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An *Airfinance Journal*

special supplement

Leasing Top 50 2024





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THE LESSOR ANALYST

Your comprehensive guide to the entire aviation asset class

Discover a new dimension in aircraft leasing investment analysis with The Lessor Analyst. With exclusive financial and operational data spanning over 150 lessors, we provide unparalleled insights and opportunities for strategic decision-making.

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1. Editorial

2024 is a leap year for all. But we decided to make 2023 a leap year for our loyal readers of Leasing Top 50 which was previously published in September.

We decided the best publishing spot was just before the Dublin Aviation Week. Now lessors, OEMs, banks and all other stakeholders will have up-to-the minute rankings and financial data, for the most important week in the aviation finance calendar, created by *Airfinance Journal* ("AFJ") several decades ago.

The "as-of" date for the fleet rankings is now 31 December, which makes a good bookend for the data.

AFJ has a suite of news and data products covering the entire aviation asset class. All the data in this Leasing Top 50 is sourced from these products, especially Fleet Tracker and The Lessor Analyst. These products speak to each other throughout the day and portfolios are being constantly updated.

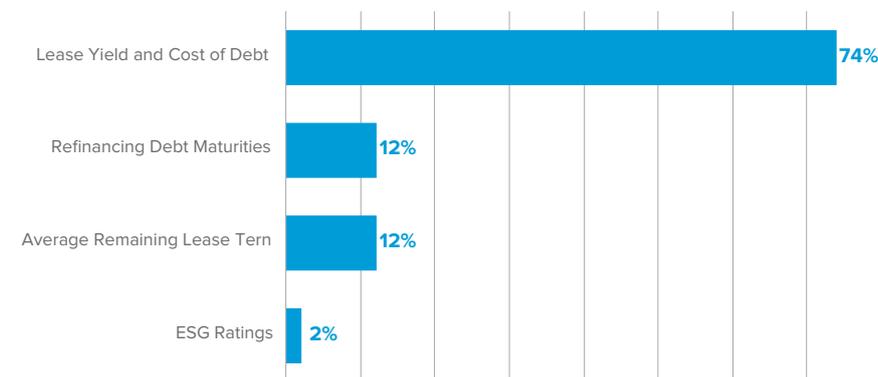
Fleet Tracker includes every commercial aircraft with 19 seats or more operating globally. Anyone can create a list of the largest owned and managed portfolios. Only AFJ lets you in on an assessment of the quality of the portfolios and the returns generated by them.

The Lessor Analyst rates all lessor portfolios based on lessee risk, asset risk (from AVITAS) and repossession risk (from Pillsbury). The Leasing Top 50 portfolios by lowest weighted risk are shown on page 6. The coverage also extends to ABS portfolios.

In addition to the portfolio risk ratings, The Lessor Analyst ("TLA") includes full

AFJ LinkedIn Survey 6-9 December 2023

If you were a lessor CEO which of the following factors would matter the most to you?



financials for 150 lessors and leasing entities.

TLA also includes market data including all aircraft ABS and all lessor unsecured bonds. This enables users the unique ability to compare risk and return on all aviation asset class financial instruments from a single source.

Lessors can be evaluated on lease yield, average debt cost, net spread, portfolio risk, collection of rent and multiple other parameters. We even have an interactive Sources/Uses forecast tool so you can get a sense for the scale of the challenges for individual lessors to refinance maturing debt and to finance new capital expenditure.

Among return parameters are lease yield compared to portfolio risk rating, lease yield to bond price, return on investments

in lessor equity, investments in unsecured bonds and investments in different seniorities of ABS transactions.

AFJ ran a LinkedIn survey in December 2023, as reported above. Leasing Top 50 and The Lessor Analyst provide all the data necessary to evaluate the lease yield and cost of debt challenge, which was rated the number 1 concern by actual and aspiring lessor CEOs.

Our product suite includes Deal Tracker which captures every financing transaction for lessors that is in the public domain. We show on page 13 the sources of financing for lessors from 2018-2023, including the amazing Covid and AerCap/GECAS "peak" in 2020.

Further, we track coupons on all new public debt issuance as well as secondary market yields. ^

Winners of the AFJ Leasing Top 50 Accolades 2024

The Accolades	The Winner	The Number	Source
Most aircraft	AerCap	1,746	AFJ Fleet Tracker
Most growth	Avilease	148	AFJ Fleet Tracker
Most new gen aircraft %	Gilead Aviation, Bleriot Aviation, GGAM Finance Limited	100%	AFJ Fleet Tracker
Most lessees	AerCap	236	AFJ Fleet Tracker
Most aircraft types	AerCap	17	AFJ Fleet Tracker
Best lessee rating	EMP Structured Assets	69.1%	The Airline Analyst
Best asset risk rating	SKY Leasing	89.0%	AVITAS/The Lessor Analyst
Best repossession risk rating	Altavair	95.8%	Pillsbury/The Lessor Analyst
Best overall risk rating	ORIX Aviation	76.2%	AFJ The Lessor Analyst
Lowest debt cost	Air Lease	2.8%	AFJ The Lessor Analyst
Highest dividend yield	BOC Aviation	3.1%	AFJ The Lessor Analyst
Lowest 5 year bond yield as of 8 December, 2023	BOC Aviation	5.3%	AFJ The Lessor Analyst
Biggest value of bonds to refinance in 2024	AerCap	\$6.3 billion	AFJ The Lessor Analyst
Most increased bond price since 3 January 2023	Avolon	+7.9%	AFJ The Lessor Analyst
Most increased mainstream lessor equity market value since 3 January 2023	Air Lease	0.80%	AFJ The Lessor Analyst
Youngest fleet	Griffin Global Asset Management	1.7 years	AFJ Fleet Tracker
Longest average remaining lease term	SMBC Aviation Capital	9.1 years	AFJ Fleet Tracker
Most aircraft on order as % of current fleet	CALC	224	AFJ Fleet Tracker



2. Arrivals & Departures 2023

There were a significant number of new investments from recent investor arrivals to the aircraft leasing space.

Of course, many of these were the opposite sides of the same transaction as in Standard Chartered/Avilease, ALAFCO/ Macquarie and, in order to tally with our numbers, Goshawk/SMBC Aviation Capital even though it closed in December 2022. The largest new investors were PIF of Saudi Arabia through Avilease and PIMCO through High Ridge Aviation Capital. Griffin Global Asset Management and Aergo Capital more than doubled their fleet sizes.

The biggest reductions are shown in the bottom table. Seraph Aviation Capital was acquired by Aergo Capital, Standard Chartered exited the industry by sale of their Pembroke entities to Avilease and Goshawk was sold by its Hong Kong owners New World and Chow Tai Fook to SMBC Aviation Capital. Voyager Aviation Capital sold the majority of its fleet to Azorra Aviation from Chapter 11 bankruptcy.

ALAFCO started to wind down its position with a sale to Macquarie AirFinance and various other notables reduced their exposure as shown in the table.

If you represent an investor contemplating investing in the aircraft asset class in 2024, please do contact us. We have all the data you will need to identify opportunities and evaluate investment risk and return. 

Arrivals	30-Jun-22	01-Jan-24	% Change
Avilease	0	148	∞
High Ridge Aviation Capital	0	13	∞
Griffin Global Asset Management	21	61	190%
Aergo Capital	110	229	108%
Jetstream Aviation Capital	38	62	63%
Sky Leasing	47	68	45%
SMBC AC	506	720	42%
Azorra Aviation	69	94	36%
Truenoord	58	77	33%
Regional One	72	94	31%

Departures	30-Jun-22	01-Jan-24	% Change
Seraph Aviation Management	54	0	-100%
Standard Chartered	121	0	-100%
Goshawk	174	0	-100%
Voyager Aviation	19	4	-79%
Aquila Air Capital	16	8	-50%
Willis Lease Finance	17	10	-41%
ALAFCO	77	50	-35%
Commonwealth Bank of Australia	17	11	-35%
Deucalion Aviation	137	100	-27%
Nordic Aviation Capital	350	300	-14%

3. The Leasing Top 50 2024

Unique to *Airfinance Journal*, we offer Portfolio Risk Ratings for all lessor portfolios with 4 aircraft or more. The ratings are based on Lessee Risk, Asset Risk and Repossession Risk of each MSN within each portfolio. Lessee Risk is determined by AFJ’s Airline Financial Ratings, using financial data extracted from The Airline Analyst, which has financial data for more than 300 airlines.

Asset Risk is based on an index provided by AVITAS, assessing the risk of value declines in the next 1-5 years. Repossession Risk is assessed from the latest edition of Pillsbury’s World Aircraft Repossession Index. Each of the three risk elements is weighted by the most recent

AVITAS BlueBook values for each MSN. Once each of the weighted risk elements is calculated, the overall Portfolio Risk Rating is calculated, also on a weighted basis: 30% for Lessee Risk, 50% for Asset Risk and 20% for Repossession Risk.

We have ranked this year’s “Leasing Top 50” based on quality of portfolio not merely portfolio size or value.

As is apparent from the table, this brings many smaller and niche lessors into the Top 50. JOL and JOLCO investors are known for their conservatism as to lessee, asset quality and jurisdiction. They will be pleased to see that major arrangers of JOLs and JOLCOs take four of the top five spots.

Gilead Aviation, a joint venture between

PIMCO and AerCap is the exception among the Top 5.

Only about 50% of the 20 largest lessors make the Top 50, led by SMBC Aviation Capital, BOC Aviation, Air Lease, Aviation Capital Group, AerCap, Avolon, BoComm Leasing, CDB Aviation, ICBC Financial Leasing and Carlyle Group.

There is also a significant presence of “smart money” from the likes of Incline Aviation Holdings, Blackrock Investment, Titan Aircraft Investments, Avilease, Bain Capital Credit, KKR Aviation Capital and Altavair. Other lessors, I am just joking about the “smart”.

Please note this data is sourced from AFJ’s “The Lessor Analyst”

AFJ The Lessor Analyst Top 50 Portfolio Risk Ratings January 2024

Rank	Manager	Lessee risk rating	Asset risk rating	Repossession risk rating	Overall rating
1	Chishima Real Estate Co.	53.8%	87.3%	85.0%	76.8%
2	ORIX Aviation	53.7%	85.8%	85.7%	76.2%
3	Showa Leasing	64.8%	76.4%	85.0%	74.7%
4	Gilead Aviation	52.8%	90.7%	59.9%	73.2%
5	NBB/BBAM	56.1%	78.7%	80.4%	72.2%
6	Banc of America Leasing	43.7%	86.5%	77.7%	71.9%
7	Fitzwalter Capital	28.7%	90.5%	89.8%	71.8%
8	Pulsar Aero Global	28.7%	90.5%	89.8%	71.8%
9	Amedeo Air Four Plus	70.2%	81.2%	48.2%	71.3%
10	IMM Investment Corp	52.6%	78.7%	78.4%	70.8%
11	FPG Jolco Investor	48.5%	81.2%	76.4%	70.5%
12	Incline Aviation Holdings	40.4%	86.5%	75.2%	70.4%
13	Blackrock Investment	25.0%	87.0%	96.3%	70.3%
14	Titan Aircraft Investments	39.2%	83.6%	83.0%	70.2%
15	Jetstream	25.4%	86.7%	95.8%	70.1%
16	FPG Jol Investor	42.1%	82.8%	77.7%	69.6%
17	JP Lease	54.2%	76.9%	74.0%	69.5%
18	SMBC Aviation Capital	40.7%	85.3%	71.2%	69.1%
19	Griffin Global Asset Management	36.0%	87.8%	71.8%	69.1%
20	Jackson Square Aviation	41.3%	85.2%	69.9%	69.0%
21	ST Aerospace	45.9%	76.5%	84.0%	68.8%
22	VMO Aircraft Leasing	44.8%	80.6%	74.6%	68.6%
23	Haitong UniTrust Leasing	48.4%	84.9%	58.4%	68.6%
24	Novus Aviation Capital	53.1%	78.7%	66.2%	68.5%
25	Clover Aircraft Leasing Company	44.7%	85.4%	61.3%	68.4%
26	EMP Structured Assets	69.1%	67.7%	66.8%	67.9%
27	BOC Aviation	43.4%	82.1%	68.1%	67.7%
28	Fuyo General Lease	44.2%	80.2%	71.8%	67.7%
29	Avilease	42.3%	84.6%	63.4%	67.7%
30	Sky Leasing	34.5%	89.0%	61.2%	67.1%
31	Air Lease Corporation	34.2%	84.2%	73.4%	67.1%
32	Apollo Investment Corporation	40.5%	81.0%	71.4%	67.0%
33	Aviation Capital Group	32.9%	82.8%	77.2%	66.7%
34	AerCap Holdings	38.3%	82.6%	68.9%	66.6%
35	Bain Capital Credit	33.1%	86.4%	67.1%	66.6%
36	KKR Aviation Capital	42.4%	76.1%	78.7%	66.5%
37	Commonwealth Bank Of Australia	54.5%	72.5%	69.5%	66.5%
38	SDH Wings International Leasing	43.3%	80.5%	65.9%	66.4%
39	Avolon Holdings	35.4%	83.4%	69.8%	66.3%
40	Altavair	29.3%	77.4%	93.0%	66.1%
41	Dynam Japan	38.0%	79.6%	70.2%	65.2%
42	Doric	62.0%	57.9%	88.3%	65.2%
43	Automatic Leasing	34.6%	76.9%	81.3%	65.1%
44	Bocomm Leasing	39.6%	81.8%	60.6%	64.9%
45	CDB Aviation	33.9%	85.5%	59.3%	64.8%
46	Investec	57.7%	67.2%	69.4%	64.8%
47	VX Capital Partners	37.0%	69.6%	93.3%	64.6%
48	Voyager Aviation Holdings	28.8%	75.4%	91.1%	64.6%
49	ICBC Financial Leasing	38.4%	82.5%	59.0%	64.6%
50	Carlyle Aviation Partners	41.5%	75.5%	71.6%	64.5%



Top 10 Portfolio Risk Ratings of Regional Jets & Turboprops January 2024

Rank	Manager*	Lessee risk rating	Asset risk rating	Repossession risk rating	Overall rating
1	Jetstream	25.4%	86.7%	95.8%	70.1%
2	Falko	40.4%	75.9%	79.0%	65.8%
3	Aergo Capital	43.9%	73.1%	71.2%	64.0%
4	TrueNoord Limited	34.9%	76.9%	71.8%	63.3%
5	Nordic Aviation Capital	29.6%	80.6%	68.4%	62.8%
6	Avation	33.3%	77.8%	62.4%	61.4%
7	Azorra Aviation	32.3%	73.1%	75.7%	61.4%
8	Acia Aero	24.2%	77.5%	61.1%	58.2%
9	Regional One	28.8%	61.3%	80.3%	55.4%
10	Abelo Capital Aviation	25.0%	62.1%	71.6%	52.9%

* includes managers where regional jets and turboprops represent a significant portion of their total fleets

The Top 10 portfolio ratings for lessors concentrating in the regional jet and turboprop market are shown in the table above. Leading the way by some margin is Jetstream, though its very high asset risk rating and repossession risk rating (most

of its lessees are in the US) are dragged down by a weak lessee risk rating. Next comes Falko with a higher airline credit quality portfolio but lower asset and repossession risk ratings. What this analysis does not reveal is who makes the most

money given their asset mix and capital structure. For that, you need to view The Lessor Analyst, though we give you sneak preview in the section below called "Risk - Returns." [^](#)

Top 10 Portfolio Risk Ratings of Chinese controlled lessors January 2024

Rank	Manager*	Lessee risk rating	Asset risk rating	Repossession risk rating	Overall rating
1	BOC Aviation Limited	44.2%	82.1%	66.9%	67.7%
2	Avolon Holdings Limited	35.5%	82.9%	69.6%	66.0%
3	Cavic Aviation Leasing (Ireland) Co., DAC	39.1%	82.3%	60.3%	64.9%
4	Bocomm Aviation Leasing Ireland Company Limited	38.7%	82.1%	60.6%	64.8%
5	ICBC Financial Leasing Co. Ltd	38.4%	82.4%	59.1%	64.5%
6	AerDragon Aviation Partners Limited	35.3%	83.5%	58.9%	64.1%
7	CCB Aviation Corporation Limited	34.3%	82.7%	57.9%	63.2%
8	Moutai Leasing	33.9%	84.3%	54.0%	63.1%
9	China Aircraft Leasing Group Holdings Limited	30.0%	80.7%	63.2%	62.0%
10	CMB Financial Leasing	35.3%	80.6%	53.6%	61.6%

The Chinese controlled lessors and Japanese controlled lessors offer a stark contrast. We can see that the Top

10 Japanese controlled lessors have significantly better overall portfolio risk ratings driven by much higher Lessee

and Repossession risk ratings. Both have good Asset Risk Ratings but the Japanese entities are a touch ahead. [^](#)

Top 10 Portfolio Risk Ratings of Japanese controlled lessors January 2024

Rank	Manager*	Lessee risk rating	Asset risk rating	Repossession risk rating	Overall rating
1	Chishima Real Estate Co.	53.0%	87.3%	85.0%	76.5%
2	ORIX Aviation	51.7%	85.5%	86.0%	75.4%
3	NBB Leasing	56.0%	78.7%	80.4%	72.2%
4	Clover Aircraft Leasing Company Limited	47.4%	86.4%	70.7%	71.6%
5	JP Lease	54.5%	77.0%	74.1%	69.7%
6	SMBC Aviation Capital Limited	41.3%	84.8%	70.7%	69.0%
7	Jackson Square Aviation	41.3%	85.0%	69.4%	68.8%
8	FGL Aircraft Ireland Limited	43.6%	80.3%	71.7%	67.6%
9	Aviation Capital Group LLC	33.0%	82.4%	75.7%	66.2%
10	TC Skyward Aviation Ireland Ltd	53.3%	64.7%	84.1%	65.2%

4. Airline Financial Ratings

The Industry Rating Now Exceeds Pre-Covid levels

A key risk for lessors is the financial strength of their lessees. *Airfinance Journal's* "The Airline Analyst" has financial statements for more than 300 airlines. We use these to create "Airline Financial Ratings", a measure of airline "financial risk". The ratings are based on four financial metrics using the "Latest Twelve Months" financials for each airline and average fleet age. The ratings are updated daily, whenever we upload an airline's latest financial statements to The Airline Analyst. Please note that they are not credit ratings and do not take into account any qualitative criteria like management quality or ownership (e.g. by a government).

