



AIRFINANCE  
JOURNAL

An *Airfinance Journal*

special supplement

# Leasing top 50 2017



**KBRA****KROLL BOND  
RATING AGENCY**

# KBRA CONTINUES TO LEAD THE AVIATION MARKET



## ABS

CASTLELAKE AIRCRAFT SECURITIZATION TRUST	2014-1, 2015-1 & 2016-1
HARBOUR AIRCRAFT INVESTMENTS LIMITED	SERIES 2016
APOLLO AVIATION SECURITIZATION	2014-1 & 2016-1
DIAMOND HEAD AVIATION	2015 LIMITED
AIM AVIATION FINANCE	2014-1
ATLAS	SERIES 2014-1
EAGLE I	SERIES 2014-1
EMERALD AVIATION FINANCE	SERIES 2013-1
FAN ENGINE SECURITIZATION	SERIES 2013-1

## CORPORATES

AIR LEASE CORPORATION
FLY LEASING
28 AIRLINE/LESSOR EETC & PRIVATE PLACEMENT TRANSACTIONS
5 PRIVATE AIRCRAFT LESSORS

### RESEARCH

Aircraft Leasing Industry:  
Recap of 2015 & Outlook for 2016

Equity Investments in Aviation - Do Debt Ratings Matter?

### METHODOLOGIES

Global Passenger Airline Rating Methodology  
EETC & Secured Aircraft Debt Rating Methodology  
Aviation ABS Rating Methodology

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

Figure 1 - Financial highlights

\$ billion	2012/13	2013/14	2014/15	2015/16	2016/17
<b>Revenue in survey</b>	12.5	13.9	13.2	16.0	16.7
<b>GECAS</b>	5.3	5.3	5.2	5.3	N/A
<b>Total revenue</b>	17.8	19.3	18.5	21.4	N/A
<b>PP&amp;E in survey</b>	102.0	112.3	112.2	116.5	125.4
<b>GECAS</b>	36.2	34.9	30.6	34.3	N/A
<b>Total assets</b>	138.2	147.3	142.8	150.8	???
<b>Net income in survey</b>	1.7	1.4	2.7	3.1	3.3
<b>GECAS</b>	1.2	0.9	1.0	1.3	1.4
<b>Total net income</b>	3.0	2.2	3.8	4.4	4.7

This year, in addition to presenting our “Lessor comps” in the next section which compares the most recent financial period’s performance for individual lessors, we decided that there would be interest in an analysis of the global trends for the industry. This is facilitated by the increased availability of public financial data for the world’s lessors. The survey group includes 20 lessors, including seven of the ten largest (the exceptions being GECAS, BBAM (though it includes FLY) and DAE Capital (though it includes AWAS).



Among the questions that can be addressed are: what has been the industry’s growth rate; what is the trend in yields and what are the trends in financing costs, capital structure and profitability of the industry.

## Growth

Firstly, growth rate. Figure 1 shows the key financials for the approximately 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 in their most recent financial years were \$125.4 billion, revenues were \$16.7 billion and net income was \$3.3 billion. We have added the values for GECAS which are available from GE annual reports and investor presentations to get a more comprehensive view of the segment’s size.

As we can see, despite the large volume of purchase and leasebacks and OEM orders, the growth in property, plant and equipment assets among our survey group over the last five years has been a relatively modest 23%. Of course this is affected by the relatively high rate of asset

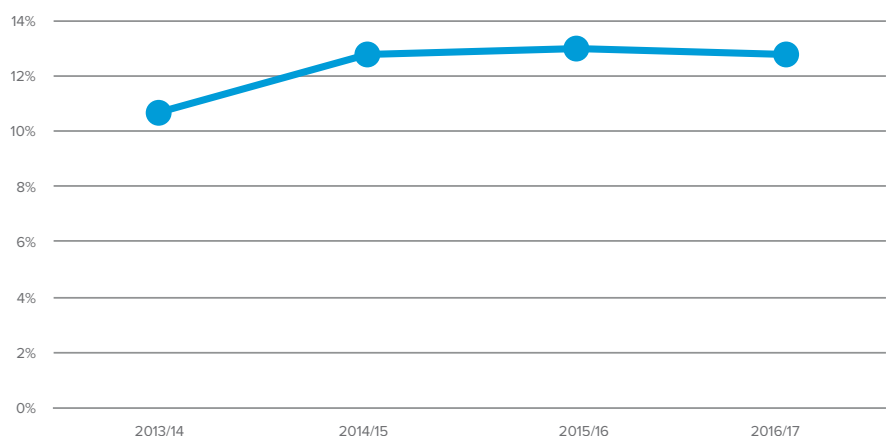
sales among some of the larger lessors who are included in the survey. These sales have been to other leasing companies, into structured ABS deals or side-cars. And it may be because a lot of growth is through entities whose financials are undisclosed, particularly the Chinese lessors.

## Yield

Figure 2 shows the yield trend over the last five years. We had anticipated that with the many new investors competing for sale and leasebacks, competition to place their speculative OEM orders and rumours of lease rates in the 50-60 bps per month

*Continued on page 50 >>>*

Figure 2: Lease yield



Source: Company reports and *The Airline Analyst*

# Top 50 lessors by number of aircraft

Rank	Lessor	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	GECAS	1,271	19	260	822	170
2	AERCAP	1,121	-	-	839	282
3	AVOLON	572	-	52	433	87
4	SMBC AVIATION CAPITAL	437	-	4	395	38
5=	NORDIC AVIATION CAPITAL	404	247	149	8	-
5=	BBAM	404	-	2	299	103
7	DAE CAPITAL	334	52	-	219	63
8	BOC AVIATION	299	-	5	248	46
9	AIR LEASE CORPORATION	278	-	2	217	59
10	AVIATION CAPITAL GROUP	274	-	-	267	7
11	ICBC LEASING	250	-	5	215	30
12	AIRCASTLE	214	-	8	165	41
13	ORIX AVIATION	209	-	-	185	24
14	MACQUARIE AIRFINANCE	202	-	3	188	11
15	CDB LEASING	179	-	20	130	29
16	AVMAX	156	87	63	5	1
17	APOLLO AVIATION GROUP	148	-	-	123	25
18=	CASTLELAKE	146	17	8	94	27
18=	JACKSON SQUARE AVIATION	146	-	-	128	18
20	STANDARD CHARTERED BANK	133	-	-	113	20
21	BOCOM LEASING	115	-	5	91	19
22	DEUCALION AVIATION FUNDS	110	-	-	90	20
23	CHINA AIRCRAFT LEASING COMPANY	93	-	-	89	4
24	CARGO AIRCRAFT MANAGEMENT	88	-	-	10	78
25	GOSHAWK	85	-	1	80	4
26=	VEB LEASING	82	3	29	23	27
26=	TOKYO CENTURY LEASING	82	-	3	63	16
28	ELIX AVIATION CAPITAL	79	78	-	1	-
29	SKYWORKS LEASING	75	4	16	34	21
30	FALCO	74	3	55	16	-
31	CCB LEASING	72	-	2	59	11
32	TRANSPORTATION PARTNERS	71	52	-	19	-
33	ALAFCO	65	-	-	59	6
34=	FUYO GENERAL LEASE	60	-	8	44	8
34=	GOAL	60	17	10	30	3
36=	MINSHENG FINANCIAL LEASING	59	-	14	43	2
36=	MERX AVIATION	59	-	2	55	2
38	SKY LEASING	57	-	-	45	12
39	INVESTEC	56	13	6	15	22
39	SBERBANK LEASING	56	-	20	30	6
41	ACCIPITER	53	-	-	51	2
42=	JETTRAN LLC	52	4	3	41	4
42=	STATE TRANSPORT LEASING COMPANY	52	-	6	38	8
42=	MC AVIATION PARTNERS	52	-	-	46	6
42=	ALTAVAIR AIRFINANCE	52	-	-	24	28
46	ASL AVIATION GROUP	49	20	-	22	7
47	FPG AMENTUM	44	-	-	33	11
48	WNG CAPITAL	42	-	-	39	3
49=	FORTRESS T&I INVESTORS	40	-	-	28	12
49=	DORIC	40	6	-	6	28
	<b>Total</b>	<b>9,151</b>	<b>622</b>	<b>761</b>	<b>6,317</b>	<b>1,451</b>

Source: *Airfinance Journal's Fleet Tracker* as of 31 August 2017  
Includes owned and managed aircraft

# Top 50 lessors by value of fleet (\$m)

Rank	Lessor	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	AERCAP	\$35,110	-	-	\$18,795	\$16,315
2	GECAS	\$28,327	\$249	\$1,793	\$16,755	\$9,531
3	AVOLON	\$21,254	-	\$1,040	\$13,537	\$6,677
4	BBAM	\$19,711	-	\$35	\$8,737	\$10,939
5	SMBC AVIATION CAPITAL	\$17,393	-	\$72	\$12,995	\$4,326
6	BOC AVIATION	\$13,862	-	\$131	\$9,368	\$4,362
7	AIR LEASE CORPORATION	\$13,772	-	\$44	\$7,711	\$6,018
8	ICBC LEASING	\$11,779	-	\$135	\$8,422	\$3,222
9	DAE CAPITAL	\$11,655	\$864	-	\$6,524	\$4,267
10	AVIATION CAPITAL GROUP	\$8,465	-	-	\$8,195	\$270
11	CDB LEASING	\$6,987	-	\$457	\$4,667	\$1,863
12	JACKSON SQUARE AVIATION	\$6,793	-	-	\$4,953	\$1,840
13	ORIX AVIATION	\$6,648	-	-	\$5,158	\$1,490
14	AIRCASTLE	\$6,627	-	\$198	\$3,774	\$2,654
15	NORDIC AVIATION CAPITAL	\$6,135	\$3,025	\$2,860	\$250	-
16	MACQUARIE AIRFINANCE	\$5,824	-	\$51	\$5,024	\$748
17	BOCOM LEASING	\$5,743	-	\$171	\$3,511	\$2,060
18	STANDARD CHARTERED BANK	\$5,577	-	-	\$4,175	\$1,402
19	CCB LEASING	\$3,774	-	\$48	\$2,443	\$1,283
20	CHINA AIRCRAFT LEASING COMPANY	\$3,614	-	-	\$3,335	\$278
21	TOKYO CENTURY LEASING	\$3,590	-	\$51	\$2,301	\$1,238
22	GOSHAWK	\$3,520	-	\$23	\$3,050	\$446
23	INVESTEC	\$3,049	\$140	\$146	\$427	\$2,336
24	DORIC	\$2,794	\$61	-	\$144	\$2,589
25	ALAFCO	\$2,785	-	-	\$1,905	\$880
26	INTREPID AVIATION	\$2,759	-	-	\$39	\$2,720
27	ALTAVAIR AIRFINANCE	\$2,731	-	-	\$595	\$2,136
28	APOLLO AVIATION GROUP	\$2,702	-	-	\$1,996	\$706
29	VEB LEASING	\$2,698	\$34	\$548	\$623	\$1,492
30	DEUCALION AVIATION FUNDS	\$2,666	-	-	\$1,604	\$1,062
31	AMEDEO AIR FOUR PLUS	\$2,635	-	-	-	\$2,635
32	IAFC	\$2,381	-	-	\$350	\$2,031
33	FUYO GENERAL LEASE	\$2,249	-	\$210	\$1,417	\$621
34	ACCIPITER	\$1,879	-	-	\$1,717	\$161
35	CASTLELAKE	\$1,871	\$57	\$45	\$1,350	\$418
36	FPG AMENTUM	\$1,829	-	-	\$1,039	\$789
37	SKY LEASING	\$1,794	-	-	\$985	\$809
38	NOVUS AVIATION	\$1,713	-	-	\$99	\$1,614
39	MC AVIATION PARTNERS	\$1,676	-	-	\$1,492	\$184
40	MINSHENG FINANCIAL LEASING	\$1,645	-	-	\$1,437	\$207
41	MERX AVIATION	\$1,608	-	\$58	\$1,386	\$163
42	AVIA CAPITAL LEASING	\$1,576	-	-	\$1,502	\$74
43	TRANSPORTATION PARTNERS	\$1,551	\$805	-	\$746	-
44	CMB FINANCIAL LEASING	\$1,479	-	-	\$1,219	\$259
45	GOAL	\$1,448	\$227	\$195	\$900	\$126
46	VIETNAM AIRCRAFT LEASING	\$1,205	\$50	-	\$369	\$787
47	EMP STRUCTURED ASSETS GmbH	\$1,194	-	-	-	\$1,194
48	STELLWAGEN GROUP	\$1,130	-	-	\$282	\$848
49	SBERBANK LEASING	\$1,129	-	\$386	\$449	\$294
50	DRAGON AVIATION LEASING	\$1,094	-	-	\$1,009	\$85
	<b>Total</b>	<b>\$301,425</b>	<b>\$5,512</b>	<b>\$8,699</b>	<b>\$178,767</b>	<b>\$108,448</b>

Source: Airfinance Journal's Fleet Tracker as of 31 August 2017/Avitas Current Market Values as of March 2017  
Includes owned and managed aircraft

range for some aircraft types, there would be a noticeable decline in yield. As can be seen, although there is a flattening, there is no meaningful decline, so far.

The possible explanations are numerous: it could be that these deals are being done only at the margin and have not started to move the aggregate needle (yet). Or it could be (again) that they are being executed by lessors not within the scope of the survey. Or it could be that they have mostly been executed in calendar 2017 and the financials have not caught up with them. Next year's study will be interesting.

### Gearing

Gearing for the lessors in the survey has ranged between 2.5x and 3x over the last five years as shown in Figure 3 and is currently trending down. This represents a fairly 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 currently though obviously this aggregate value is comprised of some very low and some quite high levels of leverage as presented in the 'Lessor comps'.

### Debt Structure

There has been a major shift in favour of unsecured debt funding as shown in Figure 4. Secured debt has only increased marginally, while unsecured debt has doubled over the period. And, taking advantage of the historic low interest rates we can see that average debt cost has ranged from 4-4.5% as shown in Figure 5. However, as shown in the next section, some lessors have achieved rates as low as 2.5-3%.

### Interest Cost

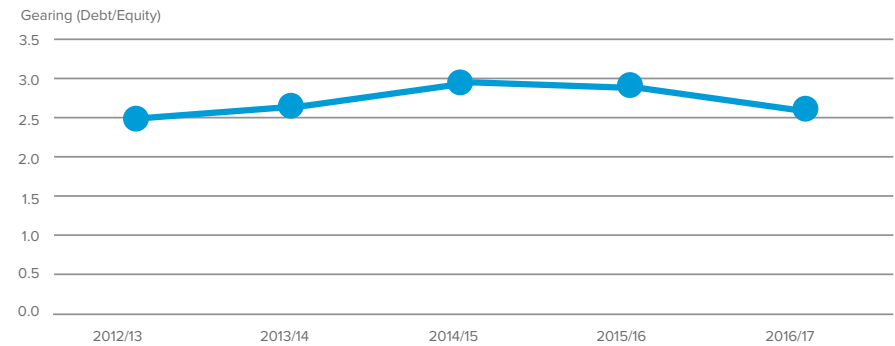
Clearly one of the objectives of the lessors is to maximise the yield-interest cost spread. The slight downward movement in average interest cost matched the slight reduction in yield presented above and was good for profitability in 2016/17. Going forward, with interest rates expected to increase, it will be critical for the lessors to try to negotiate improved yields in order to maintain their margins and profitability.

