

# Aviation Finance Outlook 2019

## Lack of discrimination hints at hard landing to come



The aviation finance sector's outlook for 2019 is delicately balanced: Market conditions remain relatively benign, but a price correction could be close at hand. Market players have become less discriminating in valuing different versions of the same aircraft. This trend starts around two years before a crisis, as we found in our analysis of 26 years of data. Narrowing valuations have proved a feature in 2018, along with abundant liquidity and high loan-to-value ratios, creating a market vulnerable to external shocks. Certain riskier investments might suffer losses if a disruptive event occurs.

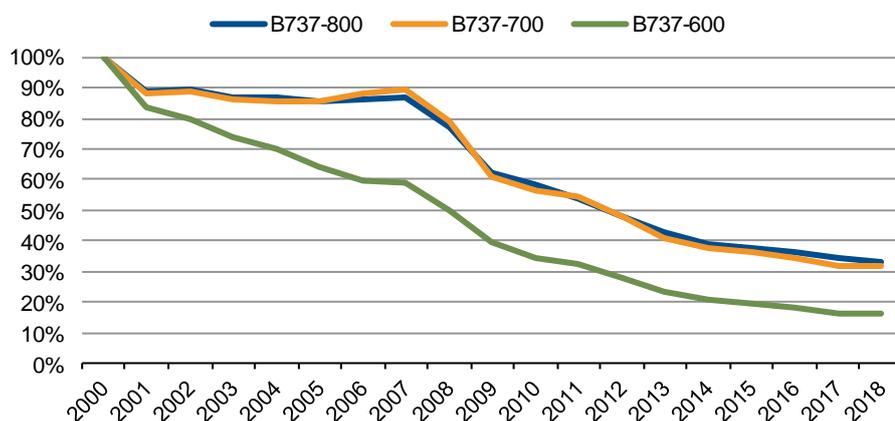
Volatile oil prices and rising interest rates represent the main short-term external risks for 2019. High fuel prices particularly help to explain the default of several small European carriers, including Primera Air, VLM, Small Planet, Azur and SkyWork. We have seen little effect from these defaults on aircraft values due to the benign overall market environment, marked by continued economic growth, falling unemployment and growing demand for air travel. The effect would be more severe if larger carriers were to default in a downturn.

### Findings reveal a vulnerable aircraft market

Scope's analysis of 26 years of historical data has revealed an interesting trend. Approximately two years before the most recent financial crises, market values for different aircraft models narrowed sharply. The market is increasingly neglecting to discriminate between aircraft specifics (such as the model phase) despite having done so in the past. The model phase signifies where the model is in its life cycle, i.e., whether it is flying with new, mature, or out-of-production technology. During an expansionary part of the cycle, older-technology models have similar market values to newer-technology models of the same age, suggesting prices have inflated to unrealistic levels. We argue that bullish market sentiment is encouraging participants to neglect aircraft-specific characteristics.

The expansionary part of the credit cycle sees aircraft prices inflate such that depreciation is ignored. Eventually such overvaluations lead to a sharp correction. We conclude that this is due to price inflation rather than market values recovering since the last crisis. Figure 1 illustrates this trend. The B737-700 appreciated in value from 2006 to 2008 and saw low depreciation in the years before. The appreciation of the -700 model is even higher than that of the newer-technology model -800. This suggests that market players did not discriminate between the two models.