In turn, we apply these ratings to every MSN in the global leased aircraft portfolio to come up with a "Lessee Risk Rating" for each lessor. Note that the overall portfolio rating is calculated on a weighted basis using the AVITAS market value assessment for each aircraft from their "BlueBooks".

It may be difficult for all of us to fully remember the ravages that Covid brought to airline profitability, liquidity, and balance sheets. The following chart shows the weighted average by revenue and the simple average of all airlines' Airline Financial Ratings over the last five years.

The chart clearly shows the depths

AFJ's Airline Financial Ratings Averages 2018-2023



Source: AFJ's Fleet Tracker.

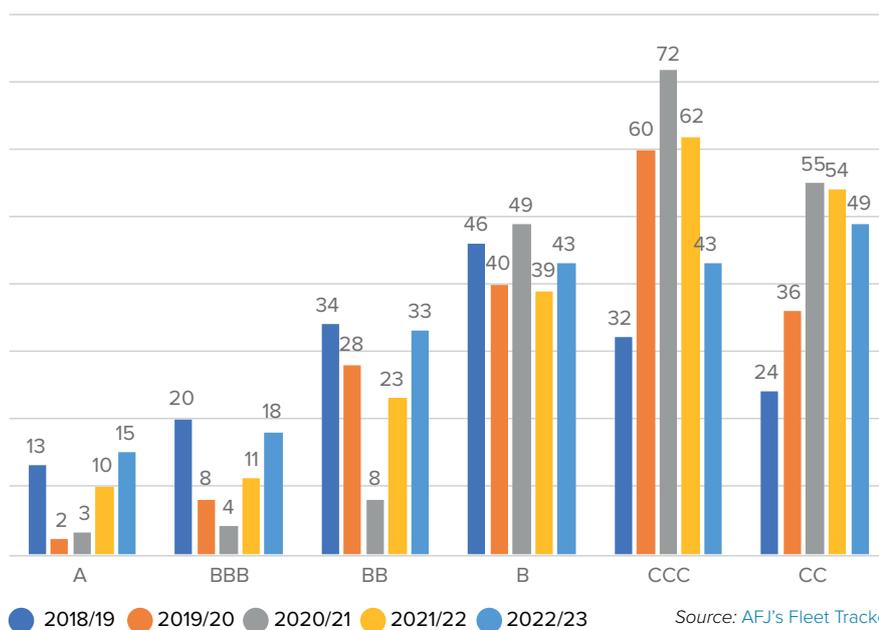
to which the airline ratings fell from the general consensus pre-Covid that the airline industry was, on average, a "BB" industry, at least when the index is weighted by size of airline, to "CCC+" in the depths of Covid in 2020/21. We can also see that "normally" the weighted average rating is significantly higher than the simple

average rating. Scale brings economies, efficiencies, easier access to capital and, in many cases, stronger relationships with OEMs. Nevertheless, the chart shows the compression in the two ratings during Covid. The larger airlines were not immune from the difficulties posed by Covid, which was reflected in their numbers and ratings.

But lessors do not only lease aircraft to the large, privileged major airlines. They lease to a pool of 300-400 airlines, which are well represented in The Airline Analyst and Airline Financial Ratings. And our weighted average calculation does not capture the wide distribution of ratings across the industry. This is shown in the second chart which shows the distribution across the major rating bands over the last five years.

The chart clearly shows the migration from the higher to the lower rating categories during Covid. Only a very few airlines retained ratings in the A, BBB and BB categories while the number of B, CCC and CC ratings increased markedly. The good news is that in the latest period, this migration was almost totally reversed. But risk managers are no doubt fully aware that there remain many more airlines in the CCC and CC categories than pre Covid that represent well above average risk. That's why many of them subscribe to The Airline Analyst and Airline Financial Ratings. Why don't you join that exclusive club? 

AFJ's Airline Financial Ratings Distribution 2018-2023



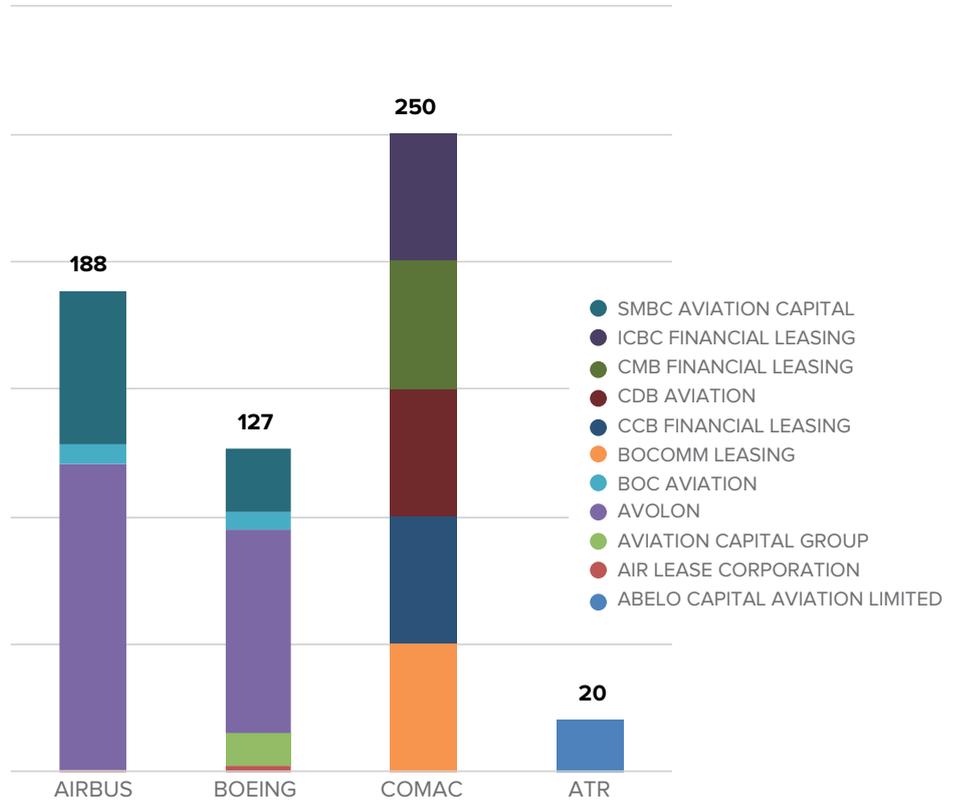
Source: AFJ's Fleet Tracker.

5. Lessor Orders & Deliveries 2023

Disclosed firm orders for 2023 were 585 as shown in the top chart. Numerically the OEM with the most firm orders was Comac for the C919 with orders of around 50 each from several of the major Chinese lessors. Outside the Comac orders the most active lessors with new firm orders were Avolon and SMBC Aviation Capital who ordered from both Airbus and Boeing. BOC Aviation also balanced their orders between the two but at a much smaller level. Abelo signed up ATR's only firm order of the year.

The lessor deliveries, including sale-leasebacks, were rather higher at 638 and were quite fragmented between the lessors. Unsurprisingly, AerCap, Air Lease, Avolon, BOC Aviation and SMBC Aviation Capital led the way. A number of deliveries lower down the table were sale-leasebacks. As expected, the Airbus lessor deliveries were more than double Boeing's. The recent problem with the 737-9 is not going to help them with their catch-up ambitions. [^](#)

Lessor Orders - 2023



Lessor Deliveries - 2023

Lessors	AIRBUS	ATR	BOEING	COMAC	EMBRAER	TOTAL
AERCAP	63		17		5	85
AIR LEASE CORPORATION	47		25			72
AVOLON	23		2		7	32
BOC AVIATION	22		9			31
SMBC AVIATION CAPITAL	19		10			29
GGAM FINANCE LIMITED	18		8			26
BOCOMM LEASING	19		6			25
CDB AVIATION	20		2			22
ICBC FINANCIAL LEASING	17		1		3	21
AVIATION CAPITAL GROUP	20		1			21
CMB FINANCIAL LEASING	20					20
CHINA AIRCRAFT LEASING COMPANY	15		3	1		19
ORIX AVIATION	4		14			18
JACKSON SQUARE AVIATION	16					16
SKY LEASING	6	2	6			14
AVILEASE	9		5			14
AVIC LEASING	14					14
SMBC JOLCO INVESTOR	8		3			11
CLOVER AVIATION CAPITAL	6		5			11
OTHER	86	7	26	0	18	137
TOTAL	452	9	143	1	33	638

6. Financial Performance

Lessor have faced many challenges over the last four years – Covid and its effects on demand and airline credit quality, Russia, delivery delays and increases in interest rates. During this difficult period, they have proven, through diversification and access to liquidity that they have lower financial volatility than their airline customers to the great relief of their investors. We have seen numerous airline restructurings but only two or three lessor restructurings and arguably they were more because of flaws in the business models than external events.

But where are the returns? In November 2023, *Airfinance Journal* published the following analysis of selected lessor ROEs, adjusted for Russia impairments and successful insurance claims received.

As of 8 December 2023, 5-year US treasuries yielded 4.5%. Only two of the above lessors generated a meaningful risk

premium above treasuries in the last 12 months, headed up by AerCap and BOC Aviation.

In the first week of December 2023, *Airfinance Journal* ran a poll among “wannabee” lessor CEOs. We gave them a choice of four challenges to choose as the most important for the aircraft leasing industry.

The number one concern by a huge margin is the two variables at the heart of the leasing business model: will yields over time exceed debt costs by a sufficient margin to generate attractive ROEs for owners at a reasonable level of leverage?

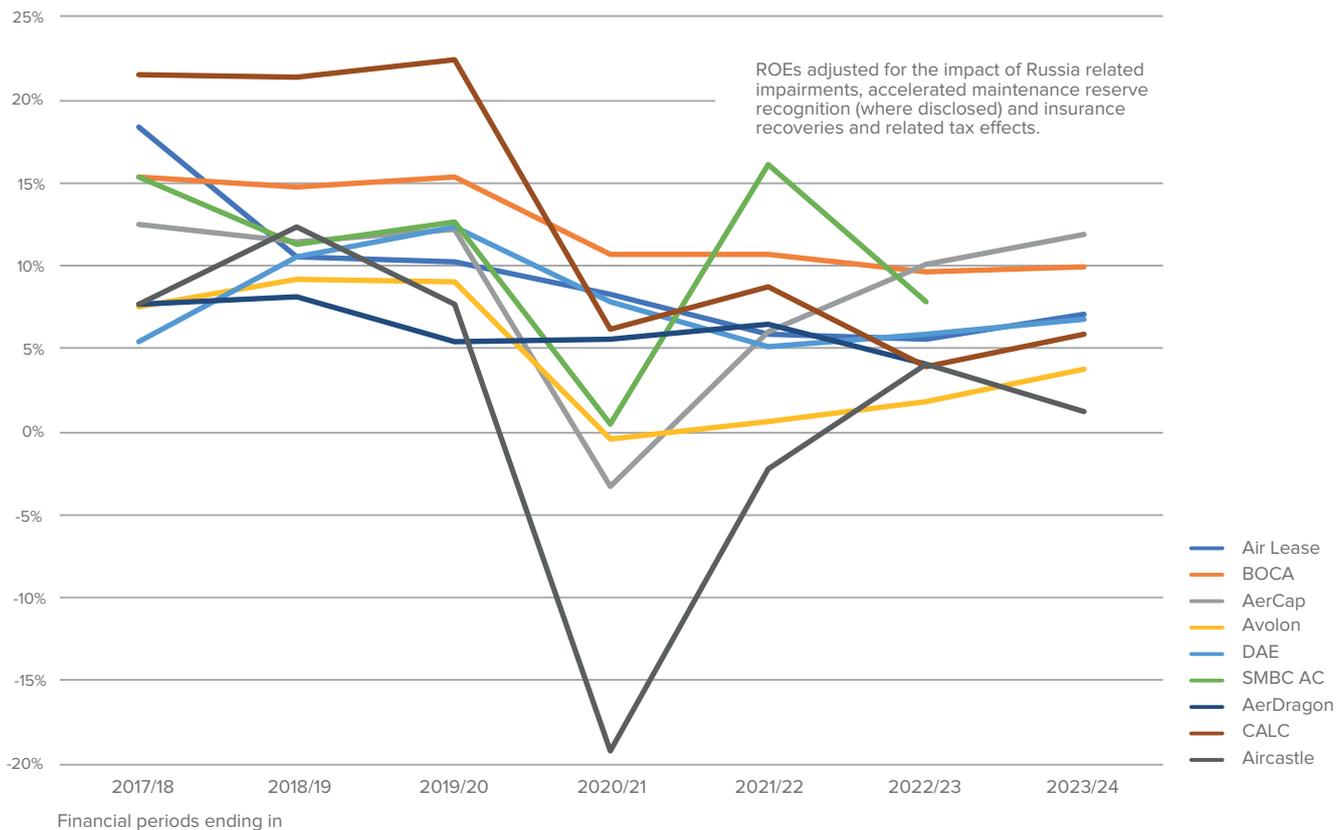
AFJ’s The Lessor Analyst offers online access to the financial spreads and analysis of 142 lessors and leasing entities. Sign up so you can see how your lessor or your customer or your investment compares on the key “net spread margin” KPI.

The Lessor Analyst also includes details on bond refinancing needs, latest prices and yields and average remaining lease term.

The low score for ESG ratings is surprising considering the active involvement of lessors in ALI’s successful “Sustainability Day” in November. Perhaps it is motivated by the logic “if my business is not commercially successful, I won’t have to worry about ESG. So, let’s fix the business first.”

We have excluded Russian and Russian-owned lessors from this year’s Leasing Top 50. Nominally they own western-built aircraft leased to Russian operators, but these aircraft will never fly again or operate in western markets. GTLK Europe had a large fleet of aircraft funded by unsecured bond issues and is being liquidated. The status of onshore lessors is less well known. ▲

Selected Adjusted Lessor ROEs



Source: AFJ’s The Lessor Analyst.

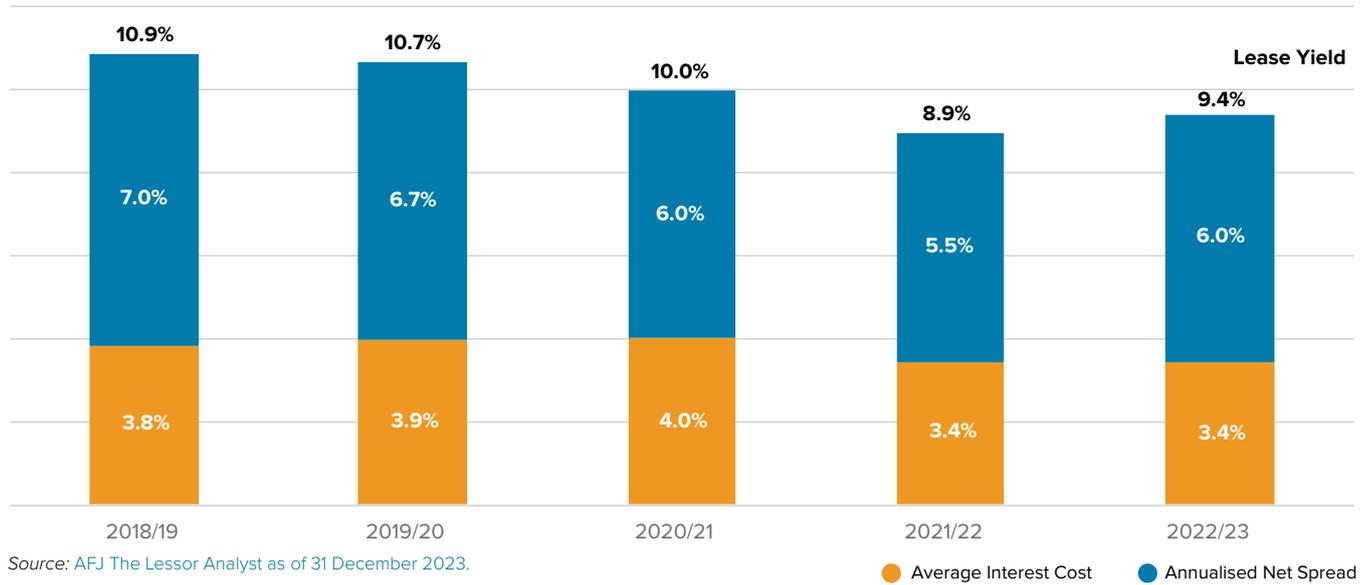
The table below shows the reduction in yield through Covid but partially offset by reduction in average funding cost in the two most recent periods. The 2022/23 year showed the first widening of the net spread

in five years, though some of this was the result of recognition of maintenance rent from early terminated leases. Unfortunately, not all lessors disclose maintenance rent as a separate component of income. This

positive trend continued in 2023 for some of the lessors that report quarterly or semi-annual results.