### Return on Equity

As a whole, the group has achieved a return on equity of between 9.5% and 10% over the last three years, after a recovery from the impairment-hit 2013/2014 year. Coming in a zero LIBOR environment, these are attractive returns indeed, despite the minor downward trend evident in Figure 6. We will continue to see new entrants attracted to the industry by these returns but we can expect a squeeze on margins (exacerbated by likely increases in interest rates) and profitability in the near future. ▲

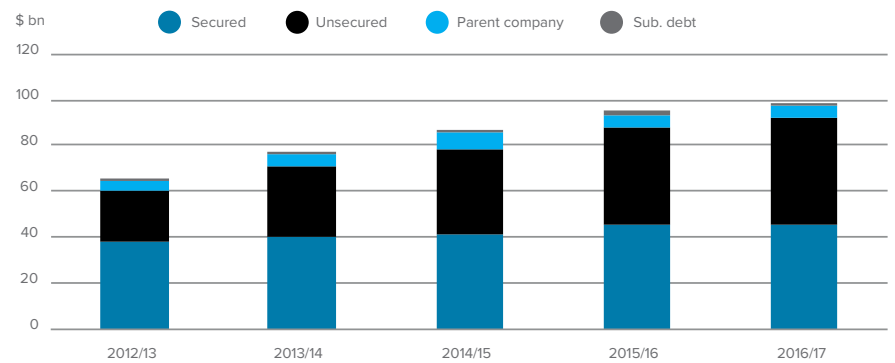
Companies included in the latest period are listed in Figure 1 in the next section. In addition we included CIT and ILFC as appropriate in historic years in order to make the data as consistent as possible

Figure 3: Gearing



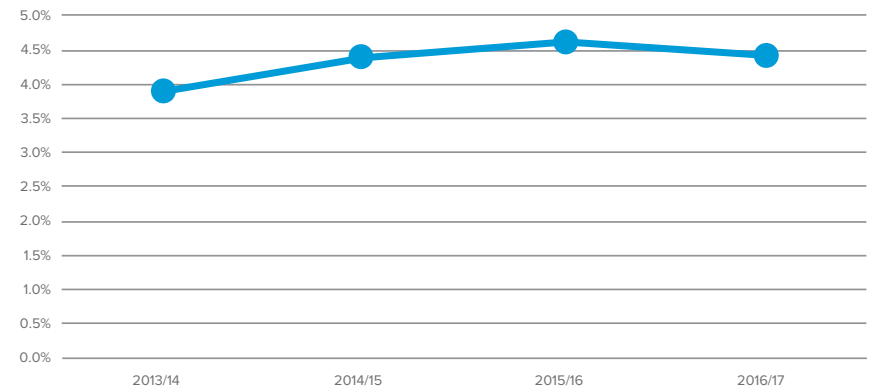
Source: Company reports and *The Airline Analyst*

Figure 4: Debt structure



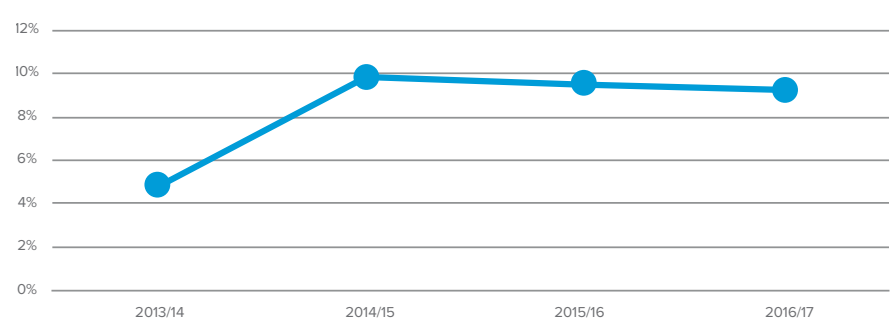
Source: Company reports and *The Airline Analyst*

Figure 5: Average interest cost



Source: Company reports and *The Airline Analyst*

Figure 6: Return on equity



Source: Company reports and *The Airline Analyst*

# Lessor comparisons – 2016/17

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 2016 or 2017).

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

Figure 1 identifies the entities included in the study. In total we have been able to source the financials for 20 leasing companies. Financials are not available for GECAS, but some headline numbers (though fewer than historically) are available in the GE Annual Report. In addition to the obvious major players, we include AviaAM from Lithuania (listed in Poland) and Avation Plc 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 also indicated in Figure 1.

In aggregate, the lessors included in the study represent a total current fleet of 5,679 aircraft or 49% of the 11,593 aircraft analysed in the “Global leased fleet” section of this supplement. The significant absences from our coverage include Macquarie who do not file financial information publicly other than a few headline numbers, DAE Capital (though we do include the 2016 numbers for AWAS) and BBAM (though we do include FLY). Some lessors that we have included previously are not included as they had not filed their 2016 financial statements at the date of preparing this compilation. These are AerDragon, Lease Corporation International, Pembroke Capital and Triangle (Falko). We have included for the first time Avolon, Vermillion and Accipiter.

Figure 1: Lessors included in the study

Lessor	Country	FYE	Abbreviation
Accipiter Holdings	Ireland	31-Dec-16	Accipiter
AerCap Holdings NV	Netherlands	31-Dec-16	AerCap
Air Lease Corporation	USA	31-Dec-16	ALC
Aircastle	USA	31-Dec-16	Aircastle
ALAFCO	Kuwait	30-Sep-16	ALAFCO
Amedeo Air Four Plus	UK	31-Mar-17	AA4+
Avation PLC	UK	30-Jun-17	Avation
AviaAM Leasing AB	Lithuania	31-Dec-16	AviaAM
Aviation Capital Group Corp.	USA	31-Dec-16	ACG
Avolon Holdings Inc.	Ireland	31-Dec-16	Avolon
AWAS Aviation Capital	Ireland	30-Nov-16	AWAS
BOC Aviation	Singapore	31-Dec-16	BOC Aviation
CDB Aviation Lease Finance	Ireland	31-Dec-16	CDBL
China Aircraft Leasing Group Holdings	China	31-Dec-16	CALC
Elix Aviation Capital	Ireland	31-Dec-16	Elix
FLY Leasing	Ireland	31-Dec-16	FLY
GECAS <sup>1</sup>	USA	31-Dec-16	GECAS
MCAP Europe	Ireland	31-Mar-16	MCAP
Nordic Aviation Capital	Denmark	30-Jun-16	NAC
SMBC Aviation Capital	Ireland	31-Mar-17	SMBC AC
Vermillion Aviation Holdings Ireland	Ireland	31-Dec-16	Vermillion

<sup>1</sup> Assets and net income 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 Accipiter, 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 separately 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

Source: Company reports and The Airline Analyst

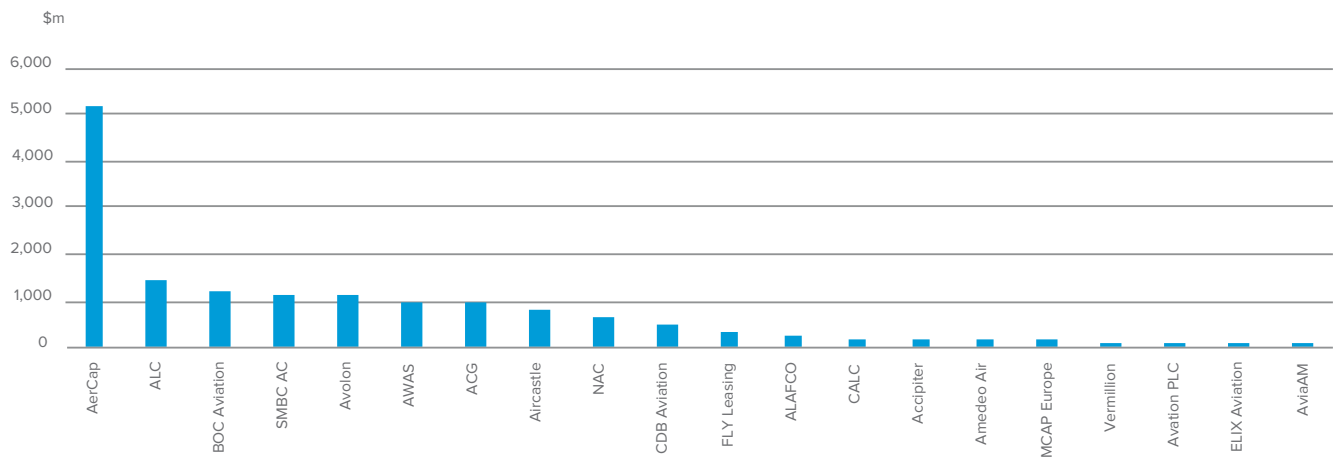
# Profitability

Figures 3 and 4 show the lessors ranked by revenue and net income. The revenue range is from \$5.2 billion for AerCap to \$67 million for Elix and \$58 million for AviaAM. The chart shows clearly how far AerCap (and GECAS) are ahead of the next tier of lessors including ALC, BOC Aviation, SMBC AC and Avolon. In 2017 Avolon will have the benefit of inclusion of CIT's revenues and DAE Capital AWAS's. Despite the increased liquidity in the marketplace and



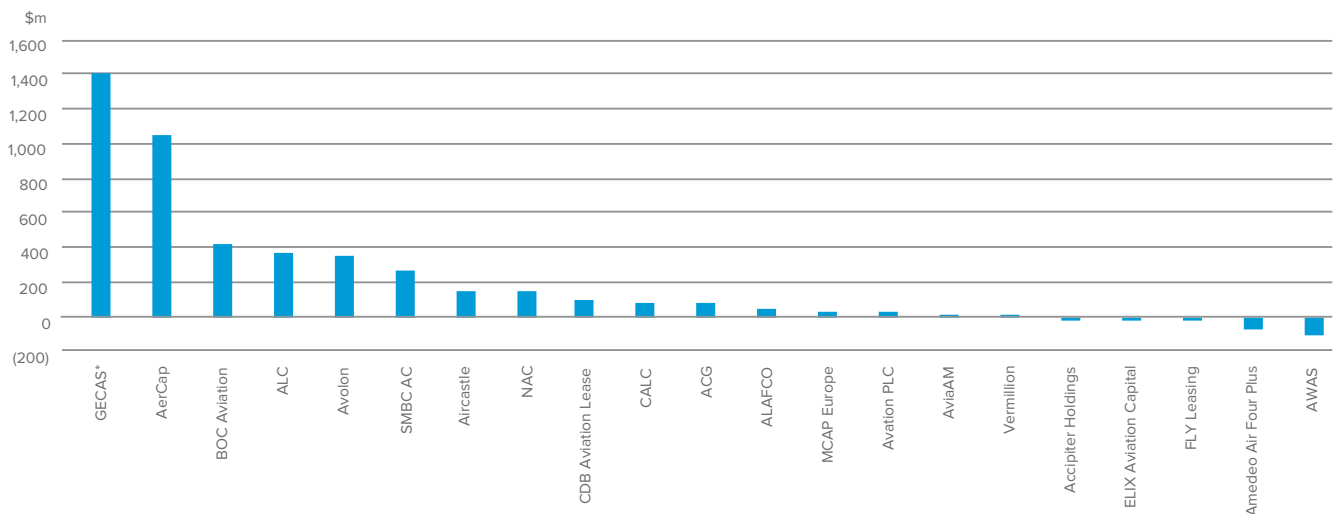
the entry of new investors, yields have been remarkably resilient. In aggregate the profit generated by the lessors in the study (and including GECAS) was \$4.7 billion, a \$300 million increase on the previous year's \$4.4 billion and up from \$3.3 billion in 2014/15. Net income was headed by GECAS at \$1.4 billion followed by AerCap at \$1.1 billion, down from \$1.2 billion off a decline in the size of their balance sheet. Coming third in profitability were BOC Aviation followed by ALC.

Figure 3: Total revenue (\$ million)



Source: Company reports and *The Airline Analyst*

Figure 4: Net income (\$ million)



Source: Company reports and *The Airline Analyst*



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. NAC comes second with yield of 17.4%, followed by MCAP Europe at 16% and AerCap at 15.6%.

AWAS also generates attractive yields but their relatively high debt costs result in lower margins. BOC Aviation comes third bottom of the lease yield ranking at 11.5% but makes it up with the second lowest debt finance cost of 2.7%, resulting in a spread of 7.8%.

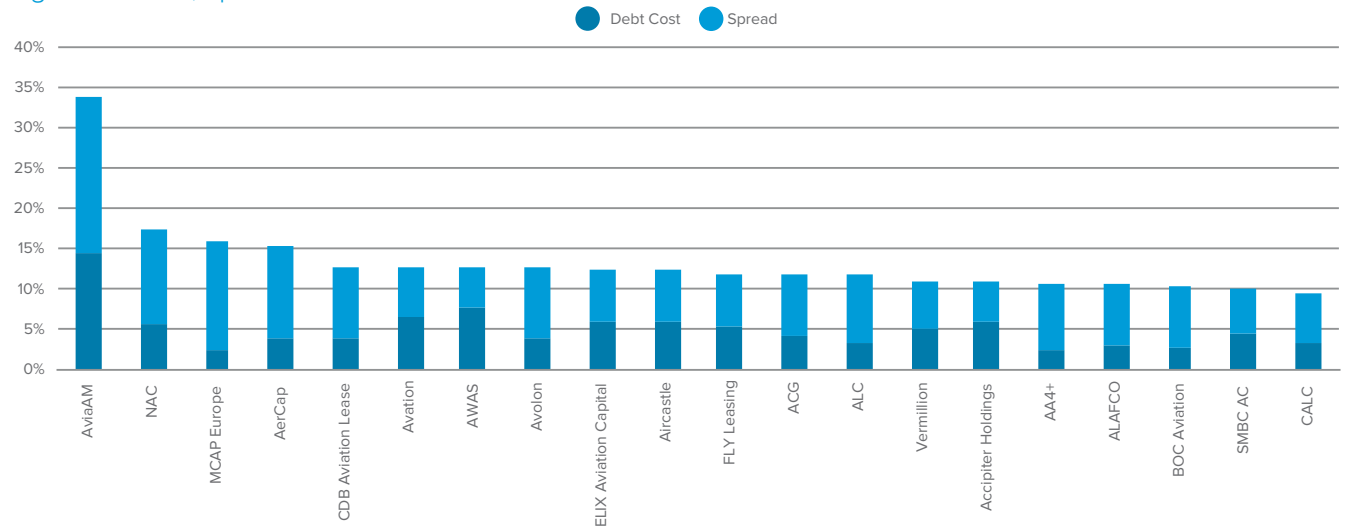
Commercial finance costs range from AA4+'s 2.5% and BOC Aviation's 2.7% to AviaAM's 14%. Others at the low end of the scale include ALAFCO and AerCap. MCAP and SMBC AC have a low debt cost but both have large amounts of shareholder provided debt.

