A new rating approach – Knowing your aircraft is the secret to risk assessment in aviation finance

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Commercial aviation is a notoriously volatile and cyclical industry, yet financing aircraft can be a surer proposition than financing airlines. Scope Ratings believes that current rating approaches do not properly reflect creditworthiness in secured aviation finance, hence the European rating agency's new methodology for the sector.

The bottom line for any creditor is working out how much of their investment they can expect to get back. In other words, the potential size of the loss for the investor is more important than the likelihood of there being a loss in the first place.

In secured aviation finance, this means weighing up how much an investor can recoup from the sale of an aircraft in case of the default of the airline, rather than the probability of default of the airline itself. Investors therefore need detailed knowledge of the underlying asset to be able to assess its value.

This bottom-up approach is central to Scope's new Aviation Finance Rating Methodology, which is based on examining the risk profile of each aircraft to work out the expected loss for an investor.

A bottom-up based methodology

This is a non-trivial distinction. After all, the default of an airline will not result in a loss for the investor if the realisable value of the underlying aircraft is higher than the outstanding debt. Security reduces the credit risk borne by the creditor in all instances, and the loss depends on the underlying security value.

The determination of the underlying aircraft value is easier said than done, but it is this sort of detailed analysis that underpins Scope's methodology. Scope has analysed historical market values of more than 200 aircraft models over the past 26 years. Scope found that some factors have a higher impact on aircraft depreciation than others, among them, the age of the aircraft, the aircraft model's life cycle, and the aircraft body, in addition to the market environment.

This approach allows Scope to differentiate between individual aircraft. Aircraft specifics are taken into consideration in assessing the credit quality of the underlying security, and its depreciation under stress, rather than relying on rough depreciation assumptions.

Regarding sovereign risk, Scope does not mechanistically limit the maximum rating an aviation transaction can achieve as a function of the credit quality of the country of the aircraft's operator or owner. Instead, we assess the efficacy of elements such as insolvency laws, self-help remedies, ratification of the Cape Town Treaty, or political stability in the context of the risk horizon of each rated transaction. Scope also takes the macroeconomic environment into account.

Calculating the stressed value of the aircraft over time allows Scope to determine the loss given default—the difference between the recoupable aircraft value and the outstanding debt at time of default—for each respective period in the life of the transaction.

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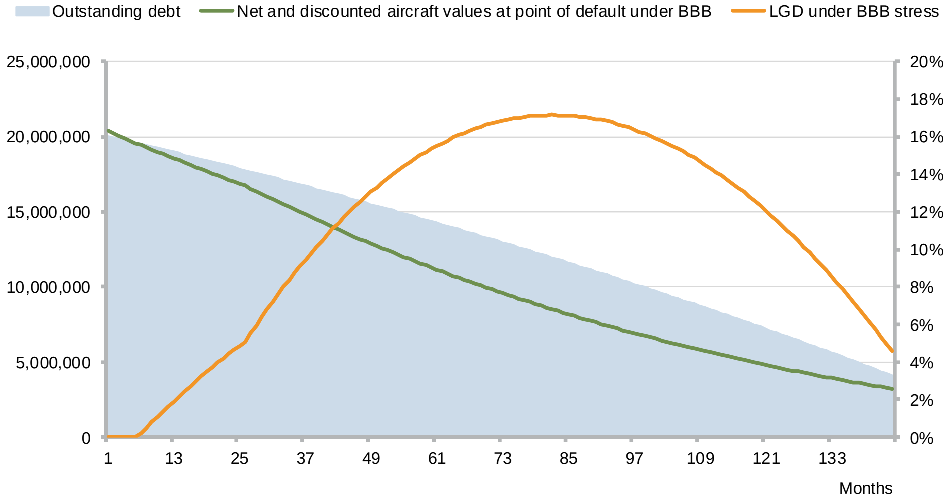
Figure 1: LGD is the relative difference between net aircraft proceeds and outstanding debt at default, accounting for the time value of money.



Source: Scope

Presence of maintenance reserves lower credit risk

An aircraft's value is highly dependent on its maintenance status. If a default happens right before a major maintenance event is scheduled the investor will have to pay for the maintenance out of its own pocket, as an aircraft cannot be commercially operated without having gone through the mandatory maintenance programme. A pledged maintenance reserves account is therefore vital to ensure the value of the aircraft is not compromised through lack of maintenance.

Scope determines the level of maintenance reserves in a transaction as either no maintenance reserves, partial reserves or full reserves. A penalty is applied to the aircraft value if there are no or only partial maintenance reserves. This is to ensure that the estimated value of the aircraft reflects the potential lack of maintenance if a default happens shortly before a scheduled maintenance event.

The level of penalty applied is a function of the rating category as well as the credit quality of the airline. No penalty will be applied if the airline is rated A or above. It is very unlikely that an A rated airline will go directly into default. A migration from an A rating to default is likely to take several years. The airline will perform scheduled maintenance if there is no default as this is required to operate the aircraft.

