Aviation Strategy

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Commercial smog in Asia

What's happening in Asia at the moment is an eerie reminder of the Western market before the great slump of the early 1990s - a combination of over-expansion, weakening demand and financial innovation.

The immediate problem is that Asian airlines are committed to taking delivery of and paying for about $18bn of aircraft now or in the near future (this figure has been estimated by taking the aircraft scheduled for delivery in the second half of 1997 and the whole of 1998 then plugging in our estimates of the relevant new price for each type). We have then calculated the effect of the devaluation of local currencies against the US dollar on the various airlines' budgeted expenditure.

These airlines are going to have to find an additional $3.4bn in financing. To put this figure in context: it is over three times the $1.1bn in net profits that the Asian airlines reported in 1996.

While this figure is alarming, it may not necessarily have a direct impact on the airlines' bottom lines. It depends on how the exchange rate losses are accounted for. Some companies will reflect the currency effect on their balance sheet debt through a one-off exchange rate loss which will show up fully on the P&L bottom line; others will also revalue the corresponding assets (existing aircraft and those on order) upwards to balance the increase in debt, and the effect on the P&L will only be apparent through an increase in depreciation charges.

Boeing, which accounts for nearly 80% of the Asian deliveries scheduled for the short term, has decided not to panic: President Ron Woodward, speaking at the World Affairs Council on November 20, stated: "So far we're feeling comfortable", and went on to explain that Asia's airlines seem to have been insulated from the currency turmoil because the bulk of ticket sales are denominated in dollars.

CURRENCY IMPACT ON FLEET INVESTMENT

	Value of deliveries mid-97 to end-98	Devaluation effect	1996 net result
ANA	$2,012m	-$253m	$35m
JAL	$1,918m	-$242m	-$114m
Korean	$1,800m	-$357m	-$249m
Asiana	$1,680m	-$333m	-$60m
Cathay	$1,230m	0	$490m
Singapore	$3,020m	-$378m	$714m
MAS	$1,250m	-$347m	$135m
Thai	$1,616m	-$590m	$134m
Garuda	$1,057m	-$353m	$54m
PAL	$1,790m	-$458m	-$85m
China AL	$380m	-$63m	$58m
EVA	$300m	-$50m	$17m
TOTAL	**$18,053m**	**-$3,424m**	**$1,129m**

Analysis

Briefing

Management

Aviation Economics

James House, LG2,
22/24 Corsham Street
London N1 6DR

Tel: +44 (0) 171 490 5215
Fax: +44 (0) 171 490 5218

E-mail: info@aviationeconomics.com

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Editors:
Keith McMullan
Nick Moreno

Subscription enquiries:
Nick Moreno
Tel: +44 (0) 171 490 5215

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Registered Office:
James House, LG2
22/24 Corsham St
London N1 6DR
VAT No: 701780947

This is true but it is becoming very difficult to untangle the currency effect on revenues from effects caused by stockmarket chaos, dented business confidence, political changes or, indeed, smog.

Take Cathay Pacific. Hong Kong resisted the currency speculators, and the Hong Kong dollar has for the time being retained its parity with the US dollar. But 20% of Cathay's revenues are in Yen, which has devalued against the dollar, further diminishing the former colony's attractiveness as a Japanese tourist destination. In August, the latest available month, arrivals from Japan were down 56%, while SE Asian arrivals dropped 34% and European 18%. The result for Cathay was an unprecedented 11% decline in RPKs.

MAS is one carrier with a heavy reliance on dollar-denominated tickets which could conceivably benefit from the collapse of the Ringgit, but the parallel crash in the Kuala Lumpur stockmarket scuppered its plans for a rights issue which was to have financed its fleet expansion. Its debt/equity ratio has deteriorated to 2/1. The benefits of MAS's, and Thai's, restructuring strategies are not totally lost, but they are not visible at present.

