### CASE STUDY 3 – UK-EUROPE RIGHTS FOR A FAR EASTERN AIRLINE

# A Beijing-Stockholm-Manchester service by Air China

- This study considers the possible way in which a Far Eastern airline might use short-haul fifth-freedom rights from a UK regional airport in order to help sustain two relatively thin third/fourth freedom flows. It assumes that Air China might wish to mount an operation from Beijing which serves both Manchester and Stockholm if it can obtain Manchester-Stockholm fifth-freedom rights. Such a route would directly affect the markets between:
  - Manchester and Stockholm;
  - Manchester and Beijing;
  - And, possibly, Manchester and destinations beyond Beijing.
- Air China currently serves Stockholm three times a week with a Boeing 767 of 225-seat capacity, configured with 10 First Class seats, 26 Business Class seats and 189 economy seats. For the purposes of this study, it is assumed that Air China's flights that currently terminate in Stockholm will now continue onto Manchester, i.e. a three-times a week service. It is also assumed that Air China could attract traffic flying beyond Beijing to other points in China.
- The Air China flight at present departs from Beijing at 1425 and arrives at Stockholm at 1650. With an hour turn-round the aircraft departs at 1750 and arrives at Beijing at 0900 the next day. A Stockholm-Manchester rotation with an hour turn-round at the end would take about 6.5 hours so it would clearly be impossible to fly to Manchester and back so that the aircraft can accomplish the whole round trip from Beijing and return to its base in a day. This could affect Air China's aircraft utilisation and hence its costs.

### The Manchester-Stockholm market

4 Table 1 shows the current scheduled services between Manchester and Stockholm.

### Table 1 - Current Schedules on Manchester-Stockholm

SAS – 11 flights a week Finnair (AY) – 6 flights a week (a)

Source: OAG (November 2004)

Note: (a) – Code share agreement operated with BA

- SAS is the main operator from Manchester to Stockholm, with 11 flights a week, while Finnair, operating under a code share agreement with BA, operates six times a week on a routeing Manchester-Stockholm-Helsinki. The SAS flights depart from Manchester at 0955 and 1845 on weekdays and the Finnair flight leaves at 1745. There are no flights on Saturdays although both SAS and Finnair have a Sunday afternoon service.
- 6 So, currently a passenger in the North West wishing to travel to Stockholm has the following main options:
  - To travel on one of the two direct services from Manchester;
  - To fly from Manchester to an intermediate hub where a connection to Stockholm can be made;
  - To travel by surface to another UK airport to catch a direct flight to Stockholm.

### The Direct Manchester-Stockholm services

Table 2 displays the passenger carryings from Manchester to Stockholm since 1994 of both Finnair and Scandinavian Airlines, the only two airlines that have served this route over the last ten years.

Table 2 - Manchester-Stockholm point-to-point passenger from 1994 to 2004

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004(a)
Finnair	1,746	2,899	556	1,410	5,877	16,466	0	0	1,853	2,366	0
SAS/Skyways	8,025	18,906	15,858	21,852	24,974	4,167	26,187	27,055	26,370	39,231	40,120
Total	9,771	21,805	16,414	23,262	30,851	20,633	26,187	27,055	28,223	41,597	40,120

Source: CAA Airport Statistics (reduced by 6% to account for non-revenue passengers)

Notes: (a) Year to August 2004

- SAS offered a one-stop service with Stockholm behind Copenhagen until 1996 and since 1999 some of its flights have been operated by Skyways under a code-share agreement. SAS's traffic volume has fluctuated over the last ten years but it grew strongly between 2002 and 2003. Finnair has reported only very small numbers of Manchester-Stockholm passengers and virtually all its carryings are reported as Manchester-Helsinki<sup>1</sup>.
- 9 Table 3 shows the passengers carried from the five major airports that have served Stockholm since 1994.

<sup>&</sup>lt;sup>1</sup> In CAA Airport Statistics, misreporting of the true point of embarkation/disembarkation of passengers can occur on multi-sector routes. In these cases, survey data can often help distinguish where passengers ultimately begin or end their journey.