ALC shows a creditable 3.7% average cost of debt. At the higher end are Aircastle, Avation, FLY and AWAS.

NAC showed a sizeable reduction in cost of debt from 6.4% to 5.6% in the prior year (and may show further improvement when they release their 2016/17 financials shortly). ▲

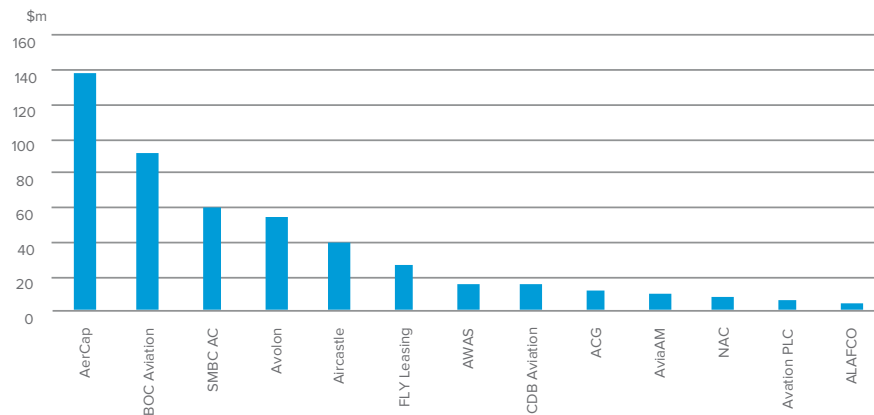


Figure 5: Yield, spread and debt cost



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 (excluding GECAS) is \$121 billion. Gains booked were \$518 million, 10% up on 2015/16 and double the prior year, and 13% of reported profit before tax. 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 were not universal but had a significant impact on AWAS, ACG, NAC and FLY in particular, as shown in Figure 7.

## Financial Flexibility

We assess four elements of financial flexibility – leverage as measured by the debt/equity ratio, level of secured debt relative to tangible assets, EBITDA (earnings before interest, tax, depreciation and amortisation) interest coverage and liquidity.

## Leverage

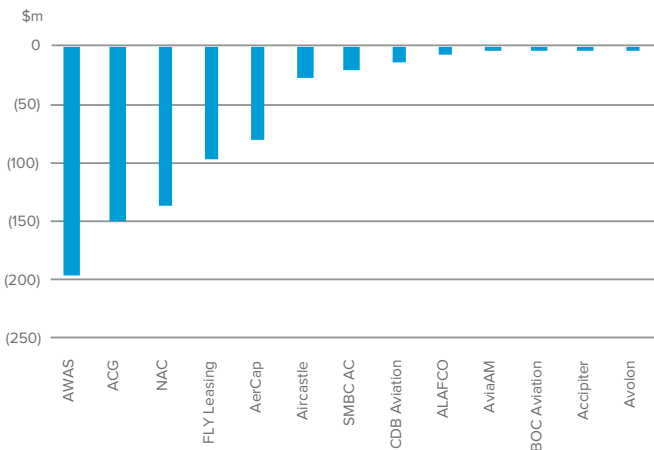
We measure leverage using a simple debt/equity ratio made slightly complicated as a number of lessors use parent loans as a more-or-less permanent part of their capital structure.

Figure 8 therefore shows leverage both counting parent company loans as debt and as equity. You can see this is quite significant for a few lessors. On the latter basis the majority of the lessors are in a range of 2x-4x.

## 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 unsecured investment grade ratings to lessors. AerCap lost its investment grade ratings as a result of its acquisition of ILFC, which increased leverage significantly.

Figure 7: Asset impairment

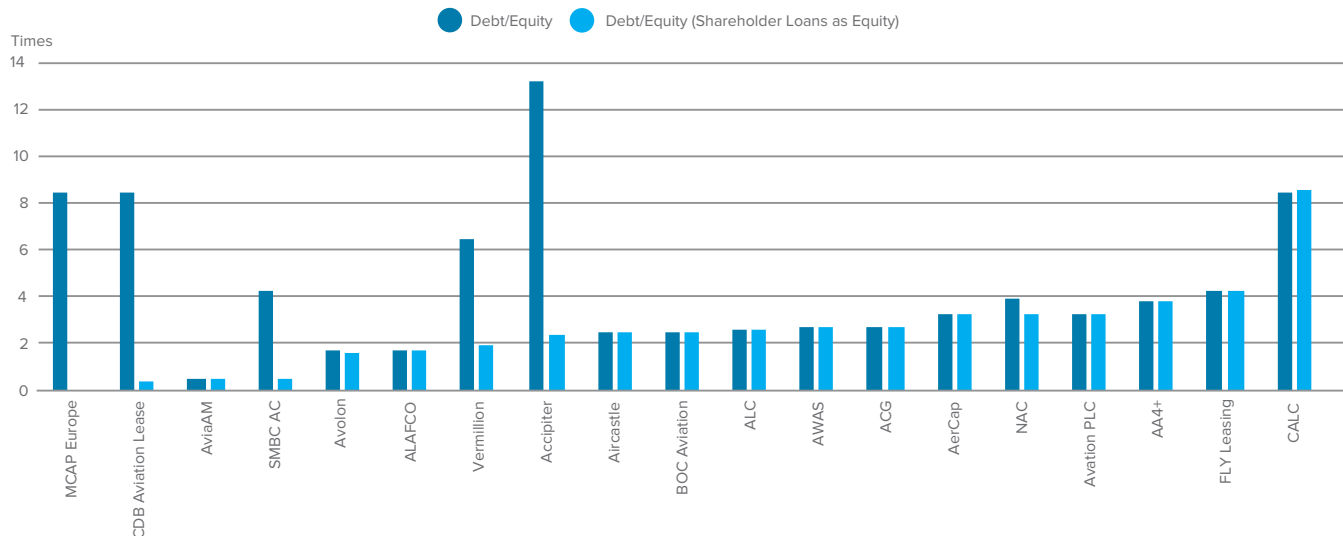


Source: Company reports and *The Airline Analyst*

Figure 9: Lessor unsecured credit ratings

	Fitch	Moody's	S&P	Kroll
<b>AerCap</b>	BBB-(stable)	-	BBB-(stable)	-
<b>ALC</b>	BBB(stable)	-	BBB(stable)	A-
<b>Aircastle</b>	-	Ba1(stable)	BB+(pos)	-
<b>Avation</b>	B+(stable)	-	B+(stable)	-
<b>ACG</b>	BBB(stable)	-	A-(stable)	-
<b>Avolon</b>	BB(stable)	Ba2(stable)	BB+(stable)	BBB
<b>AWAS</b>	-	Ba3(stable)	BB(pos)	-
<b>BOC Aviation</b>	A-(stable)	-	A-(stable)	-
<b>DAE</b>	-	B3(stable)	B-(pos)	-
<b>FLY</b>	-	Ba3(stable)	BB-(stable)	BBB
<b>ILFC</b>	-	Baa3(stable)	-	-
<b>NAC</b>	-	-	-	BBB+
<b>SMBC AC</b>	A-(stable)	-	BBB+(stable)	-

Figure 8: Debt/equity ratio



Source: Company reports and *The Airline Analyst*



Since then the lessor has sold assets and reduced leverage and regained their investment grade ratings in late 2015. The other lessors with investment grade ratings are ALC, ACG (who benefit from their ownership by Pacific Life), BOC Aviation and SMBC AC who benefit from their majority bank ownership. S&P cite a ceiling of a BB+ unsecured rating

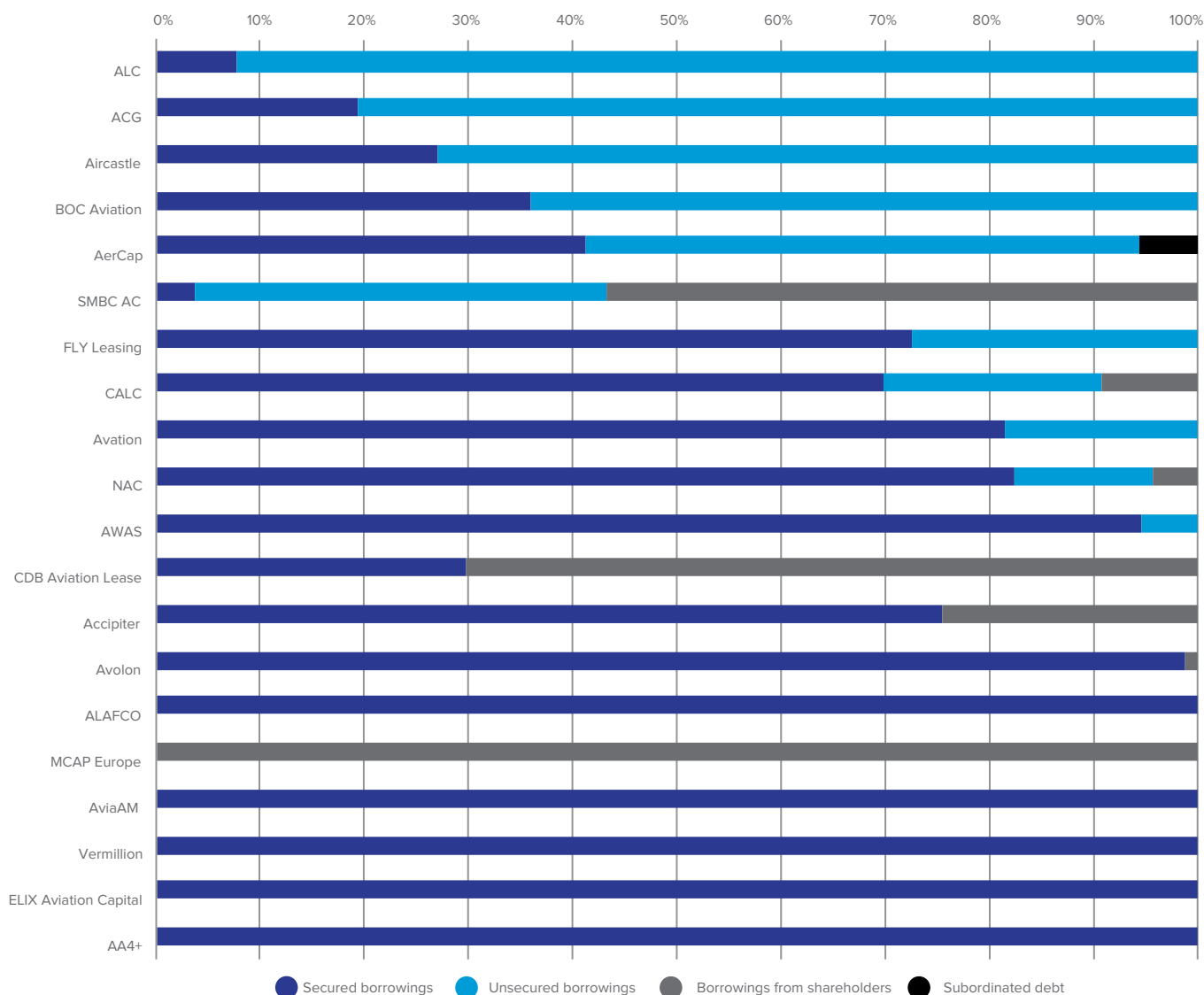
for (previously) private equity owned lessors like AWAS due to financial policy concerns.

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 that could not be

classified due to lack of information. As discussed in the Trend analysis section there has been a significant increase in unsecured funding by the industry as a whole, from 34% of total debt in 2012/13 to 46% in 2016/17.

The lessors with the highest percentage of unsecured funding are ALC, ACG and Aircastle. ^

Figure 10: Debt structure



Source: Company reports and *The Airline Analyst*

# Financial flexibility

## Secured debt/Tangible assets

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 reflects their 100% shareholder funding debt structure. The next five best ranked lessors reflect significant amounts of unsecured funding.

MCAP Europe, SMBC and ALC come top of the list, the last with its 94/6 unsecured/ secured debt structure which supports its BBB- investment grade rating. Then follow ACG, Aircastle, CDB Aviation Lease, BOC Aviation, AviaAM and AerCap, who all have

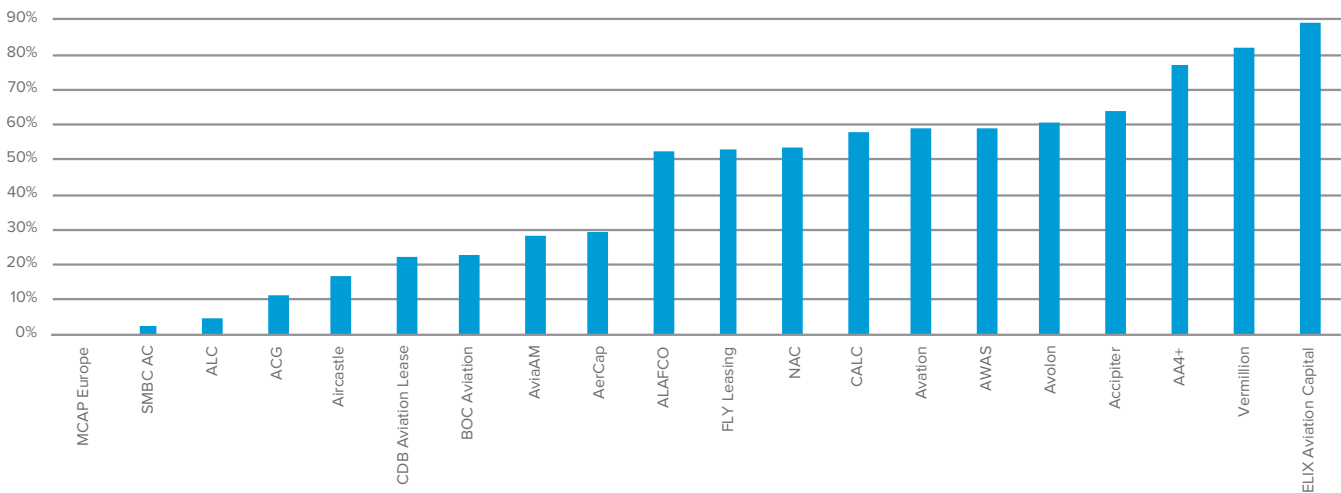
significant portions of unsecured debt in their debt structures. AerCap had \$14.8 billion of unsecured financing outstanding at balance date, but this represented only 53% of its total debt. BOC Aviation has been a regular visitor to the unsecured capital markets in several jurisdictions. FLY increased its unsecured debt to \$691 million in 2016. NAC raised a \$230 million unsecured five year term loan facility in 2012/13 and had \$345 million unsecured debt outstanding at its 30 June 2016 balance date. SMBC AC's debt structure features a large element of shareholder funding of \$4.3 billion and \$2.5 billion of

loans (all unsecured) from third-parties, the source of which is not disclosed in the financial statements.

