

## PILARSKI SAYS...

# Engine choice and value retention

Data shows that aircraft retain more value with a greater choice of engines, writes Adam Pilarski, senior vice-president at Avitas.

The question as to the best number of engine options on a new aircraft programme is quite murky but full of deeply emotional disagreements. The issues surrounding that question surfaced again as the new A330neo was launched last July with the choice of one engine type or, as we sophisticated analysts say, no choice of engine.

An obvious and important element of the desirability of engine choice is related to the self-interests of those expressing opinions. Who favours which option is easy to predict. Engine manufacturers prefer the choice of only one engine (no choice) because that gives them a monopoly position, which, in accordance to standard economic theory, should maximize their return. Their arguments are based on the premise that the development of a new engine is a very costly proposition – hence, needs to be justly rewarded.

Aircraft manufacturers take a different view. Multiple engine choices are in their best interest because that most likely enlarges the total demand for their product as some airlines are exclusively committed to only one engine manufacturer. Airlines usually are also in favour of choice because that enhances the chance “their” preferred engine provider will be on the programme, plus they, probably, justifiably, believe that competition between engine manufacturers gives airlines more bargaining power and eventually better pricing.

Lessors see benefits to both engine choice and a monopoly position by one producer. Choice enlarges the size of the market for a given product. On the other hand, lessors are interested in as much a vanilla product as possible – ie, if a product sold is very homogenous it is easy to switch between users, while engine choice will undoubtedly split the market and make remarketing of a given aircraft more difficult.

The recent launch of the A330neo provides great examples of such lines of thinking outlined above.

Akbar Al Baker, chief executive officer of Qatar Airways, said he wanted choice of engines. “We have said that to Boeing and Airbus. We want a choice, so airlines are not with their back against the wall.”

Steven Udvar-Hazy, chief executive officer of Air Lease Corporation, also wanted an engine option because “the market is big enough for two engine options”, while the top executives from other leasing companies such as CIT and Intrepid preferred a single engine option.

Robert Martin, chief executive officer of BOC

Aviation, said: “As a lessor I much prefer one engine type. You don’t have a split market.” And Airbus reluctantly accepted only the Rolls-Royce option, with Tom Williams, then executive vice-president programmes, admitting “we tried hard to have an engine choice”.

Obviously, the different players, the manufacturers, operators and owners of aircraft all have different objectives. In a blind voting at the last European Istat meeting in September, 23% of the participants believed that one engine option is best (probably engine manufacturers), 59% favoured two and 18% thought three are preferred (probably airlines).

So, is there an objective way to look at which platform retains its value better – one with more or fewer engine options?

One way to analyze the impact of engine choice on retained value is to look at historical data and attempt to explain the percent value retained by aircraft sold using data collected over many years. A number of factors explain the share of value retained, the most important one being age (aircraft base values depreciate over time) with other variables such as aircraft characteristics, market penetration of a given type or the time of sale related to the phase of the economic cycle also being of importance.

We pooled data for cash sales of all types of narrow- and widebody aircraft from 1970 until 2013. There were more than 2,000 observations for the narrowbody and more than 600 for the widebody aircraft. Overall, narrowbody aircraft produced have a circa two-to-one ratio of those programmes having one versus two engine options. For widebody aircraft the numbers of aircraft produced were much more balanced between the choice of one, two or three engines.

The preliminary results from our research indicate that more engine options enhance the resale value of aircraft, all other factors being held constant. This means that, after controlling for many other relevant variables, an aircraft retained more value if its programme had an engine choice. The quantifications of this added retained value were in single percent terms or about \$400,000 to \$1 million for narrowbody and about \$2.5 million to \$3 million for widebody aircraft. These are averages from an initial analysis.

A more comprehensive analysis will produce more accurate numbers but these preliminary results indicate that one of the important constituents (the financiers) suffer when engine choice is limited. ▲