Fleet Planning for Success in Your Network Strategy

AerCap Holdings N.V.

November, 2019
The Sky is Falling…?

Trade War is Here!

- OECD Issues
- BREXIT
- OIL PRICE UNSTABLE
- GLOBAL ECONOMIC GROWTH SLOWING
- FINANCIAL CRISIS IN CHINA
- ANOTHER TERRIBLE ATTACK
Aircraft Leasing is a Growing Industry

Air travel is a growing market

Air traffic has doubled every 15 years and growth is forecast to continue.

Airlines need over 44,000 new aircraft

Boeing has increased 20-year forecast by 1,300 aircraft; Airbus has increased 20-year forecast by 1,800 aircraft.

Middle class is growing and flying

Over the next 20 years, the middle class is expected to grow from 4 billion to 6 billion.

Increasing demand for operating leases

Over the past 20 years, the world fleet has doubled with the leased fleet quadrupling.
Increasing Demand for Operating Leases

Over the past 20 years the world fleet has DOUBLED while the operating lease fleet size has QUADRUPLED

Proportion of Global Fleet on Operating Lease

<table>
<thead>
<tr>
<th>Year</th>
<th>Owned fleet</th>
<th>Leased fleet</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>2,396</td>
<td>7,557</td>
<td>9,953</td>
</tr>
<tr>
<td>2004</td>
<td>4,020</td>
<td>7,335</td>
<td>11,355</td>
</tr>
<tr>
<td>2009</td>
<td>5,358</td>
<td>7,960</td>
<td>13,128</td>
</tr>
<tr>
<td>2014</td>
<td>6,767</td>
<td>13,299</td>
<td>20,066</td>
</tr>
<tr>
<td>2019</td>
<td>9,286</td>
<td>11,220</td>
<td>20,506</td>
</tr>
</tbody>
</table>

45% Leased

Proportion of Major Airlines’ Leased Fleets

<table>
<thead>
<tr>
<th>Airline</th>
<th>% Leased</th>
</tr>
</thead>
<tbody>
<tr>
<td>Virgin Atlantic</td>
<td>76%</td>
</tr>
<tr>
<td>KLM</td>
<td>54%</td>
</tr>
<tr>
<td>Emirates</td>
<td>53%</td>
</tr>
<tr>
<td>Air France</td>
<td>50%</td>
</tr>
<tr>
<td>British Airways</td>
<td>46%</td>
</tr>
<tr>
<td>American</td>
<td>45%</td>
</tr>
<tr>
<td>China Southern</td>
<td>44%</td>
</tr>
<tr>
<td>Spirit</td>
<td>37%</td>
</tr>
<tr>
<td>Cathay Pacific</td>
<td>20%</td>
</tr>
</tbody>
</table>

FlightGlobal Fleets Analyzer as of June 30 for each respective year: Airbus, Boeing, McDonnell-Douglas in-service passenger jets.

Benefits of Operating Leases

**Benefits of Operating Leases**

- **Cash flow Benefit**: No advance PDPs ($ millions per aircraft); rental payments start when aircraft is delivered and can start generating revenue
- **Fleet Renewal Flexibility**: Keeps fleet attractive to passengers and suited to the needs of the airline, ability to up-gauge and competitive pricing for fleet requirements
- **No Residual Value Risk**: No residual value risk or sale value risk
- **No Asset Disposal Challenges**: No risk of being unable to dispose of aircraft

**SOURCING NEW AIRCRAFT THROUGH LESSORS**
- alleviates financial pressure
- optimizes return on capital
- reduces operational risks

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Many Factors Impact Residual Value

- Inflation
- Airline Bankruptcies
- Cargo Conversion
- Passenger Traffic
- Geopolitics
- Regulation
- Interest Rates
- Economic Growth
- Infrastructure
- Production Rates
- Oil Prices
Aircraft Leasing Competitive Landscape

AerCap is the largest aircraft lessor with total lease assets of over $37 bn

LEASING MARKET SHARE by fleet size

- **AERCap**: 41%
- **AVOLON**: 33%
- **ICBC**: 14%
- **Other**: 12%
The majority of airlines worldwide use operating leases to match capacity with traffic demand and to reduce costs.

**OUR OBSERVATIONS OF THE OPERATING LEASE MARKET ARE:**

- Operating leases are not only used by LCCs and airlines as a tool for capital generation. In fact, regardless of size or business model, airlines worldwide are increasing the share of operating leases in their fleet.

- The key reason is operating flexibility. Returning or extending one aircraft at its lease end is a free option to incrementally match capacity to actual passenger demand.

- Another benefit includes faster induction of new technologies. New technologies reduce operating costs and residual value risk. A number of the leading global carriers are taking more mid-life aircraft at attractive lease rates.
AerCap is a Major Player in Africa

36 AIRCRAFT IN OPERATION
- A320 Family
- B737NG
- A340
- B787
- A350

21 AIRCRAFT ON ORDER
- A320neo
- B787

Owned and managed aircraft as of September 30, 2019
Operating Leasing in Africa

~36% of the African fleet is on operating lease

African Airline Landscape

- 54 countries
- Over 200 airline AOC’s
- 75 airlines with between one and ten aircraft
- 17 airlines with more than ten aircraft

Proportion of Major Airlines’ Leased Fleets

- South African Airways: 71%
- Kenya Airways: 63%
- Air Mauritius: 55%
- Ethiopian Airlines: 54%
- EgyptAir: 38%
- Safair: 27%
- Royal Air Maroc: 25%

FlightGlobal Fleets Analyzer as of September 30, 2019; including Airbus & Boeing aircraft only; operating leases only

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How Does Aircraft Age Affect Costs?

Fuel burn characteristics deteriorate each year

Fuel Burn Evolution with Age (Illustrative Example)

Engine performance restoration after ~25,000FH
How Does Aircraft Age Affect Costs?

Typically, during its second decade of service an aircraft is more expensive to maintain.

Fuel Burn Evolution with Age (Illustrative Example)

- ‘Honeymoon’ period
- Maturity
- Ageing

Direct maintenance cost per FH vs. Aircraft age, years
### Does Aircraft Age Correlate with Profitability?

*Aircraft age does not answer this question, only capacity control, cost discipline and revenue generation do*

<table>
<thead>
<tr>
<th>Mature Aircraft, Moderate to Low Utilization</th>
<th>Young Aircraft, High Utilization</th>
</tr>
</thead>
<tbody>
<tr>
<td>• 12.3 - 13.5 years average fleet age</td>
<td>• 5.4 years average fleet age</td>
</tr>
<tr>
<td>• 7.2FH daily aircraft utilization</td>
<td>• 12.1FH daily aircraft utilization</td>
</tr>
<tr>
<td>• 15% operating margin</td>
<td>• 10.6% operating margin</td>
</tr>
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