8 Major Lessors - Lease Yield, Interest Cost & Net Spread

The table below shows the reduction in yield through



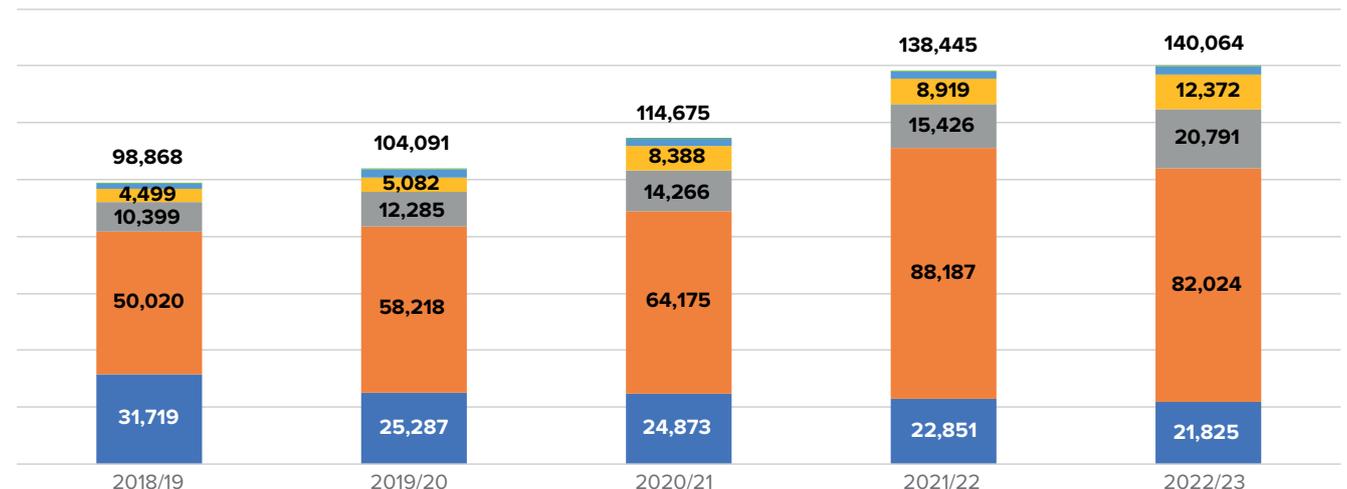
The “cap stack” (I love the term) has evolved as shown below. The lessors were huge participants in both sale-leaseback of mid-life aircraft and at-delivery aircraft during Covid, much of it funded by debt. As these 8 lessors are mostly investment grade, they funded their investments largely in the unsecured bond market.

However, unsecured bank debt and parent debt also made a large contribution, including SMBC Aviation Capital’s funding of the Goshawk acquisition in the latest period. Outside the investment grade top tier secured bank and non-bank debt played a much more prominent role. At least one of the major ratings agencies has

a trigger of leverage more than 3x equity for a review of a lessor’s investment grade rating. It is a significant achievement that all these lessors, except for SMBC Aviation Capital were comfortably below this threshold in their most recent statements.

8 Major lessors - Debt Structure (\$m)

- Secured borrowings
- Unsecured loans & revolving credits
- Subordinated debt
- Unsecured notes
- Borrowings from related company
- Other



The following four charts are interlinked. Gains on sale of aircraft are an important part of the lessor business model. Upon entry to a transaction a range of different residual value assumptions are made. And achieving or exceeding the booked residual is often the difference between meeting the expected overall return or not. As the first chart shows, gains on sale of aircraft were materially impacted by Covid but were in between the numbers achieved in the two years prior to Covid. Offsetting this, and by a large margin,

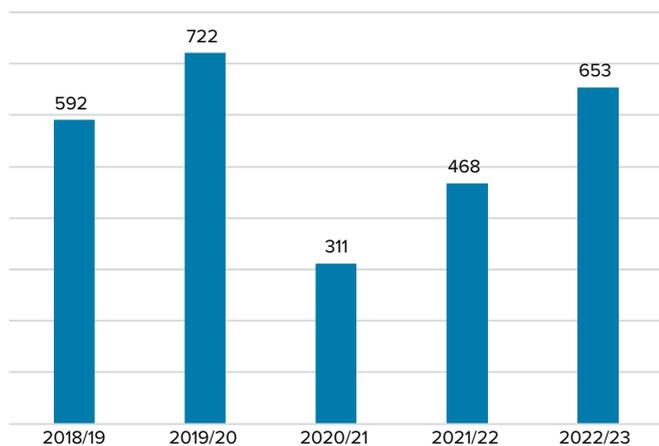
were impairment losses recognised during Covid on aircraft that were in less demand in the market. This was followed by recognition of losses on aircraft confiscated by Russia. A consequence of write-downs of book-value is that our calculated lease yield increases. For some lessees the effect is dramatic, such as with the listed investment funds including Amedeo Air Four Plus, DP Aircraft I and the three Doric Nimrod entities. These funds offered an exhilarating roller-coaster ride to their investors. Some have now been liquidated

and the others are also starting to move to their twilight years.

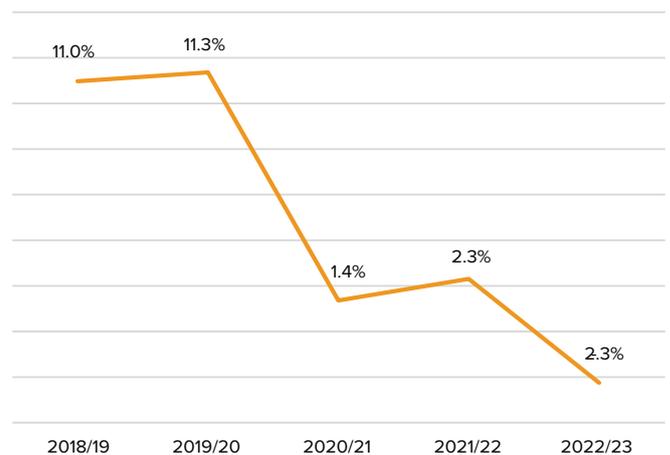
The net effect of gains and impairments was to severely impact unadjusted ROE as shown in the chart.

The last chart shows the build-up in assets available for lease, with the big Covid sale and leaseback step-up and the effect of acquisition (e.g SMBC Aviation Capital/Goshawk) but offset by the impairments. ▲

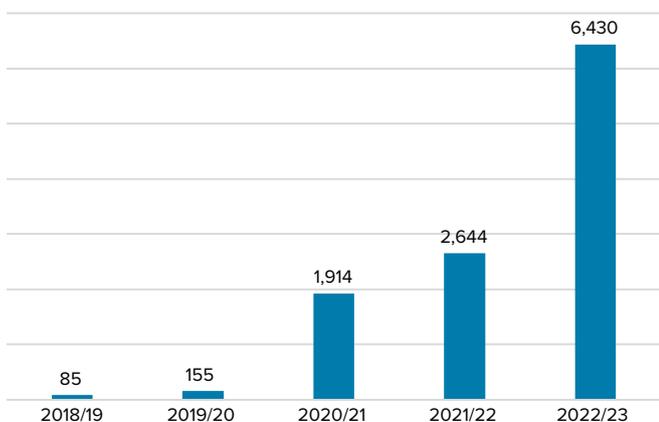
8 Major Lessors - Gain on Sales of Aircraft (\$m)



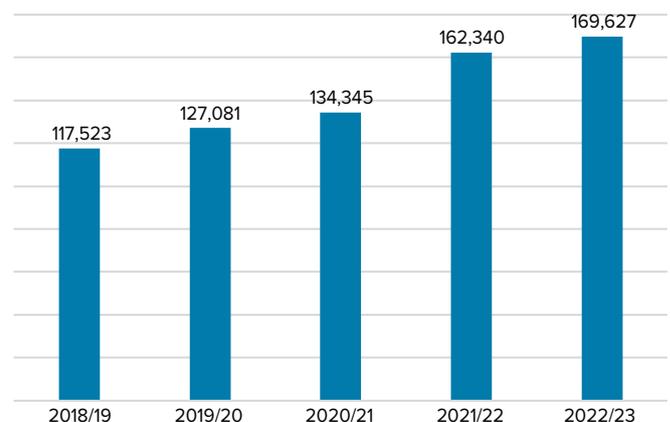
8 Major Lessors - Return on Average Equity



8 Major Lessors - Tangible Asset Impairments (\$m)



8 Major lessors - Aircraft & engines available for lease (\$m)

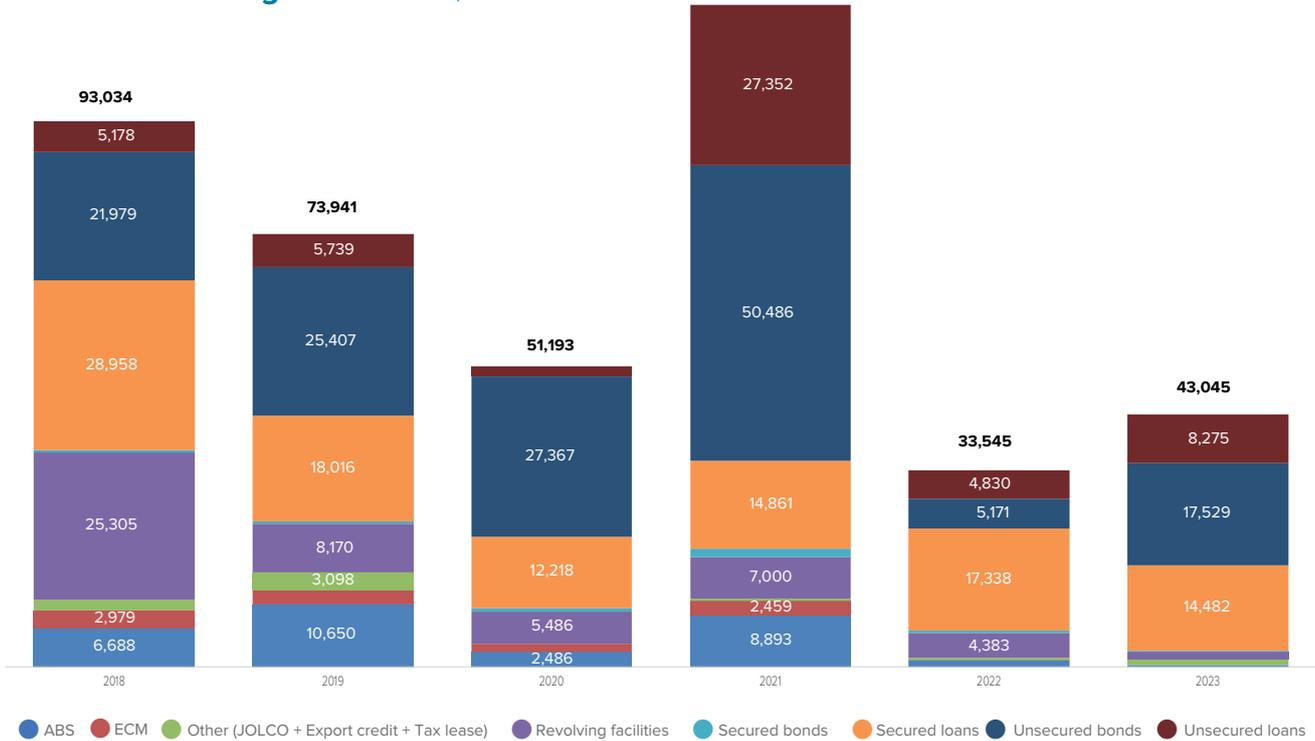


Source: AFJ's The Lessor Analyst.

7. Funding

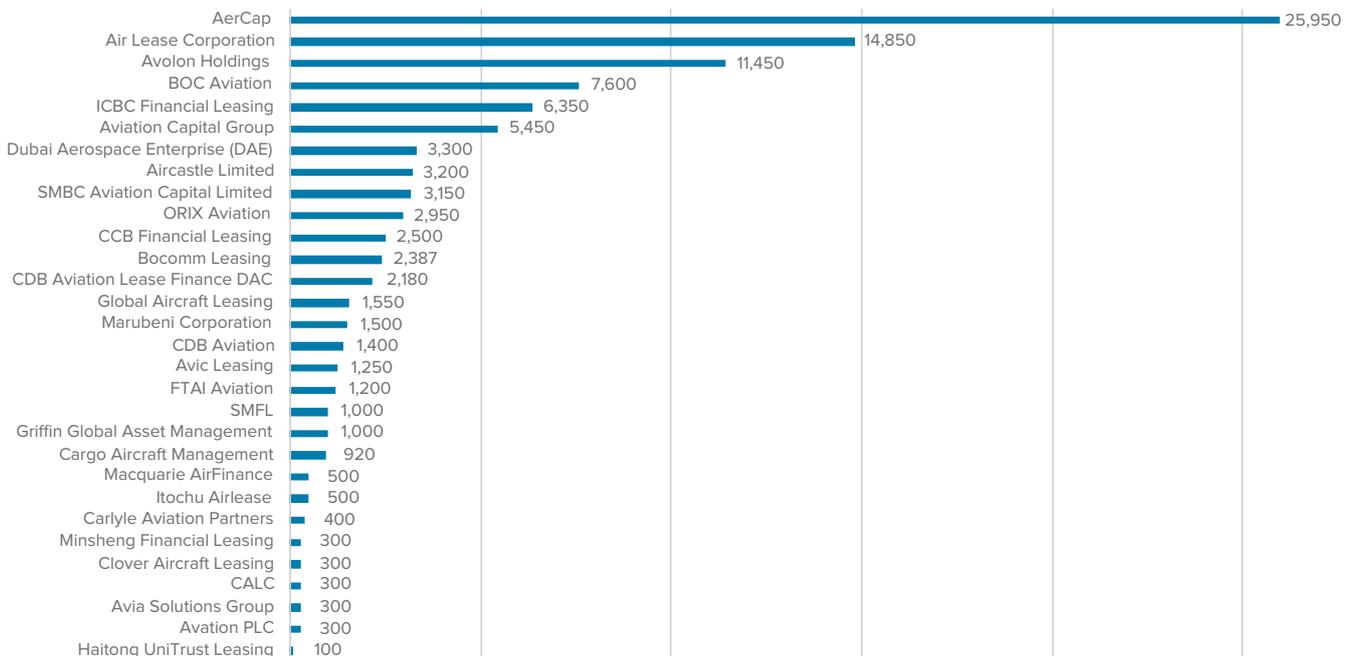
The following chart shows funding sources accessed by the lessors in 2023, using data from *Airfinance Journal's Deal Tracker*.

All Lessors Funding Sources in \$m 2018-2023



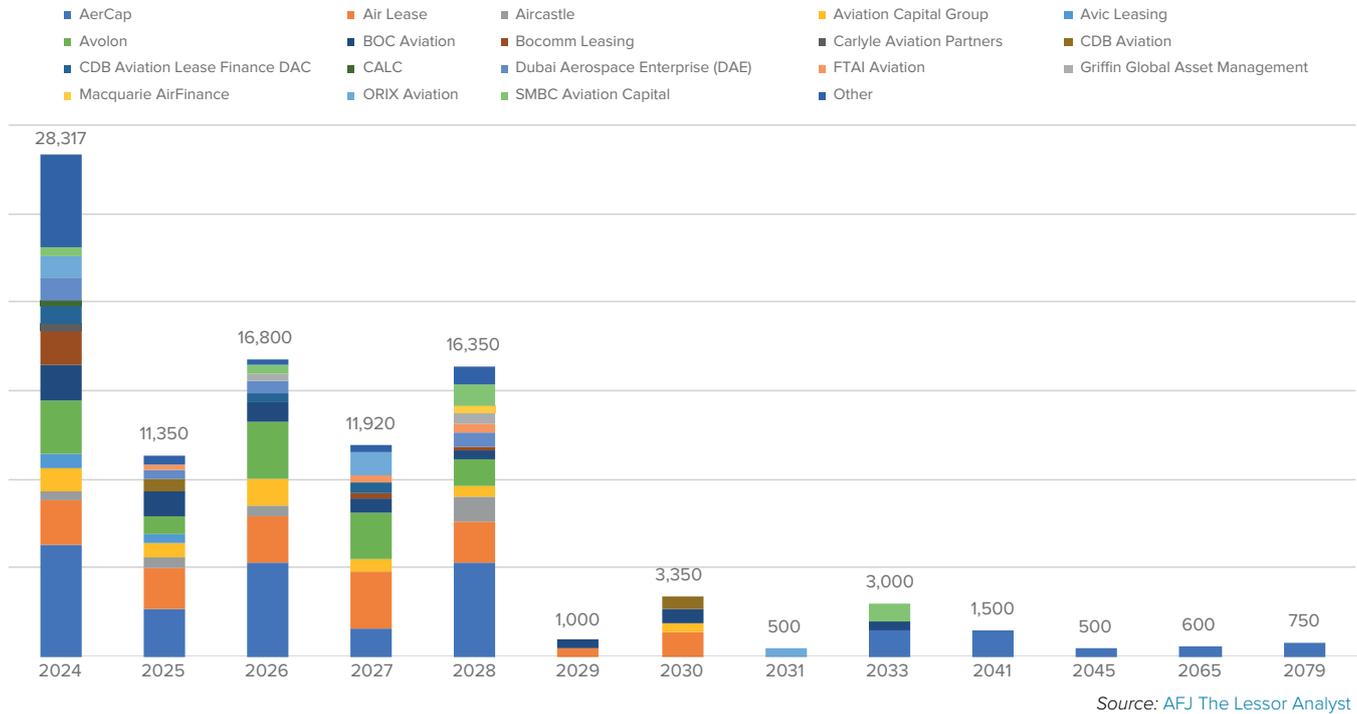
Source: Airfinance Journal's Deal Tracker

Lessor USD Bonds Outstanding as of 31 December, 2023 - USDm



Source: AFJ The Lessor Analyst

Lessor USD bond maturities by year as of 31 December 2023 - USDm

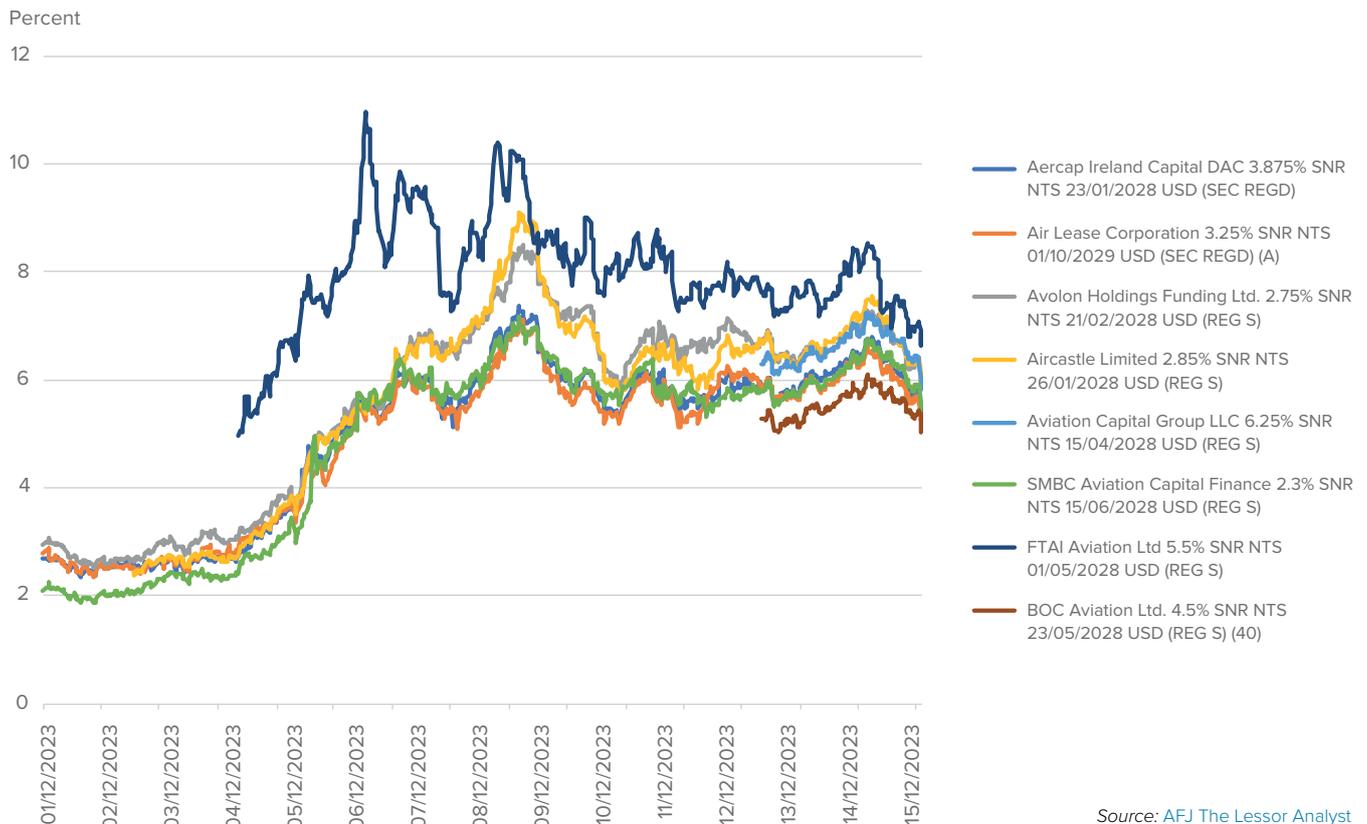


We selected the eight senior unsecured bonds shown below for comparative purposes to see how the bond market rates each of them. All are the issuer group's outstanding bonds with closest

maturity to approximately 5 years. The current yields are also indicative of the cost to refinance maturing bonds in 2024, and the impact on profitability. The lessors will be grateful for a little bit of respite in

prevailing interest rates in recent months. The yield range is from a low for BOC Aviation to a high for FTAI Aviation.