Korean Air had been one of the few carriers maintaining traditional Asian growth rates - traffic was up 13% in July but this was on the back of a 17% increase in capacity. Since then traffic numbers have dried up, as has the outward travel market following a 25% devaluation of the Won. With one of the most ambitious fleet expansion commitments in the world, Korean would seem to have enough problems of its own (analysts are predicting a Won250bn loss for 1997, compared to a Won210bn loss last year) but it is also under pressure because its parent Hanjin is the second most loss-making of the chaebols (the most loss-making, Sammi, recently declared bankruptcy).

JAL's traffic growth this year had been almost non-existent, partly because ANA has been pumping capacity into the international market, but now both airlines face the fall-out from the Yamaichi episode. In the last recession Japanese corporations reacted not so much by restricting total business travel but by downgrading the class of business travel, so JAL and ANA can expect a significant reduction in their average yield.

LATEST AAPO STATISTICS Aug 97

	Annual change in ASKs	RPKs
Cathay Pacific	1%	-11%
SIA	7%	3%
JAL	3%	2%
ANA	26%	23%
PAL	18%	12%
Thai	9%	2%
China AL	5%	4%
EVA*	4%	-1%
Korean*	17%	13%
AAPO TOTAL	**6%**	**2%**

Note: * *July 97*

Surprisingly, the airlines best suited to coping with the crises could be the weakest in the region - PAL and Garuda. The Philippines and Indonesia are used to dealing with currency devaluations and their middle, flying classes tend to keep their investments in hard currencies, so their wealth may have been boosted by the currency crisis, while at the same time tourism may be boosted by lower local currency charges.

This is one small patch of clear sky in the commercial smog. But in general, Asian airlines face very serious problems to which there are no easy answers.

The most logical response would be to negotiate delays or even cancellations of deliveries, but the manufacturers seem set against this. The alternative is to turn to sale/leasebacks of the new equipment as a means of obtaining injections of harder currencies. Activity in this field is expected to take off, especially as Western banks have seen their margins eroded to such a degree on credit-based lending that they are again willing to take a risk on asset-based deals.

Superficially attractive to the airlines, a burst of Asian sale/leaseback activity could generate future problems for the regional industry. Unless traffic growth suddenly resumes at record levels airlines could find themselves stuck with surplus capacity at the same time as paying rentals that reflect peak market pricing. That will lead to real sales of equipment, which may depress asset values, which in turn will make the leveraged airlines even less competitive … a vicious circle.

Blue Sky: why take the risk?

In setting up its low-cost subsidiary - code-name Blue Sky - British Airways is defying analysts who believe that it cannot succeed because it has no competitive advantage in this market, and that serious damage will be inflicted on BA's brand image. So what lies behind BA's apparently risky decision?

Blue Sky will have most of the characteristics of a low-cost carrier - 737-300 fleet (just two to begin with), 100% direct sales, no frills - but it will recognise pilot and other unions. Great emphasis is put on the fact that it will be a separate business, based at Stansted airport and totally differentiated from BA's mainline business.

The low-cost operators see Blue Sky as a thinly-disguised attempt to drive pesky upstarts from the market. As Stelios Haji-Ianniou of easyJet put it in his usual understated manner:

"Their only possible reason for starting BA CHEAPO is to eliminate smaller competitors … and then increase their fares again!".

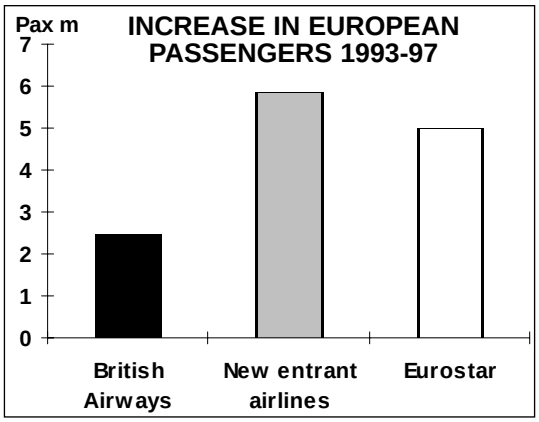
It is true that some of the new entrants will be forced into bankruptcy - the fate of almost all the first wave of new entrants in the US and now many of the second wave who have suffered from a post-ValuJet crisis of confidence. But it is highly unlikely that predation is BA's aim. It has suffered enough embarrassment in the courts already.

