

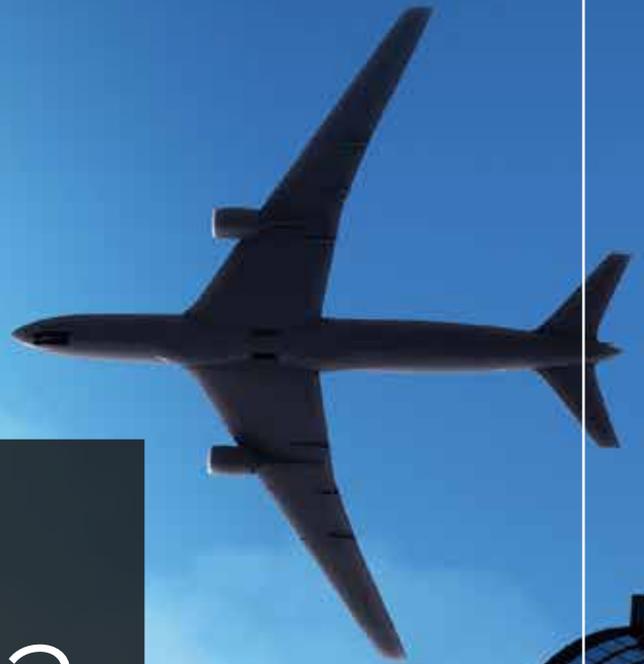


AIRFINANCE
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An *Airfinance Journal*

special supplement

Leasing Top 50 2022





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THE LESSOR ANALYST

Obtaining lessors financial information isn't always easy

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Leasing Top 50 2022

After the Covid years, the Russia year.

The 12 months since last year's Leasing Top 50 have continued to be tumultuous for the aircraft leasing industry.

The confiscation of non-Russian-owned aircraft leased to Russian airlines was the biggest event of the period. Some were located outside Russia at the time and were fortuitously repossessed. Most were in Russia, *Airfinance Journal's Fleet Tracker* data shows.

Airfinance Journal published the first assessment of the impact of 100% write-off of these aircraft on lessors' balance sheets. One leading analyst told *Airfinance Journal* that he couldn't believe that these aircraft would just disappear. Well, they did.

Airfinance Journal has recently launched a new product covering the leasing industry, *The Lessor Analyst*, sister to the established and highly regarded *The Airline Analyst*.

The Lessor Analyst covers more than 100 leasing entities and the asset-backed securitisation (ABS) and unsecured bond markets. It permits lessors to instantly benchmark their portfolios and financial performance with their peers, investors to compare risk and return on the multiple instruments available for investment in the aviation asset class and lenders to assess absolute and relative credit risk. Some selected data from **The Lessor Analyst** is presented in this report.

For example, disclosed Russia-related write-offs total \$6.6 billion and range up to 10% of leased assets for individual lessors. Leverage has taken a significant hit in some cases, as disclosed in this report. Seeking recompense, AerCap has led the industry with a reported claim for \$3.5 billions of losses covering 116 aircraft and 23 engines under its "all-risk" insurance policies. Others plan to follow.

Previous editions of this report have shown, even pre-Covid, a steady decline in yields, compensated in some cases by a significant reduction in the average cost of debt. Over the last two years, the overriding factor has been the Covid effect of airline defaults, aircraft off lease, reduced rentals and higher transition costs. The only positive from Covid for the leasing industry is that it took the leasing percentage above 50% for the first time. Because of the lagged reporting, the latest financials for many lessors are for the full-year 2021 and incorporate only the residual Covid effect and not the Russia effect. Only the 10 lessors which publish quarterly or

semi-annual numbers (AerCap, Airastle, Air Lease, ALAFCO, Avation, Aviation Capital Group, Avolon, BOC Aviation, CALC and DAE) give an indication of current underlying market conditions.

The bottom lines are dominated by the provisions, with all making substantial losses. However, average yield held up quite well at 10.9% and average debt cost was an impressive 3.3%. We need to note that AerCap represents a major component of these numbers.

Financial market turmoil has also created challenges for the industry. Yields on unsecured bonds for investment grade lessors have approximately doubled to double the current coupons, creating uncertainty over the likely cost of the \$37 billion of bond refinancings looming for 2023 and 2024. After 14 issues in 2021, there have been only two aircraft ABS issues in YTD 2022, which has impacted some lessors' aircraft sale plans and "warehouse to ABS" strategies. Unsecured bond issues have also been thin on the ground.

Against this background, we have seen some notable exits (with gains) from the industry (CK Holdings, NWS and Chow Tai Fook) with their businesses acquired by Carlyle and SMBC Aviation Capital. Also, GE made a partial exit by swapping a 100% interest in GECAS for a 45% interest in AerCap - plus plenty of cash!

The GE diaspora is meanwhile establishing new careers for themselves in the industry. Despite these consolidations, our analysis shows that the concentration of ownership (by the number of aircraft and market value) has not increased in the last five years. If anything, it has slightly reduced, as shown in the report.

A major new development is a review by Chinese regulators of Chinese lessors' increasing presence in the industry. The analysis presented in this report from our *Fleet Tracker* data shows that lessors ultimately owned and controlled by Chinese entities are now by far the largest national group of aircraft beneficial owners by aircraft market value, with \$95 billion of exposure.

The regulators' review is reported to be focusing on Chinese lessors' participation in the non-domestic aircraft leasing market. Our same analysis shows that \$63 billion of the \$95 billion is leased to non-Chinese airlines. Simultaneously, some Western lessors are reported to be reviewing the scale of their exposure to Chinese airlines which, per *Fleet Tracker*, totals \$25 billion.



📖 *The only positive from Covid for the leasing industry is that it took the leasing percentage above 50% for the first time.* 📖

Michael Duff, Product Director
Airfinance Journal

Perhaps 2023 will bring some "swaps" of Chinese lessors' non-Chinese airline exposures for Western lessors' Chinese exposures? No doubt investment banks, advisers and brokers are lining up to play a profitable role in this realignment.

A complicating factor is that the Chinese-owned and controlled "ultimate" beneficial owners still have \$57 billion of firm orders for more than 1,000 aircraft, mostly from Airbus, Boeing and COMAC. These will need to be deployed into long-term leases with decent credits in order to be easily sold.

And what lies ahead? Hopefully not a pandemic or a mass seizure of aircraft. But there are plenty of challenges ahead for the lessors. A sluggish global economy, increasing interest rates, massive refinancing challenges, higher insurance costs, environmental issues, capital expenditure to be funded, the impact of a strong dollar and high fuel prices (for now) on their airline customers' cash flow and profitability. Inflation has bailed out aircraft financiers in the past. Will history repeat itself? ▲

Top 50 managers by number of aircraft

Rank	Manager	2021	2022	% change since last year	Turboprop	Regional Jet	Narrowbody	Widebody
1	Aercap	2,008	1,809	↓ -9.9%	19	78	1,382	330
2	Avolon	570	587	↑ 3.0%	-	-	461	126
3	Air Lease Corporation	444	507	↑ 14.2%	-	2	388	117
4	SMBC Aviation Capital	505	506	↑ 0.2%	-	-	452	54
5	BBAM	519	456	↓ -12.1%	-	-	341	115
6	ICBC Financial Leasing	393	428	↑ 8.9%	-	18	367	43
7	BOC Aviation	396	426	↑ 7.6%	-	-	346	80
8	Carlyle Aviation Partners	228	406	↑ 78.1%	-	-	370	36
9	DAE Capital	337	362	↑ 7.4%	65	-	244	53
10	Nordic Aviation Capital	485	350	↓ -27.8%	208	142	-	-
11	Aviation Capital Group	342	347	↑ 1.5%	-	-	332	15
12	Castlelake	265	272	↑ 2.6%	15	24	173	60
13	Bocomm Leasing	258	270	↑ 4.7%	-	11	229	30
14	CDB Aviation	239	269	↑ 12.6%	-	20	206	43
15	Falco	224	257	↑ 14.7%	134	117	6	-
16	Aircastle	257	255	↓ -0.8%	-	11	219	25
17	Jackson Square Aviation	189	195	↑ 3.2%	-	-	171	24
18	Macquarie Airfinance	189	189	↑ 0.0%	-	3	175	11
19	Orix Aviation	220	183	↓ -16.8%	-	-	150	33
20	China Aircraft Leasing Company	138	175	↑ 26.8%	-	-	159	16
21	Goshawk	182	174	↓ -4.4%	-	-	158	16
22	CCB Financial Leasing	158	168	↑ 6.3%	-	-	141	27
23	CMB Financial Leasing	129	151	↑ 17.1%	-	7	121	23
24	Deucalion Aviation Limited	149	137	↓ -8.1%	-	-	108	29
25	Avmax	142	136	↓ -4.2%	57	68	9	2
26	Cargo Aircraft Management	111	130	↑ 17.1%	-	-	9	121
27	Fortress Transportation And Infrastructure Investors	108	127	↑ 17.6%	-	-	121	6
28	Standard Chartered Aviation Finance	129	121	↓ -6.2%	-	-	119	2
29	Aergo Capital	48	110	↑ 129.2%	47	-	48	15
29=	Aero Capital Solutions	53	110	↑ 107.5%	-	-	110	-
31	Altavair Airfinance	108	109	↑ 0.9%	-	4	44	61
32	JP Lease Products & Services	87	89	↑ 2.3%	-	-	72	17
33	Aviator Capital Management	72	88	↑ 22.2%	-	2	70	16
34	Aircraft Leasing & Management	87	84	↓ -3.4%	-	12	57	15
35	Merx Aviation	85	83	↓ -2.4%	-	-	78	5
35=	FPG Amentum	75	83	↑ 10.7%	-	-	67	16
37	World Star Aviation	51	78	↑ 52.9%	-	-	72	6
38	State Transport Leasing Company	78	77	↓ -1.3%	-	41	29	7
38=	Alafco	78	77	↓ -1.3%	-	-	66	11
38=	ABC Financial Leasing	68	77	↑ 13.2%	-	7	61	9
41	Regional One	42	72	↑ 71.4%	15	57	-	-
42	Avia Capital Leasing Cyprus	70	70	↑ 0.0%	-	-	60	10
43	Azorra Aviation	18	69	↑ 283.3%	8	57	4	-
44	SPDB Financial Leasing	43	66	↑ 53.5%	-	9	53	4
44=	GTLK Europe	60	66	↑ 10.0%	-	1	50	15
46	Minsheng Financial Leasing	53	65	↑ 22.6%	-	-	58	7
47	Tokyo Century Leasing	62	63	↑ 1.6%	-	3	43	17
48	Abelo Capital Aviation Limited	63	61	↓ -3.2%	61	-	-	-
49	Itochu Group	33	60	↑ 81.8%	-	-	55	5
50	VEB Leasing	61	59	↓ -3.3%	1	36	8	14
Grand Total		10,709	11,109	↑ 3.7%	630	730	8,062	1,687

Source: Lessors and AFJ Fleet Tracker as of 30 June 2022.

Top 50 managers by \$MV of fleet (\$m)

Rank	Manager	2021	2022	% change since last year	Turboprop	Regional Jet	Narrowbody	Widebody
1	Aercap	\$47,121	\$47,939	↑ 1.7%	\$178	\$887	\$31,064	\$15,810
2	Air Lease Corporation	\$18,176	\$21,709	↑ 19.4%	-	\$22	\$12,590	\$9,096
3	Avolon	\$18,291	\$19,810	↑ 8.3%	-	-	\$11,880	\$7,929
4	SMBC Aviation Capital	\$18,954	\$19,552	↑ 3.1%	-	-	\$15,149	\$4,403
5	BOC Aviation	\$15,966	\$17,647	↑ 10.5%	-	-	\$11,578	\$6,069
6	BBAM	\$18,528	\$16,451	↓ -11.2%	-	-	\$9,103	\$7,348
7	ICBC Financial Leasing	\$13,738	\$15,052	↑ 9.6%	-	\$394	\$11,635	\$3,024
8	Aviation Capital Group	\$9,519	\$10,051	↑ 5.6%	-	-	\$8,995	\$1,055
9	CDB Aviation	\$7,877	\$9,676	↑ 22.8%	-	\$236	\$7,427	\$2,013
10	Bocomm Leasing	\$8,829	\$9,554	↑ 8.2%	-	\$142	\$7,618	\$1,793
11	DAE Capital	\$8,622	\$9,550	↑ 10.8%	\$697	-	\$5,936	\$2,917
12	Carlyle Aviation Partners	\$2,717	\$8,175	↑ 200.9%	-	-	\$7,271	\$904
13	Jackson Square Aviation	\$6,923	\$7,389	↑ 6.7%	-	-	\$5,608	\$1,781
14	CCB Financial Leasing	\$5,625	\$6,173	↑ 9.7%	-	-	\$4,444	\$1,729
15	CMB Financial Leasing	\$4,682	\$5,643	↑ 20.5%	-	\$100	\$4,153	\$1,390
16	Goshawk	\$5,947	\$5,639	↓ -5.2%	-	-	\$4,309	\$1,330
17	Orix Aviation	\$6,240	\$5,401	↓ -13.5%	-	-	\$3,576	\$1,825
18	China Aircraft Leasing Company	\$4,148	\$5,020	↑ 21.0%	-	-	\$4,476	\$545
19	Aircastle	\$4,844	\$5,018	↑ 3.6%	-	\$262	\$4,042	\$714
20	Castlelake	\$4,235	\$4,893	↑ 15.5%	\$25	\$291	\$2,984	\$1,594
21	Standard Chartered Aviation Finance	\$3,712	\$3,729	↑ 0.5%	-	-	\$3,683	\$47
22	Altavair Airfinance	\$3,313	\$3,555	↑ 7.3%	-	\$29	\$1,026	\$2,500
23	Macquarie Airfinance	\$3,263	\$3,298	↑ 1.1%	-	\$28	\$3,022	\$249
24	FPG Amentum	\$2,368	\$3,287	↑ 38.8%	-	-	\$1,926	\$1,361
25	Nordic Aviation Capital	\$4,438	\$3,143	↓ -29.2%	\$1,541	\$1,602	-	-
26	Aircraft Leasing & Management	\$3,250	\$3,116	↓ -4.1%	-	\$199	\$1,595	\$1,323
27	Alafco	\$3,025	\$3,033	↑ 0.2%	-	-	\$2,067	\$965
28	Deucalion Aviation Limited	\$2,836	\$2,876	↑ 1.4%	-	-	\$1,591	\$1,285
29	JP Lease Products & Services	\$2,221	\$2,765	↑ 24.5%	-	-	\$1,777	\$988
30	ABC Financial Leasing	\$2,532	\$2,692	↑ 6.3%	-	\$94	\$1,922	\$676
31	Tokyo Century Leasing	\$2,598	\$2,624	↑ 1.0%	-	\$34	\$1,222	\$1,369
32	Falco	\$2,351	\$2,490	↑ 5.9%	\$1,070	\$1,258	\$161	-
33	Aergo Capital	\$941	\$2,371	↑ 152.1%	\$289	-	\$1,024	\$1,059
34	SPDB Financial Leasing	\$1,336	\$2,032	↑ 52.1%	-	\$131	\$1,655	\$246
35	Itochu Group	\$1,453	\$2,028	↑ 39.6%	-	-	\$1,733	\$295
36	Minsheng Financial Leasing	\$1,479	\$2,002	↑ 35.3%	-	-	\$1,741	\$260
37	Merx Aviation	\$2,131	\$1,959	↓ -8.1%	-	-	\$1,710	\$249
38	IAFC	\$2,066	\$1,955	↓ -5.4%	-	-	\$910	\$1,045
39	GTLK Europe	\$1,624	\$1,867	↑ 15.0%	-	-	\$929	\$937
40	Stratos	\$481	\$1,849	↑ 284.3%	-	-	\$1,065	\$785
41	Sky Leasing	\$1,087	\$1,809	↑ 66.5%	\$62	-	\$1,666	\$81
42	Airborne Capital	\$590	\$1,657	↑ 180.8%	\$23	-	\$1,283	\$352
43	Avia Capital Leasing Cyprus	\$1,637	\$1,635	↓ -0.2%	-	-	\$1,546	\$89
44	Novus Aviation	\$1,815	\$1,617	↓ -10.9%	-	-	\$585	\$1,033
45	ABL Aviation	\$1,266	\$1,509	↑ 19.2%	-	-	\$521	\$989
46	EMP Structured Assets	\$1,136	\$1,508	↑ 32.8%	-	-	-	\$1,508
47	Banc Of America Leasing	\$1,181	\$1,494	↑ 26.5%	-	-	\$658	\$835
48	Seraph Aviation Management	\$1,686	\$1,450	↓ -14.0%	\$54	-	\$474	\$923
49	Everbright Financial Leasing	\$1,344	\$1,444	↑ 7.4%	-	\$16	\$1,296	\$131
50	CIB Leasing	\$1,226	\$1,409	↑ 15.0%	\$25	-	\$915	\$470
Grand Total		\$291,368	\$318,543	↑ 9.3%	\$3,962	\$5,723	\$213,541	\$95,317

Source: Lessors and AFJ Fleet Tracker as of 30 June 2022.
AVITAS Blue Book Market Values as of 26 September 2022.