Table 3 - UK-Stockholm passengers, 1994-2004

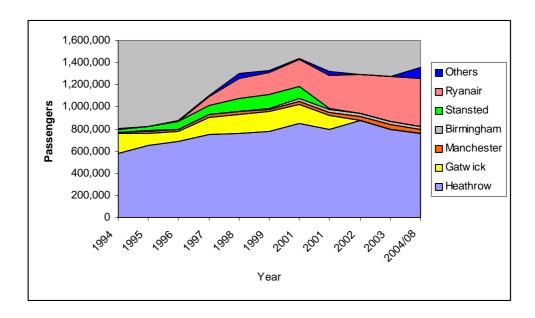
Year	Heathrow	Gatwick	Manchester	Birmingham	Stansted	Ryanair	Others	Total
						(Stansted)		
1994	580,953	176,447	9,785	42	27,115		9,543	805,880
1995	654,763	104,715	21,805	1,433	39,677		3,757	828,145
1996	687,761	89,162	16,737	55	72,856		7,179	875,746
1997	746,000	159,207	23,477	540	83,537	84,261	10,168	1,109,185
1998	760,324	167,622	30,851	212	117,335	176,250	52,792	1,307,384
1999	781,874	176,131	20,738	2,243	127,424	205,868	16,742	1,333,019
2000	852,502	171,041	26,358	25,921	105,478	245,912	12,172	1,441,385
2001	797,515	124,153	27,277	27,451	11,113	298,624	30,167	1,318,301
2002	881,127		28,666	31,236		349,519	37	1,292,587
2003	798,912	399	41,635	27,371		403,531	89	1,273,940
Yr to Aug 2004	755,299		37,769	27,696		439,210	98,268	1,358,242

Source: CAA Airport Statistics (reduced by 6% to account for non-revenue passengers)

Note: Others is made up of passengers travelling from Edinburgh, Prestwick, Jersey, London City and Luton
Ryanair serves Stockholm from Stansted, but unlike flights from Heathrow, Birmingham and Manchester, serves the regional airports Skavsta and Vasteras

Each of the UK airports generally experienced a steady increase in the growth of passengers until about 2000 but since then services from Gatwick have been withdrawn. So, in November 2004 the only UK airports with a direct service to Stockholm were Heathrow, Stansted, Manchester, Birmingham, Edinburgh (SAS's recently introduced three-times weekly service) and Inverness (twice-weekly one-stop operated by Snowflake for SAS). All the services were to Arlanda with the exception of the Ryanair flights from Stansted.

Figure 1 - UK-Stockholm passengers, 1994-2004



Source: CAA Airport Statistics (reduced by 6% to take account of non-revenue passengers)

11 Table 4 displays the latest sector data for the Manchester-Stockholm route.

Table 4 - Manchester-Stockholm scheduled services in the year ending August 2004

	Point to Point Passengers	Flights	Terminal Passengers	Transit Passengers	Total Passengers	Seats	Seat Factor
SAS/Skyways	40,120	1,201	40,120	0	40,120	78,248	51%
Finnair	0	630	40,913	0	40,913	85,872	48%
Total	40,120	1,831	81,033	0	81,033	164,120	49%

Source: CAA Airport Statistics (reduced by 6% to account for non-revenue passengers)

In 2003 Finnair carried in total about 76,000 passengers to and from Manchester (41,000 on the routeing through Stockholm and 35,000 on a direct routeing to Helsinki). As noted above, Finnair's traffic on the Manchester-Stockholm sector total includes both Manchester-Stockholm and Manchester-Helsinki passengers but there may be misreporting of the split between the two flows. Table 5 provides survey data that perhaps more accurately reflects the number of Manchester-Stockholm passengers that Finnair carries.

Table 5 - Direct Manchester-Stockholm passengers by journey type in 2003

< > Connecting in >										
Airline	OD	Manchester	Stockholm	Both	Total					
Finnair	28,414	2,882	2,183		33,479					
	85%	9%	7%		100%					
SAS/Skyways	37,399	1,494	2,214	504	41,611					
	90%	4%	5%	1%	100%					
Total	65,812	4,376	4,397	504	75,090					
	88%	6%	6%	1%	100%					

Source: CAA O & D Survey, 2003

Note: The sample size is small so the estimates should be treated with caution.

The CAA survey estimated that Finnair carried 33,000 passengers to Stockholm and about 43,000 to Helsinki and this is perhaps a better guide to the passengers carried by the airline than the reports to CAA Airport Statistics which indicate that all Finnair's passengers were to/from Helsinki.

Table 6 offers an insight into the journey types of UK-Stockholm passengers.

