scheduled for delivery through 2021.

In its offering prospectus, the lessor says its future purchases are worth $9.6 billion, with $1.9 billion of that amount expected to be paid during 2016. A similar amount of capital expenditure is planned for 2017.

The IPO and now a possible repeat ABS deal are the latest moves by the lessor to expand its financial backing.

In 2012, it established a $2 billion euro-backed medium-term note programme, which was increased to $5 billion in April 2014. Last year, it was converted to a $5 billion programme and, as of 31 December 2015, about $3.2 billion was outstanding through 13 series of unsecured notes.

The lessor also holds committed unsecured revolving credit facilities totalling $2.73 billion, of which $2.51 billion was undrawn at the time of the offering.

The Singapore-based lessor has now joined the ranks other publicly listed companies such as Aercap, Air Lease, Aircastle and Fly Leasing.

Bank of China retains about 65.5% of the shares of BOC Aviation, if the overallotment option is exercised in full, and about 70% of the shares in issue, if the overallotment option is not exercised.

The lessor will remain as a subsidiary of Bank of China.

As at 31 December 2015, BOC Aviation's fleet comprised 270 aircraft, of which 227 were owned and 43 were managed on behalf of third-party customers.

ANALYSIS

Appraisers differ by 8% on 777 valuations

There are contrasting views on United Airlines' EETC 2016-1 collateral.

Appraisers' Boeing 777-300ER opinions varied by 8% on average in United Airlines' latest enhanced equipment trust certificates (EETC) transaction.

United has retained the services of AISI, BK Associates and MBA in its 2016-1 issuance.

The issuance consists of a $729 million AA tranche and a $324 million A tranche. The AA tranche will carry an interest rate of 3.10% and the class-A tranche will carry an interest rate of 3.45%.

The 12-year notes will be secured against 18 recently delivered or incoming Boeing aircraft. These consist of seven 777-300ERs, two 787-9s, five 737-900ERs and four 737-800s.

The initial loan-to-value (LTV) of the AA tranche is 38.8%, while the initial LTV of the A tranche is 56%. The weighted average life of both tranches is nine years.

The seven new 777-300ERs are scheduled for delivery between December this year and March 2017, according to the prospectus.

BK Associates' base value was $180 million for the December delivery compared with $166.5 million for AISI and $167.3 for MBA. This represents 8.1% in the high and low analysis.

BK Associates was also the highest appraiser for the January to March 2017 deliveries, with a $180.6 million base value quote.

For the January aircraft, AISI's valuation was at $166.8 million, while MBA had a $167.7 million valuation.

The discrepancy was 7.9% on the March deliveries, with AISI at $167.4 million base value while MBA had a $167.9 million valuation.

Appraisers' opinions varied by 5% on new 787-9 deliveries. BK Associates and AISI had $141.7 million and $140.2 million base values for a February 2016 delivery, while MBA's valuation was $134.8 million.

The firms partly agreed on the 737-900ER model, with appraisers only 2% apart on the January and February deliveries. MBA was the lowest of the three firms with $51.3 million and $51.4 million, respectively. AISI's valuations were $51.3 million and $51.8 million. BK Associates had $52.4 million and $52.5 million, respectively.

But opinions were less in line on future deliveries. An October delivery is valued at $54.4 million by BK Associates, while MBA has $52.2 million. This translates into a 4.2% differential between the two firms. AISI's valuation was $53.6 million.

On the 737-800 model, the appraiser's discrepancies reached 8%. MBA's base value for a June delivery is $48.4 million. AISI and BK Associates have $52.4 million and $51 million, respectively.

The opinions differed again on future deliveries. Base value for an August 737-800 is $51.3 million for BK Associates, $52.6 million for AISI and $48.6 million for MBA.

Morgan Stanley is lead left bookrunner in the EETC, with Credit Suisse and Goldman Sachs also acting as lead bookrunners.

The other bookrunners are Citigroup, Deutsche Bank, Bank of America Merrill Lynch, Barclays, BNP Paribas and Crédit Agricole Corporate and Investment Bank.

Wilmington Trust is subordination agent, trustee, paying agent and loan trustee. Natixis is acting as depositary. Commonwealth Bank of Australia is acting as liquidity facility provider.

United last tapped the EETC market in November 2015, with a $433.7 million dual-tranche issuance secured against 10 aircraft.

The EETC featured six 737-900ERs delivered between August and October last year. Four 787-9s that delivered between September and November 2015 were also part of the deal.

Appraisers' opinions varied by more than 9% on new 787-9 deliveries.

Discrepancies on the 737-900ER model were in the 4% to 4.5% range.

UAL 2016-1 APPRAISER VALUATIONS

	MSN	Delivery date	AISI ($m)	BK Associates ($m)	MBA ($m)
Boeing 737-824	62749	Jun-16	52.39	51	48.4
Boeing 737-824	62748	Jun-16	52.39	51	48.4
Boeing 737-824	62750	Aug-16	52.57	51.25	48.61
Boeing 737-824	62751	Aug-16	52.57	51.25	48.61
Boeing 737-924ER	42197	Jan-16	51.32	52.39	51.35
Boeing 737-924ER	42198	Feb-16	51.78	52.5	51.45
Boeing 737-924ER	62769	Oct-16	53.62	54.4	52.23
Boeing 737-924ER	62768	Oct-16	53.62	54.4	52.23
Boeing 737-924ER	62814	Nov-16	53.71	54.4	52.23
Boeing 787-9	37813	Feb-16	140.24	141.73	134.79
Boeing 787-9	37815	Feb-16	140.46	141.75	134.79
Boeing 777-322ER	62642	Dec-16	166.52	180	167.26
Boeing 777-322ER	62644	Jan-17	166.8	180.6	167.57
Boeing 777-322ER	62643	Jan-17	166.8	180.6	167.57
Boeing 777-322ER	62646	Feb-17	167.07	180.6	167.71
Boeing 777-322ER	62645	Feb-17	167.07	180.6	167.71
Boeing 777-322ER	62648	Mar-17	167.35	180.6	167.85
Boeing 777-322ER	62649	Mar-17	167.35	180.6	167.85

Source: United, June 2016

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KROLL BOND RATING AGENCY

Kroll plans for next step

The ratings agency has become the leader in aircraft asset-backed securities. But just a few years ago, the agency was nowhere to be seen. Joe Kavanagh charts its rise.

When tracking Kroll's entry into commercial aviation, a good place to start is with the foundation of Air Lease (ALC).

Steven Udvar-Hazy, the former chief executive officer and co-founder of ILFC, established ALC in 2010. In 2013, when its path crossed with Kroll's, the lessor was just a few years old and was still relatively small. Despite Udvar-Hazy's 30 years' experience in the leasing industry, ALC's lack of operating history and small size meant that gaining a strong rating would prove relatively difficult.

However, Kroll, a company that had been established only in 2010, took the lead in 2013 when it awarded the new lessor with a corporate issuer rating of A-. That decision raised eyebrows at the time, but is rarely disputed these days.

Marjan Riggi, managing director of financial institutions at Kroll, explains how it was that the agency took a positive view of the lessor early on in its history.

She says: "When ALC was first considering a rated security and were about to go to market, they knew that the other ratings agencies had restrictions with respect to the size and operating history. The bankers that were involved said [to Air Lease], 'You should really meet with Kroll'."

Riggi adds: "As a result, we met with them a number of times and got to know their management history and the genesis of their strategy for the new company, which gave us a lot of comfort about where they were heading."

Kroll's rating decision was soon seconded. In August that year, Standard & Poor's followed suit and awarded the company an investment-grade rate of BBB-.

Ryan McKenna, vice-president and head of strategic planning at ALC, believes some rating agencies are not giving aircraft lessors the ratings they deserve.

He says: "Aircraft leasing companies broadly have met their financial obligations through numerous cycles. To me, the performance of our industry seems positively differentiated relative to other sectors and would merit a higher band of credit ratings broadly. I don't think all of the rating agencies have gotten this right yet."

Riggi notes that the A- rating was high for such a new company. But, reflecting on the decision, she adds: "We were able to give them credit for their well-thought-out strategy to reach strong credit metrics, which was combined with a positive outlook for the industry and, today, their bond spreads are even stronger than A-."

Asset-backed securities deals

After the ALC issuer rating, Kroll began work on its first asset-backed securities (ABS) deal: Avolon's $636 million debut issuance. This is the area of the industry for which Kroll is now best known: as the table shows, the agency has been involved in the majority of these deals since it entered the space.

Riggi explains that Kroll's move into ABS transactions "just happened", after the agency began working with Avolon.

She says: "Initially, they [Avolon] were thinking of maybe only doing some senior unsecured debt, perhaps. So they came in and met with us, and the next thing you know they called us and said they wanted to do an ABS. We rated Emerald, and that was the first ABS deal we did."

She adds that the deal, which "was a little bit more complicated than your standard ABS", was what "put Kroll on the map".

Kroll is particularly well known in the ABS deals in which the collateral pool consists of mid-life and older assets. The agency's rise in the market closely matches the innovation that took place in 2014.

That year, there was an evolution in this market as banks structured a series of deals that used new types of collateral. Starting with the Castlelake issuance in February 2014, several innovative deals entered the market from lessors Jetscape, Aldus and Apollo.

These deals differed from recent issuances by having either an older pool of assets as collateral and/or by using regional jets and turboprops.

In addition, older-vintage deals were structurally different to account for the age of the aircraft. They introduced greater flexibility for the lessor to trade out the older aircraft, and included cash sweeps to offer more comfort to the investors. Some also included amortising tranches to reduce the refinancing risk for the lessors.

As a result of this innovation, the new ABS deals required a new rating methodology. Modelling the value of the aircraft in the pool was more complicated for the older and less liquid aircraft. Kroll believes that it won business in the ABS space because it was able to respond to this demand better than the established players.

When contacted by *Airfinance Journal*, Standard & Poor's declined to comment. Fitch and Moody's also did not respond.

Speaking about Castlelake's ABS deal, Riggi says: "It was a very esoteric deal. We were told that it would have taken the other ratings agencies too long because it was a very complex structure, with mid-life aircraft, and so on, but our experienced corporate and ABS analysts were able to fully analyze the transaction."

Kroll has not yet rated a public enhanced equipment trust certificate (EETC). It has the know-how and the reputation to do such a deal, so it would not be a surprise to see it in that market before long. But the EETC is a larger market by volume than the ABS market, so if it does so, the market may see some pushback from the incumbent ratings agencies.

Asked what the future holds for Kroll, Riggi suggests an expansion into rating original equipment manufacturers, particularly if they play a role in predelivery payment financings or in the capital markets.

Sources tell *Airfinance Journal* that there will be more innovation in the capital markets this year, with rumours of an issuance secured against loan payments from airlines, and also of a 144A-format EETC issued by a lessor. To diversify its business, Kroll would do well to branch out into deals such as these.

The numbers

Kroll Bond Rating Agency was established in 2010.