Top 50 beneficial owners by number of aircraft

Rank	Beneficial Owner	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	Aercap	1,743	19	78	1,324	322
2	Avolon	539	-	-	424	115
3	ICBC Financial Leasing	421	-	18	360	43
4	Air Lease Corporation	415	-	1	308	106
5	BOC Aviation	395	-	-	318	77
6	Nordic Aviation Capital	350	208	142	-	-
7	SMBC Aviation Capital	336	-	-	317	19
8	DAE Capital	316	63	-	206	47
9	Aviation Capital Group	283	-	-	274	9
10	CDB Aviation	271	-	20	208	43
11	Carlyle Aviation Partners	248	-	-	222	26
11=	Aircastle	248	-	11	212	25
13	Chorus Aviation	242	135	101	6	-
14	Bocomm Leasing	229	-	7	199	23
15	NBB Leasing Clients	218	-	-	134	84
16	Castlelake	203	9	10	139	45
17	Jackson Square Aviation	190	-	-	168	22
18	Macquarie Airfinance	189	-	3	175	11
19	Goshawk	155	-	-	142	13
20	Orix Aviation Clients	154	-	-	123	31
21	China Aircraft Leasing Company	150	-	-	136	14
22	JP Lease Products & Services Clients	136	-	-	103	33
22=	Avmax	136	57	68	9	2
24	Cargo Aircraft Management	130	-	-	9	121
25	Maverick Aviation Partnership	129	-	-	123	6
26	Fortress Transportation And Infrastructure Investors	122	-	-	116	6
27	Regional One	106	17	89	-	-
28	Aero Capital Solutions	105	-	-	105	-
29	Standard Chartered Aviation Finance	98	-	-	96	2
30	Aergo Capital	97	41	-	47	9
31	Avenue Capital Management	96	-	1	69	26
31=	CCB Financial Leasing	96	-	-	84	12
33	SMBC Aviation Capital & Investors	94	-	-	82	12
34	Altitude Aircraft Leasing	93	-	4	31	58
35	CMB Financial Leasing	91	-	2	83	6
36	Incline Aviation	90	-	-	85	5
37	Aviator Capital Management	88	-	2	70	16
38	Deucalion Aviation Funds	87	-	-	63	24
39	State Transport Leasing Company	77	-	41	29	7
39=	Alafco	77	-	-	66	11
41	Oaktree Capital Management	76	-	-	71	5
42	VTB Leasing	70	-	-	60	10
43	Azorra Aviation	69	8	57	4	-
44	Tokyo Century Clients	66	-	3	48	15
45	FPG Amentum Clients	64	-	-	53	11
46	Minsheng Financial Leasing	63	-	-	58	5
47	GTLK Europe	62	-	-	48	14
48	Fuyo General Lease Clients	61	-	11	35	15
48=	Abelo Capital Aviation Limited	61	61	-	-	-
50	VEB Leasing	59	1	36	8	14
Grand Total		9,894	619	705	7,050	1,520

Source: Lessors and AFJ Fleet Tracker as of 30 June 2022.

Top 50 beneficial owners by \$MV of fleet (\$m)

Rank	Beneficial Owner	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	Aercap	\$46,431	\$178	\$887	\$29,626	\$15,740
2	Air Lease Corporation	\$19,528	-	\$12	\$11,002	\$8,514
3	Avolon	\$18,948	-	-	\$11,323	\$7,625
4	BOC Aviation	\$17,242	-	-	\$11,000	\$6,243
5	ICBC Financial Leasing	\$14,783	-	\$394	\$11,366	\$3,024
6	SMBC Aviation Capital	\$12,595	-	-	\$10,851	\$1,744
7	NBB Leasing Clients	\$9,829	-	-	\$4,368	\$5,461
8	CDB Aviation	\$9,746	-	\$236	\$7,497	\$2,013
9	DAE Capital	\$8,867	\$678	-	\$5,393	\$2,795
10	Aviation Capital Group	\$8,573	-	-	\$7,744	\$829
11	Bocomm Leasing	\$8,232	-	\$100	\$6,823	\$1,310
12	Jackson Square Aviation	\$7,211	-	-	\$5,504	\$1,707
13	Goshawk	\$5,045	-	-	\$3,960	\$1,084
14	Aircastle	\$4,853	-	\$262	\$3,877	\$714
15	Orix Aviation Clients	\$4,623	-	-	\$3,003	\$1,620
16	China Aircraft Leasing Company	\$4,174	-	-	\$3,782	\$392
17	Carlyle Aviation Partners	\$4,127	-	-	\$3,588	\$539
18	JP Lease Products & Services Clients	\$3,770	-	-	\$2,288	\$1,482
19	SMBC Aviation Capital & Investors	\$3,665	-	-	\$2,699	\$966
20	CCB Financial Leasing	\$3,496	-	-	\$2,675	\$820
21	Maverick Aviation Partnership	\$3,443	-	-	\$3,256	\$187
22	CMB Financial Leasing	\$3,338	-	\$20	\$2,927	\$390
23	Macquarie Airfinance	\$3,298	-	\$28	\$3,022	\$249
24	Altitude Aircraft Leasing	\$3,256	-	\$29	\$869	\$2,358
25	Castlelake	\$3,241	\$18	\$115	\$2,198	\$910
26	Nordic Aviation Capital	\$3,143	\$1,541	\$1,602	-	-
27	Standard Chartered Aviation Finance	\$3,037	-	-	\$2,990	\$47
28	Alafco	\$3,033	-	-	\$2,067	\$965
29	Tokyo Century Clients	\$2,791	-	\$34	\$1,448	\$1,309
30	Fuyo General Lease Clients	\$2,573	-	\$187	\$962	\$1,424
31	FPG Amentum Clients	\$2,459	-	-	\$1,491	\$969
32	Falco	\$2,394	\$1,069	\$1,164	\$161	-
33	Incline Aviation	\$2,314	-	-	\$2,123	\$191
34	Deucalion Aviation Funds	\$2,031	-	-	\$881	\$1,151
35	IAFC	\$1,955	-	-	\$910	\$1,045
36	Minsheng Financial Leasing	\$1,915	-	-	\$1,741	\$173
37	GTLK Europe	\$1,844	-	-	\$916	\$928
38	Itochu Clients	\$1,840	-	-	\$1,623	\$217
39	Sky Leasing	\$1,809	\$62	-	\$1,666	\$81
40	Aergo Capital	\$1,685	\$220	-	\$983	\$483
41	VTB Leasing	\$1,635	-	-	\$1,546	\$89
42	Castlelake Aviation Limited	\$1,611	-	\$148	\$779	\$684
43	Avic Leasing	\$1,598	-	\$26	\$1,267	\$306
44	ABC Financial Leasing	\$1,561	-	\$28	\$1,341	\$192
45	Banc Of America Leasing	\$1,494	-	-	\$658	\$835
46	Avenue Capital Management	\$1,458	-	\$12	\$887	\$558
47	ABL Aviation Clients	\$1,413	-	-	\$425	\$989
48	Cargo Aircraft Management	\$1,390	-	-	\$60	\$1,330
49	Goal	\$1,351	\$98	-	\$1,094	\$160
50	Bain Capital Credit	\$1,331	-	-	\$958	\$373
Grand Total		\$281,979	\$3,864	\$5,283	\$189,619	\$83,214

Source: Lessors and AFJ Fleet Tracker as of 30 June 2022.
AVITAS Blue Book Market Values as of 26 September 2022.

Top 50 lessors (with 10 or more aircraft) by % of current generation fleet

Rank	Lessor	Current generation fleet	Total fleet	% of current generation fleet
1	ABL Aviation Clients	21	24	88%
2	Sky Leasing	34	47	72%
3	ICBC Financial Leasing	7	10	70%
4	Bain Capital Credit	20	29	69%
5	China Southern Air Leasing	8	12	67%
6	Clover Aviation Capital	8	14	57%
7	Air Lease Corporation	231	415	56%
8	Itochu Clients	29	54	54%
9	SMBC Aviation Capital	172	336	51%
10	Alafco	39	77	51%
11	Jackson Square Aviation	96	190	51%
12	Einn Volant Aircraft Leasing	9	19	47%
13	Mitsui & Co	7	15	47%
14	CDB Aviation	124	271	46%
15	Avic Leasing	19	42	45%
16	CMB Financial Leasing	41	91	45%
17	BOC Aviation	176	395	45%
18	Blackbird Capital II	6	14	43%
18	SMBC Aviation Capital	40	94	43%
20	NBB Leasing Clients	82	218	38%
21	Tokyo Century Clients	24	66	36%
22	Vietnam Aircraft Leasing	6	17	35%
23	Aviation Capital Group	99	283	35%
24	Goal	16	47	34%
25	Avolon	178	539	33%
26	FPG Amentum Clients	21	64	33%
27	Bocomm Leasing	73	229	32%
28	SDH Wings International Leasing	7	22	32%
29	ICBC Financial Leasing	132	421	31%
30	Apollo Global Management	9	29	31%
31	Marathon Asset Management	4	13	31%
32	Banc Of America Leasing	11	36	31%
33	Minsheng Financial Leasing	19	63	30%
34	Novus Aviation	6	20	30%
35	Waterfall Asset Management	3	10	30%
36	Haitong Unitrust Leasing	3	10	30%
37	Aercap	499	1743	29%
38	Amedeo Air Four Plus Limited	4	14	29%
39	CCB Financial Leasing	27	96	28%
40	Airborne Capital	9	34	26%
41	ABC Financial Leasing	12	46	26%
42	Standard Chartered Aviation Finance	25	98	26%
43	Orix Aviation Clients	38	154	25%
44	Goshawk	37	155	24%
45	Aerdragon Aviation Leasing	8	34	24%
46	Fuyo General Lease	6	26	23%
47	Castlelake Aviation Limited	12	56	21%
48	Fuyo General Lease Clients	13	61	21%
49	VMO Aircraft Leasing	6	29	21%
50	China Aircraft Global	5	25	20%

Source: Lessors and AFJ Fleet Tracker as of 30 June 2022.

"Current generation fleet" includes A220s, A320neos, A330-800/900s, A350s, 737 MAX, 787 and Embraer E2 models.

Top 50 lessors' orderbooks

Rank	Beneficial Owner	Total	Turboprop	Regional Jet	Narrowbody	Widebody
1	Aercap	455	-	-	420	35
2	Air Lease Corporation	426	-	-	372	54
3	China Aircraft Leasing Company	256	-	30	226	-
4	Avolon	225	-	-	208	17
5	SMBC Aviation Capital	190	-	-	190	-
6	BOC Aviation	176	-	-	173	3
7	Aviation Capital Group	130	-	-	128	2
8	ICBC Financial Leasing	109	-	45	64	-
9	Ilyushin Finance Corporation*	95	-	27	67	1
10	CDB Aviation	78	-	-	78	-
11	Alafco	68	-	-	68	-
12	Macquarie Airfinance	49	-	-	49	-
13	ABC Financial Leasing	45	-	-	45	-
14	Azorra Aviation	42	-	-	42	-
15	Goshawk	40	-	-	40	-
16	Nordic Aviation Capital	37	17	-	20	-
17	Timaero Ireland	35	-	-	35	-
17=	Bocomm Leasing	35	-	-	35	-
17=	Avia Capital Services	35	-	-	35	-
20	Everbright Financial Leasing	30	-	-	30	-
21	VEB Leasing*	27	-	2	25	-
22	Jackson Square Aviation	21	-	-	21	-
23	Aircastle	20	-	12	8	-
23=	Accipiter (Maverick/ Carlyle)	20	-	-	20	-
23=	Lease Corporation International	20	-	-	20	-
26	State Transport Leasing Company*	17	3	14	-	-
26=	Minsheng Financial Leasing	17	-	3	14	-
28	Comsys Aviation Leasing	16	-	16	-	-
29	SPDB Financial Leasing	15	-	15	-	-
30	Sberbank Leasing*	14	-	-	14	-
31	Hong Kong Int. Av. Leasing	6	-	-	-	6
31=	Bain Capital Credit	6	-	-	6	-
33	CIB Leasing	5	-	5	-	-
34	Middle East Leasing	4	-	-	4	-
35	CIAF Leasing	3	-	3	-	-
35=	Acia Aero	3	3	-	-	-
37	CES International Financial Leasing	2	-	-	-	2
37=	DAE Capital	2	-	-	2	-
37=	Aerostar Leasing	2	2	-	-	-
37=	Avation	2	2	-	-	-
41	MG Aviation	1	-	-	-	1
Grand Total		2,779	27	172	2,459	121

Source: Lessors and AFJ Fleet Tracker as of 30 June 2022.

Source: as per OEMs' input and press releases.

*currently impacted by international sanctions.

