



Mapping, Monitoring and Managing Operator Risk

Identify investment revenue opportunities, and isolate areas of potential risk with IBA's Operator Score Index and Risk Assessments.

Whether considering the transaction risk, assessing an investment opportunity, benchmarking against competitors, setting deposits rentals and reserves, or informing negotiation around second leases – IBA's analysis delivers greater transparency around decision-making, strategy and market threats. Our invaluable research and analysis helps players in the aviation market to make winning choices that drive profitable growth and reduce exposure.

IBA conducts essential risk and opportunity mapping across the asset, the credit, the jurisdiction and the lease. Our analysis combines proprietary IBA data, desktop analysis of public sources and expert opinion from IBA and from other external sources.

Mapping, monitoring and managing operator risk

IBA's Operator Score Index provides an overview of risk and operations for over 100+ airlines. Updated every 6 months, we combine financial health with operational efficiency, access to capital, jurisdictional risk and, IBA's proprietary intelligence on the operator's performance as a lessee.

In addition to our finance matrix, each score includes our view on the lessee in relation to:

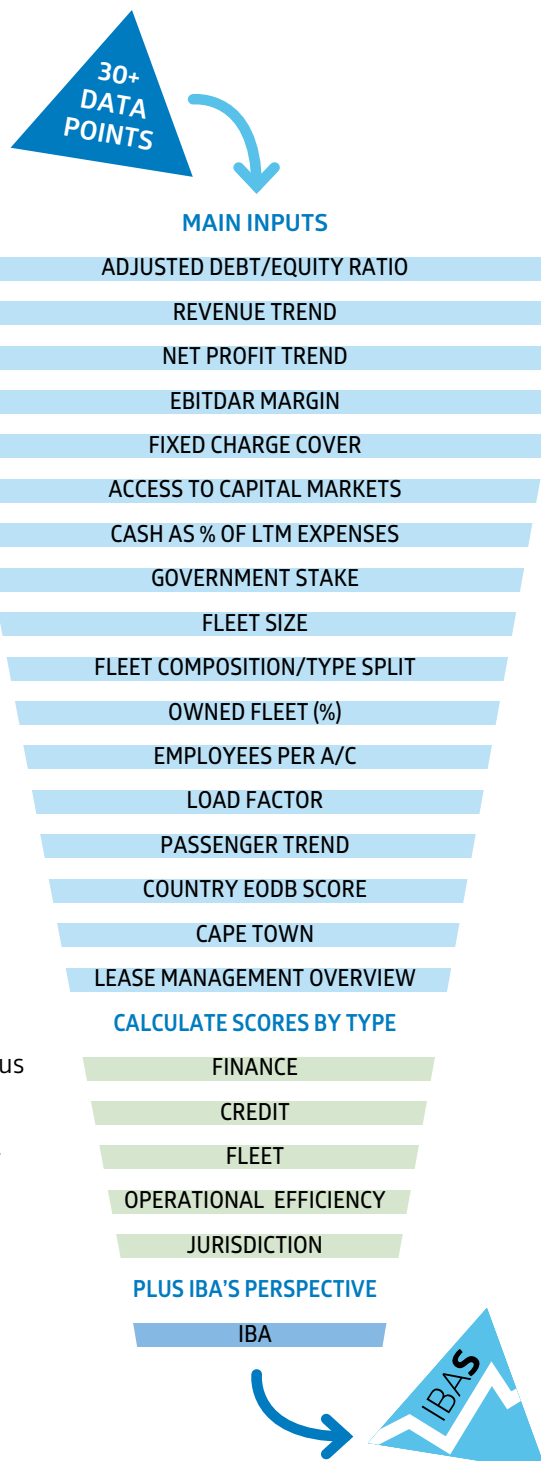
- ▶ Records management.
- ▶ Maintenance track record.
- ▶ Relationship with lessors.

Our analysis allows stakeholders to be more informed around opportunity and mitigation efforts, across rentals, reserves and deposits.