## Interest coverage

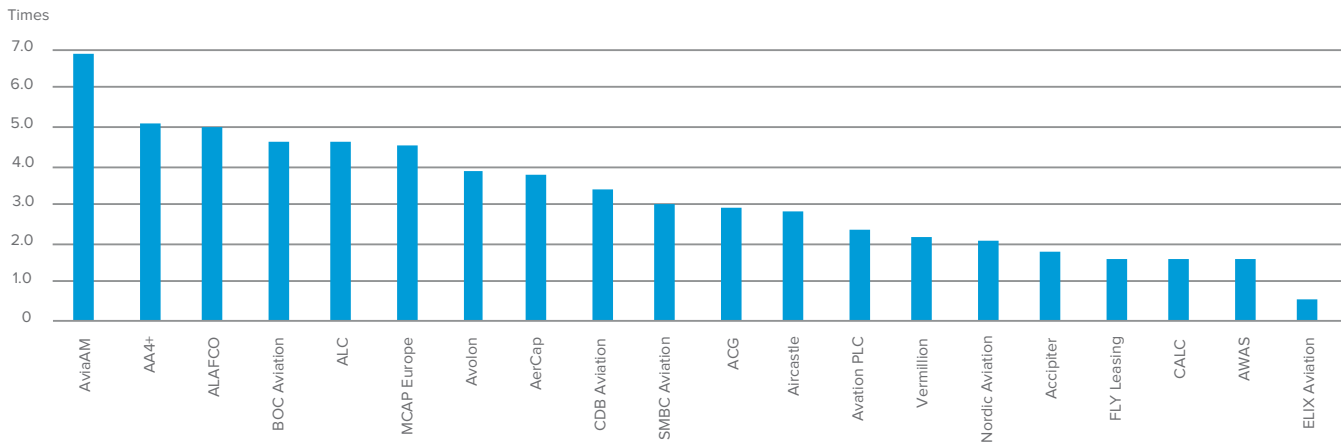
Interest coverage measured as EBITDA/ finance costs is another key aspect of financial flexibility. From Figure 12 we see that the majority of lessors covered by the study have a healthy coverage of at least two times and many have much better coverage than that, particularly AviaAM, AA4+, ALAFCO, BOC Aviation and ALC. A sharp contrast can be seen with some of those further down the chart.

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*



**Liquidity**

Figure 13 shows unrestricted cash liquidity as a percentage of total borrowings. AviaAM's liquidity is clearly much higher than the others relative to its debt. For the remainder, this measure ranges from a low of 3% for ACG, ALC and SMBC AC (which has access to parent funding) to a high of 23% for CALC.

Some of the lessors additionally have committed bank facilities such as BOC Aviation which had \$4 billion of such undrawn lines as of 31 December 2016, Aircastle who had \$810 million of unsecured revolving credit capacity

and ALC who had a \$3.2 billion unsecured revolving bank facility, with maturity extended to May 2020. As of 31 December 2016 ACG had \$1.72 billion available under its unsecured revolving credit facilities and AerCap had approximately \$7.3 billion of undrawn lines of credit under its credit and term loan facilities.

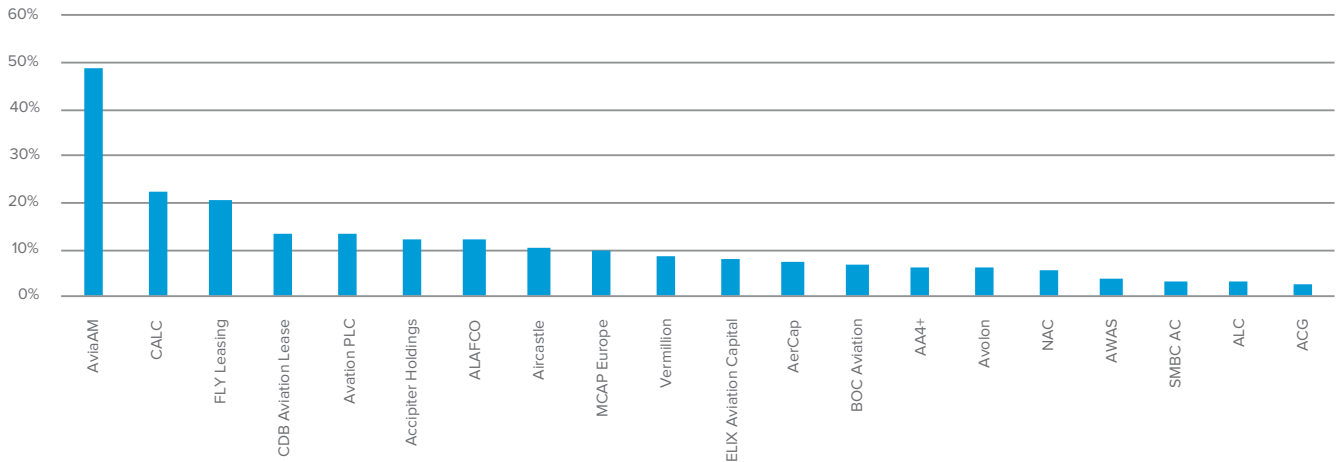
**Returns**

**Profit before tax**

As an overall measure of profitability, we have assessed profit before tax as a

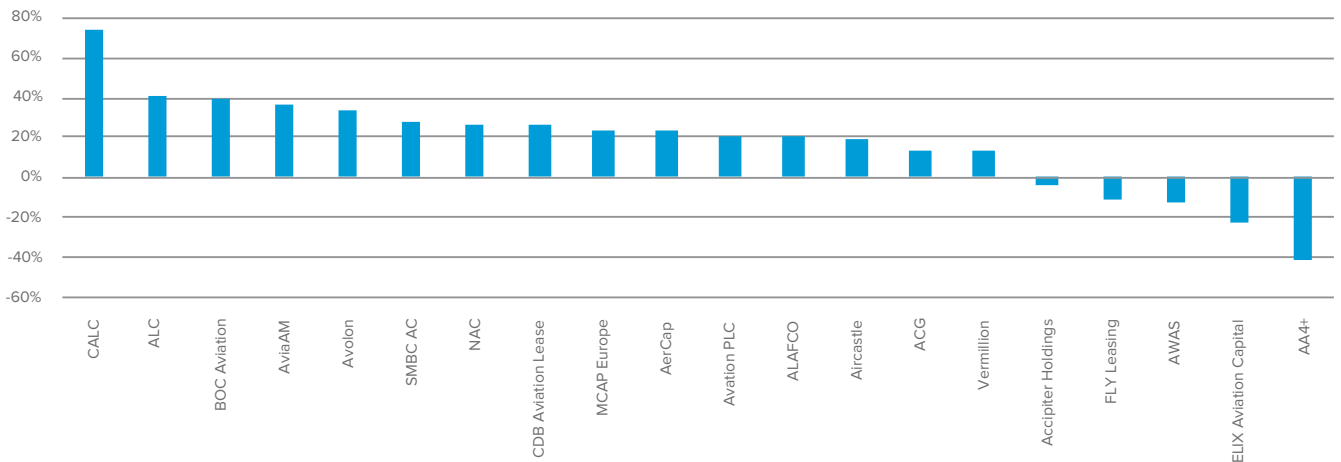
percentage of total revenue as shown in Figure 14. This suggests that the lessors at the left side of the chart have a favourable combination of lease yield, funding cost, operating costs and leverage – as well as factors not assessed in this study – fleet utilisation and maintenance/transition costs. The larger lessors with high margins were ALC and BOC Aviation. At the other end of the scale of the traditional lessors were FLY Leasing and AWAS, which were both impacted by impairment charges and relatively high debt costs in AWAS's case. AA4 Plus with its unique capital structure brought up the rear. ▲

Figure 13: Cash/total debt



Source: Company reports and *The Airline Analyst*

Figure 14: PBT margin



Source: Company reports and *The Airline Analyst*

# Returns

## 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%. 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 equity is shown in Figure 16. Just under half of the lessors delivered a return on equity in excess of

10% in their most recent annual financial period. Elix's, CDB Aviation Lease Finance's and CALC's returns are commendable but should be interpreted in conjunction with their high leverage. NAC with 16.2% arguably generated the best returns of the group for those lessors with a more normal balance sheet structure. Other established lessors like BOC Aviation and AerCap generated solid low teens returns, but down from "mid-teens" last year.

## Conclusion

This review has shown some of the key dynamics affecting aircraft lessors' business

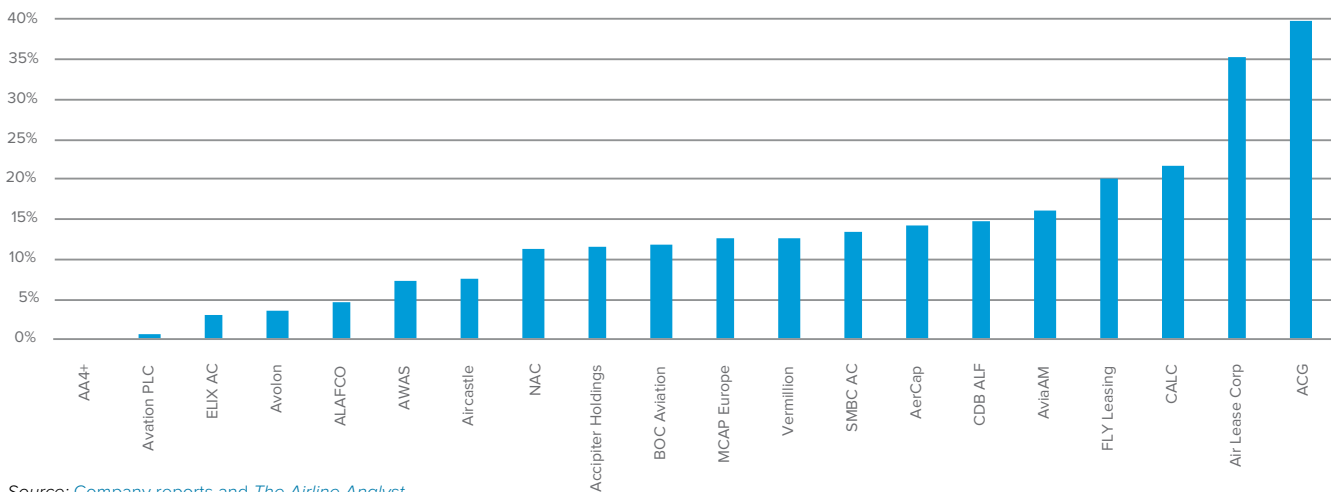
models which are more varied than would appear the case at first inspection. Lease yield, debt cost, asset selection, asset utilisation and re-marketing capabilities are all critical components of the aircraft operating leasing business.

Get these right, and the aircraft leasing business can offer substantial "libor-plus" returns to equity investors.

However lease yields and ROEs appear to be trending down and it will be interesting to see the implications for this set of lessors in a year's time.

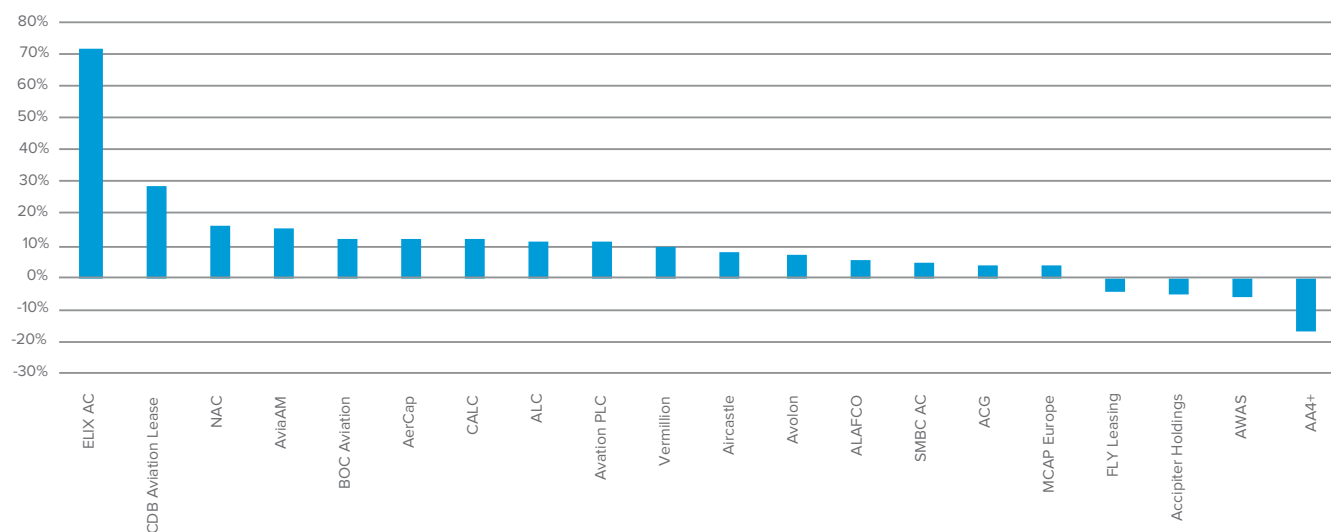
Please direct any questions or comments to [mduff@theairlineanalyst.com](mailto:mduff@theairlineanalyst.com).

Figure 15: Tax rate



Source: Company reports and *The Airline Analyst*

Figure 16: Return on average equity (shareholder loans as equity)

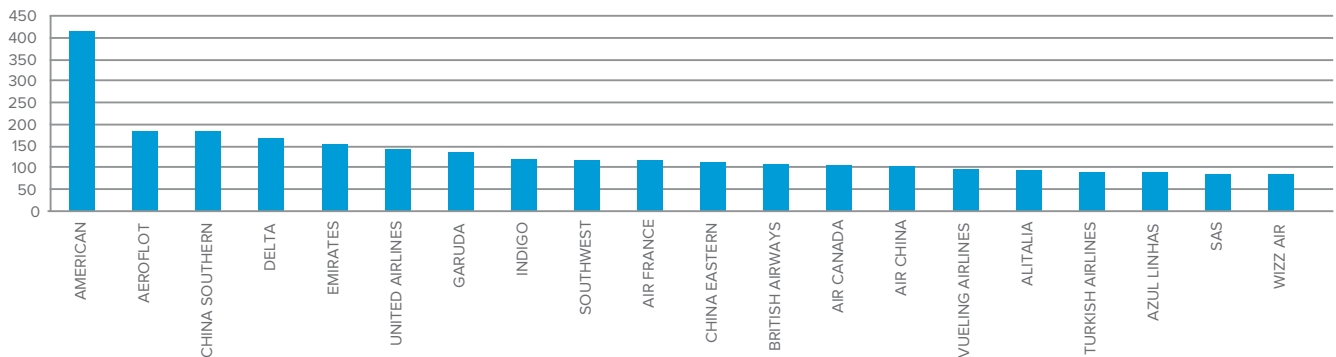


Source: Company reports and *The Airline Analyst*

# Analysis of the global leased fleet

Figure 1: Biggest lessees by number of aircraft

Source: Airfinance Journal's Fleet Tracker



Airfinance Journal's Fleet Tracker database includes 10,586 aircraft, leased by 122 commercial lessors with at least 10 aircraft to 765 airlines in 146 countries (data as of end August 2017). 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 3,206 aircraft. The average age of the existing leased fleet is 11.1 years and 713 aircraft (6.4%) are reported as being in storage.

