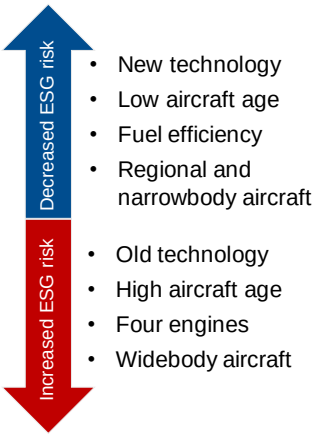
ESG Risk Considerations in Aviation Finance

Scope's Aviation Finance Rating Methodology (AF methodology) accounts for environmental, social and governance (ESG) factors. ESG factors are an important consideration in aviation finance as regards credit risk. New aircraft technologies are the best defence against environmental-related credit risks, for example, designs that lead to better fuel efficiency, lower noise levels, and advanced aerodynamics. Airline ESG risks are analysed in accordance with Scope's Corporate Methodology.

Environmental credit risk factors



In line with our AF methodology, we apply bigger stresses to aircraft with higher ESG risks. For example, the day-one rating-conditional stress applies a haircut to the day-one value, and the level of stress increases with the aircraft's age.

Environmental risks are generally higher for older aircraft as their less advanced aerodynamics lead to less fuel efficiency. Further, the economic fundamentals of inefficient aircraft are more exposed to the proposed aviation fuel tax in Europe, when and if implemented, as it is likely to be based on litres of fuel used.

Environmental risks are lowest for fuel-efficient aircraft, namely, regional and narrowbody aircraft running on new technologies. This is addressed by calculating an aircraft model's base annual depreciation using its age, body and model age. An aircraft's phase relates to the phase in its model's lifecycle, classified as new technology, old technology, or out of production. Out-of-production aircraft also have the highest annual depreciation rate as their older technology poses higher environmental and credit risks.

Model age refers to the phase of the model, and the body refers to the aircraft type, i.e. regional, narrowbody, widebody or freighter. The highest annual depreciation factor is applied to widebody aircraft. Widebody aircraft are most exposed to the proposed aviation fuel tax, unless they are operated over routes that exploit their higher efficiency over long distances.

We account for environmental risks by applying rating-conditional annual-depreciation stresses together with other credit risk-related factors set out in the AF methodology. Annual depreciation stresses are a function of the aircraft's body and phase. The highest rating-conditional stresses are at the AAA level.

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Related Methodologies

Aviation Finance Rating Methodology
July 2019

Rating Methodology Corporate Ratings
February 2020

Methodology Counterparty Risk in Structured Finance
July 2019

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Social and governance credit risk factors

The AF methodology considers the governance and social factors in the counterparty analysis. Factors such as the quality of the asset manager, the alignment of interests and the quality of the lessor are considered when appropriate and information is available. Only factors that are relevant to a counterparty are considered, determined on a case-by-case basis. Counterparties in aircraft financing can include the asset manager, the arranger, the servicer, the account bank or insurance provider.

The airline's credit quality is a vital factor in determining a contract's probability of default and is therefore an input under the AF methodology. This analysis also incorporates ESG risk factors. Scope's corporate methodology stipulates how ESG factors for airlines are assessed.

Figure 1: ESG factors considered in aviation finance credit analysis

Corresponding section in AF methodology	Environmental	Social	Governance
5.1 Day-one rating-conditional stress	Aircraft age		
5.2 Annual depreciation assumptions	Aircraft age, body and phase		
5.2.3 Stressed annual depreciation	Aircraft body and phase		
5.3 Aircraft repossession and remarketing	Aircraft liquidity e.g. new technology, fuel efficiency, body and age		Political stability, legal framework and judicial independence in the airline's jurisdiction
6.1 Standalone credit assessment of risk presenter	Scope's corporate methodology section 6	Scope's corporate methodology section 6	Scope's corporate methodology section 6

Examples of ESG considerations in aviation finance

Aviation fuel taxation

The European Commission has proposed a kerosene tax, which, if implemented, would increase the credit risk for less fuel-efficient aircraft as it is assumed to be based on litres of fuel used. Older-generation aircraft use more fuel than newer models, while widebody aircraft use more than narrowbody types. However, the higher passenger capacity in widebody aircraft means the tax can be spread among more customers. New-technology aircraft have the lowest credit risk in relation to this tax. The AF methodology accounts for this risk by applying a higher depreciation rate on old-technology aircraft.

Sustainable aviation fuel

Our ESG analysis does not consider sustainable aviation fuel (SAF) as the sector is still underdeveloped. We will revisit our approach if the sector further develops. SAF reduces greenhouse gas emissions by between 40%-90% against fossil fuels according to the EU Renewable Energy Directive. Currently only 0.1% of international flights use a mix of SAF. The aviation industry will account for around 15% of global oil demand growth until 2030, according to the IEA. Currently, only one aviation biofuel is technically able to blend with the fuels in common use, including fossil-fuel-based jet kerosene, hydroprocessed esters and HEFA-SPK (fatty acids synthetic paraffinic kerosene). HEFA-SPK and other SAF

products are more expensive than jet fuel, which decreases their demand and, in turn, their supply. The IEA's sustainable development scenario for 2025 envisages subsidising the replacement of 5% of jet-fuel demand with SAF. We will consider the inclusion of SAF as an ESG factor if technological developments and subsidies result in the fuel's wider adoption in commercial aviation.

Aircraft design and aerodynamics

Advanced aerodynamics and lower aircraft weights contribute to greater fuel efficiency, which is credit-positive. Newer models such as the Airbus A350 reduce aircraft weight through the use of composite materials such as carbon-fibre-reinforced polymers. This also reduces ESG risk through the reduced maintenance needs and improved cabin environment.

Aviation legislation: aircraft design and noise regulation

Legislation has a large impact on both ESG risk and credit risk, affecting the technologies used and encouraging greater aircraft efficiency. Noise emission levels have been legislated since the 1970s. Environmental risk for old technology aircraft models will be further exacerbated when new legislation steps in.

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