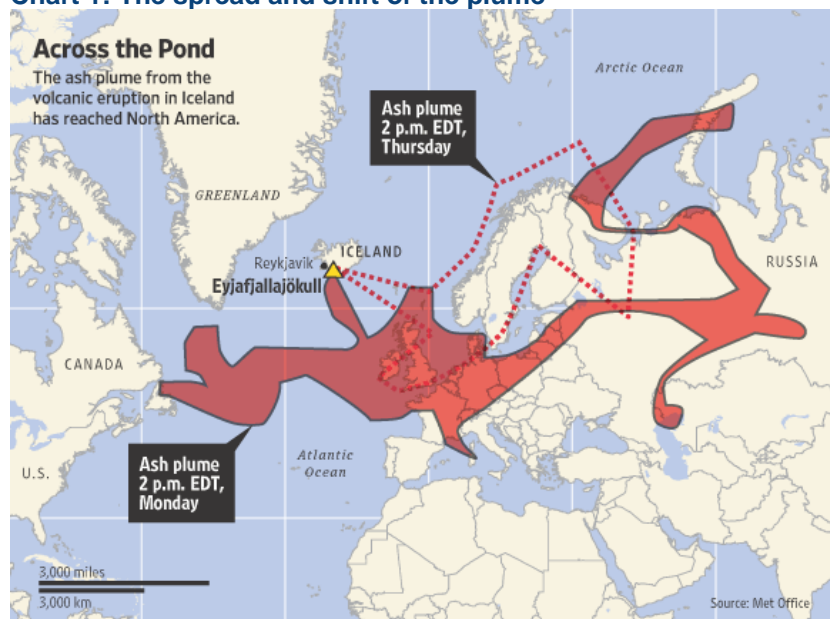


IATA ECONOMIC BRIEFING

MAY 2010

THE IMPACT OF EYJAFJALLAJOKULL'S VOLCANIC ASH PLUME

Chart 1: The spread and shift of the plume



Source: The Economist, UK Met Office

- The ash plume from Iceland's Eyjafjallajökull volcano in mid-April led to the progressive closure of much of Europe's airspace over a period of seven days, causing over 100,000 flightsⁱ to be cancelled;
- At its maximum impact on Sunday 18 and Monday 19 April around 19,000 flights per day were cancelled, grounding just under 30% of worldwide scheduled passenger capacity or 4,899 million available seat kilometers.

Table 1: Passenger market impact on Monday 19 April

Scheduled available seat kilometers (ASKs) per day, million		% worldwide
World wide (normal day)	16,838	100%
Within Europe and Europe-rest of world (normal day)	6,458	38%
- Affected by airspace closure	4,899	29%

Source: IATA Economics, SRS Analyser databaseⁱⁱ

- The map shows the spread of the ash plume on Monday 19. It also shows its location on Thursday, which led to the closure of much of the UK and Scandinavian airspace. IATA's initial estimate of a US\$200 million a day passenger revenue impact on commercial airlines was based on these airspace closures, plus some of other hubs that were being closed on Friday. The analysis in tables 1 and 2 and charts 2 and 3 show the daily impact on Monday 19. Chart 4 shows the daily profile of revenue losses from scheduled services over the whole period, which cumulated to an estimated US\$1.7 billion revenue loss.
- By Monday 19, European airspace closures caused airlines to lose around US\$400 million per day from scheduled services as detailed in table 2. This, and the earlier US\$200 million estimate, were calculated bottom up from data on passengers and revenues generated from thousands of country-pairs. In terms of passenger numbers the biggest markets affected were the domestic markets of the UK, Germany and France. But airline revenues were much more affected by the closure of the UK-US market, which accounted for US\$25 million dollars of scheduled passenger revenue a day and 8% of the total. Germany and France also had sizeable airline revenue streams from the US market at stake.
- Over 1.2 million scheduled passengers were being affected each day. The European Commission estimate the total number of passengers unable to travel over the whole period at 10 millionⁱⁱⁱ.

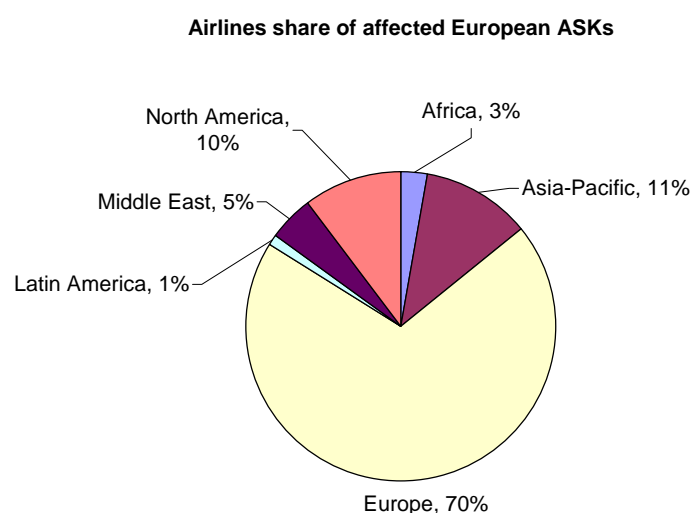
Table 2: Country-pair passenger market and airline revenue impact on Monday 19 April

