
2020 Aviation Finance Outlook

High aircraft values and low lease-rate factors which do not reflect the commercial and operating risks facing airlines leave the aircraft-financing industry in a vulnerable state in 2020.

Project Finance, Scope Ratings GmbH



Executive summary

High aircraft values and currently low lease-rate factors which don't reflect the commercial and operating risks facing airlines leave the aircraft finance industry in a vulnerable state in 2020. We expect little change to lease-rate factors in the first half of the year. The slowdown in the global economy will rub off on the aviation industry – more airline defaults are likely in 2020 – though stability in oil prices will help the industry keep costs under control.

The main trends we expect for 2020 are:

- Aircraft values are still rising at the same time as lease-rate factors are falling.
- We expect little change to lease-rate factors in the first half of the year.
- Lessors and arrangers must take increasingly optimistic views on the residual value of aircraft for returns to be viable at current lease rates.
- Current lease-rate factors in many narrowbody-aircraft transactions are not sustainable. This is a hidden risk that will materialise should market conditions worsen.
- Growth in passenger air travel market will slow; we also see sluggish economic growth and downturn in world trade.
- The growing number of airlines suspending flights to and from mainland China, mostly due to lower demand as the authorities try to contain the coronavirus outbreak, leads us to expect a significant reduction in airline revenues, particularly in Asian air travel.
- The slowdown in growth will start to weigh on aircraft values only when growth slows significantly.
- Political conflict in the Middle East will probably result in stable, rather than decreasing, oil prices.
- The uncertainty surrounding the return to service of Boeing's B737MAX poses modest potential credit risks for aircraft-finance investors.
- Airbus's huge order backlog makes it hard for the plane maker to benefit from Boeing's troubles.

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Key trends for 2020

High aircraft values and currently low lease-rate factors which don't reflect the commercial and operating risks facing airlines leave the aviation finance industry in a vulnerable state in 2020.

We expect little change to lease-rate factors in the first half of the year. The slowdown in the global economy will rub off on the aviation industry – more airline defaults and further consolidation are likely in 2020 – though the stability in oil prices will help the industry keep costs under control.

Lease-rate factors are at an all-time low thanks to the expansionary policies of central banks that are keeping interest rates below their natural level. Lease-rate factors are calculated as a percentage of the purchase price. The lease-rate factors should account for the depreciation of the aircraft, return to investors, administrative costs, natural swap rates and credit spreads.

Lessors and arrangers must take increasingly optimistic views on the residual value of aircraft for returns to be viable at current lease rates. Depreciation is the biggest component of the total lease revenue. Investors justify lower lease-rate factors on aircraft by assuming the asset will depreciate more slowly. This dramatically increases credit risk. Investors will experience a loss in case of default if the aircraft is not appropriately depreciated over the term of the transaction. In other words, the effective LTV at the time a forced refinancing is necessary will be too high.

The industry is in a vulnerable state because aircraft values are still rising at the same time as lease-rate factors are falling. This trend has played out since the global financial crisis, particularly for narrowbody aircraft such as Airbus A320 and Boeing 737. Market participants had pointed to this risk in 2017. Since then, lease-rate factors have continued to fall. They are likely to remain low assuming interest rates remain low, which is what we expect for 2020.

Highly liquid financial markets stimulate competitive aircraft market

Excessive liquidity has translated into increased credit risk for investors. High liquidity increases competition among investors for assets, increases the net present value of investment opportunities, and tempts market players to pay more for assets than their fundamental intrinsic value considered at natural rates. In terms of aviation finance, investors are accepting lower lease rates, and transaction risks are not properly assessed.

This results in higher expected losses via higher probabilities of default and higher losses given default. The security in any secured investment is typically enforced in scenarios of stress, which means inflated security values will be corrected when they are most needed. Inflated collateral values represent lower

security than what the nominal LTV suggests because protection depends on the effective value that can be realised from the sale or release of the aircraft in a stress scenario.