IBA's Operator Score Index allows you to:

- ▶ Identify, monitor and track opportunities for margin with riskier operators.
- ▶ Highlight risks that might otherwise go hidden, for example an operator with strong financials but operating in a tricky jurisdiction, or a poor reputation for redeliveries.
- ▶ Understand where an operator is strong, or less strong across various quantitative and qualitative metrics.
- ▶ Benchmark lessee performance both in relative and absolute terms.

The dataset currently stands at over 100 operators and growing.



As an example, the selected metrics offer a glimpse of what goes in to generating the IBA Operator Score Index.

OPERATOR	Finance				Access to Funds		Fleet			Operational Efficiency		Jurisdiction			IBA Score			
	IBA Score	Adj. D/E ratio	EBITDAR Margin	Fixed charge cover	IBA Score	Cash as % of expenses	IBA Score	% fleet owned	WB %	IBA Score	Load factor	IBA Score	EODB	Cape Town	Previous Score	Latest Score		
Wizz Air	92%	2.3	34%	2.4	93%	109%	90%	6%	0%	94%	91%	70%	72.4	Yes	81%	1B	84%	1A
China Eastern	92%	3.6	29%	4.0	74%	3%	90%	68%	12%	96%	81%	64%	65.3	Yes	76%	2C	87%	1B
Aeromexico	59%	9.0	24%	1.4	76%	15%	76%	20%	13%	91%	80%	78%	72.3	Yes	74%	2C	71%	2C
Thai Airways Int	71%	10.2	28%	8.1	61%	6%	82%	48%	79%	91%	80%	51%	77.4	Yes	70%	2C	70%	2C
Qatar Airways	62%	-5.7	23%	1.3	41%	8%	78%	1%	0%	91%	80%	67%	56.5	Yes	59%	3D	70%	3D
Aegean Airlines	50%	-9.6	12%	1.3	59%	37%	66%	0%	18%	84%	69%	58%	76.1	No	54%	4C	64%	3C
JetBlue	50%	-5.2	13%	1.0	51%	3%	71%	0%	13%	94%	84%	70%	60.8	Yes	65%	2C	61%	3C
Emirates Airline	83%	4.7	29%	2.0	76%	6%	87%	57%	100%	93%	78%	64%	78.7	Yes	79%	2B	81%	1A

Unmatched breadth of research

To produce the Operator Score Index we gather 30+ data points combining public sources with proprietary data and IBA's expertise and network across five areas of risk:

- ▶ Financial performance, including: revenue and profit trends, leverage and debt, EBITDAR.
- ▶ Access to capital markets, cash position, government stake and ownership.
- ▶ Fleet make up, including: composition, percentage owned and parked, size of fleet, estimated lease rate, plus which other lessors are active.
- ▶ Operational efficiency, including: pax trends, load factors and employees per aircraft.
- ▶ Jurisdiction, including: Capetown ratification, sovereign ratings, Ease Of Doing Business rankings.

Using 17 of those data points, we calculate scores across the five areas, adding IBA's perspective as a sixth factor.

The resulting overall percentage of an airline's financial performance, fleet profile, lessor relationships and regional risk.

A typical IBA Operator Score Index

Interglobe Aviation	Score: 75%	FY: March, 2017
Category		
Financial 73.2%		
Adjusted Debt/Equity Ratio (7x)	8.70	4.1
Revenue Trend (USD Millions)		Net Profit Trend (USD Millions)
EBITDAR Margin	31.2%	5.6
Fixed Charge Cover	1.75	4.9
Credit / Access to Funds 74.3%		
Access to Capital Markets	2	5.3
Cash as % of Expenses	41%	4.8
Government Stake	0%	1.5
Fleet 81.6%		
Fleet Size	131	4.1
Owned Fleet	Leased: 29	
Owned %	Owned: 102	
Fleet Composition/Type Split	A320-200 (112), A320-200N (19)	
Employees per Aircraft	111.5	2.2
Operational efficiency 94.9%		
Load Factor		PAX Trends (000s)
Jurisdiction 66%		
Country EODB DTF	55.27	4.5
Default Protection	Cape Town: Yes	3.8
IBA 70%		
SAMPLE Lease Management Overview		14.0



Sometimes a deeper dive to fully understand the risk and opportunities within a transaction is needed.

