

## Rated Aircraft Lessors Exhibit Above-Average Aircraft Quality

**Manageable Impairment Risk:** Fitch Ratings expects aircraft impairments to remain manageable over the medium term, absent a material exogenous shock, demonstrating the resilience of young and midlife aircraft values that rated lessors tend to focus on. Overall, impairment levels across rated lessors averaged only 0.5% from 2012–2Q19, versus a peak industry average impairment ratio of 0.6% in 2014. Favorable fleet attributes should provide a degree of cushion against Fitch's expectation of longer-term normalization of aircraft leasing market conditions, including the potential for increases in airline bankruptcies, further aircraft repossessions, reduced financing availability and/or increased financing costs.

**Favorable Fleet Attributes:** Fitch considers the model, age, quality and liquidity of aircraft to assess potential impairment risk. Fitch groups aircraft into one of three tiers, with Tier 1 being the most liquid and downturn resistant and Tier 3 being the least liquid. Approximately 83.8% of the Fitch-rated lessor portfolios (by value) were classified as Tier 1, at March 31, 2019, compared to only 68.9% for the sector as a whole, suggesting lower impairment and residual value risks for rated lessors, all else equal. While most rated lessors focus primarily on Tier 1 aircraft, lessors with larger Tier 2 percentages include Airastle, which is focused on midlife aircraft, and Voyager, which has a concentrated portfolio of A330 widebody aircraft.

**Portfolio Age Not Primary Driver in Recent Impairments:** Recent impairments have primarily arisen from sale transactions or from lease terminations due to lessee defaults, rather than from older, less in-demand aircraft. Airastle terminated leases for seven B737NG aircraft to Jet Airways (India) Ltd. in 2Q19 due to default and recognized impairment charges amounting to 0.4% of average book value. Lessee credit profiles remain sound, but Fitch expects some deterioration over the medium term due to rising fuel costs and the strong U.S. dollar. Still, airline defaults have had a muted impact on lessors' utilization and operating results given strong re-lease demand, cash coverage of reserves and portfolio diversity.

**Appropriate Risk-Adjusted Leverage:** Fitch generally believes there is a trade-off between leverage and portfolio quality, as more liquid fleets support higher leverage due to lower residual value risk. Fitch's leverage tolerance for stand-alone aircraft lessors rated investment-grade is 3.0x on a gross debt to tangible equity basis. Average leverage for investment grade lessors was 2.6x, at June 30, 2019, unchanged from YE18 and consistent with the current ratings. While debt issuance has remained active since 2018, this has been offset by debt repayment and modest equity growth, via retained earnings and the absence of material asset impairments.



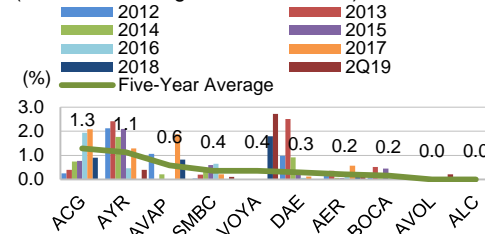
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## Asset Impairments

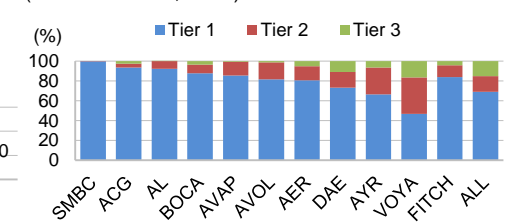
(As a % of Average Net Book Value)



Note: ALC has not recorded any impairments. DAE's ratios from 2012–2015 are calculated from AWAS historical financials.  
Source: Fitch Ratings, company reports.

## Portfolio Tier Distribution

(As of March 31, 2019)



Tier 1 – Most liquid and Downturn-Resistant. Tier 2 – Moderately Liquid and Marketable. Tier 3 – Lease Liquid.  
Source: Fitch Ratings, Aviation Specialists Group, Fleet Global, company filings.

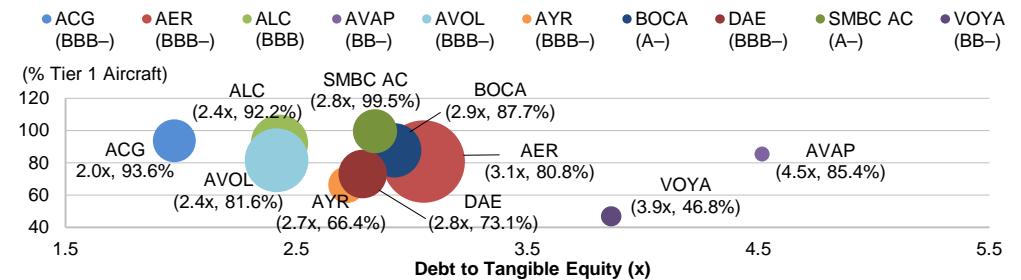
## Select 2018–2019 Airline Bankruptcies

| Airline        | Country of Domicile | Operations Ceased | No. of Aircraft 2 Mos. Prior to Bankruptcy | No. of Fitch Rated Lessors Impacted | Aircraft Leased from Fitch Rated Lessors |
|----------------|---------------------|-------------------|--|-------------------------------------|--|
| Thomas Cook    | Great Britain       | September 2019    | 59   | 5                                   | 24                                       |
| Jet Airways    | India               | July 2019         | 122  | 7                                   | 39                                       |
| WOW air        | Iceland             | March 2019        | 12   | 1                                   | 7  |
| Germania       | Germany             | February 2019     | 33   | 5                                   | 4  |
| Avianca Brazil | Brazil              | December 2018     | 57   | 4                                   | 23                                       |
| <b>Total</b>   | —                   | —                 | <b>283</b>                                 | —                                   | <b>97</b>                                |

Source: Fitch Ratings, Cirium.

## Aircraft Lessors' Debt to Tangible Equity and Tier Composition

(As of June 30, 2019)



Note: Bubble sizes represent fleet book values as of June 30, 2019. % of Tier 1 Aircraft is calculated as % of Net Book Value. ACG – Aviation Capital Group. AER – AerCap Holdings N.V. ALC – Air Lease Corporation. AVAP – Avation PLC. AVOL – Avolon Holdings Limited. AYR – Airastle Limited. BOCA – BOC Aviation Limited. DAE – Dubai Aerospace Enterprise Ltd. SMBC AC – SMBC Aviation Capital Limited. VOYA – Voyager Aviation Holdings.  
Source: Fitch Ratings, company filings.

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