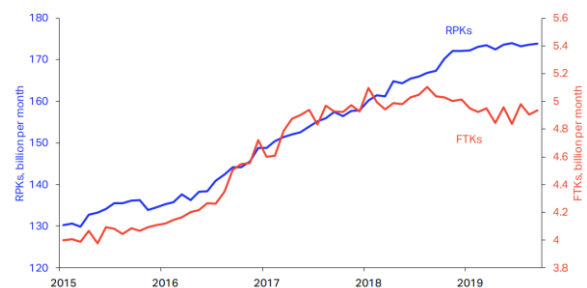
Investors should ensure that competition and eagerness to deploy capital do not result in too little compensation for the risk taken on. 'Naked' value should be the reference value for risk analysis. The value of the lease contract is part of the transaction analysis but should not distort the value attributed to the security – it should not be applied to the aircraft value. See [The Importance of the LTV in Aviation Finance – How to Account for the Correct Value](#), available at www.scooperatings.com.

We believe that current lease-rate factors in many narrowbody-aircraft transactions are not sustainable. This is a hidden risk that will materialise should market conditions worsen.

Subdued growth outlook for global economy

We expect passenger traffic growth will slow this year, as will growth in world trade, particularly if the coronavirus outbreak in China proves difficult to contain (Figure 1).

Figure 1: Growth in air passenger travel and cargo, 2015 through 2020 (forecast)



Source: IATA

Growth in passenger numbers and trade growth are highly correlated to world GDP. Global growth has slowed since the start of the US-China trade war (see Figure 2), though there may be now a light at the end of the tunnel after the recent agreement between the two countries. Nevertheless, the long-term impact on air traffic caused by the coronavirus is still uncertain, replacing concerns about a US-China trade war.

Revenue passenger kilometres (RPKs) have held up, with growth tapering rather than declining (see Figure 1). Scope's sovereign and public finance team forecasts global growth of around 3% in 2020 (see Scope's [2020 Sovereign Outlook](#)). This is materially down from 3.6% in 2018, but little changed from the estimated 3% in 2019. We expect more airline defaults in 2020. Weaker airlines, particularly in the Asian markets, are facing more problems than a slowdown of global economic growth. The Chinese economy, in particular, is expected to grow more slowly than in

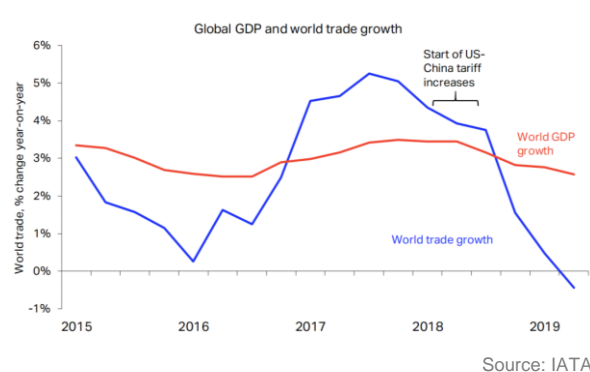
previous years. This will lead to a decline in Asian air-transport demand, which will be reflected in weaker passenger and cargo sales, particularly if international trade disputes arise again.

The consequences of the outbreak of the coronavirus in China for air traffic are not yet predictable. The growing number of airlines suspending flights to and from mainland China, mostly due to lower demand, leads us to expect a significant reduction in airline revenues, particularly in Asian air travel.

Aircraft values expected to drop only when growth slows significantly

We expect aircraft values to fall only if GDP growth slows down compared with 2019. Ample financial liquidity has in the meantime increased aircraft values, especially in the narrowbody sector. Market values are therefore in some instances above what we consider to be the intrinsic value of the aircraft. Slowing global GDP growth will reduce the competition between market players which we expect to result in a decline in aircraft values.

Figure 2: World trade growth vs world GDP growth



In any case, investors should carry out risk analysis that does not depend on a fallacious ability to predict the future, but rather one that incorporates generic protection buffers that can accommodate the impact of future stresses, whatever they may be.

Are oil prices a concern?

The possibility of a spike in oil prices represents another credit risk for investors though it is not a scenario that we think is likely for 2020. Moderate oil prices currently mitigate some of the impact of the economic slowdown.

Higher oil prices would put a strain on aircraft industry profitability, but a natural cap on oil prices resulting from high supply in our view will prevent prices reaching the record levels of 2008.

Lower values for older generation aircraft should be expected if oil prices were to increase further. However, we expect prices will remain around current levels in 2020 or even decrease. Indeed, expected increased supply in 2020 could even result in a slight reduction of oil prices.

The instability in the Middle East will probably result in stable, rather than decreasing, oil prices. Oil prices peaked after the Iranian military attack against US forces in Iraq. However, prices fell back to previous levels just a few days later.