Its first public deal in commercial aviation was its issuer rating of Air Lease in August 2013, when it assigned the lessor a rating of A-.

It then broke into the asset-backed securities (ABS) market with its rating of Avolon's debut ABS in October (issued by Emerald Aviation Finance).

Since then it has been involved in almost every major ABS deal. At the time of going to press, the volume of these deals had reached almost $8.4 billion.

Kroll is also active on the non-ABS secured aircraft side. But because a greater proportion of these deals are private, its work in this area is less widely known.

The agency has rated more than 35 non-ABS secured aircraft transactions since 2013, totalling almost $7 billion. In fact, close to 40% of Kroll's private placement ratings are aviation related.

KROLL BOND RATING AGENCY (KBRA)-RATED AIRCRAFT ABS TRANSACTIONS

Deal name	Close date	Amount ($m)	Rating agencies
Private Transaction	March 2016	2,310	KBRA
Apollo Aviation Securitization Equity Trust 2016-1	March 2016	510.0	KBRA, S&P
Castlelake Aircraft Securitization Trust 2015-1	December 2015	713.2	KBRA, S&P
Private Transaction	October 2015	360.0	KBRA
Diamond Head Aviation 2015 Limited	August 2015	260.8	KBRA, S&P
Amur Consumables and Expendables Notes, Series 2014-1	June 2015	60.0	KBRA, S&P
DCAL Aviation Finance Limited	February 2015	67.0	KBRA, S&P
ATLAS Series 2014-1	December 2014	540.0	KBRA
Eagle I Limited, Series 2014-1	December 2014	380.5	KBRA, S&P
Apollo Aviation Securitization Equity Trust 2014-1	December 2014	627.4	KBRA
Private Transaction	December 2014	612.0	KBRA
Private Transaction	September 2014	25.0	KBRA
Castlelake Aircraft Securitization Trust 2014-1	February 2014	515.6	KBRA
Fan Engine Securitization Limited, Series 2013-1	October 2013	169.5	KBRA, S&P
Emerald Aviation Finance Limited, Series 2013-1	October 2013	636.2	KBRA, S&P

Source: Kroll.

NEWS ANALYSIS

Living without ECA-backed funding

The aviation market is in an unprecedented situation with both the major aircraft manufacturers facing a shutdown in government export credit financing, Laura Mueller and Olivier Bonnassies report.

Years of predictable and attractive financial returns have led to a staggering number of new entrants in the aviation finance market, allowing airlines and lessors to benefit from fierce competition among lenders and historically low interest rates.

These developments are very good news for borrowers, which have been without European export credit agency (ECA) cover from Britain, France and Germany since April, after a UK government probe into overseas agents on export credit applications involving Airbus aircraft.

The US Export-Import Bank (Ex-Im) has been unable to extend guarantees fully for more than a year. Ex-Im's charter was reauthorised for a five-year period in December, ending its nearly six-month shut down. However, three of the five seats on Ex-Im's board remain vacant, so the ECA cannot approve transactions valued at more than $10 million or those lasting for more than a year.

It will remain in limbo until the nomination of Mark McWatters, who the US president, Barack Obama, nominated in January to fill one of the seats on the board, is confirmed by the US Senate Banking Committee.

A small retreat in ECA volumes was always expected after the 2011 Aircraft Sector Understanding agreement, which resulted in an uptick in pricing for customers.

But this unprecedented halt in funding on both sides of the Atlantic has raised questions about whether export credit guarantees should be completely restored to the airline sector.

"Like nuclear weapons, if you hadn't invented them you wouldn't invent them now," says a financier.

However, he believes the industry's view of the ECAs has changed since the 2008 financial crisis.

"Since then, the ECAs are seen as a very necessary part of the armoury international governments can use to avoid financial Armageddon, but in a somewhat more positive way than nuclear weapons," he says.

A lessor source agrees, adding: "The market can survive and should be able to survive without government guarantees. Sure, in some exceptional cases it does make sense, but with Emirates? Really? We have done fine without ECA cover this year, so I think we should review to what extent we need them in an industry that investors are falling over themselves to be part of. "

These views are in contrast to a leading aviation banker, who says: "The market cannot sustain the $130 billion of aircraft finance orders without any participation of export credit. Export credit is still necessary for the second- and third-tier credits, as well as new airlines and lessors, which may become the future leaders in their categories."

The commercial bank market, he argues, has experienced "ups and downs over the years, from the subprime crisis, US dollar liquidity crunch, as well as the capital markets, but export credit has been there to fill in the gap when necessary".

As a result of market paralysis in export credit cover, the banker says he is receiving requests from airlines to provide bridge financing in the absence of financial guarantees.

A consultant agrees that "everybody has an interest in getting the ECAs back as a source of financing. We need them in the marketplace as they add protection during the inevitable downturn".

Another leading aviation financier argues ECAs are "very much needed" in financing projects in the developing world "that would otherwise likely not gain the needed financing, so would not take place". He points to Caterpillar, the US construction company. "Ex-Im is an important part of what they do," he says.

Aircraft financing makes up just a "minority of exposure" for ECAs, the financier explains. "The problem with ECAs is that there is a fixed cost to run them. They need a certain level of business coming in during the good times, so that they have the capability during the difficult times. Aircraft finance is an easy way of providing that flow of business; that doesn't have to be huge though."

The financier adds: "Remember, it is one thing to issue guarantees, as you see in aviation, and then there is direct lending with taxpayers' money – two different matters."

European ECA cover

Market observers agree the task of reopening European export credit funding could prove difficult by the end of the year.

"Airbus will be faced with multiple administrative tasks as well as implementing new procedures," says a source. "It is now too late to push for a reopening in the summer months," he says.

Another source adds: "All of the individual European export credit agencies have to agree that all of the boxes have been ticked, and then they have to agree they are ready to resume operations – this will take a good deal of time."

While the market is not in need of ECA cover at the moment, it only takes small changes in the financial system to see demand emerge again for support.

In that case, a banker believes Airbus could be forced to step up and provide backstop financing in the absence of the ECAs. "Deals can't just collapse; that would be a total nightmare," he says.

Last year, Airbus delivered 635 commercial aircraft, surpassing its delivery record by six units. Of these, 491 were A320s, 103 A330s, 27 A380s and 14 A350s.

The ECAs backed about 6% of Airbus deliveries, according to the European manufacturer. The previous year, they contributed to fewer than 50 aircraft out of 629 deliveries, or 8% of total output.

The manufacturer expects to deliver a minimum of 650 aircraft to customers this year.

Ex-Im cover

The delay in appointing members to the Ex-Im board is not the only strain the ECA is feeling at the moment.

In a 16 June letter to Boeing, which condemns the sale of 80 aircraft and 29 leased units to Iran, the US Financial Services Committee chairman, Jeb Hensarling, asked whether Ex-Im would be used to fund the purchase of aircraft.

The question was one of 10 raised in a letter from the Republican congressman to try to determine the "national security implications of the potential sale of Boeing aircraft to Iran". Boeing has until the first week of July to reply.

Hensarling asks how the manufacturer will accept payment as the "US Treasury bars transaction between the Iranian rial and the US dollar".

He adds: "Will Boeing accept payment through third parties to otherwise skirt [US] Treasury regulations?"

However, a financier notes the delivery dates will determine whether Ex-Im can support the purchases.

"Right now, Ex-Im can't do the guarantees, but that doesn't mean they can't in two or three years' time. If the delivery dates are some way off, then Ex-Im will consider applications for future deliveries, based on the prevailing requirements at the time."

But Ex-Im might not even be needed in the case of Iran, he adds.

"The reality is that Boeing Capital can do quite a few of these aircraft if the sanctions are further lifted as is expected in time. I would imagine all these orders are subject to the availability of finance plus sanctions risk.

"Also, Iran has a lot of money itself. In addition, there are other financial institutions around the world, such as those in China, that would be less nervous about Iran exposure and might see it as an opportunity to win other business," he says.

Bank of China already has given the nod of approval for predelivery payment assistance for Iran, say bank sources.

Iran has been talking to various manufacturers about aircraft purchases since international sanctions were lifted early this year. The sanctions – related to the country's nuclear programme – had prevented Iran from leasing and purchasing aircraft.

The recent agreement with Boeing follows an order for 118 Airbus aircraft in January. Turboprop manufacturer ATR was quick to follow Airbus's lead, with an order with Iran Air for 20 firm ATR 72-600s and 20 options the following month.

The main problem, as Hensarling points out in his letter, is that US sanctions forbid dollar-denominated transactions in Iran. This has opened discussions with operating lessors and non-traditional lenders, particularly those in China, which can offer rental streams in alternative currencies, say sources.

Meanwhile, Hensarling's letter comes at a critical time. Ethiopian Airlines has informed Boeing that it might not be able to take delivery of its aircraft if Ex-Im support is not restored. Boeing's chief executive officer, Dennis Muilenburg, announced at an Ex-Im conference in April that deliveries could be delayed if export credit guarantees remain unavailable.

Political uncertainty in the USA during an election year is further complicating the matter, says a manufacturer source.

"I can't imagine we will see much progress on this during 2016," he adds. "This will probably role into 2017 before being resolved."

In its market outlook released in December, Boeing Capital (BCC) anticipates that the requirement for commercial aircraft deliveries will reach $127 billion this year and about 11% will be funded via the ECAs – 2% less than in 2015.

The Chicago-based manufacturer delivered 765 aircraft to customers last year, up from 723 units in 2014.

Given the ample liquidity available from commercial markets, BCC says that global export credit usage will remain at "historically low levels" in 2016.

However, with the US Senate Banking Committee in no hurry to appoint additional Ex-Im board members, and European export credit agencies still closed for business, export credit funding might not be the only thing that comes under pressure for the manufacturers this year.

ENGINES

Golden oldies back in fashion

There has been a resurgence of interest in older assets over the past year, prompted by a dramatic drop in the price of Brent crude. Engines such as the CFM56-5A and -5C are enjoying a new lease of life. Joe Kavanagh reports.

Trying to make general comments about investing in engines is as difficult as talking about aircraft. Different market forces affect each asset, so it is difficult to draw conclusions about the market in general. However, there are some notable trends in the engine market.

With new entrants coming into the space, next-generation engine types set to enter the market very soon and a fierce debate over the effect of original equipment manufacturer (OEM) involvement in the maintenance, repair and overhaul (MRO) world, there is plenty going on. And because the majority of an aircraft's value is derived from its engines once it approaches the end of its life, the movements in the engine market are important to all investors in commercial aviation.

Responding to *Airfinance Journal*'s engine poll this year (see page 37), market players showed confidence in the investment appeal of incoming new-engine options, as well as established but new models such as the General Electric GEnX. There was also a resurgence of confidence in older engine models, as airlines extend leases on older assets because of the low cost of fuel.

The poll was topped by the CFM International Leap-1B, which was included for the first time in 2016. The 737 Max powerplant seems to have the confidence of investors, who awarded it with the top score across all three categories.