Lessor firm orders

Figure 1: Firm orders by body type

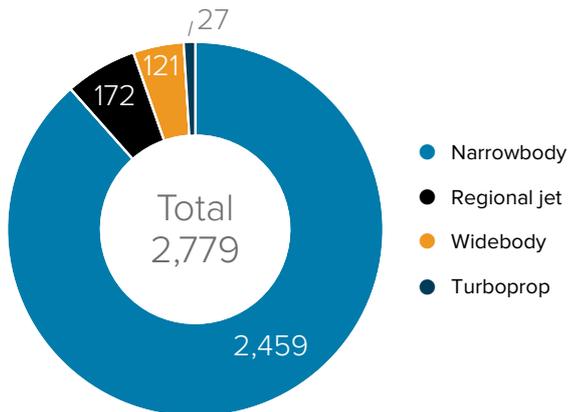


Figure 2: Firm orders by value by body type (\$m)

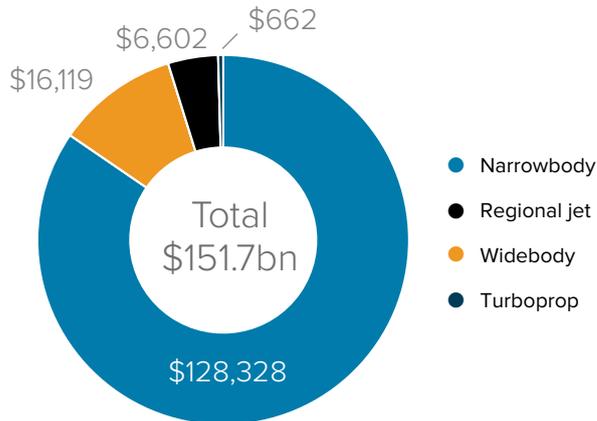


Figure 3: Firm orders by manufacturer

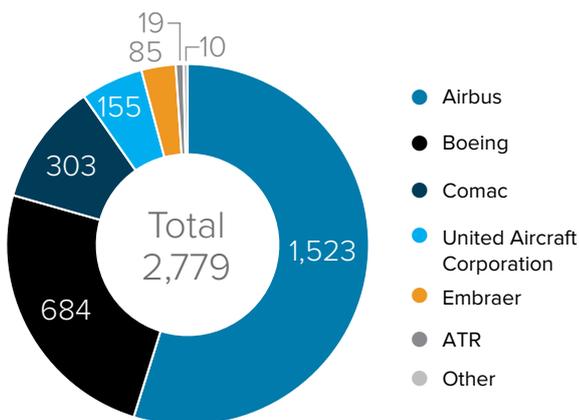


Figure 4: Firm orders by value by manufacturer (\$m)

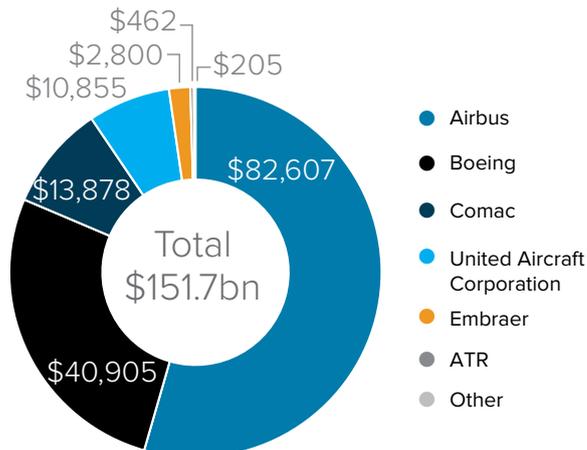


Figure 5: Firm orders by country of lessor

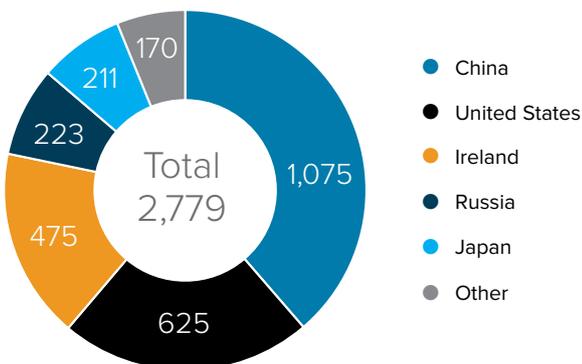
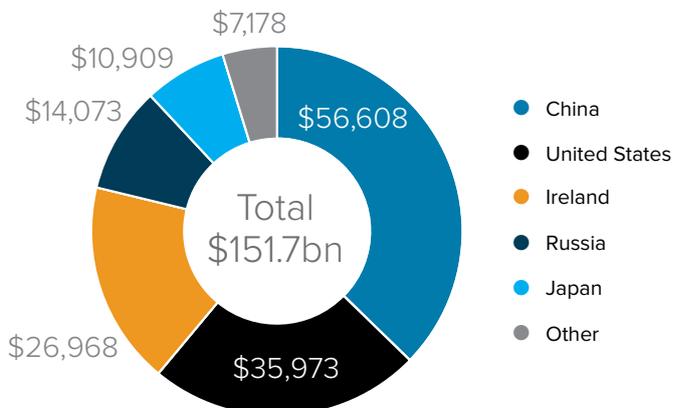


Figure 6: Firm orders by value by country of lessor (\$m)



Source: Manufacturers and Avitas as of 30 June, 2022.
* Calculated as of 2022 market list prices and Avitas Base Values.

Trend analysis – Changes in the global leased fleet 2018-2022

Airfinance Journal follows global airline fleets in its *Fleet Tracker* product. Designed for aviation finance, a single click generates a report showing the entire global leased fleet. This year we focus particularly on lessors' exposure to Russia as of the end of February, 2022, the current national share of "ultimate" control and ownership of leased aircraft and the evolving changes in the type of entities owning aircraft and seeking attractive risk-adjusted returns.

Russia

The table shows non-Western exposure to Russian airlines as of the end of February, 2022 both in absolute \$ and as a percentage of total leased fleet. The two largest exposures were Aercap with \$2.4 billion, but only 5% of total leased asset market value and SMBC Aviation Capital with \$1.3 billion but almost 10% of total leased assets. At the far right of the chart are those lessors (some of them with Russian connections, admittedly) with almost "off-the-chart" levels of exposure.

The data behind this chart includes the aircraft that were fortuitously outside of Russia at the time and aircraft leased to some airlines that co-operated in their repossession.

Beneficial ownership of leased aircraft

Airfinance Journal tracks the nature of the beneficial owners of leased aircraft.



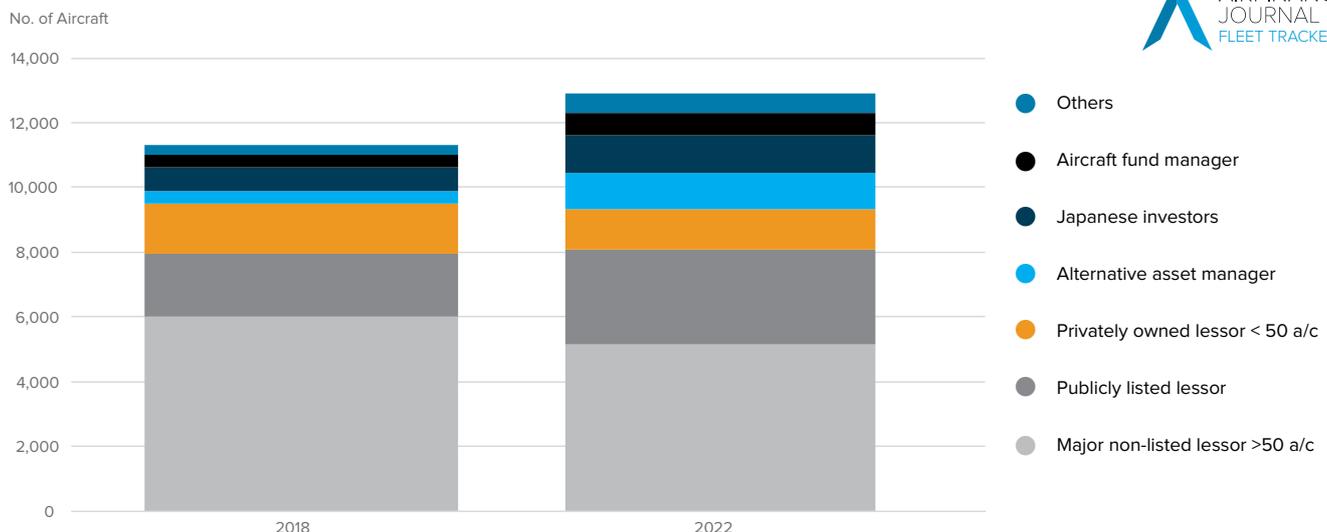
This table shows a few key developments of the nature of the beneficial owners between 2018 and 2022. The transition between the two largest blocks is primarily related to the assets of non-listed GECAS being transferred to listed Aercap. Beyond that, we see a "squeeze" in the "privately owned lessor < 50 aircraft category", offset by a significant rise in the "Alternative asset manager" ownership. Translated, this means private equity firms, investment funds, fund managers and pension funds.

"Japanese investors" includes a wide range of entities including JOL and JOLCO investors and grew significantly over the five years as did "Aircraft fund manager" and "Others".

"Ultimate" beneficial ownership and control

We also follow the jurisdictions of "ultimate" ownership and control of leased aircraft. Our analysis shows that Chinese entities are by far the largest beneficial owners of leased aircraft, with an estimated market

Beneficial ownership of leased aircraft



value from Fleet Tracker of \$95 billion. This is well ahead of the United States at \$69 billion and Japanese entities at \$68 billion.

The chart, which shows number of aircraft rather than market values, shows the very large increase in both the Chinese and Japanese investment in leased aircraft. The Netherlands is higher due to AerCap's acquisition of GECAS and Canada due to the significant increase from Chorus and their acquisition of Falko.

Concentration of ownership

We also monitor the degree of concentration amongst owners. There is a perception that the industry is "consolidating", but our data shows that this is not the case. We have assessed the % ownership of the global leased fleet by number and market value of aircraft for the Top 10 and Top 50 Lessors.

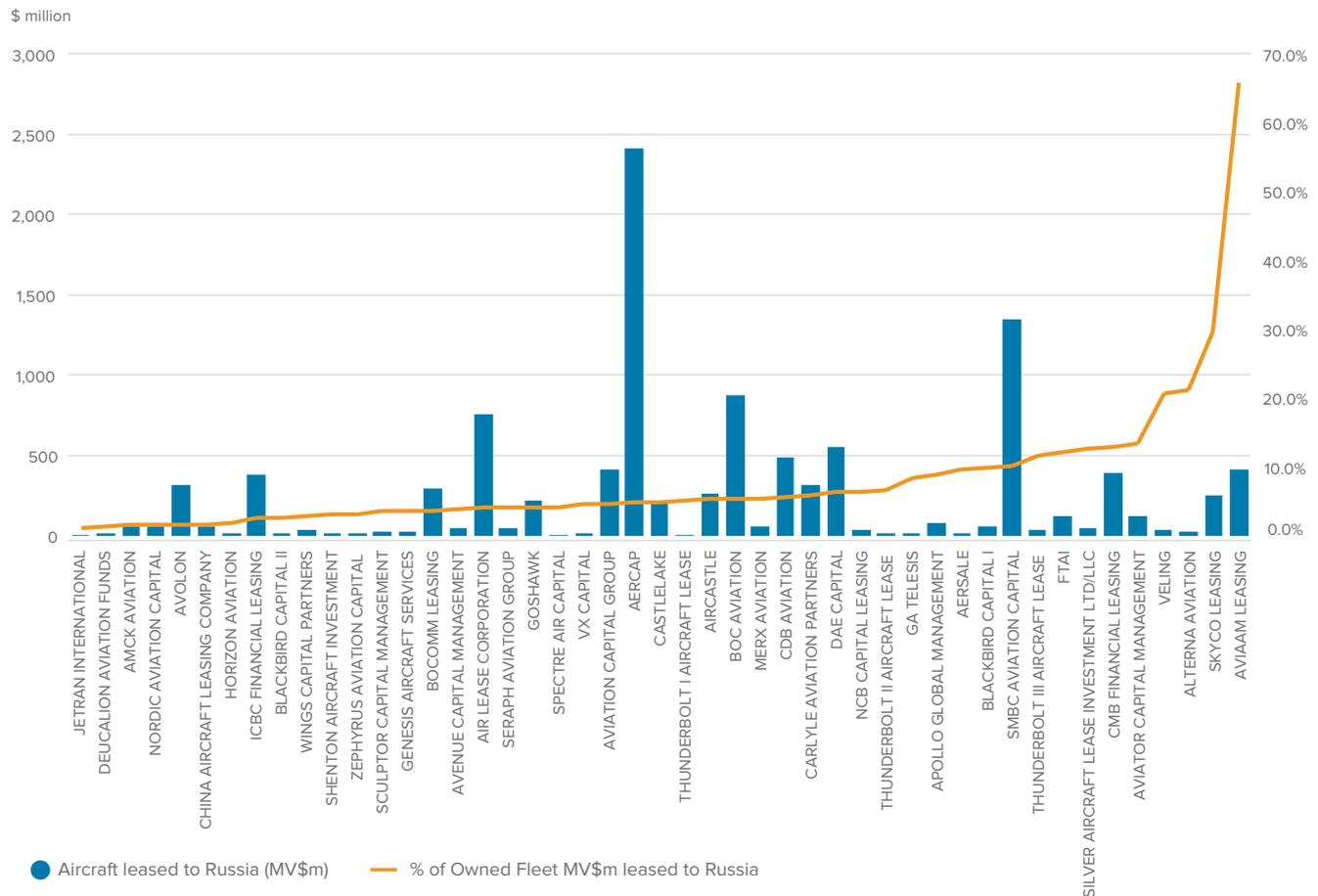
By number of aircraft, the Top 10 percentage has actually fallen over the last five years, while the Top 50 figure is essentially the same. By market value the percentages are higher because the larger lessors tend to invest more in newer and larger aircraft, but the trend is towards reduced concentration. ▲

Western lessor exposure as beneficial owner to Chinese operators

Rank	Lessor	No. of Aircraft	Ave Age	MV \$m
1	AERCAP	261	7.6	9,216
2	BOC AVIATION	86	5.5	3,313
3	AIR LEASE CORPORATION	64	7.3	2,429
4	AVOLON	49	8.0	1,868
5	AVIATION CAPITAL GROUP	41	6.8	1,378
6	SMBC AVIATION CAPITAL	38	6.4	1,226
7	GOSHAWK	12	9.9	283
8	CASTLELAKE	11	6.5	279
9	MAVERICK AVIATION PARTNERSHIP	10	10.6	219
10	ALAFCO	7	7.4	325
11	MERX AVIATION	6	9.7	142
12	ABS E NOTE INVESTOR	6	13.7	104
13	STANDARD CHARTERED AVIATION FINANCE	6	9.8	146
14	MACQUARIE AIRFINANCE	6	9.3	142
15	JACKSON SQUARE AVIATION	6	8.3	168
16	CARLYLE AVIATION PARTNERS	5	11.4	103
17	ORIX JOL INVESTOR	5	10.4	109
18	CASTLELAKE AVIATION LIMITED	5	9.1	133

Source: AFJ's Fleet Tracker.

