

Airline Business

SPECIAL REPORT

**FINANCE &
LEASING 2019**

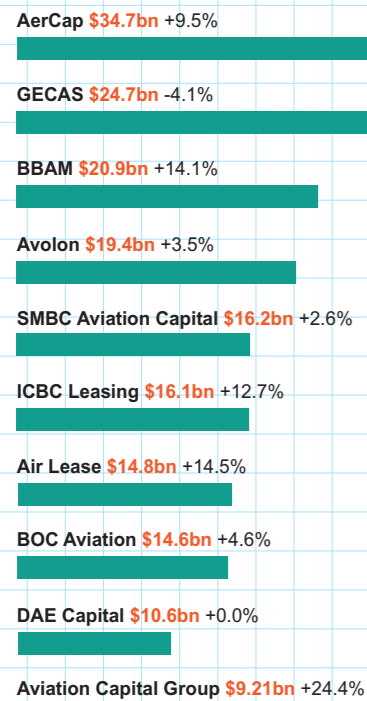
Lease leaders

The latest figures from Flight Fleets Analyzer, compiled at end-2018, show the global leased fleet continued to grow during the year, with the biggest lessors largely expanding their portfolios

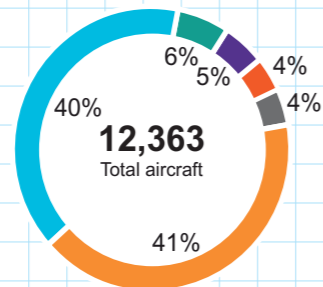
\$310bn

Total value of top 50 lessors' portfolios

Top 10 lessors by fleet value



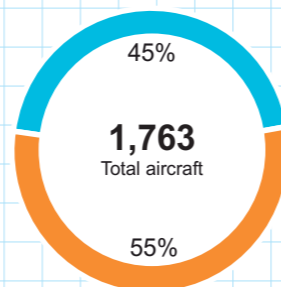
Leased aircraft fleet share by manufacturer



Source: Flight Fleets Analyzer. Note: Figures for total global leased fleet

Airbus	5,110	Boeing	4,898	Bombardier	744
Embraer	642	ATR	481	Other	488

A320neo and 737 Max backlogs at top 10 lessors



Source: Flight Fleets Analyzer

A320neo	971	737 Max	792
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Smartwings received its first 737 Max via GECAS in February



First US-produced A321 was delivered via Air Lease in November

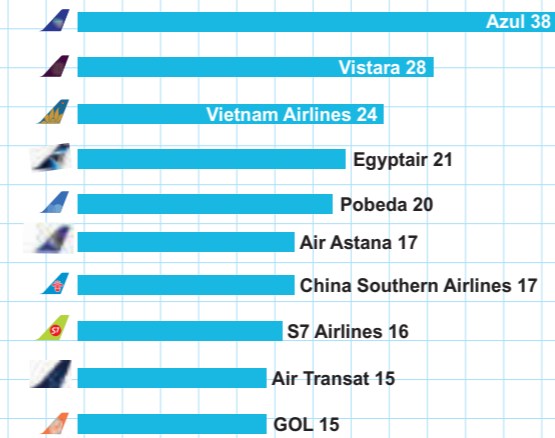
\$181bn

Total value of top 10 lessors' portfolios

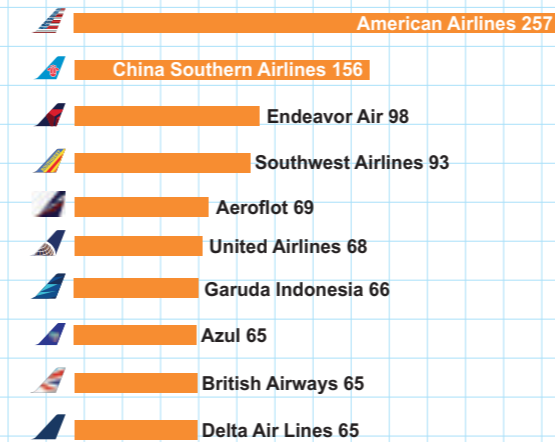
\$11.6bn

Total value of regional jet leased fleet

Airlines with biggest order backlogs with top 10 lessors



Airlines with most aircraft leased from top 10 lessors



10,007

Total Airbus and Boeing leased fleet

Airbus and Boeing orders placed by lessors in 2018

Lessor	Type	Number of aircraft
Air Lease	737 Max	38
	787	3
Aviation Capital Group	737 Max	23
	A320neo	100
Avolon	A320ceo	2
	787	9
GECAS	737 Max	1
	737 Max	1
SMBC Aviation Capital	737 Max	75
	787	29
Boeing Capital	777	1
	A320neo	15
China Aircraft Leasing Company	737 Max	25
	A320neo	20
Goshawk	737 Max	20
	737 Max	30
Jackson Square Aviation	737 Max	20
Macquarie AirFinance	A320neo	20
Novus Aviation	777	3
Sberbank Leasing	737 Max	14
Grand total		429



787th Boeing 787 went to China Southern via AerCap in December



SMBC handed over its first A350 to Philippine Airlines in July

DATA COMPILED BY RYAN HAMMACOTT, PAUL RIGNALL & ASHLEY WILEMAN

Global lessor data and rankings

Our annual examination of the global leasing industry ranks the top 50 industry players by fleet size and value, and analyses the fortunes of aircraft across the major markets, all using end-2018 data from Flight Fleets Analyzer

