AIRFINANCE JOURNAL

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Leasing Top 50 2018

Lessors continue to **woo new investors**

The sector remains attractive, with data from the Leasing Top 50 showing that average return on equity in the leasing industry has nearly doubled over the past five years.

There were two major leasing industry announcements on the day *Airfinance Journal*'s Leasing Top 50 went to press. The first was US private equity house Carlyle Group agreeing to acquire 100% of Apollo Aviation Group from its owners, Robert Korn and Bill Hoffman. After the deal closes at the turn of the year, Apollo will become a new business line, operating as Carlyle Aviation Partners, within Carlyle's global credit segment.

The acquisition will allow Carlyle's global credit platform to offer long-duration exposure to commercial aviation markets through a variety of credit, equity and structured finance instruments.

Apollo was established in 2002 but it became solely owned by H&K entities controlled by Hoffman and Korn in December 2017. In late September, a few days before the Carlyle buyout was announced, the lessor acquired aircraft assets and management contracts from Dublin-based Aergen. The Aergen portfolio, held by various special purpose vehicles, included 30 in-production narrowbody aircraft.

The second major news story that became known on press day was Singapore's sovereign wealth fund GIC buying a minority stake in regional aircraft lessor Nordic Aviation Capital (NAC). The transaction will comprise a partial sale by the Swedish private equity EQI VI and new capital to strengthen further NAC's balance sheet.

EQT VI, a fund controlled by private equity group EQT, agreed to acquire a majority stake in NAC in October 2015 in a deal that valued the leasing company at $3.3 billion. The Swedish firm will remain the largest shareholder in NAC, while founder Martin Møller will also remain a significant shareholder.

Since 2015, NAC has more than doubled its operating lease income and added more than 30 new customers. Today, the company has a fleet of 468 regional aircraft and total assets of $8 billion. The GIC deal will add firepower to NAC's financial capabilities, allowing it to continue to expand.

As with many private equity models, EQT's involvement was expected to be short to medium term, meaning that it did not come as a surprise when *Airfinance Journal* reported in January that the Swedish company was reviewing strategic options for NAC.

What was surprising was that EQT did not sell its entire stake in NAC to GIC. When *Airfinance Journal* first reported interest in the EQT slice, a person familiar with EQT's plan hinted that the private equity house would exit NAC and indicated the interest in the regional aircraft lessor stemmed from "various global investors" and "a lot of non-Asian money". EQT's decision not to sell off its entire stake in NAC is good news for the lessor, because it retains a valuable shareholder in its structure.

Both the Apollo and the NAC announcements show that equity investors from different backgrounds are still attracted to aircraft leasing because of the strong risk-adjusted returns it offers.

The data within the Leasing Top 50 supports this. Over the past five years, return on equity for 23 lessors and their predecessors (whose financials have been continuously available) has doubled from 5.4% to 11%. Twelve lessors out of the 23 had a return on equity of more than 10% in their most recent financial years.

However, the data also shows there has been a drop in yields this year, showing that lessors are feeling the pinch of pricing pressures after a 12- to 18-month lag. In 2016/17, lessors had an average lease yield of 12.7%, but this fell to 12.3% in 2017/18. Fortunately, despite the Fed's interest rate increases, the survey sample achieved a further reduction in interest cost in 2017/18. The question is, how many 0.25% interest rate increases will we have to see before the flood of new equity begins to dissipate? Answers will vary, depending on which lessor you ask.

JACK DUTTON
Editor,
Airfinance Journal

Top 50 **managers by number of aircraft**

Rank	Lessor	Total	% change since last year		Turboprop	Regional jet	Narrowbody	Widebody
1	GECAS	**1,225**	↓	-3.8%	20	273	770	162
2	AerCap	**1,089**	↓	-2.9%	-	-	795	294
3	Avolon	**582**	↑	1.7%	-	52	437	93
4	BBAM[1]	**450**	↑	10.2%	-	2	327	121
5	Nordic Aviation Capital	**428**	↑	5.8%	264	157	7	-
6	SMBC Aviation Capital	**408**	↓	-7.1%	-	3	362	43
7	DAE Capital	**327**	↓	-2.1%	51	-	217	59
8	Air Lease	**323**	↑	13.9%	-	2	252	69
9	BOC Aviation	**297**	↓	-0.7%	-	-	246	51
10	Aviation Capital Group	**275**	↑	0.4%	-	-	265	10
11	ICBC Leasing	**267**	↑	6.4%	-	5	231	31
12	Aircastle	**240**	↑	10.8%	-	6	199	35
13	ORIX Aviation	**232**	↑	9.9%	-	-	207	25
14	Macquarie AirFinance	**195**	↓	-3.6%	-	3	181	11
15	Apollo Aviation Group	**192**	↑	22.9%	-	-	162	30
16	CDB Leasing	**190**	↑	5.8%	-	20	143	27
17	BOCOMM Leasing	**184**	↑	37.5%	-	10	151	23
18	Castlelake	**182**	↑	19.8%	14	14	126	28
19	Avmax	**172**	↑	9.3%	80	79	11	2
20	Jackson Square Aviation	**151**	↑	3.3%	-	-	133	18
21	Standard Chartered Bank	**135**	↑	1.5%	-	-	123	12
22	Deucalion Aviation Funds	**123**	↑	10.6%	-	-	94	29
23	Goshawk[2]	**115**	↑	26.1%	-	1	108	6
24	China Aircraft Leasing	**112**	↑	17.0%	-	-	106	6
25	Cargo Aircraft Management	**93**	↑	5.4%	-	-	9	84
26	Tokyo Century Leasing	**92**	↑	10.9%	-	6	67	19
27	CMB Financial Leasing	**79**	↑	59.5%	-	4	57	18
28	Elix Aviation Capital	**77**	↓	-2.6%	77	-	-	-
28=	Falko	**77**	↑	3.9%	17	56	4	-
30	CCB Leasing	**76**	↑	5.3%	-	2	62	12
30=	Aircraft Leasing & Management	**76**	↑	75.0%	-	15	51	10
32	FPG Amentum	**73**	↑	39.7%	4	-	50	19
33	Transportation Partners	**71**	→	0.0%	52	-	19	-
33=	VTB Leasing	**71**	↑	54.9%	-	7	54	10
35	MC Aviation Partners	**69**	↑	24.6%	-	-	65	4
36	VEB Leasing	**67**	↓	-22.4%	2	29	14	22
36=	Accipiter	**67**	↑	20.9%	1	-	64	2
38	Fortress Transportation	**65**	↑	38.5%	-	-	53	12
38=	GTLK Europe	**65**	↑	66.2%	-	12	48	5
40	Sky Aviation Leasing[2]	**63**	↑	9.5%	-	-	51	12
41	Sberbank Leasing	**62**	↑	9.7%	-	20	36	6
41=	State Transport Leasing	**62**	↑	16.1%	-	20	35	7
43	ALAFCO	**58**	↓	-12.1%	-	-	54	4
44	JP Lease Products & Services	**57**	↑	59.6%	-	-	44	13
45	Minsheng Financial Leasing	**56**	↓	-5.4%	-	11	41	4
45=	GOAL	**56**	↓	-7.1%	13	10	30	3
47	Merx Aviation	**54**	↓	-9.3%	-	3	48	3
48	Altavair Airfinance	**53**	↑	1.9%	-	-	21	32
48=	Aviation Finance & Leasing	**53**	↑	77.4%	-	-	53	-
50	Skyworks Leasing	**52**	↓	-44.2%	4	-	26	22
	Total	**9,638**	↑	**6.7%**	**599**	**822**	**6,709**	**1,508**

Source: Lessors and *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

[1] *the table excludes the Airasia deal which started closing in August 2018*

[2] *the table excludes the Goshawk/Sky acquisition*

Top 50 **managers by CMV**[3] **of fleet** ($m)

Rank	Lessor	Total	% change since last year		Turboprop	Regional jet	Narrowbody	Widebody
1	AerCap	**$36,831**	↑	4.7%	-	-	$18,490	$18,342
2	GECAS	**$26,713**	↓	-6.0%	$274	$1,762	$16,162	$8,514
3	BBAM[1]	**$22,350**	↑	11.8%	-	$33	$9,987	$12,330
4	Avolon	**$21,419**	↑	0.8%	-	$964	$13,408	$7,047
5	SMBC Aviation Capital	**$16,300**	↓	-6.7%	-	$52	$11,870	$4,378
6	Air Lease	**$15,994**	↑	13.9%	-	$40	$8,874	$7,080
7	BOC Aviation	**$14,219**	↑	2.5%	-	-	$9,163	$5,056
8	ICBC Leasing	**$12,019**	↑	2.0%	-	$126	$8,819	$3,074
9	DAE Capital	**$11,323**	↓	-2.9%	$791	-	$6,427	$4,105
10	Aviation Capital Group	**$8,812**	↑	3.9%	-	-	$8,107	$705
11	BOCOMM Leasing	**$8,281**	↑	30.6%	-	$262	$5,685	$2,334
12	CDB Leasing	**$7,296**	↑	4.2%	-	$425	$5,290	$1,580
13	ORIX Aviation	**$7,132**	↑	6.8%	-	-	$5,573	$1,559
14	Jackson Square Aviation	**$6,929**	↑	2.0%	-	-	$5,178	$1,751
15	Aircastle	**$6,533**	↓	-1.4%	-	$142	$4,432	$1,959
16	Nordic Aviation Capital	**$6,237**	↑	1.9%	$3,122	$2,881	$233	-
17	Amedeo	**$5,715**	↑	53.9%	-	-	$38	$5,677
18	Macquarie AirFinance	**$5,333**	↓	-9.2%	-	$48	$4,631	$654
19	Standard Chartered Bank	**$5,282**	↓	-5.6%	-	-	$4,578	$704
20	Goshawk[2]	**$4,914**	↑	28.4%	-	$22	$4,144	$749
21	China Aircraft Leasing	**$4,329**	↑	16.5%	-	-	$3,920	$409
22	CMB Financial Leasing	**$4,189**	↑	64.7%	-	$118	$2,235	$1,835
23	CCB Leasing	**$3,890**	↑	3.0%	-	$45	$2,533	$1,313
24	Tokyo Century Leasing	**$3,648**	↑	1.6%	-	$111	$2,282	$1,255
25	Deucalion Aviation Funds	**$3,463**	↑	23.0%	-	-	$1,731	$1,732
26	Apollo Aviation Group	**$3,399**	↑	20.5%	-	-	$2,547	$852
27	IAFC	**$3,251**	↑	26.7%	-	-	$1,088	$2,162
28	FPG Amentum	**$3,150**	↑	41.9%	$70	-	$1,605	$1,474
29	Novus Aviation	**$2,958**	↑	42.1%	-	-	$479	$2,479
30	Aircraft Leasing & Management	**$2,939**	↑	83.9%	-	$393	$1,638	$908
31	Castlelake	**$2,918**	↑	35.9%	$49	$103	$2,179	$588
32	Investec	**$2,875**	↓	-6.1%	$131	$113	$57	$2,574
33	Altavair Airfinance	**$2,825**	↑	3.3%	-	-	$543	$2,282
34	Doric	**$2,675**	↓	-4.5%	$57	-	$139	$2,479
35	MC Aviation Partners	**$2,572**	↑	34.8%	-	-	$2,271	$301
36	Aviation Finance & Leasing	**$2,415**	↑	77.5%	-	-	$2,415	-
37	VEB Leasing	**$2,398**	↓	-12.5%	$21	$574	$477	$1,325
38	ALAFCO	**$2,351**	↓	-18.4%	-	-	$1,832	$519
39	Accipiter	**$2,320**	↑	19.0%	$2	-	$2,173	$145
40	JP Lease Products & Services	**$2,193**	↑	76.7%	-	-	$985	$1,208
41	GTLK Europe	**$2,060**	↑	59.2%	-	$195	$1,323	$542
42	Sky Aviation Leasing[2]	**$2,056**	↑	12.8%	-	-	$1,309	$747
43	Yamasa	**$1,948**	↑	94.2%	-	-	$1,015	$932
44	VTB Leasing	**$1,918**	↑	85.3%	-	$11	$1,716	$191
45	Minsheng Financial Leasing	**$1,883**	↑	12.6%	-	-	$1,318	$565
46	Stellwagen Group	**$1,705**	↑	33.7%	-	-	$286	$1,419
47	GOAL	**$1,604**	↑	9.8%	$163	$181	$1,046	$215
48	SPDB Financial Leasing	**$1,584**	↑	85.7%	-	$23	$1,327	$233
49	Merx Aviation	**$1,579**	↓	-1.8%	-	$76	$1,264	$240
50	Transportation Partners	**$1,445**	↓	-7.3%	$739	-	$706	-
	Total	**$328,168**	↑	**10.7%**	**$5,419**	**$8,699**	**$195,531**	**$118,519**

Source: Lessors and *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

[1] *the table excludes the Airasia deal which started closing in August 2018*

[2] *the table excludes the Goshawk/Sky acquisition*

[3] *per AVITAS Blue Book Q1 2018*

Top 50 **beneficial owners by number of aircraft**

Rank	Lessor	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	GECAS	**1,176**	20	240	757	159
2	AerCap	**1,058**	-	-	765	293
3	Avolon	**532**	-	49	402	81
4	Nordic Aviation Capital	**422**	269	153	-	-
5	DAE Capital	**317**	50	-	210	57
6	BOC Aviation	**283**	-	-	240	43
7	Air Lease	**274**	-	1	210	63
8	ICBC Leasing	**267**	-	5	231	31
9	NBB Leasing	**265**	-	2	178	85
10	Aviation Capital Group	**252**	-	-	243	9
11	SMBC Aviation Capital	**249**	-	-	234	15
12	Aircastle	**228**	-	5	191	32
13	ORIX Aviation[1]	**202**	-	-	179	23
14	Apollo Aviation Group	**200**	-	-	168	32
15	Macquarie AirFinance	**195**	-	3	181	11
16	CDB Leasing	**190**	-	20	143	27
17	Castlelake	**179**	14	14	123	28
18	Avmax	**172**	80	79	11	2
19	BOCOMM Leasing	**150**	-	5	126	19
20	Jackson Square Aviation	**148**	-	-	132	16
21	Standard Chartered Bank	**126**	-	-	115	11
22	China Aircraft Leasing	**118**	-	-	112	6
23	Goshawk[2]	**107**	-	1	102	4
24	Deucalion Aviation Funds	**104**	-	-	83	21
25	Cargo Aircraft Management	**93**	-	-	9	84
26	Fly Leasing[3]	**85**	-	-	74	11
27	CCB Leasing	**76**	-	2	62	12
27=	Elix Aviation Capital	**76**	76	-	-	-
29	Merx Aviation[1]	**74**	-	7	64	3
30	Transportation Partners	**71**	52	-	19	-
30=	Fortress Transportation	**71**	-	-	58	13
30=	VTB Leasing	**71**	-	7	54	10
33	Accipiter	**67**	1	-	64	2
33=	VEB Leasing	**67**	2	29	14	22
35	JP Lease Products & Services	**65**	-	-	47	18
36	State Transport Leasing	**62**	-	20	35	7
36=	Sberbank Leasing	**62**	-	20	36	6
38	SKY Aviation Leasing[2]	**61**	-	-	50	11
39	ALAFCO	**58**	-	-	54	4
40	Vermillion Aviation	**57**	-	-	54	3
41	Fuyo General Lease	**54**	-	13	36	5
42	Aviation Finance & Leasing	**53**	-	-	53	-
42=	Minsheng Financial Leasing	**53**	-	11	41	1
44	GTLK Europe	**52**	-	10	38	4
45	IAFC	**50**	-	-	25	25
45=	Jetran	**50**	3	3	42	2
47	Tokyo Century Leasing	**48**	-	3	37	8
47=	Jet Midwest Group	**48**	10	-	22	16
47=	ACIA Aero	**48**	25	7	16	-
50	ASL Aviation Group	**47**	19	-	21	7
	Total	**8,833**	**621**	**709**	**6,161**	**1,342**

Source: Lessors and *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

[1] Orix Aviation and Merx Aviation got credit for 50% each of the Kornerstone aircraft

[2] the table excludes the Goshawk/Sky acquisition

[3] the table excludes the Airasia deal which started closing in August 2018

Top 50 **beneficial owners by CMV[4] of fleet** ($m)

Rank	Lessor	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	AerCap	**$36,370**	-	-	$17,979	$18,390
2	GECAS	**$26,243**	$274	$1,646	$15,866	$8,456
3	Avolon	**$19,939**	-	$960	$12,641	$6,338
4	NBB Leasing	**$15,340**	-	$33	$5,927	$9,380
5	Air Lease	**$14,322**	-	$22	$7,758	$6,543
6	BOC Aviation	**$13,372**	-	-	$8,950	$4,422
7	ICBC Leasing	**$12,019**	-	$126	$8,819	$3,074
8	DAE Capital	**$11,176**	$774	-	$6,314	$4,087
9	SMBC Aviation Capital	**$9,811**	-	-	$7,902	$1,909
10	Aviation Capital Group	**$8,192**	-	-	$7,605	$586
11	CDB Leasing	**$7,296**	-	$425	$5,290	$1,580
12	BOCOMM Leasing	**$7,167**	-	$161	$5,044	$1,961
13	Jackson Square Aviation	**$6,760**	-	-	$5,145	$1,615
14	ORIX Aviation[1]	**$6,603**	-	-	$5,061	$1,542
15	Aircastle	**$6,060**	-	$118	$4,216	$1,726
16	Nordic Aviation Capital	**$6,039**	$3,210	$2,829	-	-
17	Macquarie AirFinance	**$5,333**	-	$48	$4,631	$654
18	Standard Chartered Bank	**$4,942**	-	-	$4,251	$691
19	China Aircraft Leasing	**$4,569**	-	-	$4,160	$409
20	Goshawk[2]	**$4,383**	-	$22	$3,906	$456
21	CCB Leasing	**$3,890**	-	$45	$2,533	$1,313
22	Apollo Aviation Group	**$3,499**	-	-	$2,609	$890
23	IAFC	**$3,251**	-	-	$1,088	$2,162
24	Investec	**$2,875**	$131	$113	$57	$2,574
25	Castlelake	**$2,873**	$49	$103	$2,133	$588
26	Fly Leasing[3]	**$2,790**	-	-	$1,943	$847
27	Intrepid Aviation	**$2,636**	-	-	$38	$2,598
28	CMB Financial Leasing	**$2,445**	-	-	$1,554	$891
29	Aviation Finance & Leasing	**$2,415**	-	-	$2,415	-
30	VEB Leasing	**$2,398**	$21	$574	$477	$1,325
31	Deucalion Aviation Funds	**$2,396**	-	-	$1,451	$945
32	ALAFCO	**$2,351**	-	-	$1,832	$519
33	Accipiter	**$2,320**	$2	-	$2,173	$145
34	Vermillion Aviation	**$2,204**	-	-	$1,968	$236
35	Amedeo Air Four Plus	**$2,194**	-	-	-	$2,194
36	SKY Aviation Leasing[2]	**$2,055**	-	-	$1,308	$747
37	Fuyo General Lease	**$2,041**	-	$339	$1,169	$533
38	JP Lease Products & Services	**$1,939**	-	-	$1,044	$895
39	VTB Leasing	**$1,918**	-	$11	$1,716	$191
40	Novus Aviation	**$1,773**	-	-	$167	$1,606
41	GTLK Europe	**$1,734**	-	$189	$1,016	$529
42	FPG Amentum	**$1,690**	-	-	$1,155	$535
43	Merx Aviation[1]	**$1,627**	-	$128	$1,260	$240
44	Tokyo Century Leasing	**$1,617**	-	$51	$1,215	$351
45	Transportation Partners	**$1,445**	$739	-	$706	-
46	Sberbank Leasing	**$1,374**	-	$347	$756	$272
46=	Minsheng Financial Leasing	**$1,374**	-	-	$1,318	$56
48	Incline Aviation	**$1,335**	-	-	$782	$553
49	EMP Structured Assets	**$1,320**	-	-	-	$1,320
50	CMIG Aviation Capital	**$1,146**	-	$107	$317	$722
	Total	**$290,856**	**$5,199**	**$8,396**	**$177,665**	**$99,596**

