Why hyper-outs and escalation matter: Sirius Aviation Capital

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Sirius Aviation Capital anticipates a "major impact" on aircraft delivery prices during the next few years if commodity prices persist and wage growth increases.

Recent spikes in commodity prices have led to speculation that some purchase contracts may have their "hyper-outs" triggered, as escalation usually is subject to a negotiated cap of around 3% per annum. However, suppose cumulative escalation is higher than about 5% per annum. In that case, the cap may fall away under the agreement, designed to protect the original equipment manufacturers (OEM) from excessive exposure to rising costs.

The findings are from the Abu Dhabi Global Markets-based lessor's second quarter industry report, which includes fresh research on aircraft pricing that has been shared exclusively with *Airfinance Journal.*

New aircraft pricing

The structure of new aircraft purchase agreements is well understood as many of these are in the public domain and are included in US regulatory filings by airlines and lessors, although the key economic terms are redacted.

Sirius identifies the key economic terms of an aircraft purchase agreement to include:

- A schedule of delivery dates - most aircraft purchase agreements are for more than one aircraft and can run to over one hundred;
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- A base price per aircraft as of a specific date, usually the contract date. The calculation of this price is complex involving multiple credits against the quoted list price;
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- A pre-delivery payment schedule, whereby the purchaser makes a series of payments on the contract date and at various periods before aircraft delivery. These pre-delivery payments are offset against the final purchase price;
- An escalation formula that adjusts the base price by reference to one or more inflation indices to compensate the manufacturer for increased costs between the contract date and delivery date.

Typical Pre-Delivery Payment Schedule

Date	% Of List Price Payable
Contract Date	1
24 Months before Delivery	4
18 Months prior to Delivery	5

12 Months prior to Delivery	5
6 Months prior to Delivery	5

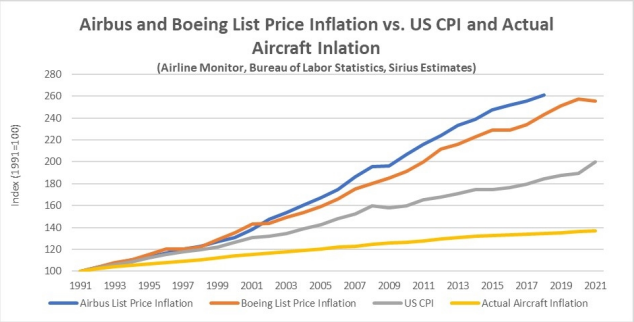
Typically there will also be a separate agreement with the engine manufacturer. This might be an entire purchase agreement where there are competing engine types for a twin-aisle aircraft, with a similar structure to an aircraft purchase agreement.

For most single-aisle aircraft, the manufacturer generally has a concession arrangement with the engine manufacturer and incorporates the engines within the aircraft purchase agreement. However, there will likely still be a less extensive side agreement between the buyer and the engine manufacturer.

Aircraft list prices

Sirius says Airbus and Boeing aircraft list prices have been the subject of "increasing scepticism and bemusement" with their customers over the years, and the chart below tries to explain why.

The lessor has calculated inflation indices for Airbus and Boeing list prices based on the average change in list price by aircraft type. The chart details this along with the US consumer price index (CPI) and the lessor's proprietary estimate of actual aircraft inflation based on extensive industry research.



List price inflation is much higher than general inflation, which has been higher than the Sirius estimate of the actual inflation in new aircraft prices.

The lessor believes the low level of actual inflation has been driven by Airbus and Boeing passing on efficiency improvements to customers at lower real prices to maintain market share. The cumulative effect of these differences is that typical discounts to list price are now between 50% and 60%.

Sirius says the OEM's' "motivation for this behaviour" is unclear but may include the following:

Aircraft list prices have moved broadly in line with aircraft engine list prices, which are very close to actual spare engines prices (engines sold are part of an aircraft order and are heavily discounted);

Pre-delivery payments are calculated relative to list prices, so high list prices help the OEMs' cash flow, and higher nominal discounts help sell aircraft.

The lessor points to market speculation that indicates list prices can play a role in "market signalling", and where Airbus and Boeing have very similar products, such as the Airbus 320-200 and Boeing 737, they have stayed relatively close. However, Sirus says this argument is undermined by the higher increases in Airbus list prices over time and the fact that Airbus stopped publishing them after 2018.