Mainline aircraft: leased fleet

Manufacturer/category	Type	Value (\$m)	Number	Av. (\$m)
Airbus narrowbody	A220	410	13	31.5
	A318	221	27	8.2
	A319	7,300	602	12.1
	A320	74,424	2,812	26.5
	A321	28,978	865	33.5
Airbus narrowbody total		111,333	4,319	25.8
Airbus widebody	A300	138	15	9.2
	A310	4.7	2	2.4
	A330	27,696	589	47.0
	A340	337	46	7.3
	A350	12,385	91	136.1
A380	7,217	48	150.4	
Airbus widebody total		47,778	791	60.4
Airbus total		159,112	5,110	31.1
Boeing narrowbody	DC-9	0.2	2	0.1
	MD-80	25.5	52	0.5
	717	760	98	7.8
	727	0.7	3	0.2
	737 CFMI	1,185	291	4.1
	737 JT8D	0.1	1	0.1
	737 Max	6,388	137	46.6
	737 NG	84,245	3105	27.1
	757	1,202	139	8.6
Boeing narrowbody total		93,807	3,828	24.5
Boeing widebody	MD-11	42	7	6.0
	747	3,458	118	29.3
	767	3,639	247	14.7
	777	32,644	419	77.9
787	30,518	278	109.8	
Boeing widebody total		70,301	1,069	65.8
Boeing total		164,108	4,897	33.5
Mainline grand Total		323,220	10,007	32.3

Regional jets: leased fleet

Manufacturer	Type	Value (\$m)	Number	Av. (\$m)
Bombardier	CRJ100/200	313	240	1.3
	CRJ700/900/1000	1,988	179	11.1
Bombardier Total		2,301	419	5.5
Embraer	E-170/175	1,210	101	12.0
	E-190/195	6,248	376	16.6
	ERJ family	190	146	1.3
Embraer Total		7,648	623	12.3
BAE Systems	Avro RJ/BAe 146	35.6	24	1.5
Fokker	Fokker 100	30.6	15	2.0
Sukhoi	SuperJet 100	1,435	90	15.9
Other types		167	23	7.3
Regional jet grand total		11,617	1,194	9.7

Notes: Other types include Antonov An-148 and An-158, Comac ARJ21 and Bombardier CRJ225/900/1000
Source: Returns to annual leasing survey and FlightGlobal's Flight Fleets Analyzer and Ascend Values databases. Survey data covers all firms with an active operating lease business and a substantial investment in fleet, and is not restricted to top 50 aircraft lessors. Data taken at end-2018, but may exclude orders placed in final days of the year

Turboprops: leased fleet

Manufacturer	Type	Value (\$m)	Number	Av. value (\$m)
ATR	ATR 42/72	5,697	481	11.8
BAE Systems	ATP/J31	70	36	1.9
Bombardier	Dash 8	2,908	325	8.9
Embraer	EMB-120	11	10	1.1
Fokker	50	50	31	1.6
Saab	340/2000	168	84	2.0
Other types		427	157	2.7
Turboprop grand total		9,331	1,124	8.3

Note: Other types include Let L-140, Antonov An-140, CAIC MA60, Dornier 328, Douglas DC-3, Harbin Y-12, Hawker Beechcraft 1900 and Viking Air DHC-6 Twin Otter

Mainline/regional jet/ turboprop grand total	Value (\$m)	Number	Av. value (\$m)
Mainline/regional jet/ turboprop grand total	344,168	12,325	27.9

Major narrowbody lessors by fleet value

Rank	Lessor	Value (\$m)	Number	Change
1	AerCap	17,704	783	-5
2	GECAS	15,382	782	-13
3	Avolon	11,605	426	-17
4	SMBC Aviation Capital	11,355	374	-14
5	ICBC Leasing	10,769	312	58
6	BBAM	10,169	382	89
7	BOC Aviation	9,627	282	17
8	Aviation Capital Group	8,146	297	28
9	Air Lease	8,126	260	32
10	DAE Capital	5,839	236	-4

Major widebody lessors by fleet value

Rank	Lessor	Value (\$m)	Number	Change
1	AerCap	16,944	275	5
2	BBAM	10,719	114	3
3	GECAS	7,390	151	-9
4	Avolon	7,069	94	9
5	Air Lease	6,637	73	10
6	ICBC Leasing	5,089	57	3
7	BOC Aviation	4,993	53	0
8	Amedeo	4,970	47	30
9	SMBC Aviation Capital	4,816	45	4
10	DAE Capital	3,894	61	-1

Major regional jet and turboprop lessors by fleet size

Rank	Lessor	Value (\$m)	Number	Jets	TPs	Change
1	Nordic Aviation Capital	6,256	467	190	277	51
2	GECAS	1,880	299	272	27	-74
3	Avmax Aircraft Leasing	381	138	63	75	-3
4	Regional One	330	89	86	3	40
5	Elix Aviation Capital	735	84	0	84	-1
6	Jetstream Aviation Capital	141	73	0	73	20
7	Falko	671	70	53	17	9
8	GTLK - State Transport Leasing Company	694	63	39	24	18
9	Chorus Aviation Capital	942	58	12	46	6
10	DAE Capital	876	55	0	55	3