Source: Lessors and *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

[1] *Orix Aviation and Merx Aviation got credit for 50% each of the Kornerstone aircraft*

[2] *the table excludes the Goshawk/Sky acquisition*

[3] *the table excludes the Airasia deal which started closing in August 2018*

[4] *per AVITAS Blue Book Q1 2018*

Top 50 **lessors' orderbooks**

Rank	Lessor	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	GECAS	**415**	11	5	389	10
2	AerCap	**397**	-	50	301	46
3	Air Lease	**362**	-	-	274	88
4	Avolon	**309**	-	-	254	55
5	China Aircraft Leasing	**238**	-	30	208	-
6	SMBC Aviation Capital	**237**	-	-	236	1
7	CDB Leasing	**191**	-	-	183	8
8	BOC Aviation	**184**	-	-	169	15
9	Aviation Capital Group	**163**	-	-	159	4
10	ICBC Leasing	**133**	-	50	83	-
11	ALAFCO	**125**	-	-	117	8
12	Ilyushin Finance	**106**	2	30	73	1
13	AVIA Capital Services	**85**	-	-	85	-
14	VEB Leasing	**68**	-	7	61	-
15	Macquarie AirFinance	**60**	-	-	60	-
16	Jackson Square Aviation	**56**	-	-	54	2
17	Nordic Aviation Capital	**52**	35	17	-	-
18	China Construction Bank	**50**	-	-	50	-
18=	China Huarong Financial Leasing	**50**	-	20	30	-
20	Goshawk	**49**	-	-	47	2
21	ABC Financial Leasing	**45**	-	-	45	-
22	Everbright Financial Leasing	**33**	-	-	33	-
23	BOCOMM Leasing	**32**	-	-	32	-
24	Aircastle	**25**	-	25	-	-
25	Fly Leasing	**22**	-	-	22	-
26	Incline Aviation	**22**	-	-	22	-
27	Amedeo	**20**	-	-	-	20
27=	Lease Corporation International	**20**	-	3	17	-
27=	Comsys Aviation Leasing	**20**	-	20	-	-
30	State Transport Leasing	**19**	-	19	-	-
31	CITIC Group	**18**	-	-	18	-
32	Sberbank Leasing	**15**	-	-	15	-
33	Hong Kong Int. Av. Leasing	**10**	-	-	-	10
33=	Japan Investment Adviser	**10**	-	-	10	-
33=	CIB Leasing	**10**	-	10	-	-
33=	Aerolease Aviation	**10**	-	10	-	-
37	NBB Leasing	**7**	-	-	7	-
37=	DAE Capital	**7**	1	-	4	2
39	Willis Lease Finance	**6**	-	6	-	-
40	SPDB Financial Leasing	**5**	-	-	5	-
40=	Avia Capital Leasing	**5**	-	-	5	-
40=	IAFC	**5**	-	-	5	-
42	Minsheng Financial Leasing	**4**	-	4	-	-
42=	CMB Financial Leasing	**4**	-	-	4	-
42=	Avation	**4**	4	-	-	-
42=	CES International Financial Leasing	**4**	-	-	-	4
42=	GOAL	**4**	-	-	4	-
47	Falcon Aviation Services	**2**	-	-	2	-
47=	Accipiter	**2**	-	-	2	-
47=	Ping An	**2**	-	-	2	-
47=	Aerostar Leasing	**2**	2	-	-	-
47=	Global Aircraft Trading	**2**	-	-	2	-
	Total	**3,726**	**55**	**306**	**3,089**	**276**

Source: Lessors and *Airfinance Journal*'s Fleet Tracker as of 31 July 2018

Top 50 **lessors' orderbooks** ($m)[1]

Rank	Lessor	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	Air Lease	**$33,599**	-	-	$18,509	$15,090
2	AerCap	**$27,583**	-	$1,003	$19,397	$7,184
3	GECAS	**$26,737**	$115	$110	$24,866	$1,646
4	Avolon	**$25,373**	-	-	$16,414	$8,960
5	SMBC Aviation Capital	**$14,933**	-	-	$14,758	$175
6	China Aircraft Leasing	**$12,888**	-	$660	$12,228	-
7	CDB Leasing	**$12,735**	-	-	$11,480	$1,255
8	BOC Aviation	**$12,472**	-	-	$10,133	$2,339
9	Aviation Capital Group	**$10,849**	-	-	$10,276	$573
10	ALAFCO	**$8,761**	-	-	$7,364	$1,397
11	Amedeo	**$4,902**	-	-	-	$4,902
12	ICBC Leasing	**$4,843**	-	$1,056	$3,787	-
13	AVIA Capital Service	**$3,909**	-	-	$3,909	-
14	Ilyushin Finance	**$3,866**	$35	$465	$3,345	$22
15	Jackson Square Aviation	**$3,741**	-	-	$3,431	$310
16	VEB Leasing	**$3,668**	-	$106	$3,562	-
17	Goshawk	**$3,365**	-	-	$2,962	$403
18	Macquarie AirFinance	**$3,230**	-	-	$3,230	-
19	Hong Kong Int. Av. Leasing	**$1,701**	-	-	-	$1,701
20	Fly Leasing	**$1,473**	-	-	$1,473	-
21	Incline Aviation	**$1,458**	-	-	$1,458	-
22	China Construction Bank	**$1,375**	-	-	$1,375	-
23	China Huarong Financial Leasing	**$1,265**	-	$440	$825	-
24	ABC Financial Leasing	**$1,238**	-	-	$1,238	-
25	Everbright Financial Leasing	**$994**	-	-	$994	-
26	Lease Corporation International	**$989**	-	$134	$856	-
27	BOCOMM Leasing	**$962**	-	-	$962	-
28	Sberbank Leasing	**$958**	-	-	$958	-
29	Japan Investment Adviser	**$644**	-	-	$644	-
30	Nordic Aviation Capital	**$641**	$333	$308	-	-
31	CES International Financial Leasing	**$581**	-	-	-	$581
32	DAE Capital	**$578**	$10	-	$258	$310
33	Aircastle	**$497**	-	$497	-	-
34	CITIC Group	**$495**	-	-	$495	-
35	Comsys Aviation Leasing	**$440**	-	$440	-	-
36	NBB Leasing	**$434**	-	-	$434	-
37	State Transport Leasing	**$293**	-	$293	-	-
38	AVIA Capital Leasing	**$281**	-	-	$281	-
39	IAFC	**$278**	-	-	$278	-
40	Aerolease Aviation	**$260**	-	$260	-	-
41	CIB Leasing	**$256**	-	$256	-	-
42	GOAL	**$243**	-	-	$243	-
43	CMB Financial Leasing	**$201**	-	-	$201	-
44	Groupe Dubreuil	**$175**	-	-	-	$175
45	Hong Kong Aviation Capital	**$145**	-	-	-	$145
46	SPDB Financial Leasing	**$138**	-	-	$138	-
47	Accipiter	**$130**	-	-	$130	-
48	Ping An	**$129**	-	-	$129	-
49	Global Aircraft Trading	**$111**	-	-	$111	-
50	Falcon Aviation Services	**$101**	-	-	$101	-
	Total	**$236,917**	**$493**	**$6,027**	**$183,230**	**$47,166**

Source: Lessors and *Airfinance Journal*'s Fleet Tracker as of 31 July 2018

[1] *calculated as 55% of 2018 list price*

Backlog analysis

The data in this section comes from Airbus and Boeing for their own orders and the OEM websites and internet search for the other manufacturers. It is presented in the tables in the two preceding pages and in Figures 1 to 6 on the next page.

Topping the list of lessor firm orders are four majors: GECAS, AerCap, Air Lease and Avolon. Perhaps surprisingly, CALC comes next on the list followed by three other Chinese-owned lessors.

Leading the way on widebody orders is Air Lease followed by Avolon and AerCap. GECAS has only 10 widebodies on firm order.

Regional jet orders are led by AerCap with firm orders for 50 Embraer E190/E195 E2 and ICBC Leasing with orders for 40 Comac ARJ21 700 and 10 Embraer E190 E2. Demonstrating further support for national aerospace programmes, China Aircraft Leasing has firm orders for 30 Comac ARJ21 700 and Ilyushin Finance Corporation has signed up for 20 Sukohoi Superjet 100 SSJ 95B/95LR and 10 Antonov AN158 200.

Announced turboprop firm orders are relatively scarce but are not unexpectedly led by Nordic Aviation Capital with 35.

Excluding any "unidentified" purchasers, the lessors had a total of 3,694 aircraft on firm order as of the end of August 2018 (i.e. including any firm orders placed at the Farnborough Airshow). These are shown in Figures 1 and 2. As expected, the vast majority are for narrowbody aircraft, though in dollar terms widebodies account for $46.1 billion of estimated cost.

The *Airline Analyst* despairs at press releases and news articles referring to contract values at list prices as it is well known that nobody pays full price. Somewhat arbitrarily we have decided to show the value of these firm order commitments at 55% of list prices. It will not be precise but will be more correct than the 100% values.

Based on this methodology we estimate the cost of the total lessor backlog at $234 billion headed by Air Lease at $34 billion. Amedeo remains on the list with its 20 firm order A380s that continue to slide to the right with estimated cost of $4.9 billion.

A breakdown by manufacturer is shown in Figures 3 and 4. These show a clear lead for Airbus over Boeing for announced lessor firm orders. It also shows the growing footprint for Comac and Irkut.

Figures 5 and 6 show firm orders by country of the lessor's parent (or equity owners if different). For example, SMBC Aviation Capital will show under Japan and not Ireland, while BOC Aviation will show under China and not Singapore. This shows that a full 34% of the global lessor backlog is committed to Chinese lessors followed by the US and Ireland.

The new BBAM fund, Incline Aviation, is well placed with $1.4 billion of orders. Other less well known names include Japan Investment Adviser, Everbright Financial Leasing, Comsys Aviation Leasing and CES International Financial Leasing.

Lessors that appear "under-ordered" relative to their current fleet size include DAE Capital and Aircastle, though of course they may additionally pursue the purchase and leaseback market for growth opportunities.

To dimension the order book, assuming it delivers over seven years the average annual purchases would be $33 billion. This roughly represents the current lessor share of annual deliveries though will be topped up by purchase and leasebacks. It corresponds to a 2.5x multiple of 2017/18 Ebitda of the lessors analysed in the "Trends" section, suggesting ample finance opportunities for the banks and capital markets.

Lessor firm orders

Figure 1: Firm orders by body type

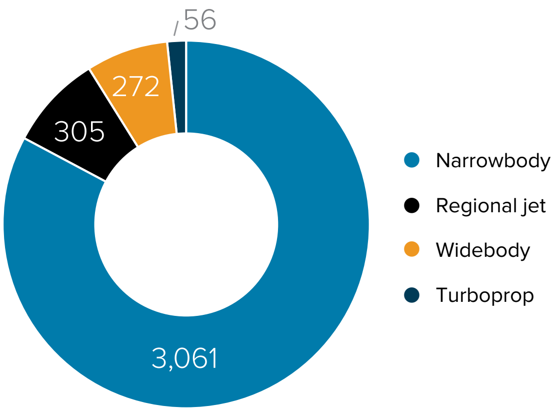


Figure 2: Firm orders by value by body type ($m)

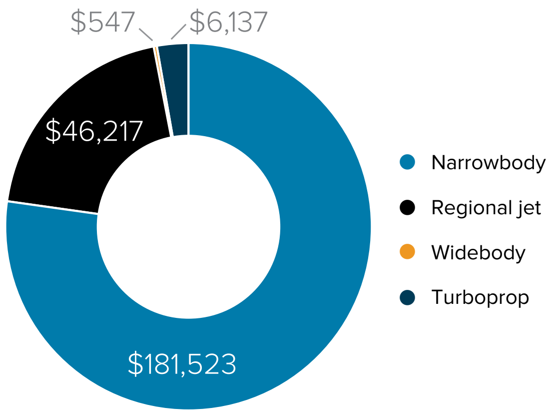


Figure 3: Firm orders by manufacturer

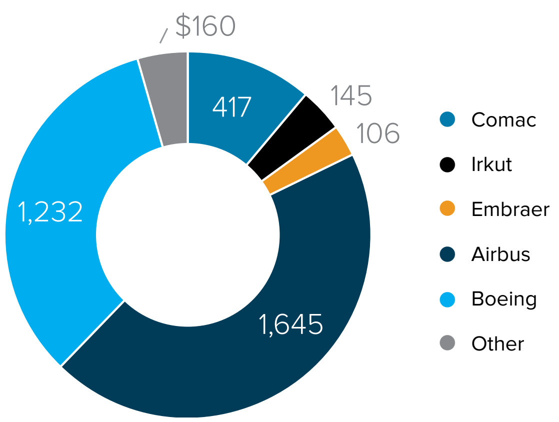


Figure 4: Firm orders by value by manufacturer ($m)

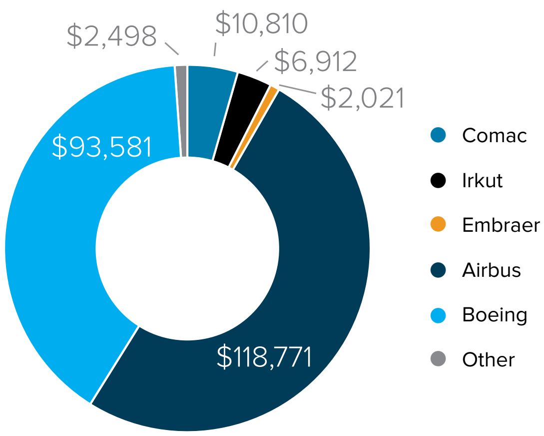


Figure 5: Firm orders by country of lessor

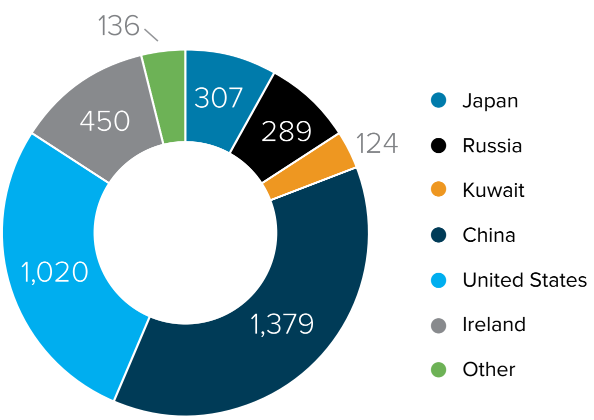
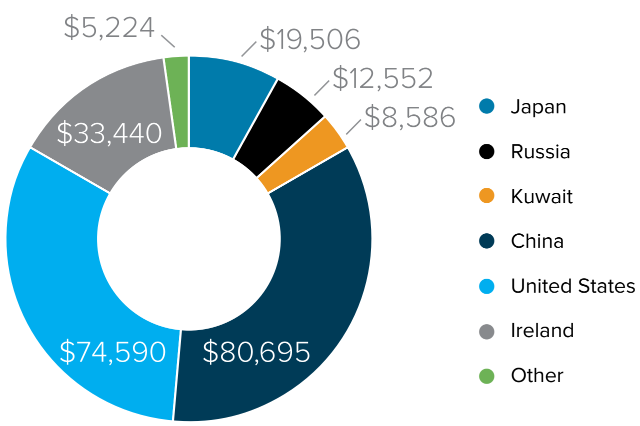


Figure 6: Firm orders by value by country of lessor ($m)



Source: OEMs and *Airfinance Journal*'s Fleet Tracker

Trend analysis – An aggregate view of the global aircraft leasing industry

Figure 1 - Financial highlights[2]

$ billion	2013/14	2014/15	2015/16	2016/17	2017/18
Revenue in survey	14.1	13.6	16.3	16.9	17.8
GECAS	5.3	5.3	5.2	5.3	5.1
Total revenue	19.4	18.9	21.5	22.2	22.9
PP&E in survey	114.4	114.2	129.5	133.9	150.4
GECAS	36.2	34.9	30.6	34.3	31.8
Total assets	150.6	149.1	160.1	168.2	181.2
Net income in survey[1]	1.4	2.9	3.1	3.3	4.1
GECAS	0.9	1.0	1.0	1.4	1.3
Total net income[1]	2.3	3.9	4.1	4.7	5.4

Source: Company reports and *The Airline Analyst*
[1] *excluding major tax credits for ALC, ACG and BOC Aviation*
[2] *includes Avolon/CIT/AWAS/ILFC*

In addition to the "Lessor comparisons" financial analysis in the next section, we present here an analysis of the global financial trends for the industry as a whole. The survey group includes seven of the ten largest lessors (the exceptions being GECAS, BBAM (though it includes FLY) and Avolon – though Avolon's headline numbers are included in Figure 1). DAE Capital and DP Aircraft 1 are included for the first time. ILFC, AWAS and CIT are included for the periods their financials were available. Unfortunately, a number of

lessors with December year-ends have not yet filed their 2017 accounts, which reduces the scope of the survey. Nevertheless, the data enables us to review the industry's growth rate, the trend in yields and financing costs, capital structure and profitability.