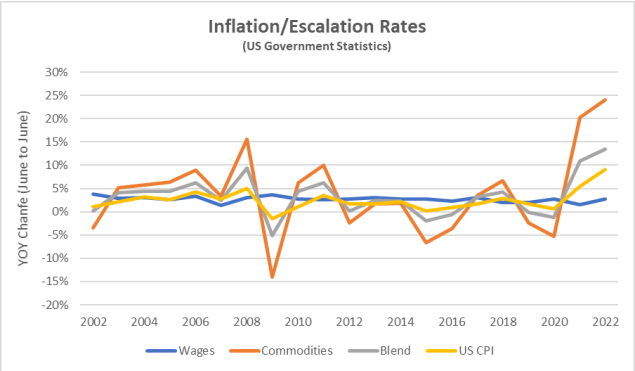
Escalation

Escalation calculations in an aircraft purchase agreement are based on a blend of one or more inflation indices. These are all US indices, as nearly all commercial aircraft transactions are in US Dollars. Although there is no standard blend, a typical combination might involve 50% aircraft manufacturing wages and salaries and 50% industrial commodities.

Escalation is calculated on a cumulative basis over the period from the contract to the delivery date and is normally subject to a negotiated cap of around 3% p.a. The lessor notes that if cumulative escalation is higher than about 5% p.a., the cap may fall away under an arrangement sometimes described as a hyper-out, designed to protect the OEM from excessive exposure to rising costs.

The impact of escalation on delivered aircraft prices has increased since 2010 because the gap between the contract date and delivery date has increased from three to nearly six years, it adds.

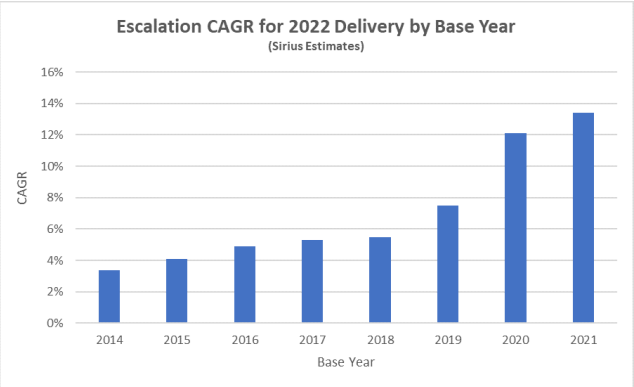
This trend has been stronger since 2019 because of delayed deliveries of the Boeing 737 Max and the 787 but predates these events. Where escalation is in line with actual aircraft inflation, that impact is not very important, says Sirius, but on average, escalation has been higher, so the real cost of the last aircraft delivered under a purchase contract becomes significantly higher than the first.



Commodity prices have been much more volatile than wages or general inflation, so the blended escalation rate has also been volatile. Recent spikes in commodity prices have led to speculation that some purchase contracts may have their hyper-outs triggered.

The chart above shows the annual change in the wage and commodity price indices, a 50/50 blend, and the US CPI for comparison purposes.

The extent to which aircraft buyers are exposed to hyper-outs is a function of when they place their orders because escalation is calculated on a cumulative basis. The chart below shows the escalation compound annual growth rate (CAGR) through 2022 for the previous eight years (if the average gap between order and delivery is six years, there will be some aircraft deliveries that were ordered eight years or even longer ago).



Although the Sirius escalation formula is only illustrative, the lessor believes it is broadly representative of market practice, and the analysis suggests the following:

Most buyers will be paying escalation up to their cap;

There should be relatively little impact on buyers who ordered before 2019;

Buyers that ordered after 2018 will be impacted, particularly if they ordered in 2020 or 2021.

The lessor believes there may not be an enormous aggregate impact on the average aircraft delivery prices from these developments, mainly because right now, there are not many aircraft delivering that were ordered in 2020 and 2021.

Also, those aircraft that were ordered in these years (and 2022) probably became available due to airline defaults and sanctions on Russia, which means that the new buyers would have had the opportunity to renegotiate various contractual terms, including escalation.

If increases in commodity prices persist, then there will be a major impact on aircraft delivery prices in the next few years, particularly if wage growth also picks up. This dynamic could happen even if general inflation becomes more subdued because industrial commodities are a relatively small part of an increasingly service-orientated economy.

However, Sirius insists commodity prices have a history of high volatility, including a number of precipitous falls, so such an outcome is "far from certain".