Top 50 lessors by fleet value

2018 Rank	2017 Rank	Lessor	Total fleet value		Average Value		Managed Only		
			\$m	Change	Total fleet	\$m	Change	\$m	% of Fleet
1	(1)	AerCap	34,680	9.5%	1,059	32.7	9.4%	1,496	4.3%
2	(2)	GECAS	24,652	-4.1%	1,232	20.0	3.3%	2,114	8.6%
3	(4)	BBAM	20,916	14.1%	498	42.0	-7.0%	13,591	65.0%
4	(3)	Avolon	19,426	3.5%	569	34.1	4.9%	1,467	7.6%
5	(5)	SMBC Aviation Capital	16,200	2.6%	421	38.5	5.3%	2,118	13.1%
6	(6)	ICBC Leasing	16,148	12.7%	385	41.9	-4.2%	999	6.2%
7	(8)	Air Lease	14,796	14.5%	335	44.2	0.2%	1,764	11.9%
8	(7)	BOC Aviation	14,620	4.6%	335	43.6	0.8%	858	5.9%
9	(9)	DAE Capital	10,610	0.0%	352	30.1	0.5%	506	4.8%
10	(10)	Aviation Capital Group	9,206	24.4%	312	29.5	10.0%	1,358	14.8%
11	(12)	BoComm Leasing	7,900	17.8%	196	40.3	-0.8%	68	0.9%
12	(11)	CDB Aviation Lease Finance	7,390	6.1%	214	34.5	-1.4%	0	0%
13	(14)	ORIX Aviation	7,308	18.8%	238	30.7	11.3%	921	12.6%
14	(15)	Nordic Aviation Capital	6,467	8.3%	474	13.6	-3.4%	1,177	18.2%
15	(19)	Goshawk	6,467	58.2%	168	38.5	-4.9%	928	14.3%
16	(13)	Jackson Square Aviation	6,412	3.5%	157	40.8	-1.8%	0	0%
17	(16)	Aircastle	5,782	0.1%	246	23.5	-3.6%	380	6.6%
18	(22)	Amedeo	5,003	77.4%	48	104.2	-37.2%	3,480	69.5%
19	(20)	China Aircraft Leasing Company	4,642	18.7%	133	34.9	-0.9%	109	2.3%
20	(17)	Macquarie AirFinance	4,635	-6.4%	197	23.5	-3.1%	29	0.6%
21	(18)	Standard Chartered Aviation Finance	4,602	-0.1%	137	33.6	-6.0%	370	8.0%
22	(21)	Arctic Aviation Assets	3,820	21.6%	82	46.6	2.3%	298	7.8%
23	(29)	Carlisle Aviation Partners	3,488	41.4%	229	15.2	-0.6%	2,877	82.5%
24	(28)	International Airfinance	2,992	20.8%	55	54.4	-16.5%	0	0%
25	(30)	ALM - Aircraft Leasing & Management	2,920	25.0%	84	34.8	8.6%	2,893	99.1%
26	(24)	CMB Financial Leasing	2,855	1.6%	73	39.1	-9.6%	0	0%
27	(25)	CCB Financial Leasing	2,789	-0.6%	68	41.0	-5.0%	227	8.1%
28	(23)	Doric	2,566	-9.0%	38	67.5	-6.6%	1,521	59.3%
29	(26)	ALAFCO	2,495	-6.9%	63	39.6	-1.0%	0	0%
30	(36)	Castlelake	2,493	31.4%	180	13.8	15.4%	2,487	99.8%
31	(45)	AVIC International Leasing	2,425	59.4%	106	22.9	32.3%	0	0%
32	(32)	MCAP/MC Aviation Partners	2,266	1.7%	70	32.4	-1.2%	1,878	82.9%
33	(31)	Altavair	2,225	-4.6%	50	44.5	-2.7%	0	0%
34	(37)	Accipiter	2,118	14.1%	69	30.7	0.8%	0	0%
35	(34)	Deucalion Aviation Funds	2,079	-3.1%	102	20.4	-0.3%	1,067	51.3%
36	(33)	Tokyo Century	2,072	-3.7%	50	41.4	6.0%	0	0%
37	(42)	VTB-Leasing	2,053	23.5%	77	26.7	5.9%	60	2.9%
38	(39)	VEB-Leasing	1,858	5.5%	68	27.3	-6.9%	67	3.6%
39	(43)	Minsheng Financial Leasing	1,821	13.9%	47	38.7	-0.6%	0	0%
40	(51)	GTLK - State Transport Leasing Company	1,818	40.1%	106	17.1	0.4%	0	0%
41	(46)	SPDB Financial Leasing	1,704	14.7%	39	43.7	-5.9%	0	0%
42	(47)	GOAL - German Operating Aircraft Leasing	1,666	16.9%	54	30.9	34.2%	0	0%
43	(41)	Boeing Capital	1,635	-2.2%	195	8.4	-4.2%	11	0.6%
44	(38)	FPG Amentum	1,616	-11.1%	46	35.1	4.3%	929	57.5%
45	(49)	Banc of America Leasing Ireland	1,536	12.9%	30	51.2	16.6%	0	0%
46	(44)	Novus Aviation	1,453	-7.6%	19	76.5	-12.5%	83	5.7%
47	(53)	Sberbank Leasing	1,429	23.7%	67	21.3	10.8%	0	0%
48	(55)	Titan Aviation Leasing	1,370	36.9%	33	41.5	3.7%	0	0%
49	(48)	Changjiang Leasing Company	1,331	-6.0%	65	20.5	-4.6%	0	0%
50	(50)	Comsys Aviation Leasing	1,178	-11.7%	23	51.2	-4.1%	0	0%
		Total	309,932	10.7%	9,894	31.3	3.4%	48,129	15.5%

Source: Flight Fleets Analyzer and Ascend Values data, end-2018. May exclude some orders placed in final few days of 2018.

Definitions: **Ranking**: The survey is based on the Top 50 companies with a substantial operating lease business ranked by the value of their owned and/or managed fleets at 31 December 2018. **Change**: The change figures are based on fleets/values supplied by FlightGlobal's Flight Fleets Analyzer and Ascend Values databases for December 2018 and 2017. **Operating lessors**: Lessors are defined as those with an active operating lease business and a substantial investment in fleet. Companies that are solely or predominantly financiers have been excluded. **Fleets and values**: The survey represents a snapshot of fleets, including stored aircraft, with half-life current market values supplied by Flight Ascend Consultancy. Note the composition of fleets is constantly changing.