Growth

Firstly, growth rate. Figure 1 shows the key financials for the approx. 20 lessors whose financials have been continuously available (we have made some estimates to fill a couple of gaps) over the last five years (or were start-ups during the period). Total property, plant and equipment assets for the population were $181 billion in their most recent financial years, revenues were $22.9 billion and net income was a record $5.4 billion. We have included the values for GECAS, which are available from GE annual reports and investor presentations to get a more comprehensive view of the market's size.

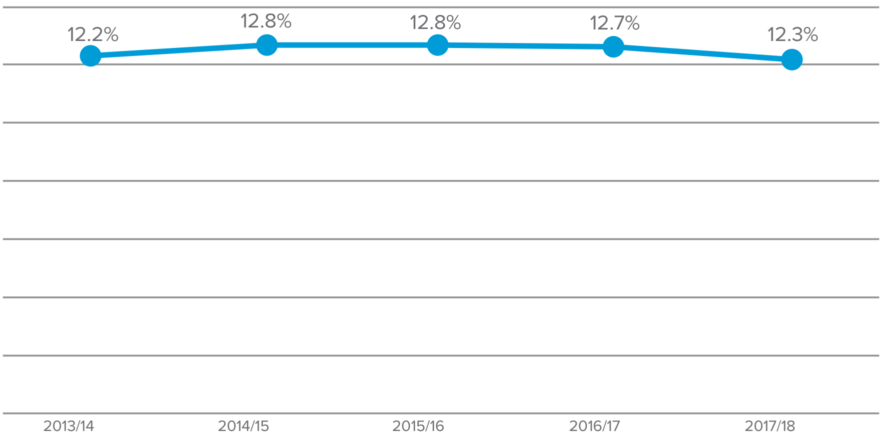
As we can see, the value of property, plant and equipment assets among our survey group increased significantly in 2017/18 despite the relatively high rate of asset sales among some of the larger lessors who are included in the survey. These sales have been to other leasing companies, into structured ABS deals or side-cars. Major purchasers of assets have included the Chinese leasing companies but not all could be included due to lack of financial disclosure.

Yield

Figure 2 shows the yield trend over the last five years. This year we see a noticeable decline which tells us the pricing pressure in the marketplace has started to move the aggregate needle after a 12-24 month lag.

Continued on page 44 >>>

Figure 2: Lease yield



Source: Company reports and *The Airline Analyst*
2017/18 data excludes Avolon

It would therefore appear that the large lessors have not been immune to the pricing reductions though the pain may have been felt more by the new entrants to the market.

Gearing

Gearing for the lessors in the survey has trended up from 2.5x to 2.9x over the last five years as shown in Figure 3. This nevertheless remains a conservative capital structure supported by a significant increase in retained earnings. The typical 4x or higher of the last cycle is only evident in a few cases, though obviously this aggregate value is comprised of some very low and some quite high levels of gearing as presented in the "Lessor comparisons" section.

Debt structure

There has been a major shift in favour of unsecured debt funding as shown in Figure 4. Secured debt has declined, while unsecured debt has doubled over the period. And, taking advantage of continuing low interest rates and declining spreads, we can see that average debt cost has continued to decline as shown in Figure 5. However, as shown in the next section, some lessors have achieved rates below 3%.

Interest cost

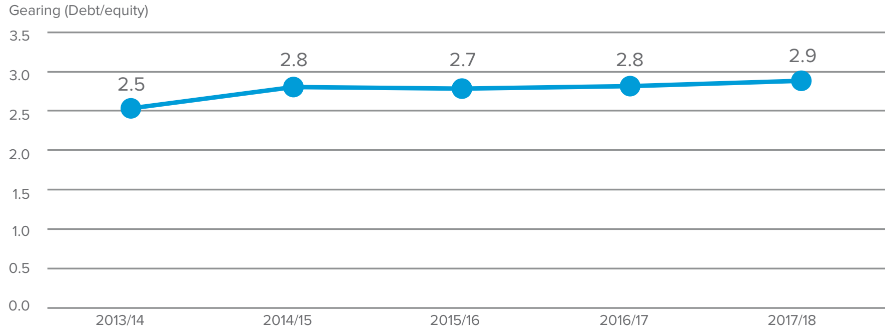
Clearly one of the objectives of the lessors is to maximise the yield-interest cost spread. The downward movement in average interest cost matched the reduction in yield presented above and was good for profitability in 2017/18. Going forward, with interest rates expected to increase, it will be a challenge for lessors to maintain their margins and profitability.

Return on equity

As a whole, the group has achieved a return on equity increasing from 9.0% to 11.1% over the last three years, after a recovery from the impairment-hit 2013/2014 year. Coming in a low Libor environment, these are attractive returns. We will continue to see new entrants attracted to the industry by these returns.

Companies included in the latest period are listed in Figure 1 in the next section. In addition we included ILFC, AWAS and CIT as appropriate in historic years in order to make the data as consistent as possible.

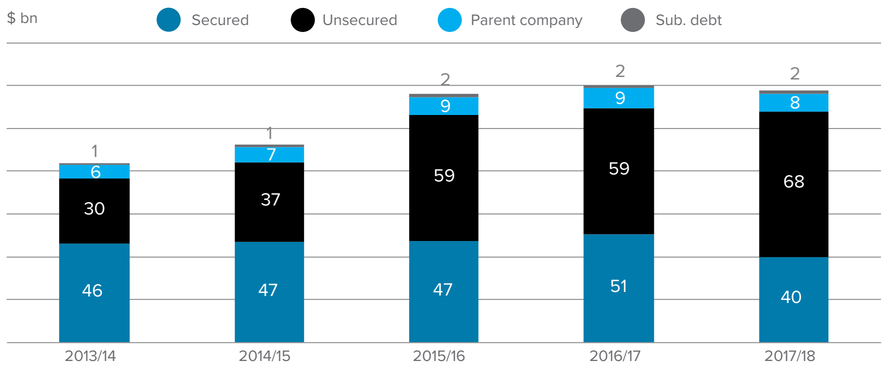
Figure 3: Gearing (Debt/equity)



Source: Company reports and *The Airline Analyst*

2017/18 data excludes Avolon

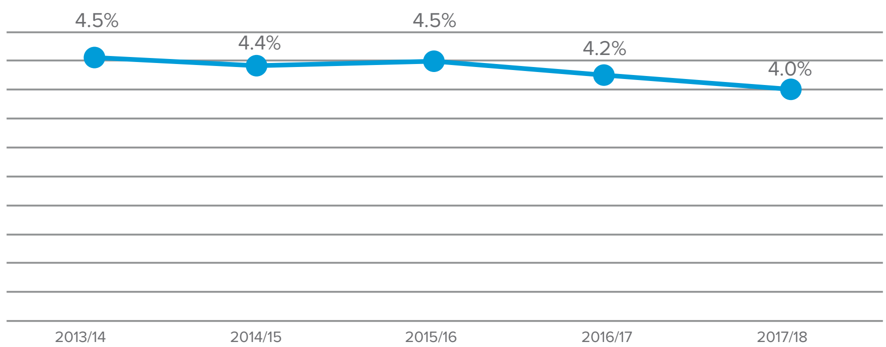
Figure 4: Debt structure



Source: Company reports and *The Airline Analyst*

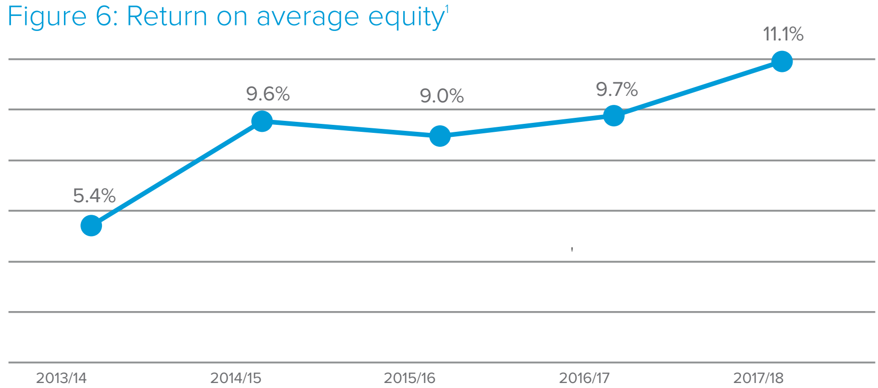
2017/18 data excludes Avolon

Figure 5: Average interest cost



Source: Company reports and *The Airline Analyst*

Figure 6: Return on average equity[1]



Source: Company reports and *The Airline Analyst*

[1] after adjusting for large tax credits for ALC, ACG and BOC Aviation

2017/18 data excludes Avolon

Lessor comparisons – 2017/18

This study offers a comparison of the financial performance and capital structures of the aircraft leasing companies based on their most recent available financial statements (ending either in 2017 or 2018)

To make this report as comprehensive as possible, we have reached beyond the publicly listed lessors to the public filings of lessors in Ireland, Singapore, Denmark and Kuwait.

Figure 1 identifies the entities included in the study. In total we have been able to source the financials for 22 leasing companies. Financials are not available for GECAS, but some headline numbers are available in the GE Annual Report. The same applies for Avolon's 2017 financials where we use headline numbers from their press release and parent Bohai Capital's annual report. In addition to the obvious major players, we include AviaAM from Lithuania (listed in Poland) and Avation from Singapore (listed in the UK). Most of the lessors in the study are incorporated in the USA or Ireland, though two of the largest, AerCap and BOC Aviation, are incorporated in the Netherlands and Singapore, respectively. The abbreviations used to refer to the lessors through the rest of this study are indicated in Figure 1.

In aggregate, the lessors included in the study represent a total current fleet of 5,676 aircraft or 50% of the 11,456 aircraft analysed in the "Analysis of global leased fleet" section of this supplement. The significant absences from our coverage include Avolon (only headline numbers available for 2017) and Macquarie (which does not file financial information publicly other than a few headline numbers). We include DAE Capital for the first time, but financials are not available for BBAM (though we do include FLY). Some lessors that we have included previously are not included as they had not filed their 2017 financial statements at the date of preparing this compilation. These include BOCOMM Leasing, Goshawk, ICBC Leasing, Jackson Square Aviation, Vermillion, Pembroke Capital and Triangle (Falko). We have included Transportation Partners and DP Aircraft I for the first time.

Figure 1: Lessors included in the study

Lessor	Country	FYE	Abbreviation
Accipiter	Ireland	31-Dec-17	Accipiter
AerCap NV	Netherlands	31-Dec-17	AerCap
AerDragon	Ireland	31-Dec-17	AerDragon
Air Lease	USA	31-Dec-17	ALC
Aircastle	USA	31-Dec-17	Aircastle
ALAFCO Aviation Lease & Finance	Kuwait	30-Sep-17	ALAFCO
Amedeo Air Four Plus	UK	31-Mar-18	AA4+
Avation	UK	30-Jun-18	Avation
AviaAM Leasing AB	Lithuania	31-Dec-17	AviaAM
Aviation Capital Group	USA	31-Dec-17	ACG
Avolon[1]	Ireland	31-Dec-17	Avolon
Banc of America Leasing	Ireland	31-Dec-17	BOA
BOC Aviation	Singapore	31-Dec-17	BOC Aviation
CCB Aviation	Ireland	31-Dec-17	CCB
CDB Aviation Lease Finance	Ireland	31-Dec-17	CDBL
China Aircraft Leasing Group	China	31-Dec-17	CALC
DP Aircraft I	UK	31-Dec-17	DP
Dubai Aerospace Enterprise (DAE)	UAE	31-Dec-17	DAE
FLY Leasing	Ireland	31-Dec-17	Fly
Fortress Transport & Infrastructure[1]	USA	31-Dec-17	Fortress
GECAS[1]	USA	31-Dec-17	GECAS
MCAP Europe	Ireland	31-Mar-17	MCAP
Nordic Aviation Capital	Denmark	30-Jun-18	NAC
SMBC Aviation Capital	Ireland	31-Mar-18	SMBC AC
Transportation Partners	Singapore	31-Dec-17	TP

[1] *Key data only*

Note that for some lessors, the entities analysed do not represent the entirety of their global leasing business and may be impacted by internal funding arrangements and inter-company transactions. This applies particularly to some Chinese lessors, MCAP and SMBC AC who have been heavily funded by shareholder loans, so please interpret their numbers accordingly. Over the last two years, however, SMBC AC has partially funded itself from external sources.

Adjustments

In order to enhance comparability in treatment and presentation of the financial statements, we have made some adjustments as described in Figure 2.

Figure 2: Adjustments to enhance comparability

Item	Treatment
Gain on sale of aircraft	Net gain included in revenue
Recognition of "excess" maintenance reserves	Included in lease revenue but not seperately disclosed by every lessor
Maintenance and transition costs	Recognised under its own heading when disclosed, but not disclosed by every lessor
Staff cost, including stock-based compensation	Included in SG&A expenses
Interest income	Included in other revenue
Impact of major change in tax legislation	Large one-off tax credits excluded from net income[1]
Unrealised FX translation gains/losses	Excluded from net income

Source: Company reports and *The Airline Analyst*

[1] *Affects BOC Aviation, ACG, ALC*

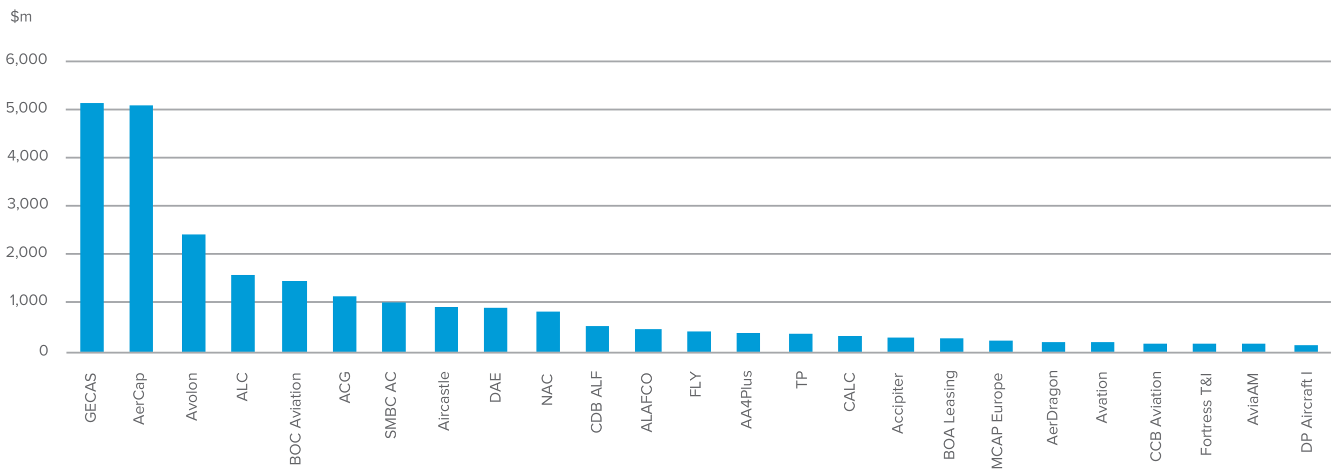
Profitability

Figures 3 and 4 show the lessors ranked by revenue and net income. The revenue range of the lessors in the study is from $5.1 billion for GECAS to $53m for DP Aircraft I. Despite Avolon's acquisition of CIT Aerospace it remains less than half the size of GECAS and AerCap. ALC, BOC Aviation and SMBC AC come in fourth, fifth and sixth position.

As mentioned in the previous section, aggregate yield for all lessors in the study declined from 12% to 11.1%. Some of the lessors bucked the trend and squeezed some growth in yield, most notably BOC Aviation, ACG, FLY and AviaAM. Avolon announced a significant improvement in yield but we were unable to reconcile the data with the prior year's figures. The biggest declines were for AerCap, NAC, SMBC AC and CALC.

In aggregate the profit generated by the lessors in the study (and including GECAS) was $5.4 billion, a $700 million increase on the previous year's $4.7 billion

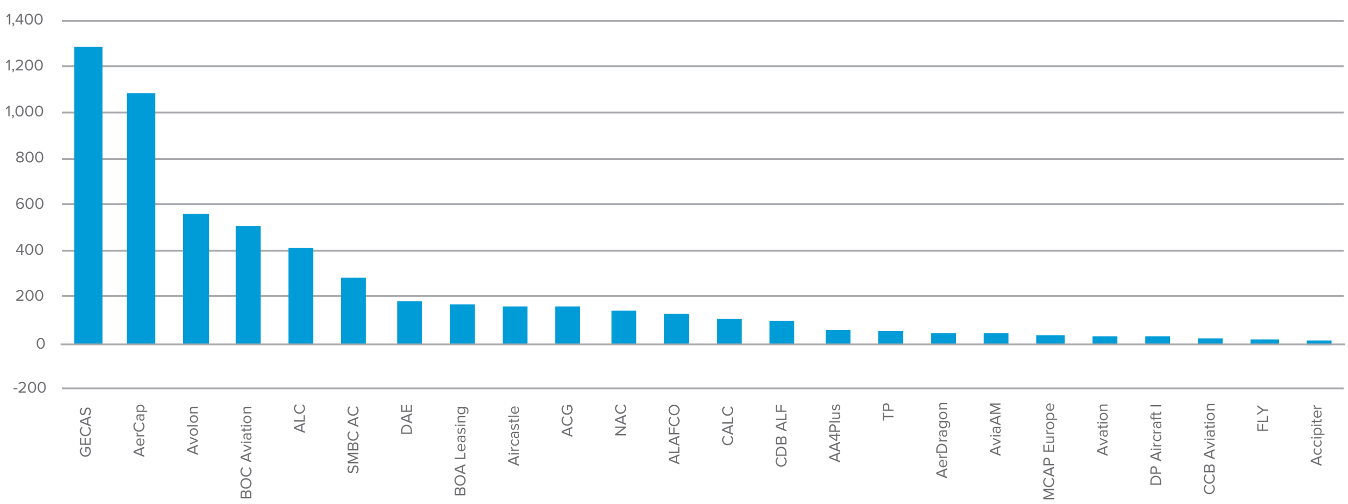
Figure 3: Total revenue ($ million)



Source: Company reports and *The Airline Analyst*

Figure 4: Net income ($ million)

These values are after adjusting for large tax credits for ALC, ACG and BOC Aviation



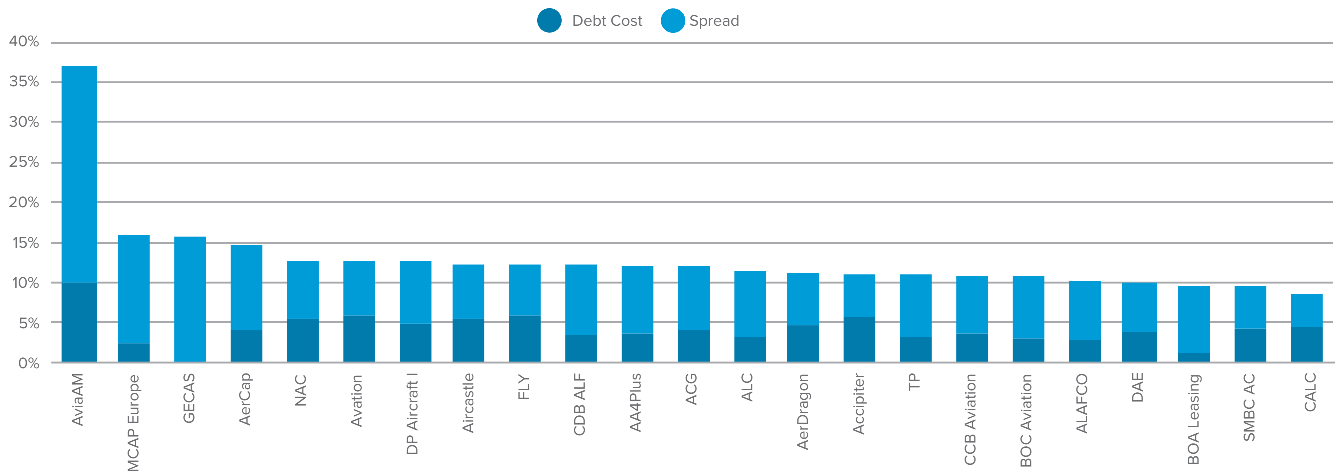
and up from $2.3 billion in 2013/14. Net income was headed by GECAS at $1.3 billion followed by AerCap at $1.1 billion and Avolon at $550 million. Coming fourth in profitability were BOC Aviation followed by ALC. Please note that AA4 Plus's net income included an unrealised FX gain of $259.3 million as it reports in GBP and had to translate its USD debt into GBP. We have adjusted reported net income by this figure.