Table 6 - Direct UK-Stockholm passengers by journey type in 2003

		<	>		
	OD	UK	Stockholm	Both	Total
Birmingham	18,687				18,687
	100%				100%
Heathrow	446,932	322,569	57,066	20,869	847,436
ricatinow	,	•	,	,	•
	53%	38%	7%	2%	100%
Manchester	66,074	4,376	4,397	504	75,352
	88%	6%	6%	1%	100%
Otomotod	274.002	E4 204	0	0	400 407
Stansted	374,963	54,204	0	0	429,167
	87%	13%	0%	0%	100%
Total	531,694	326,945	61,463	21,373	941,475
	56%	35%	7%	2%	100%

Source: CAA O & D Survey, 2003

Note: All passengers have been included in the above table, including apparent diversions

The routes from UK regional airports to Stockholm appear to serve essentially local markets. All of the passengers who flew from Birmingham and 88% of the passengers who flew from Manchester had started their air journey at the UK airport and ended it at Stockholm. In contrast, connecting passengers make up nearly half the total on the Heathrow route.

Table 7 shows the residence and journey purpose of OD passengers travelling directly from Manchester to Stockholm.

Table 7 - Manchester-Stockholm OD traffic by residence and journey purpose, 2003

	<>			<>			<>		
	Business	Leisure	Total	Business	Leisure	Total	Business	Leisure	Total
Finnair	2,798	4,202	7,000	14,335	7,079	21,414	17,133	11,281	28,414
	10%	15%	25%	50%	25%	75%	60%	40%	100%
SAS/Skyways	15,984	9,796	25,780	10,124	1,494	11,618	26,108	11,291	37,399
	43%	26%	69%	27%	4%	31%	70%	30%	100%
Total	18,782	13,998	32,780	24,459	8,573	33,033	43,241	22,571	65,812
	29%	21%	50%	37%	13%	50%	66%	34%	100%

Source: CAA O & D Survey, 2003

Note: Only includes passengers beginning their journey in Manchester and ending it in Stockholm, and vice versa

Overall, 66% of passengers using these services were business passengers. Only 25% of Finnair's passengers were UK residents, while in contrast, 69% of Scandinavian Airlines' passengers fell into this category.

### Regional origin of passengers on the direct services

Table 8 shows the surface origin of direct UK-Stockholm OD passengers.

Table 8 - Surface origin of direct UK-Stockholm OD passengers in 2003

By surface/air	Heathrow	Manchester	Birmingham	Stansted	Total
From					
East Anglia	8,206			42,810	51,016
East Midlands	2,014	1,802	5,232	6,412	15,460
Northern Ireland	1,504				1,504
North West	8,439	52,961		980	62,380
Northern	12,884	392		784	14,060
Scotland	13,460	1,011			14,471
South East	390,468			287,928	678,396
South West	24,778		1,042	26,622	52,442
Wales	10,927	516			11,443
West Midlands	2,763	2,117	11,220	8,325	24,425
Yorkshire/Humberside	5,490	8,287	1,192	1,102	16,071
Other	760	1,323			2,083
Total	481,693	68,409	18,687	374,963	943,752

Source: CAA O & D Survey, 2003

Note: All passengers in the above table began their journey in one of the named UK regions and ended it in Stockholm, or

vice versa

Passengers travelling by air from, say, Glasgow to Heathrow and then on to Stockholm are classified as having Scotland as their surface origin.

Table 8 shows that the North West provided 7% of the total UK-Stockholm OD passengers who travelling directly from a UK airport. The bulk of those passengers used the services at Manchester.

### Flying indirectly from Manchester to Stockholm

The possibility of flying over a non-domestic hub is also an option for UK originating passengers and Table 9 provides an estimate of the number of passengers, and the immediate airport, of the individuals who opted to take this route.

# 21 Table 9 – Manchester-Stockholm OD traffic travelling indirectly over foreign points in 2003

UK Airport	Immediate Airport	Total
Manchester	Amsterdam	2,741
	Brussels	500
	Copenhagen	7,026
Total		10,268

Source: CAA O & D Survey, 2003

### The North West-Stockholm OD market

Table 10 summarises the market between the North West and Stockholm.

### Table 10 - The North West- Stockholm OD market

Mode of Travel	Flying From	Via	Passenger Numbers
By air	Manchester Manchester	Direct UK Other	52,961 16,289 6,604
By surface	Heathrow	Direct/indirect	1,981
Total			77,833

Note: The estimate of passengers travelling Manchester-UK-Stockholm in Table 10 is based on the CAA Survey at Manchester (which enables this traffic to be split by North West originators and others) whereas the estimate in Table 8 is based on the Heathrow survey with all the passengers being assumed to originate in the North West. For relatively small flows there can be differences between the estimates made at Manchester and those made at Heathrow.

## **The UK-Beijing Market**

Beijing is currently served solely from Heathrow in the UK and Air China and BA are the incumbent airlines (see Table 11).