IBA's Operator Risk Assessments (ORAs), combines desk research and source enquiries around the asset, the operator and the jurisdiction to provide a full picture of the asset's liquidity, the lessee's operational expertise and opinion on jurisdiction.

Full visibility of an asset's performance and value is essential in order to maximise returns. Oversupply, residual concerns and high fuel prices are all contributing to a more fluid picture than in recent years, making asset selection more critical.



We know the details and anomalies that create differences in asset value, be that:

- ▶ **Market level:** oil price, inflation, GDP growth, traffic and production rates.
- ▶ **Model level:** capacity available, stored fleet, orders and deliveries, operator concentrations, OEM-controlled aftermarkets, position in production cycle, age, number in service, commonality, engine variants, thrusts, and on-wing times.
- ▶ Or **individual aircraft level:** the aircraft specification and configuration, typical specifications, maintenance status, physical condition, age/utilisation, importance to lessee's operation and the likelihood of extension.

We typically analyse:

- ▶ Current and future values.
- ▶ Residual values and transition costs.
- ▶ Strengths and weaknesses of the asset vs competitors.
- ▶ End of Life options – extend, part-out, remarket or convert.
- ▶ Modifications and other impactors on value.
- ▶ Market shift – for example creeping preferences for larger aircraft.
- ▶ The importance of the specific aircraft type to current and future operations.
- ▶ Future orders/deliveries/retirements/other leased equipment redelivery dates.
- ▶ Lessor appetite.

From which we can ensure the correct aircraft is flying the correct routes, rents are in sync, the residual value will be adequate and nothing in the market is impacting the assumptions which underscore our values.

The operator



How reliable and stable is the lessee who will operate and maintain the asset? You may have a great asset but if the operator is underperforming, or has a reputation for poor maintenance, records keeping or redeliveries, that should impact leasing decisions. IBA gathers a breadth of information that allows the client to look beyond the financials and analyse key qualitative factors. We also monitor operators, as a great lessee at the start of the deal may not be one by the lease end. Conversely, a riskier credit, if well managed, can be extremely rewarding.

Areas of focus we typically cover include:

- ▶ Uniquely, we provide an IBAS (IBA score) – a ranking of 18 qualitative and quantitative criteria across six areas of risk: Finance, Access to funds, Fleet, Traffic, Jurisdiction and Management Approach.
- ▶ SWOT analysis.
- ▶ Experience and track record.
- ▶ Relationship with stakeholders.
- ▶ History of operations.
- ▶ Stated strategy.
- ▶ Fleets and orders.
- ▶ Routes and traffic stats.
- ▶ Financial results and performance.
- ▶ Access to external funding.
- ▶ Marketing expertise.

Through our network we may also develop comment or opinion on:

- ▶ Key staff changes and management.
- ▶ Order deferrals.
- ▶ Routes changes and cancellations.
- ▶ Reputation with respect to operations, records, maintenance and redeliveries.
- ▶ Historical performance and management track record.
- ▶ Payment reputation.
- ▶ Support and influence of owners, or the government.

The jurisdiction



In the last 12 months, Latin America, Europe, Asia, Africa and the Middle East have all seen airline failures or external economic or political crises, resulting in a rush to develop a clearer picture of a situation, or to retrieve assets.

To provide clarity on the regional risk and lack of risk, we analyse the current political, economic and legal environments in order to opine on ease of operations and recovery. We also attempt to look ahead and assess the implications of political or regulatory change.