Many older-generation aircraft are still efficient at current oil price levels

Stable oil prices would support airlines' financial performance should the global economy continue to slow. At current oil price levels, airlines can still afford to fly many older-generation aircraft with less fuel-efficient engines such as the B787NG and the A320ceo. The oil price is nevertheless too high to efficiently operate the least efficient aircraft such as the four-engine A340. Older aircraft models such as the A320ceo would still see a steep decline in value compared with the more fuel efficient A320neo if oil prices increase.

The present value of an aircraft is a function of future net cash generation. The more fuel-efficient the aircraft the higher the margin for the airlines. Investors investing in older-generation aircraft should account for the potential drop in value when analysing the investment.

The manufacturers' struggles

Boeing has had a difficult 2019. The full impact this will have on the industry and Boeing aircraft values remains to be seen, though investors can expect greater clarity in 2020. Here is our view on the potential impact on credit risk of the issues faced by Boeing and Airbus.

B737MAX – the grounding

The B737MAX is the biggest issue Boeing faced in 2019 and will continue to be one of the largest challenges for 2020. For the industry, there are several implications potentially affecting the credit risk of a transaction involving the aircraft.

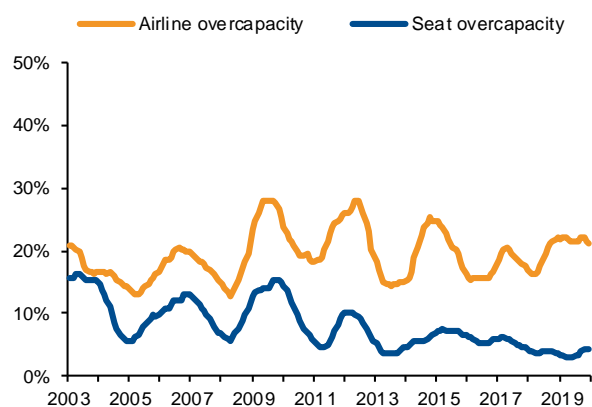
First, an airline's credit risk might worsen as it incurs direct costs related to the MAX grounding and the broader impact on its operations. Boeing has paid compensation to several airlines including Southwest Airlines, American Airlines and Turkish Airlines. If the costs are properly compensated, the impact on credit risk will decrease. However, the compensation is unlikely to account for many of the indirect costs – such as passengers refusing to fly the B737MAX in the future. More airlines are likely to receive compensation in 2020, which would be a credit positive for those airlines.

Secondly, the obvious and direct impact is on the credit risk of those investors invested in a B737MAX transaction. The risk today relates to amortising the principal in a way which is out of line with the aircraft's depreciation. The lack of principal amortisation increases the LTV and could result in a loss if the airline defaults today or later during the transaction term. For

now, we think the credit risk of future B737MAX deliveries is in line with expectations before the grounding of the planes. We expect the B737MAX to depreciate in line with other new-generation narrowbody-aircraft once the aircraft is back in the air and approved by all regulators.

The third credit risk we see is more difficult to quantify and predict. Assuming the FAA, EASA and other regulators approve the B737MAX taking to the skies again, another 370 aircraft will suddenly be back in the air based on the number of the jets that Boeing says it has delivered so far to a total of 47 airlines. Could this lead to over-capacity? That depends. The most likely outcome is that airlines will retire older models when the B737MAX is back in service. This will reduce some of the extra capacity. At the same time, the re-entry into service of the B737MAX could lead to over-capacity in some market segments, which, in the context of slowing growth, might contribute to the risk of more airline defaults. A mitigation factor is that it will take Boeing time to ramp-up production again after the shutdown.

Figure 3: Overcapacity estimates in Europe



Source: AVINOMICS

This risk might be less acute in Europe, even though international aviation markets are interlinked. In Europe, where around 13 airlines currently have grounded the troubled Boeing aircraft, we see low levels of seat over-capacity, judging by data from AVINOMICS (Figure 3) suggesting the market will more easily absorb the re-entry into service of the aircraft.

B737NG pickle forks

There is low credit risk related to the structural cracks found on the B737NGs pickle forks, discovered in 2019. The FAA issued an airworthiness directive to inspect the aircraft at risk. The findings so far suggest that less than 5% of currently inspected aircraft are involved. IBA says that it could cost up to USD250T per aircraft to fix the pickle forks. From a credit risk perspective, the risk is low to moderate. The credit risk in this instance arises from the reputational damage for Boeing. If Boeing aircraft are considered less safe by airlines and passengers, this could decrease the market value of Boeing aircraft across the line.