Flows per day, 2009 Market	Passengers	% total	Revenue \$US million	% total
1 United Kingdom - United States	37,018	3.0%	24.9	8.0%
2 France - France	47,200	3.8%	8.7	2.8%
3 Germany - United States	20,681	1.7%	7.7	2.5%
4 France - United States	13,474	1.1%	7.4	2.4%
5 United Kingdom - United Kingdom	63,054	5.0%	6.3	2.0%
6 Germany - Germany	55,589	4.5%	5.5	1.8%
7 United Kingdom - Australia	4,802	0.4%	4.6	1.5%
8 France - Japan	3,084	0.2%	4.3	1.4%
9 Switzerland - United States	4,652	0.4%	3.6	1.2%
10 Netherlands - United States	7,000	0.6%	3.4	1.1%
11 Germany - Japan	2,284	0.2%	3.3	1.1%
12 Ireland - United States	5,501	0.4%	2.9	0.9%
13 United Kingdom - Canada	5,024	0.4%	2.8	0.9%
14 United Kingdom - Japan	1,902	0.2%	2.7	0.9%
15 United Kingdom - South Africa	3,840	0.3%	2.6	0.9%
16 United Kingdom - United Arab Emirates	4,796	0.4%	2.6	0.8%
17 United Kingdom - Hong Kong	3,256	0.3%	2.6	0.8%
18 United Kingdom - India	7,508	0.6%	2.5	0.8%
19 United Kingdom - Singapore	2,102	0.2%	2.0	0.7%
20 France - Morocco	10,236	0.8%	1.9	0.6%
Other affected routes	946,078	75.7%	208	67.1%
Total of above	1,249,083	100.0%	310	100.0%
Ancillary revenues			31	
Cargo revenues			47	
Expected 2010 growth			30	
Total impact on 2010 airline revenues per day			418	

Source: IATA Economics, PaxIS Plus database^{iv}

- European airlines represented 70% of grounded passenger capacity (ASKs) which is likely to be close to their share of lost revenues. Airlines from North America and from Asia-Pacific equally shared another 20% of grounded capacity, with airlines from the Middle East next in size.

Chart 2: How was the impact spread between airlines?

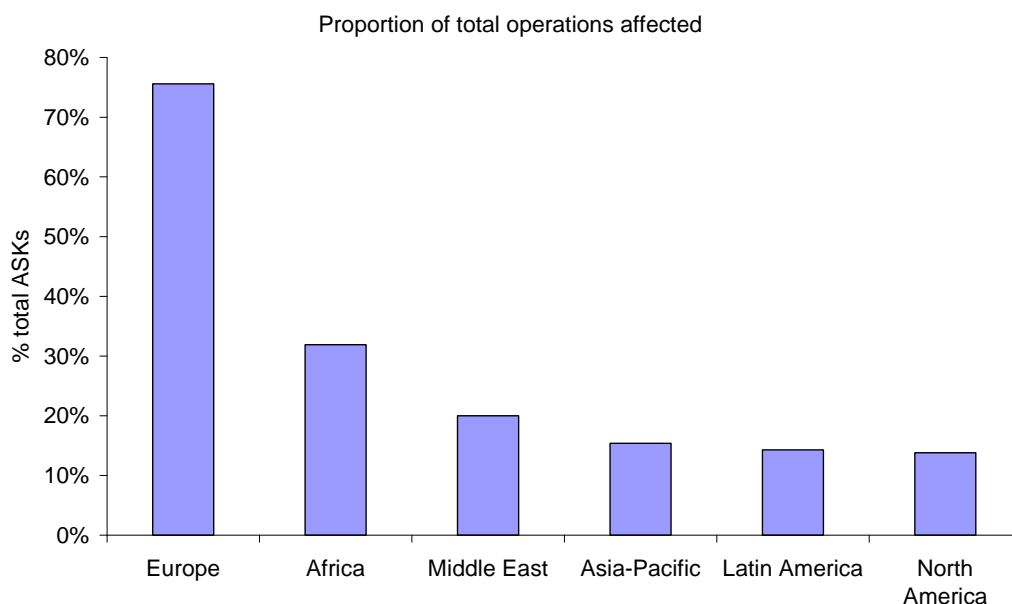


Source: IATA Economics, SRS Analyser database

- Airlines based in Northern Europe had all of their capacity effectively grounded as a result of the airspace closures. However, there were parts of Eastern and Southern Europe that remained fully or partially open. In total the European airline industry (Western and Eastern) had 75% of its operations closed at the peak of the ash plume. Although African airlines only represented 3% of the grounded capacity, such is the importance of European markets to these airlines that the grounded flights made up 30% of their total capacity, clearly having a significant

revenue impact. Likewise the Middle Eastern airlines represented 5% of grounded capacity but that was around 20% of total scheduled passenger operations for them.