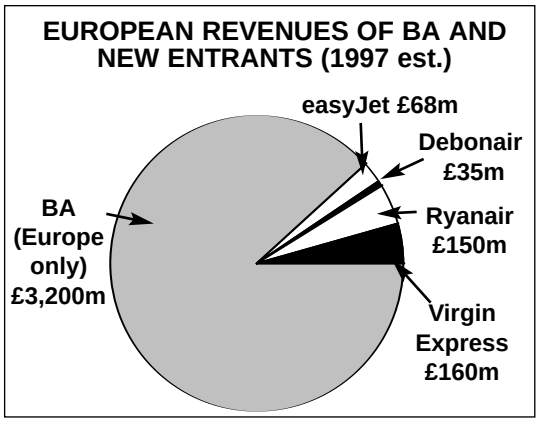
The US experience shows that once a low cost market has been created it does not go away, although the participants will change and the keenness of price competition varies in line with the economic cycle. The new entrants in the UK-Europe markets are still tiny in revenue terms compared to BA (see pie chart) but the number of passengers they are now carrying - about 7.2m for 1997 - is 6m up from 1993 while BA's European traffic over the same period has increased by just 2.5m. Add in the 5m passengers now carried on Eurostar, and BA's concerns about being left out of a growth market seem more substantive.

It is likely that most of the low-cost carriers' growth has come from generating new traffic (first time flyers, people travelling more frequently or to destinations that they would not otherwise have tried). But when the aviation cycle moves into its downward phase more of their traffic growth is likely to come from diversion from the full service airlines.

A US DoT investigation of the impact of low-cost carriers during 1988-1995 may well have relevance for the European market. During this period (from a peak market to the recovery phase after the deep recession) total domestic passenger growth was 68m, which resulted from an increase of 83m in markets where low-cost carriers were present and a decrease of 15m in other markets. It is a fairly good bet that we are close to the peak of the aviation cycle at present.

Another lesson from the US is that, although low-cost subsidiaries were established in response to low-cost carriers, they had a great impact on full service competitors, frequently driving them out of the market. This was the case





with Shuttle by United which resulted in USAir (as it was then) and Delta abandoning the California market. Delta Express is now undermining USAirways in the eastern seaboard. Meanwhile, Southwest continues to expand in both regions.

Perhaps Air France, Lufthansa, Alitalia and Iberia will eventually have as much to fear from Blue Sky as easyJet, Debonair and co.

BA's decision to launch its subsidiary must be associated with its airport strategy. Its successful transfer of Latin American and African services to Gatwick has proved that operating from Heathrow is not always a pre-requisite for profitability (and it also suggests that slot give-ups at Heathrow may not prove to be as expensive as claimed). The next stage has to be establishing a presence at Stansted before one of its rivals realises the potential of this underutilised airport.

Properly marketed, the benefits of Stansted relative to Heathrow could more than counterbalance the lack of frills in the air. On a very good day a trip from the City of London to central Paris will take 200 minutes, only 20% of which will be on a plane. For the 43% taken up by ground transport to and checking in at the London airport, the Stansted Express and Stansted Airport eclipse the tube and Terminal 2.

Business travellers have other critical requirements, namely frequent flier miles. These are provided by US subsidiaries like the United Shuttle, Delta Express and on regional feeders like American Eagle. But if Blue Sky provides British Airways Air Miles, then can it really claim to be a completely distinct operation and brand from its parent?