Among the key drivers of lessor profitability is the spread between lease yield and debt cost of funds. Figure 5 shows all three, ranked in descending order of yield.

AviaAM leads on this measure. MCAP Europe comes second with yield of 16%, followed by GECAS at 15.7% and AerCap at 14.8%. FLY and Aircastle also generate attractive yields but their relatively high debt costs result in lower margins. BOC Aviation comes sixth bottom of the lease yield ranking at 10.7% but makes it up with one of the lowest debt finance costs of 2.9%, resulting in a spread of 7.8%.

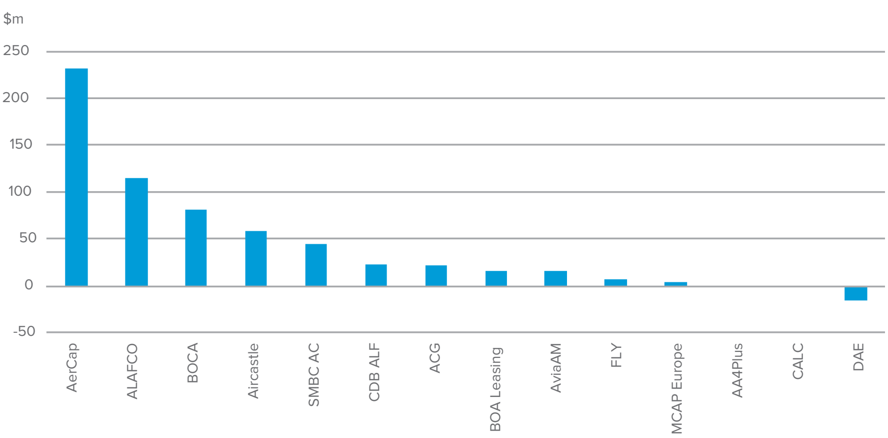
Commercial finance costs range from ALAFCO's and BOC Aviation's 2.9% to AviaAM's 10.1%. Other listed lessors at the low end of the scale include ALC at 3.1% and AerCap at 4%. MCAP and SMBC AC have a low debt cost but both have large amounts of shareholder provided debt. At the higher end are Aircastle, Avation, FLY and Accipiter.

Figure 5: Yield, spread and debt cost



Source: Company reports and *The Airline Analyst*

Figure 6: Gain (loss) on disposal of aircraft



Source: Company reports and *The Airline Analyst*

Gains/losses on sales

Aggregate plant, property and equipment for the lessors in the study (including Avolon and GECAS) is $181 billion. Gains booked were $581 million, 26% up on 2016/17, and 15% of reported net income. Gains from aircraft sales made a significant contribution to the profitability of a number of lessors as shown in Figure 6.

Financial flexibility

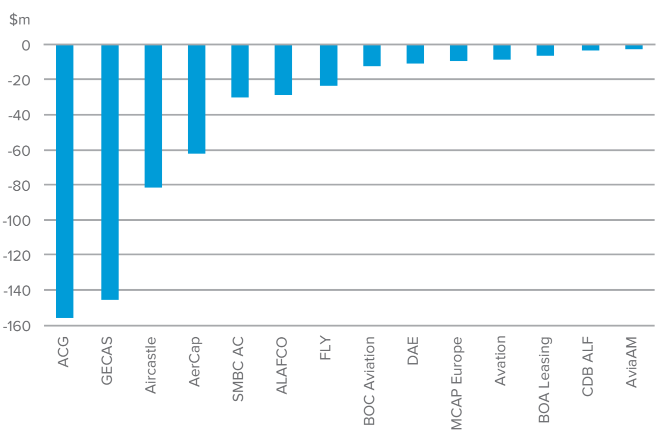
Impairments
Impairments totalled $537 million, down from $918 million the prior year. They were not universal but material values were reported by ACG, GECAS and Aircastle, as shown in Figure 7. Overall, however, they were only 0.3% of opening net book value.

We assess four elements of financial flexibility – leverage as measured by the debt/equity ratio, level of secured debt relative to tangible assets, Ebitda interest coverage and liquidity.

Leverage
The debt/equity ratio is the simplest measure of capital structure and is understood by aircraft financiers. Some of the lessors use significant amounts of inter-company debt. The chart in Figure 8 shows leverage calculated assuming inter-company debt is debt and also assuming inter-company debt is equity. As the chart shows, the majority of lessors are in a range of 2x-4x on this latter measure with two lessors significantly above this range.

Debt Structure
Borrowing unsecured has many attractions, being more flexible and having lower transaction costs than borrowing on a secured basis, though at the cost of higher coupons or margins. The ratings agencies generally cite low levels of secured debt as being a key consideration in granting investment grade ratings to lessors. AerCap regained their investment grade ratings in late 2015. The other lessors with investment grade ratings from the three

Figure 7: Asset impairment



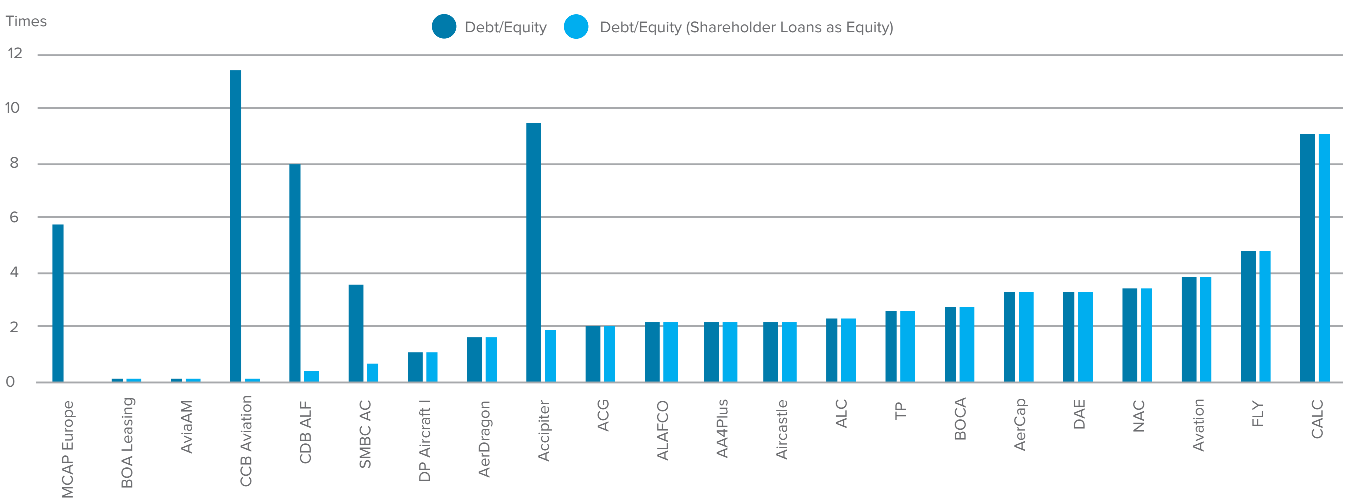
Source: Company reports and *The Airline Analyst*

Figure 9: Lessor unsecured credit ratings

	Fitch	Moody's	S&P	Kroll
AerCap	BBB-(stable)	-	BBB-(stable)	-
ALC	BBB(stable)	-	BBB(stable)	A-(stable)
Aircastle	BBB-(stable)	Baa3(stable)	BBB-(stable)	-
Avation	BB-(stable)	-	B+(pos)	-
ACG	BBB+(pos)	-	A-(stable)	-
Avolon	BB(pos)	Ba2	BB+(stable)	BBB+(stable)
AWAS	-	Ba3(pos)	BB+(stable)	-
BOC Aviation	A-(stable)	-	A-(stable)	-
DAE	-	Ba2(pos)	BB+(stable)	BBB+(stable)
FLY	-	Ba3(neg)	BB-(stable)	BBB(stable)
ILFC	BBB-(stable)	Baa3(stable)	-	-
Park Aerospace (Avolon)	BB(pos)	Ba3	-	-
SMBC AC	A-(stable)	-	BBB+(stable)	-

Source: Ratings Agencies - 11 October 2018

Figure 8: Debt/equity ratio



Source: Company reports and *The Airline Analyst*

major agencies are Aircastle, ALC, SMBC AC, ACG (who benefit from their ownership by Pacific Life) and BOC Aviation who benefit from their Bank of China ownership. Kroll rates ALC, Avolon, DAE and FLY investment grade. S&P cite a ceiling of a BB+ unsecured rating for private equity owned lessors due to financial policy concerns.

Figure 10 shows the debt structures on a proportional basis for the lessors ranked in order of the highest proportion of unsecured debt at the top to least at the bottom. The chart also shows shareholder loans and other loans. As discussed in the "Trends" section there has been a significant increase in unsecured funding by the industry as a whole, reaching 57% of total debt in 2017/18. The lessors with the highest percentage of external unsecured funding are ALC, ACG, Aircastle and BOC Aviation.

Figure 10: Debt structure

Source: Company reports and *The Airline Analyst*

Financial flexibility

Figure 11 shows secured borrowing as a percentage of tangible assets which indicates the level of protection available for unsecured creditors. The data for MCAP, BOA Leasing and SMBC AC reflects their heavily shareholder funded debt structure. The other lessors on the left of Figure 11 represent the strongest position for unsecured creditors. Those at the right hand side demonstrate the least protection for unsecured creditors.

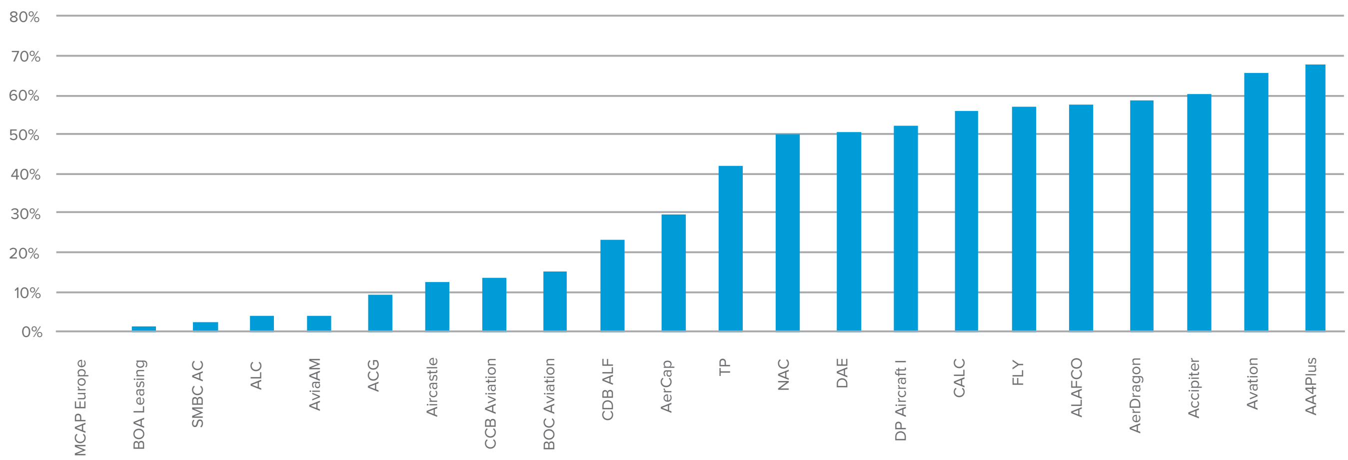
Interest Coverage

Interest coverage measured as Ebitda/ finance costs is another key aspect of financial flexibility. From Figure 12 we see that the majority of lessors covered by the study have a healthy coverage of at least 2x and many have much better coverage than that, particularly ALAFCO, ALC and BOC Aviation.

Liquidity

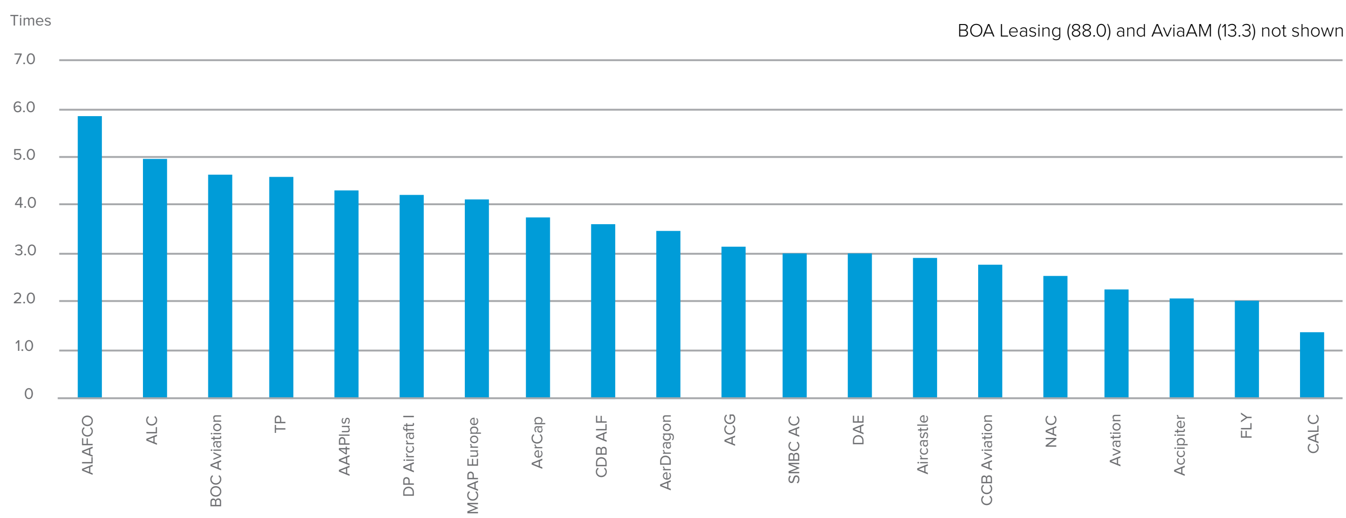
Figure 13 shows unrestricted cash liquidity

Figure 11: Secured debt/gross tangible assets



Source: Company reports and *The Airline Analyst*

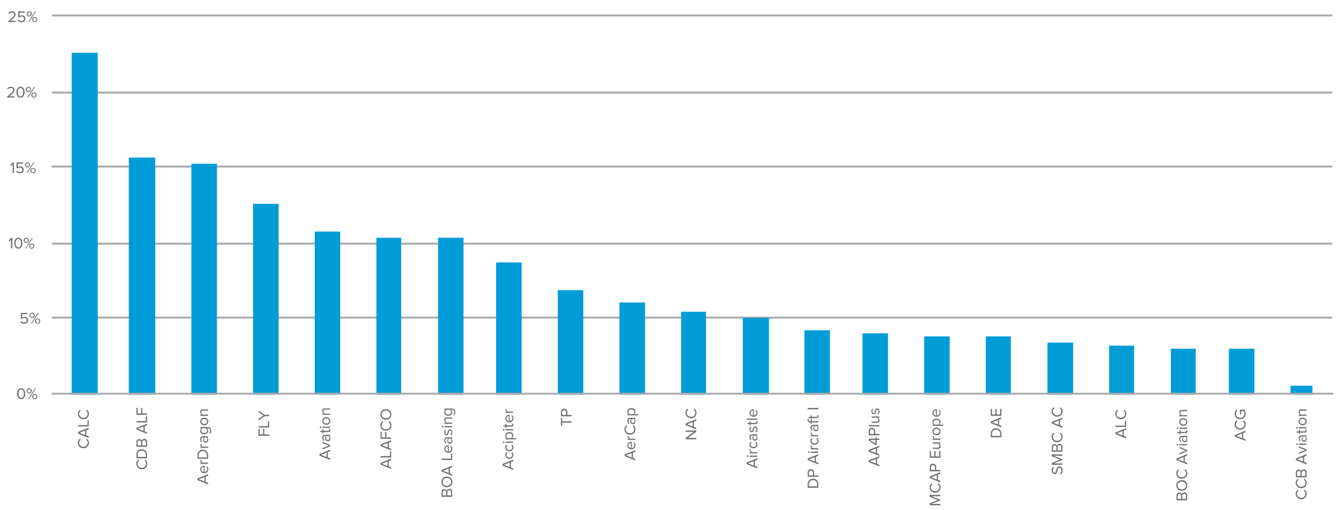
Figure 12: Ebitda/total finance costs



Source: Company reports and *The Airline Analyst*

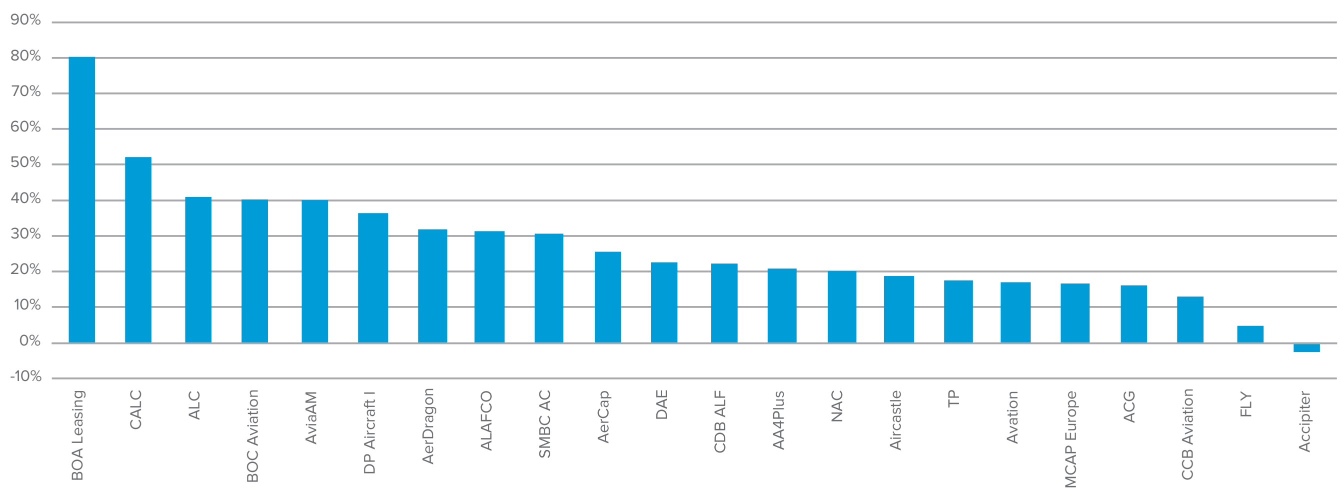
as a percentage of total borrowings. At the extremes of the range were AviaAM at 263% and CCB Aviation at 0.3%. The latter has access to inter-company funding. The next three strongest are all Chinese-owned lessors. For the remainder, this measure ranges from a low of 3% for ACG, BOC Aviation, ALC and SMBC (which has access to parent funding) to a high of 22% for CALC. Some of the lessors additionally have committed bank facilities. For example BOC Aviation had $3.7 billion of undrawn lines as of 31 December 2017, Aircastle had $635 million of unsecured revolving credit capacity and ALC had a $3.8 billion unsecured revolving bank facility. ACG had $1.465 billion available under its unsecured revolving credit facilities and AerCap had approximately $6.7 billion undrawn lines of credit under its credit and term loan facilities.