FINANCE & LEASING DATA

Top 50 lessors by fleet size

2018 Rank	2017 Rank	Lessor	Total fleet		Fleet by type			Value		
			Number	Change	Widebody	Narrowbody	Regional (R, J & TP)	Fleet (\$m)	Rank	Average (\$m)
1	(1)	GECAS	1,232	-96	151	782	299	24,652	2	20.0
2	(2)	AerCap	1,059	1	275	783	1	34,680	1	32.7
3	(3)	Avolon	569	-8	94	426	49	19,426	4	34.1
4	(6)	BBAM	498	92	114	382	2	20,916	3	42.0
5	(5)	Nordic Aviation Capital	474	51	0	7	467	6,467	14	13.6
6	(4)	SMBC Aviation Capital	421	-11	45	374	2	16,200	5	38.5
7	(8)	ICBC Leasing	385	58	57	312	16	16,148	6	41.9
8	(7)	DAE Capital	352	-2	61	236	55	10,610	9	30.1
=9	(10)	Air Lease	335	42	73	260	2	14,796	7	44.2
=9	(9)	BOC Aviation	335	12	53	282	0	14,620	8	43.6
11	(11)	Aviation Capital Group	312	36	15	297	0	9,206	10	29.5
12	(12)	Aircastle	246	9	35	205	6	5,782	17	23.5
13	(13)	ORIX Aviation	238	15	30	208	0	7,308	13	30.7
14	(18)	Carlyle Aviation Partners	229	68	31	198	0	3,488	23	15.2
15	(15)	CDB Aviation Lease Finance	214	15	32	162	20	7,390	12	34.5
16	(14)	Macquarie AirFinance	197	-7	13	181	3	4,635	20	23.5
17	(17)	BoComm Leasing	196	31	24	162	10	7,900	11	40.3
18	(16)	Boeing Capital	195	4	33	155	7	1,635	43	8.4
19	(19)	Castlelake	180	22	25	124	31	2,493	30	13.8
20	(25)	Goshawk	168	67	13	154	1	6,467	15	38.5
21	(21)	Jackson Square Aviation	157	8	16	141	0	6,412	16	40.8
22	(20)	Avmax Aircraft Leasing	151	-1	2	11	138	435	82	2.9
23	(22)	Standard Chartered Aviation Finance	137	8	10	127	0	4,602	21	33.6
24	(23)	China Aircraft Leasing Company	133	22	6	127	0	4,642	19	34.9
=25	(29)	GTLK - State Transport Leasing	106	30	2	41	63	1,818	40	17.1
=25	(26)	AVIC International Leasing	106	18	3	50	53	2,425	31	22.9
27	(24)	Deucalion Aviation Funds	102	-3	21	81	0	2,079	35	20.4
28	(54)	Regional One	89	40	0	0	89	330	87	3.7
=29	(28)	Cargo Aircraft Management	84	6	74	10	0	1,109	52	13.2
=29	(31)	ALM - Aircraft Leasing & Management	84	11	10	60	14	2,920	25	34.8
=29	(27)	Elix Aviation Capital	84	-1	0	0	84	735	68	8.7
32	(34)	Arctic Aviation Assets	82	13	10	72	0	3,820	22	46.6
33	(37)	VTB-Leasing	77	11	8	68	1	2,053	37	26.7
=34	(50)	Jetstream Aviation Capital	73	20	0	0	73	141	108	1.9
=34	(47)	Genesis Aircraft Services	73	16	2	69	2	1,035	54	14.2
=34	(39)	CMB Financial Leasing	73	8	9	60	4	2,855	26	39.1
37	(43)	Falko	70	9	0	0	70	671	71	9.6
37	(35)	MCAP/MC Aviation Partners	70	2	4	66	0	2,266	32	32.4
39	(43)	Accipiter	69	8	2	67	0	2,118	34	30.7
=40	(39)	CCB Financial Leasing	68	3	6	62	0	2,789	27	41.0
=40	(45)	VEB-Leasing	68	8	23	10	35	1,858	38	27.3
42	(45)	Sberbank Leasing	67	7	8	36	23	1,429	47	21.3
43	(37)	Changjiang Leasing Company	65	-1	0	52	13	1,331	49	20.5
44	(36)	ALAFCO	63	-4	7	56	0	2,495	29	39.6
45	(51)	Chorus Aviation Capital	58	6	0	0	58	942	57	16.2
46	(62)	International Airfinance	55	17	25	30	0	2,992	24	54.4
47	(41)	GOAL German Operating Aircraft Leasing	54	-8	3	32	19	1,666	42	30.9
48	(57)	Aviator Capital	53	10	9	38	6	729	69	13.8
=49	(48)	Tokyo Century	50	-5	12	35	3	2,072	36	41.4
=49	(51)	SkyWorks Leasing	50	-2	20	26	4	550	77	11.0
		Total	10,306	655	1,466	7,117	1,723	296,135		28.7

Source: Flight Fleets Analyzer and Ascend Values data, end-2018. May exclude some orders placed in final few days of 2018.

REPORT
SOPHIE SEGAL NEW YORK
ELLIS TAYLOR PERTH

Emerging threats?

Last year was another positive one for aircraft finance, but there are pockets of weakness



IATA's mid-December annual forecast for 2019 came with the headline: "Cautious optimism extends into 2019."