The GEnX also performed strongly. As the top widebody engine in this year's poll, it has increased its scores across all three categories this year and earned the praise of poll respondents.

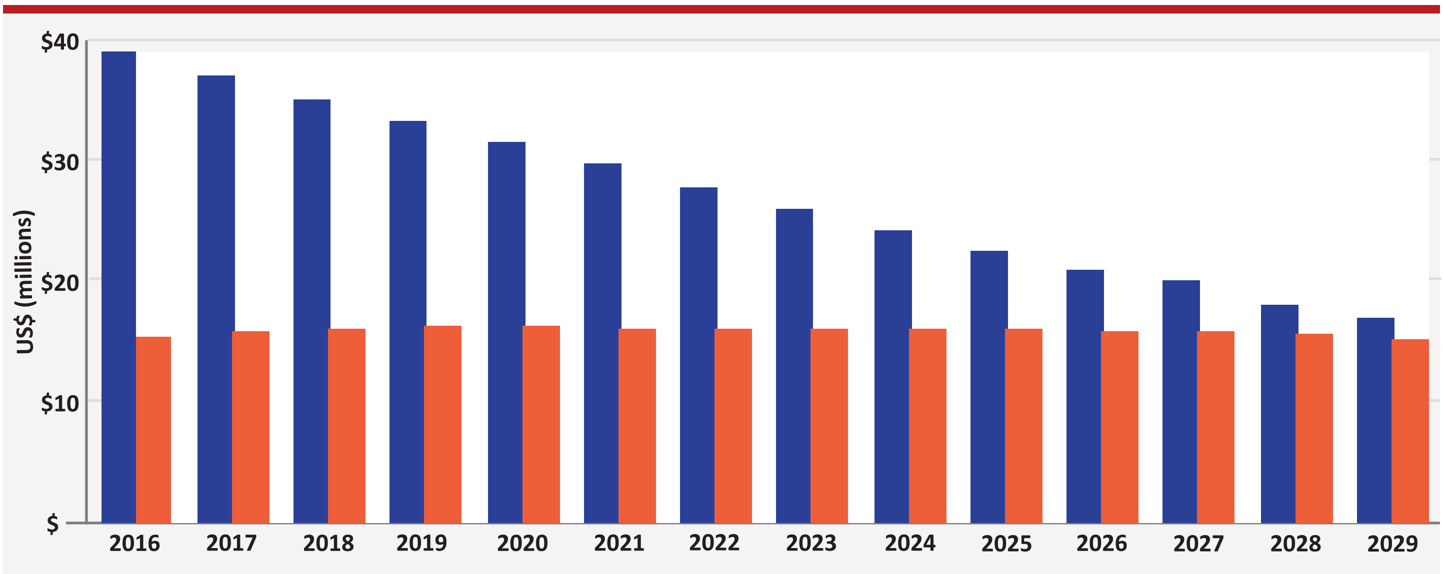
Although the winning engine – the Leap-1B – is one that is yet to enter service, the hidden success story of this year's poll was the resurgence of interest in older asset types. Respondents say that the low cost of fuel is causing more airlines to extend leases on older assets, leading to better value retention for these engine types.

As in previous years, respondents have stressed how crucial engines are to the value of aircraft. A recently released chart from Avitas (see below) shows just how vital the engine becomes to an aircraft's value as it matures. It states that for a 2013-vintage Boeing 737-800, powered by a CFM56-7B, the engines will constitute almost half of the asset's value by 2029.

There is still investor anxiety over OEM control of the aftermarket. This was a key concern of many delegates at the MRO Americas conference in Dallas, Texas, in April. An ongoing investigation into the MRO market in aviation by the European Union also reflects the level of concern.

Financiers say the more that an OEM controls this section of the market, the fewer buyers there are for spare engines and parts. The fewer buyers there are for an engine, the more unpredictable its residual value becomes, making it a more uncertain investment.

TOTAL ENGINE VALUE RELATIVE TO AIRCRAFT VALUE
FUTURE BASE VALUES 2016-2029 @ 1.0% INFLATION (AIRCRAFT) AND 2.5% INFLATION (ENGINES)



Source: Avitas

“OEMs in all sectors are moving in the same direction in trying to sign operators up to inclusive maintenance packages.”

\- **Kane Ray, senior aviation analyst and engine specialist at IBA**

Lease extensions

Because of the low cost of fuel, aircraft operators are choosing to extend the leases more often on older, less fuel-efficient aircraft. With fuel at such low prices, airlines can afford to keep operating older aircraft. Although these aircraft require more maintenance, the low fuel spend makes them relatively more attractive.

Paolo Lironi, chief executive officer at SGI Aviation, an independent aviation adviser, notes a resurgence of interest in the CFM56-5C and -5A, which power the Airbus A340 and the A320, respectively. He also says that the various engines powering the 767 (the Pratt & Whitney PW4000, General Electric’s CF6, P&W’s JT9D and Rolls-Royce RB211) have seen similar boosts of demand.

He notes: “We have definitely seen, since the second half of last year, airlines in one way or another trying to extend leases, or in some cases even getting rid of the lease. In some cases, smart airlines and cash-rich airlines are actually choosing to buy the aircraft, rather than going through a costly redelivery with the lessor.

“The knock-on effects are various. First of all, there is increased interest in certain engine types. If two years ago, people were wondering what was going to happen with end-of-life aircraft and engines, nowadays these sunset engines have been keeping their value.”

The results of this year’s poll support that view. The score for investor appeal for the CFM56-5C, for example, is 2.1. In last year’s poll, the engine scored 1.4, perhaps because the price of fuel had not dropped to its current level.

MRO cycle

The maintenance, repair and overhaul market is crucial to an engine’s value.

Hooman Rezaei, president at International Aircraft Engine Association, notes that the value of an engine is largely determined by its place in the MRO cycle. For older engine models, the spares and parts market is more established, meaning residual values can be predicted with greater certainty.

When asked about the state of the market, respondents still mention the issue of OEM control. Many say that the residual values of certain engines are negatively affected by the fact that there are few buyers for those assets in the secondary market.

A Leap forward

This year, the engine poll allowed respondents to score the CFM Leap-1B for the first time.

The engine has shot to the top of the leader board across all three categories, proving conclusively that the investment community has a high level of confidence in the model.

It has scored very highly for investor appeal, in particular, with a 6.8, but has also topped the polls for remarketing potential and residual value. With more than 3,000 orders placed already for the aircraft family, there is already a wide base of operators.

The engine will power the 737 Max when the aircraft enters into service in 2017. Crucially, the Leap is the only engine type for this aircraft, meaning there will be a large installed base for the type.

When it comes to the A320neo, however, operators can choose between CFM’s Leap-1A and the PW1100G. This may go some way to explaining why these engines have been outperformed in the poll by the Leap-1B.

Good marks for 787 powerplants

Another success story this year is the engines that power Boeing’s 787.

The more successful of the two, according to the survey, is the GEnX, which has come third in two out of the three categories. It is the best-performing widebody engine in this year’s poll, with high scores in each section.

The other engine option, Rolls-Royce’s Trent 1000, has also performed strongly in this year’s scores. However, the engine is further down the table for remarketing potential and residual value, perhaps reflecting concern about the secondary market for the type.

As of March, Boeing had delivered almost 400 of the aircraft to its customers, and had a backlog of about 750. Appraisers also rate the engine highly for its investment appeal.

In last year’s operator and investor poll (published by *Airfinance Journal*), the 787-9 was the best-performing in-production widebody in the operational success category. The aircraft’s popularity among operators is clearly having a knock-on effect on the market for its engines, which is good news for GE.

Kane Ray, senior aviation analyst and engine specialist at consultancy IBA, believes that OEM actions in the aftermarket mean that the difference between the widebody and narrowbody engine markets is getting less pronounced.

He tells *Airfinance Journal*: “There are typically fewer spare engines in the twin-aisle market, because of the high investment cost, but OEMs in all sectors are moving in the same direction in trying to sign operators up to inclusive maintenance packages. The airlines are attracted to these schemes in part because they want to keep the risks with the OEM.”

A380 switch

Emirates’ decision to switch engine providers on its ordered A380 has boosted the scores for the selected engine type.

In April 2015, the airline chose to switch manufacturer of the engines for the 50 A380s it ordered in 2013. The $9.2 billion deal saw the carrier switch to the Rolls-Royce Trent 900 from the Engine Alliance GP7200.

As a result, the Trent 900 has seen a boost in interest and has did better in this year’s scores than in 2015.

However, when asked about these models, respondents still bring up the small installed base for this engine and the limited number of operators. With only 182 A380s in service, as of March, the market is nowhere near as liquid as that of other successful widebodies. As a result, A380 engines score lower for remarketing potential than investor appeal.

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> "You have to adopt a different operational process to deal with short-term leasing."

Investor's view

Jon Sharp, president and chief executive officer of Engine Lease Finance Corporation (ELFC), discusses changes to the lessor's business model, airlines' wide choice of engines and which assets are the smartest investments.

***Airfinance Journal*: Tell us how you see the state of the market. What are the main trends this year?**

Jon Sharp: The whole market has been going through some fairly deep, systemic change over the last five years in particular, during which time there's probably been more innovation than there has been in the last 20.

This year has been a lot slower in terms of sale and leaseback opportunities. Last year, we had a record year – so much business that we were inundated with it. But this year is now looking like previous years: nothing much happening until the last two quarters, when everybody wants you to do everything all at once.

So last year was exceptional in that the business occurred early in the year, and it was a very big year indeed in terms of new growth.

The airlines have an awful lot of choice, with so many service providers offering different products. You have the independent lessors, the OEM [original equipment manufacturers] lessors, the independent service providers, the OEM care packages, MRO [maintenance, repair and overhaul]-type care packages, time and material from the MRO guys, there's availability of used service material – the whole wheel is spinning around and it's very well oiled.

With all those service providers in the aftermarket supporting them whether it's through MRO, spare parts, engine leasing and so on, airlines have actually got quite a lot cuter with how they manage all these organisations.

That availability of equipment has meant that the airlines can take a bigger risk. Rather than securing long-term care and custody of a spare engine, they are saying, "Well, I can take a risk. I'll be able to get them on the spot market".

In the past couple of years, new entrants have come into the market. How is ELFC adapting to pressure from the new players?

We are ably supported by our parent company, MUL [Mitsubishi Lease and Finance Company acquired ELFC in November 2014], so we're in a very good place when it comes to the basic fundamentals – such as the supply of funds at attractive rates.

Secondly, we have that leadership reputation. People like dealing with us, in the main. It's our professionalism and the ability to deliver: we just don't fail with those transactions because we do them all the time.

Execution risk is a big issue for airlines who are faced with a lot of choice. They may see that the pricing is generally competitive […] but it's not just pricing that they're going to look at. They're going to ask if we have the right legal team to deliver this contract; the right technical team so that our two teams can get together and agree a sensible solution regarding redelivery conditions, for example.