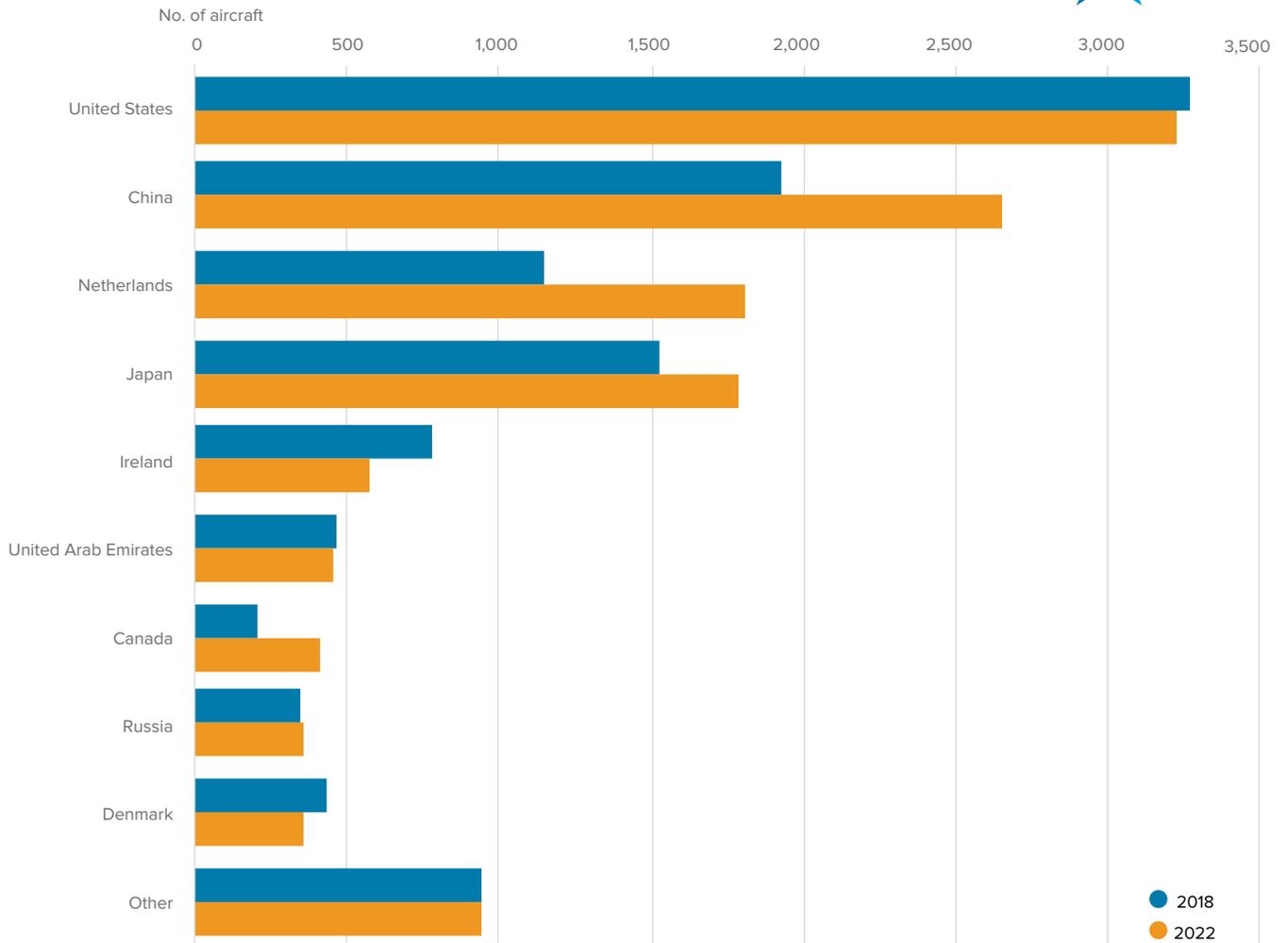
Non-Russian lessor exposure to Russia as beneficial owner as of 28 February, 2022



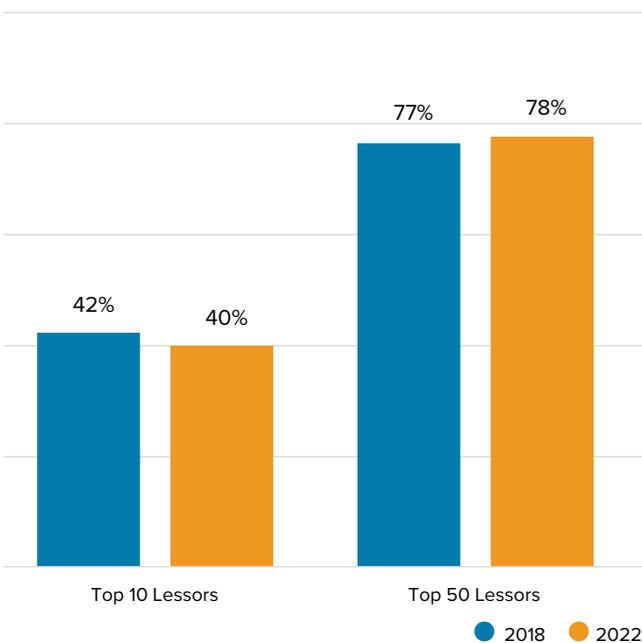
Source: AFJ Deal Tracker.



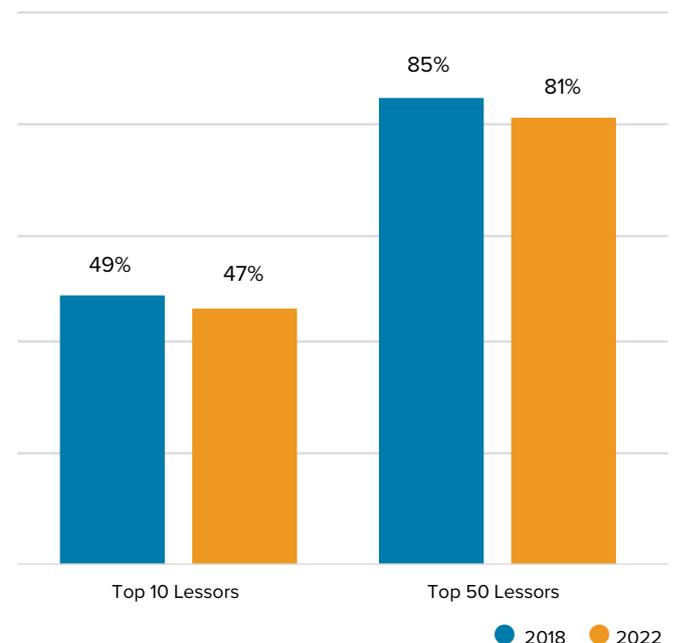
Country of “ultimate” ownership/control



Concentration of beneficial ownership by number of aircraft



Concentration of beneficial ownership by market value of aircraft



Trend analysis – Global aircraft leasing companies' financial performance

Financial performance – last three years

We have expanded our coverage of lessors' financial performance very substantially, in relation to the launch of *The Lessor Analyst*. *The Lessor Analyst* covers more than 100 lessors and leasing entities.

In this section we analyse the three most recent years' financials for the top lessors whose most recent financial year-end falls between 30 September 2021 and 30 June 2022. As noted elsewhere, the majority of these financials do not incorporate the Russia effect and are therefore not comparable with each other on most measures. The lessors included in the study are listed in the table. The minimum asset size for inclusion is \$1 billion. As can be seen, pre-Russia, most of the lessors had clawed their way back to at least modest profitability, unless one is referring to AerCap with their \$1 billion net income (and that was with a contribution from GECAS for only two months). We can, however, see the Russia impact creeping in to the Airastle numbers, which are for the 12 months ending 28 February 2022. Enough time for the accountants and auditors to step in and make sure asset values are properly assessed.

Note that the analysis we present here is aggregate data for the lessors involved. Individual lessors' values, KPIs, financial ratios, KPIs and portfolio ratings are available in *The Lessor Analyst*.



AerCap leads the lessors' financial performance

The annual numbers show the Covid and market induced downward pressure on yields and revenue. GECAS contributed a blow-out gain on disposal of aircraft in 2021/22 which is a significant help to the industry's numbers.

Even before Russia, we see significant impairments in 2020/21 which were continued in 2021/22, largely by lessors such as Airastle, Merx Aviation and Macquarie Airfinance whose results straddled the calendar year-end.

Lessors' most recent 12 months' results (with assets >\$1 billion)

	12 Month Period Ending	Total Revenue (\$m)	Net income (\$m)	Total Assets (\$m)
AerCap Holdings N.V.	31-Dec-21	4,589	1,001	74,570
Bohai Leasing Co., Ltd.	31-Dec-21	4,156	(191)	38,947
Avolon Holdings Limited	31-Dec-21	2,248	47	30,984
Air Lease Corporation	31-Dec-21	2,088	408	26,969
BOC Aviation	31-Dec-21	2,183	561	23,879
SMBC Aviation Capital	31-Mar-21	1,262	14	15,966
Dubai Aerospace Enterprise	31-Dec-21	1,319	150	12,610
Aviation Capital Group	31-Dec-21	1,041	140	12,135
CDB Aviation Lease Finance	31-Dec-21	946	6	9,712
Airastle	28-Feb-22	770	(294)	7,093
China Aircraft Leasing Group	31-Dec-21	422	68	6,415
Macquarie AirFinance	31-Mar-22	562	(57)	4,572
BOCOMM Aviation Leasing Ireland	31-Dec-21	212	6	4,495
ORIX Aviation Systems	31-Mar-21	175	1	4,443
ALAFCO	30-Sep-21	333	(79)	4,390
Jackson Square Aviation Ireland	31-Dec-21	346	(15)	3,550
Pembroke Aircraft Leasing Holdings	31-Dec-21	396	50	3,231
Rolls-Royce & Partners Finance	31-Dec-21	337	(29)	3,031
Castlake Aviation Limited	31-Dec-21	45	29	2,802
Banc of America Leasing Ireland	31-Dec-21	250	58	2,393
CCB Aviation Corporation	31-Dec-21	175	(34)	2,068
Amedeo Air Four Plus Limited	31-Mar-22	261	34	1,829
Minsheng Commercial Aviation (Ireland)	31-Dec-21	49	2	1,811
Aviator Ireland	31-Dec-21	170	(97)	1,440
Merx Aviation Finance Assets Ireland	31-Mar-21	265	(40)	1,354
Chorus Aviation Capital (Ireland)	31-Dec-21	104	(25)	1,222
Avation	30-Jun-21	117	17	1,217
China Aircraft Global	31-Dec-21	106	0	1,197
Sky Fund 1 Irish Limited	31-Dec-21	71	15	1,061
Einn Volant Aircraft Leasing	31-Dec-21	97	19	1,016

Global aircraft leasing industry aggregate balance sheet

Balance sheet - \$ million	2018/19	2019/20	2020/21
Number of lessors included	43	43	37
Aircraft & engines available for lease	213,061	220,175	205,057
Maintenance rights	3,974	3,263	5,004
Lease incentive assets	1,207	1,274	1,637
PDPs	19,928	17,876	15,441
Finance lease assets	5,487	5,272	4,512
Assets held-for-sale	4,542	945	999
Unrestricted cash	7,532	11,373	8,813
Restricted cash	2,351	1,939	1,193
Notes & loans receivable	1,347	2,736	2,453
Other assets	19,969	22,626	20,895
Total assets	279,398	287,480	266,005
Loans & notes	160,202	171,631	181,592
Deferred tax liabilities	7,240	7,558	6,603
Deferred income	1,893	1,800	1,560
Maintenance reserves	443	220	281
Security deposits	2,351	1,939	1,193
Other liabilities	20,503	18,643	16,496
Total liabilities	192,633	201,791	207,725
Total equity	86,765	85,689	58,279
Total liabilities & equity	279,398	287,480	266,005

Source: Company financial statements and *The Lessor Analyst*.

Includes GECAS until 31 October 2021.

Includes many lessors with year-ends of 31 December 2021 so does not include the Russia impact on them. Lessors that have not reported their 2021/22 results are excluded from all years (e.g. NAC, GTLK, STLC, AerDragon). Number of lessors has gone down due to acquisition (e.g. FLY, AMCK, Accipiter). Excludes Bohai Leasing to avoid duplication of Avolon.

Lease yield shows evidence of the challenging market, declining from 11.8% in 2019/20 to 9.3% in 2021/22. Fortuitously, interest costs declined as average debt costs fell from 4.4% to 3.6% but still the net spread was well below historic levels.

The balance sheet has a multiplicity of influences on it. Assets available for lease decline as a result of continued depreciation, impairments and slower acquisition of new aircraft for various reasons. Notably, unrestricted cash fell from the previous year's peak and so did credit extension to customers.

Debt, nevertheless, increased largely represented by AerCap's funding of its acquisition of Gecas, whose balance sheet was historically under-levered.

By virtue of the impairment charges and the GECAS equity substitution by AerCap debt, the industry leverage increased from 1.9 times to 3.0 times. ▲

Global aircraft leasing industry aggregate annual cash flow statement

Balance sheet - \$ million	2018/19	2019/20	2020/21
Number of lessors included	43	43	37
Net cash from operations	14,786	10,559	13,813
Investing Activities			
Capital expenditure	(33,054)	(20,861)	(23,015)
PDPs	(5,298)	(2,898)	(2,548)
PDP refunds	106	639	824
Proceeds from asset disposals	17,881	5,693	7,890
M&A			(22,466)
Other	2,388	(1,808)	1,435
Total of Investing Activities	(17,977)	(19,234)	(37,880)
Financing Activities			
Loans received	37,933	47,266	55,162
Loans repaid	(31,542)	(36,167)	(33,190)
Other financing	(3,412)	1,542	194
Total of Financing Activities	2,980	12,641	22,165
Net increase (decrease) in unrestricted cash	(212)	3,965	(1,791)
Effect of exchange rate changes	(3)	8	2
Unrestricted cash at beginning of period	7,665	7,470	10,277
Unrestricted cash at end of period	7,449	11,443	8,377
Restricted cash at end of period	2,351	1,939	1,193
Total cash at end of period	9,801	13,383	9,571

Global aircraft leasing industry aggregate annual income statement

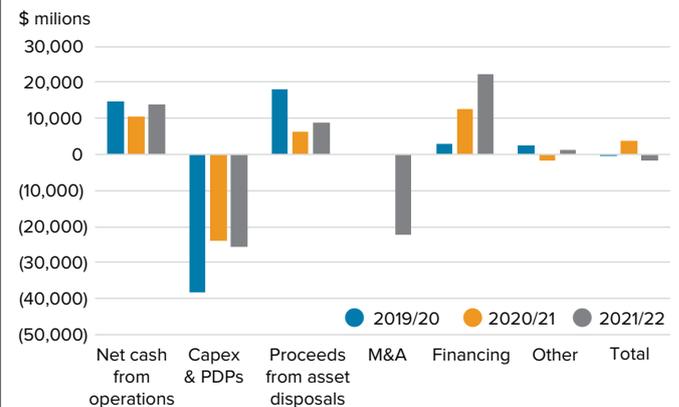
Income statement - \$ million	2019/20	2020/21	2021/22
Number of lessors included	43	43	37
Revenue			
Basic lease revenue	23,976	22,602	19,784
Maintenance rent	1,150	1,163	1,487
Total operating lease revenue	25,127	23,765	19,034
Finance lease revenue	483	424	315
Net gain (loss) on disposal of aircraft	1,716	693	3,526
Interest income	615	515	498
Other income (incl management fees)	645	778	832
Total Revenue	28,585	26,175	21,098
Operating expenses			
Maintenance, transition costs etc.	(765)	(686)	(729)
Tangible asset impairment	(355)	(3,516)	(3,081)
Intangible asset impairment	(5)	(270)	(38)
Provisions for credit losses	(82)	(592)	(304)
Selling, general, admin and staff expenses	(1,917)	(1,658)	(1,612)
Other operating expenses	(441)	(606)	(790)
Total operating expenses excl. dep'n	(3,563)	(7,329)	(6,554)
EBITDA	25,022	18,846	17,407
Depreciation & amortisation	(10,395)	(11,088)	(10,132)
Non-recurring gains and losses	159	(256)	712
Total finance costs	(7,735)	(7,589)	(6,610)
Profit before tax	6,919	(87)	1,377
Income tax expense	(851)	(199)	(240)
Equity in net earnings of investments	374	68	78
Profit from continuing operations	6,442	(218)	1,216
Net income	6,551	(186)	1,153

Source: Company financial statements and The Lessor Analyst.

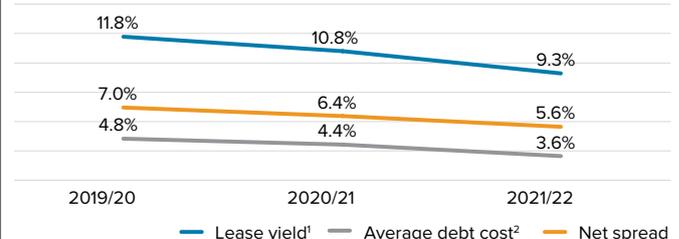
Includes GECAS until 31 October 2021.

Includes many lessors with year-ends of 31 December 2021 so does not include the Russia impact on them. Lessors that have not reported their 2021/22 results are excluded from all years (e.g. NAC, GTLK, STLC, Aerdragon). Number of lessors has gone down due to acquisition (e.g. FLY, AMCK, Accipiter). Excludes Bohai Leasing to avoid duplication of Avolon.