Figure 13: Cash/total debt



Source: Company reports and *The Airline Analyst*

Figure 14: PBT margin



Source: Company reports and *The Airline Analyst*

Returns

Profit before tax

As an overall measure of profitability, we have assessed profit before tax as a percentage of total revenue as shown in Figure 14. This suggests that the lessors at the left side of the chart have a favourable combination of lease yield, funding cost, SG&A costs and leverage – as well as factors not assessed in this study – fleet utilisation and maintenance/transition costs.

The larger lessors with high margins were ALC and BOC Aviation. At the other end of the scale of the traditional lessors were ACG and Aircastle which were both impacted by impairment charges and relatively high debt costs in Aircastle's case.

Tax Charge

One of the drivers of net profitability is the tax rate on profits. Figure 15 shows that, with three exceptions, tax charges were all below 20% of profit before tax. So it is not just Ireland and Singapore that would appear to offer attractive fiscal regimes for aircraft operating lease companies. However prima facie, the US does not look a very attractive jurisdiction.

Return on equity

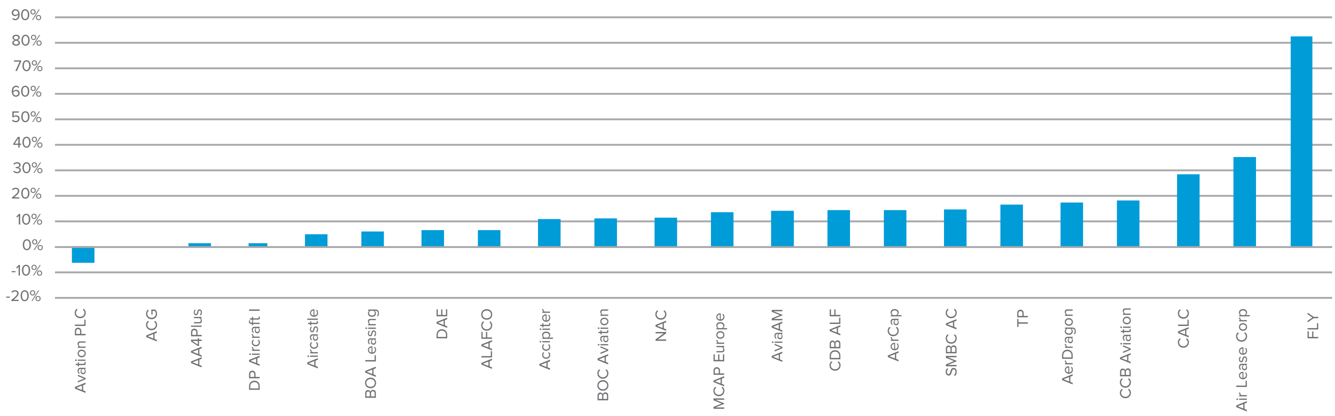
Return on average of opening and closing equity is shown in Figure 16. More than half of the lessors delivered a return on equity in excess of 10%. BOC Aviation with 16.3% arguably generated the best returns of the group for those lessors with a more normal balance sheet structure. Other lessors like SMBC AC, CCB Aviation and AerCap generated solid mid-teens returns.

Conclusion

This study has shown some of the key dynamics affecting aircraft lessors' business models which are more varied than would appear the case at first inspection. Lease yield, debt cost, asset selection, asset utilisation and re-marketing capabilities are all critical components of the aircraft operating leasing business. Get these right, and the aircraft leasing business can offer substantial "Libor-plus" returns to equity investors as demonstrated by some members of the study group. Please direct any questions or comments to **mduff@theairlineanalyst.com**.

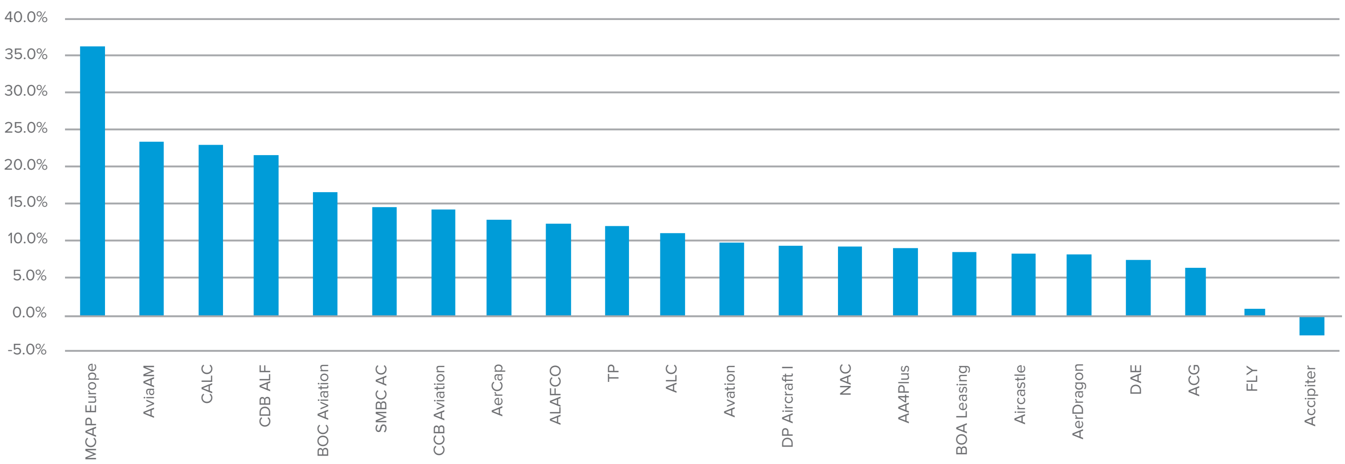
Figure 15: Tax rate

These percentages are tax charge as a percentage of profit before tax after adjusting for large tax credits for ALC, ACG and BOC Aviation



Source: Company reports and *The Airline Analyst*

Figure 16: Return on average equity



Source: Company reports and *The Airline Analyst*

Analysis of the **global leased fleet**

The *Airfinance Journal* Fleet Tracker database includes 11,456 aircraft, leased by 116 commercial lessors with at least 10 aircraft to 837 airlines in 157 countries (data as of June/July 2018). Aircraft leased by "captive" lessors such as Synergy and Aircraft Purchase Fleet and by the OEMs are excluded. Aggregate orders by the commercial lessors total 3,481 aircraft. The average age of the existing leased fleet is 10.4 years and 572 aircraft (5.0%) are reported as being in storage.

The industry is heavily concentrated. The top 10 lessors (4,846 aircraft) account for 43% of the total lessor fleet count and 49.4% by value (top 10 value – $166.8 billion). Nevertheless, the smaller lessors provide value to the market place in dealing with older or more specialised aircraft. They also may be prepared to do business with some of the more challenging regions of the world or have leading positions in their niche markets.

Airlines with the most leased aircraft

Figure 1 shows the top 20 lessees by number of aircraft. Just as the leasing industry is heavily concentrated in a relatively small number of players, the airlines to whom they are leasing are forming increasingly concentrated groups. Such concentration could reduce the ability of the lessors to diversify their portfolio risks due to concentrations of exposure. American Airlines is by far the largest lessee with 377 leased aircraft. This leading position is a result of the merger of American with US Airways who were also a large user of leased aircraft.

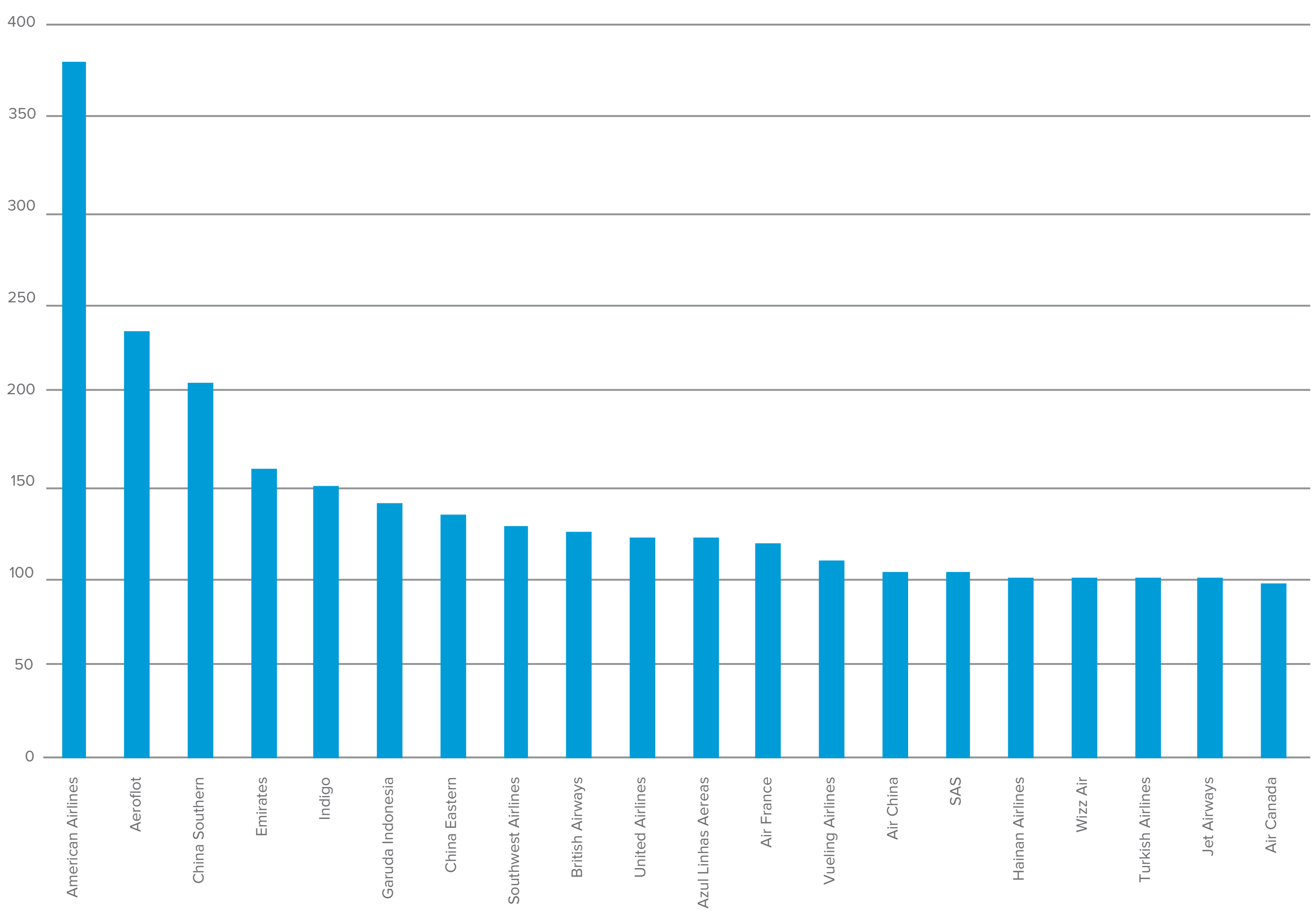
Geographic distribution of leased aircraft

The geographic distribution of leased aircraft is shown in Figure 2. While the chart shows Europe in the lead, this is because we split Asia-Pacific into sub regions given their varying dynamics. Hong Kong and Macau are included in the China segment. We also decided to show Russia and the CIS as a segment separate from Europe.

Breakdown of leased fleet

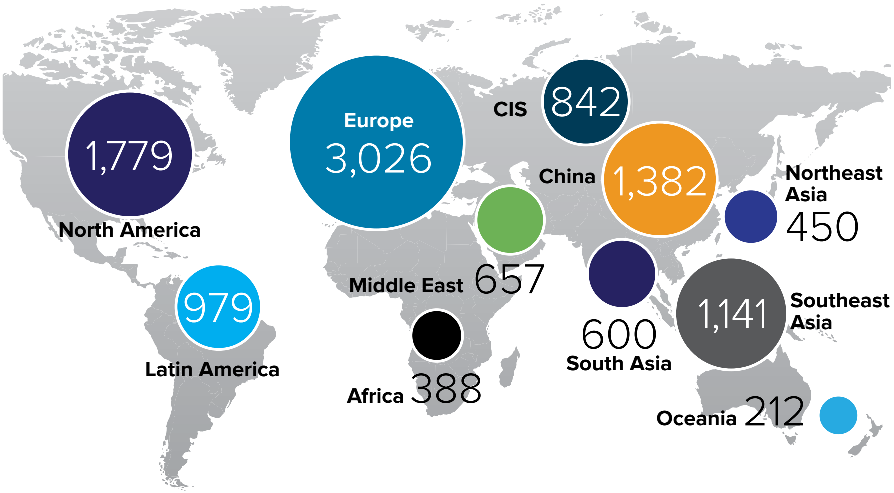
Figure 3 shows a breakdown of the leased fleet by body-type of aircraft. A full 66% of the leased fleet is in the narrowbody

Figure 1: Biggest lessees by number of aircraft



Source: *Airfinance Journal*'s Fleet Tracker

Figure 2: Geographic distribution of leased aircraft



Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

category split mostly between the A320 and 737 families. Only 17% is widebody, though in value terms their share would be much more significant, especially with the A350 and 787 finding a lot of favour among lessors.

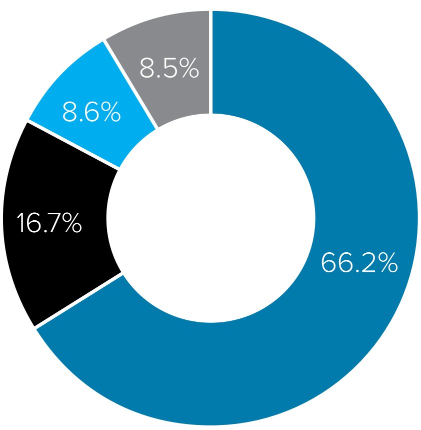
Regional Jets

The most significant development over the last several years has been the reduction in size of the GECAS portfolio. As can be seen, however, GECAS remains the largest player with NAC in second place, having increased its fleet to 156. Avolon (which absorbed the 33 aircraft that CIT Aerospace had), Avmax and Falko, are other significant lessors in this segment. Chorus Aviation's recently established leasing business makes it to number 10 in the ranking.

Turboprops

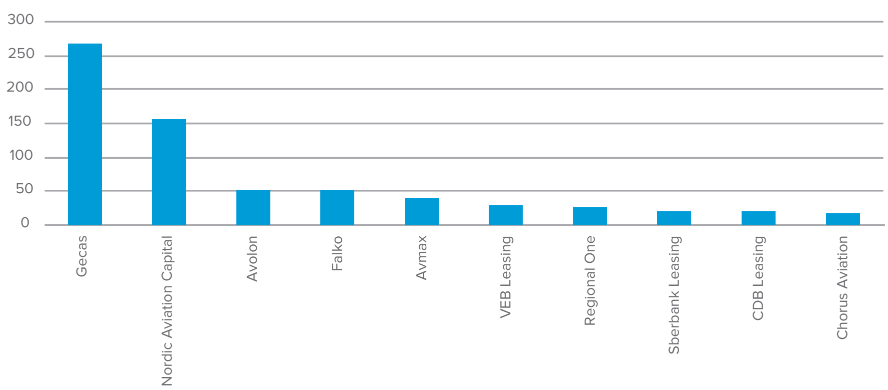
Turboprops are a significant niche market, dominated by one lessor, Nordic Aviation Capital. However, other lessors including Elix, Avmax, Transportation Partners and DAE Capital have a significant presence, as shown in Figure 5, attracted by the relatively higher yields. TrueNoord Capital, backed by its investors, Blackrock and Aberdeen Standard may also be expected to increase its exposure. ALC exited the market with the 25-aircraft portfolio sale to NAC two years ago.

Figure 3: Leased aircraft body type



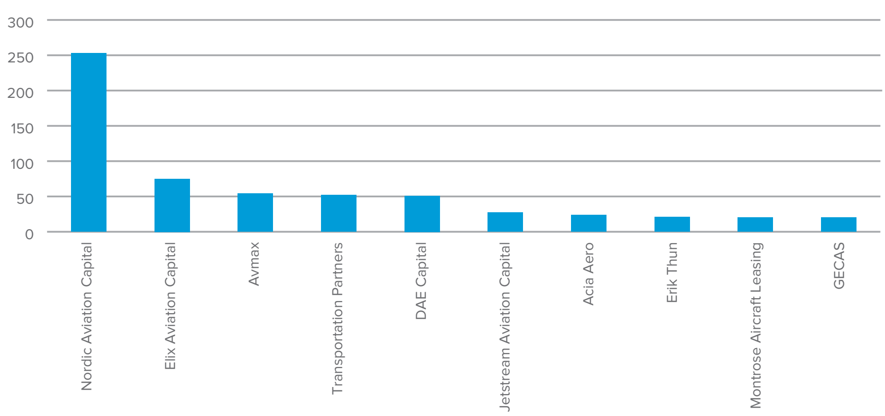
Narrowbody	7,597
Widebody	1,912
Regional jet	992
Turboprop	973

Figure 4: Top 10 lessors of regional jets



Source: Lessors and *Airfinance Journal*'s Fleet Tracker

Figure 5: Top turboprop lessors



1 GECAS

Since its merger with Guinness Peat Aviation in the early 1990s, General Electric's aircraft leasing arm, GECAS, has maintained its position as number one lessor.