The industry is heavily concentrated. The top 10 lessors account for 48% of the total fleet count and 60.3% by value (top 10 value – \$181.3 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 lessee groups 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. Restructurings, such as at Air Berlin, can lead to reductions in fleet sizes which can cause severe lessor pain. Other examples include the restructurings at Alitalia and GOL.

### 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.

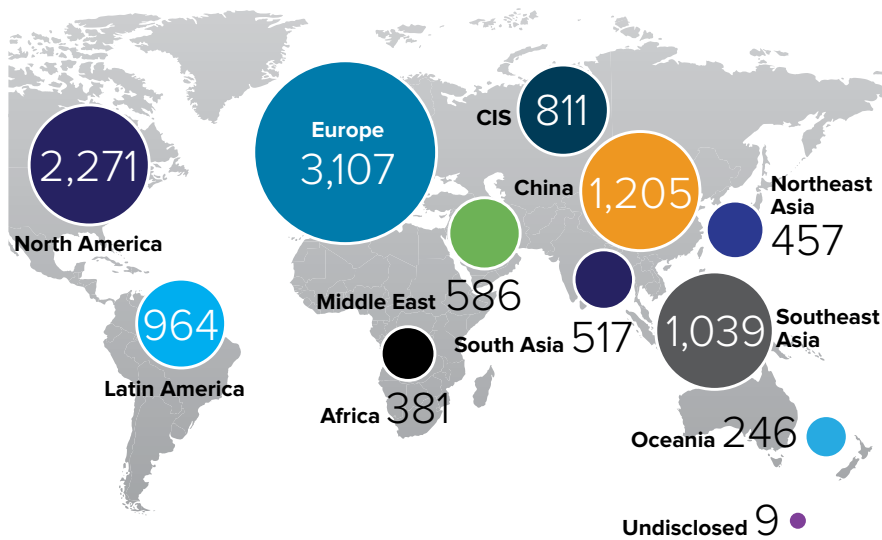
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**D&A CAPITAL**

Figure 2: Geographic distribution of leased aircraft

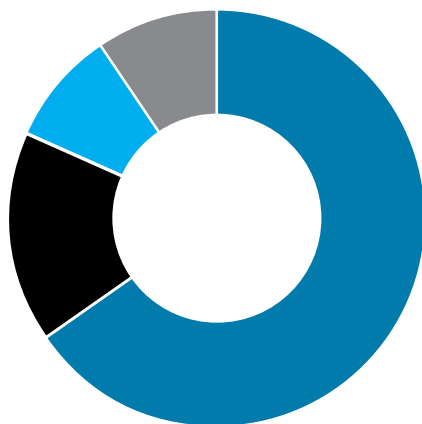


Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

### 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 narrow-body category split mostly between the A320 and 737 families. Only 16% 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.

Figure 3: Leased aircraft body type

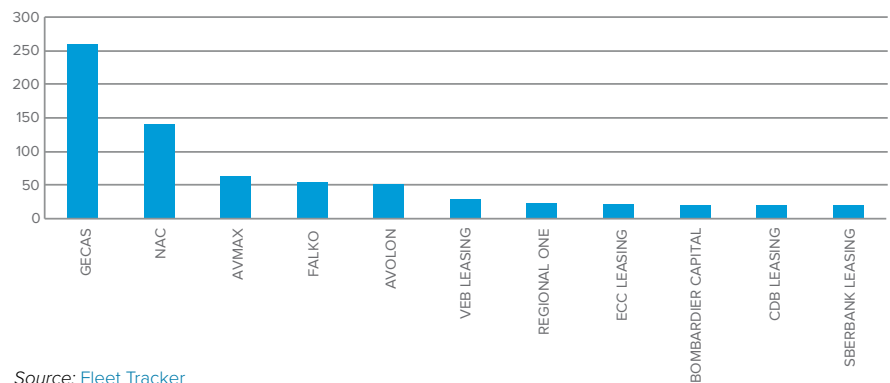


- Narrowbody 7,597
- Widebody 1,897
- Regional jet 1,007
- Turboprop 1,092

### Regional jets

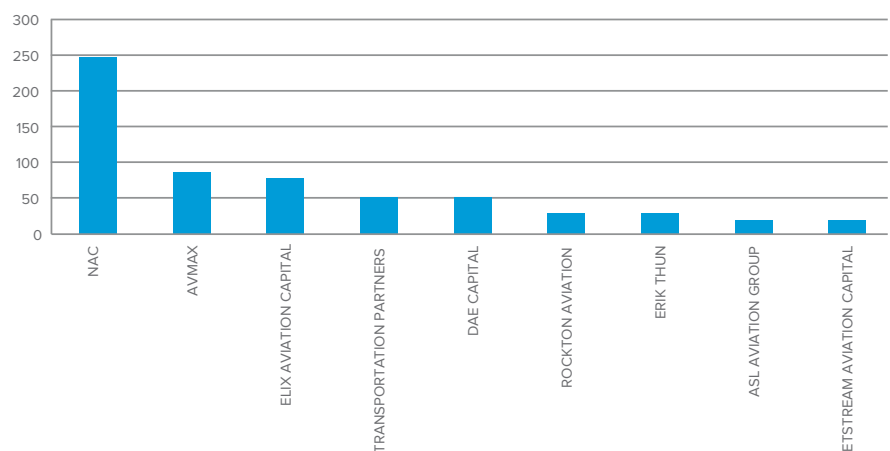
The most significant development over the last year has been the reduction in size of the GECAS portfolio from 344 to 260. As

Figure 4: Top 10 lessors of regional jets



Source: Fleet Tracker

Figure 5: Top turboprop lessors



can be seen, however, GECAS remains the largest player with NAC in second place, having increased its fleet from 99 to 141.

Castlelake has reduced its exposure to this market over the past 12 months while Regional One's fleet is now at 23 units.

Avmax, Falco and Avolon (which absorbed the 33 aircraft that CIT Aerospace had at this time last year), are other significant lessors in this segment.

### Turboprops

Turboprops are a significant niche market, dominated by one lessor, Nordic Aviation Capital. However, other lessors have a presence, as shown in Figure 5, attracted by high yields.

The biggest increase in 2016/17 has come from Avmax, up from 57 to 87 aircraft, taking second place from Elix Aviation Capital. Truenoord Capital backed by its new investors, Blackrock and Aberdeen Asset Management may also be expected to increase its exposure.

ALC exited the market with the 25-aircraft portfolio sale to NAC last year. Among other sellers are ASL Aviation Group, which reduced its fleet by almost a third. ^



# 1 GECAS

General Electric signed its first aviation lease in 1967 and, in 1993, formed GE Capital Aviation Services (GECAS), its aviation finance business, which is the world's biggest leasing company by fleet size, with a total of 1,321 aircraft.

The lessor has 402 aircraft on order – including the Airbus A320neo, Boeing 737 Max 8, A321neo and 787-10 models.

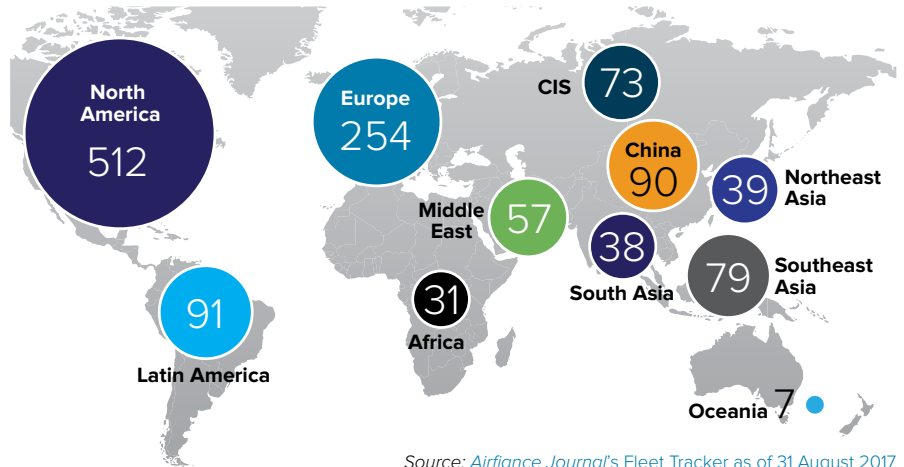
GECAS' main source of funding is its parent company, which it says gives it access to considerably cheaper financing than most of its peers, and less exposure to market volatility. In addition, GECAS provides loans collateralised on about 400 aircraft and has about \$44 billion-worth of assets on its books.

While leasing has been consistent for several years, accounting for about 40% of the global fleet since 2009, given the original equipment manufacturer's projections for expansion of the global fleet, roughly doubling over the next 20 years, even a flat rate of percent leased will provide ample opportunities for growth, says GECAS.

"Leasing is attractive because it offers fleet flexibility, obviates residual value risk and preserves cash. In the leasing sector, where certain global regions have recently experienced a large number of new entrants, some consolidation of lessors is likely," adds the lessor.

GECAS has been taking advantage of market conditions and has sold about \$4 billion-worth of aircraft annually for the past

## GECAS fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

couple of years, which has resulted in a gradual decline in the size of its balance sheet.

However, speaking with *Airfinance Journal*, GECAS president and chief executive officer, Alec Burger, indicates the lessor will return in 2018 to a "more normalised rate" of sales of a "couple of billion dollars-worth" of transactions each year.

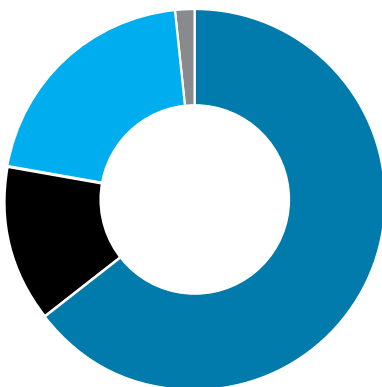
He adds: "Over the next two to three years, the [GECAS] balance sheet is going to start growing" through a reduction in sales and increased volume.

GECAS will also build its off-balance

sheet portfolio through separate transactions, such as those through its newly announced \$2 billion sidecar – Einn Volant Aircraft Leasing (EVAL) – with Caisse de dépôt et placement du Québec, which will ease its exposure limits where "GECAS has reached concentration limits with many of our customers, so EVAL makes it possible to do a little more business with them", says Burger.

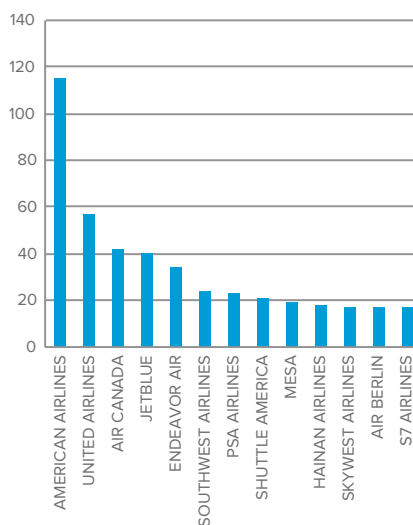
As older aircraft are retired or taken offline, GECAS sees opportunity in new-technology aircraft, as shown by its recent orders for 75 Max aircraft and 100 A320neos. ▲

## GECAS fleet by aircraft type



- Narrowbody 822
- Widebody 170
- Regional jet 260
- Turboprop 19

## GECAS top lessees



## GECAS Key facts

<b>Name:</b> GE Capital Aviation Services (GECAS)
<b>Country:</b> USA and Ireland
<b>Founded:</b> 1993
<b>Ownership:</b> General Electric
<b>Company head office:</b> Shannon, Ireland, and Norwalk, Connecticut, USA
<b>Number of employees:</b> about 575
<b>Size of fleet:</b> 1,321 fixed-wing (owned and serviced), 240 rotary wing
<b>Average age of fleet:</b> N/A
<b>Number of customers:</b> about 250
<b>Orderbook:</b> 402 aircraft
<b>Unsecured credit ratings:</b> no standalone credit rating for GECAS (GE Capital has a AA+ rating)
<b>Total assets (as of 30 June 2017):</b> about \$44 billion
<b>Net income:</b> part of GE company (GECAS \$1.4 billion in 2016)

# 2 AerCap

**A**erCap was established in 1995 and has its headquarters in Dublin. The lessor listed on the New York Stock Exchange in 2006 and acquired rival company ILFC from AIRG in May 2014.

The Irish-based lessor boosted its funds this year with a \$1 billion senior notes offering, which priced at 3.65%. The notes are due in July 2027 and AerCap intends using the net proceeds from the notes for general corporate purposes.

AerCap is maintaining an optimistic outlook regarding the Gulf region despite concerns about the three dominant Gulf carriers, which represent a sizeable percentage of the widebody backlog. Also, some of these carriers have announced restructuring efforts this year.

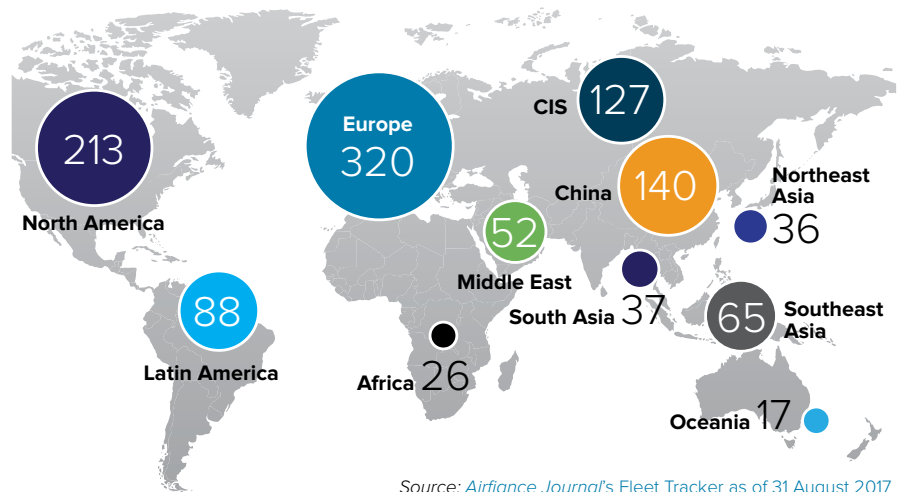
The lessor's chief executive officer, Aengus Kelly, plays down any worries about the Gulf carriers and the region's orderbook.

We have certainly seen a region having a much bigger share of the backlog, having gone through significant stress for a long period of time, and that would be the North American market. Most North American airlines have filed for bankruptcy protection multiple times, with massive backlogs, and massive amounts of airplanes in the system - far greater than what is in the Gulf," he says.

Kelly stresses that the Gulf carriers will "work their way through their issues".

"This is nothing that we haven't seen before and the OEMs [original equipment manufacturers] are not going to put the

AerCap fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

national carriers of these countries into bankruptcy. That will not happen. They will work with them. They will defer what needs to be done."

As is the case for any airline, deferrals are an "expensive discussion", he admits, adding: "But that's how the OEMs make a lot of money, by deferrals... so it is part of the OEM business model, and their profit margin, to expect deferrals."