Restrained positivity has characterised the language of airline and leasing executives for several years now, while manufacturers have shown confidence with production ramp-ups, despite often struggling to deliver their goods on time.

IATA predicts that 2019 will bring the tenth year of profit and the fifth consecutive year in which airlines deliver a return that exceeds the industry's cost of capital.

Since IATA issued its December statement, however, market and geopolitical uncertainty has worsened, with a dovish December US Federal Reserve rate hike of 25 basis points causing volatile stock markets to turn bearish. Further spooking investors is uncertainty

around China-US relations, a government shutdown in Washington DC and Brexit.

Therefore, while 2018 only finished about \$6 billion behind 2017 and traffic is still predicted to grow, pockets of weakness are beginning to emerge.

Echoing this sentiment, BOC Aviation chief executive Robert Martin told FlightGlobal in early November that the industry's collective profits over the past few years have been driven by the larger US and European carriers, but that this profitability has masked weakness in other jurisdictions, particularly in emerging markets.

"They [emerging market airlines] are getting hit by a strong dollar – and obviously fuel is in US dollars – rising US dollar interest rates on their aircraft financing, rising domestic interest rates on their working capital financing... and they may have been hit with

some delays [to aircraft deliveries] over the summer [2018]," Martin said.

Meanwhile, consolidation has led to a wider gap between large and small lessors. What will happen to GECAS – which was reported to be undertaking a strategic review last year – or to Avolon – which has suffered from its association with debt-ridden parent HNA Group – is still unknown.

But with more than 2,500 aircraft owned, managed and committed, and nearly 280 customers between them, according to Flight Fleets Analyzer, their stories will be closely followed by the aviation community.

Ultimately, while the aircraft finance industry as a whole still has plenty of reasons to be cheerful, it remains to be seen whether the cautious optimism going into 2019 will endure as the year unfolds.

Tougher times in India

India may still be one of the fastest-growing aviation markets in the world, but 2018 saw carriers struggling to pass on higher costs to passengers, resulting in more strain on their balance sheets.

Stronger fuel prices in 2018 were felt particularly hard, with the double-whammy of a depreciating home currency, which further increased US dollar-denominated costs. Flight-Global schedules data shows capacity grew 18% between 2017 and 2018. Forward-filed schedules for the year to November 2019 indicate that there will be at least 10% more ASKs added to the market over the next 12 months.

Market conditions led local credit ratings agency ICRA to downgrade its ratings on IndiGo, although it has acknowledged that the budget carrier is best placed among India's airlines to weather the storm, thanks to its



IndiGo has been adding significant capacity

strong liquidity and focus on cost controls.

IndiGo itself has signalled that it is reversing earlier plans to take more aircraft on to its balance sheet, and will extend the sale-and-leaseback programme on its Airbus A320neos in order to preserve cash.

The situation is much more challenging at Jet Airways, which has been forced to delay salary payments, seek advances on sale-and-leaseback

payments, and go on the hunt for new equity.

Adding to the carrier's pain, it confirmed on 31 December that it had defaulted on payments to a consortium of local banks, attributing the repayment delays to a "cash flow mismatch".

Jet is not alone in relying on sale-and-leaseback payments to finance its operations. Ratings agency Crisil revealed in October that SpiceJet's cash was under pressure as deliveries of its own 737-8s had delayed some payments, and it too had sought relief from lessors on overdue rentals on some aircraft.

Despite the challenges facing India's airlines and the continuing growth in capacity, there is optimism that the depressed yield environment will turn around in early 2019.

What is less certain is the fate of Air India following its unsuccessful privatisation attempt in 2018, which failed to yield a single bid for the 76% of the airline on offer.

Indonesian carriers hit by local currency weakness

The crash of a Lion Air Boeing 737 Max 8 in late October rounded out a challenging 2018 for Indonesian carriers, largely driven by a 10% fall in the value of the rupiah during 2018 and continuing yield pressures.

Commentators have largely blamed the decline of the rupiah on foreign investors selling Indonesian assets, spurred by rising US interest rates, and fears that emerging market risk from Turkey and Argentina could spread to other like economies.

For most Indonesian carriers, which sell the majority of their tickets in rupiah, the declines in the local currency have caused fuel, leasing and maintenance costs – typically paid in dollars – to shoot up. At the same time, yields have continued softening.

Garuda Indonesia chief executive Ari Askhara told FlightGlobal in December that there was a need to "fix the ecosystem" in the domestic market.

Consolidation appears to be a major part of the answer, with Garuda announcing a tie-up with privately-owned Sriwijaya Air.

Askhara states that the deal will give Garuda a 51% share of the domestic market, which for many years prior had been dominated by low-cost rival Lion Air.

Lion Air Group also appears to be suffering due to the same conditions plaguing its rivals. Its strong use of sale-and-leasebacks, and some sales of on-order jets to lessors for placement with other airlines, demonstrates that it, too, has had to pull levers to ensure it has the cash to finance its day-to-day operations.



The rupiah's decline has hiked costs

Lessors eye repossessions as Avianca Brazil struggles

While its home country's fortunes have been looking more positive after a regional downturn between 2015 and 2017, Avianca Brazil faced some late-year challenges.

The airline filed for bankruptcy in early December, the largest operator to enter restructuring in 2018.

The Synergy Group-owned carrier, which leased 50 of its 58 aircraft, according to Flight Fleets Analyzer, filed with the court to protect its operations after several lessors, including Aircastle and Aviation Capital Group (ACG), moved to repossess aircraft when renegotiations of lease contracts failed.

Other high-profile airline bankruptcies over the past two years have been relatively straightforward for lessors. The aircraft have been liquid, in-demand types, usually remarketed swiftly without much financial loss to the lessor. In this case, however, GECAS is the only lessor with new-technology equipment leased into the carrier.