Figure 1: Aircraft depreciation



Source: AVAC, Scope

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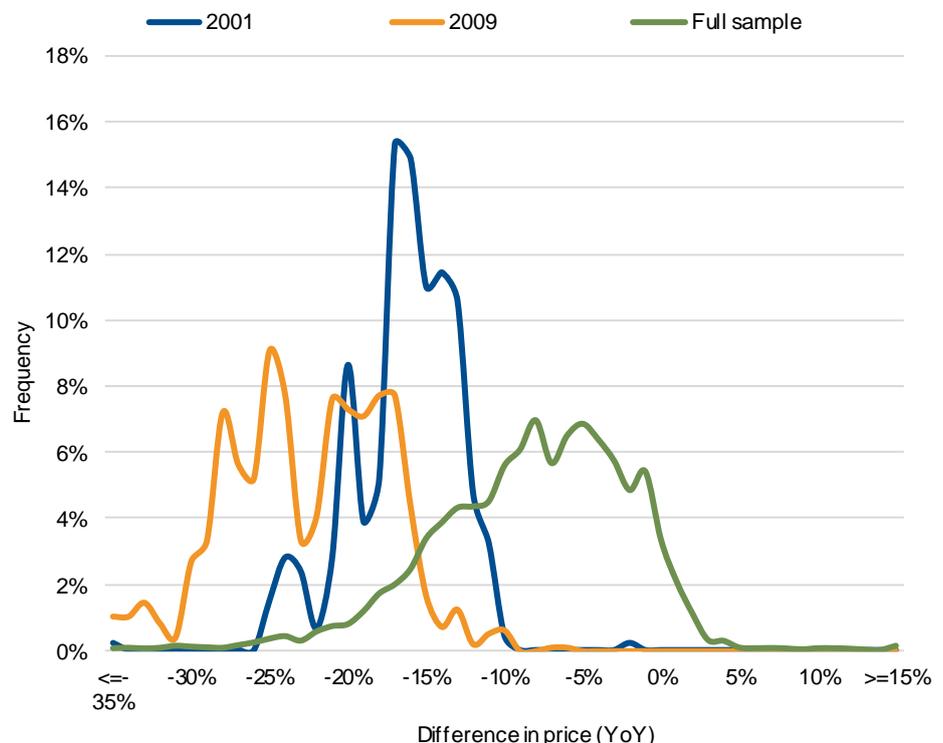
We see a similar trend in the market in 2018. The market value for 2018 vintage A320-200CEO and the newer technology A320-200NEO are very close. The A320-200CEO has a market value of USD45.42m while the newer model A320-200NEO trade for USD46.36m according to Oriel. The first delivery of the A320-200NEO was in 2016. The manufacture has updated the A320-200CEO model with newer technology engines increasing fuel efficiency by more than 15 percent, according to Airbus. The A320-200CEO is still in production and in 2018 both CEOs and NEOs were produced.

Newer technology aircraft are more likely to recover their value after a crisis and it should therefore be a clear value difference between the two models. A 15% increase in fuel efficiency also increase the intrinsic value of the newer model. If both these aircraft are financed with the same LTV, the credit risk is substantially higher for the A320-200ceo. It is more likely the A320-200neo will recover some of lost market value after a crisis compared with the older-technology model. This would be especially true if we see increased oil prices which put a premium having more fuel-efficient aircraft in an operator's fleet.

### Dramatic value drops in a crisis

The analysis of 26 years of historical aircraft market values reveals substantial market value drops during crises. The distribution of YoY depreciation is skewed and suggests that the value drop in a crisis might be more dramatic than market players anticipate. This is illustrated in Figure 2.

**Figure 2: Distribution of aircraft YoY annual depreciations**



Source: Scope, AVAC

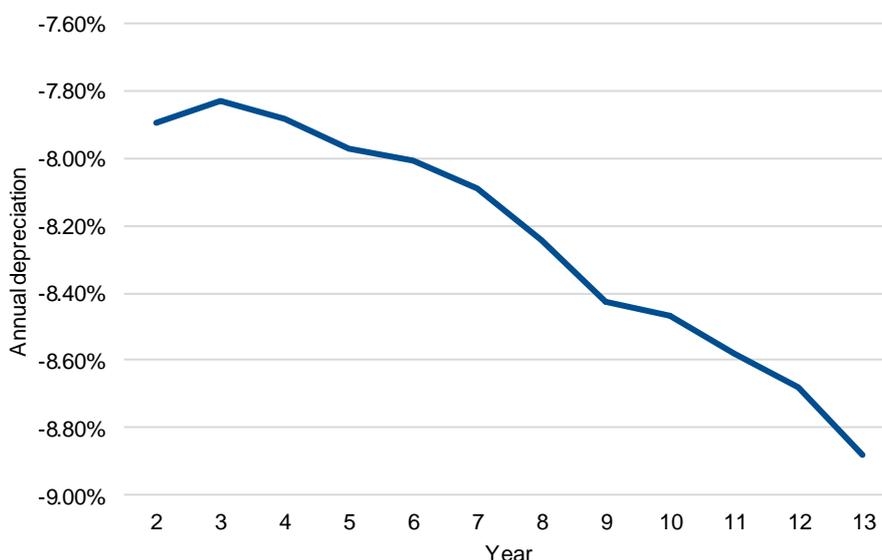
We show the distribution of the full sample of aircraft values over a period of 26 years in green. The data reflects both benign and crisis periods. The average YoY depreciation is 9.7% with a standard deviation of 7.1%. Notice the distribution is skewed and the upper tail of the distribution shows the impact of the 2001 and 2009 crises.

In a market downturn, there is less discrimination between different aircraft models and bodies. This is evident in the lower standard deviation observed for the distributions during the 2001 market downturn (blue colour, with mean YoY depreciation of 16.9% and standard deviation of 3.4%). Still, the 2001 crisis was not as severe as the global financial crisis.