Previously we may have had difficulty responding to AOG [aircraft on ground] situations, so we have constructed an entirely separate group dedicated to short-term leasing designed to be fast reacting.

Those deals are done on the spot, on the hoof, with a dedicated legal and marketing and technical support function. One of the significant changes that has taken place in the last five years has been to the base business model.

When we started this business, and for the first maybe 20 years of our operation, typically the first lease would be six, seven or eight years. We'd then get the engine back, remarket it and it would go out for another four years or so, and then we'd

get it back and put it on the short-term market, maybe burn green time off and then sell the engine as is, or maybe sell it for part out.

That model has changed. What we're seeing now is that the first lease is 10 years or even 12, and once it's back from that lease it's straight into the green time market, to burn off the hours and cycles, and then into part out. You have to adopt a different operational process to deal with short-term leasing.

Which engines are the best investments right now?

We have new narrowbody engines coming along – the GTF and the Leap – and people are saying, "When is the best time to invest in them?" and "Is there likely to be an investment gap of a year or two before we think about getting into them?"

The difficulty with doing a brand-new engine type is that the technical specification changes as the inevitable entry into service problems are sorted out. There's a huge difference between a V2500-A1 and an -A5, for example.

But then there's still over 4,000 CFM56-5Bs, -7Bs and V2500-A5s on order and yet to be delivered. Okay, some of those orders could be converted to NewGen engines. But there's going to be a big stream of that equipment coming out for a very long time. So it is and still remains a very good investment.

If there's anything that stands out as a good investment in the engine market then it would be those three. The less-attractive ones are those that are no longer in mainstream production, such as the -5C4s on the A340, or CF34s.

AIRFINANCE JOURNAL ENGINE SURVEY 2016

INVESTOR APPEAL (OUT OF 7)

CFM Leap-1B	6.8
CFM Leap-1A	6.3
GEnX (787)	5.8
CFM56-7B (737NG)	5.6
PW1100G (A320neo)	5.5
CFM56-5B (A320)	5.4
Trent 1000 (787)	5.3
CF34-8E (E-Jets)	5.1
Trent XWB	5.0
V2500-A5 (A320)	5.0
GE90 (777)	4.8
CF34-8C (CRJ)	4.7
CF34-10E (E190/195)	4.6
GP7200 (A380)	4.3
PW150A (Q400)	4.3
CF6-80 (747-400s, 767s)	4.2
Trent 700 (A330)	4.0
Trent 900 (A380)	3.8
PW127 (ATR)	3.6
CFM56-3C (737Classic)	3.3
RB211-535 (757)	2.8
PW4000 (747-400s, 767s, 777s)	2.7
PW2000 (757)	2.5
V2500-A1 (A320)	2.4
CFM56-5C (A340)	2.2
JT9D (747s, 767-200)	2.2
Trent 800 (777)	2.0
CFM56-5A (A320)	1.9
RB211-524 (767, 747-300, -400)	1.7
PW6000 (A318)	1.0
Trent 553 (A340-500)	1.0
Trent 556 (A340-600)	1.0

REMARKETING POTENTIAL (OUT OF 7)

CFM Leap-1B	6.3
CFM Leap-1A	5.8
GEnX (787)	5.8
CFM56-7B (737NG)	5.6
CFM56-5B (A320)	5.1
CF34-8E (E-Jets)	5.0
PW1100G (A320neo)	5.0
Trent XWB	5.0
V2500-A5 (A320)	4.6
CF34-10E (E190/195)	4.6
CF34-8C (CRJ)	4.6
Trent 1000 (787)	4.5
CF6-80 (747-400s, 767s)	4.3
GE90 (777)	4.3
PW150A (Q400)	3.6
GP7200 (A380)	3.5
PW127 (ATR)	3.4
Trent 700 (A330)	3.2
Trent 900 (A380)	2.8
CFM56-3C (737Classic)	2.7
PW2000 (757)	2.7
PW4000 (747-400s, 767s, 777s)	2.3
V2500-A1 (A320)	2.2
CFM56-5C (A340)	2.0
Trent 800 (777)	2.0
CFM56-5A (A320)	1.9
RB211-535 (757)	1.8
JT9D (747s, 767-200)	1.2
RB211-524 (767, 747-300, -400)	1.2
Trent 553 (A340-500)	1.0
Trent 556 (A340-600)	1.0
PW6000 (A318)	0.8

RESIDUAL VALUE (OUT OF 7)

CFM Leap-1B	5.8
CFM56-7B (737NG)	5.6
CFM Leap-1A	5.3
GEnX (787)	5.2
CFM56-5B (A320)	5.1
CF34-8E (E-Jets)	5.0
Trent XWB	5.0
V2500-A5 (A320)	4.6
CF34-10E (E190/195)	4.6
PW1100G (A320neo)	4.5
Trent1000 (787)	4.5
GE90 (777)	4.3
CF34-8C (CRJ)	4.0
CF6-80 (747-400s, 767s)	3.8
GP7200 (A380)	3.5
PW127 (ATR)	3.4
PW150A (Q400)	3.4
Trent 700 (A330)	3.3
Trent 900 (A380)	2.8
PW4000 (747-400s, 767s, 777s)	2.3
CFM56-3C (737Classic)	2.3
V2500-A1 (A320)	2.2
CFM56-5C (A340)	2.0
PW2000 (757)	2.0
Trent 800 (777)	2.0
RB211-535 (757)	1.8
CFM56-5A (A320)	1.7
JT9D (747s, 767-200)	1.2
RB211-524 (767, 747-300, -400)	1.2
PW6000 (A318)	1.0
Trent 553 (A340-500)	1.0
Trent 556 (A340-600)	1.0

WIDEBODIES

No let up in battle of competing twins

Widebody aircraft are viewed with some scepticism by investors, but the spate of new-technology aircraft on offer suggests that Boeing and Airbus do not share their concerns. Geoff Hearn reports.

The forecast demand for widebody aircraft might suggest that Boeing and Airbus would be better off concentrating all their resources on their hugely successful narrowbody (or single-aisle) 737 Max and A320neo programmes, respectively.

There is a consensus among industry forecasters that the demand for commercial aircraft over the next 20 years will be well in excess of 30,000 units, but only one-third of these are predicted to be widebody models.

The smaller market volume is a factor in the lack of enthusiasm for widebodies among many in the commercial aircraft investment community.

In *Airfinance Journal*'s Air Investor 2016 poll, the highest ranked widebody was the Boeing 787-10, which came fifth overall. This perception among financiers does not improve the business case for developing new large aircraft and is another reason for wondering why Airbus and Boeing continue to pour resources into developing so many models of large aircraft.

However, the manufacturers' continued enthusiasm for developing new-technology widebody aircraft is less surprising when the value of future demand is taken into account. Widebody aircraft command much higher prices than single-aisle models and this redresses the balance in the size of the two markets. In value terms, widebodies are forecast to account for more than 40% of the total commercial aircraft market.

Both the big manufacturers offer three families of aircraft across the widebody sector. Boeing's portfolio consists of 787, 777 and 747 models. Airbus's counter-offer is made up of variants of the A330, A350 and A380. Both the A380 and the 747-8 have disappointed in terms of sales and the main contest for orders is between the A330/A350 and 787/777 families.

In contrast to the single-aisle sector, Boeing was well ahead of Airbus in bringing a new-technology twin-aisle to market, and the respective sales figures reflect this head start.

Despite a troubled development programme, Boeing's 787 entered service three years before the first A350s were delivered to airline customers. Airbus's original A350 concept was met with a lack of enthusiasm by potential customers, causing the European manufacturer to rethink the design, which led to an increased fuselage width and the extra wide body (XWB) marketing suffix. Airbus has sought to leverage this advantage by casting doubt on the comfort levels and seating capacities offered by Boeing's 777 models.

The A350-900XWB has sold well and reclaimed ground over the smaller 787-8 and 787-9 models. The European manufacturer has, however, experienced difficulties of its own, with early A350 production rates falling behind schedule. The target of 50 aircraft in 2016 looks unlikely to be met.

Head-to-head competition

The 787-10, the largest member of its family, is scheduled to enter service in 2018 and will provide the most direct competition to the A350-900. The result of this competition will have a major influence on the outcome of the battle for widebody market share between Boeing and Airbus. There are several key sales campaigns underway, of which the most high profile is to secure an order from Emirates. The Dubai-based carrier cancelled its original contract for 70 A350-900/-1000s, but is reported to be evaluating whether to take the 787-10 or to revert to the A350-900 model. Emirates' chief executive, Tim Clark, has said that a decision will be made in 2016, which leads to inevitable speculation that an announcement will be made at the Farnborough Airshow in July.

Most commentators agree that the A350-900 and the 787-10 are difficult to separate in terms of efficiency. Gueric Dechavanne, senior Istat appraiser and vice-president, Collateral Verifications, says: "When you compare the mission capability of both aircraft, they are very similar in what each aircraft offers. Based on the market feedback received, the pricing of the aircraft is also the same at around $150 million for each aircraft. Although the A350-900 seems to have had more success in terms of orders and diversity of operators, I believe this may have to do with the timing of when the aircraft can be delivered."

“Most commentators agree that the Airbus A350-900 and the 787-10 are difficult to separate in terms of efficiency.”

Operating costs

Cutting through the manufacturers’ claims and counter claims for the rival twin-aisle products is complex. Boeing’s statement that “the 787-10 will be 25% better in fuel and emissions than the aircraft it replaces and more than 10% better than anything offered by the competition for the future” is typical of the type of language used by the manufacturers. Airbus says the A350-900’s latest technologies “translate into unrivalled levels of operational efficiency, with a 25% reduction in fuel burn and emissions”. Quite what these percentages refer to is not clear.

In an attempt to shed some light on the relative merits of these competing widebodies, *Airfinance Journal* has carried out an analysis of the operating costs of the 787-10 and the A350-900. These two models are closely matched in terms of seating, but the Airbus model does have a significant range advantage. A complication in establishing which manufacturer holds the upper hand is that both Airbus and Boeing offer products that could be seen as competitors to their own models. In the case of Airbus, the new engine option (Neo) A330-900 appears to offer good economics to airlines which do not need the full capability of the A350 model.

Boeing’s 777-8 is marginally larger than the 787-10 but has a range that exceeds that of the A350-900 standard version, although the latest ultra-long-range (ULR) version offered by Airbus and ordered by Singapore Airlines matches the 777-8 in this respect.