Bond Yields for Selected Issuers





8. Risk & Return

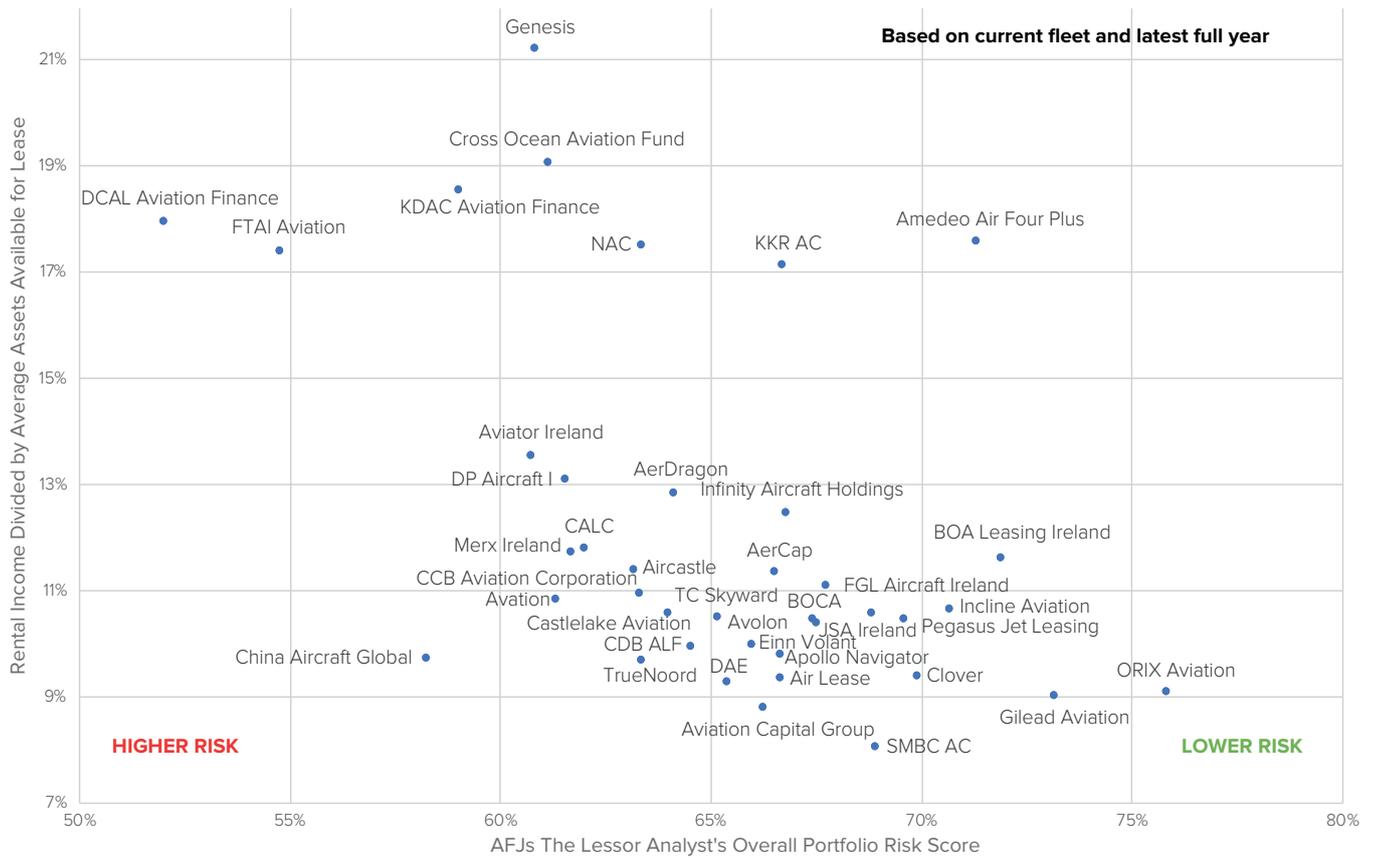
The following table shows the correlation between lessors' Portfolio Risk Ratings and Average Lease Yield. Both parameters are extracted from The Lessor Analyst. It is interesting that there are two distinct groups the "top" group and the "bottom" group. The latter group includes most of

the large "main-stream" lessors and shows the expected relationship – lessors with "riskier" portfolios as measured by Portfolio Ratings, do generally, earn higher returns. ORIX Aviation Systems has the stand-out lowest portfolio risk and generates one of the lower returns. The lowest overall return

is from SMBC AC who also have one of the lowest risk portfolios.

There are several lessors in the "bottom group" who manage to achieve appropriately higher returns on their higher risk portfolios, notably Aviator Ireland and DP Aircraft I, CCB Aviation, Merx and CALC. ^

Risk Return Relationships for Lessors



Source: AFJ The Lessor Analyst



9. The Global Leased Fleet

The global leased fleet

The following chart shows the percentage of aircraft by year of delivery currently owned by lessors and airlines. This data is extracted from AFJ's Fleet Tracker database. It shows several phenomena:

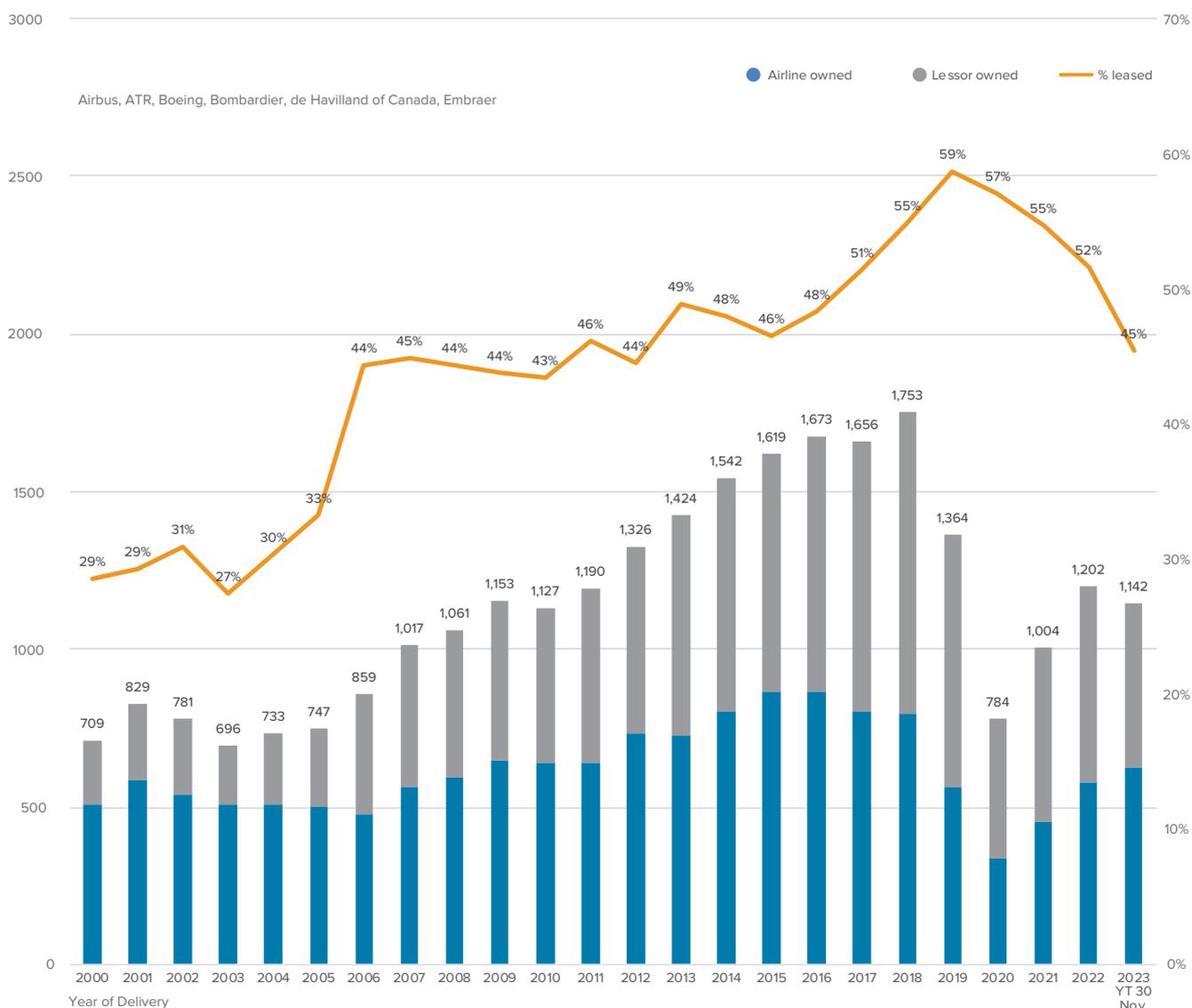
- The relatively small number of older aircraft owned by lessors

- The rapid build-up of new deliveries until 2019 when the MAX was grounded and new deliveries halted
- The collapse in new deliveries due to Covid in 2020
- The percentage of aircraft delivered in 2019 currently owned by lessors reached a record of 59% (from lessors' order-books and sale-leasebacks).

- That percentage has declined for more recent deliveries due to airlines' cash requirements being less challenged but this leaves lots of potential for more sale-leasebacks of new-generation aircraft in the future.

Number and % of Aircraft* by Year of Delivery currently owned by Lessors and Airlines

Number & % of Owned/Leased



Source: AFJ's Fleet Tracker.

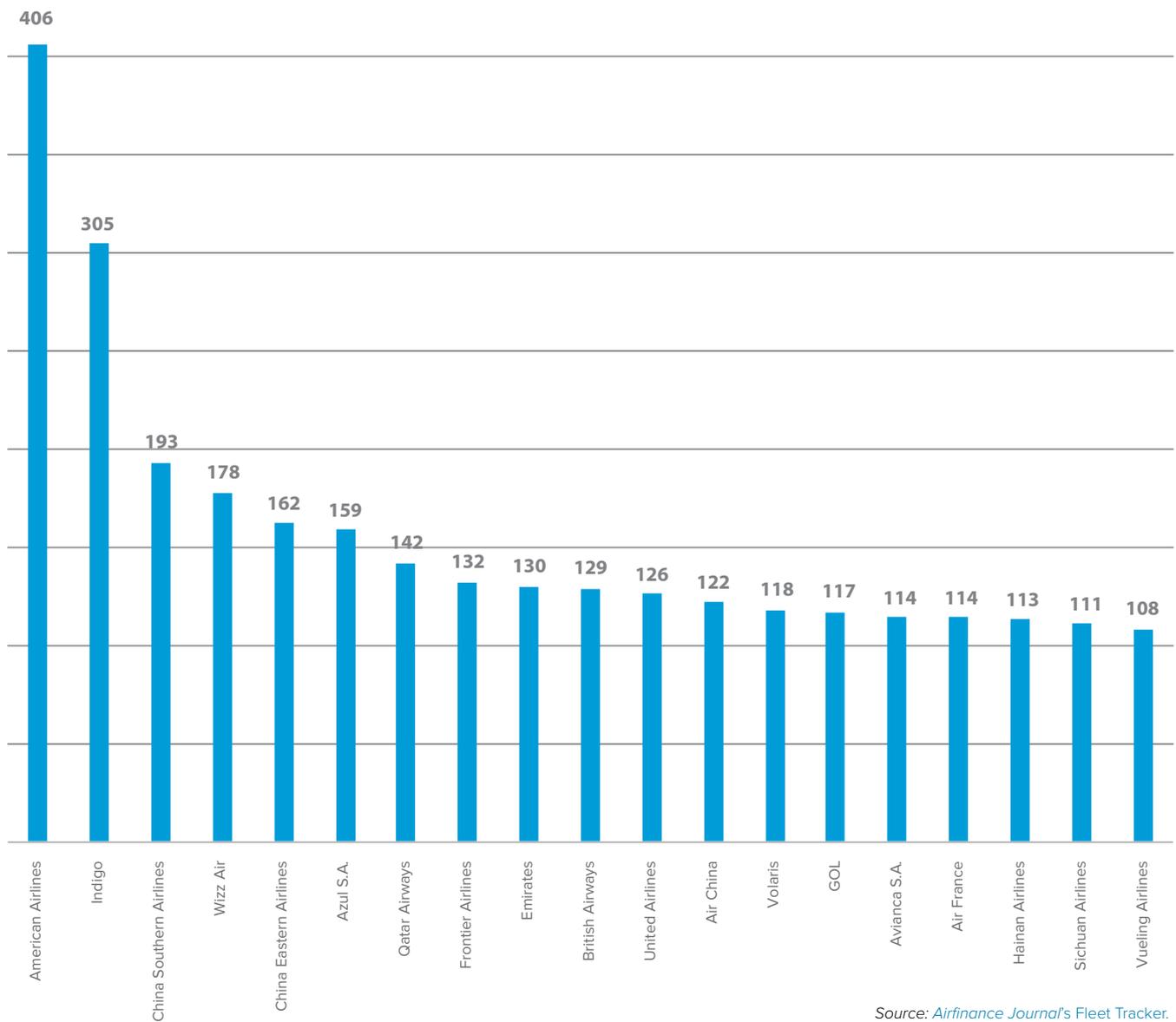


The largest global lessee remains American Airlines, dating back to their acquisition of US Airways. There are also several relatively young Low Cost Carriers on the list that may be creating concentration limits for some lessors given the huge size of their leased fleet.

Of course, the lessors manage this risk by taking security deposits and requiring monthly maintenance reserves. And no doubt this will be negotiated intensely by the airlines and subject to competitive pressure. Using data from The Airline Analyst, we can see that security deposits

(not certain to relate 100% to aircraft leases) as a percentage of right-of-use assets for Wizz Air fell from 20.5% five years ago to 6.4%. The equivalent ratios for Spirit Airlines are a fall from 37% to 12% while the credit quality has been going in the opposite direction.