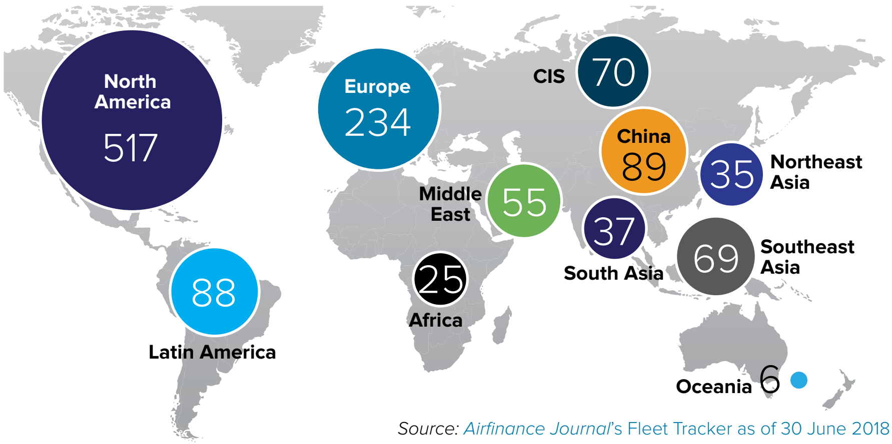
GECAS's history mirrors the development of the industry. Many of the current crop of aircraft leasing chief executive officers were initially at GPA, or at GECAS. The initial success of GPA is arguably one reason why Ireland remains the centre for aircraft leasing. GECAS, along with its close rivals, helped place aircraft for countless start-ups across the emerging markets, and GECAS has played a large role in helping to establish the portfolio of many Chinese lessors.

The lessor has been taking advantage of market conditions and has sold aircraft annually for the past three years, which has resulted in a gradual decline in the size of its balance sheet.

However, speaking with *Airfinance Journal*, its president and chief executive officer, Alec Burger, says GECAS plans to resume growth over the next two to three years.

"For the past few years GECAS has taken advantage of the tremendous sellers' market that has existed, but as we move forward we are targeting growth. Over the next two to three years our balance sheet will expand again after a period in which we were selling almost as much as we were originating. We weren't alone in that, however – in recent years other large lessors have taken advantage of the sellers' market to reduce their fleet sizes and clean up their portfolios."

GECAS fleet by region of lessee



Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

Burger says GECAS is looking to deploy between $6 billion and $7 billion of capital this year alone.

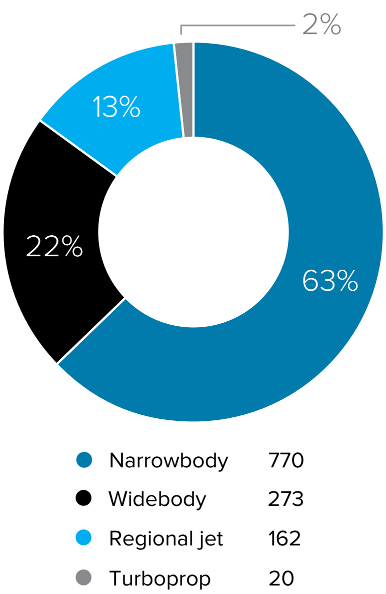
The overall growth plan is a combination of sale and leaseback with the appropriate risk/reward balance and direct order plays. "We may consider other portfolios," he says.

"On the OEM [original equipment manufacturer] side, our orderbook is heavily skewed towards narrowbodies. We have 10 Boeing 787s on order and the rest are Airbus A320s or Boeing 737s. When we look at supply and demand characteristics, we are very comfortable with that position," says Burger. But he does not write off a widebody order. "We will continue to monitor changes in the market to evaluate if a widebody new order makes sense for us in the future. Buying new aircraft from airlines makes less sense for narrowbodies, though, because the sale-and-leaseback market has become extremely competitive, resulting in fewer opportunities that will generate the profits we require."

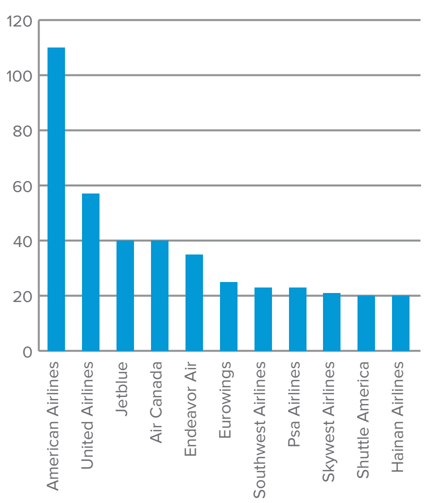
According to *Airfinance Journal*'s latest Leasing Top 50, widebodies represent 13% of GECAS's owned and managed fleet at 30 June 2018. The lessor's fleet also includes 20 turboprops, 273 regional jets and 770 narrowbodies.

GECAS remains the top lessor by owned and managed fleet sizes with 1,225 aircraft at the end of June.

GECAS fleet by aircraft type



GECAS top lessees



GECAS Key facts

Name: GE Capital Aviation Services (GECAS)

Country: USA and Ireland

Founded: 1993

Ownership: General Electric

Company head office: Shannon, Ireland, and Norwalk, Connecticut, USA

Number of employees: circa 540

Size of fleet: circa 1,200

Average age of fleet: about 8 years

Number of customers: about 260

Orderbook: 415 aircraft

2 AerCap

AerCap's $7.6 billion acquisition of ILFC changed the leasing landscape and created a leasing firm which can challenge GECAS as the world's largest operating lessor.

The lessor listed on the New York Stock Exchange in 2006 and acquired rival company ILFC from AIG in May 2014.

The Irish lessor has 1,089 owned and managed aircraft with 27% in Europe and 18% in North America. A year ago its 1,110 portfolio was with European carriers (27%) and North American lessees (19%). Asian exposure has grown to 25.8% of the portfolio from 25.4%.

The lessor's orderbook includes 205 Airbus A320neo-family aircraft, 104 Boeing 737 Max family, six A350s, 46 787s and 50 Embraer E2 jets.

AerCap is entering a period of high capital expenditure (capex) and asset growth. It took delivery of 27 new aircraft in the first half of 2018 and plans to take another 50 in the second half of the year. Its 2018 capex is estimated at $6 billion.

Between 2019 and 2022 the lessor will acquire, through its orderbook or purchase-and-leaseback deals, about 330 aircraft.

The lessor continues to maintain a strong liquidity position as it prepares for a growth period. AerCap had $11.7 billion at 30 June: $1.6 billion in unrestricted cash, a $4 billion unsecured revolver facility and $6.1 billion of other facilities.

On the trading side, AerCap remains an active seller of mid-life and older aircraft. During the first half of this year it disposed of 50 aircraft from its owned portfolio with an average age of between 12 and 13 years.

"We've done an awful lot of selling over the course of the last four years and the portfolio is in very good shape now. I don't expect then the same level of sales as we've seen over the last several years to be occurring as we go forward," says Aengus Kelly, chief executive officer, AerCap.

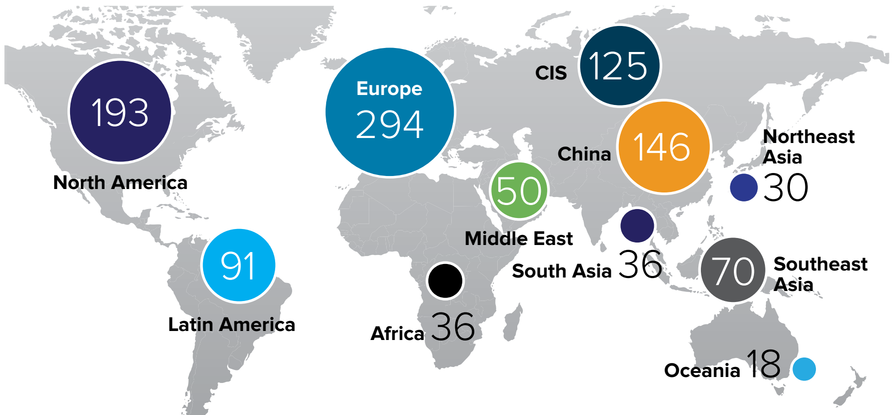
The delivery of new-technology aircraft, coupled with the sales of mid-life and older aircraft, has reduced AerCap's average age to 6.6 years, down from 7.3 years in June 2017. AerCap plans to continue this strategy and targets an average age in the low six years by the end of 2020. Average remaining lease term was 7.1 years, at 30 June.

AerCap is the number one lessor for the 787 types but remains bullish about placing widebody aircraft in the secondary market with airlines, despite market concerns about the backlog of A330s and 777s coming off leases in the next few years.

The Irish lessor has placed all 10 of the A330-200s it had with insolvent carrier Air Berlin, which went bankrupt in August 2017, with new lessees. AerCap also placed four used 777-200ERs with Ukraine International Airlines.

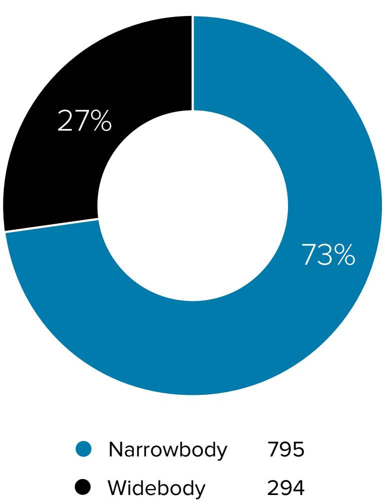
Kelly says there are many secondary widebody placement opportunities with airlines operating at congested airports, spilling traffic.

AerCap fleet by region of lessee

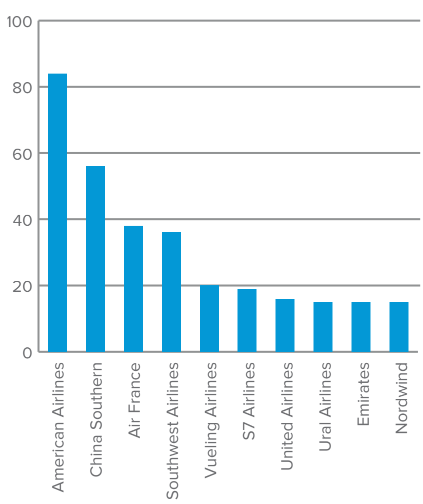


Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

AerCap fleet by aircraft type



AerCap top lessees



AerCap Key facts

Name: AerCap

Country: Ireland

Founded: 1995

Ownership: Public company listed on the New York Stock Exchange

Head office: Dublin, Ireland

Number of employees: 407 (31 December 2017)

Size of fleet: 1,060 owned and managed

Average age of fleet: 6.6 years

Number of lessees: 200 lessees in 80 countries

Orderbook: 411 fuel efficient aircraft (as of 30 June 2018)

Unsecured credit ratings: Fitch Ratings: BBB-

Total assets: $42 billion (owned and managed)

Net income: $519.6m (six months ended 30 June, 2018)

3 Avolon

Dublin-based Avolon's trajectory has been impressive since it started trading in May 2010. As of 30 June 2018, the lessor had 582 owned and a managed aircraft in its fleet with more than 300 aircraft orderbook with Airbus and Boeing.

Avolon was founded by Domhnal Slattery and a team from RBS Aviation Capital, including John Higgins, Dick Forsberg, Tom Ashe, Andy Cronin, Simon Hanson and Ed Riley. The lessor had developed a portfolio of 227 owned, managed and committed aircraft when it listed on the New York Stock Exchange in December 2014.

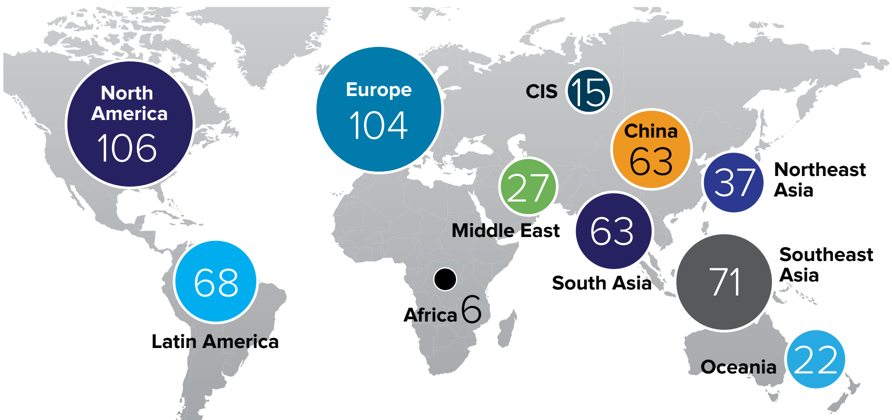
In January 2016, Bohai Leasing, the Chinese leasing and financial services company affiliated with HNA Group, completed a cash offer for 100% of Avolon's common shares. Hong Kong Aviation Capital, a leasing entity also owned by Bohai Leasing, is now managed under the Avolon brand.

The following year, Avolon completed the acquisition of the CIT Group aircraft leasing business creating the world's third-largest aircraft leasing company with a 31 March 2017 fleet of 850 aircraft with a value of more than $43 billion.

After a period of acquisitions under its parent company Bohai Capital, Avolon is going through some shareholder changes.

In August, Japanese lessor ORIX Aviation agreed to pay $2.2 billion for a 30% stake in the lessor. The deal provided Bohai with a deleveraging opportunity, to help its cash-strapped parent HNA Group clean up its balance sheet.

Avolon fleet by region of lessee



Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

"ORIX is a strong, investment-grade institution with a proven track record in the leasing sector over multiple industry cycles," says Avolon's chief executive officer Dómhnal Slattery, adding: "We will benefit from ORIX's experience and relationships as we continue to build Avolon's financial strength and industry franchise."

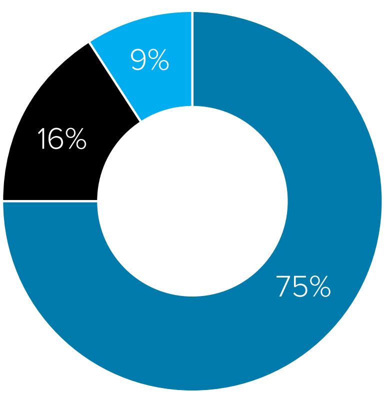
One benefit of the deal may be greater market share in Japan.

"Our new shareholder structure and the associated enhancements to our governance framework will also accelerate our momentum towards an investment-grade rating – a key objective for our business," says Slattery. Year-on-year, its in-service and managed aircraft portfolio slightly increased but more recently Avolon deleveraged with a 30-aircraft portfolio sale. The aircraft, which were added through the CIT Aerospace acquisition, were sold to the former CIT employees who formed Zephyrus Aviation Capital.

Avolon has similar exposure to North America and Europe with 18% each, while South-East Asia represents 12% of the number of aircraft. South Asia, China and Latin America account for 11% each.

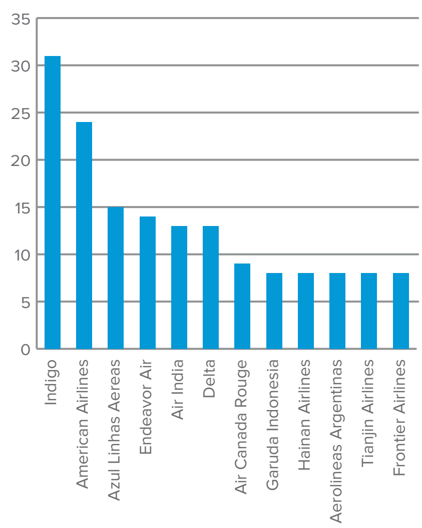
Indigo Airlines is Avolon's largest operator with 31 aircraft.

Avolon fleet by aircraft type



Narrowbody	437
Widebody	93
Regional jet	52

Avolon top lessees



Avolon Key facts

Name: Avolon

Country: Ireland

Founded: 2010

Ownership: Bohai Capital

Head office: Dublin, Ireland

Number of employees: 250

Size of fleet: 890 owned, managed and committed fleet

Average age of fleet: 5.1 years*

Number of lessees: 528*

Orderbook: 319 aircraf*

Unsecured credit ratings: Fitch Ratings: BB (Positive); Moody's: Ba2 (Review for Upgrade); S&P Global Ratings: BB+ (Stable); KBRA: BBB+ (Stable)

Total assets: $28 billion*

Net income: $550 million profit after tax (As of 31 December 2017)

*As of 30 September 2018

4 BBAM

BBAM is the largest independent aircraft manager with more than 400 aircraft under management. It is a privately held company.

The company sources and remarkets aircraft for Fly Leasing and Nomura Babcock & Brown. Alongside Nomura Babcock & Brown, BBAM has become the largest arranger of Japanese equity capital to the airline industry, having financed more than 300 aircraft with Japanese operating lease deals.

In March, BBAM announced its participation, with its long-term partner Nomura Babcock & Brown, in an $870 million transaction combining senior secured enhanced equipment trust certificates (EETC) and Japanese operating lease with call option (Jolco) equity for 11 aircraft: two Boeing 787-8s, two 787-9s and seven Airbus A320neos.

"BBAM structured the Jolco element of this transaction and we are delighted to further build on our strong relationships with British Airways and IAG. The combination of EETC and Jolco equity is an innovative structure that we have helped develop to provide our clients with flexible financing solutions," says BBAM's chairman and chief executive officer Steve Zissis.

Fly Leasing has changed its tone on the potential exercising of the 20 A320neo-family options it has as part of the Airasia transaction. When it first announced the transaction this year, the lessor left the door open as to whether it would exercise the 20 options. The options are on the purchase-and-leaseback transaction for 20 A320neo-family aircraft, which have an average 0.77% lease rate factor but, in March, Fly said it had to get better lease rate factors.