B777X delivery delays

As for the NG, the credit risk related to the B777X is more of a reputational nature. For Boeing it increases the costs related to producing the aircraft. Potential delays in deliveries could also have an impact on Boeing. It is assumed that few airlines have made concrete plans for the deployment of the B777X in their fleet at this point. Delays will therefore have limited impact on airlines' costs.

B787 Trent Engines

We consider the credit risk of B787 aircraft with Rolls-Royce Trent 1000 engines to be higher than of those with the competing engine model, General Electric GEnx. Re-marketing an aircraft with Trent 1000 engines with its current issues is considered challenging. Lower market values and longer re-marketing times could lead to a loss for the investor.

What's next? FSA vs NMA

B737MAX values will drop if Boeing replaces it with a new aircraft design. Therefore, the replacement of the 737MAX family with a newly developed "Future Small Aircraft" (FSA) would be a credit negative in our view. The shortening of the model life would threaten the value retention of the 737Max family. As a fallout from the B737MAX crisis, Boeing shelved its previous plans for the development of a replacement aircraft model for the B757 and B767, the so called "New Mid-market Aircraft" (NMA).

Airbus has had great success with the introduction of the A321XLR, which is aimed at the same market segment as the NMA. For Boeing, Airbus's success combined with the problems with the B737MAX family could make the development of the FSA as a replacement for the 737 family a more interesting option for Boeing.

Boeing might find it complicated to pursue more than one development project simultaneously due to the burden of the B737MAX crisis and technical problems with other programs (e.g. 787 engines, 777X). The NMA has been planned with a two-aisle design. But Airbus has taken market share in the NMA segment with the single aisle A321XLR. Replacing the 737MAX with a new aircraft design could be attractive for Boeing in the long term, though it would almost certainly be very unpopular with customers who have already received a 737MAX. Developing the FSA, replacing the B737MAX, would allow Boeing to leave the B737MAX crisis behind, offering a single aisle design for the mid-market segment and counter Airbus's success with the A321XLR in the NMA segment.

A380 production nears its end

Airbus' announcement to discontinue A380 production for 2021 significantly increases the credit risk on older A380 transactions. At the end of 2019 only nine A380s remain on the order books. So far there are few indications for the development of a secondary market

for the aircraft type. The aircraft of the wet lease provider Hi Fly remains the only one that has found a new home. Two other re-delivered aircraft have been disassembled for their spare parts. According to its own statement, HiFly would be interested in buying further machines, but only if the application possibilities improve. To achieve this, airports would have to invest in the appropriate infrastructure, which seems rather unlikely in view of the imminent end of production of this type of aircraft.

Ramp up of A321 production capacity

Airbus has worked on ramping up the A321 production capacity since 2019, which is credit neutral. Airbus had to make up for production delays caused by engine manufacturers' delivery problems in 2018. The problems were exacerbated by the surge in demand for the A321neo and the introduction of its variants, -ACF, -LR and -XLR, which led to greater production complexity. Both aircraft manufacturers have been

ramping up their production of narrow-body aircraft for years, though a high production backlog has built up over several years. The backlog is credit positive as it increases the likelihood of the manufacturers controlling over-capacity in the commercial aviation industry.

In some aviation markets, however, over-capacity is evident, which could put pressure on aircraft values in the event of a downturn and further consolidation in the industry. This is also a risk when the B737MAX returns to the skies. Airbus entered 2020 with an order backlog of 6,002 A320 neo-family aircraft. Airbus is unlikely to profit from Boeing's current problems with the B737MAX, though the A320 neo market values are expected to increase relative to the B737MAX values while the B737MAX is grounded.

Annex II: Related research

“China: coronavirus outbreak’s longer-term policy side-effects more important than direct GDP impact”, published Jan 2020 available [here](#)

“Sovereign Outlook 2020: slow growth, political uncertainty, rising debt add pressure on policymakers”, published Dec 2019 available [here](#)

“A Credit Risk Perspective on Aircraft Engine Investments”, published Feb 2020 [here](#)

“Moderate Oil Prices Decrease Aviation Credit Risk”, published Jul 2019 available [here](#)

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