The cost comparison includes all four

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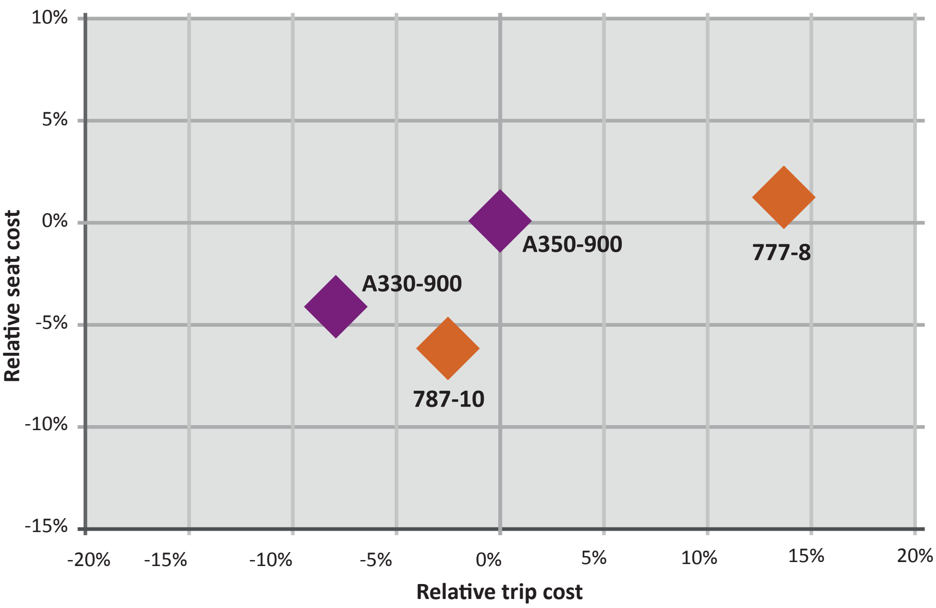
LEADING CHARACTERISTICS OF BOEING AND AIRBUS TWIN-AISLE AIRCRAFT

Model	787-8	A330-800	A350-800	787-9	A330-900	A350-900	787-10	777-8	A350-1000	777-9
Typical seats	242	256	256	283	298	311	323	350	365	410
Typical range (nm)	7,650	7,900	79,000	8,200	6,800	8,100	7,000	8,700	8,000	7,600
Entry into service	2011	TBD	TBD	2014	Q4 2017	2014	2018	2020	2017	2020
Delivered	305	0	0	115	0	28	0	0	0	0
Orders backlog	151	12	19	453	195	586	167	53	175	243
List price ($m)	225	252	272	264	288	308	306	371	356	400

Source: Airfinance Fleet Analyst/Airfinance Journal research, June 2016

> "Cutting through the manufacturers' claims and counter claims for the rival twin-aisle products is complex."

ESTIMATED CASH OPERATING COSTS - 4,000 NM SECTOR



Assumptions: figures are based on Airfinance Journal's *interpretation of manufacturer claims and published data.*
Fuel price at June 2016. Typical seating capacity as per Air Investor 2016.

of the models that can be seen as direct competitors. The A350-900 is taken as the base because it is the only aircraft to have entered service and is arguably the benchmark against which airlines will judge the models yet to go into production.

The comparison looks at cash operating costs only (excluding capital/lease costs), because the manufacturers' list prices are at best guidelines and not a reflection of the figures that airlines will be offered, particularly for strategic customers.

The results of the cost analysis are in line with expectations. The 787-10 looks to be a very efficient aircraft, with lower trip and seat-mile costs than the A350-900. The Boeing model has a significant weight advantage over the Airbus aircraft and as such its fuel burn should be lower. Even at current relatively low prices, fuel cost accounts for more than 30% of cash operating costs for long-haul aircraft, so the advantage is unsurprising.

The picture is, however, more complicated than a simple comparison of theoretical operating costs. The A350-900 is a more capable aircraft in terms of range, which is a significant factor in its additional weight. Furthermore, initial reports suggest it is beating promised fuel-burn targets, whereas the 787-10 will not enter service before 2018 and performance figures are yet to be confirmed. The A350's wider cabin also incurs a weight penalty, but possibly one that airlines will be prepared to accept in the interests of passenger comfort. The manufacturers, of course, have diametrically opposed views on this aspect of the debate.

With the A330-900neo and the 777-8, both manufacturers appear to have introduced aircraft that counter perceived advantages of their competitors. The A330 derivative is a less capable aircraft than the A350-900, but offers significantly lower trip costs than its larger stablemate, although *Airfinance Journal's* analysis indicates that it is unable to match the seat-mile costs of the 787-10. The A330-900 has been relatively successful in terms of sales, but whether these sales have taken orders from the competition or whether they have come at the expense of the more capable A350 model is a matter of conjecture. Dechavanne of Collateral Verifications leans to the view that the two Airbus models are complementary.

He says: "I don't necessarily see the A330-900 as a competitor to the A350-900 due to the range difference and the fact that the cabin is slightly smaller."

He also points out that many A330 operators have extended their leases, which has allowed them to postpone replacement decisions for another three to five years. Dechavanne adds: "Should the price of fuel go back up, I believe that the A330neo will then start gaining more interest from the market."

Boeing's 777-8, which more than matches the A350-900's range, has achieved only modest sales, but as it is not scheduled to enter service before 2020, it is perhaps premature to make judgments. Boeing maintains that the 777-8 competes more directly with the A350-1000. This illustrates that the competition is across the respective aircraft families as much as between individual models.

Room for everyone

In making comparisons it is possible to lose sight of the possibility that both manufacturers may have a good story to tell. In any case, with the value of the 20-year market forecast for widebody aircraft likely to be well in excess of $1 trillion, there is probably scope for both Boeing and Airbus to succeed.

So, despite the negative perceptions from some parts of the industry, the two big manufacturers will probably continue to focus as much on widebodies as they do on single-aisle aircraft.

ANALYSIS

Have Boeing and Airbus overstepped the production line?

The big two manufacturers have ramped up their production targets for the next three years to ambitious levels. Jack Dutton questions whether they are likely to reach their goals.

The aviation industry isn't like the automobile industry," Airbus chief operating officer customers John Leahy said at an Airbus Innovation Day event in Hamburg in May.

"Tom Williams [chief operating officer], Fabrice [Brégier, chief executive officer] and I don't sit around with Didier Evrard [executive vice-president head of programmes] and try to think about how many airplanes we should produce next year and then run around and see if we can sell them. That is what the car manufacturers do – they cancel car production and they have rebates and sales as well. We will not put an aircraft in production unless we have legally binding contracts for that airplane."

But even if the likes of Airbus and Boeing wait until the ink has dried on the contract term sheet before producing new aircraft, some market observers argue that their production goals are ambitious against the backdrop of slowing orders.

At the time of writing, Airbus is producing about 42 narrowbodies a month from its Toulouse, Hamburg and Tianjin production plants. In October 2015, the European manufacturer announced it was going to increase its production of A320s to 60 a month by mid-2019, a 43% increase from the current production rate.

To reach the new production targets, Airbus will create an additional production line by extending its facility in Hamburg and, by the first quarter of 2017, the manufacturer would have increased its production to 50 a month.

Although Boeing's projected numbers for new narrowbodies are slightly lower, they still increase significantly. The US original equipment manufacturer (OEM) produces 42 737s a month. It is looking to increase that to 47 a month next year, before producing 52 a month in 2018 and 57 a month in 2019.

One of the key drivers of the high numbers from the big two manufacturers are the backlogs each of them have to burn off. Long lead times for the latest single-aisle models may make prospective airline customers turn to leasing companies to source the newest aircraft.

"In manufacturing terms, the rate is sustainable, though there are other risks," Paul Lyons, strategy director at IBA, tells *Airfinance Journal*.

He adds: "The backlog is such that there is every chance it cushions the impact of slowdown for both Boeing and Airbus. Even so, the public decision to ramp up production in the shadow of slowing orders is a bold one. Airbus, in particular, is likely to continue a high rate of production in an effort to maintain its timing and market share advantage over Boeing."

Sam Pearlstein, an equity analyst at Wells Fargo, is less convinced that the big two will meet their production targets. "Although there's demand for airplanes, and we expect that Boeing and Airbus will be able to increase their production rates over the next several years, it seems like without a real increase in either traffic growth or retirements it's going to be a challenge for both of them to get to the 57 and the 60. Both manufacturers have seen a lot of order strength and they both have fairly sizable backlogs," says Pearlstein.

"You're bringing out new-technology strength in the Max and the Neo, and so I think there's been a desire to be able to get those positions. But I think you ultimately need that traffic growth and the capacity reductions from retirement to make room for them," he adds.

Boeing has the short-term challenge of having to ramp up the 737 and start the transition into the Max in 2017. Airbus has a similar situation transferring to the A320neo.

"I think beyond that it comes down to: do they need more orders? Do customers look to defer because their economic growth isn't quite what they expected? Does low fuel make flying some of the older planes more economical? There are a lot of different pieces where it's hard to know," Pearlstein tells *Airfinance Journal*.

Over the past decade the world has witnessed a global financial crisis, several natural disasters and terrorist attacks, but some industry insiders believe that aviation has been a relatively resilient industry over the long term. After 9/11, many doubted whether the industry would make a full recovery but, since 2002, world revenue passenger kilometres (RPKs) have doubled from just over three trillion to just under seven trillion, according to the International Civil Aviation Organization (ICAO). At the Airbus Innovation Day, Leahy used this recovery in RPKs as one of his main arguments for ramping up production.

Conversely, assembly line issues can make production targets harder for manufacturers to reach. Airbus had some initial teething problems with its narrowbody production in 2016, but looks to make up for it by the end of the year.

"We have been making gliders for some time now," Airbus's Williams joked at the briefing in Hamburg. "But that is about to

BIG TWO PRODUCTION TARGETS

Manufacturer	2016	2017	2018	2019
Airbus *	42-46	50	n/a	60
Boeing **	42	47	52	57

*Airfinance Journal *estimates of average monthly figure, based on Airbus announcements.*

***Figures supplied to Airfinance Journal by Boeing.*

finish. We are getting delivery of engines from our partner Pratt & Whitney, which has a fix for a prolonged starting time, and we have fixed other issues for the A320neo with software updates and changed procedures."

IBA's Lyons says: "While we expect the GTF [geared turbofan] to be a huge long-term success, it is facing some entry-into-service challenges and there is every chance the Leap-engined Neo and the Max will also experience introductory hiccups."

The benefits of running new equipment are not as apparent when fuel is half the price it was when the aircraft were ordered. Lyons tells *Airfinance Journal* that he has been involved in a few projects where interior component sourcing has caused major delays in production.

"Not only would increased production add further strain, it also makes aircraft deliveries less flexible if there is a deferral as it's likely seats would need changing," he adds. "Customisation, even for narrowbody aircraft, is a challenge. Both OEMs tend to overbook deliveries anyway to help manage this process."

Other players in the single-aisle market – such as China's Comac and Canada's Bombardier – could also pose a threat to the production visions of Boeing and Airbus. While Airbus and Boeing still dominate market share, their long backlogs and aggressive pricing from other OEMs may lead to a greater spread of narrowbody orders, thus hurting the big two's production rates.

Although the demand for new-technology aircraft is still there, Airbus and Boeing need to be wary of threats to demand and other competitors to ensure the aviation industry does not end up like the automobile industry.

