COVID-19

How will the structure of the aviation sector be changed by COVID-19?

Brian Pearce
Chief Economist
6th May 2021
Structural change in the past driven by the supply side
Disruption before from technology, liberalization, new business models

Source: IATA Economics using data from PaxIS
Cutting the real cost of air transport by almost 90%  
New technologies and liberalization allowed innovation and efficiency

Unit cost of air transport, US$/ATK, inflation-adjusted

- 1973 oil crisis
- US airline market deregulation
- EU airline market deregulation
- Great Recession
- COVID-19

Source: IATA Economics using data from ICAO, IATA Statistics and OECD
Doubling city-pairs connected in the past 25 years
Connectivity was damaged by COVID-19; 18% fall in city-pairs by year end

Unique city-pairs and real unit air transport costs

Source: IATA Economics using data from ICAO, IATA Statistics and OECD
Air connectivity may not be restored on some markets
Weighted by destination intra-Europe connectivity down -25% H2 2021

Intra-Europe international air connectivity

Million available seats per month, weighted by destination importance

Source: IATA Economics using data from OAG and IATA’s air connectivity measurement methodology
Domestic air connectivity restored, risk for international China domestic air connectivity full recovery. International Q4 2021 -50%

China domestic and international air connectivity

April 2021 domestic schedules

April 2021 international schedules

-50%

Source: IATA Economics using data from OAG and IATA’s air connectivity measurement methodology
COVID-19 boost East-shift of air travel centre of gravity
Temporary shift East to where we forecast centre of gravity in 20 years

Source: IATA Economics using data from TE/IATA Air Passenger Forecast, April 2021
Demand shocks do not usually cause structural changes. Previous shocks cut 5-20% from RPKs but recovered after 6-18 months.

Global passenger kilometers flown (RPKs), indexed

Indexed, 100 = RPKs at start of shock

Months after start of shock

Source: IATA Economics using data from IATA Monthly Statistics. Data is adjusted for seasonality.
This demand shock has been uneven across markets. Hardest hit has been international air travel. Air cargo much less affected.

Source: IATA Economics using data from IATA Monthly Statistics. Data is adjusted for seasonality.
But there has been a higher cost for trade using air.

Ongoing severe capacity shortage has forced air shipping costs higher.

Source: IATA Economics using data from IATA Monthly Statistics and CargoIS.
Capacity shortage for cargo due to grounded pax fleet
Freighters highly utilized but 50% cargo usually in passenger aircraft holds

Source: IATA Economics using data from IATA Monthly Statistics
Have slot holdings by incumbents held up recovery?

Major European LCCs growing strongly and entering new markets

<table>
<thead>
<tr>
<th></th>
<th>Routes operated in 2019</th>
<th>New routes</th>
<th>Share of flights on routes already operated in summer 2019 vs. new routes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jun-20</strong></td>
<td>87%</td>
<td>13%</td>
<td>100 94 94 74 70 64 62 60 60 59 58</td>
</tr>
<tr>
<td><strong>Jul-20</strong></td>
<td>79%</td>
<td>21%</td>
<td>87 87 14 13 33 13 13 13 13 13 13</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Routes operated in 2019</th>
<th>New routes</th>
<th>Number of flights on top new routes, Jun-Jul 2020, both ways</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Jun-20</strong></td>
<td>86%</td>
<td>14%</td>
<td>144 112 81 80 80 80 69 49 44 43 42</td>
</tr>
<tr>
<td><strong>Jul-20</strong></td>
<td>87%</td>
<td>13%</td>
<td>3.440 33.134</td>
</tr>
</tbody>
</table>

Source: IATA Economics using data from SRS Analyser
Slot constrained airports often too costly for LCCs
High cost of operating from congested airports discourages many LCCs

Estimated airport charges for the turnaround of an A320 aircraft by airport (USD)