Biggest lessees by number of aircraft



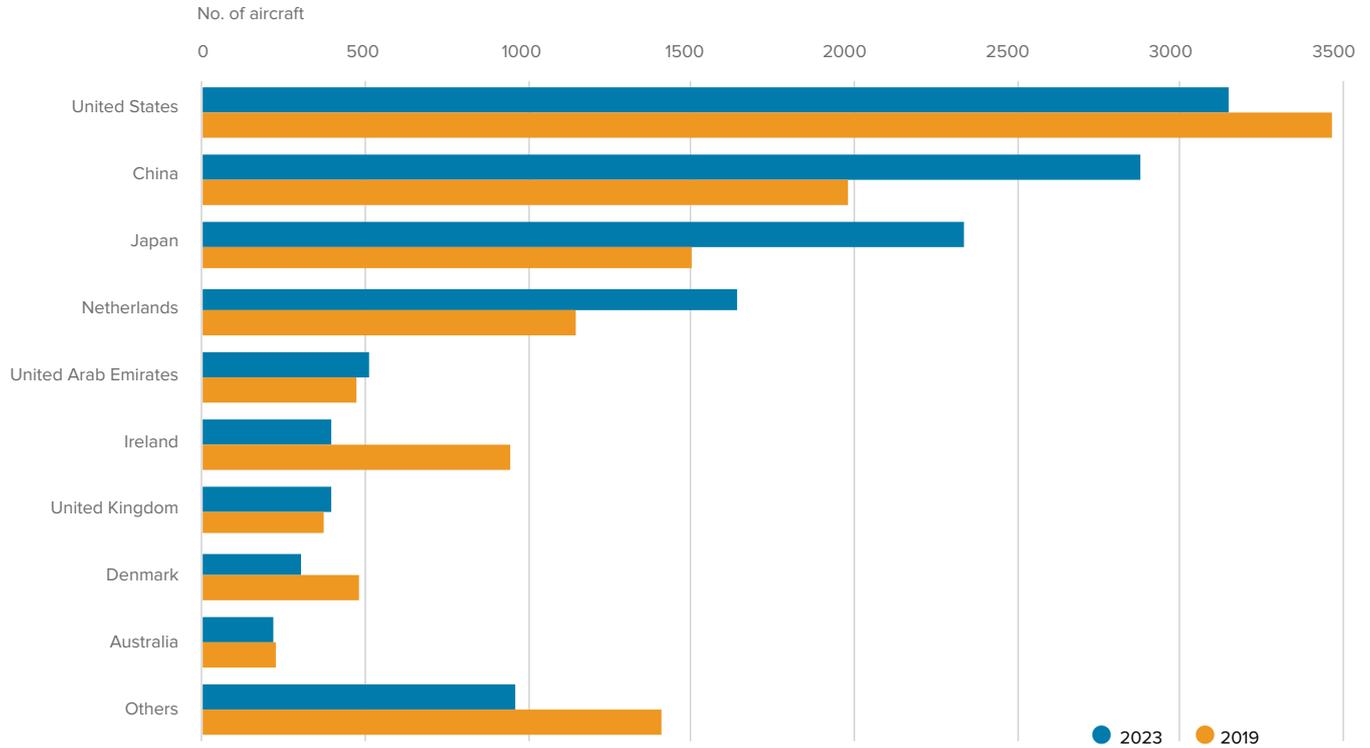
Source: *Airfinance Journal's Fleet Tracker.*

Country of “ultimate” ownership/ control 2023 vs 2019

We track this statistic as political events may impact lessors' appetites for

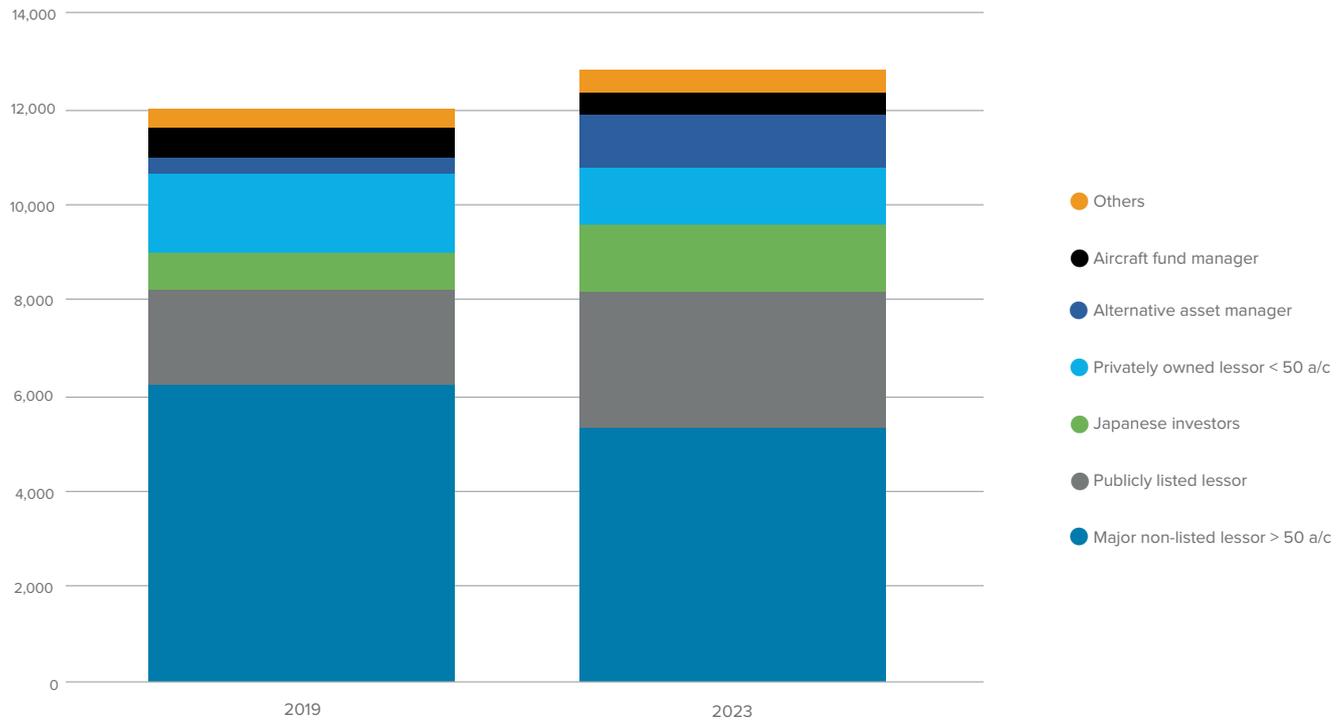
investment or trigger a desire to sell. If that comes from countries that are major

investors, the impact could be huge on a global scale. [^](#)



Source: AFJ Fleet Tracker as of 31 December 2023.

Beneficial ownership of leased aircraft



Source: AFJ Fleet Tracker as of 30 June 2023.

10. The Top 50 Tables

Top 50 Managers by number of aircraft

Rank	Manager	2022	2023	% change since last year	Turboprop	Regional Jet	Narrowbody	Widebody
1	Aercap	1,809	1,746	↓ -3.5%	16	78	1,357	295
2	SMBC Aviation Capital	506	720	↑ 42.3%	-	-	645	75
3	Avolon	587	581	↓ -1.0%	-	7	448	126
4	Air Lease Corporation	507	538	↑ 6.1%	-	2	407	129
5	ICBC Financial Leasing	428	515	↑ 20.3%	-	34	424	57
6	BBAM	456	500	↑ 9.6%	-	-	373	127
7	BOC Aviation	426	452	↑ 6.1%	-	-	361	91
8	DAE Capital	362	397	↑ 9.7%	65	-	280	52
9	Carlyle Aviation Partners	406	390	↓ -3.9%	-	-	353	37
10	Aviation Capital Group	347	373	↑ 7.5%	-	-	358	15
11	Nordic Aviation Capital	350	300	↓ -14.3%	182	104	14	-
12	Bocomm Leasing	270	298	↑ 10.4%	-	6	259	33
13	CDB Aviation	269	294	↑ 9.3%	-	19	232	43
14	Falko	257	272	↑ 5.8%	143	124	5	-
15	Aircastle	255	246	↓ -3.5%	-	13	210	23
16	Castlelake	272	235	↓ -13.6%	11	17	143	64
17	Aergo Capital	110	229	↑ 108.2%	59	-	123	47
18	Jackson Square Aviation	195	210	↑ 7.7%	-	-	184	26
19	China Aircraft Leasing Company	175	196	↑ 12.0%	-	2	177	17
20	Macquarie Airfinance	189	195	↑ 3.2%	-	2	181	12
21	Orix Aviation	183	194	↑ 6.0%	-	-	161	33
22	CMB Financial Leasing	151	180	↑ 19.2%	-	7	150	23
23	CCB Financial Leasing	168	152	↓ -9.5%	-	-	135	17
24	Avilease	-	148		-	-	144	4
25	Cargo Aircraft Management	130	147	↑ 13.1%	-	-	10	137
26	Aero Capital Solutions	110	137	↑ 24.5%	-	-	133	4
27	Avmx	136	132	↓ -2.9%	53	69	8	2
28	FTAI	127	123	↓ -3.1%	-	-	119	4
29	Altavair Airfinance	109	120	↑ 10.1%	-	4	49	67
30	JP Lease Products & Services	89	106	↑ 19.1%	-	-	88	18
31	World Star Aviation	78	100	↑ 28.2%	-	-	94	6
31=	FPG Amentum	83	100	↑ 20.5%	-	-	82	18
31=	Deucalion Aviation Limited	137	100	↓ -27.0%	-	-	81	19
34	Regional One	72	94	↑ 30.6%	14	80	-	-
34=	Aircraft Leasing & Management	84	94	↑ 11.9%	-	12	71	11
34=	Azorra Aviation	69	94	↑ 36.2%	8	69	6	11
37	Merx Aviation	83	91	↑ 9.6%	-	6	80	5
38	Aviator Capital Management	88	84	↓ -4.5%	1	2	61	20
39	ABC Financial Leasing	77	78	↑ 1.3%	-	7	61	10
40	Truenoord	58	77	↑ 32.8%	26	50	-	1
41	Minsheng Financial Leasing	65	69	↑ 6.2%	-	1	61	7
42	Sky Leasing	47	68	↑ 44.7%	8	-	56	4
43	SPDB Financial Leasing	66	66	↔ 0.0%	-	9	53	4
44	Itochu Group	60	65	↑ 8.3%	-	2	58	5
44=	Tokyo Century Leasing	63	65	↑ 3.2%	-	-	46	19
46	Jetstream Aviation Capital	38	62	↑ 63.2%	59	3	-	-
47	Griffin Global Asset Management	21	61	↑ 190.5%	-	-	47	14
47=	Avic Leasing	40	61	↑ 52.5%	-	2	56	3
49	Yamasa Sangyo Corporation	58	60	↑ 3.4%	-	-	36	24
50	Goal	47	59	↑ 25.5%	17	-	38	4
Grand Total		10,713	11,674	↑ 9.0%	662	731	8,518	1,763

Source: Lessors and AFJ Fleet Tracker as of 31 December 2023

The fleets of Russian lessors have not been confirmed, and as a result, they have been excluded from the ranking.

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

Rank	Manager	2022	2023	% change since last year	Turboprop	Regional Jet	Narrowbody	Widebody
1	Aercap	\$47,939	\$54,542	↑ 13.8%	\$150	\$1,049	\$36,001	\$17,343
2	SMBC Aviation Capital	\$19,552	\$28,576	↑ 46.2%	-	-	\$22,178	\$6,398
3	Air Lease Corporation	\$21,709	\$25,216	↑ 16.2%	-	\$21	\$14,931	\$10,263
4	Avolon	\$19,810	\$21,524	↑ 8.7%	-	\$258	\$12,653	\$8,613
5	BOC Aviation	\$17,647	\$19,520	↑ 10.6%	-	-	\$12,618	\$6,902
6	BBAM	\$16,451	\$18,867	↑ 14.7%	-	-	\$10,928	\$7,939
7	ICBC Financial Leasing	\$15,052	\$18,469	↑ 22.7%	-	\$627	\$13,873	\$3,968
8	Aviation Capital Group	\$10,051	\$12,078	↑ 20.2%	-	-	\$10,933	\$1,145
9	Bocomm Leasing	\$9,554	\$11,408	↑ 19.4%	-	\$90	\$9,240	\$2,078
10	DAE Capital	\$9,550	\$11,380	↑ 19.2%	\$709	-	\$7,559	\$3,112
11	CDB Aviation	\$9,676	\$10,878	↑ 12.4%	-	\$212	\$8,727	\$1,939
12	Carlyle Aviation Partners	\$8,175	\$8,675	↑ 6.1%	-	-	\$7,684	\$991
13	Jackson Square Aviation	\$7,389	\$8,553	↑ 15.8%	-	-	\$6,407	\$2,147
14	CMB Financial Leasing	\$5,643	\$7,392	↑ 31.0%	-	\$92	\$5,894	\$1,406
15	Orix Aviation	\$5,401	\$6,553	↑ 21.3%	-	-	\$4,684	\$1,869
16	China Aircraft Leasing Company	\$5,020	\$6,090	↑ 21.3%	-	\$33	\$5,516	\$540
17	Castlelake	\$4,893	\$5,991	↑ 22.4%	\$25	\$236	\$3,296	\$2,433
18	CCB Financial Leasing	\$6,173	\$5,367	↓ -13.1%	-	-	\$4,292	\$1,075
19	Aircastle	\$5,018	\$5,320	↑ 6.0%	-	\$306	\$4,434	\$580
20	Avlease		\$5,164	↑	-	-	\$4,949	\$214
21	Aergo Capital	\$2,371	\$4,929	↑ 107.9%	\$340	-	\$2,598	\$1,992
22	FPG Amentum	\$3,287	\$4,327	↑ 31.6%	-	-	\$2,809	\$1,518
23	Macquarie Airfinance	\$3,298	\$4,099	↑ 24.3%	-	\$17	\$3,558	\$524
24	Griffin Global Asset Management	\$1,208	\$4,028	↑ 233.5%	-	-	\$2,240	\$1,788
25	JP Lease Products & Services	\$2,765	\$3,995	↑ 44.5%	-	-	\$2,974	\$1,022
26	Altavair Airfinance	\$3,555	\$3,769	↑ 6.0%	-	\$27	\$1,093	\$2,649
27	Aircraft Leasing & Management	\$3,116	\$3,444	↑ 10.5%	-	\$187	\$2,285	\$972
28	Nordic Aviation Capital	\$3,143	\$3,175	↑ 1.0%	\$1,478	\$1,162	\$535	-
29	Tokyo Century Leasing	\$2,624	\$2,882	↑ 9.8%	-	-	\$1,380	\$1,502
30	ABC Financial Leasing	\$2,692	\$2,738	↑ 1.7%	-	\$78	\$1,889	\$771
31	Falko	\$2,490	\$2,694	↑ 8.2%	\$1,110	\$1,450	\$134	-
32	Avic Leasing	\$1,405	\$2,604	↑ 85.4%	-	\$21	\$2,320	\$263
33	Sky Leasing	\$1,809	\$2,462	↑ 36.1%	\$141	-	\$1,969	\$353
34	Yamasa Sangyo Corporation	\$2,217	\$2,447	↑ 10.4%	-	-	\$986	\$1,462
35	Merx Aviation	\$1,959	\$2,446	↑ 24.9%	-	\$221	\$1,961	\$264
36	ABL Aviation	\$1,509	\$2,175	↑ 44.1%	-	-	\$1,061	\$1,114
37	Alafco	\$2,032	\$2,105	↑ 3.6%	-	-	\$1,491	\$613
38	Minsheng Financial Leasing	\$2,002	\$2,095	↑ 4.7%	-	-	\$1,863	\$232
39	Itochu Group	\$2,028	\$2,067	↑ 1.9%	-	\$22	\$1,754	\$290
40	SPDB Financial Leasing	\$2,032	\$2,032	→ 0.0%	-	\$107	\$1,691	\$234
41	Deucalion Aviation Limited	\$2,876	\$1,962	↓ -31.8%	-	-	\$1,316	\$646
42	Airborne Capital	\$1,657	\$1,791	↑ 8.1%	\$22	-	\$1,372	\$397
43	VMO Aircraft Leasing	\$1,105	\$1,782	↑ 61.3%	-	-	\$981	\$801
44	IAFC	\$1,955	\$1,780	↓ -8.9%	-	-	\$884	\$896
45	Aero Capital Solutions	\$1,225	\$1,777	↑ 45.1%	-	-	\$1,714	\$63
46	Stratos	\$1,849	\$1,756	↓ -5.0%	-	-	\$1,048	\$709
47	Goal	\$1,351	\$1,742	↑ 28.9%	\$232	-	\$1,156	\$354
48	Banc Of America Leasing	\$1,494	\$1,740	↑ 16.5%	-	-	\$562	\$1,178
49	Azorra Aviation	\$881	\$1,730	↑ 96.4%	\$83	\$882	\$184	\$580
50	Cargo Aircraft Management	\$1,390	\$1,673	↑ 20.3%	-	-	\$74	\$1,598
Grand Total		\$308,027	\$369,810	↑ 20.1%	\$4,289	\$7,099	\$252,681	\$105,741

Source: Lessors and AFJ Fleet Tracker as of 31 December 2023

Source: AVITAS Blue Book Market Values as of 21 December 2023

*The fleets of Russian lessors have not been confirmed, and as a result, they have been excluded from the ranking.



Top 50 beneficial owners by number of aircraft

Rank	Beneficial Owner	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	Aercap	1,566	16	78	1,199	273
2	Avolon	537	-	7	413	117
3	SMBC Aviation Capital	518	-	-	483	35
4	ICBC Financial Leasing	506	-	34	415	57
5	Air Lease Corporation	471	-	1	351	119
6	BOC Aviation	416	-	-	331	85
7	DAE Capital	357	63	-	245	49
8	Aviation Capital Group	312	-	-	303	9
9	Nordic Aviation Capital	300	182	104	14	-
10	CDB Aviation	294	-	19	232	43
11	NBB Leasing Clients	275	-	-	175	100
12	Bocomm Leasing	261	-	6	229	26
12=	Falko	261	143	113	5	-
14	Aircastle	240	-	13	204	23
15	Jackson Square Aviation	200	-	-	175	25
16	Macquarie Airfinance	194	-	2	179	13
17	Carlyle Aviation Partners	186	-	-	165	21
18	China Aircraft Leasing Company	170	-	2	153	15
19	SMBC Aviation Capital & Investors	168	-	-	129	39
20	Cargo Aircraft Management	148	-	-	10	138
21	Aero Capital Solutions	134	-	-	130	4
22	Avmax	130	52	68	8	2
23	Avilease	126	-	-	122	4
24	Orix Aviation Clients	125	-	-	104	21
25	CMB Financial Leasing	123	-	2	114	7
26	Incline Aviation	120	-	-	108	12
27	Regional One	119	15	104	-	-
27=	FTAI	119	-	-	115	4
29	Aergo Capital	111	34	-	61	16
30	Altitude Aircraft Leasing	106	-	4	38	64
31	Maverick Aviation Partnership	100	-	-	96	4
32	Castlelake	94	7	3	54	30
33	Avenue Capital Management	90	-	1	64	25
34	Azorra Aviation	89	8	64	6	11
35	CCB Financial Leasing	88	-	-	84	4
36	Aviator Capital Management	83	1	2	60	20
36=	JP Lease Products & Services Clients	83	-	-	63	20
38	Truenoord	77	26	50	-	1
39	Castlelake Aviation Limited	71	-	9	40	22
40	Sky Leasing	68	8	-	56	4
41	Minsheng Financial Leasing	67	-	1	61	5
41=	Fuyo General Lease	67	-	3	61	3
41=	FPG Amentum Clients	67	-	-	55	12
44	JP Lease Products & Services	66	-	-	49	17
45	Yamaha Sangyo Corporation Clients	65	-	-	40	25
46	Oaktree Capital Management	64	-	-	63	1
47	Jetstream Aviation Capital	63	60	3	-	-
48	GGAM Finance Limited	61	-	-	47	14
49	Avic Leasing	59	-	2	53	4
50	Orix Aviation	58	-	-	49	9
50=	Abelo	58	58	-	-	-
Grand Total		10,131	673	695	7,211	1,552

Source: Lessors and AFJ Fleet Tracker as of 31 December 2023

The fleets of Russian lessors have not been confirmed, and as a result, they have been excluded from the ranking.