Aircastle said it was initiating legal action to repossess its 11 aircraft, revising its fourth-quarter lease rental revenue guidance from \$187-\$191 million to \$182-\$184 million. It has



The carrier was adding domestic capacity

likewise revised its maintenance revenue guidance from \$14-\$18 million to \$90-\$94 million.

Aviation Capital Group also acknowledged on 12 December that it had terminated leases for its nine aircraft and had begun the process of repossession.

GECAS, like Aircastle, has 11 aircraft on lease to Avianca Brazil, including one Airbus A320 and 10 A320neos, and has not commented on its dealings with the carrier.

Competitor Gol has blamed Avianca Brazil for adding too much capacity to the domestic market in Brazil.

Low-cost model doubts

IATA has warned that Europe is the only region that will not perform better in 2019 compared with 2018, due to high levels of hedging, which locked in higher oil prices.

Competition remains a significant hurdle, and along with high costs – including labour and fuel hedges – low-cost carriers in Europe face challenges. In particular, the fates of Norwegian and Wow Air were precarious in 2018, and going into 2019 the long-haul low-cost model will be tested through another year.

Following Icelandair's decision to cancel an agreement to purchase Wow, the latter found a potential partner in late November in Phoenix-based private equity firm Indigo Partners, the financial backers of Frontier Airlines, Wizz Air and Volaris. Indigo announced its interest in acquiring the budget carrier in late November and is completing a period of due diligence.

As it restructures, Wow is negotiating with lessors with a view to returning jets, including all of its Airbus A330s, and has agreed to sell four A321s to Air Canada, improving its liquidity by \$12 million.

Similarly, struggling European low-cost carrier Norwegian has implemented a cost savings programme called Focus2019, which aims to save the carrier at least Nkr2 billion (\$230 million) this year.

The airline says it has financing in place for all aircraft deliveries for the first half of 2019, including that of one Boeing 787 delivered in 2018, resulting in additional liquidity of Nkr275 million in December 2018.



Wow's future appears to lie with Indigo

Lessors increasingly tap unsecured borrowing in capital markets as fleet expands

"The aircraft financing market remains healthy, with adequate commercial liquidity," said Boeing Capital president Tim Myers in December. "We expect another year of balanced funding for commercial airplane deliveries in 2019, mirroring the broader industry, primarily split between bank debt, capital markets and cash."

Bank debt accounted for about 39% of deliveries in 2018, while capital markets funding made up about 28%. Boeing predicts that capital markets lending – which has grown significantly over the past decade – will grow to 30% of aircraft deliveries while bank funding will fall to 34% this year.

Lessors, who now own nearly half the global fleet, are relying more and more heavily on unsecured borrowing in the capital markets. Boeing predicts that 48% of lessor deliveries in 2018 were financed via the capital markets, with about 70% of those transactions being unsecured bond issuances – over \$13 billion worth, according to FlightGlobal research.

As lessors become more reliant on this type of funding, they continue to develop their models and financing structures to ensure the most efficient capitalisation.



"I'm not so sure the argument that says 'flexibility trumps everything that comes with secured' is a sound one"

Firoz Tarapore
Chief executive, DAE

Unsecured bonds issued by lessors in 2018

Lessor	Date	Amount (\$m)	Coupon	Maturity
Air Lease	01/01/2018	550	2.500	2021
Air Lease	01/01/2018	700	3.250	2025
AerCap	16/01/2018	550	3.875	2028
AerCap	16/01/2018	600	3.300	2023
BOC Aviation Capital	25/01/2018	300	3.500	2023
Avolon	01/03/2018	500	5.500	2023
BOC Aviation Capital	23/04/2018	500	Floating	2021
Aviation Capital Group	24/04/2018	650	3.875	2023
Avation	15/05/2018	300	6.500	2021
AerCap	05/06/2018	600	4.125	2023
Intrepid Aviation	23/07/2018	500	8.500	2021
SMBC Aviation Capital	23/07/2018	500	4.125	2023
Aviation Capital Group	25/07/2018	500	4.125	2025
Aviation Capital Group	25/07/2018	300	Floating	2021
AerCap	14/08/2018	600	4.450	2025
Avolon	06/09/2018	1,000	5.125	2020
BOC Aviation Capital	19/09/2018	500	Floating	2023
Aircastle	20/09/2018	650	4.400	2023
Air Lease	09/10/2018	700	3.500	2022
Air Lease	09/10/2018	500	3.875	2023
DAE	01/11/2018	500	5.750	2023
DAE	01/11/2018	500	5.250	2021
Air Lease	06/11/2018	500	4.625	2028
Aviation Capital Group	28/11/2018	300	4.373	2024
Aviation Capital Group	28/11/2018	500	Floating	2021
Total		13,300		

Source: FlightGlobal

For instance, Aircastle and DAE both secured investment-grade (IG) status in 2018, joining the ranks of AerCap and Air Lease. This status gives lessors access to a lower cost of capital as well as a deeper pool of investors, often still active during tough times when the high yield markets may shut.

The coveted IG rating is so enticing that Avolon closed a tie-up with Japanese-owned Orix Aviation in order to improve its profile. After the August announcement that Orix would take 30% stake in Avolon, Moody's bumped up the lessor's corporate credit rating from Ba2 to Ba1, just shy of IG.

"Moody's expects that Orix will have a positive influence on Avolon's strategy and operational and financial controls through its appointed board directors and will enhance Avolon's business and funding opportunities," the agency wrote in a report in November.