Aircraft depreciate over repossession and remarketing times

In the case of an airline's default, the aircraft must be repossessed and remarketed. This can be an expensive and time-consuming process, during which the gross and net values of the aircraft typically decline.

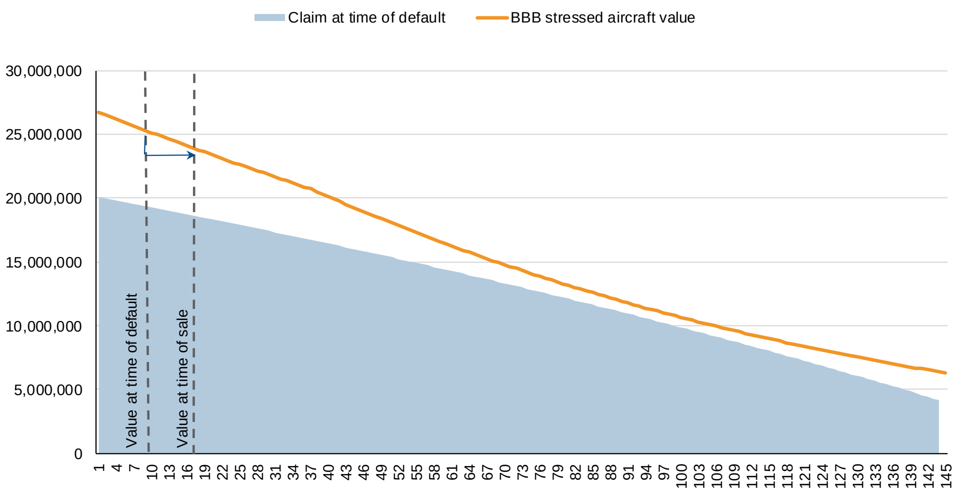
To account for this, Scope first determines the expected repossession time for the jurisdiction in which the airline is operating. Some jurisdictions, such as Australia, Ireland, and Denmark, are considered creditor friendly; while others, among them, Italy and Japan, are more debtor friendly. As we have seen in the case of Air Berlin, the insolvent German airline, the aircraft were returned quickly to the creditors—who could swiftly start a remarketing process.

After the aircraft has been repossessed, the process of finding another buyer starts. Scope's methodology assumes a base case remarketing time of six months. Another three months can be added depending on the particular features of the aircraft. Examples of relevant features are the plane being a widebody aircraft, a freighter, more than five years old, or a model whose production is being reduced or has ended. Further, if there are special concerns regarding an aircraft model another 1-3 months remarketing time can be added. For instance, Scope would assume that for an Airbus A380, the double-decker jetliner whose production has been cut back, the remarketing time would be three months longer due to a low operator base. Overall, an A380 would have a remarketing time assumption of 12 months.

The experience of the asset managers in charge of the remarketing is another important factor in determining how long the remarketing of the aircraft might take.

Scope takes the realisable value after the repossession and remarketing times to factor in the effect of repossession and remarketing. From the value at time of sale, we then deduct the estimated costs related to the repossession and remarketing.

Figure 2: The sales value is the value after adding remarketing and repossession times



Source: Scope

Determining the contract's default probability

Scope's analysis focuses on the probability of default of the aircraft-finance contracts. The contract's default probability can be higher or lower than the credit quality of the airline itself. While the main factor establishing the contract's default probability is the credit risk of the airline or operator of the aircraft, in many aviation transactions there is also full recourse to a lessor or a guarantee from another counterparty. When a full recourse or guarantee is in place, the underlying default probability of the contract is the joint probability of the airline and lessor, which is typically lower than that of just the airline.

The credit risk of the contract also reflects how essential an aircraft is to an airline's fleet. Some aircraft might offer a competitive advantage over other models for the operating airline. For example, an airline that mainly focuses on domestic routes, with only a few widebodies used for some long-haul segments, is more likely to return a widebody aircraft during a restructuring process. The contract's probability of default is lower if the aircraft is relevant to the core operations of the airline.

Severity and probability of default: It takes two to tango

Loss given default does not alone provide full insight into the credit risk of a transaction. Probability of default is an integral aspect when calculating the expected loss. The combination of these two factors results in the total expected loss of the transaction. Through combining a thorough analysis of the aircraft with a comprehensive credit analysis of the contract's resilience against default, the investors get full insight into potential risk factors of a transaction. Arrangers will also take comfort in the fact that the underlying aircraft is properly accounted for and plays a large part in the determination of the final rating.

Boom in demand for air travel

Scope believes the publication of its aviation finance methodology is well timed, considering the expected sustained rise in demand for air travel, and the investment needed to build up the aircraft capacity to meet that demand. As the aviation-finance sector broadens and deepens, Scope believes it has the transparent, analytical framework which investors need to participate in this dynamic and demanding market.

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