The lessor improved its second-quarter net income to \$282.9 million from \$233.3 million in the year-earlier period because of higher gains on asset sales and maintenance rents and lower maintenance

rights expense.

The lessor executed 108 aircraft transactions in the quarter, including 25 widebodies.

It also repurchased 6.5 million shares in the quarter for \$293 million and 14.2 million shares year to date to 28 July for \$639 million.

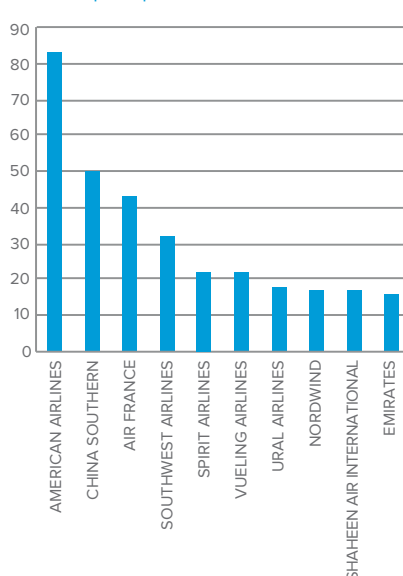
Basic lease rents were \$1.05 billion for the three months, compared with \$1.10 billion for the same period in 2016. The decrease was primarily because of the sale of mid-life and older aircraft during 2016 and 2017, which reduced average lease assets. ^

AerCap fleet by aircraft type



● Narrowbody 839  
● Widebody 282

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:** 398
- Size of fleet:** 1,110 owned and managed
- Average age of fleet:** 7.3 years
- Number of lessees:** about 200
- Orderbook:** 429
- Total assets (as of 30 June 2017):** \$41 billion
- Net income:** \$1.05 billion full-year 2016

# 3 Avolon

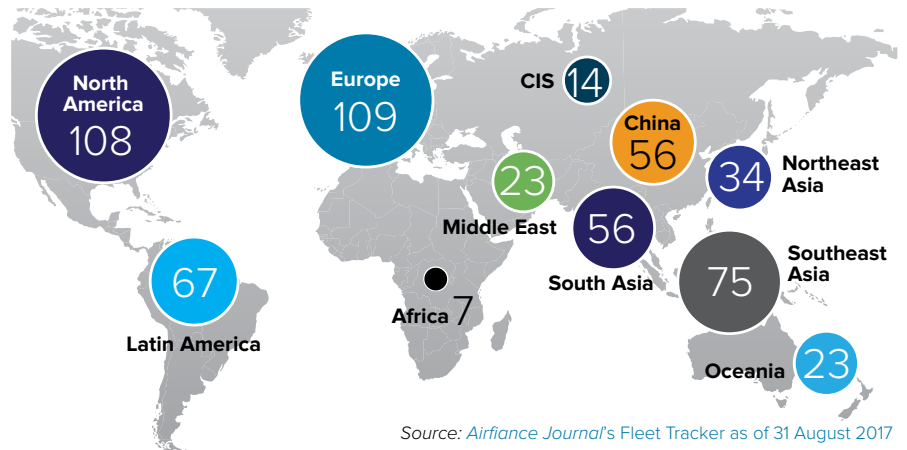
**A**volon is an aircraft leasing company based in Dublin, Ireland. It was founded in May 2010 by Domhnal Slattery, and a team from RBS Aviation Capital, including John Higgins, Dick Forsberg, Tom Ashe, Andy Cronin, Simon Hanson and Ed Riley, with initial capital of \$1.4 billion.

The \$1.4 billion initial equity commitment was from four leading international investors: Cinven, CVC Capital Partners, Oak Hill Capital Partners and the Government of Singapore Investment Corporation.

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. At listing, Avolon was the largest-ever listing of an Irish-founded company on the NYSE.

In September 2015, Avolon announced that Bohai Leasing, the Chinese leasing and financial services company affiliated with HNA Group, made a cash offer for 100% of its common shares at a price of \$31 a share. In January 2016, Avolon announced the completion of its acquisition by Bohai Leasing, and assumed control of Hong Kong Aviation Capital, a leasing entity also owned by Bohai Leasing. In April 2017, it announced the completion of 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 valued in excess of \$43 billion. In June, Avolon announced a memorandum of understanding with Boeing for 75 737 Max 8 aircraft, together with 50 options.

Avolon fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

As of 30 June, Avolon had an owned, managed and committed fleet of 921 aircraft valued at about \$50 billion.

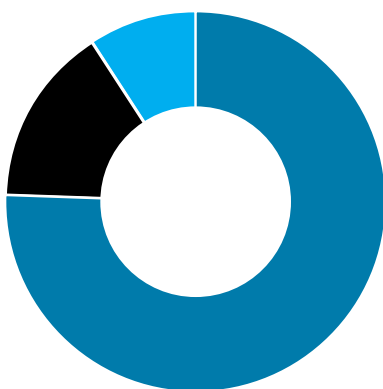
By the end of August, it had 905 aircraft owned, managed and committed. Its active fleet included 591 aircraft while another 314 aircraft were on order.

Since its inception, Avolon has focused on liquid single-aisle aircraft and grown its business via the sale and leaseback market and speculative orders with manufacturers.

It had 460 narrowbody aircraft in service along with 252 narrowbodies on order as of 30 August. But the lessor also had about 90 widebodies in its fleet and orders for another 60. Avolon also has regional exposure to Embraer and Bombardier products.

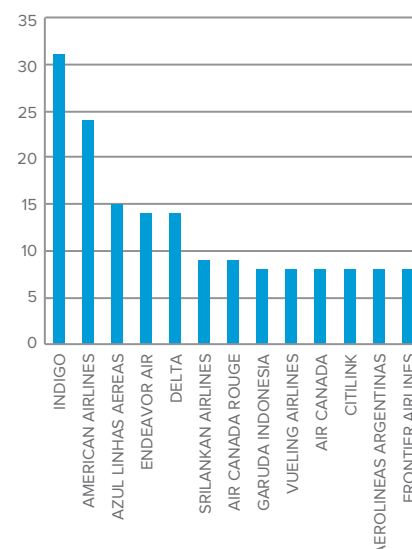
Commenting on 2016, Slattery, Avolon's chief executive, says: "In the last year, Avolon has experienced transformational growth, while delivering strong performance across all key business and financial performance measures. The year to date has been headlined by the completion of the acquisition of the aircraft leasing business of CIT and the signing of a memorandum of understanding with Boeing for 75 Boeing 737 Max aircraft. Avolon has a total available liquidity of over \$4 billion and the youngest, most attractive fleet of the world's leading lessors. We remain excited about the prospects for the business and the opportunity for growth in the period ahead."

Avolon fleet by aircraft type



- Narrowbody 433
- Widebody 87
- Regional jet 52

Avolon top lessees



## Avolon Key facts

<b>Name:</b> Avolon
<b>Country:</b> Ireland
<b>Founded:</b> 2010
<b>Ownership:</b> Bohai Capital
<b>Head office:</b> Dublin, Ireland
<b>Number of employees:</b> 250
<b>Size of fleet:</b> 921 owned, managed and committed fleet (30 June 2017)
<b>Average age of fleet:</b> 4.9 years (30 June 2017)
<b>Number of lessees:</b> 151
<b>Orderbook:</b> 347 aircraft (30 June 2017)
<b>Unsecured credit ratings:</b> Fitch BB; Moody's Ba2; S&P BB+; Kroll BBB+
<b>Total assets:</b> \$26.6 billion in assets at end of Q2
<b>Net income:</b> \$232 million for H1 2017

# 4 SMBC Aviation Capital

Although most of its business is based out of Dublin, SMBC Aviation Capital is owned and supported by a consortium of Japanese institutions: Sumitomo Mitsui Banking Corporation (SMBC), Sumitomo Mitsui Finance and Leasing Company Limited (SMFL) and Sumitomo Corporation.

Before January 2012, when the lessor was sold to Sumitomo Mitsui Financial Group for \$7.6 billion, the company was known as RBS Aviation Capital and was owned by Royal Bank of Scotland Group.

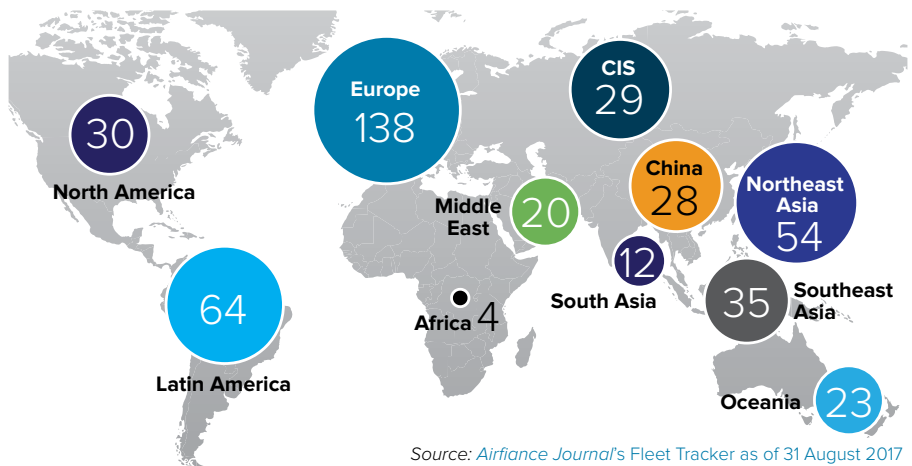
SMBC Aviation Capital, which has been profitable for 15 consecutive years, has more than 160 staff working in Dublin, as well as in China, France, Hong Kong, Japan, the Netherlands, Singapore and the US.

Peter Barrett, the lessor's chief executive officer, says: "It's been a good year for SMBC Aviation Capital, one in which we recorded strong financial and operational growth, which is testament to the strength of our strategy of continued investment in liquid, new-technology aircraft, combined with trading through the cycle."

In 2017, the Dublin-based lessor added the first Airbus A350 to its portfolio and secured a number of sale and leaseback transactions, building new customer relationships with airlines such as SAS, West Air and Philippine Airlines.

The company also experienced significant investor demand for its portfolio and sold 35 aircraft to 21 different investors, 18 of which were new customers, making 2017 one of the strongest years for the

SMBC Aviation Capital fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

lessor's aircraft trading side of the business. These trades lowered SMBC's average overall portfolio age to 4.5 years.

On top of this, the lessor closed the sale of \$500 million principal amount of 3%, five-year senior unsecured notes due July 2022.

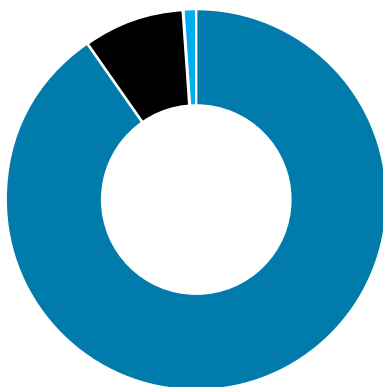
"Our orderbook consists of one of the most modern and technologically advanced fleets in the industry and our objective is to continue to build on our placement programme over the coming year," says Barrett. "All of our orderbook aircraft are placed up to May 2019, and our focus during the current financial year will be on placing aircraft to 2020 and beyond.

"We are also future proofing our business by continuing to trade our portfolio so that we can have the youngest fleet in the industry. We sold 35 aircraft during the year, with an average age of 9.8 years, and so we are well on our way to achieving this goal."

Barrett is optimistic about the health of the leasing industry, as well as his lessor's performance.

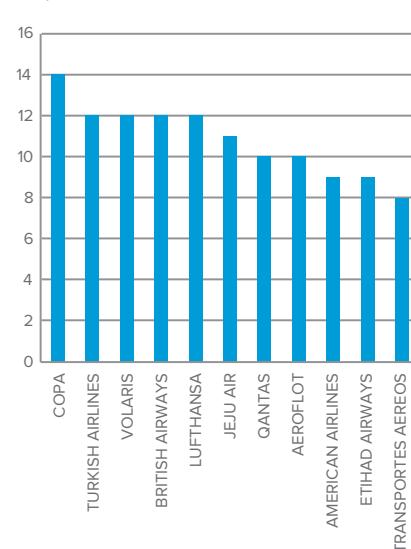
"It is a competitive market and we are at a strong part of the industry cycle," he says, "but the performance of the core business is good. We remain confident in the outlook for the business especially in growth markets like Asia and South America." ▲

SMBC Aviation Capital fleet by aircraft type



- Narrowbody 395
- Widebody 38
- Regional jet 4

SMBC Aviation Capital top lessees



## SMBC Aviation Capital Key facts

<b>Name:</b> SMBC Aviation Capital
<b>Country:</b> Ireland
<b>Founded:</b> 2001
<b>Ownership:</b> SMBC, SMFL and Sumitomo Corporation
<b>Head office:</b> IFSC House, Dublin, Ireland
<b>Number of employees:</b> 175
<b>Size of fleet:</b> 670
<b>Average age of fleet:</b> 4.5 years
<b>Number of lessees:</b> 150-plus customers in more than 50 countries
<b>Orderbook:</b> 110 Airbus and 90 Boeing 737 Max
<b>Unsecured credit ratings:</b> Fitch and S&P A-/BBB+
<b>Total assets (owned and managed):</b> \$16 billion at 31 March 2017
<b>Net income:</b> Total revenue of \$1.162 billion. Operating profit up 25% to \$661 million

# 5 Nordic Aviation Capital

**N**ordic Aviation Capital (NAC) is the world's largest privately owned regional aircraft trading and leasing company, which was founded in 1990 by aviation entrepreneur Martin Møller. It has successfully evolved from a one-aircraft business to a company that has a fleet of more than 400 aircraft, with assets of \$6.6 billion.

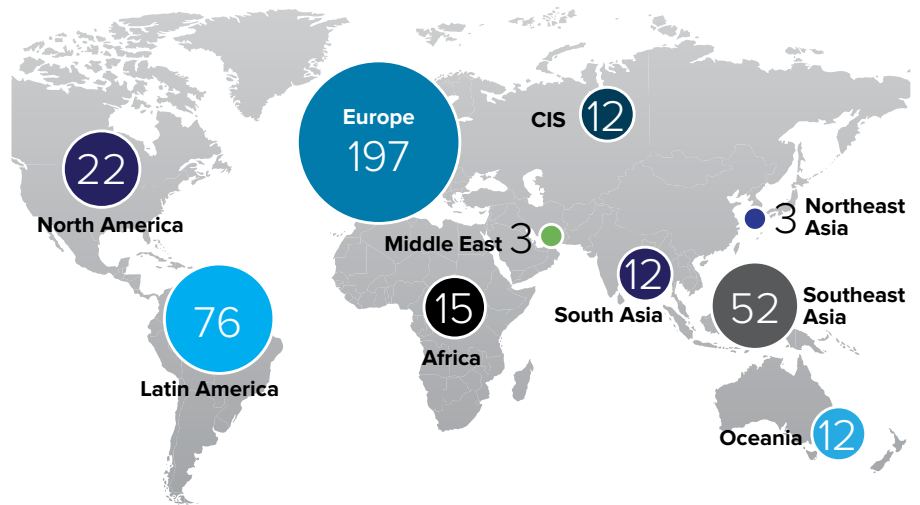
For more than 25 years, NAC has been providing flexible, customised and competitive fleet solutions to many of the world's leading airlines and now offers the largest portfolio of regional aircraft for lease in the world.