AIRCRAFT PROFILE

Bombardier Q400 – a powerful option

The Canadian-built turboprop has only a small backlog of orders, but appraisers expect values to remain stable.

The Bombardier Dash 8-400, known as the Q400, is the latest member of the Dash 8 family and is the only model that remains in production.

The original Dash 8-100/-200, built by de Havilland Canada, entered service in 1984, with the stretched -300 version entering service in 1989. The Dash 8-400 is a further stretched version powered by Pratt & Whitney Canada PW150A engines. These powerplants provide more than 4,500-shaft horsepower during cruise, facilitating a speed of about 350 knots – some 50 knots (90 kilometres per hour) faster than conventional turboprops.

The high levels of cabin noise associated with turboprop aircraft are countered by the use of an active noise and vibration system. The resultant lower noise levels are emphasised by Bombardier's adoption of the Q (for quiet) prefix in the aircraft's designation.

The Q400's high speed and lower cabin noise levels help make it a viable competitor to regional jets on longer sectors than is the case for more conventional turboprops. The increased speed does, however, come at the expense of higher fuel burn, making the aircraft less competitive on the shorter sectors that are the normal domain of turboprops.

Development

The Q400 has undergone continuous development. A package of upgrades in 2008 focused on the cabin and included improved lighting, windows and overhead bins. The landing gear was upgraded and small fuel burn and maintenance improvements were incorporated in what Bombardier referred to as next-generation (NextGen) models.

In 2016, Bombardier began offering the Q400NextGen in a 90-passenger high-density variant.

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AIRCRAFT CHARACTERISTICS

Capacity/range	
Max seating	86 (90 from 2018)
Typical seating	76 at 31-inch pitch
Typical range	1,000 nautical miles (1,850km)
Technical characteristics	
MTOW	65,200lb (29.5 tonnes)
OEW	30,290lb (17.8 tonnes)
MZFW	58,000lb (26.3 tonnes)
Fuel capacity	67,000 litres
Engines	PW150A
Thrust (take-off)	5,071 shp
Fleet data	
Entry into service	2000
In service	470
Operators	56
In storage	35
On order	33
Built peak year (2007)	43
Estimated 2016 production	30
Average age	6.7 years

Source: Airfinance Fleet Analyst/Aerotransport Data Bank

Indicative maintenance reserves	
C-check reserve	$45 to $50/flight hour
Higher checks reserve	$30-$35/flight hour
Engine overhaul	$145-$150/engine flight hour
Engine LLP	$40-$45/engine cycle
Landing gear refurbishment	$30-$35/cycle
Wheels, brakes and tyres	$45-$50/cycle
Propeller	$15-$20/APU hour
Component overhaul	$145-$150/flight hour

Source: Air Investor 2016

"The Q400 market is relatively robust, reflecting the aircraft's operational flexibility."

Angus Mackay, principal, ICF

ISTAT APPRAISERS' VIEWS

ICF
Angus Mackay, principal

The Q400 is a high-speed turboprop aircraft that competes effectively with regional jets while having the flexibility to match competing turboprop economics in reduced cruise speed operations.

Powered by Pratt & Whitney Canada PW150A engines, the latest NextGen variant features an improved cabin interior, reduced maintenance costs, a fuel burn improvement of 2% and an 86-seat capacity in a high-density configuration.

Total deliveries are in excess of 510 aircraft, of which more than 460 remain in service with over 50 operators. The average fleet age is just under seven years. About 40 aircraft are parked and or stored.

The Q400 market is relatively robust, reflecting the aircraft's operational flexibility. While Bombardier has considered the production of a stretched Q400X offering up to 100 seats, its focus is now on developing the existing Q400 airframe. The manufacturer is developing the aircraft to offer a 2,000lb payload increase, which will facilitate increasing the capacity to 90 seats. Extensions to maintenance intervals are also planned.

North America is the largest market for the Q400 with 151 aircraft in service. The Q400 is well established with Canadian operators Porter Airlines and Jazz, as well as US operator Horizon Airlines. Bombardier has made further inroads in the region with an order from Westjet Encore for nine aircraft, which will increase the Canadian carrier's fleet to 45 aircraft.

Alternative uses for the Q400 aircraft have been found. Bombardier offers a combi option and Cascade Aerospace has launched a freighter conversion programme. The manufacturer is also delivering a multi-role Q400-MR airtanker/firefighting version to the French government. These aircraft can be reconfigured with relative ease to all-cargo or all-passenger roles.

The ATR72-600 series aircraft provides robust competition. The production rates of the ATR have been increasing while those of the Q400 remain low, reflecting respective backlogs of 213 and 33. Nevertheless, current Q400 availability is low, with only six passenger aircraft available for sale or lease.

IBA
Jonathan McDonald, senior aviation analyst

IBA
Jonathan Bautista-Trimming, aviation analyst

With an active fleet in excess of 460 aircraft, the Q400 has generally been a success story for Bombardier. However, although more than 500 have been delivered, the backlog is looking a little weak. In terms of new sales, the competing ATR72 has had more success recently and the European manufacturer has garnered the lion's share of new turboprop orders.

There are 56 operators of the Q400 with a number of individual operators having substantial fleets. For example, Horizon Air in the US has 52, while UK operator Flybe has 49. North America and Europe dominate the Q400 fleets with about 350 aircraft in service in the two geographic regions.

VALUES BOMBARDIER Q400

Current market value ($m)

Build year	2000	2005	2010	2015
ICF view	7.3	10.2	14.3	20.4
IBA view	7.0	9.5	13.0	19.3
Oriel view	6.8	8.7	12.2	18.7

Assuming standard Istat criteria. Maintenance status assumes half-life, except for new aircraft, which assumes full-life.

Indicative lease rates ($'000s/month)

Build year	2000	2005	2010	2015
ICF view	75-90	115-135	155-175	175-200
IBA view (see text)	-	-	-	-
Oriel view	85	110	135	175

Monthly rental will vary according to factors such as term and lessee credit.

> "Lease rates for new Q400s are still enjoying relative stability compared to the ATR72, because there are only eight speculative orders from two lessors in the backlog."

Olga Razzhivina, senior Istat appraiser, Oriel

Lessors are reporting that there is downward pressure on values and lease rates of ATR72-500s and -600s, with availability of these competing models creeping up. For the Q400, the inventory of available aircraft is modest, having hovered at between five and seven units through much of 2016. Even so, trading values have been a little disappointing. Assuming a mid-time maintenance condition, IBA would value an early-build 2000 aircraft at $7 million. For 2005, the value is $9.5 million. A 2015 delivery is valued by IBA at $19.25 million.

For monthly dry lease rate rentals, the earliest examples attract monthly rentals of $120,000, while the latest builds are touching $200,000. However, IBA would say that a typical rental is more like $150,000 for a typical used example.

Oriel
Olga Razzhivina, senior Istat appraiser

The Q400 is the largest variant in the Dash 8 family and the only one remaining in production with more than 500 aircraft in existence. After the first delivery in 2000, the Q400NextGen was introduced in 2008, featuring an improved cabin. The option for an increased density cabin seating 86 passengers was announced in 2014, followed in February 2016 by a further development allowing up to 90 passengers and a payload increase of 2,000lb. The new option is available from 2018.

Flybe invests £100m in Q400 fleet

UK regional carrier Flybe has entered into a contract with Nordic Aviation Capital (NAC) to cancel leases covering nine used Bombardier Q400 aircraft. Instead, the carrier will take ownership of 10 units, which were under contract for lease, for a cash consideration of about £86 million ($141 million).

The low-cost carrier agreed to take 24 Q400s from Republic Airways in 2014 in return for Republic taking over Flybe's firm order with Embraer for 20 new E175 aircraft.

Under the new agreement, Flybe will take delivery of the 15 aircraft within a 12-month period. Of the 15 aircraft, five units have already been delivered.

A source with knowledge of the transaction says NAC is confident it can place the surplus aircraft. However, the source also suggested that transferring the aircraft between jurisdictions has not been as easy as the parties involved in the transaction had expected, because of issues concerning maintenance records. Rules governing the keeping of records differ between the US and Europe and, although in principal there is an agreement by each authority to accept aircraft maintained under their counterpart's regime, difficulties can arise.

Flybe put three leased Q400s onto its balance sheet in February as part of a £24.4 million placement. The units were previously under operating leases from Rand Merchant Bank. The carrier says it took debt against these aircraft in May.

The airline says the placement of 13 Q400s onto its balance sheet is part of a plan to own 50% of the fleet. The move will reduce costs by £4 million in 2016-17 and £8 million annually thereafter, says Flybe.

The Q400 is powered by the highest-thrust engine available to commercial turboprops – the Pratt & Whitney PW150A. While the engine's power gives the Bombardier aircraft a speed comparable to jets, it also has higher fuel consumption than the PW127, powering the competing ATR72.

The Q400 offers a factory-built freighter/passenger combi version. A third-party freighter conversion programme is also available. Both the combi and freighter versions cater to niche markets and neither has been a big success to date. The combi version has only one customer – Ryukyu Air Commuter – with two aircraft delivered and three on order. Only four Q400s have been converted into freighters, and all are with Bluebird Aviation in Kenya.

There are only about 30 aircraft in the Q400 backlog, but given it has a production rate of less than 30 a year this should not be an issue, particularly given the shorter planning horizon that is typical in the regional aircraft. ATR, the competing manufacturer, has raised its production rate to 90 a year, which was instrumental to gaining market share in the overheated period of 2007-2010. However, the oil price plummeting to sub-$50 levels has caused demand for turboprops to soften. In today's market, the Q400's more restricted supply is helping to keep values and lease rates relatively stable. However, the recent decision by Flybe not to take all of the former Republic aircraft is adding some short-term pressure (see box).

Lease rates for new Q400s are still enjoying relative stability compared to the ATR72, because there are only eight speculative orders from two lessors in the backlog. ATR faces competition from a larger number of lessors trying to place aircraft, which puts downward pressure on rates.

In the medium to long term, Q400 values and lease rates are likely to remain relatively stable bar any short-term dislocations. The controlled supply is positive for value and lease rate quality, although it may restrict market share in a stronger market. Competition from a new 90- to 100-seater turboprop looks unlikely in the short to medium term.