Given the capital expenditures for most top-rated lessors, a cost advantage gained from IG ratings is significant. Raising money at the lowest cost will define the winners and losers when lease rentals compress, as they have been doing for the past couple of years.

But it is not all about being investment-grade.

Part of running a leasing company is to ensure that the business has ample liquidity should it lose its IG status or find the capital markets too expensive.

Ensuring bank support is also key to the capital structure of a leasing company, as DAE's chief executive remarked at a conference in September.

"To say that 'one size fits all', in terms of liquidity structure, is not right," Firoz Tarapore said during a panel discussion.

"If you only want to own the asset for the first third of its life, then [unsecured] funding is a perfectly valid strategy," Terapore stated. "But for portfolios with a different strategy and with different capabilities, I'm not so sure that the argument that says 'flexibility trumps everything that comes with secured' is a sound argument."

Aircraft are long-life assets, and traditionally longer-term secured bank loans have been matched against the aircraft's initial lease.

But with capital markets expected to pick up more of the pie in 2019, it is worth noting that they can be fickle, particularly the high-yield market. And while several lessors are celebrating their IG status, a few sit only just above the threshold – in fact, one notch from having to return to being a high-yield issuer.

ABS transactions still growing in popularity

Air Lease has created a "replicable avenue for the efficient sale of aircraft", chief executive John Plueger told investors in August.

Aircraft securitisation is becoming a dependable channel for lessors to both purchase and sell portfolios, and the importance of the securitisation market for refinancing the global fleet cannot be overestimated.

At the end of November, aircraft ABS issuance was up 36% year-on-year, which Kroll Bond Rating Agency (KBRA) said "reflected greater investor acceptance of the asset class" in its *ABS Outlook*, published on 5 December.

At the end of 2018, however, lessors had

Plueger: ABS is efficient



closed the same number of ABS transactions as in 2017 and the amount issued was slightly lower as markets became more volatile in December.

Still, transactions have steadily increased since 2013, and repeat issuers are returning, inventing ways to structure deals more efficiently.

Last year the market saw a number of inaugural issuances, including the simultaneous launch

of a platform – Zephyrus Aviation Capital – with a securitisation of 21 mid-life aircraft; the first all-cargo deal with Vx Capital purchasing 35 freighters; and new equity structures from GECAS and Air Lease that hope to increase the diversity and depth of institutional investors.

"We believe non-traditional ABS issuance will grow again in 2019," KBRA stated. "Investor demand has been strong for these off-the-run asset classes, which offer a pick-up in yield versus more traditional consumer ABS sectors."

After KBRA issued its report, and given instability in December and early January, issuers are likely to hold off until the market steadies.

DAE, which issued the final securitisation of 2018, sold 18 aircraft for \$380 million in a deal one banker called an "unbelievable achievement" given market volatility in December.

ABS deals issued in 2018

Issuer	Date Priced	Tranche	Amount (\$m)	Coupon (%)	WAL*	Servicer	Average Age	Average lease term
SAPA 2018-1	14/03/18	A	633	4.250	4.39	Avolon	9.7	5.0
		B	97	6.000	4.39			
		C	38	7.500	2.58			
AASET 2018-1	26/04/18	A	352	3.800	3.70	Apollo Aviation	14.1	4.1
		B	59	5.437	3.70			
		C	32	6.143	2.20			
MAPSL 2018-1	26/04/18	A	415	4.212	4.70	Merx Aviation	9.0	4.5
		B	55	5.193	4.70			
		C	37	6.413	3.20			
CLAST 2018-1	07/06/18	A	731	4.125	4.70	Castlelake	4.5	12.2
		B	115	5.300	4.70			
		C	66	6.625	3.38			
STARR 2018-1	21/06/18	A	430	4.089	5.07	GECAS	8.0	4.2
		B	120	5.315	5.07			
		C	37	6.899	3.50			
TBOLT 2018-1	19/07/18	A	375	4.147	5.30	Air Lease	8.0	4.7
		B	75	5.071	5.30			
WESTF-2018-1	16/08/18	A	327	4.750	6.34	Willis Lease	N/A	1.0
		B	47	5.438	6.43			
ZCAP 2018-1	28/09/18	A	337	4.610	3.40	Zephyrus Aviation Capital	12.9	3.1
		B	488	4.454	3.80			
AASET 2018-1	01/11/18	B	73	5.433	3.80	BBAM	9.8	3.4
		C	51	6.892	2.70			
		A	476	4.458	4.90			
HORZN 2018-1	20/11/18	B	91	5.270	4.90	Vx Capital	23.1	4.3
		C	45	6.657	3.50			
		A	139	5.438	3.46			
CARGO 2018-1	20/11/18	B	36	6.535	3.46	Dubai Aerospace Enterprise	8.9	4.5
		C	15	8.474	2.29			
		A	320	4.250	4.80			
KSTRL 2018-1	12/11/18	B	60	5.500	4.80			

Total **6,171**

Source: FlightGlobal. Note: *WAL = weighted average life

Insufficient income

Insurance premiums again lagged losses in 2018 – despite an uptick in rates and another quiet year in terms of major claims, writes Paul Hayes, director of air safety at FlightGlobal

Despite some “shock, horror” headlines in the media, 2018 was actually the third safest year in history in terms of the airline fatal accident rate, and the fifth safest in terms of the revenue passenger fatality rate.

Some 515 passengers and crew – including 482 revenue passengers – still lost their lives, however, in 10 fatal accidents during the year. The worst incident was the crash of a Lion Air Boeing 737 Max 8 into the Java Sea in October, which killed all seven crew and 181 passengers.