Over the past 24 months, NAC has grown through the acquisition of two leasing companies, a portfolio of 50 leased aircraft from Air Lease Corporation and naked aircraft purchases. In addition, the company continues to strengthen its ties with its existing customers while also growing its customer base.

Along with its portfolio expansion, the Danish-based lessor also has diversified its funding sources in 2017 and has obtained facilities in excess of \$500 million. These facilities are a landmark transaction for the lessor.

"There is no doubt that the US private placement market has value to NAC, and the great support to NAC's business model may well lead to further issuing in due course," says Steve Gorman, managing director and head of global treasury.

NAC fleet by region of lessee



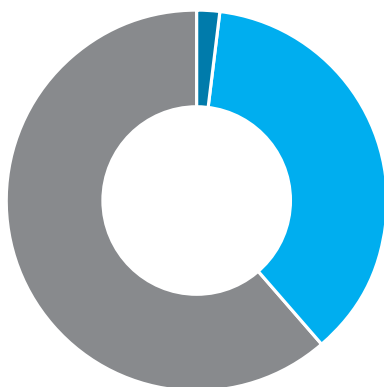
Source: *Airfinance Journal's Fleet Tracker* as of 31 August 2017

In January, NAC secured a public rating and was provided a subsequent upgrade by Kroll to BBB+/BBB. These developments have attracted lots of interest from the financing community.

"Indeed, it is exciting times in NAC, particularly so in the past 12 months," says Møller, NAC's chairman. "Over the past year, we have announced some landmark

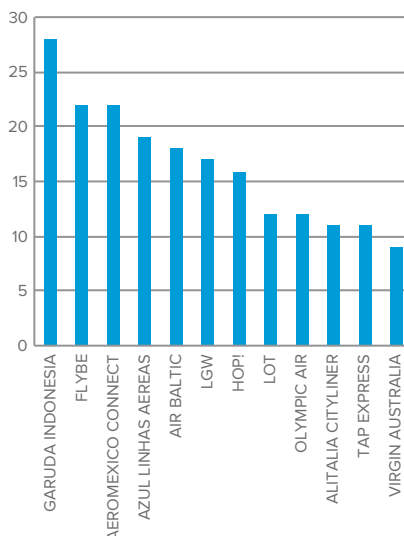
deals such as SA Airlink. We have also entered new markets and acquired many new customers. NAC now has over 70 customers located in nearly 50 countries. In addition to this, we have obtained unsecured funding through the private placement market, and I believe that this will help both NAC and our ability to react to our customers' needs into the future."

NAC fleet by aircraft type



- Narrowbody 8
- Regional jet 149
- Turboprop 247

NAC top lessees



## NAC Key facts

<b>Name:</b> Nordic Aviation Capital
<b>Country:</b> Denmark
<b>Founded:</b> 1990
<b>Ownership:</b> Martin Møller, EQT
<b>Registered office:</b> Limerick, Ireland
<b>Number of employees:</b> 194
<b>Size of fleet:</b> 395 (as of 30 June 2017)
<b>Average age of fleet:</b> 6.5
<b>Number of lessees:</b> 69
<b>Orderbook:</b> 54
<b>Unsecured credit ratings:</b> Kroll BBB+/BBB
<b>Total assets:</b> \$6.6 billion
<b>Business performance net income:</b> \$152.7 million

\*All figures are at end of June 2017

# 6 BBAM

**B**BBAM is the largest independent aircraft manager with 402 aircraft under its management. It is a privately held company.

As of 15 September, BBAM is owned 50% by the private equity firm Onex and 50% by its management. On the consummation of a publicly announced transaction under which the sovereign wealth fund GIC will acquire 30% of BBAM, the company will be owned 35% by Onex, 35% by its management and 30% by GIC.

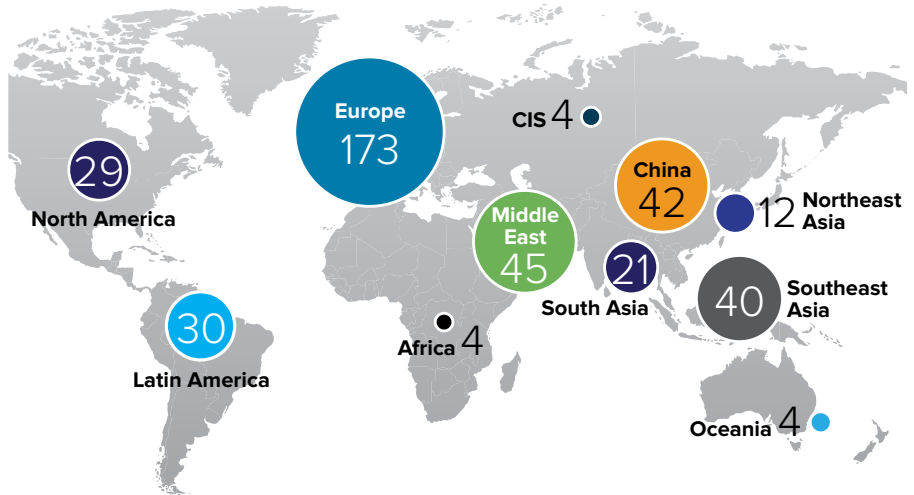
BBAM sources and remarkets aircraft for FLY Leasing and Nomura Babcock & Brown. Alongside Nomura Babcock & Brown, BBAM has become the largest arranger of Japanese equity capital to the airline industry, having financed more than 300 aircraft with Japanese operating lease deals.

BBAM manages the 83-aircraft fleet of FLY Leasing, the NYSE-traded public company, and owns about 14% of the lessor's stock.

Over the past few years, BBAM has helped FLY Leasing to transform its fleet from an average age of eight years in the second quarter of 2015 to an average age of 6.1 years in the second quarter of 2017.

FLY Leasing ended the second quarter of 2017 with \$335 million of unrestricted cash, and more than \$500 million of unencumbered aircraft, which it will use to continue growing its fleet. Its aircraft acquisition target for 2017 is \$750 million, of which \$459 million had been allocated at the end of the second quarter.

BBAM fleet by region of lessee

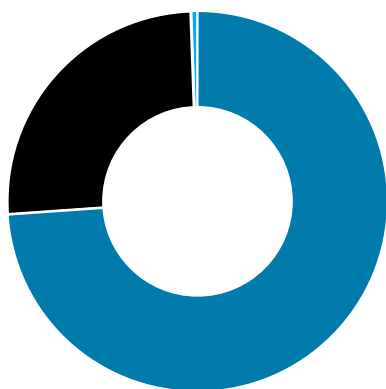


Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

FLY recently acquired two new Boeing 737 Max 8 aircraft and a new 787 Dreamliner in sale and leaseback deals. BBAM's three-largest lessees by value of

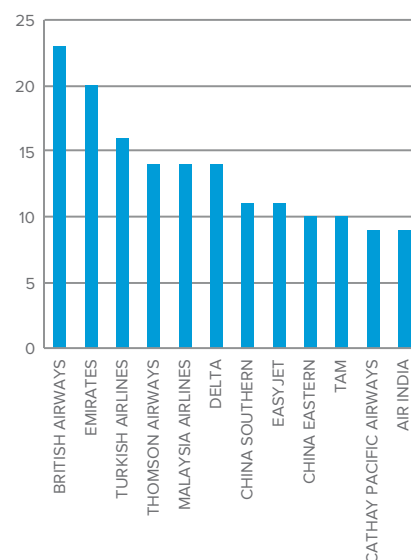
aircraft include: Emirates (with an estimated \$3.38 billion of aircraft on lease), British Airways, \$1.75 billion, and Cathay Pacific Airways, \$1.20 billion. ▲

BBAM fleet by aircraft type



- Narrowbody 299
- Widebody 103
- Regional jet 2

BBAM top lessees



## BBAM Key facts

- Name:** BBAM
- Country:** USA
- Founded:** 1991
- Ownership:** ONEX 50%, BBAM 50% (as at 15th September 2017, see note)
- Head office:** San Francisco
- Number of Employees:** 120
- Size of fleet:** 402 (managed)
- Average age of fleet:** 7.5
- Number of lessees:** 105
- Order book:** 0
- Delivery commitments:** N/A
- Net income (as of 30 June 2016):** N/A

# 7 DAE Capital

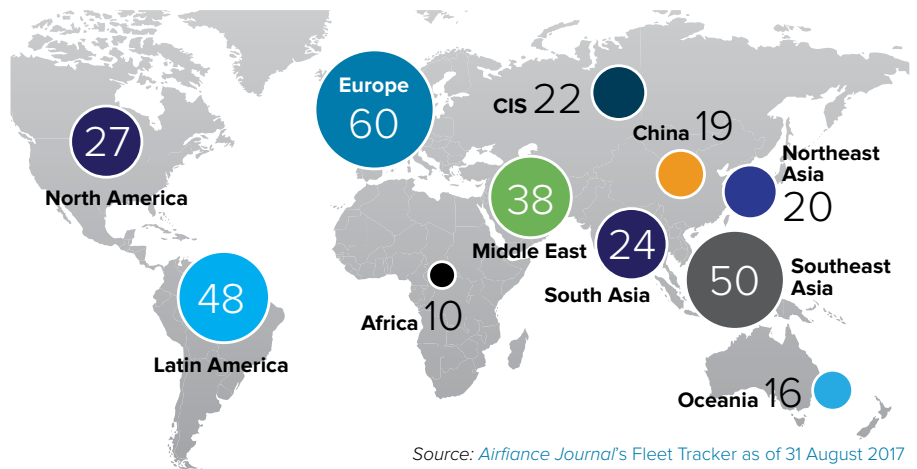
**D**AE Capital is now in the top 10 lessors, climbing 21 places from 28 last year by number of aircraft. The UAE company's acquisition of Irish lessor AWAS, which closed on 20 August, is the main reason for this jump in ranking. The deal was one of the biggest aviation M&A transactions of the past decade, with DAE taking on an extra \$7.5 billion in aircraft assets.

DAE tapped the unsecured markets to help fund the acquisition, issuing \$2.3 billion of senior notes in July as part of a three-tranche offering. Morgan Stanley was the sole arranger of the transaction. Through its DAE Funding subsidiary, the lessor priced \$500 million 4% notes due in 2020, \$800 million 4.5% bonds due in 2022 and \$1 billion 5% bonds due in 2024. The notes are fully and unconditionally guaranteed by DAE.

Reflecting on the past year, its chief executive officer, Firoz Tarapore, says: "2017 was a record year for DAE. We priced our inaugural ABS [asset-backed securities] transaction in February 2017. We announced the acquisition of AWAS in April 2017 and closed the acquisition of AWAS in August 2017. As a result of the acquisition, DAE's aircraft leasing division has tripled in size and became one of the top-tier lessors."

The consolidated lessor now has a fleet of about 400 owned, managed and committed aircraft, on lease to 113 lessees. It has an average fleet age of 5.8 years and an orderbook of 23 aircraft. Although its head office remains in Dubai, after the

DAE fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

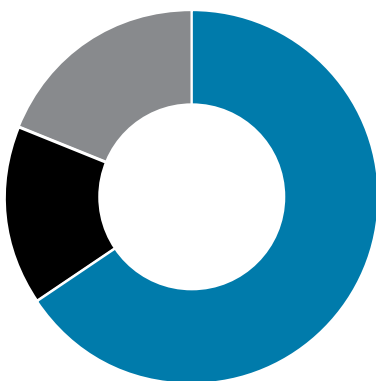
AWAS acquisition, it can now go to market in six locations: Dubai, Dublin, Singapore, Miami, New York and Bellevue, Washington.

"DAE Capital now needs to secure committed growth and will focus on placing an order with Boeing and/or Airbus for a large number of narrowbody aircraft," says Tarapore. "DAE Capital will also continue to evaluate and pursue, as appropriate, other channels to grow the portfolio at an appropriate risk-adjusted return."

Even after the acquisition of AWAS, Tarapore anticipates there being more consolidation in the leasing industry going forward.

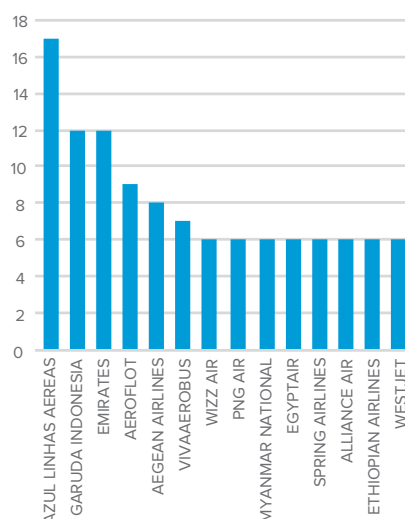
"We fully expect further consolidation in the industry as scale is constantly being refined and many smaller players are finding it increasingly difficult to differentiate their offerings and to originate new business," says Tarapore. "Increasingly, clients want to deal with bigger, strongly capitalised lessors who can sit across the table from them and offer a comprehensive range of solutions to help them grow their business and manage their fleet to adapt to changing market conditions. Consolidation is inevitable as the value propositions of smaller transaction lessors is eroding in a perceptible way."

DAE fleet by aircraft type



- Narrowbody 219
- Widebody 52
- Turboprop 63

DAE top lessees



## DAE Key facts

- Name:** Dubai Aerospace Enterprise (DAE) Ltd
- Country:** United Arab Emirates (with offices in Ireland, US and Singapore)
- Founded:** 2006
- Ownership:** Investment Corporation of Dubai (about 96%)
- Head office:** Dubai, UAE
- Number of employees:** about 1,050
- Size of fleet:** about 400 (owned, managed and committed)
- Average age of fleet:** 5.8 years
- Number of lessees:** 113
- Orderbook:** 23
- Unsecured credit ratings:** Baa2/BB
- Total assets (\$):** about 14 billion
- Net income:** N/A

# 8 BOC Aviation

**B**OC Aviation has made significant headway since its 2016 initial public offering (IPO) in Hong Kong.

The IPO added \$550 million of equity to the Singapore-based lessor's balance sheet, and the company posted a healthy net profit for the first half of 2017 of \$240 million, increasing its profit from \$212 million for the same period in 2016.