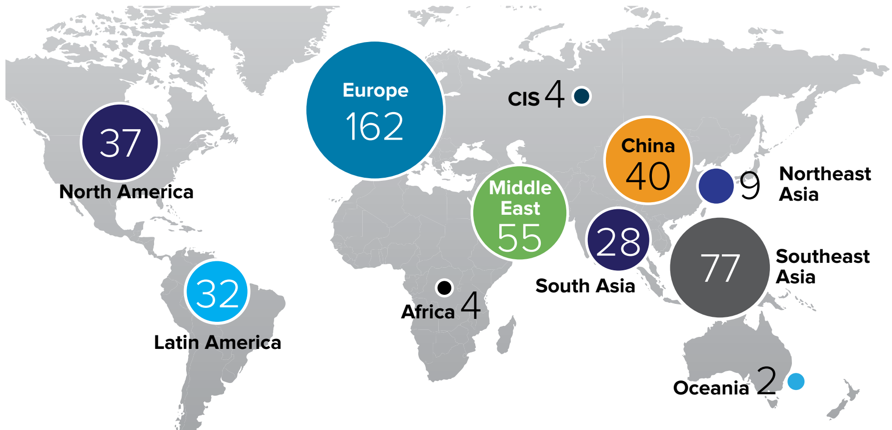
On BBAM'S second-quarter earnings call, Zissis said: "Fly will evaluate the auction to acquire the 20 aircraft as it falls due based on the demand from airlines for leased aircraft and the availability of attractive financing at the time. At this point in time, these options are certainly attractive and we would expect to exercise on."

Fly Leasing reported a $24.3 million net income for the second quarter of this year, up from last year's $2.9 million. Total revenues reached $102.6 million for the quarter, up from $79.8 million in last year's corresponding period. Net income for the six months ending 30 June was $34 million compared with a $7.9 million net income for the first six months of 2017.

At 30 June, Fly had transferred 13 A320 aircraft from the initial Airasia portfolio. It expects to transfer the remaining 20 A320s and seven engines on operating leases to Airasia and its affiliated airlines, and one A320 aircraft on operating lease to a third-party airline, by October.

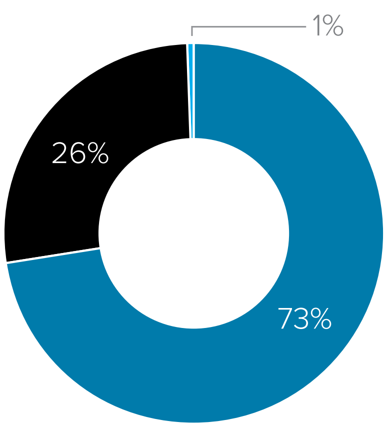
Fly's total assets were $3.6 billion, including investment in flight equipment totalling $3 billion, as of 30 June. Total cash was $466.1 million, of which $406.5 million was unrestricted.

BBAM fleet by region of lessee



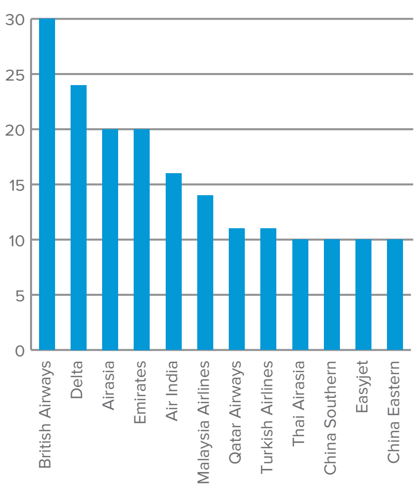
Source: Airfinance Journal's Fleet Tracker as of 30 June 2018

BBAM fleet by aircraft type



- Narrowbody 327
- Widebody 121
- Regional jet 2

BBAM top lessees



BBAM Key facts

Name: BBAM

Country: USA

Founded: 1991

Ownership: ONEX 35%, BBAM 35%, GIC 30%

Head office: San Francisco

Number of Employees: 152

Size of fleet: 571 (managed)

Average age of fleet: 7.3

Number of lessees: 108

Orderbook: 0

Delivery commitments: N/A

Net income (as of 30 June 2018): N/A

5 Nordic Aviation Capital

Nordic Aviation Capital (NAC) is the world's largest regional aircraft trading and leasing company, founded in 1990 by aviation entrepreneur Martin Møller. Since then, it has evolved from a one-aircraft business to a company that has a fleet of more than 468 aircraft, with a value of $7.8 billion.

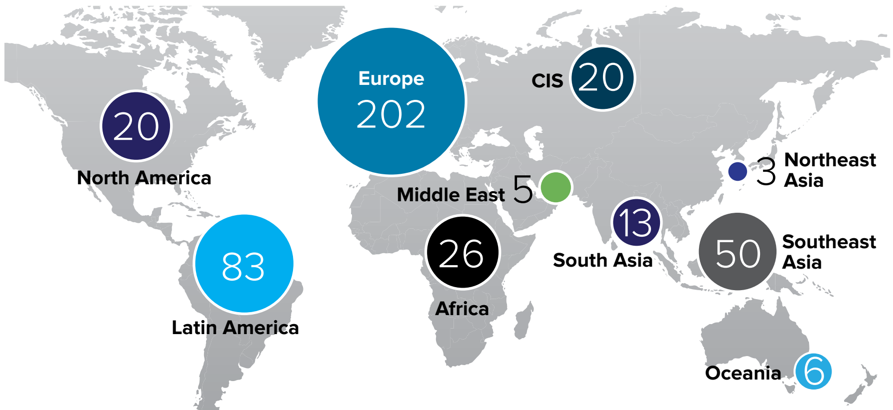
At the beginning of 2018, NAC ordered 15 additional ATR 600 series aircraft valued at $330 million. It was NAC's fourth order with ATR since 2011. NAC is the largest owner and lessor of ATR aircraft in the world and the recent order increased its ATR fleet to more than 200 aircraft.

In March, NAC completed the placement of $486 million of unsecured debt financing through two issuances. It issued a $381 million private placement and placed a $105 million unsecured offering in the Schuldschein market. NAC used the proceeds to refinance aircraft in its portfolio.

At 30 June, the group had total assets of $7.8 billion, including aircraft worth $6.3 billion. Equity was $1.54 billion, up from $1.4 billion in the 2017 fiscal year.

The lessor enjoyed a 7% increase in total revenues in its 2018 fiscal year, ending 30 June. Lease revenues increased 12% to $780 million from $690 million in the previous fiscal year. Europe represents 43% of NAC's lease revenues. Asia-Pacific comes second with 25% of the lessor's lease revenues. Latin America represents 16%, followed by North America with 10% and Africa 6%.

NAC fleet by region of lessee



Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

At the end of NAC's fiscal year to 30 June, the lessor had a $6.3 billion portfolio of 426 aircraft with 71 clients. It managed also a further 12 aircraft and had purchase commitments for 85 additional units. The lessor's fleet comprises a mix of regional assets including ATR42, ATR72, Bombardier Q400, CRJ900, CRJ1000, Embraer 170, E175, E190, E195 and Airbus A220-300 aircraft.

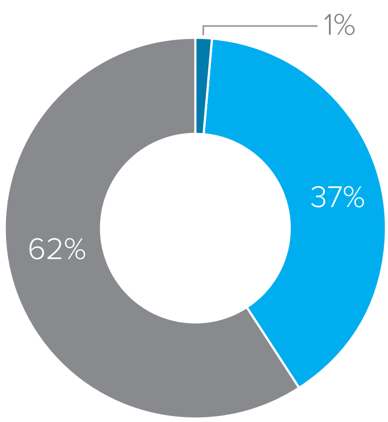
The aircraft portfolio had a weighted average age of 6.5 years and a weighted average remaining lease term of 5.2 years.

"In 2018, we completed a significant number of transactions from single aircraft to large portfolio acquisitions. We took delivery of 20 new aircraft and purchased 59 second-hand aircraft. We added additional regional jet customers to our portfolio and increased our lease revenue from regional jet aircraft, which now accounts for 44% of our total lease revenue," says NAC's chief commercial officer Jim Murphy.

In early September, NAC entered into an agreement with BeauTech Power Systems for the purchase of some of the 25 remaining Embraer E190 aircraft operated by Air Canada.

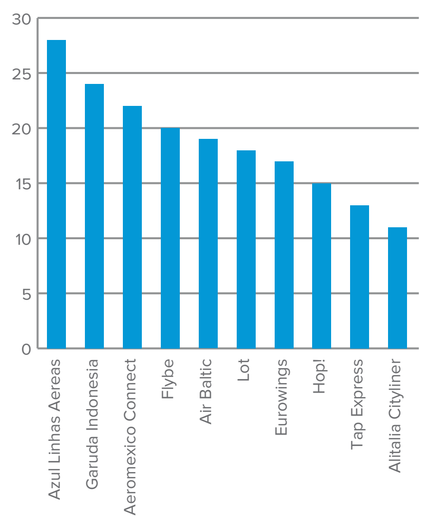
"We are investing heavily in growing the business through strategic acquisitions such as this one with Air Canada," says NAC chairman Møller. "NAC's investment in this attractive portfolio of assets underlines our confidence in the long-term growth prospects of the regional jet market."

NAC fleet by aircraft type



- Narrowbody 7
- Regional jet 185
- Turboprop 276

NAC top lessees



NAC Key facts

Name: Nordic Aviation Capital

Country: Ireland

Founded: 1990

Ownership: Martin Møller, EQT

Registered office: Limerick, Ireland

Number of employees: 219

Size of fleet: 437 (owned and managed)

Average age of fleet: 6.5 years

Number of lessees: 71

Orderbook: 50

Unsecured credit ratings: Kroll BBB+/BBB

Total assets: $7.8 billion

Business performance net income: $160 million

*All figures are at end of September 2018

6 SMBC Aviation Capital

Dublin-based SMBC Aviation Capital is owned and supported by a consortium of Japanese institutions, including Sumitomo Mitsui Banking (SMBC), Sumitomo Mitsui Finance and Leasing (SMFL) and Sumitomo Corporation.

The Dublin-based lessor says 2017/18 was a "positive year for sale-and-leaseback activity". It signed letters of intent for 50 sale-and-leaseback aircraft contracted during the year ended 31 March 2018, compared with 21 sale and leasebacks during the year ended 31 March 2017.

Last year, the lessor sold 50 aircraft from its owned portfolio, including the sale of a 19-aircraft portfolio to Aircastle, one of the largest bilateral trades in the market that year, with 22 aircraft also sold from SMBC Aviation Capital's managed portfolio.

Earlier this year it sold an eight-narrowbody portfolio to Genesis Aircraft Services. The lessor's focus remains on the liquid narrowbody and widebody aircraft, including the Airbus A320neo, Boeing 737 Max, the 787 and A350 models.

SMBC Aviation received a boost in November 2017 when its shareholders, Sumitomo Mitsui Financial Group and Sumitomo, said they would inject capital of about $1 billion into the company by 31 March 2019.

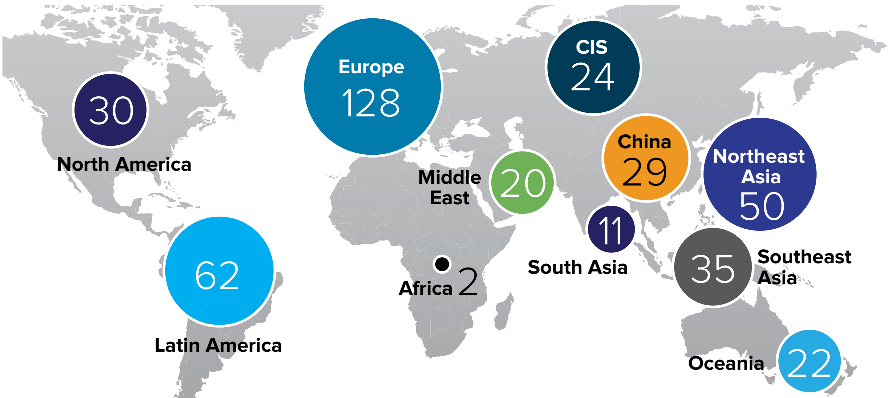
The funding will consist of $700 million of equity capital from SMFL and SMBC, plus a $300 million subordinated loan from SMBC. The equity will aid SMBC Aviation's growth and purchases of new aircraft that it plans to bring on stream from 2019. "This capital is further evidence of the continuing support of our shareholders and of the strategic importance of SMBC Aviation Capital to their growth strategy," Peter Barrett, chief executive officer of SMBC Aviation Capital, said at the time. "This capital ensures that we are well-positioned to deliver on our own growth plans by enabling us to offer our customers innovative aircraft financing solutions. It also further enhances our integration with our shareholder, a key differentiator for us in this industry."

SMBC Aviation's revenue and other operating income rose 11% year-on-year to $1.162 billion for the 12 months ending March 2017, propelled by investments in young aircraft and strong aircraft trading activity. Its fleet size was 670 aircraft at the end of that period.

The company made its debut in the bond market in July 2016, with a $500 million issuance. Its last appearance in the offshore loan market was in March 2017, when it completed, amended and extended a $600 million revolver. Earlier this year, SMBC Aviation returned to the market with five-year $500 million senior unsecured notes priced at 4.125%.

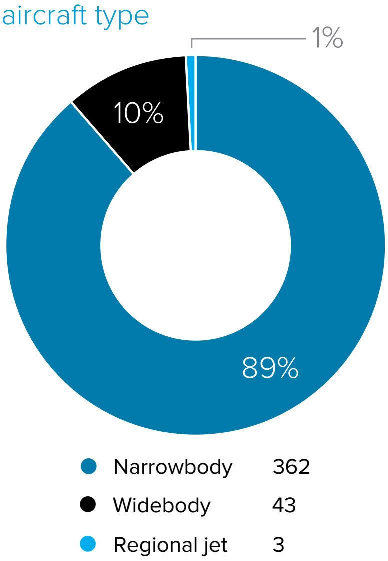
It also closed a five-year $600 million syndicated financing transaction for general corporate purposes. The deal comprised a $200 million term loan and a $400 million revolving credit facility with a consortium of primarily Asian banks.

SMBC Aviation Capital fleet by region of lessee

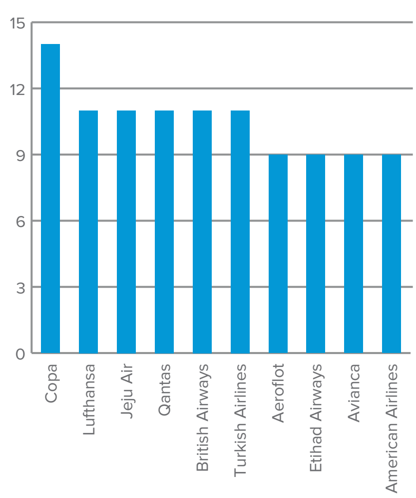


Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

SMBC Aviation Capital fleet by aircraft type



SMBC Aviation Capital top lessees



SMBC Aviation Capital Key facts

Name: SMBC Aviation Capital
Country: Ireland
Founded: 2001
Ownership: SMBC, SMFL and Sumitomo Corporation
Head office: IFSC House, Dublin, Ireland
Number of employees: 180
Size of fleet: 675
Average age of fleet: 4.5 years
Number of lessees: 100 airline customers in 50 countries
Orderbook: 116 Airbus A320neo aircraft, 90 Boeing 737 Max 8 aircraft
Unsecured credit ratings: Fitch Ratings A-; S&P Global Ratings: BBB+
Total assets (owned and managed): Aircraft related assets stood at $10.7 billion
Net income: Revenues $1.03 billion, Operating Profit $595 million (31st March 2018)

7 DAE Capital

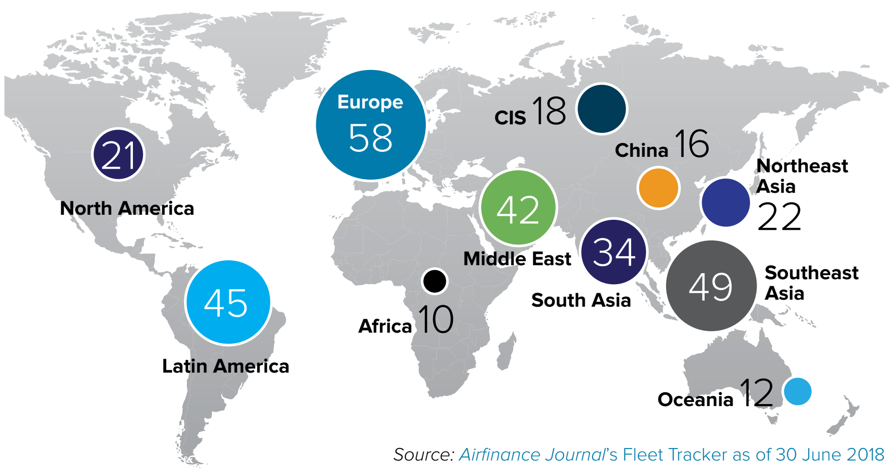
DAE Capital has been a top-10 lessor since August last year, when it climbed 21 positions to become the world's seventh-largest leasing company by number of aircraft. The UAE company's acquisition of Irish lessor AWAS, which closed on 20 August 2017, was the main reason for this jump in ranking. The deal was one of the biggest aviation M&A transactions of the past decade, with DAE taking on an extra $7.5 billion in aircraft assets.

The AWAS deal aside, the lessor still had a very busy year. It launched its third-party aviation asset management unit (DAE Aircraft Investor Services) in January – targeting assets under management of $5 billion. The unit seeks to provide investors "a single-point of contact dedicated to championing their interests within the wider DAE platform, and ensure a best-in-class standard of care for investors' assets," DAE said at the time.

During 2017, the lessor also sold a 16-aircraft portfolio valued at about $900 million with three counterparties. Those covered by these agreements include Boeing 737 and Airbus A320, A330 and A350 aircraft, which had an average age of two years and are currently on lease to 11 airlines in 11 countries.

The lessor also signed an unsecured revolving credit facility with conventional and Islamic tranches of up to $800 million, and became a launch customer for Rolls-Royce's LessorCare for the lessor's existing and future fleets of Rolls-Royce Trent-powered aircraft.

DAE fleet by region of lessee



Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

Over the next year, the lessor plans to continue growing its fleet, through sale and leasebacks and other channels. DAE also looks to issue additional unsecured liquidity to increase financial flexibility including the possible issuance of a benchmark sukuk, an Islamic bond. DAE also wants to grow its asset-backed securities portfolio through DAE Aircraft Investor Services.

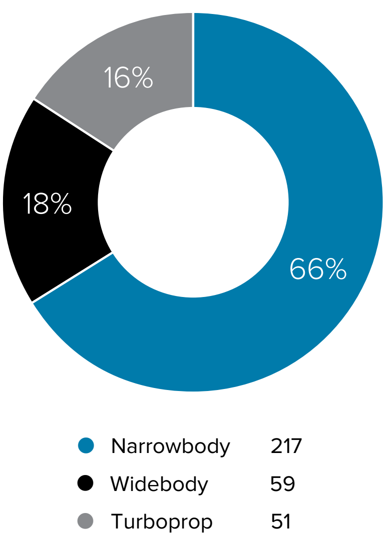
Commenting on the leasing industry, Firoz Tarapore, DAE Capital's chief executive officer, says: "We clearly are in a strong part of the cycle. Strong investor interest given the relative returns to aircraft assets compared with other assets makes it likely there will be some additional leasing entrants in the space."