Already there is a successful model for an independent airline combining low-cost operation under the BA brand - Gatwick-based Cityflyer, which operates in full BA livery, shares some of BA's facilities and purchases FFPs benefits from its parents. Cityflyer has a niche role taking the BA brand into markets that are too small for the parent to serve profitably.

As BA is willing to lease out its brand to an airline in which it has no equity stake nor management control, it seems illogical that it is so insistent that Blue Sky will be branded in a completely different way from the parent (which itself consists of seven sub-brands). The most coherent strategy would surely be to use Blue Sky to sell the BA brand, or elements of the brand, into the low-cost market.

BA's reluctance to embrace this option is probably less to do with worries about brand dilution than with the practicalities of matching the cost levels now being achieved by the new entrants (details in following article) without offending unions or provoking law suits.

What's the cost difference?

The cost advantage a low-cost carrier has over its full service competitor is about £25 per one-way seat on a route like London-Paris - £27 against £52. That, at least, is our estimate, based on a comparison of a Euro-major operating a newish 737-400 Heathrow -Orly and a putative newcomer operating an elderly 737-200 Stansted-Beauvais, with the same aircraft utilisation rate and the same load factor (68%). Bear in mind the usual caveats about data, generalisations, assumptions, etc.

• **Passengers taxes** UK passenger taxes are now up to £10 a head and also have to be included in the advertised price. As this is a flat rate tax both carriers pay the same price per passenger (or more correctly both act as unpaid tax collectors), but the low-cost operator suffers because of the disproportionate impact of the tax on the bargain fare.

• **Commission and CRS** Assuming the high-cost airline sells 80% of its tickets and the low-cost relies solely on direct sales, the cost difference is about £3.50/seat.

• **In flight service** A meal and booze averages perhaps £2 a passenger on the full service aircraft, zero on the low cost airline - an advantage of £1.30 a seat.

• **Cockpit and crew cost** The difference of £2.50 a seat is surprisingly modest because flight crew costs make up a relatively small proportion of total operating costs on such short sectors. Nevertheless, the average difference in salaries and social costs between flying crew on the two airlines is 60%. However, the difference between the average low-cost salary and the salary of an employee at the bottom of the seniority scale at a high-cost carrier is not significant, which is why the low-cost airlines are able to compete for crews even in a tight labour market.

• **Fuel, maintenance and hull insurance** Here there is a £1.50 advantage per seat to the high-cost

carrier because of greater fuel efficiency, lower maintenance charges, etc.

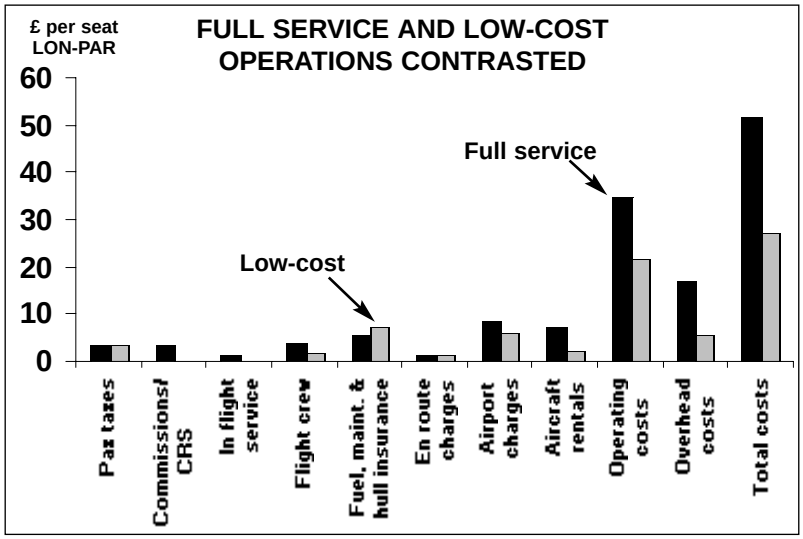
• **En route charges** Eurocontrol does not discriminate between carrier types so there is no difference in costs between the two airlines.