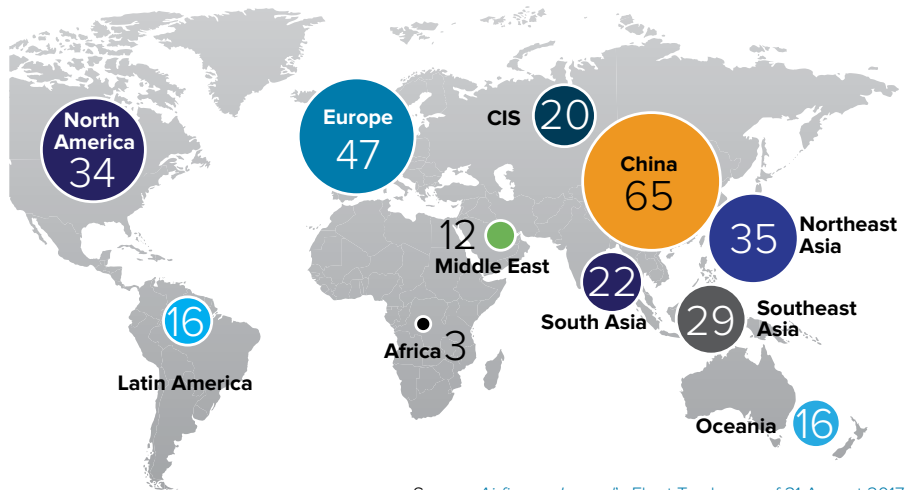
At the end of 2016, the company put this equity to work, executing some large transactions, including one with Air China for five widebodies. BOC Aviation also took delivery of its 500th Airbus and Boeing aircraft in April 2017 with the delivery of an Airbus A320 to China Eastern. In May, BOC Aviation passed the milestone of having a total of 700 commitments to both manufacturers, counting 500 aircraft "plus effectively 200 aircraft on order or committed purchase and leaseback".

The lessor expects 2017 to be its "most active year ever", with 78 aircraft scheduled for delivery.

"If you compare us with the IPO, we've grown the net book value of aircraft about 25%, so we've had significant growth over the last 12 months," the company's chief executive officer Robert Martin tells *Airfinance Journal*.

One of the few things holding back his company's rapid growth is industry-

BOC Aviation fleet by region of lessee



Source: *Airfinance Journal's Fleet Tracker* as of 31 August 2017

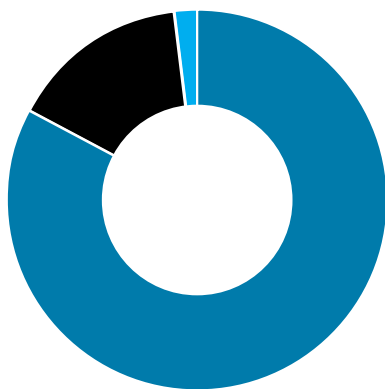
wide manufacturer delays. Late deliveries meant BOC Aviation's balance sheet growth was close to a billion dollars less than expected in the first half.

"We're always putting pressure on [them] but, at the end of the day, it's up to the manufacturers to make sure their supply chain vendors are providing the

right equipment to the right quality. That's what this comes down to," says Martin.

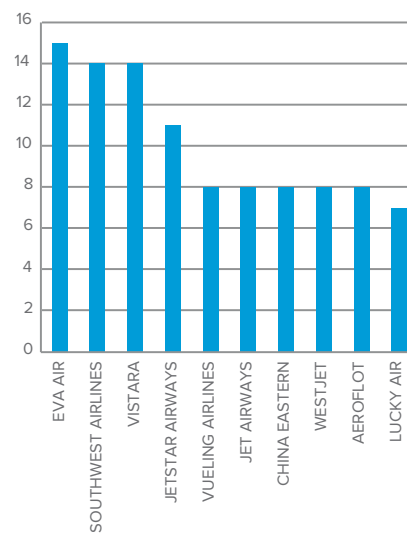
He adds: "It's not just Pratt & Whitney. We are also seeing some smaller delays with CFM engines as well, and I think the speed at which the manufacturers decide to increase their production, not all of the supply chain is keeping up with them." ^

BOC Aviation fleet by aircraft type



- Narrowbody 248
- Widebody 46
- Regional jet 5

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
- Head office:** Singapore
- No of employees:** 151 (as of 30 June 2017)
- Size of fleet:** 297 aircraft: 261 owned and 36 managed (as of 30 June 2017)
- Average age of owned fleet:** 3.1 years
- Number of lessees:** 75 airlines in 34 countries
- Orderbook:** 196 (as of 30 June 2017)
- Delivery commitments:** \$9.1 billion from second half 2017
- Unsecured credit rating:** A- By Fitch and A- by S&P
- Total assets (as of 30 June 2017):** \$14.4 billion



# 9 Air Lease

**W**ith its headquarters in Los Angeles, Air Lease (ALC) was founded by aircraft leasing industry pioneer Steven Udvar-Hazy in 2010 and went public on the New York Stock Exchange in 2011.

After departing International Lease Finance (ILFC) in 2010, a company he founded in 1973, Hazy teamed up with his long-time ILFC colleague John Plueger to launch ALC.

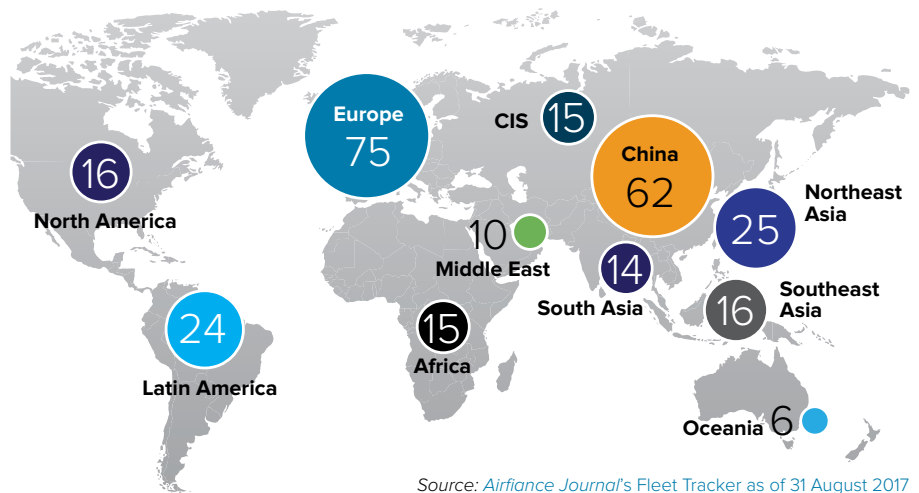
They have worked together for more than 30 years, and continue their leadership at ALC with Plueger as chief executive officer and Hazy as executive chairman of the board.

ALC's strategy since inception has been to own young aircraft on long-term leases with a diversified base of customers. As of 30 June 2017, ALC owned 240 aircraft with a weighted average age of 3.6 years and a weighted average remaining lease term of 6.9 years. The company manages an additional 48 aircraft and has rapidly grown its management business through various ventures, including Blackbird Capital and Thunderbolt.

ALC has a \$28.5 billion orderbook of 373 aircraft with Boeing and Airbus that stands 90% placed through 2019 as of 30 June. As a result of ongoing customer demand for aircraft in its portfolio, the lessor topped up orders at the Paris air show earlier this year for an additional 26 aircraft.

The company says its strategy and key relationships have driven results that

ALC fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 31 August 2017

continue to impress. As of fiscal year end 2016, the company's revenues exceeded \$1.4 billion, with net income of \$375 million and pre-tax profit margins north of 40%.

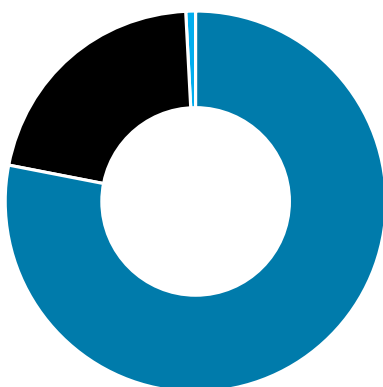
ALC says its operating performance and growth is achieved within the financial targets it set from day one, including debt to equity of 2.5 times.

The company continues to be the highest standalone-rated aircraft lessor with a BBB rating from Standard & Poor's and Fitch and an A- rating from Kroll. These

ratings have provided the lessor with ongoing access to the investment-grade capital markets.

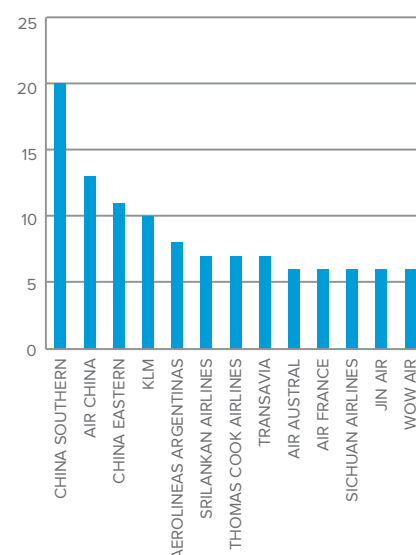
In June 2017, ALC issued a 2.625% five-year bond to refinance a portion of the 5.625% five-year bond ALC issued in 2012 as an unrated company. As a result of refinancing this legacy debt – together with a ratings improvement and an overall healthy market – the company has driven its composite cost of funds down to about 3% as of 30 June. ▲

ALC fleet by aircraft type



- Narrowbody 217
- Widebody 59
- Regional jet 2

ALC top lessees



## ALC Key facts

<b>Name:</b> Air Lease
<b>Country:</b> USA
<b>Founded:</b> 2010
<b>Ownership:</b> Public company listed on the New York Stock Exchange
<b>Head office:</b> Los Angeles, CA, USA
<b>Size of fleet:</b> 240
<b>Average age of fleet:</b> 3.6 years
<b>Number of lessees:</b> 88 Airlines
<b>Orderbook:</b> 373 (as of 30 June 2017)
<b>Delivery commitments:</b> \$28.5 billion
<b>Unsecured credit ratings:</b> S&P BBB; Fitch BBB; Kroll A-
<b>Net income (at full-year 2016):</b> \$374.9 million

# 10 Aviation Capital Group

Newport Beach, California-based Aviation Capital Group (ACG) is a wholly owned subsidiary of Pacific Life, an A+-rated insurance company that was founded in 1868. With 30 years in aviation, ACG is also one of the longest-running leasing companies in the business, with offices in Dublin, Singapore, Shanghai, Beijing and Santiago in Chile.

Pacific Life announced it was considering a partial initial public offering of the lessor at the end of 2015. It has not made other announcements since then, and *Airfinance Journal* understands the process is still under consideration.

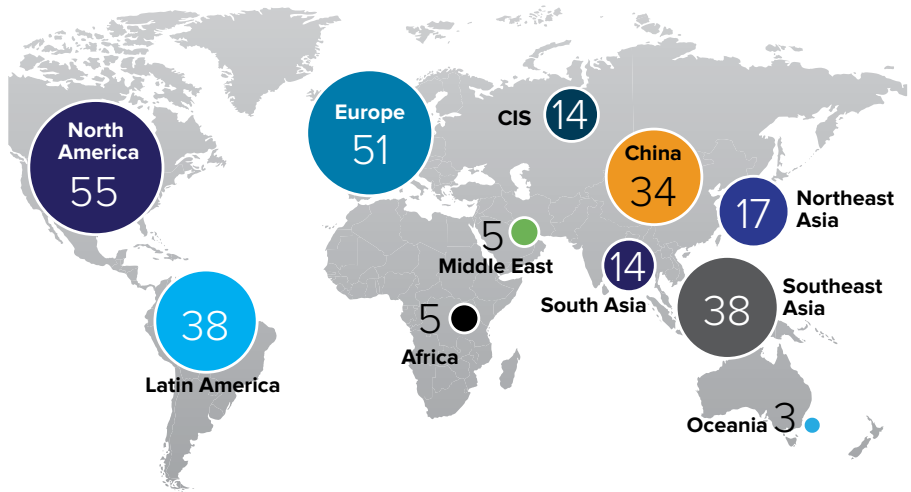
PL is rated AA- by Standard & Poor's, A+ by Fitch and A1 by Moody's and A+ from A. M. Best. ACG also has its own strong standalone credit ratings (BBB from Fitch and A- from Standard & Poor's).

The lessor has made strides in recent years to reduce the percentage of secured debt on its balance sheet. In 2011, the percentage of secured debt to total assets was 43.4%.

At the end of the second quarter 2017, the percentage was reduced to 10.2%. ACG has been an active issuer (\$11 billion-plus since 2010) of unsecured paper (144A) and was the first leasing company to issue these notes after the 2008-09 financial crisis. As of June 2017, ACG had outstanding debt of \$5.56 billion, with unsecured borrowing consisting of 83.7% of the total.

In March 2016, ACG announced it had taken a 20% stake in a new leasing joint

ACG fleet by region of lessee



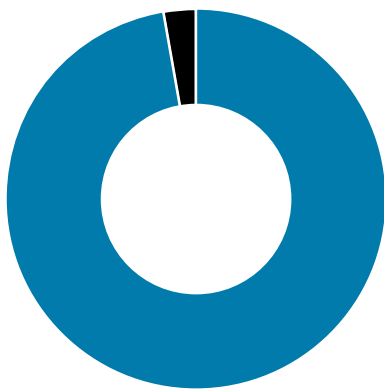
Source: *Airfinance Journal's Fleet Tracker* as of 31 August 2017

venture with two Hong Kong partners (Chow Tai Fook Enterprises and NWS Holdings). The joint-venture company was created to buy, sell and lease aircraft similar to the types already in ACG's fleet, such as the A320- and 737-family aircraft.

The company also has a considerable

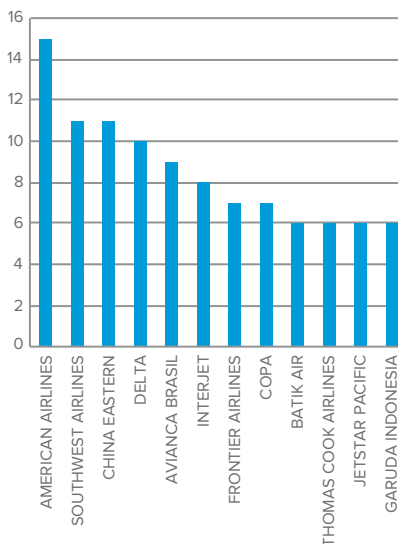
orderbook of new-technology aircraft. ACG's backlog at the end of June 2017 consisted of 61 Airbus A320neos plus five A320Ceos, 80 Boeing 737 Max aircraft, four 737NGs and five 787-9s. ACG has about 95 customer airline clients in about 40 countries. ▲

ACG fleet by aircraft type



● Narrowbody 267  
● Widebody 7

ACG top lessees



## ACG Key facts

<b>Name:</b>	Aviation Capital Group
<b>Country:</b>	USA
<b>Founded:</b>	1989
<b>Ownership:</b>	Pacific Life Insurance Company
<b>Head office:</b>	Newport Beach, California, USA
<b>Number of employees:</b>	105
<b>Size of fleet:</b>	270 (owned and managed)
<b>Average age of fleet:</b>	5.9 years
<b>Number of lessees:</b>	about 95
<b>Firm orders and commitments:</b>	171 aircraft
<b>Delivery commitments:</b>	\$9.25 billion
<b>Unsecured credit ratings:</b>	Fitch BBB (stable); S&P A- (stable)
<b>Net income (1H 2017):</b>	\$887.5 million (includes benefit from LLC conversion)



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