Overview of cash flows 2019-2022

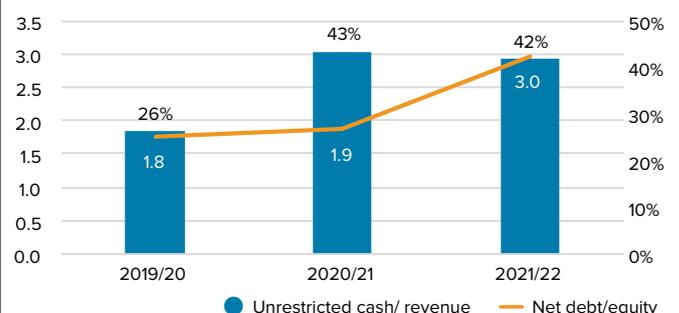


Average yield, debt cost & net spread 2019-2022



¹ Operating lease revenue/aircraft & engines available for lease. ² Finance costs divided by total loans & notes. ³ Lease yield minus average debt cost.

Key balance sheet ratios 2019-2022



Financial performance in the first half of 2020-2022

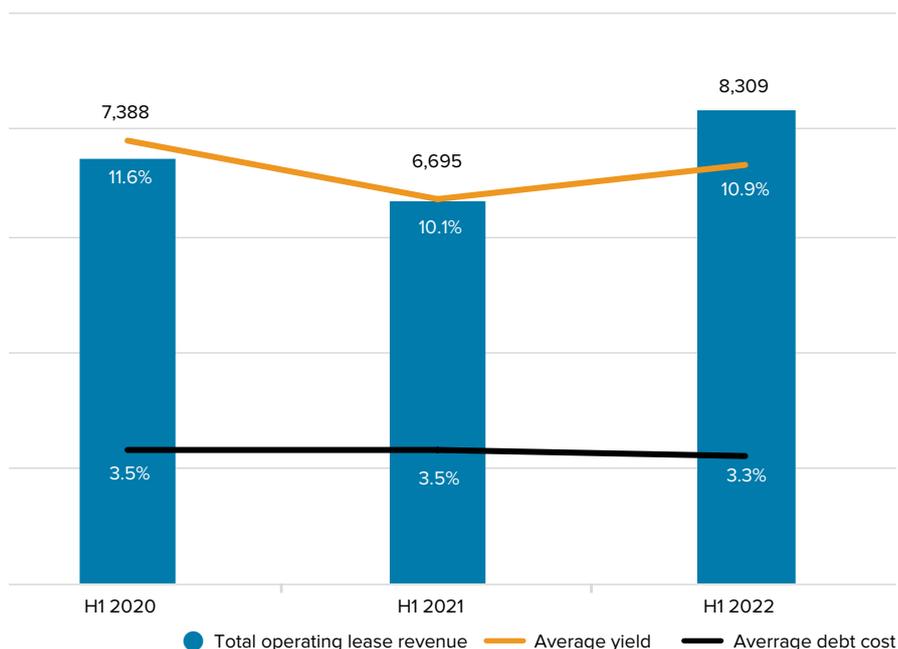
We analyse the first half calendar 2022 financials for the 10 lessors who publish quarterly or semi-annual results, compared with the same period in the two previous years. These are more comparable and representative of the development of underlying market conditions and all reflect large impairment charges for aircraft confiscated by Russia.

The table shows the 10 lessors enjoyed strong revenue recovery but incurred \$5.1 billion of impairments (mostly Russia related) and a resulting net loss of \$33.4 billion. Yield recovered to 10.9% from the prior year and average debt cost declined still further to a low of 3.3%.

Assets available for lease showed strong growth to \$152 billion as did loans and notes, both mainly relating to AerCap's GECAS purchase. Most other line items were similar to the prior year but unrestricted cash was down to 27% of revenues, compared to 61% at the peak of Covid.

Cash from operations showed a strong recovery and capital expenditure was modest. ▲

Key profitability indicators - H1 2020-2022



Aggregate Income Statement for quarterly and semi-annual reporting lessors

\$m	H1 2020	H1 2021	H1 2022
Total operating lease revenue	7,388	6,695	8,309
Finance lease revenue	87	94	135
Net gain (loss) on disposal of aircraft	219	134	230
Interest income	44	40	75
Other income (incl management fees)	247	316	280
Total Revenue	7,985	7,281	9,030
Operating expenses	(910)	(924)	(1,236)
Tangible asset impairment	(493)	(309)	(5,110)
Depreciation & amortisation	(3,006)	(2,971)	(3,481)
Non-recurring gains and losses	(4)	243	(870)
Total finance costs	(2,088)	(2,105)	(2,170)
Profit before tax (PBT)	1,485	1,216	(3,838)
Income tax expense	(313)	(169)	407
Other	(5)	(20)	(3)
Net income	1,167	1,026	(3,434)

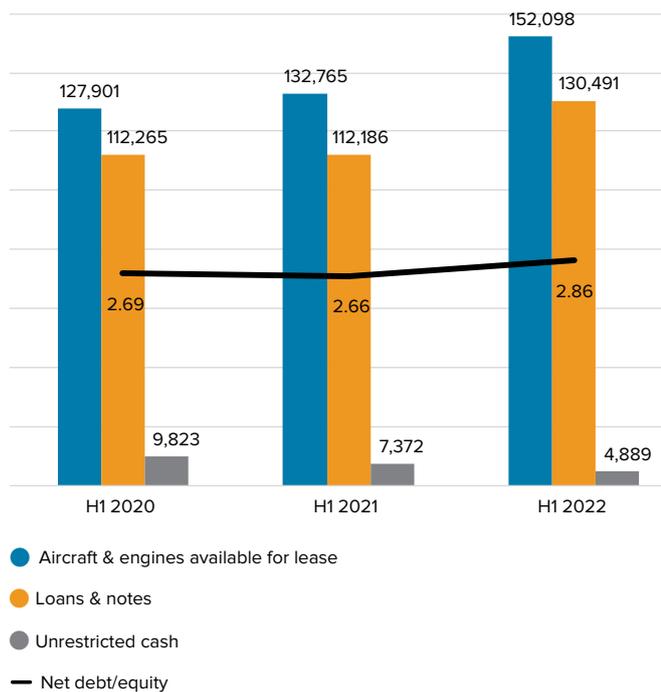
Source: Company financial statements and The Lessor Analyst.

Aggregate cash flow statement for quarterly and semi-annual reporting lessors

\$m	H1 2020	H1 2021	H1 2022
Net cash from operations	2,374	3,120	5,759
Investing Activities			
Capital expenditure	(4,732)	(4,997)	(4,808)
PDPs	(1,345)	(1,662)	(1,897)
PDP refunds	170	248	217
Proceeds from asset disposals	1,332	1,175	2,004
Other investing	(197)	(102)	(151)
Total of Investing Activities	(4,772)	(5,339)	(4,635)
Financing Activities			
Loans received	16,092	11,504	6,526
Loans repaid	(11,123)	(10,440)	(8,015)
Other financing	(236)	(34)	(508)
Total of Financing Activities	4,733.6	1,030.4	(1,997.0)
Net increase (decrease) in unrestricted cash	2,335.4	(1,188.4)	(873.1)
Effect of exchange rate changes	3.1	(0.3)	(4.1)
Unrestricted cash at beginning of period	7,839.8	8,539.2	5,852.7
Unrestricted cash at end of period	10,178.3	7,350.6	4,975.6
Restricted cash at end of period	757.0	660.3	522.7
Total cash at end of period	10,935.4	8,010.9	5,498.3

Source: Company financial statements and The Lessor Analyst.

Key assets, debt, cash & leverage - H1 2020-2022



Lessors that have reported quarterly or semi-annual results during 2022

	Half-year Period Ending	Total Revenue (\$m)	Net income (\$m)	Total Assets (\$m)
AerCap	30-Jun-22	2,135	(1,661)	69,748
Air Lease Corporation	30-Jun-22	967	(374)	27,646
Aircastle	31-Aug-22	382	(12)	7,162
ALAFCO	31-Mar-22	170	(15)	4,148
Avation PLC	30-Jun-22	50	32	11,765
Aviation Capital Group	30-Jun-22	502	(436)	30,593
Avolon Holdings Limited	30-Jun-22	1,123	(173)	11,503
BOC Aviation	30-Jun-22	1,107	(313)	22,813
China Aircraft Leasing Group	30-Jun-22	204	(17)	6,878
Dubai Aerospace Enterprise	30-Jun-22	644	(398)	1,217
TOTAL		7,284.2	(3,365.0)	193,473.6

Aggregate balance sheet for quarterly and semi-annual reporting lessors

\$m	H1 2020	H1 2021	H1 2022
Aircraft & engines available for lease	127,901	132,765	152,098
Maintenance rights	1,966	1,555	3,443
Lease incentive assets	291	760	1,130
PDPs	15,136	12,305	13,872
Finance lease assets	3,318	3,013	4,142
Assets held-for-sale	570	1,097	1,973
Unrestricted cash	9,823	7,372	4,889
Restricted cash	863	660	523
Notes & loans receivable	459	1,023	1,414
Other assets	6,956	7,799	9,989
Total assets	167,284	168,350	193,474
Loans & notes	112,265	112,186	130,491
Deferred tax liabilities	3,044	4,441	5,425
Deferred income	1,057	901	1,185
Maintenance reserves	6,698	6,161	6,733
Security deposits	2,724	2,524	2,770
Other liabilities	3,407	2,735	2,916
Total liabilities	129,195	128,949	149,518
Total equity	38,089	39,401	43,955
Total liabilities & equity	167,284	168,350	193,474
Net debt/equity	2.69	2.66	2.86
Unrestricted cash/annualised revenue	62%	51%	27%

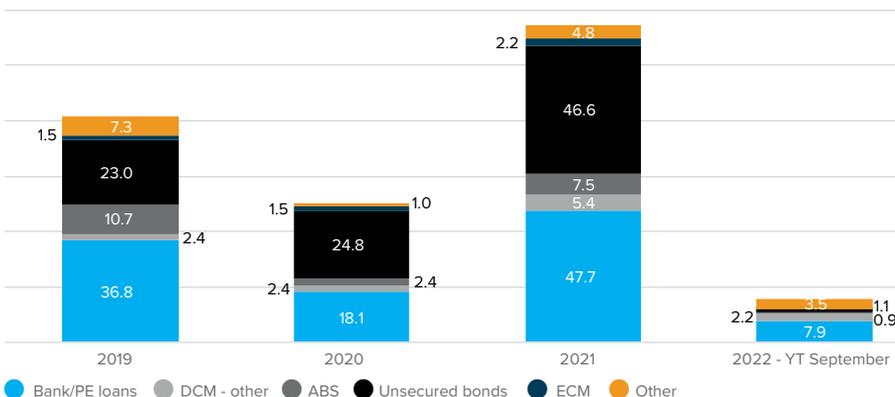
Lessor funding sources

The following chart shows funding sources accessed by the lessors in the 12 months ending 30 September 2022, using data from *Airfinance Journal's* Deal Tracker.

This chart shows lessors' use of different funding sources in the full years 2019-2022 and nine months to September 30, 2022 as recorded in AFJ's Deal Tracker. As can be seen, 2021 was a blow-out year, with total fundraisings reaching a record \$114 billion, driven significantly by the Aercap funding for its acquisition of GECAS. The unsecured bond market and bank market played approximately equal roles in that year, supplemented by \$7.5 billion of ABS, \$2.2 billion of equity capital markets and \$4.8 billion of "Other".

By contrast, 2022 has been very quiet in the capital markets and fundraising by lessors, generally. Bankers are no doubt hoping for some spark to ignite the markets rather than face the prospect of having to turn down their thermostat at Christmas.

Lessor Fundraising 2019 - September 2022



Source: AFJ Deal Tracker

Year of Issue of Current Outstanding \$ Bonds (Amounts in \$ millions)

Lessor	2013	2014	2016	2017	2018	2019	2020	2021	2022	Grand Total
Aercap				1,800	2,350	2,900	4,000	22,000		33,050
Air Lease		500	750	1,600	1,700	2,550	4,450	4,250	1,500	17,300
Avolon				1,653	535	2,467	3,400	3,500		11,555
BOC Aviation	550		750	700	1,240	1,900	2,900	1,500	300	9,840
ICBC Financial Leasing		300	300	950	1,100	1,400	900	2,600	1,200	8,750
Aircastle			500	500	650	650	650	1,150		4,100
DAE							750	2,550		3,300
CCB Leasing						1,000	800	1,000		2,800
SMBC Aviation Capital					500	500		1,000		2,000
CDB Aviation		400		400	500	130	500			1,930
ORIX Corporation						500			1,000	1,500
Aviation Capital Group								750		750
Voyager								413		413
FLY				10				390		400
Avation					343					343
Willis Group	249									249
CALC								100		100
CMB Financial Leasing									75	75
Grand Total	799	1,200	2,300	7,612	8,917	13,997	18,350	41,203	4,075	98,454

Source: AFJ Deal Tracker.



We see in the next chart, that lessors are not immune from market reality. For the first time in five years, coupons on the (limited sample of) new investment grade issues turned up, and quite materially.

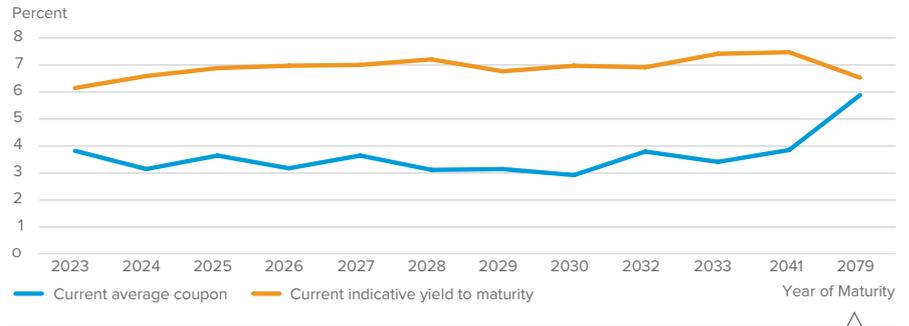
The table shows the cumulative build up to the current aggregate amount outstanding of \$98.5 billion for the lessors shown, with AerCap being top of the pile at \$33 billion.

Shifting then into the current yields-to-maturity on outstanding lessor bonds compared to current coupons, the chart shows that the yields are as much as double the current coupons. A large part will be driven by increases in market rates as well as some credit concerns.

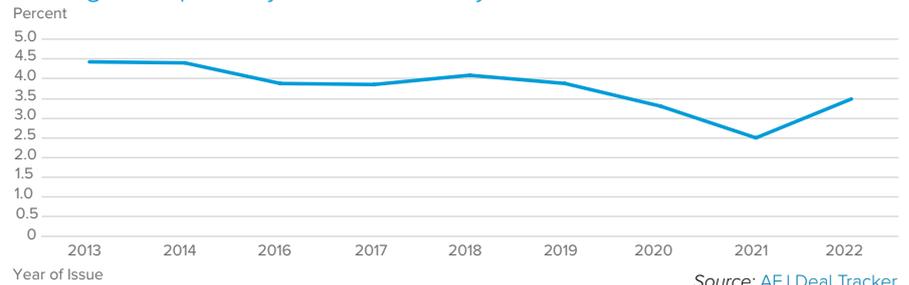
Most of 2022's refinancing is now done, as shown in the chart. But \$15 billion and \$22 billion lies ahead in 2023 and 2024, mostly attributable to the "big 5" – AerCap, Air Lease, Aircastle, Avolon and BOC Aviation.