LOANS/FINANCE LEASES

Borrower	Country	Asset	Amount	Structure/status (closed unless stated)	Arranger	Debt/Equity
June 2016						
Emirates	Dubai	1xA380	$221m (CMV*)	ijarah lease	AFC	
Juneayo Airlines	China	1xA320	$44.2m (CMV*)	Renminbi financing	ICBC	
Aercap	Holland			Jolco	Financial Products Group	Sumitomo Mitsui Trust, CA-CIB
THY	Turkey	2xA321s	$105.2m (CMV*)	French tax lease	CA-CIB	
Ethiopian	Ethiopia	A350-900 deliveries	$107.5m	PDP financing	ING	
Juneayo Airlines	China	1xA320	$44.2m (CMV*)	Renminbi financing	ICBC	
Avation	Sinapore	1xA321	$44.2m (CMV*)	Secured loan facility	CA-CIB	
ICBC FL	China	5xA320s, 2x737-800s	$340m	Secured loan facility	BoC	
ICBC FL	China	747-8	$164m (CMV*)	Secured loan facility	Bocomm	
AerDragon	China	737-800	$144.5m (CMV*)	Commercial facility	CA-CIB	CA-CIB, Korean Development Bank
Latam	Chile	A350-900	$144.5m (CMV*)	12-year commercial facility	"BNP Paribas senior lender plus	Senior lenders: Development Bank of Japan, KfW Ipex-bank, Helaba and Sumitomo Mitsui Banking Corporation (SMBC). Junior lender: Investec
Korean Air	Korea	1x777-300ER, 2x747-8s	Undisclosed	Bridge loan	BNP Paribas, NordLB, Natixis	
Calc	Hong Kong	A320	$44.2m (CMV*)	Commercial financing	CA-CIB	
Finnair	Finland	A350-900	$143.7m	Jolco	BNP Paribas	
May 2016						
NAC	Norway	1xATR72-600	$20.4m (CMV*)	Jolco	Financial Products Group	DVB Bank, Korean Development Bank
ALC	US	Unsecured	$3.13bn (increased from $2.78bn)	Revolving credit facility	JP Morgan	BoC, ICB
Calc	Hong Kong	A320 PDPs	$194.7	Syndicateed loan	"China Everbright Bank	Syndicate of banks
Air France	France	1x777-300ER	$163.1m (CMV*)	Euro/Yen Jolco	CA-CIB	CIC, DBS and CA-CIB
Virgin Atlamtic	UK	1x787-9	$136m (CMV*)	Jolco	FPG AIM	DVB
CMB Financial Leasing	China	2x777-300ERs	Undisclosed	Senior loan facility	ANZ Bank, DVB, Helaba	
April 2016						
Latam	Chile	Spare parts	$275m	Three-year senior facility	BancoEstad, Bank of America Merrill Lynch	Mandated lead arrangers: Tokyo-Mitsubishi UFJ, National Australia Bank, China Construction Bank, Bank of East Asia, Tokyo Star Bank
AerCap	Netherlands	Unsecured	$700m	Credit facility	Coordinators: CTBC Bank, DBJ, DBS Bank	Mandated lead arrangers: Tokyo-Mitsubishi UFJ, National Australia Bank, China Construction Bank, Bank of East Asia, Tokyo Star Bank
Aircastle		Unsecured	$120m	Senior unsecured term loan		
Etihad Airways	Abu Dhabi	2x787-9s	$272m (CMV)	Jolco	SMFL	
FPG/ FPG Amentum	Ireland	Unsecured	JPY11bn ($101.4m)	Warehouse credit facility	SMBC, SMTB, Aozora Bank, Gunma Bank, Shizuoka Bank	
American Airlines	US	1x737-800	$35m	Mortgage	CA-CIB	

DEAL PIPELINE (MANDATES)

Borrower	Country	Asset	Structure	Amount	Status
April 2016 to June 2016					
Air Astana	Kazakhstan	3x787-8s	Ex-Im Financing	$354.6m (CMV*)	Under discussion
VLM	Netherlands	6xFokker 50s	Sale/leaseback	$43.6m (CMV*)	RFP issued
Ethiopian Airlines	Ethiopia	2xQ400s		$43.6m (CMV*)	Mandate pending
Easyjet	UK	25 mid-life A319s	Sale/leaseback	Undisclosed	RFP issued
Air New Zealand	New Zealand	3x787-9s	Commercial loan	$313m (CMV*)	Final bidding
Shandong Airlines	China	Undisclosed	Undefined		Under discussion
Vietnam Airlines	Vietnam	5xA350-900s	Sale/leaseback	$313m (CMV*)	Final bidding
Intrepid	US	up to 7xA330-300s	Refinancing	up to $522m at CMV*	Under consideration
China Airlines	China	4xA350-900s	TBD/possible Jolco	TBD	Under consideration
Spring Airlines	China	2xA320s	Sale/leaseback	$88.4m (CMV*)	RFP issued
Braathens	Sweden	ATR72-600s on order	ECA financing	Undisclosed	Under discussion
Oman Air	Oman	4x737-800s	Sale/leaseback	To be negotiated	Mandate pending
Biman Bangladesh Airlines	Bangladesh	3x737-800s	Commercial/Ex-Im	$21m per aircraft	RFP issued
Spirit Airlines	US	10xA320s, 4xA321s	Lease or financing	$652m (CMV*)	Mandated
Shenzhen Airlines	China	6xA320-200s, 2x737-800s	Finance leases	$360m (CMV*)	Mandated
Saudia	Saudi Arabia	New aircraft	Sukuk bond	5 billion riyal ($1.3bn)	Mandated (sale H2 2016)

**Current market value (as per Air Investor 2016 unless stated)*

DEAL WATCH

CAPITAL MARKETS

Borrower	Country	Asset/Security	Amount	Structure/status (closed unless stated)	Arranger/status (closed unless stated)	Coupon/Rating
June 2016						
Aergen	ireland	19 aircraft	$325m (A:$247m, B:$47m, C:$31m)	ABS	Deutsche Bank	A:A, A (Moody's, Fitch) B:BBB, C:B (Kroll)
Westjet	US	Unsecured	$400m	Senior unsecured notes	Morgan Stanley, Citi	3.5%
United Airlines	US	18 new aircraft	$1.05bn (AA:$729m/ A:$324m)	EETC/ 12 years	bank of Australia	AA:AA (Fitch) A:A (Fitch)
CCB Leasing	China		$1bn ($400m/$600m)	Senior notes (3-yr/5-yr)	ANZ, BoA Merrill Lynch, CCB , Citigroup, DBS HSBC, Mitsubishi UFJ Morgan	2.375%/2.75%
May 2016						
ICBC	China	Unsecured	$1.3bn	Tri-tranche bond /three-year, five-year, 10-year maturity	ICBC, Goldman Sachs, Morgan Stanley, HSBC, ANZ, Citigroup, Merrill Lynch, Wells Fargo Securities	2.375%, 2.75%, 3.265%/A- (S&P)
Boeing	USA	Unsecured	$1bn	Unsecured notes/ 2023, 2026, 2046	Bank of America	
Airbus	France	Unsecured	€1.5bn	Bond/ A:10-yr, B:15-yr	BNP Paribas, CA-CIB, Deutsche Bank, Mitsibushi UFJ	A:0.875%, B:1.375%.
American Airlines	USA	22 aircraft	$829m (AA:$567.36m/ A:$261.28m)	EETC/2028	Credit Suisse, Deutsche Bank	3.2%/AA , 3.65%/A
Norwegian	Norway	10x737-800s	$349.1m (A:$274.3m, B:$74.8)	EETC	Morgan Stanley	A:4.875%/Baa3, A (Moody's, Fitch) B:7.50%/ Ba3, BB- (Moody's, Fitch)
Gol	Brazil	Spare parts	To be confirmed	Secured notes exchange/2028		8.5%
April 2016						
BOC Aviation	Singapore	Unsecured	$750m	Senior notes	BOC International, Citigroup, Goldman Sachs, HSBC, JP Morgan, Morgan Stan-ley, BNP Paribas, Wells Fargo Securities	3.875%

EXPORT CREDIT DEALS

Borrower	Country	Asset	Amount	Structure/status (closed unless stated)	Arranger/status (closed unless stated)	Debt
June 2016						
Cityjet	Ireland	8xCRJ900s	80% of $210m (CNV*)	ECA financing/EDC		
April 2016						
Silk Way Airlines	Azerbaijan	2x747-8Fs	$761m (at list prices)	ECA-backed Italian tax lease	Soc Gen	
February 2016						
Air Cote D'Ivoire	Ivory Coast	4xQ400s	$87m (CMV*)	Secured loan	EDC	

SALE/LEASEBACKS

Borrower	Country	Asset	Lessor/Arranger	Amount	Status
June 2016					
Emirates	Dubai	1xA380s	AFC	$221m (CMV*)	
Delta Air Lines	US	3xA330-300s	Guggenheim Aviation partners	$313m (CMV*)	
SAS	Sweden	13xA320neos	SMBC, Jackson Square	$1.39bn (2016 list)	
May 2016					
Emirates	Dubai	4xA380s	Investec	Undisclosed	
Indigo	India	A320neos	Avolon	$107.3m (2016 list)	
April 2016					
Thomas Cook	UK	1xA321	Avolon	Undisclosed	
Emirates	Dubai	2x777-300ERs	EMP Structured Assets	Undisclosed	
Virgin Atlantic	UK	1x787-9	Avolon	$136.2m (2016 CMV*)	

** Current market value (as per Air Investor 2016 unless stated)*

RATINGS

AIRLINE FINANCIAL RATINGS

Airline	Fitch	Moody's	S&P
Aeroflot	B+(stable)	-	-
Air Canada	B+(pos)	B1(stable)	B+(pos)
Air New Zealand	-	Baa2(stable)	-
Alaska Air Group	BBB-(stable)	-	BBB-(watch neg)
Allegiant Travel Company	-	Ba3(stable)	BB(stable)
American Airlines Group	BB-(stable)	Ba3(stable)	BB-(stable)
Avianca Holdings - IFRS	B(neg)	-	B(stable)
British Airways	BB+(pos)	Baa3(stable)	BB(pos)
Delta Air Lines	BBB-(stable)	Baa3(stable)	BB+(stable)
easyJet	-	Baa1(stable)	BBB+(stable)
Etihad Airways	A(stable)	-	-
GOL	C	Caa3(neg)	CC(watch neg)
Hawaiian Airlines	B+(stable)	B2(stable)	B+(stable)
jetBlue	BB-(stable)	Ba3(stable)	BB-(stable)
LATAM Airlines Group	B+(neg)	B1(stable)	BB-(neg)
Lufthansa Group	-	Ba1(pos)	BBB-(stable)
Qantas Airways	-	Baa3(stable)	BBB-(stable)
Ryanair	BBB+(stable)	-	BBB+(stable)
SAS	-	B3(stable)	B-(stable)
Southwest Airlines	BBB+(stable)	Baa1(pos)	BBB(stable)
Spirit Airlines	BB+(stable)	-	BB-(stable)
Turkish Airlines	-	Ba1(stable)	BB(stable)
United Continental Holdings	BB-(pos)	Ba3(pos)	BB-(pos)
US Airways Group	-	B1(stable)	-
Virgin Australia	-	B2(neg)	B+(neg)
WestJet	-	Baa2(stable)	BBB-(stable)