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

Rank	Beneficial Owner	Total	Turboprop	Regional jet	Narrowbody	Widebody
1	Aercap	\$49,940	\$150	\$1,049	\$32,259	\$16,482
2	Air Lease Corporation	\$23,424	-	\$11	\$13,641	\$9,772
3	Avolon	\$20,625	-	\$258	\$12,023	\$8,343
4	SMBC Aviation Capital	\$19,731	-	-	\$16,639	\$3,093
5	BOC Aviation	\$18,695	-	-	\$11,984	\$6,711
6	ICBC Financial Leasing	\$18,150	-	\$627	\$13,554	\$3,968
7	NBB Leasing Clients	\$12,762	-	-	\$6,014	\$6,748
8	CDB Aviation	\$10,878	-	\$212	\$8,727	\$1,939
9	DAE Capital	\$10,751	\$691	-	\$7,005	\$3,055
10	Aviation Capital Group	\$10,570	-	-	\$9,639	\$931
11	Bocomm Leasing	\$10,145	-	\$90	\$8,450	\$1,604
12	Jackson Square Aviation	\$8,115	-	-	\$6,003	\$2,112
13	SMBC Aviation Capital & Investors	\$7,906	-	-	\$4,668	\$3,238
14	China Aircraft Leasing Company	\$5,218	-	\$33	\$4,791	\$393
15	Aircastle	\$5,198	-	\$306	\$4,312	\$580
16	CMB Financial Leasing	\$5,167	-	\$21	\$4,669	\$478
17	Avlease	\$4,510	-	-	\$4,296	\$214
18	Macquarie Airfinance	\$4,173	-	\$17	\$3,533	\$624
19	GGAM Finance Limited	\$4,028	-	-	\$2,240	\$1,788
20	Carlyle Aviation Partners	\$3,973	-	-	\$3,425	\$549
21	Orix Aviation Clients	\$3,667	-	-	\$2,633	\$1,034
22	Altitude Aircraft Leasing	\$3,622	-	\$27	\$1,028	\$2,566
23	Incline Aviation	\$3,456	-	-	\$3,138	\$318
24	Nordic Aviation Capital	\$3,175	\$1,478	\$1,162	\$535	-
25	CCB Financial Leasing	\$3,050	-	-	\$2,723	\$327
26	JP Lease Products & Services Clients	\$2,999	-	-	\$2,087	\$912
27	Tokyo Century Clients	\$2,743	-	-	\$1,309	\$1,434
28	Maverick Aviation Partnership	\$2,710	-	-	\$2,587	\$123
29	FPG Amentum Clients	\$2,676	-	-	\$1,690	\$986
30	Falko	\$2,626	\$1,110	\$1,383	\$134	-
31	Avic Leasing	\$2,578	-	\$21	\$2,250	\$307
32	Yamasa Sangyo Corporation Clients	\$2,545	-	-	\$1,060	\$1,486
33	Sky Leasing	\$2,462	\$141	-	\$1,969	\$353
34	Castlelake Aviation Limited	\$2,458	-	\$138	\$1,113	\$1,207
35	Orix Aviation	\$2,403	-	-	\$1,888	\$515
36	Fuyo General Lease	\$2,292	-	\$47	\$2,024	\$222
37	Castlelake	\$2,281	\$16	\$39	\$1,283	\$943
38	ABL Aviation Clients	\$2,174	-	-	\$1,060	\$1,114
39	Minsheng Financial Leasing	\$2,021	-	-	\$1,863	\$158
40	Alafco	\$2,005	-	-	\$1,491	\$513
41	Aergo Capital	\$1,943	\$176	-	\$1,239	\$528
42	Vmo Aircraft Leasing	\$1,782	-	-	\$981	\$801
43	IAFC	\$1,780	-	-	\$884	\$896
44	Aero Capital Solutions	\$1,752	-	-	\$1,689	\$63
45	Banc Of America Leasing	\$1,740	-	-	\$562	\$1,178
46	Azorra Aviation	\$1,692	\$83	\$844	\$184	\$580
47	Cargo Aircraft Management	\$1,679	-	-	\$74	\$1,605
48	Itochu Group Clients	\$1,673	-	\$22	\$1,442	\$209
49	Mitsubishi Clients	\$1,627	-	-	\$598	\$1,029
50	Avenue Capital Management	\$1,581	-	\$11	\$1,051	\$519
Grand Total		\$325,153	\$3,846	\$6,318	\$220,442	\$94,547

Source: Lessors and AFJ Fleet Tracker as of 31 December 2023

Source: AVITAS Blue Book Market Values as of 21 December 2023

The fleets of Russian lessors have not been confirmed, and as a result, they have been excluded from the ranking.



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

Rank by number of current gen. aircraft	Lessor	New generation fleet	Total lessors fleet	% of new generation fleet†
1	Griffin Global Asset Management	61	61	100.0%
1=	Gilead Aviation	13	13	100.0%
1=	Bleriot Aviation Leasing	11	11	100.0%
4	ABL Aviation Clients	35	38	92.1%
5	Dynam Aviation Ireland	10	11	90.9%
6	Mitsubishi Clients	20	26	76.9%
6=	High Ridge Aviation	10	13	76.9%
8	Clover Aviation Capital	18	24	75.0%
9	Alafco	34	49	69.4%
10	Air Lease Corporation	297	471	63.1%
11	Orix Aviation	35	58	60.3%
12	Avic Leasing	35	59	59.3%
13	Sky Leasing	40	68	58.8%
14	CMB Financial Leasing	72	123	58.5%
15	Einn Volant Aircraft Leasing	12	21	57.1%
16	Jackson Square Aviation	111	200	55.5%
17	SMBC Aviation Capital & Investors	92	168	54.8%
18	BOC Aviation	213	416	51.2%
19	Itochu Group Clients	26	51	51.0%
20	SMBC Aviation Capital	262	518	50.6%
21	CDB Aviation	148	294	50.3%
22	NBB Leasing Clients	130	275	47.3%
23	KGAL APF Funds	21	45	46.7%
24	Apollo Global Management	22	48	45.8%
25	Avilease	56	126	44.4%
26	Aviation Capital Group	136	312	43.6%
27	Tokyo Century Clients	24	56	42.9%
28	Bocomm Leasing	108	261	41.4%
29	Aercap	635	1566	40.5%
30	FPG Amentum Clients	27	67	40.3%
31	NTT TC Leasing Clients	8	20	40.0%
32	Avolon	209	537	38.9%
33	Vietnam Aircraft Leasing	6	16	37.5%
34	JP Lease Products & Services Clients	31	83	37.3%
35	Castlelake Aviation Limited	26	71	36.6%
36	Fuyo General Lease	24	67	35.8%
37	Chishima Real Estate	7	20	35.0%
38	Aerdragon Aviation Leasing	12	36	33.3%
39	ICBC Financial Leasing	168	506	33.2%
40	Yamasa Sangyo Corporation Clients	21	65	32.3%
41	CCB Financial Leasing	28	88	31.8%
41=	SDH Wings International Leasing	7	22	31.8%
43	Minsheng Financial Leasing	21	67	31.3%
44	Novus Aviation	6	20	30.0%
45	China Aircraft Leasing Company	50	170	29.4%
46	Incline Aviation	35	120	29.2%
47	VMO Aircraft Leasing	12	42	28.6%
47=	Amedeo Air Four Plus Limited	4	14	28.6%
49	Banc of America Leasing	9	34	26.5%
50	ST Aerospace	3	12	25.0%
Grand Total		3,401	7,459	45.6%

Source: Lessors and AFJ Fleet Tracker as of 31 December 2023

†"New generation fleet" includes A220s, A320neo, A330-800/900s, A350s, 737 MAX, 787 and Embraer E2 models

*JOL/JOLCO investors are presented in the ranking as 'clients'

Top lessors by number of aircraft firm orders

Rank	Beneficial Owner	Total	Turboprop	Regional Jet	Narrowbody	Widebody
1	Avolon	425	-	-	381	44
2	Air Lease Corporation	321	-	-	280	41
3	Aercap	319	-	26	264	29
4	SMBC Aviation Capital	261	-	-	261	-
5	China Aircraft Leasing Company	224	-	28	196	-
6	ICBC Financial Leasing	185	-	35	150	-
7	BOC Aviation	184	-	-	184	-
8	Aviation Capital Group	120	-	-	118	2
9	CDB Aviation	109	-	-	109	-
10	CMB Financial Leasing	67	-	10	57	-
11	Macquarie Airfinance	66	-	-	66	-
12	ABC Financial Leasing	65	-	-	65	-
13	CCB Financial Leasing	60	-	10	50	-
13=	Bocomm Leasing	60	-	10	50	-
15	Azorra Aviation	56	-	34	22	-
16	China Huarong Financial Leasing	50	-	20	30	-
17	SPDB Financial Leasing	45	-	15	30	-
18	Abelo Capital Aviation Limited	40	40	-	-	-
19	Timaero Ireland	35	-	-	35	-
20	Nordic Aviation Capital	33	13	-	20	-
21	Everbright Financial Leasing	30	-	-	30	-
22	Jackson Square Aviation	21	-	-	21	-
23	Comsys Aviation Leasing	20	-	19	1	-
23=	Suyin Financial Leasing	20	-	-	20	-
23=	Carlyle Aviation Partners	20	-	-	20	-
26	Aircastle	17	-	17	-	-
27	Minsheng Financial Leasing	14	-	-	14	-
28	GGAM Finance Limited	6	-	-	6	-
29	CIB Leasing	5	5	-	-	-
30	Acia Aero	3	3	-	-	-
31	Avation	2	2	-	-	-
	Grand Total	2,883	63	224	2,480	116

Source: Lessors and AFJ Fleet Tracker as of 31 December 2023
 Source: as per OEMs' input and press releases



Top lessors by value of aircraft firm orders

Rank	Beneficial Owner	Total	Turboprop	Regional Jet	Narrowbody	Widebody
1	Avolon	\$27,267	-	-	\$22,274	\$4,993
2	Air Lease Corporation	\$21,798	-	-	\$15,528	\$6,270
3	Aercap	\$20,416	-	\$959	\$15,299	\$4,158
4	SMBC Aviation Capital	\$14,520	-	-	\$14,520	-
5	China Aircraft Leasing Company	\$12,190	-	\$1,064	\$11,126	-
6	BOC Aviation	\$10,699	-	-	\$10,699	-
7	ICBC Financial Leasing	\$8,830	-	\$1,330	\$7,500	-
8	Aviation Capital Group	\$6,757	-	-	\$6,439	\$318
9	CDB Aviation	\$5,951	-	-	\$5,951	-
10	CMB Financial Leasing	\$3,258	-	\$380	\$2,878	-
11	ABC Financial Leasing	\$3,250	-	-	\$3,250	-
12	Macquarie Airfinance	\$3,164	-	-	\$3,164	-
13	CCB Financial Leasing	\$2,880	-	\$380	\$2,500	-
14	Bocomm Leasing	\$2,880	-	\$380	\$2,500	-
15	China Huarong Financial Leasing	\$2,260	-	\$760	\$1,500	-
16	Azorra Aviation	\$2,074	-	\$1,221	\$853	-
17	SPDB Financial Leasing	\$2,070	-	\$570	\$1,500	-
18	Timaero Ireland	\$1,887	-	-	\$1,887	-
19	Everbright Financial Leasing	\$1,500	-	-	\$1,500	-
20	Carlyle Aviation Partners	\$1,145	-	-	\$1,145	-
21	Jackson Square Aviation	\$1,130	-	-	\$1,130	-
22	Suyin Financial Leasing	\$1,000	-	-	\$1,000	-
23	Nordic Aviation Capital	\$955	\$251	-	\$704	-
24	Abelo Capital Aviation Limited	\$793	\$793	-	-	-
25	Comsys Aviation Leasing	\$776	-	\$722	\$54	-
26	Minsheng Financial Leasing	\$753	-	-	\$753	-
27	Aircastle	\$622	-	\$622	-	-
28	GGAM Finance Limited	\$233	-	-	\$233	-
29	CIB Leasing	\$109	\$109	-	-	-
30	Acia Aero	\$65	\$65	-	-	-
31	Avation	\$42	\$42	-	-	-
	Grand Total	\$161,273	\$1,260	\$8,389	\$135,886	\$15,738

Source: Lessors and AFJ Fleet Tracker as of 31 December 2023
 Source: as per OEMs' input and press releases

Lessors firm orders

Figure 1: Firm orders by body type

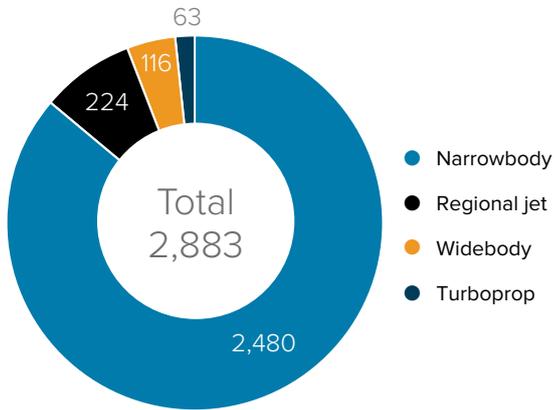


Figure 2: Firm orders by value by body type (\$m)

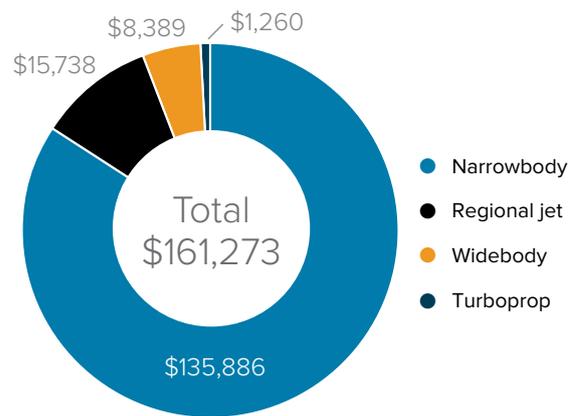


Figure 3: Firm orders by manufacturer

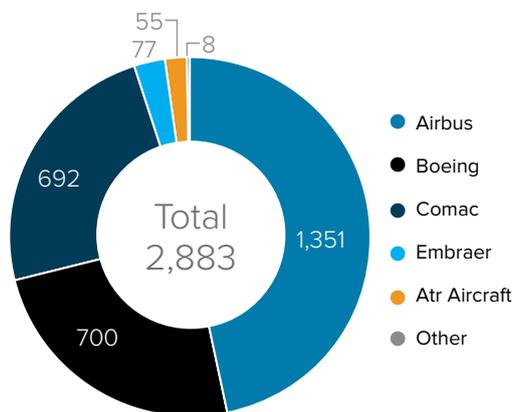


Figure 4: Firm orders by value by manufacturer (\$m)



Figure 5: Firm orders by country of lessor

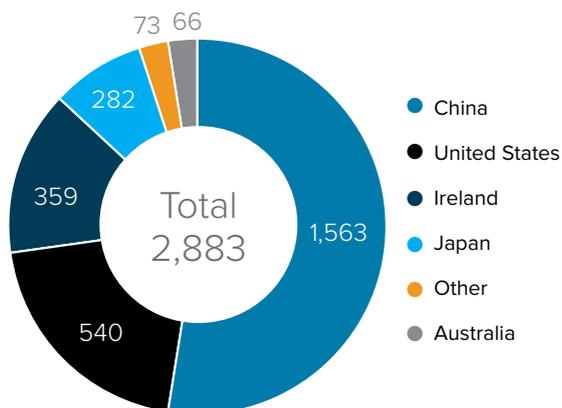
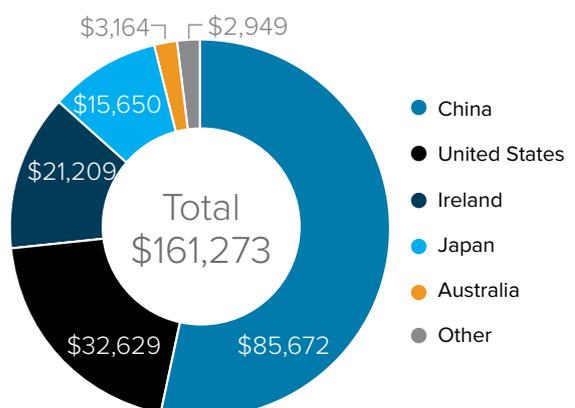
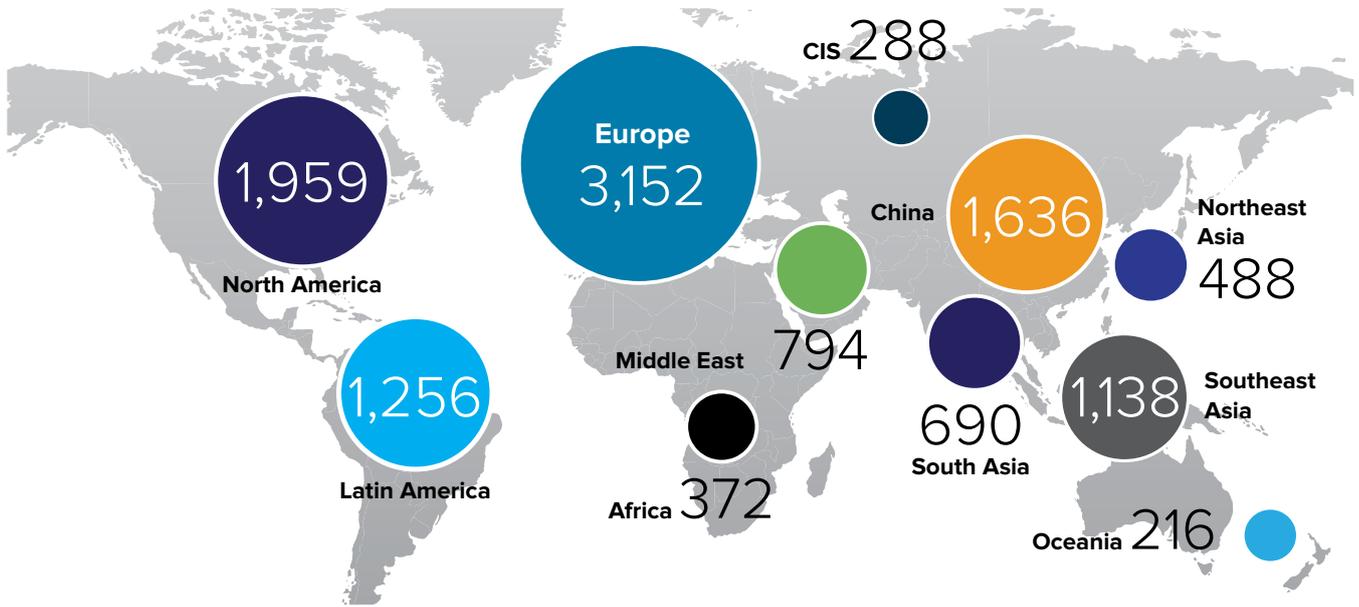