Subscribers to The Lessor Analyst will be able to see updated maturities and daily prices, yields and spreads on all of these bonds on a comparative basis. ▲

Investment Grade Lessor US\$ Bond Issuers Average Coupons vs Average Yields to Maturity

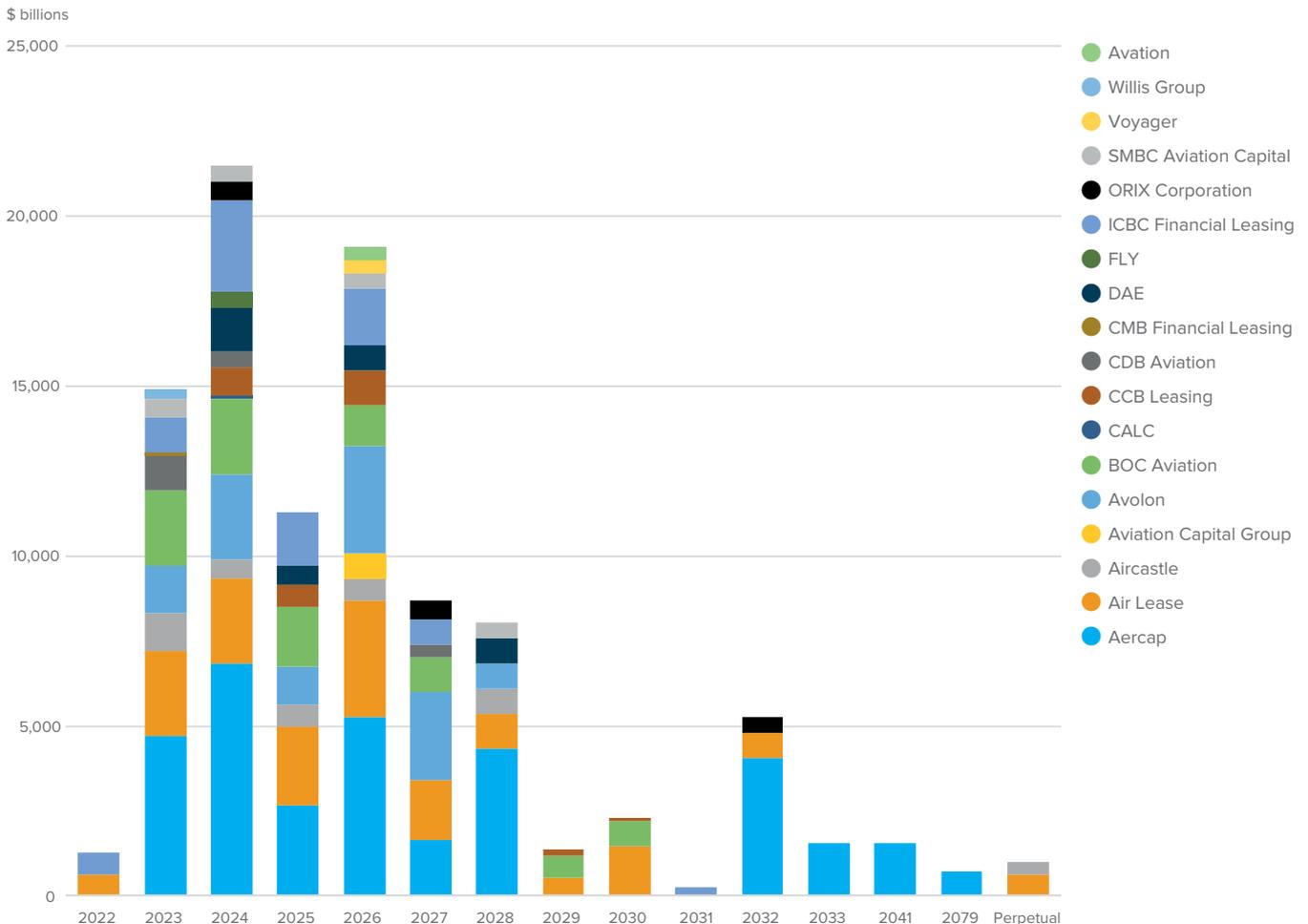


Average Coupons by Year of Issue by Investment Grade Lessors



Source: AFJ Deal Tracker.

Maturity Years of Lessor \$ Bonds



Source: AFJ Deal Tracker.



Analysis of the global leased fleet

American Airlines has held the position of “Number 1 lessee” ever since its acquisition of US Airways. Shooting up the ranks has been Indigo, due to its rapid expansion and focus on operating leases as the best financing solution for them. The rest of the table is a mix between legacy carriers such as China Southern, Delta Air Lines and China Southern and relatively young airlines which

have grown, and continue to grow, rapidly, examples being Azul, Gol, Wizz, Volaris and Vueling. Such a variety of counterparties, jurisdictions, growth plans and operating environments must be a challenge for lessor portfolio and risk managers.

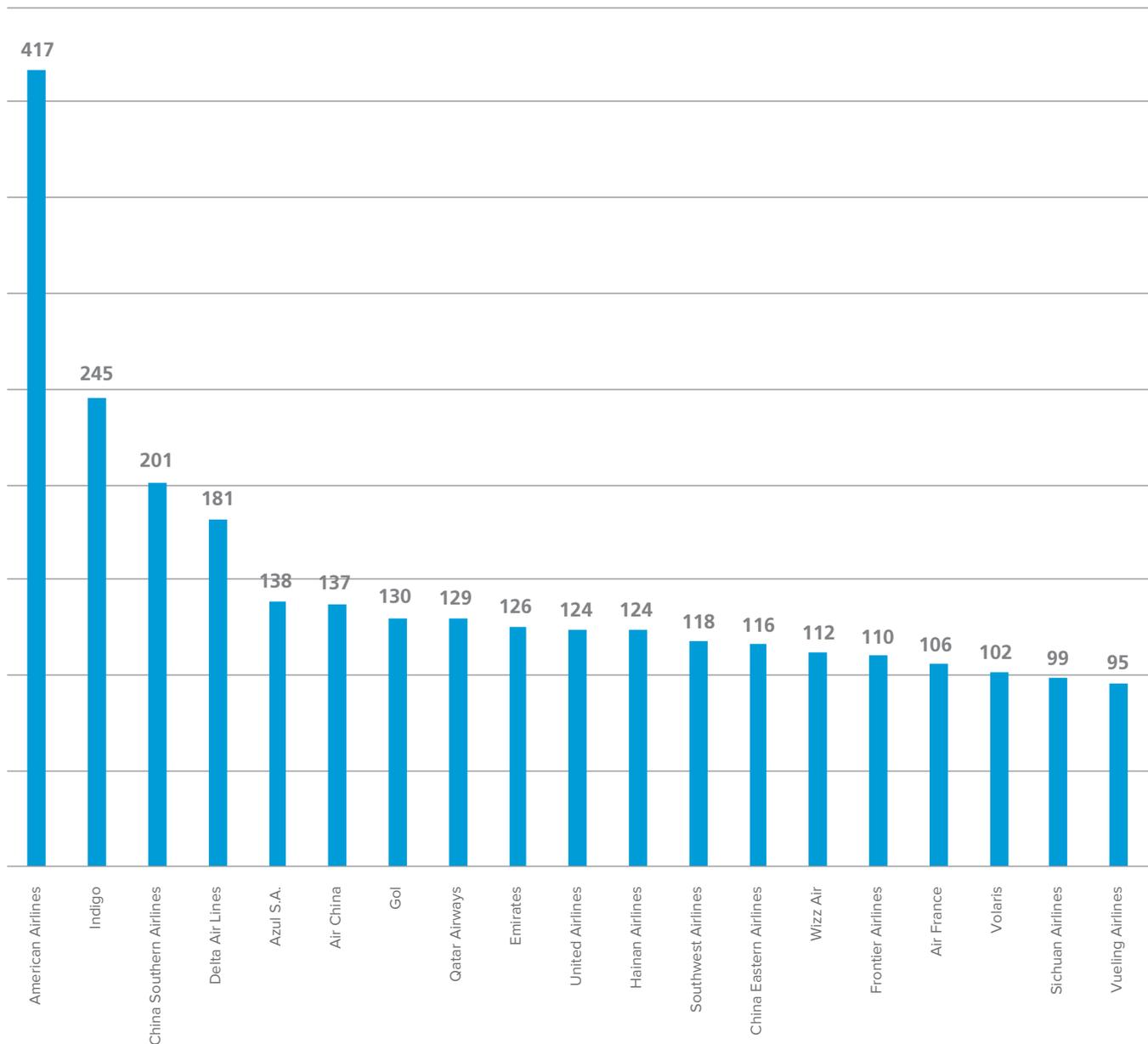
The global distribution of lessees is similar to previous years. While Europe appears the largest, the sum of all the sub-regions

of Asia clearly exceeds it by a big margin.

The Top Lessors of regional jets have changed significantly in the last year. Despite shrinking from a portfolio of 160 to less than 120 aircraft, Nordic Aviation Capital retains number one spot with the combination of Chorus and Falco sliding into second spot.

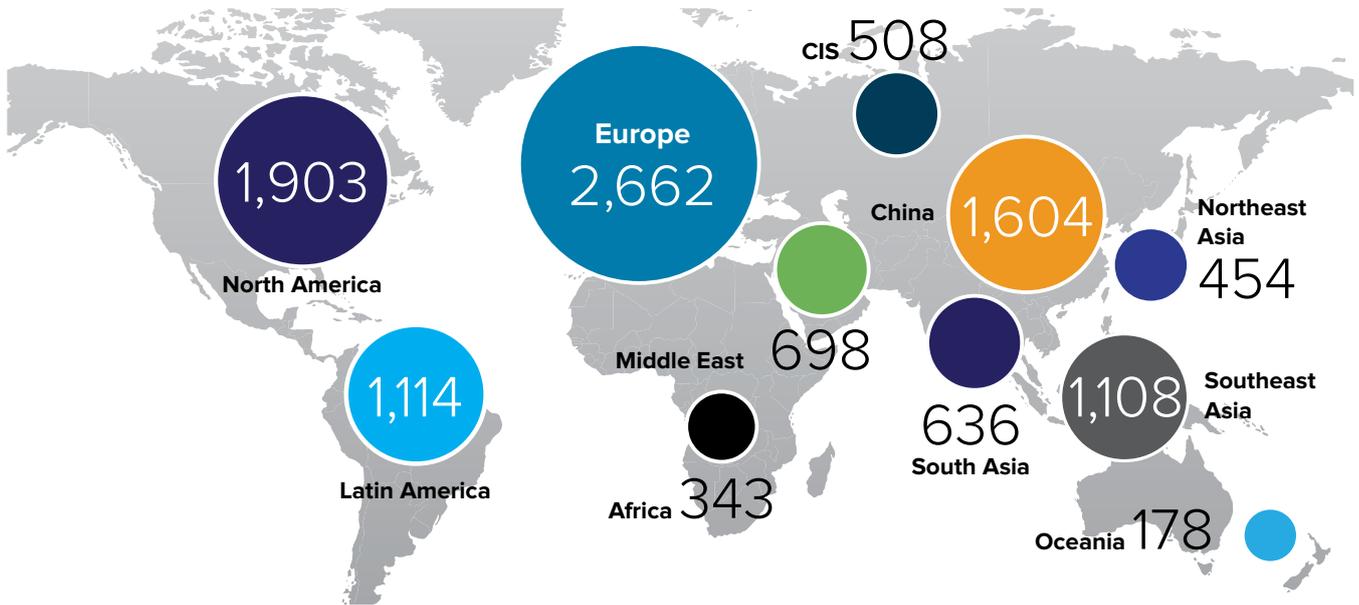
A similar pattern applies in turboprops, with DAE Capital in third place. ▲

Biggest lessees by number of aircraft



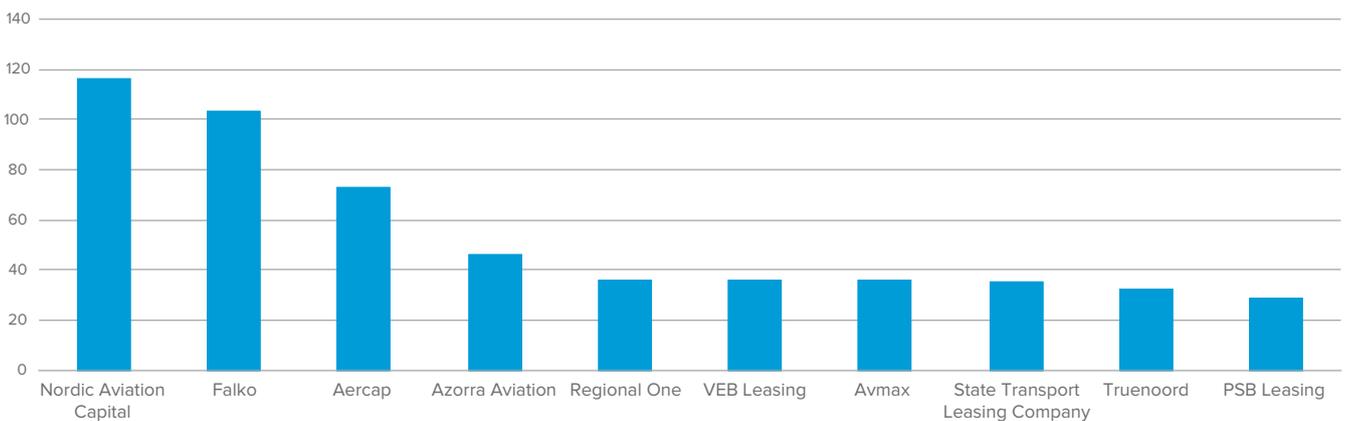
Source: *Airfinance Journal's Fleet Tracker*.

Geographic distribution of leased aircraft



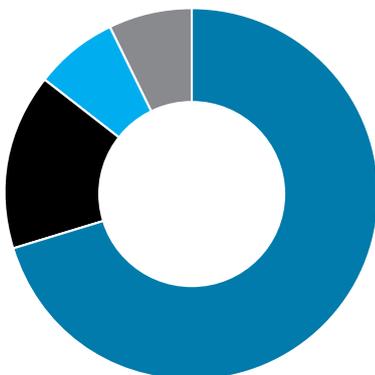
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

Top 10 lessors of regional jets



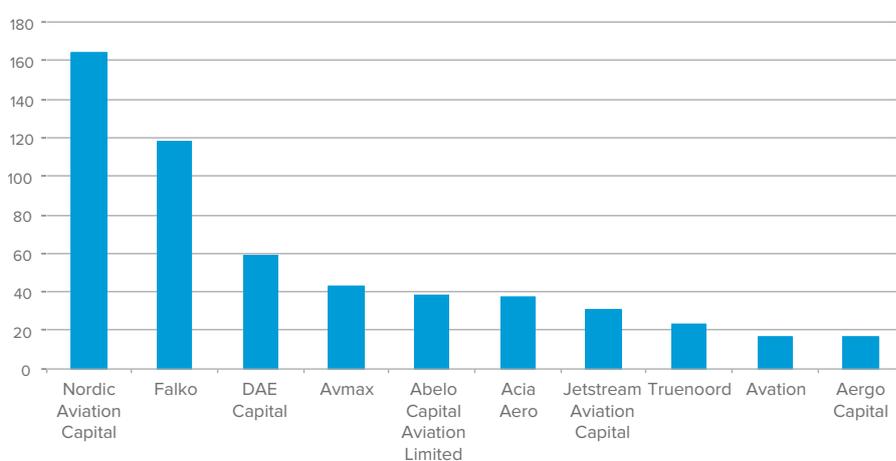
Source: Lessors and Airfinance Journal's Fleet Tracker.