Nevertheless, from the point of view of insurers, 2018 was relatively quiet. There were no “catastrophes” in insurance terms

and, as far as is known, only one airline all-risk loss incurred during the year is expected to exceed \$100 million. It is believed that only three all-risk losses in 2018 will individually exceed \$50 million.

Despite these numbers, it was certainly not a good year for insurers. The continuing erosion in premium income may have stopped at last and rates may now be increasing, but the cost of the known incurred claims still exceeded the whole of the written net premium income for the year.

Catastrophes and other headline-grabbing accidents are now rare, but the steady rain of minor or attritional losses, slips and falls, scalds from hot coffee, lost luggage,

and so on continues. In many years, such incidents are now estimated to have accounted for at least 50% of the total cost of incurred losses.

TYPICAL OUTCOME

Flight Ascend Consultancy currently estimates that the cost of incurred airline hull and legal liability losses for 2018 is more than \$1.6 billion. This is some \$400 million more than the estimated cost of claims in 2017, but should not be considered exceptional. The annual average cost of airline all-risk hull and liability losses over the past 10 years is \$1.7 billion, so 2018 might better be thought of as just a typical year.



The year's worst incident among 10 fatal accidents globally was the crash of a Lion Air Boeing 737 Max 8 into the Java Sea in October

After seven or eight years of falling airline insurance rates, it is thought that in 2018 the market finally turned and rates generally began to increase again. Airline all-risk hull and legal liability insurance rates, overall, are believed to have increased by between 5% and 10% during the year, with the written net premium increasing by perhaps as much as 15%.

Ascend estimates that the airline net written premium in 2018 increased by about \$175 million to a total of \$1.33 billion, but incurred claims in the year still exceeded this by about \$300 million. Therefore, 2018 is the sixth year running where claims have exceeded premiums.

The airline insurance market needs an annual net premium income of something like \$2.2 billion if it is to pay claims, cover its operating costs, provide a good return on the capital employed and, perhaps, make a profit, Ascend believes. Premiums therefore still need to increase by some 66% over the 2018 figure – quite a hill to climb.

In recent years, airline insurers had been increasingly claiming that, “this year, there will be no more reductions and rates will go up”, but this threat never really came to anything. In 2018, insurers again took the view that every risk should get an increase even if, in some cases, the rise would be very small. The market was increasingly viewed as being



Minor incidents – such as lost luggage – account for more than half of incurred losses

significantly “under water”, meaning rates had to go up. In 2018, this appears to have actually happened.

“As usual” risks with a poor loss experience and/or needing high limits got the largest increases but even many risks that had “gone clean” experienced rises. The first half of the year appeared to see the end to reductions.

BETTER PLACES

A number of drivers seem to have reached critical mass and began to force the rates up. Among other things, rates hardened in other classes of insurance business, so capital providers had better places to put their money than in aviation. Airline insurance probably

represents just 1% of the global casualty insurance business, so a little spare capital from other markets can swamp it.

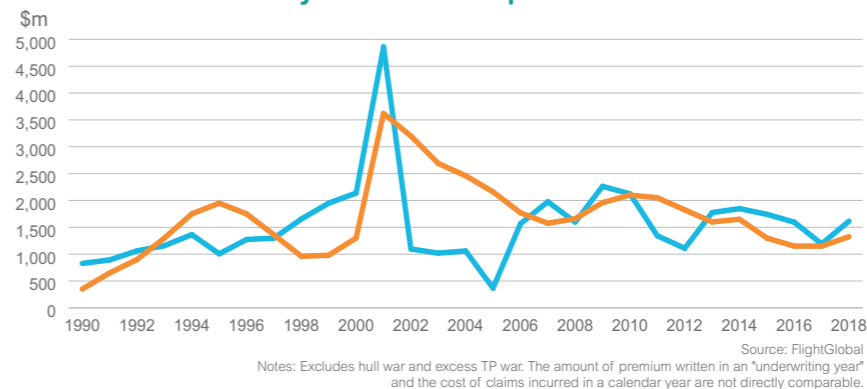
Reduced competition amid poor results, year after year, finally began to bite, resulting in some insurers withdrawing from aviation entirely, while others made further reductions in their exposure to the class. There were also a number of mergers, which might be expected to reduce the total written line that the new, combined companies take.

Lloyds continued to police its syndicates' plans and take a hard line on their 10% worse-performing business, which might well include aviation. The drive for diversification, where writing different classes of business with low loss collation could result in lower capital requirements and therefore increased capacity – which saw some insurers writing an aviation account even at a loss – was at last seen as illogical.

Most viable savings on costs and overheads through improved efficiency have already been achieved. One underwriter suggested that the overhead on writing an airline book is now considerably less than 10%, adding that “results had finally become so bad that business managers began saying enough is enough; improve your results or else”.

No seismic changes in market conditions are expected in 2019. Interest rates are still low and Solvency II requirements mean insurers have to invest in more conservative assets, further reducing the opportunity to make up for poor premium income through investment income. Insurers, as always, need to make an underwriting profit. Therefore, the harder market is expected to continue in 2019 and is likely to carry on into the foreseeable future. ■

Airline hull and liability claims versus premiums 1990-2018



Written premium	Total cost
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Airline all-risk hull and liability claims costs and written premium 2009–2018 (\$m)

	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Written premium	1,960	2,100	2,050	1,825	1,600	1,650	1,300	1,150	1,150	1,325
Hull cost	858	1,262	729	457	777	514	692	774	509	762
Liability cost	930	361	88	102	422	734	425	172	7	153
Minor liability	475	500	525	550	575	600	625	650	675	700
Total cost	2,263	2,123	1,342	1,109	1,774	1,848	1,742	1,596	1,191	1,615

Source: FlightGlobal

Airline Business