Figure 6: Firm orders by value by country of lessor (\$m)



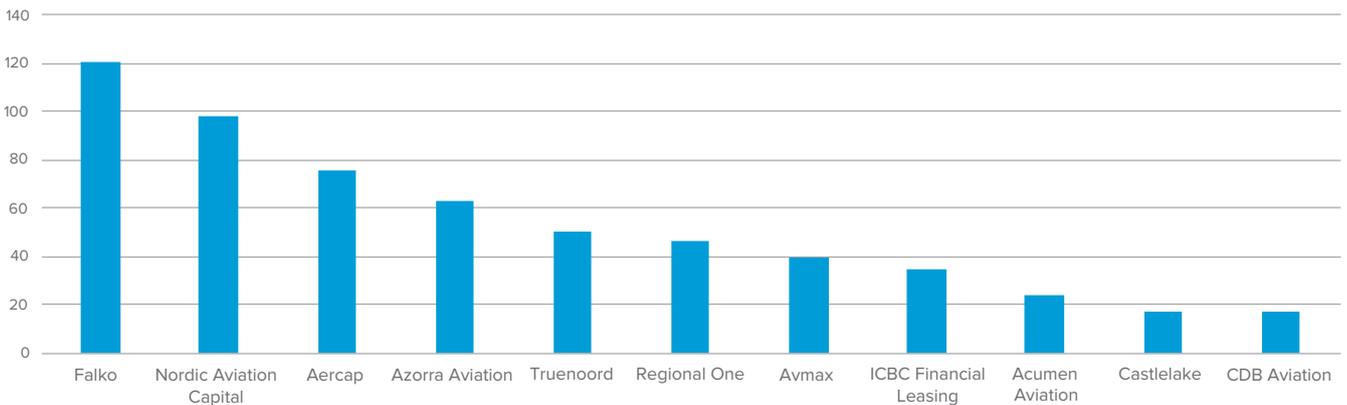
Source: Manufacturers and Avitas as of 31 December 2023. Calculated as of 2023 market estimated prices and Avitas Base Values.

Geographic distribution of leased aircraft



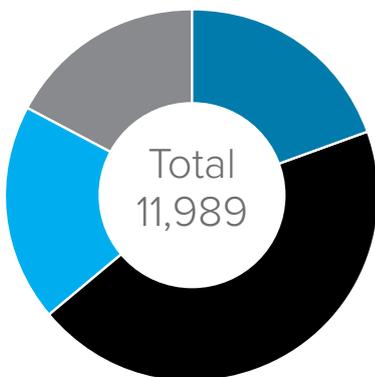
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

Top 10 lessors of regional jets



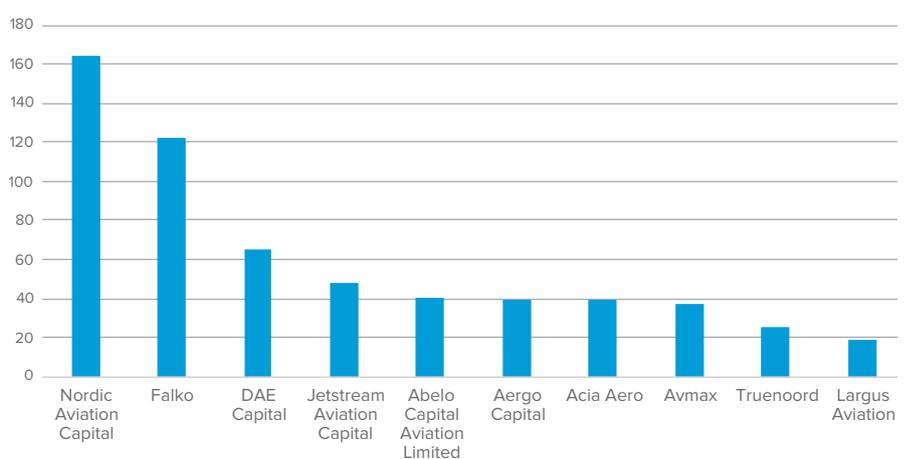
Source: Lessors and Airfinance Journal's Fleet Tracker.

Leased aircraft body type



- Narrowbody 8,539
- Widebody 1,913
- Turboprop 789
- Regional Jet 748

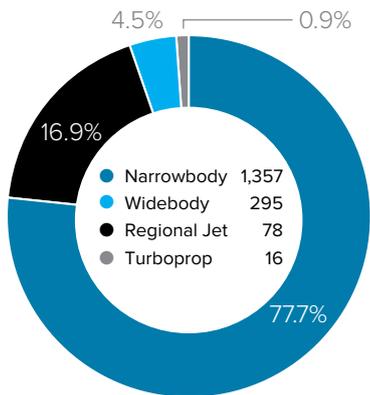
Top 10 turboprop lessors



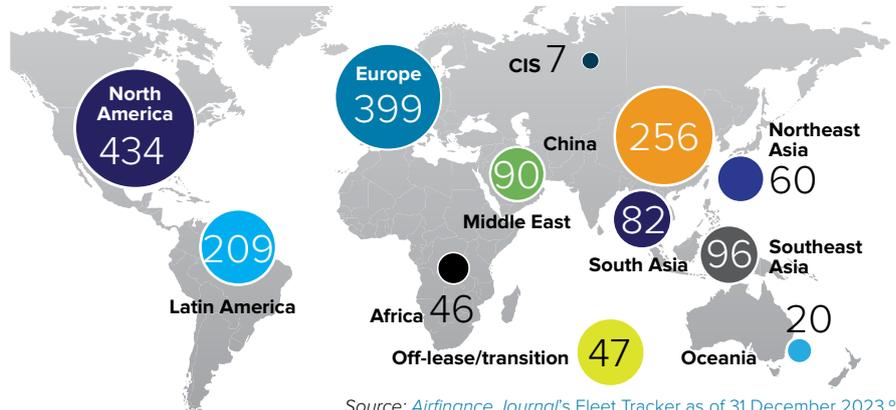
Source: Lessors and Airfinance Journal's Fleet Tracker
The data presents operating leased aircraft.

1 Aercap

Aercap fleet by aircraft type

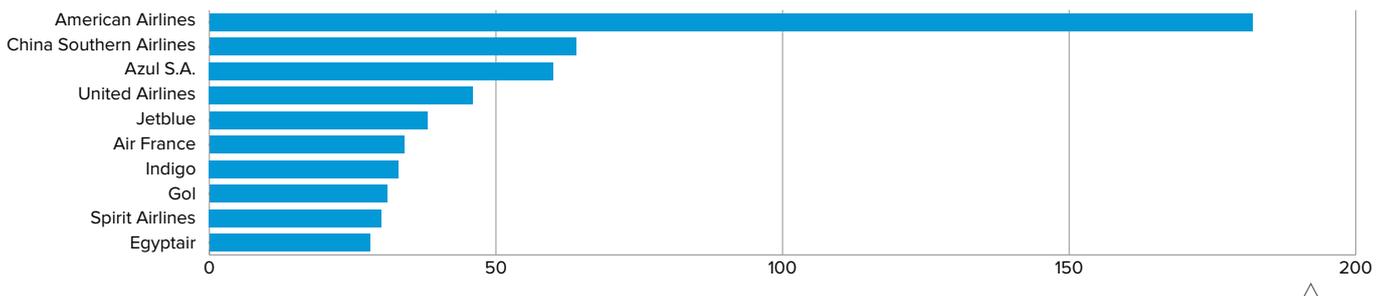


Aercap fleet by region of lessee



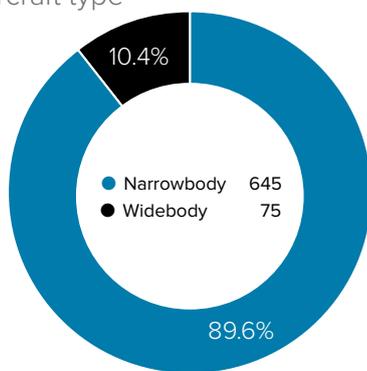
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

Aercap top lessees

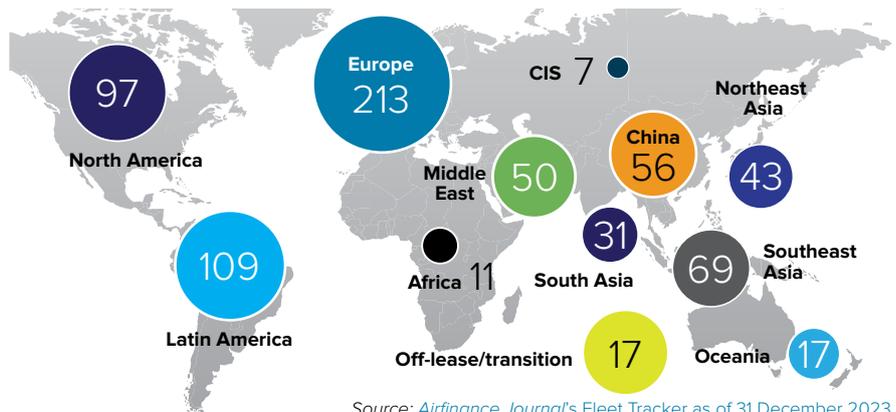


2 SMBC Aviation Capital

SMBC Aviation Capital fleet by aircraft type

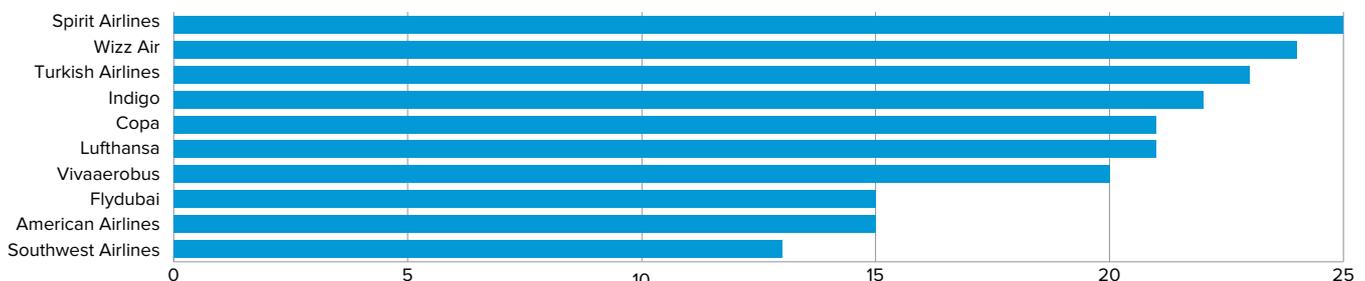


SMBC Aviation Capital fleet by region of lessee



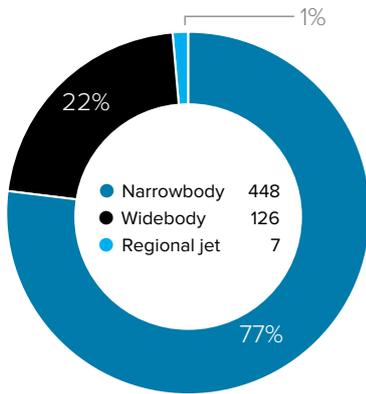
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

SMBC Aviation Capital top lessees

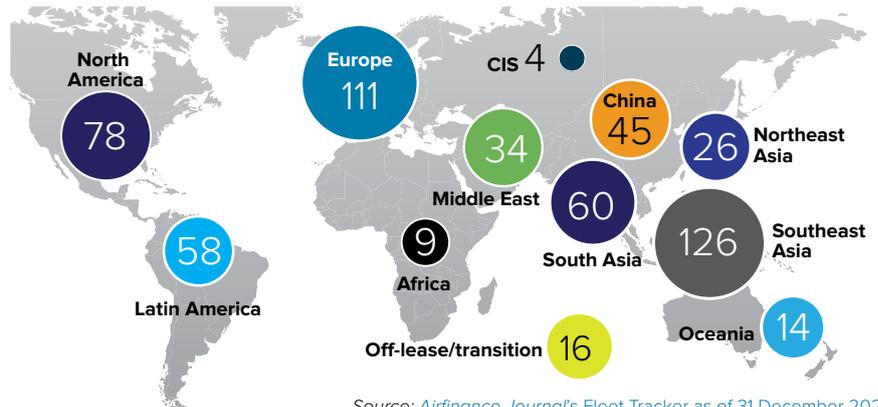


3 Avolon

Avolon fleet by aircraft type

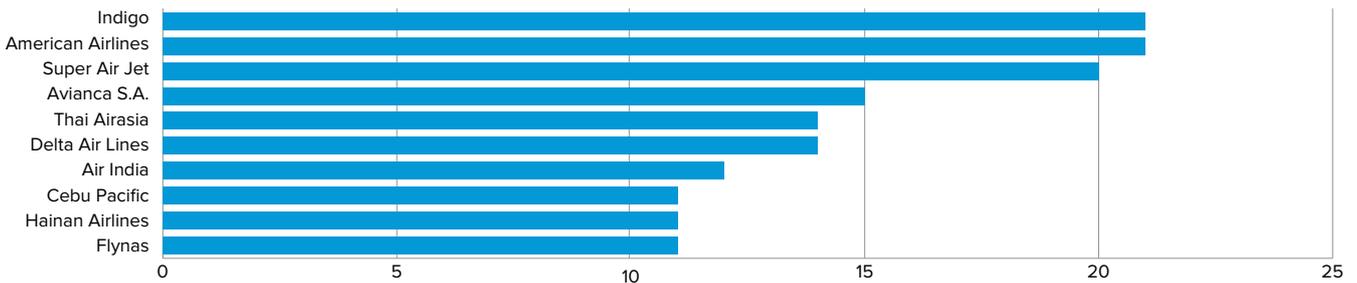


Avolon fleet by region of lessee



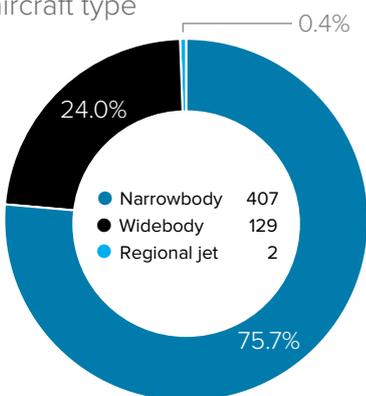
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

Avolon top lessees

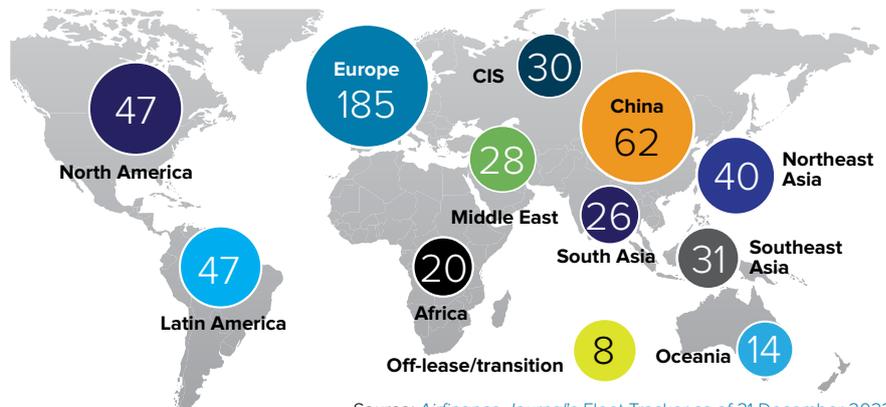


4 Air Lease Corporation

Air Lease Corporation fleet by aircraft type

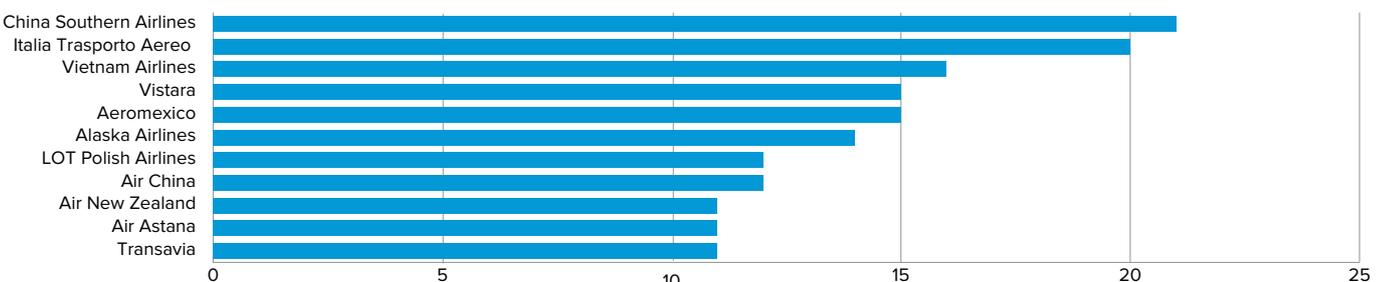


Air Lease Corporation fleet by region of lessee



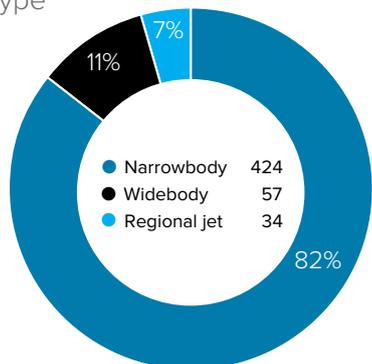
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