Leased aircraft body type



- Narrowbody 7,885
- Widebody 1,720
- Regional jet 811
- Turboprop 792

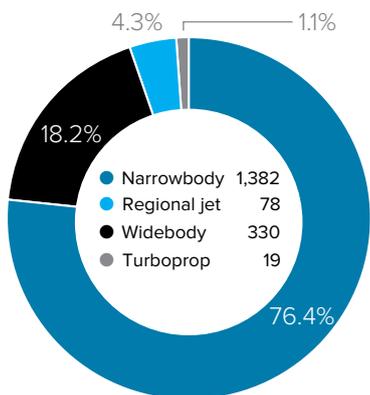
Top turboprop lessors



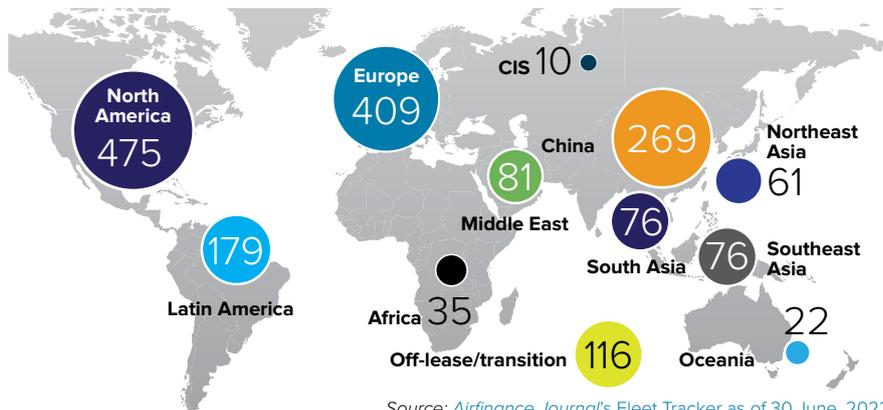
Source: Lessors and Airfinance Journal's Fleet Tracker.

1 Aercap

Aercap fleet by aircraft type

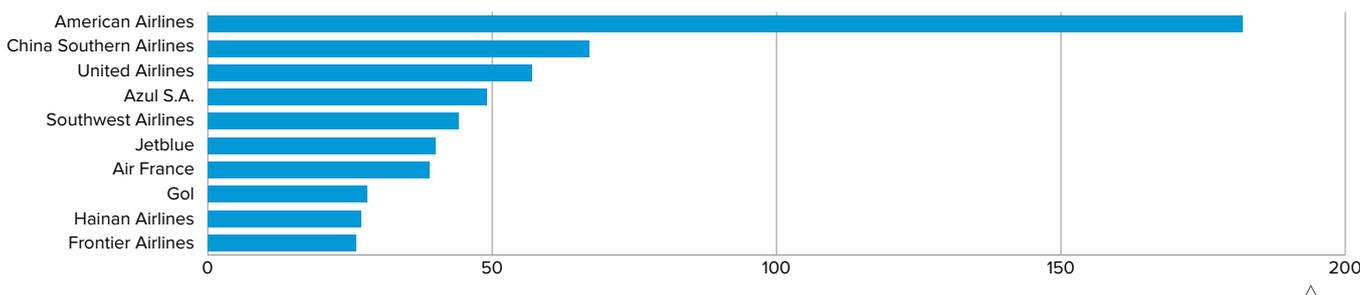


Aercap fleet by region of lessee



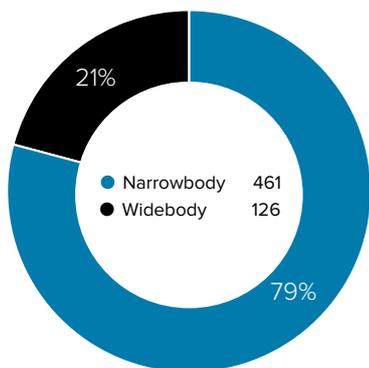
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

Aercap top lessees

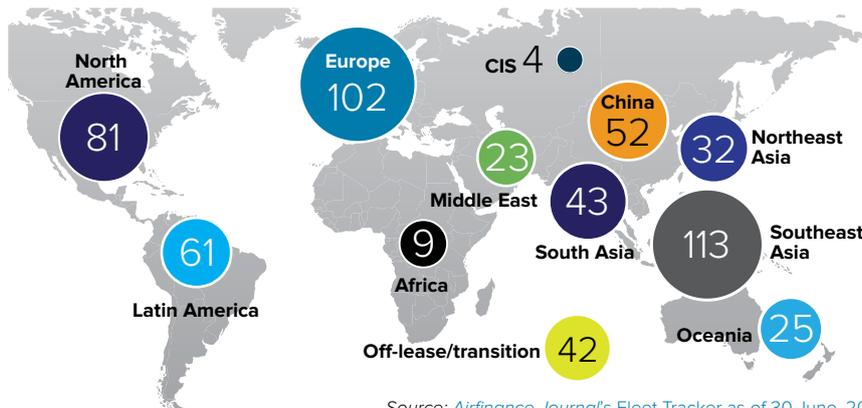


2 Avolon

Avolon fleet by aircraft type

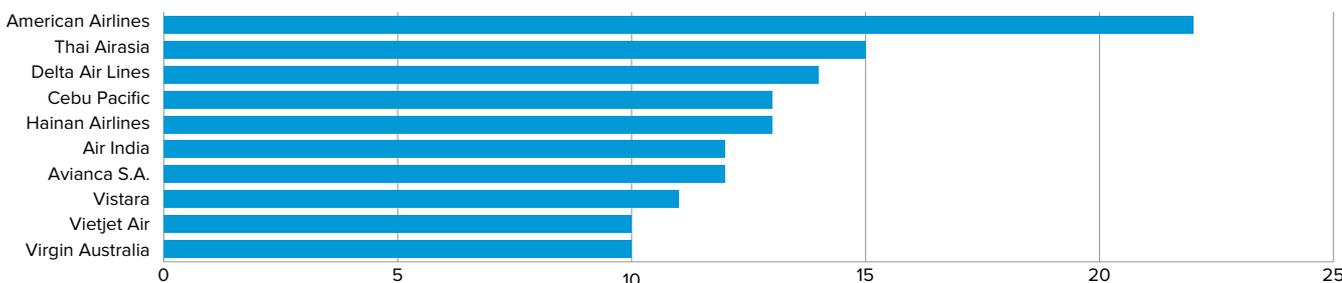


Avolon fleet by region of lessee



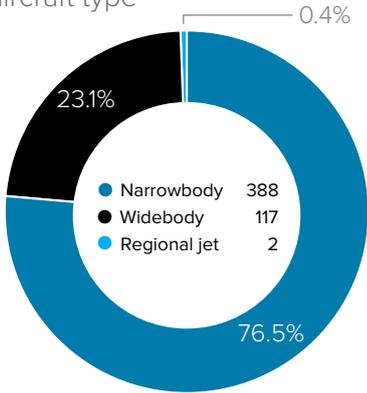
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

Avolon top lessees

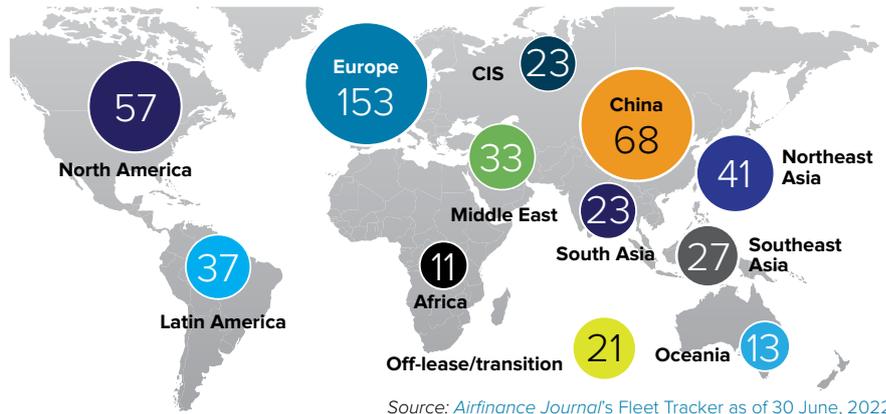


3 Air Lease Corporation

Air Lease Corporation fleet by aircraft type

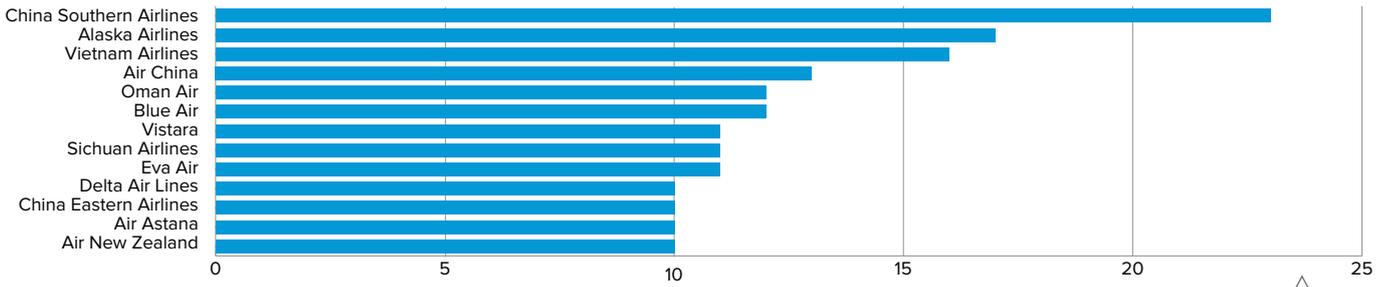


Air Lease Corporation fleet by region of lessee



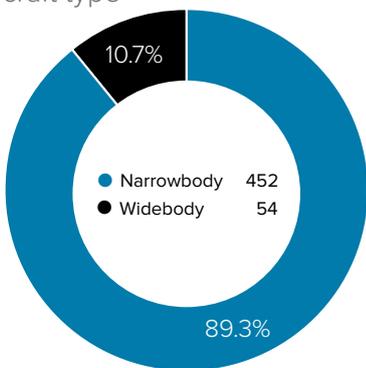
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

Air Lease Corporation top lessees

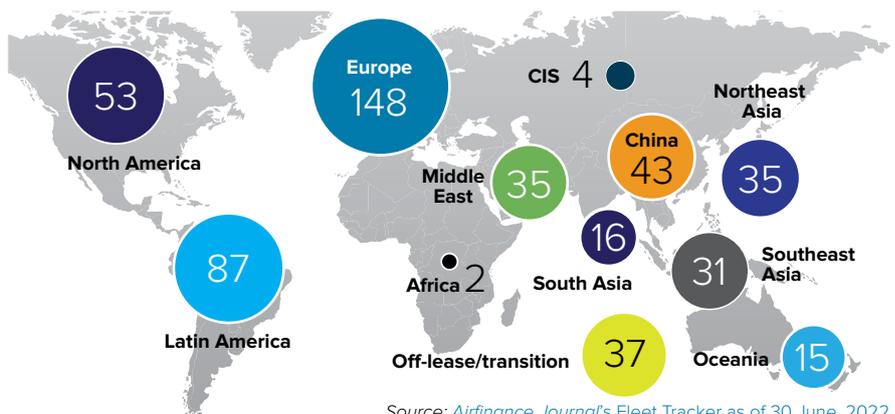


4 SMBC Aviation Capital

SMBC Aviation Capital fleet by aircraft type

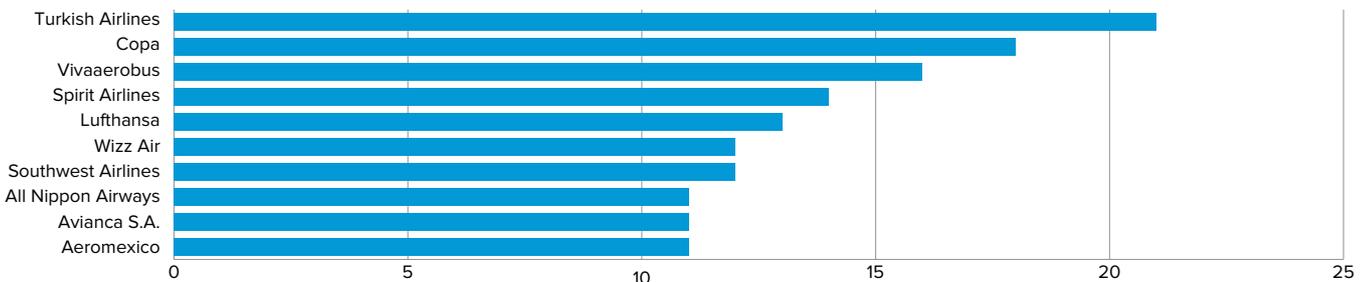


SMBC Aviation Capital fleet by region of lessee



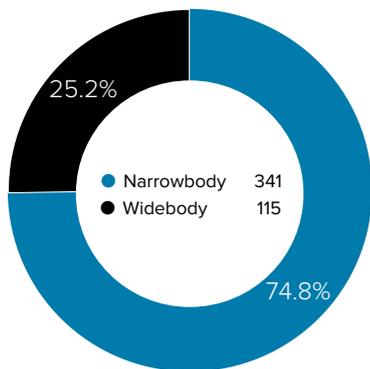
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

SMBC Aviation Capital top lessees

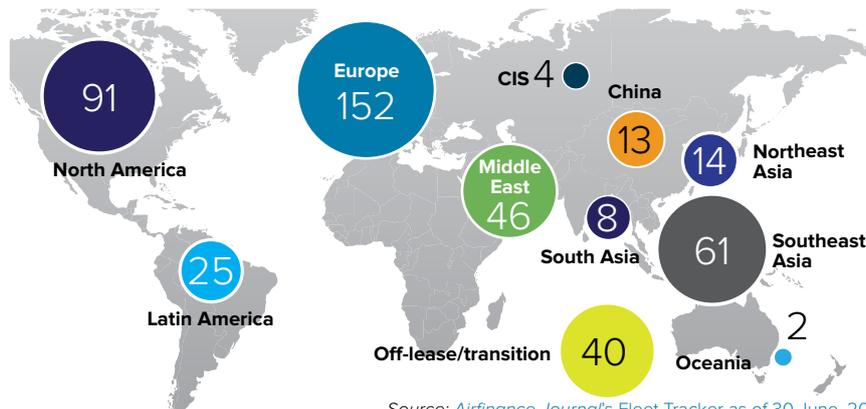


5 BBAM

BBAM fleet by aircraft type

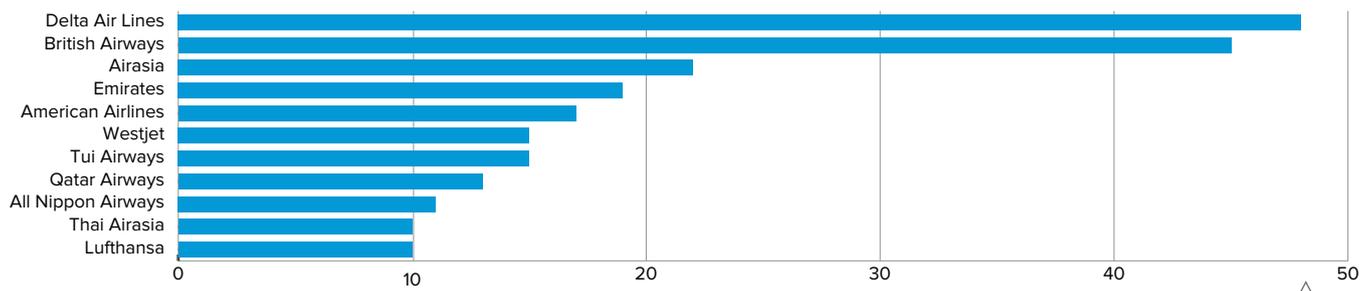


BBAM fleet by region of lessee



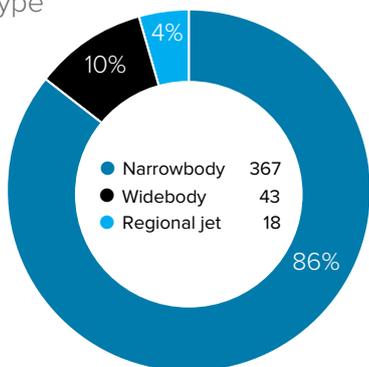
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