However, Tarapore sees some challenges for lessors ahead, including being able to manage through "an intense competitive environment with some participants seeking market share over returns", as well as managing a rising interest rate cycle.

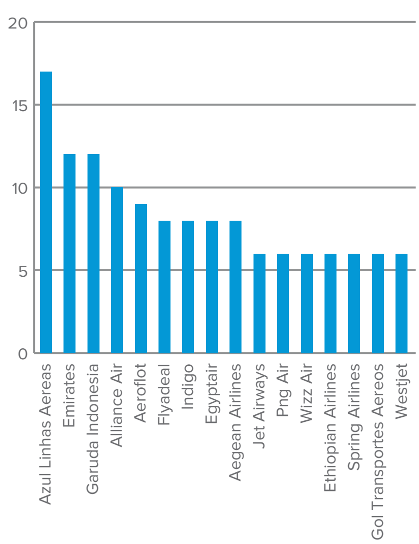
The consolidated lessor has a fleet of about 375 owned, managed and committed aircraft, on lease to 110 lessees. It has an average fleet age of 6.1 years and an orderbook of 18 aircraft.

Although its head office remains in Dubai, after the AWAS acquisition, it can now go to market in six locations: Dubai, Dublin, Singapore, Miami, New York and Bellevue, Washington.

DAE fleet by aircraft type



DAE top lessees



DAE Key facts

Name: Dubai Aerospace Enterprise (DAE)

Country: United Arab Emirates

Founded: 2006

Ownership: Investment Corporation of Dubai (about 96%)

Head office: Dubai, UAE

Number of employees: about 140

Size of fleet: 375 (owned, managed and committed)

Average age of fleet: 6.1 years

Number of lessees: 110

Orderbook: 18

Unsecured credit ratings: Ba2 (Moody's) BB+ (S&P)

Total assets ($): $14.2 billion

Net income: N/A

8 Air Lease

Air Lease Corporation (ALC) was founded by former ILFC executives led by Steven Udvar-Hazy in 2010. It went public on the New York Stock Exchange the following year. ALC continues to grow its fleet and has added about 100 net aircraft since 2014. The California-based lessor has an owned and managed fleet of 323 aircraft, compared with 278 last year.

The lessor continues to have one of the largest orderbooks in the industry with 441 aircraft under commitments, of which 391 are on firm order at 30 June. Those include 146 Airbus A320-family narrowbodies, 202 Boeing 737 Max-family narrowbodies, as well as 92 widebodies: 20 A350-900/-1000s, 29 A330-900neo aircraft and 43 787-9/-10s.

The lessor says it has experienced "robust demand" for its orderbook, resulting in 87% aircraft deliveries placed with customers through 2020.

Its assets have grown to $17.3 billion as at 30 June 2018, up from $10.7 billion in 2014. ALC is rated A- by Kroll Bond Rating Agency and BBB by both Standard & Poor's and Fitch Ratings.

Its orderbook aircraft profile has also changed over the past few years. Early in the decade, ALC ordered Embraer and ATR aircraft, but those have been sold with leases attached to Nordic Aviation Capital.

In an interview with *Airfinance Journal* at the 2018 Farnborough Airshow, John Plueger, the lessor's chief executive officer, showed some interest in the recently rebranded Airbus A220.

"We've always liked the airplane from day one, but it hasn't had enough customers and frankly it's been too expensive," he said. "To the extent that Airbus's involvement changes those two elements – and I suspect that it will over time – it's an airplane that we're watching closely. And again, given the right economic terms and the development of that marketplace, of course we will seriously continue to evaluate it."

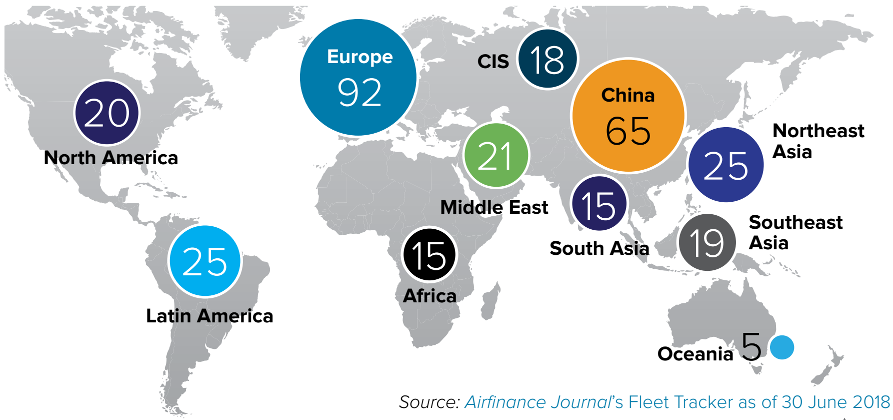
In August, Udvar-Hazy echoed Plueger's comments, saying that Air Lease is keeping its eye on the regional market.

"We're further evaluating smaller-gauge aircraft, in the 120-to-160-seat category, under the umbrella of Airbus, and we anticipate soon Boeing. More specifically, the A220 and the Embraer E2 jets are being carefully analysed," he said. But Hazy also indicates that ALC is evaluating those models as part of the long-term future of global air transportation and ALC.

ALC's largest market is Europe with 27%, followed by China, which accounts for 20% of its business by number of aircraft. North-East Asia, Southeast Asia and South Asia represent a combined 19.5% of the ALC portfolio. Latin America and North America account for 7.7% and 6.8%, respectively. Middle East and the CIS account for 6.8% and 6.1%, respectively.

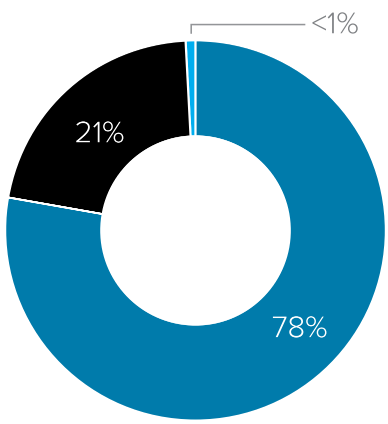
China Southern Airlines is ALC's largest operator with 20 aircraft.

ALC fleet by region of lessee



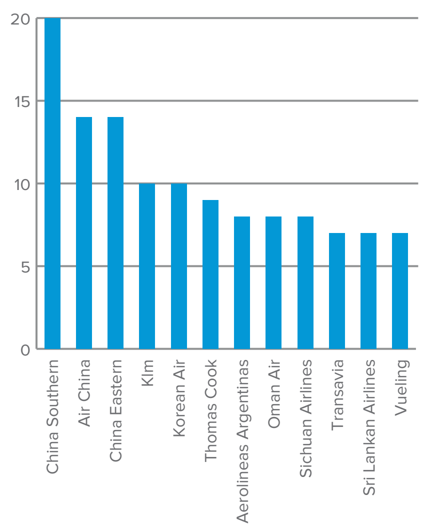
Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

ALC fleet by aircraft type



- Narrowbody 250
- Widebody 68
- Regional jet 2

ALC top lessees



ALC Key facts

Name: Air Lease
Country: USA
Founded: 2010
Ownership: Public company listed on the New York Stock Exchange
Number of employees: 90
Head office: Los Angeles, CA, USA
Size of fleet: 271 owned aircraft; 49 managed aircraft
Average age of fleet: 3.8 years
Number of lessees: 93 airline customers in 56 countries
Orderbook: 391 aircraft (includes firm orders only)
Delivery commitments: $28.5 billion
Unsecured credit ratings: S&P: BBB (Stable); Fitch Ratings: BBB (Stable); Kroll: A- (Stable)
Total assets: $17.3 billion (as of 30 June 2018)
Net income: $796 million (12-month trailing)

9 BOC Aviation

With two years as a public company under its belt, Singapore-based and Hong Kong-listed BOC Aviation has continued its strong growth. The company raised its first-half profit by almost a quarter to $297 million, and increased revenues by 23% to $825 million as it grew its asset base by 19% to $17.1 billion. Net profit for full-year 2017 was $587 million for the year ended 31 December, up from $418 million in 2016.

In July, BOC Aviation said it would add 17 new-generation Airbus A320neo and A321neo aircraft, delivering in 2020 and 2021, as part of a $2.2 billion deal with Airbus. In the second quarter ending 30 June, the company signed 16 lease commitments and took delivery of 15 aircraft. The lessor has also been active in aircraft trading: in May, it sold 15 aircraft to an undisclosed lessor, including 14 narrowbodies and one widebody. That same month, it also delivered its first Boeing 737 Max to Turkey's Corendon Airlines.

In the capital markets, BOC Aviation issued $350 million senior international bonds on the Singapore Stock Exchange in May. That transaction came after a $500 million unsecured issuance in April.

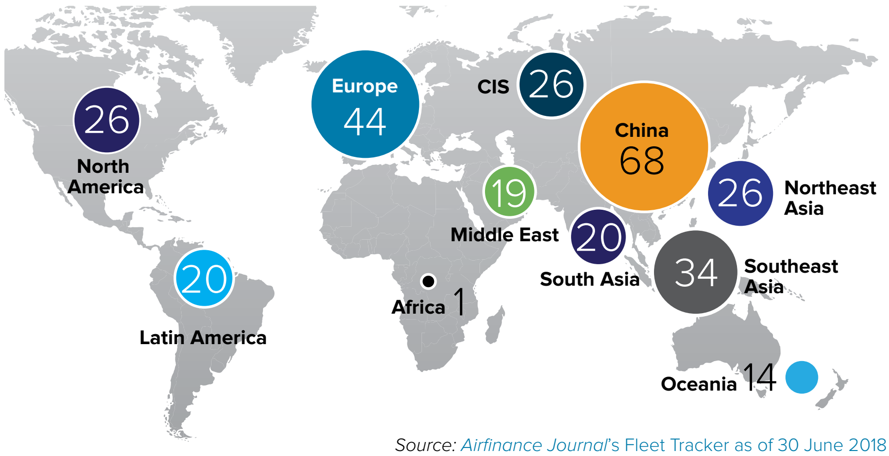
"We are differentiated from many of our competitors on the basis of the youth of our fleet (one of the youngest in the industry), the length of our average remaining lease period (one of the longest in the industry), our high level of liquidity (close to $4 billion in cash and undrawn committed facilities) and our key shareholder relationship (BOC is a strong and committed shareholder)," BOC Aviation chief executive officer Robert Martin tells *Airfinance Journal*.

Martin, who has been with the lessor for more than 20 years, is bullish on the Chinese market.

"China remains one of the fastest-growing major markets in the world and is the greatest component of the global aircraft orderbook. Historically, its lessor community has been underdeveloped and has been looking to gain market share over the last decade. We expect PRC [People's Republic of China] lessors and investors to continue to commit capital to aircraft ownership as its aviation industry builds," he says.

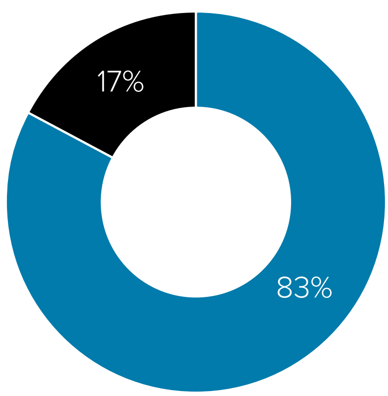
Despite being bullish on the Chinese market, none of the lessor's top six lessees are Chinese, according to *Airfinance Journal*'s Fleet Tracker. Vistara and Southwest have the highest count of aircraft with BOC Aviation, 12, followed by Jetstar Airways with 10 aircraft.

BOC Aviation fleet by region of lessee



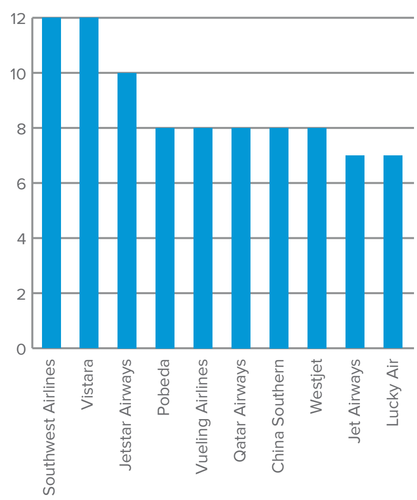
Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

BOC Aviation fleet by aircraft type



Narrowbody	246
Widebody	51

BOC Aviation top lessees



BOC Aviation Key facts

Name: BOC Aviation Limited

Country: Singapore

Founded: November 1993, as Singapore Aircraft Leasing Enterprise

Ownership: Public company listed on the Hong Kong Stock Exchange; 70% owned by Bank of China

Head office: Singapore

No of employees: 158 (as of 30 June 2018)

Size of fleet: 324 aircraft: 295 owned and 29 managed (as of 30 June 2018)

Average age of owned fleet: 3.0 years

Number of lessees: 88 airlines in 35 countries

Orderbook: 193 (as of 30 June 2018)

Unsecured credit rating: A- by Fitch and A- by S&P

Total assets: $17.1 billion

Net income: $297 million

10 Aviation Capital Group

Aviation Capital Group (ACG) has been constantly profitable since its foundation in 1989. In 2017, the US lessor reported a $146 million pre-tax income on revenues of $874 million.

Khan Tran has been chief executive officer of ACG since 2016 and under his leadership the lessor has opened its shareholder base. He was previously president of the company's parent, insurance business Pacific Life.

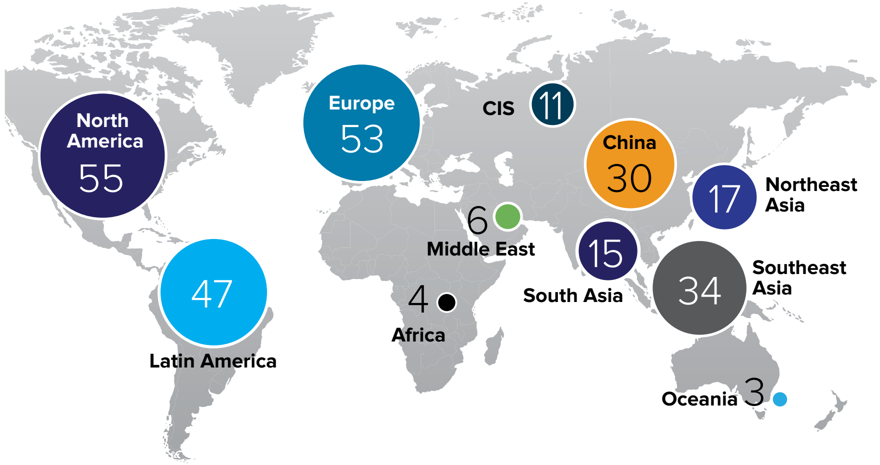
In December 2017, Japanese company Tokyo Century finalised a 20% stake in the lessor for about ¥67 billion ($595 million). ACG says its new shareholder will provide additional capital – on top of its 20% equity investment – to help accelerate the lessor's business expansion and create incremental business opportunities. Tokyo Century says it could further increase its shareholding in the US lessor.

In October 2014, the Japanese publicly held company established an aircraft leasing joint venture with CIT Group with 33 aircraft. However, it acquired 30% of the joint venture from CIT, becoming the sole owner of the portfolio last year.

On the corporate side, the Newport Beach-based ACG has also made significant progress over the past 12 months.

Last December, Kroll Bond Rating Agency assigned an A rating to Aviation Capital Group. Standard & Poor's rates it as A-. In July, Fitch Ratings Services raised its rating on the operating lessor to BBB+ from BBB.

ACG fleet by region of lessee



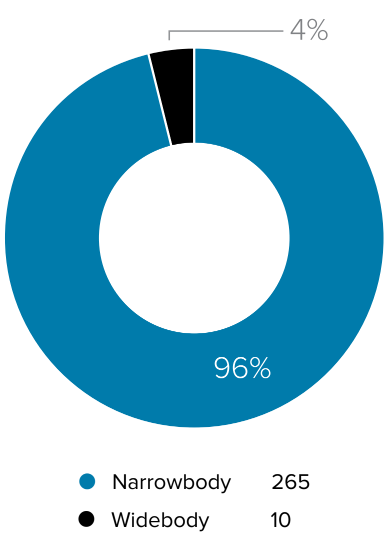
Source: *Airfinance Journal*'s Fleet Tracker as of 30 June 2018

ACG's portfolio has not changed much since last year's Leasing Top 50. It has 275 aircraft in service: 265 narrowbodies and 10 widebodies.

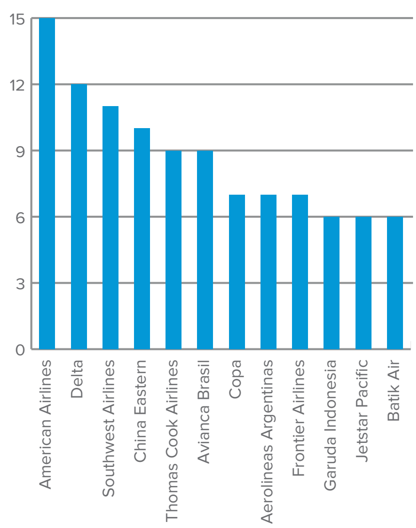
Over the past year, ACG has placed orders for 20 Boeing 737 Max 8 aircraft and 20 737 Max 10s, complementing an order for 60 Max aircraft placed in 2012. It also has an orderbook for 60 Airbus A320neos and 10 A321neo aircraft.

ACG's exposure is equally spread between North America (20%), Europe (19%) and Latin America (17%). South-East Asia represents 12% and China 11% of its in-service fleet. American Airlines is ACG's largest operator with 15 aircraft.

ACG fleet by aircraft type



ACG top lessees



ACG Key facts

Name: Aviation Capital Group

Country: USA

Founded: 1989

Ownership: Pacific Life Insurance

Head office: Newport Beach, California, USA

Number of employees: 105

Size of fleet: 301 (owned and managed)

Average age of fleet: 5.6 years

Number of lessees: 94

Firm orders and commitments: 191 orders and commitments (as of July 2018)

Delivery commitments: $9.25 billion

Unsecured credit ratings: Kroll Bond Rating Agency: A (Stable); S&P Global: A- (Stable); Fitch Ratings: BBB+ (Positive)

Total assets: $8.65 billion

Net income: $134m (six months ended 30 June, 2018)

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