<table>
<thead>
<tr>
<th>City</th>
<th>Airport 1</th>
<th>Airport 2</th>
<th>Charge 1 (USD)</th>
<th>Charge 2 (USD)</th>
<th>Percentage Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amsterdam</td>
<td>Eindhoven</td>
<td>Amsterdam</td>
<td>3,047</td>
<td>6,028</td>
<td>+98%</td>
</tr>
<tr>
<td>Copenhagen</td>
<td>Malmö</td>
<td>Copenhagen</td>
<td>2,837</td>
<td>7,845</td>
<td>+177%</td>
</tr>
<tr>
<td>Paris</td>
<td>Orly</td>
<td>Charles de Gaulle</td>
<td>5,118</td>
<td>8,392</td>
<td>+64%</td>
</tr>
<tr>
<td>London</td>
<td>Gatwick</td>
<td>Heathrow</td>
<td>7,619</td>
<td>9,891</td>
<td>+30%</td>
</tr>
</tbody>
</table>

Source: IATA Economics. Estimated airport charges for turnaround on an A320 aircraft by airport in US$
Constraint to connectivity is border travel restrictions

Border controls on air travel remain high in all regions

International travel stringency index weighted by population (Jan 2020-March 2021)

1 - screening
2 - quarantine arrivals from high risk regions
3 - closed to some regions
4 - total border closure

Source: IATA Economics analysis based on Oxford University data
Restrictions driven by COVID-19 control challenges
More infectious new variants have made the virus even harder to limit.

Source: IATA Economics using data from the ECDC
Vaccination should allow markets to reopen in stages
Rollout of vaccination is uneven, as is governments’ approach to risk

Airfinity's vaccination rollout forecast

- High risk & healthcare
- 50% population
- 75% population

Brazil
China
Japan
Canada
Germany
France
Australia
UK
US

We know that there is substantial pent-up demand whenever travel restrictions are eased. Leisure/VFR demand surges.

Forward bookings, year-on-year % change

- 12th November: UK announce the UAE exempt from quarantine rules
- New COVID-19 variant emerges in the UK

Source: IATA Economics using data from DDS

* excludes the UK
International markets show air travel rises when allowed.

Impact of Europe’s air corridors and removal of quarantine in Americas.

Source: IATA Economics using data from IATA Monthly Statistics. Data is adjusted for seasonality.
Will ‘Zoom’ cause structural loss of business passengers?

Long-haul services and network business models supported by high yield

EXHIBIT 17: **Summary of outlook for different business travel types**

<table>
<thead>
<tr>
<th>Travel Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conferences and tradeshows</td>
<td>27%</td>
</tr>
<tr>
<td>Internal meetings and trainings</td>
<td>22%</td>
</tr>
<tr>
<td>Product launches</td>
<td>19%</td>
</tr>
<tr>
<td>Incentives</td>
<td>15%</td>
</tr>
<tr>
<td>Client meetings</td>
<td>10%</td>
</tr>
<tr>
<td>Leadership meetings</td>
<td>6%</td>
</tr>
</tbody>
</table>

- **Higher risk of behavioural change**
- **Medium risk of behavioural change**
- **Less risk of behavioural change**
- **Higher risk of behavioural change**
- **Medium risk of behavioural change**
- **Less risk of behavioural change**

Source: Bernstein analysis

Source: Bernstein. The Future of Work. 12 April 2021
We estimate COVID-19 long-term loss of 2 years growth. Strong rebound when border travel barriers removed but not full recovery.

But 2020/1 revenue shock challenge as many costs fixed
Difficult to avoid fleet and other ‘semi-fixed’ costs, so cash burn high

Global airlines revenue, USD billion

Source: IATA Economics Airline Industry Financial Forecast update, April 2021
More than US$173bn airline losses in 2020 and 2021

Unprecedented losses for airlines, far higher than during Great Recession

Source: IATA Economics Airline Industry Financial Forecast update, April 2021
Government aid could distort airline competition
But significant proportion is debt and some aid conditional on remedies

Source: IATA Economics analysis using public information and data from SRS Analyser, DDS, FlightRadar24, TTBS, ACIC, Platts, Airline Analyst, annual reports
Survival at cost of huge rise in airlines’ debt by end-2020

Essential deleveraging will absorb free cash flow for years limiting CAPEX

Darwinian creative destruction may be absent. Failure and consolidation usually important part of adjustment to shock.

Commercial airlines, worldwide exits and entries

- **9-11**
- **Great Recession**
- **COVID-19**

Source: IATA Economics using data from Ascend.
Contacts

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