### Table 11 - Current Schedule on Heathrow-Beijing

A. BA – 5 times a week service

B. Air China – Daily Service

Source: OAG September 2004

- So, currently a passenger in the North West wishing to travel to Beijing has the following main options:
  - To travel by air to Heathrow to take the direct service of either BA or Air China;
  - To travel by surface to Heathrow to take the direct service of either BA or Air China;
  - To travel by air to a London airport to take an indirect service to Beijing;
  - To travel by surface to a London airport to take an indirect service to Beijing;
  - To fly from Manchester to an intermediate hub other than London where a connection to Beijing can be made.
- The latest data on the services of BA and Air China is shown in Table 12.

Table 12 - Heathrow-Beijing scheduled services in the year to August 2004

	Point to Point	Flights	Total	Seats	Seat
	Passengers		Passengers		Factor
Air China	108,979	561	108,979	170,406	64%
BA	73,697	384	73,697	146,136	50%
Total	182,676	945	182,676	316,542	58%

Source: CAA Airport Statistics (Reduced by 6% to take account of non-revenue passengers)

- Seat factors are relatively low for both airlines. The seats given in Table 12 are estimates and may be erroneous but the data suggests that the replacement assumptions normally adopted may be overly optimistic in this case, particularly since both Air China and BA have recently added capacity compared with the average situation represented by Table 12.
- Table 13 shows the passengers carried by Air China and BA over the last ten years, while Figure 2 displays this graphically.

Table 13 - London-Beijing passenger, 1994-2004

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004(a)
Air China	28,547	34,610	54,878	58,785	57,115	62,135	79,586	106,016	89,722	108,979
BA	48,431	57,131	71,573	81,772	89,115	75,479	62,553	60,126	43,509	73,697
Total	76.978	91.741	126.451	140.557	146.230	137.614	142.139	166.142	133.231	182.676

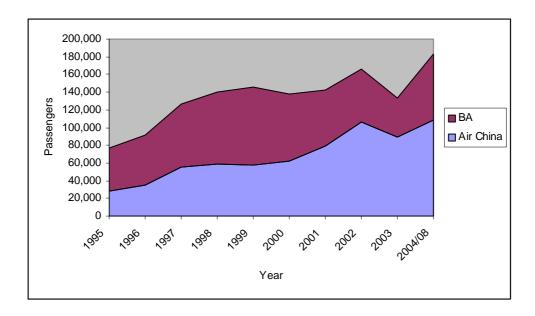
Source: CAA Airport Statistics (Reduced by 6% to take account of non-revenue passengers)

Notes: (a) Year to August 2004

Heathrow was the only UK airport that served Beijing during this period

Since 2001, Air China has both provided more flights and carried more passengers than BA to and from Beijing. There was a decline in traffic in 2003 presumably mainly as a result of SARS but there was a bounce-back in 2004 with the Chinese economy growing rapidly.





Note: Reduced by 6% to take account of non-revenue passengers
Heathrow was the only UK airport that served Beijing during this period

Table 14 provides a breakdown of the nature of the traffic on the Heathrow-Beijing route. Most passengers end their journey in Beijing with only 7% of passengers making a connection in China.

Table 14 – Direct Heathrow-Beijing passengers by journey type in 2003

		<>								
Airline	OD	Heathrow	Beijing	Both	Total					
ВА	19,690	19,335	3,412	1,071	43,509					
	45%	44%	8%	2%	100%					
Air China	73,032	12,569	2,995	1,125	89,722					
	81%	14%	3%	1%	100%					
Total	98,446	34,473	6,901	2,361	133,231					
	74%	26%	5%	2%	100%					

Source: CAA O & D Survey, 2003

Note: Re-weighted to CAA Airport Statistics

Table 15 breaks the direct OD passengers down by residence and journey purpose.

Table 15 - Direct Heathrow-Beijing OD traffic by residence and journey purpose, 2003

<	(	JK	>	<	Foreign	>	<	Total -	>
Airline	Business	Leisure	Total	Business	Leisure	Total	Business	Leisure	Total
ВА	8,054	640	8,695	5,950	7.000	12,951	14,004	7.641	21.645
DA	37%	3%	40%	27%	32%	60%	65%	35%	100%
	01 70	070	1070	21 70	0270	0070	0070	0070	10070
Air China	7,713	48,289	56,002	7,103	13,695	20,799	14,816	61,985	76,801
	10%	63%	73%	9%	18%	27%	19%	81%	100%
Total	15,767	48,930	64,697	13,053	20,696	,	28,821	69,626	98,446
	16%	50%	66%	13%	21%	34%	29%	71%	100%

Source: CAA O & D Survey, 2003

- The business/leisure passenger split for the two airlines is contrasting. While 65% of BA's traffic is made up of business passengers, the equivalent for Air China is only 19%, with the airline attracting many more leisure passengers than BA. However, the sample size on routes of this size is small so the results at this level of detail must be treated with caution.
- Table 16 shows the regional origin of the passengers who travelled by surface to Heathrow and who flew directly to Beijing and ended their air journey there.