Annual depreciations were largest during the global financial crisis (see orange colour distribution in Figure 2), In 2009 the mean yearly depreciation was 23% with a standard deviation of 5.1%. Annual depreciation rates were insensitive to aircraft characteristics such as age in 2009. For example, both one- and five-year-old Boeing 320-200s suffered similar relative value drops.

The market values of the newer technology aircraft models recovered some of their value after the crisis (by means of somewhat slower depreciation), as already mentioned in relation to Figure 1.

**Figure 3: Average annual depreciation across nine aircraft**



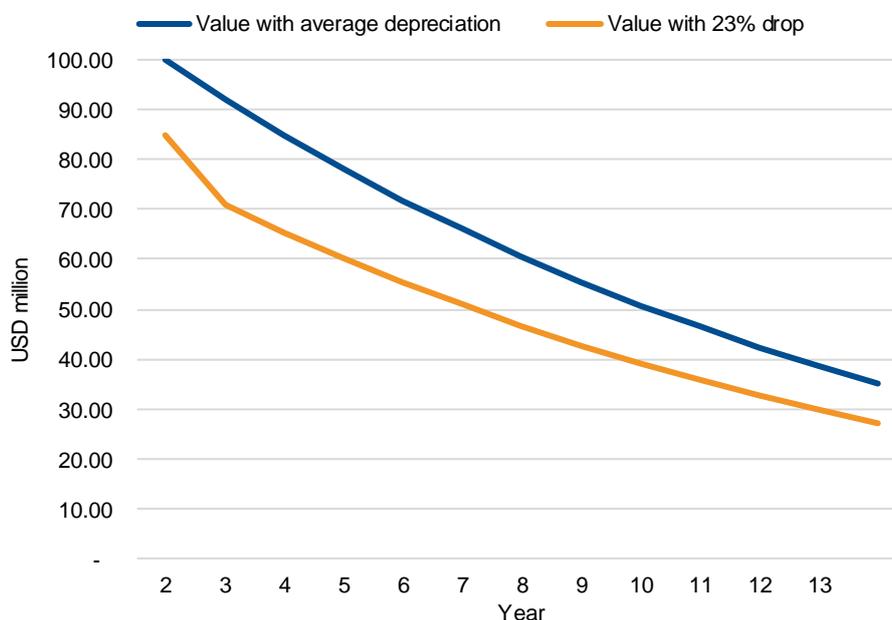
Source: Scope, Avitas, IBA, Ascend

Figure 3 shows the average annual depreciation of nine narrowbody aircraft appraised by Avitas, IBA and Ascend. Most appraisers forecast on average between 7-9% YoY depreciation for narrowbody aircraft.

It is important to consider a stressed value of the available security when analysing credit risk. The impact of the exceptional 23% year-on-year market value depreciation in 2009 has been applied to the annual depreciation in Figure 4. This makes the two value curves differ substantially and may result in uncovered exposures. It is critical that investors stress depreciation rates to account for a likely value correction in the short-term future. Figure 4 shows the market value depreciation of an aircraft assumed to be valued USD 100m in year 2, considering the annual depreciation rates shown in Figure 3.

Investors who assumed the value path as anticipated from appraised values experienced substantial losses in 2009 if they were hit by defaults. Scope stresses the average depreciation with rating conditional stresses to account for market downturns to calculate the total expected loss.

Figure 4: Depreciated value vs value in the 2009 crisis



Source: Scope, Avitas, IBA, Ascend

### Mitigating market value drops

Investing in new-technology aircraft and using a conservative LTV help reduce the credit risk of the transaction. Sometimes the market overshoots, and we then see a recovery for certain models after the market has stabilised in lower-than-expected YoY depreciations in the years that follow the crisis.

Inflated aircraft values increase credit risk. Value corrections just before the two previous market downturns suggest that investors should consider haircuts on security values. In the example, a 23% market value drop provides a buffer to offset inflated values.

Investors should evaluate (and question) the current market value of the aircraft they are investing in. We urge investors to compare the purchase price to the prices for the same aircraft model and age 4 years back. Value increases that cannot be explained by increased cash flows or inflation suggest that market value is perhaps above the fundamental value of the aircraft. LTVs should then be determined based on the estimated fundamental value and not on the market value. The market will correct the value in a market downturn, which could result in a loss for the investor in the case of an event of default.

Investors must pay close attention to the LTV when calculating the total expected loss of a transaction. How to correctly account for the correct aircraft value is set out in our research [“The Importance of the LTV in aviation finance”](#) from September 2018.

The aviation finance industry is currently vulnerable to external shocks. Scope believes the benign market conditions will continue into 2019, but investors should perform conservative risk assessments to build value buffers to protect them in case of a market downturn.



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