Areas of focus we typically cover include:

- ▶ Economic trends, GDP growth, importance of aviation to the economy.
- ▶ Operational or infrastructure challenges.
- ▶ Regulatory and legal environment with respect to operating and retrieving assets if necessary.
- ▶ Political stability, the likelihood of regime change and the perceived level of government intervention.
- ▶ We consider the stability of government and how hands-off it is in approach.
- ▶ We also assess the robustness of courts and their ability to enforce judgements.
- ▶ Country rankings in terms of propensity for corruption, enforcing contracts and percentage of fleet on lease.

Market analysis and competitor environment review can be added if required. From this we can build a picture of how challenging it is to operate in a particular country and the likelihood or impact of, or ease of managing a default.

IBA's Operator Risk Assessment. Below is a sample of our research based on Norwegian Air Shuttle ASA. Contact us for further information.

Executive Summary

Since IBA's last update on Norwegian in November 2017, there have been a few material changes to the group and the group's strategy. These are:

- ▶ Shifting from the previous 'expansion at all costs' to a more moderate growth plan to improve cost control.
- ▶ Increasing attempts to offload aircraft and delivery slots to minimise forward CapEx requirements.
- ▶ Commencement of the Argentinian subsidiary's operations in October 2018.
- ▶ Additional equity raising via private placements and a rights issuance.
- ▶ Cancellation of six B787-9 orders.
- ▶ Surpassed British Airways to become the largest non-US airline serving the New York area.

IBA remains cautious of Norwegian, with a number of headwinds posing difficulties in the short and medium term.

IBA has awarded Norwegian Air Shuttle ASA a score of 5B as of December 2017 on the new 10 point scale, with a negative outlook. We look upon Norwegian's highly levered balance sheet and forward capital expenditure requirements as being particularly problematic, with upward pressure on operating expenses due to high fuel prices and ACMI usage also of concern. IBA also considers that Norwegian's complex operating structure, consisting of several airlines with various AOCs and separate financial performances, is likely to mean that unfavourable performance in one entity translates across the entire group's performance. This should especially be monitored with consideration to the Norwegian Air Argentina subsidiary, as Argentina's economy is in a recession.

Source enquiries around the operator were positive and highlighted no issues from the lessor-lessee relationship perspective. IBA understands the redeliveries that have taken place have been managed effectively by fleet planning and engineering teams that were very professional and kept records to a good standard. This is further reflected in IBA's awarding of a 'B' lease management ranking.

Continued troubles with the Rolls-Royce Trent 1000 engines has led to Norwegian utilising a number of ACMI agreements with the likes of Wamos Air and EuroAtlantic Airways to replace 787. The question of how A320neo aircraft will fit into the plans moving forward remains in the air. Media reports suggest the carrier is actively trying to sell the delivery slots for the type, although management insists the success of the Argentinian operation will largely dictate the fate of incoming A320neo aircraft.

Strong traffic has driven revenue growth to record highs, however there has been some pressure on yields. Such increases in ASK production also lead to increasing costs and whilst the carrier has maintained reasonable control of unit costs (ex. fuel), once fuel is considered there is considerable upward pressure on unit costs. Norwegian's highly levered balance sheet is still of concern, and it looks set to grow further with additional aircraft deliveries and lease debt under the new IFRS 16 regulations.

It appears likely that Norwegian will realise a loss in FY 2018, which may put pressure on certain balance sheet ratios that are linked to debt covenants due to reduced equity. The combination of high oil prices and 'satisfactory' 4Q18 bookings leave this a space to be watched, as Norwegian's current situation bares some similarities to airlines that have failed so far in 2H18 (e.g. high ACMI use, high route turnover) albeit with a larger asset base to potentially liquidate. The carrier currently operates and has on order liquid aircraft types (737s/787s current and A320N/A321Ns on order), which should be prime candidates for sale and leaseback and outright sale transactions to raise cash going forward.

HOW CAN WE HELP?

To commission analysis or if you have any queries, please contact Owen Geach at: owen.geach@iba.aero