Table 16 - Surface origin of direct UK-Beijing OD passengers in 2003

By surface/air	Heathrow	Total
From		
East Anglia	6,637	6,637
East Midlands	5,523	5,523
Northern Ireland		
North West	6,005	6,005
Northern	7,297	7,297
Scotland	5,913	5,913
South East	59,978	59,978
South West	9,609	9,609
Wales	3,999	3,999
West Midlands	3,286	3,286
Yorkshire & Humberside	2,116	2,116
Total	110,364	110,364

Source: CAA O & D Survey 2003 at Heathrow

Note: All passengers in the above table began their journey in one of the named UK regions and ended it in Beijing, or vice

Passengers travelling by air from, say, Glasgow to Heathrow and then on to Beijing are classified as having Scotland as their surface origin.

- The South East of England provides more than 50% of the passengers whose journey starts or ends in the UK. The number of passengers that travelled to Heathrow from other UK regions is quite small, with no area including the North West providing more than 10,000 passengers for the whole of the year 2003.
- As well as the possibility of flying over a UK intermediate point, UK originating passengers also had the option of flying over a foreign airport. Table 17 shows that about

5,000 passengers (from all UK regions) flew indirectly from Manchester to Beijing. However, no one was recorded as flying over Heathrow which contrasts with the data in Table 16 but is indicative of a very small volume market.

Table 17 – Manchester-Beijing indirect OD traffic via a foreign hub in 2003

via	Passengers
Paris	714
Frankfurt	3,905
Total	4,619

Source: CAA O & D Survey 2003 at Manchester

## The North West-Beijing and North West-China OD markets

Table 18 estimates the size of the North West-Beijing OD market. Even if the most optimistic view is taken of the number of passengers flying from Manchester to Beijing over London, the market for passengers travelling from this region to Beijing appears to be relatively small.

Table 18 – The North West-Beijing OD market

Mode of Travel	Flying From	Via	Passengers
By air	Manchester	Direct	
	Manchester	UK	6,005
By surface	Manchester	Other	1,768
	Heathrow	Direct/indirect	
Total			7,773

In order to obtain a more robust view of the likely impact of the new service, it is assumed that Air China could attract traffic to destinations in China beyond Beijing. Repeating the process described above to obtain Table 18 for the North West-Beijing OD market, the North West-China OD market is shown in Table 19.

Table 19 - The North West-China OD market

Mode of Travel	Flying From	Via	Passengers
By air	Manchester Manchester Manchester	Direct UK Other	10,037 15,537
By surface	Heathrow	Direct/indirect	
Total			25,574

### The economic evaluation

- 37 The London-China services are relatively thin and the replacement assumptions used in other studies where the affected London routes are dense with high seat factors are less appropriate. Accordingly, no replacement at London is assumed here so airlines lose the full revenue (less any variable cost savings) from any diverted passengers.
- It is assumed that Air China might allocate one third of its seats to the Manchester-Beijing market and two thirds to the Stockholm-Beijing market (the latter therefore being available for Manchester-Stockholm passengers). The CPIs for Air China in the Manchester-Stockholm market are set at 0.25 of the current direct service CPIs given that Air China is a low frequency fifth-freedom service. The CPIs for Air China in the Manchester-Beijing market are set at 2.0 times those of the current routeing over London; although the frequency is low, the service is one-stop rather than connecting and reasonably optimistic CPIs are needed to achieve a potentially viable seat factor.

Table 20 – The results of the economic evaluation

	MAN- ARN	MAN- CHINA	Total
UK direct passenger benefits (£m) UK indirect passenger benefits (£m)	0.11	1.59	1.70
UK airline revenues (£m) UK airline profits (£m)	-0.07	-1.11	-1.18
	-0.06	-1.08	-1.14
Aviation-related spend in the UK (£m) Aviation-related profit (£m)	0.05	2.54	2.59
	0.01	0.78	0.80
Tourism spend in the UK (£m)  Tourism profit (£m)	0.17	0.63	0.80
	0.02	0.08	0.10
Net effect on UK (£m)	0.08	1.37	1.46

Note: The split of the airport related effects between the two segments is purely for the purposes of the calculation.