Air Lease Corporation top lessees

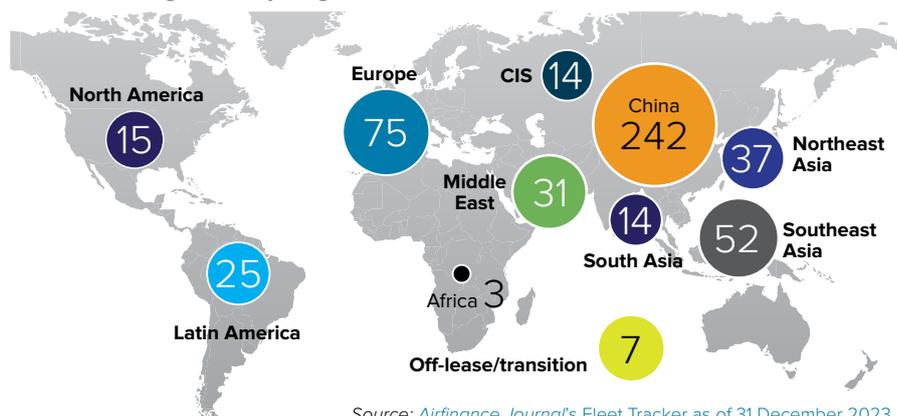


5 ICBC Leasing

ICBC Leasing fleet by aircraft type

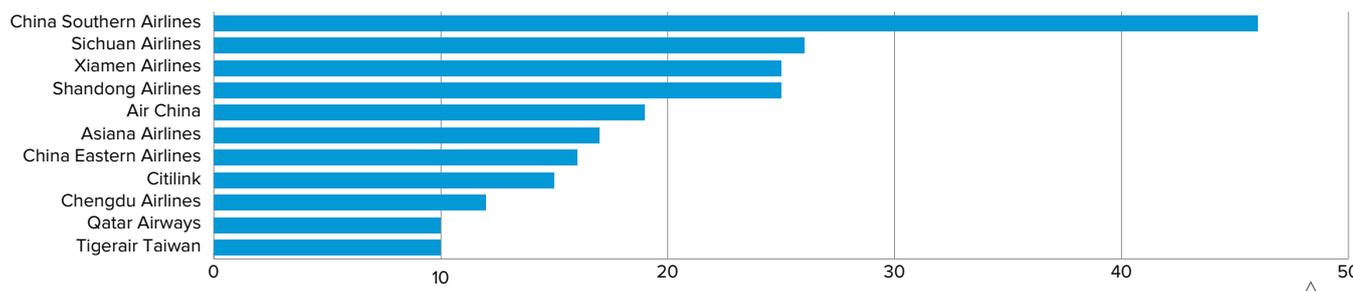


ICBC Leasing fleet by region of lessee



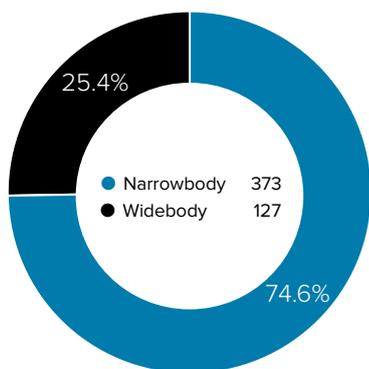
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

ICBC Leasing top lessees

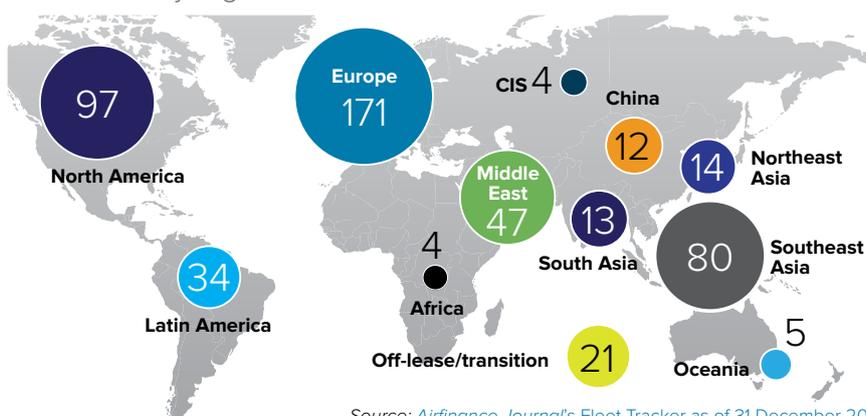


6 BBAM

BBAM fleet by aircraft type

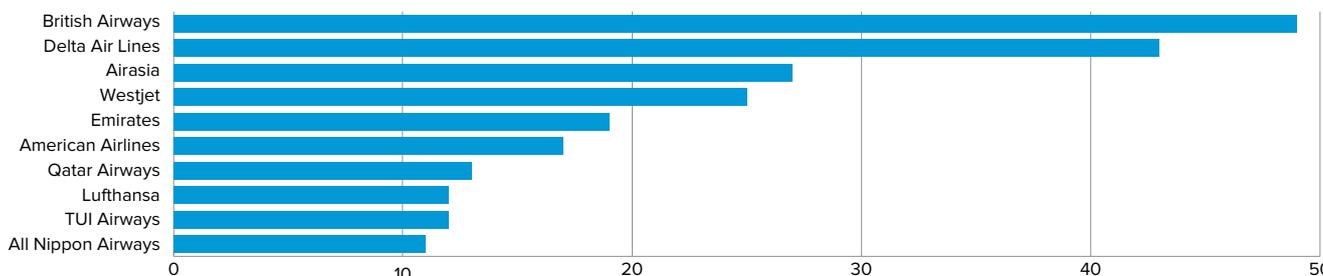


BBAM fleet by region of lessee



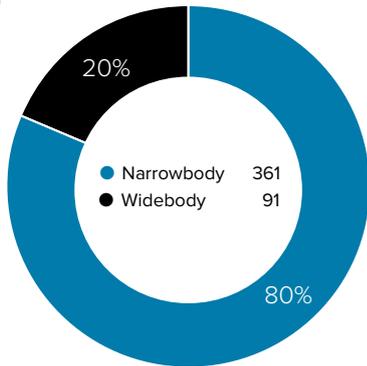
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

BBAM top lessees

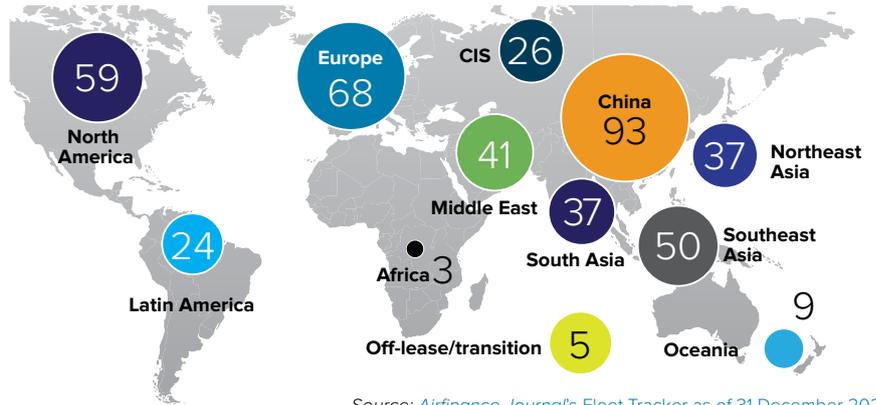


7 BOC Aviation

BOC Aviation fleet by aircraft type

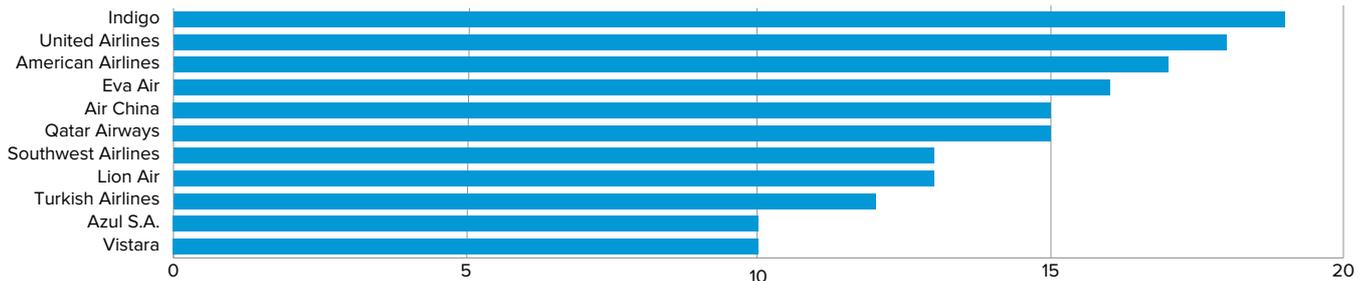


BOC Aviation fleet by region of lessee



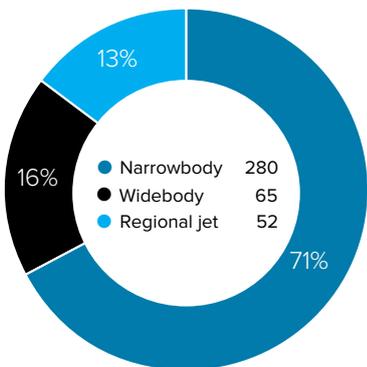
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

BOC Aviation top lessees

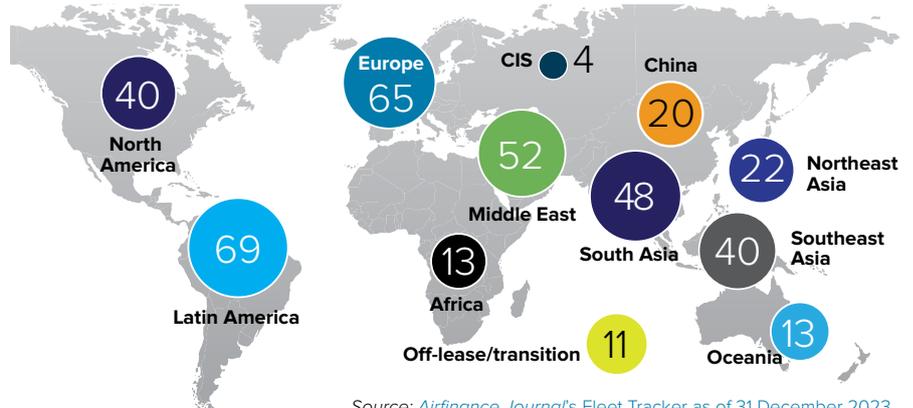


8 DAE Capital

DAE Capital fleet by aircraft type

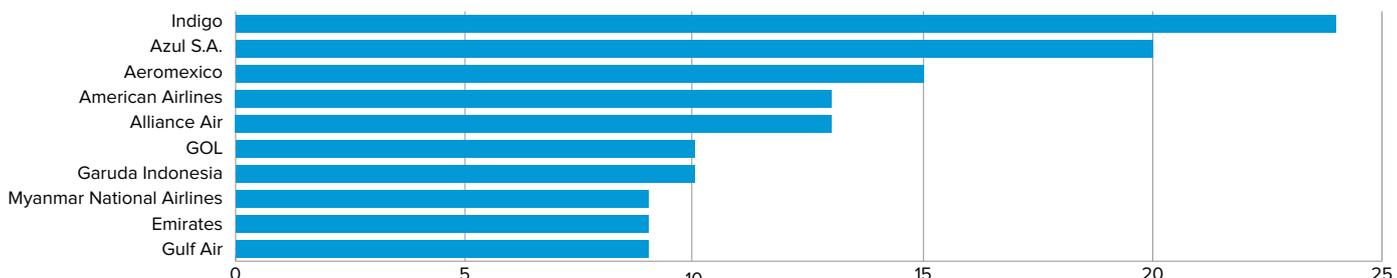


DAE Capital fleet by region of lessee



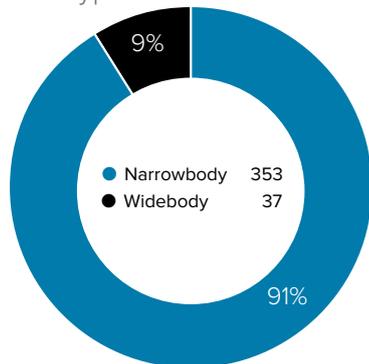
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

DAE Capital top lessees

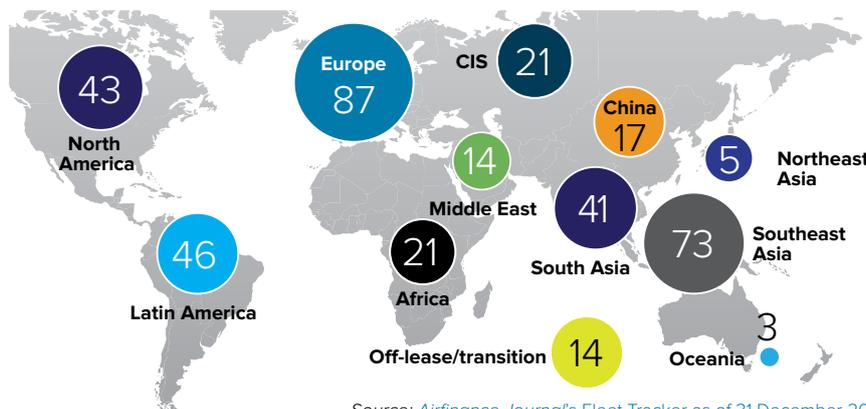


9 Carlyle Aviation Partners

Carlyle Aviation Partners fleet by aircraft type

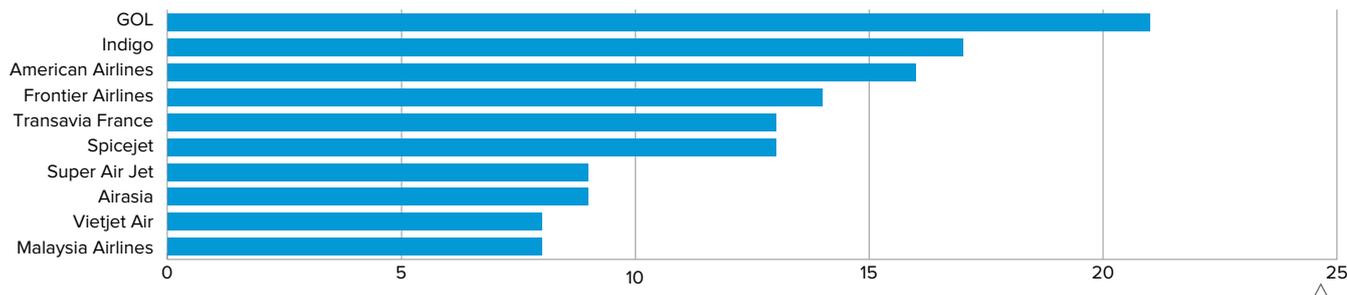


Carlyle Aviation Partners fleet by region of lessee



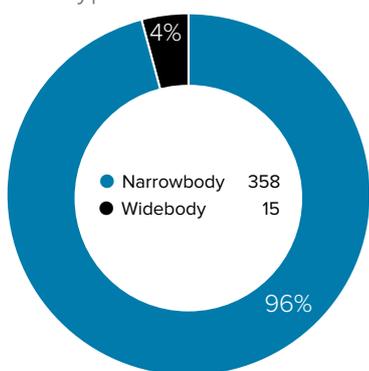
Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

Carlyle Aviation Partners top lessees

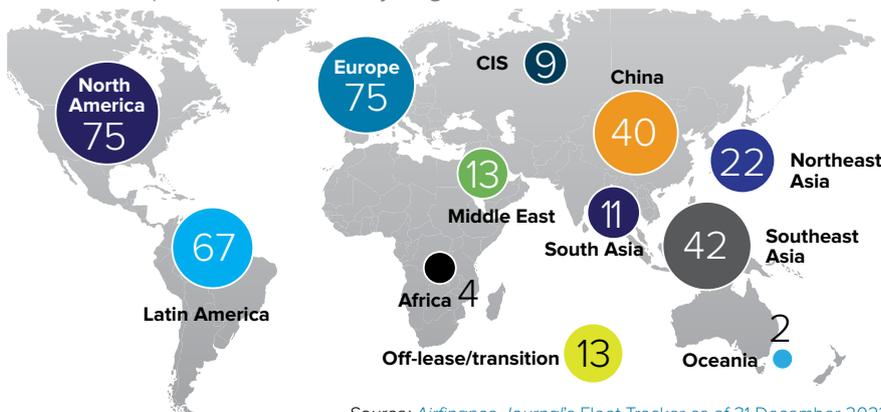


10 Aviation Capital Group

Aviation Capital Group fleet by aircraft type

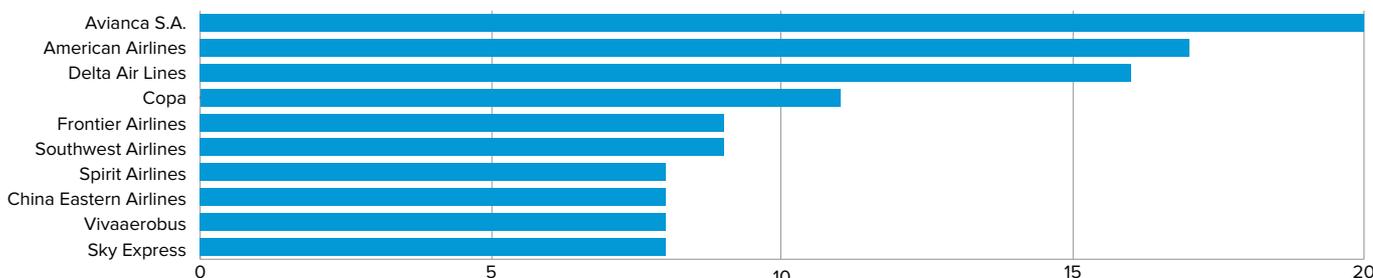


Aviation Capital Group fleet by region of lessee



Source: Airfinance Journal's Fleet Tracker as of 31 December 2023.

Aviation Capital Group top lessees





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