BBAM top lessees

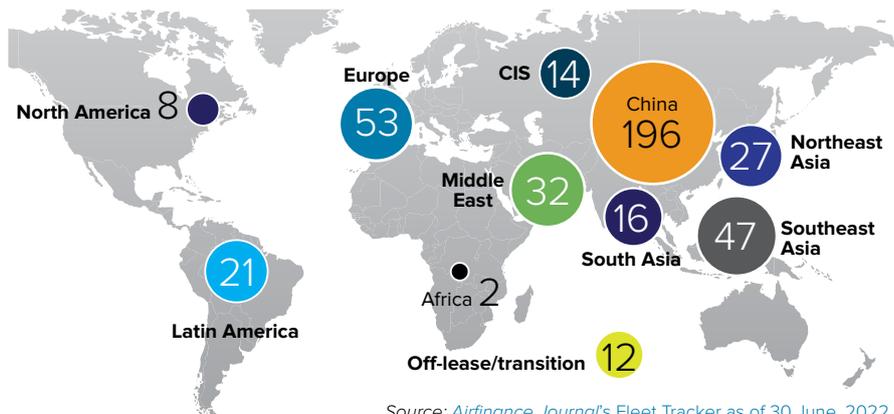


6 ICBC Leasing

ICBC Leasing fleet by aircraft type

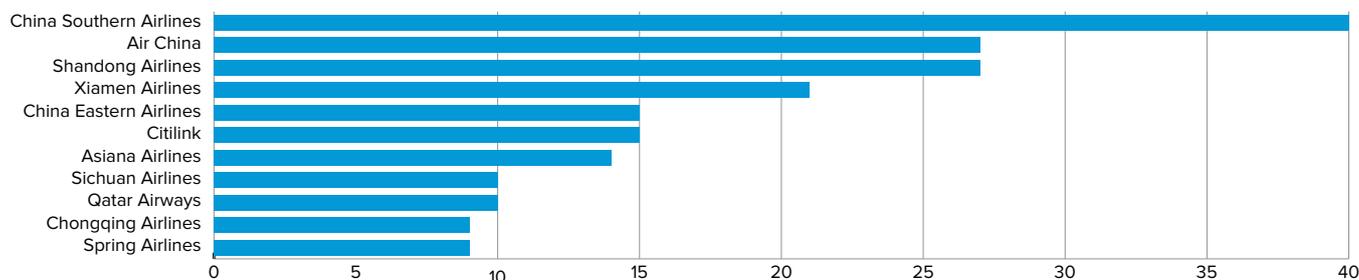


ICBC Leasing fleet by region of lessee



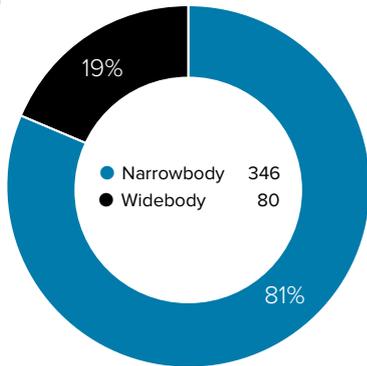
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

ICBC Leasing top lessees

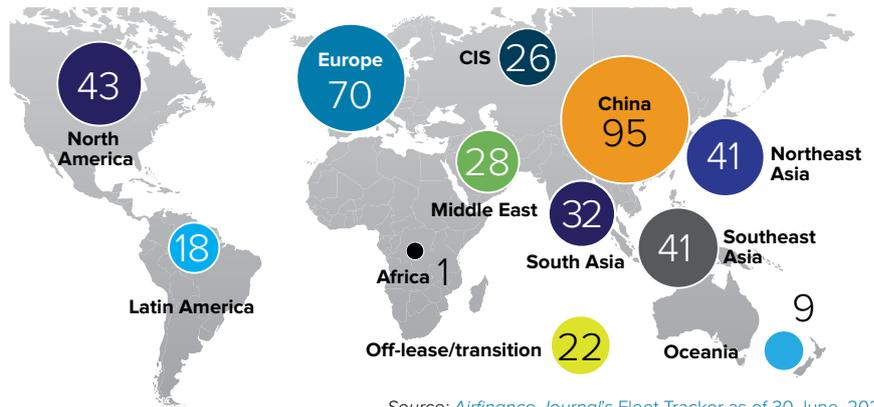


7 BOC Aviation

BOC Aviation fleet by aircraft type

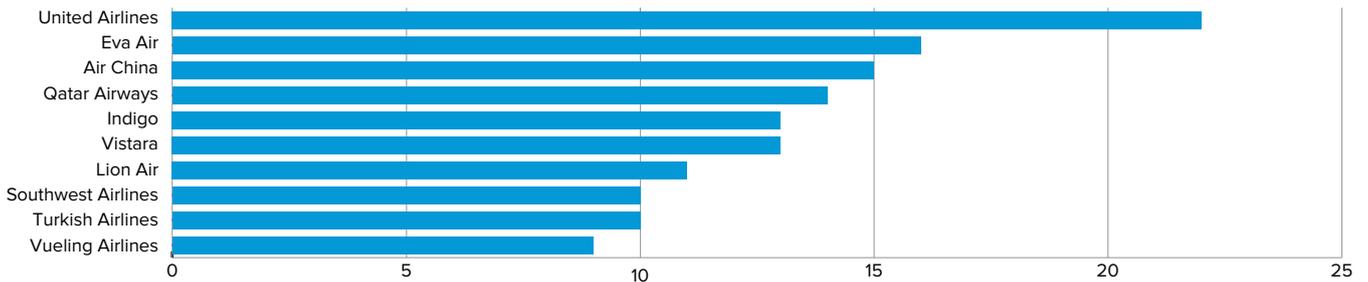


BOC Aviation fleet by region of lessee



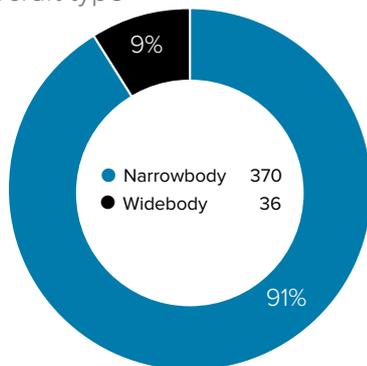
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

BOC Aviation top lessees

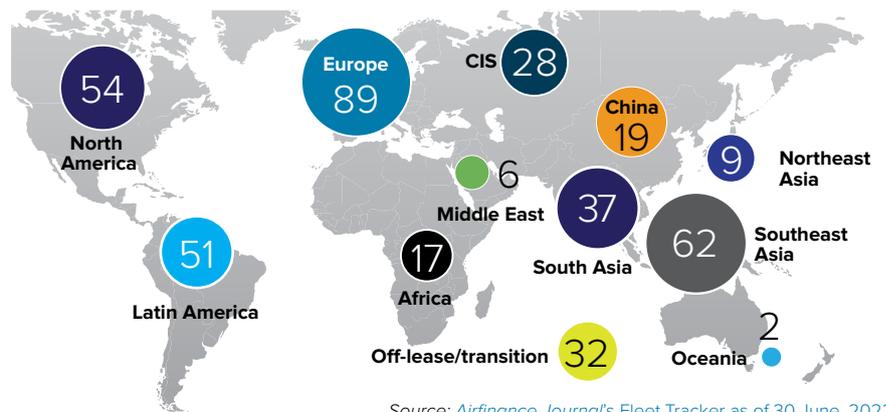


8 Carlyle Aviation Partners

Carlyle Aviation Partners fleet by aircraft type

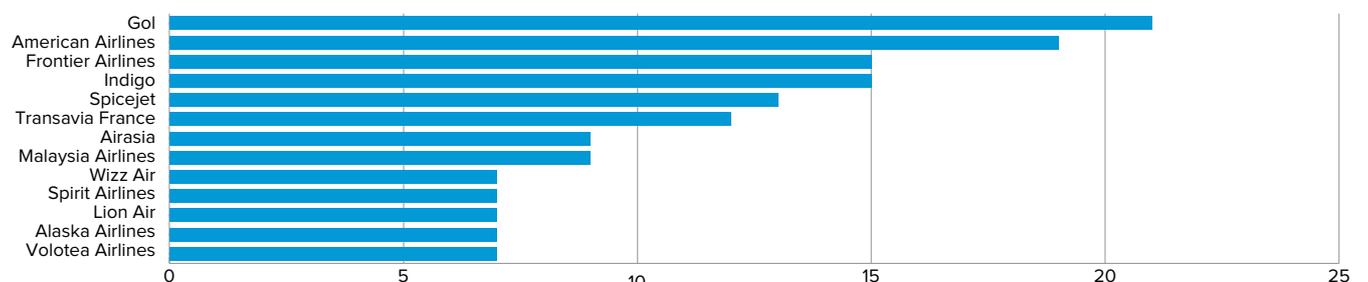


Carlyle Aviation Partners fleet by region of lessee



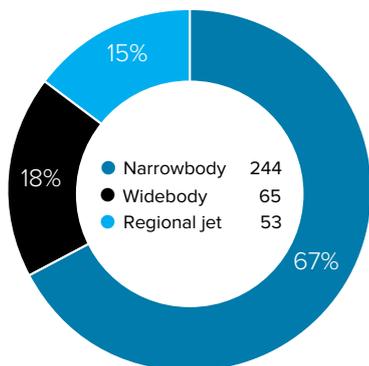
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

Carlyle Aviation Partners top lessees

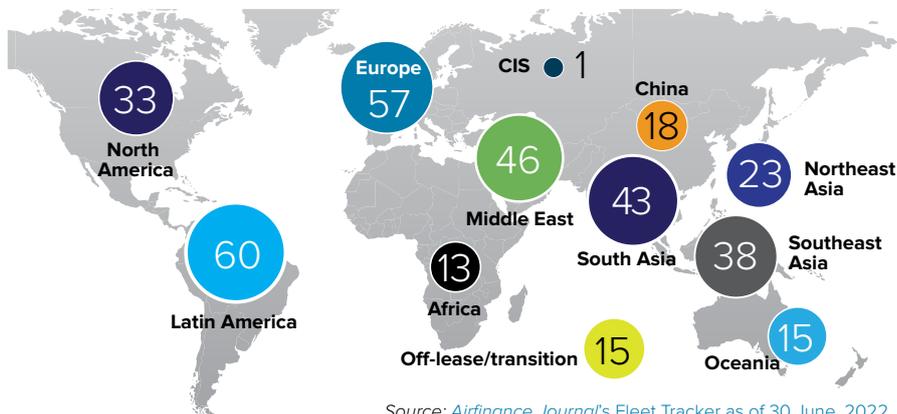


9 DAE Capital

DAE Capital fleet by aircraft type

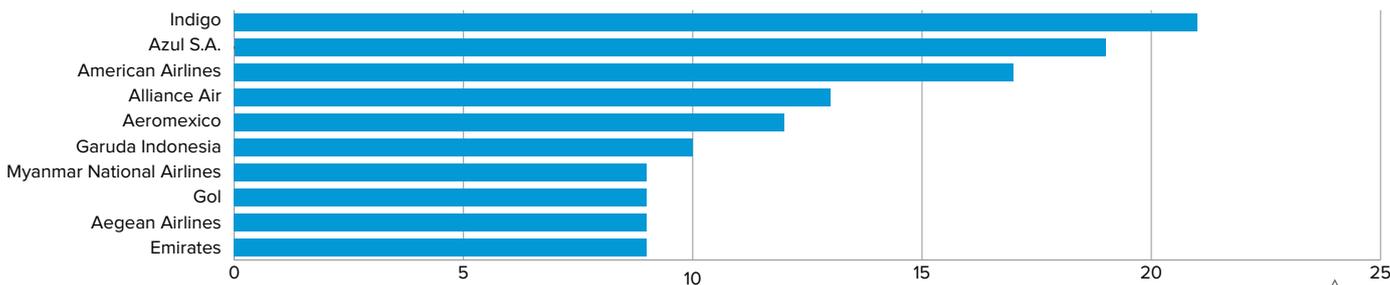


DAE Capital fleet by region of lessee



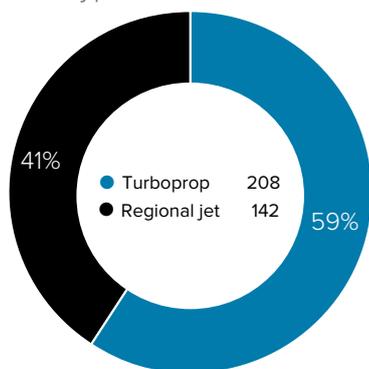
Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

DAE Capital top lessees

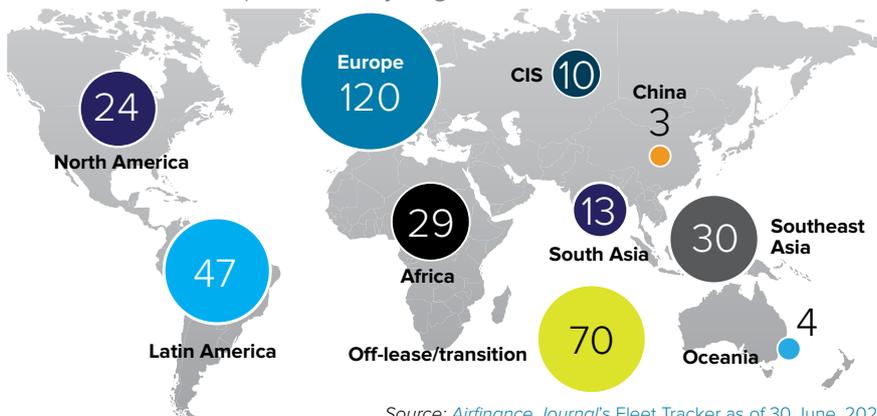


10 Nordic Aviation Capital

Nordic Aviation Capital fleet by aircraft type

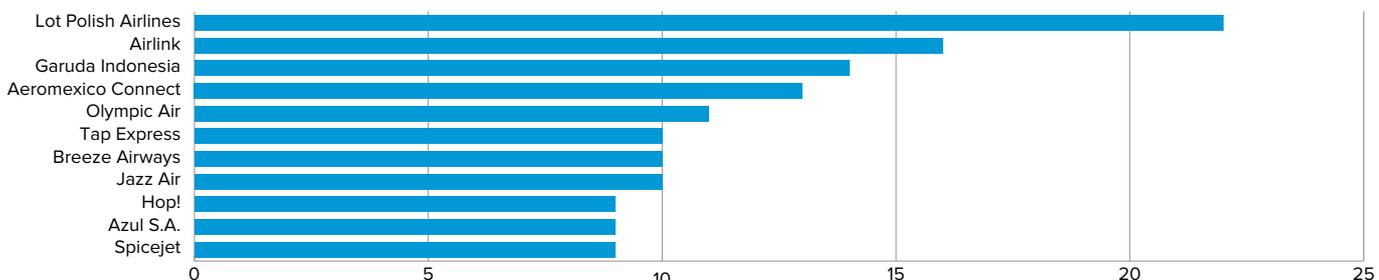


Nordic Aviation Capital fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 30 June, 2022.

Nordic Aviation Capital top lessees




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