Source: Ratings Agencies - 20th June 2016

LESSOR CREDIT RATINGS

Lessor	Fitch	Moody's	S&P
AerCap	BB+(pos)	Ba1(stable)	BBB-(stable)
Air Lease Corp	-	-	BBB-(pos)
Aircastle	-	Ba1(stable)	BB+(stable)
Avation PLC	B+(stable)	-	B(stable)
Aviation Capital Group	BBB-(pos)	-	BBB-(pos)
AWAS Aviation Capital Limited	-	Ba3(stable)	BB+(neg)
BOC Aviation	A-(stable)	-	A-(stable)
CIT Group Inc	BB+(stable)	Ba3(stable)	BB+(stable)
DAE Aviation Holdings	-	-	B-(stable)
Fly Leasing	-	B1(pos)	BB(stable)
ILFC (Part of AerCap)	-	Ba1(stable)	-
SMBC Aviation Capital	BBB+(stable)	-	BBB+(stable)

Source: Ratings Agencies - 20th June 2016

AVIATION COMPANY RATINGS

Company	Fitch	Moody's	S&P
Airbus Group	A-(stable)	A2(stable)	A(pos)
Boeing	A(stable)	A2(stable)	A(stable)
Bombardier	B(neg)	B2(neg)	B(neg)
Embraer	BBB-(stable)	Ba1(neg)	BBB(neg)
Rolls-Royce	A(neg)	A3(stable)	A-(neg)
United Technologies	A-(stable)	A3(stable)	A-(stable)

Source: Ratings Agencies - 20th June 2016

AIRCRAFT ORDERS

COMMERCIAL AIRCRAFT ORDERS BY MANUFACTURER

	Gross orders 2016	Cancellations 2016	Net orders 2016	Net orders 2015
Airbus	253	38	215	1,036
Boeing	305	30	275	768
Bombardier	155	0	155	35
Embraer	30	0	30	165
ATR	40	0	40	68

Based on Airfinance Journal *research and manufacturer announcements as of 30th May 2016*

COMMERCIAL AIRCRAFT ORDERS BY CUSTOMER

Customer	Country	Quantity/Type
April 2016 to June 2016		
VietJet	Vietnam	100x737 Max 200s
WestJet	Canada	9xQ400s
Awas	Ireland	12xA320s/3xA321s
Trident Jet	UK	4xCRJ900s
Delta Air Lines	US	37xA321ceos
China Eastern	China	20xA350-900s
Avianca	Colombia	3xA320neos
Air Cote d'Ivoire	Ivory Coast	2xA320ceo, 2xA320neos
Delta Air Lines	US	75xCS100s
Chorus Aviation	Canada	5xCRJ900s
Xiamen Airlines	China	10x737-800s
airBaltic	latvia	7xCS300s
Horizon	US	30xE175s
Emirates	Dubai	2xA380s
Garuda	Indonesia	14xA330-900s

CURRENT PRODUCTION AIRCRAFT PRICES AND VALUES ($ MILLIONS)

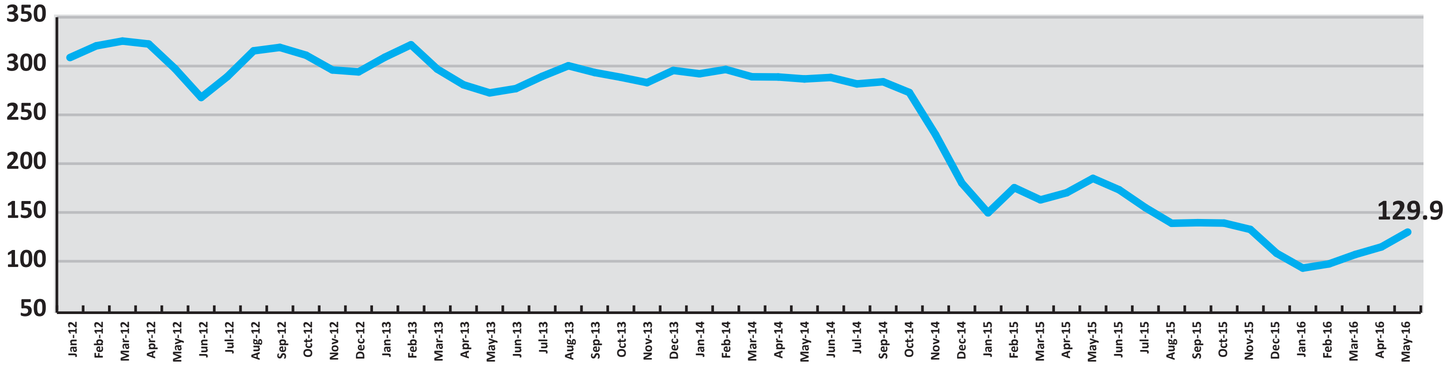
Model	List price	Current market value*
Airbus (2016 price)		
A319	89.6	37.0
A320	98.0	44.2
A321	114.9	52.6
A330-200	231.5	92.3
A330-300	256.4	104.4
A350-900	308.1	144.5
A380	432.6	221.4
ATR (2015)		
ATR42-600	21.6	16.4
ATR72-600	25.9	20.4
Boeing (2015)		
737-700	80.6	36.7
737-800	96.0	47.5
737-900ER	101.9	49.5
747-8 (passenger)	378.5	164.0
777-200LR	313.8	N/A
777-300ER	339.6	163.1
787-8	224.6	118.2
787-9	264.6	136.2
Bombardier (2015 Avitas BlueBook)		
CRJ700	41.0	22.3
CRJ900	46.0	26.3
CRJ1000	49.1	28.1
Q400	30.0	21.8
Embraer (2016)		
E170	41.2	26.9
E175	44.4	29.0
E190	49.1	33.1
E195	52.0	35.1

*Based on Istat appraiser inputs for Air Investor 2016

AIRCRAFT LIST PRICES - NEW MODELS

Model	$ millions
Airbus (2016 prices)	
A319neo	98.5
A320neo	107.3
A321neo	125.7
A330-800neo	252.3
A330-900neo	287.7
A350-800	272.4
A350-1000	355.7
Boeing (2015)	
737 Max 7	90.2
737 Max 8	110.0
737 Max 9	116.6
777-8X	371.0
777-9X	400.0
787-10	306.1
Bombardier (2015)	
CS100	71.8
CS300	82.0
Embraer (2016)	
E175-E2	50.8
E190-E2	58.2
E195-E2	65.6

US GULF COAST KEROSENE-TYPE JET FUEL (CENTS PER US GALLON)



Source: US Energy Information Administration

LEASE RATES ($000s)

Model	Low	High	Average
Airbus			
A319	230	240	235
A320	280	389	335
A321	360	460	410
A330-200	640	859	750
A330-300	900	1,242	1,071
A350-900	1,050	1,300	1,175
A380	1,175	2,028	1,602
ATR			
ATR42-600	135	167	151
ATR72-600	165	216	191
Boeing			
737-700	225	340	283
737-800	315	421	368
737-900ER	355	435	395
747-8 (passenger)	1,150	1,425	1,288
777-300ER	1,150	1,450	1,300
787-8	850	1,100	975
787-9	1,050	1,250	1,150
777-300ER	1,050	1,550	1,300
787-8	850	1,110	980
787-9	1,190	1,340	1,265
Bombardier			
CRJ700	175	214	195
CRJ900	190	240	215
CRJ1000	210	260	235
Q400	180	240	210
Embraer			
E170(AR)	180	210	195
E175(AR)	200	260	230
E190 (AR)	225	290	258
E195 (AR)	230	300	265

Based on Istat appraiser inputs for Air Investor 2016

PILARSKI SAYS

What evolution can tell us about future of airline profitability

The relationship between oil price and the profitability of carriers is a complex one, writes Adam Pilarksi, senior vice-president at Avitas.

Some readers were dismayed by my May column in which I expressed doubts that airlines from now on will be profitable forever, as some highly respected industry leaders claim.

My belief is that the industry cannot change its stripes and eventually will revert to its old sinful ways. This does not mean that the airline industry cannot be profitable in the long run, but rather, that the present glorious situation is because of specific circumstances and behaviour changed, reflecting those new circumstances.

Evolutionary biology teaches us how humans adapt to changing circumstances. These changes have tremendous implications on many aspects of our personal lives, such as mate selection or procreation. But those principles can also be detected in how countries, industries and firms change behaviour in order to survive.

Many years ago, I did some research on how people's productivity changes as they have more children. This was first examined by Soviet economist AV Chayanov in 1925. He found that peasants who had more children worked much harder and produced more. A simplistic a priori belief that peasants with more children had to be poorer turned out to be false because of evolutionary change in behaviour as a result of having extra children.

So how come airlines are finally profitable now? Exogenous events are part of the reason, the major one being the dramatic drop in oil prices. Another is a definite change in behaviour towards more rational pricing, cost control and capacity discipline. And part of it, in the USA at least, is the diminished competition that allows above competition-determined prices.

Historically, analysts were getting the relationship between oil prices and airline profitability totally wrong. They assumed that higher oil prices would lead to lower profits because of operating costs going up. In reality, such a relationship is more complicated and empirical evidence did not support such a simplistic assertion.

Higher oil prices led to changed airline behaviour manifested mainly in higher ticket prices which, in turn, reduced traffic but often increased total revenue. While analysts seemed to miss that point, airlines were well aware of such a reality. So why did they not increase ticket prices when oil was cheap and priced their product unwisely leading to years of losses?

The answer is of course competition. If they increased prices and their competitors did not, they would lose market share. This unwise fight for market share led to decades of bad profit performance of the airline industry, which seemed to have been caught in a Greek tragedy-type situation. When things were good (low oil prices), the airlines did not behave in a rational manner, entered market share wars, underpriced their product and lost copious amounts of money. When things were bad (high oil prices), airlines had to change their behaviour in order to survive. Evolution triumphed and rational pricing was adopted.

How come the level of oil prices is such a differentiator of behaviour? With low oil prices, labour was for decades the major component of airline costs. The difference, though, is that airlines felt more confident in being able to control labour than fuel costs.

Labour agreements are negotiated in person and have a large emotional component, so some may believe they are more difficult to predict. In fact, labour can be rational under certain circumstances and has sometimes been quite flexible to adjust behaviour to fit circumstances. The same is true on the irrational side. Labour can take offence at perceived injustice and lead to destructive and irrational behaviour that can sink airlines. Labour negotiations use game theory and, as such, sometimes lead to disaster but they are under control of the two relevant parties.

Airlines have absolutely no control over oil prices. Our industry accounts for a small sliver of the total oil consumption worldwide and prices are a given reality the same way the weather is. Airlines recognise that high oil prices, when they happen, are a fact of life, and the only way to handle them is to evolve towards rational behaviour and change pricing. High labour costs, the airlines believe, are something they can successfully combat – hence, they do not need to adapt and change their pricing policies.

Right now, we are beginning to see a change in labour relations in Europe with strikes in France, the UK, Scandinavia and Greece. This may be the beginning of lower profits for airlines in the coming few years. Not necessarily losses but the continuation of current high profitability is unlikely to continue forever.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