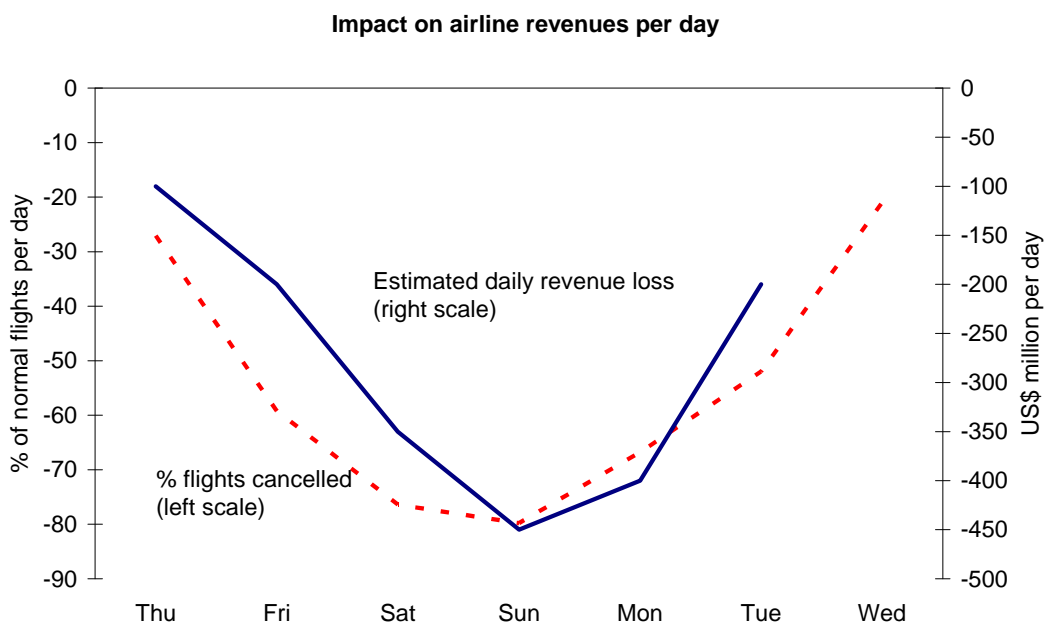
Chart 3: Airlines from which region had their passenger operations most affected?



Source: IATA Economics, SRS Analyser database

- The revenue losses affecting the airline industry varied from data to day according to the extent of airspace closures. Chart 4 shows our estimate of how those losses developed, from US\$200 million a day at the start of the period to US\$400 million at its peak. We estimate that the cumulative losses over this period from scheduled passenger and cargo services were US\$1.7 billion.

Chart 4: Profile of estimate daily revenue losses



Source: IATA Economics, Eurocontrol

- This US\$1.7 billion is a conservative estimate of revenue losses, based on the verifiable data available on scheduled services. There may have been some chartered services cancelled rather than just postponed. There were also cancelled flights on the Wednesday but we have not included these in our cumulative total since there were an equivalent proportion of additional flights (+30% above normal) on the following day as airlines put on additional services to deal with the backlog.

- ↗ Airlines also face the cost of providing hotel accommodation and other assistance to stranded passengers. There is no data yet available on the industry wide costs of this, but the AEA have estimated a cost of just under 200 million euros^v over the whole period for their member airlines (who provide 40-50% of the seats in the airspace impacted).
- ↗ There are some offsetting factors. There would have been some variable or avoidable costs saved, for instance fuel. The commercial airline industry uses around 4.3 million barrels a day of jet kerosene, so at the peak of the ash plume's impact fuel demand would have fallen by around 1.2 million barrels a day. At current spot prices that would represent a US\$110 million a day savings. However, many airlines would have existing price contracts or hedges and so it is not possible to estimate accurately this saving in US\$ terms. Some of the revenues will come back as passengers reschedule cancelled trips and delayed cargo gets shipped, but many if not the majority of trips or shipments will just not take place. Again it is just not possible to estimate this at this stage.
- ↗ As charts 2 and 3 show the bulk of the revenue losses and cost will have fallen on European airlines. Although we cannot accurately assess the impact on their profits it is clear that this demand shock has been particularly damaging to them since the region's airlines were already expected to report the largest losses in the industry this year. Moreover, whereas positive news on economic growth is boosting prospects for airlines in the Americas, Asia and the Middle East, European economies and therefore travel and freight markets continue to disappoint.

IATA Economics
4th May 2010

ⁱ http://www.eurocontrol.int/corporate/public/news/20100423_air_traffic_situation_1230.html

ⁱⁱ <http://www.srsanalyser.com/srs/authentication/index.jsp>

ⁱⁱⁱ European Commission, 27 April 2010, SEC (2010) 533.

^{iv} <http://www.pax-is.com/bsp/authentication/index.jsp>

^v European Commission, 27 April 2010, SEC (2010) 533.