• **Airport charges** The £2.50 difference between congested Heathrow and uncongested Stansted is possibly an underestimate as low-cost carriers have typically negotiated sweetheart deals with the airport authorities (though these are now beginning to expire).

• **Aircraft rentals** This may not be a cash cost but it does represent the biggest operating cost difference between the two carriers - £4.80 per seat. To facilitate the comparison we have calculated this equipment cost element on the assumption that the modern 737-400 and the elderly 737-200 are both on operating leases. Access to low cost aircraft has been a prerequisite for setting up a low-cost airline, but this cost advantage starts to be lost when the carrier decides to expand by investing in expensive new aircraft.

So total variable operating costs add up to £35 for high-cost and £22 for low-cost, a difference of 38%.

• **Overhead costs** Station costs, passenger services, administration, finance department, CEO's office, etc. represent the mature airline's burden. They are impossible to pin down but we have made an heroic guess - £17 on a per seat basis for the high-cost (based on an allocation of a proportion of total BA overheads to the Europe region) and £5.50 for the low-cost (based on Ryanair's total overhead burden). Overheads largely reflect differences in personnel costs and location costs.



Finally then, we arrive at £52 and £27 per seat, a difference of 49%, somewhat less than the difference between BA's lowest unrestricted economy fare - £120 (excluding tax) - and what one would expect to be the low-cost standard fare - £40.

Symbiotic Sabena

Sabena can claim to be an innovator in coping with new entrant competitors. It cannot live without Virgin Express (VE) and Citybird, and they cannot live without Sabena - for the time being.

Sabena is VE's largest single customer, buying 40% of its seats during summer 1997, and accounting for about 35% of the new airline's revenues. As well as the Brussels Heathrow route, Sabena also block books on Barcelona and Rome services, and so takes advantage of VE's low-cost economics. VE gets to use Sabena's slots which would otherwise be inaccessible, especially at Heathrow.

Sabena sells a range of business class tickets on the codeshared flights while VE is restricted to economy fares. The agreement is renewable every two years from spring 1998.

In November Sabena invested in a long-haul low-cost carrier as well. Citybird -"The flying dream" - is a Belgian new entrant operating an MD11 and two 767s from Brussels to Newark, Montreal and Sao Paulo. Sabena has an option to take a 25% stake in Citybird and has signed a five-year agreement with the new entrant. The aircraft will be painted in Sabena's livery and Sabena will block 85% of seats (all of business and economy) while Citybird will operate a third charter class at the very back of the aircraft. As well as benefiting from Citybird operating costs, Sabena's own cabin crew on the aircraft will apparently be on Citybird rates.

This strategy is pragmatic but full of contradictions. Sabena is nourishing the growth of competitors whose ultimate aim must be to annihilate it. In its IPO prospectus VE emphasised its vigorous competition with Sabena on other routes and for passengers on the codeshared aircraft. The Sabena agreement means VE can't replicate Virgin Atlantic's Upper Class product in Europe, which is turning passengers off. Sabena has just ordered 34 A319/320/321s which, presumably, it would like to use on a premium route like London.

Harmonious hubs and discordant politics

European airlines have finally evolved proper hubbing systems at their main bases, and are now enjoying the benefits of enhanced traffic growth and record load factors. (9.2% growth in international traffic in September and 77% load factors). So how will competition and cooperation between hubs evolve from here?

Europe thought of hubs as competitive weapons well before the Americans, but the early hubs were sixth freedom operations taking advantage of geographical positions at Amsterdam or Brussels and exploiting historical traffic rights. The new European hubs have imported post-deregulation US logistics, specifically the arrival and departure wave systems.

The graphs opposite reveal the incumbent carriers' three or four wave patterns at their main European hubs. The more harmonious the pattern - at Amsterdam, Frankfurt, Munich and now Paris CDG - the more dominant the hub system. Airports like Heathrow, where the pattern simply looks like noise, are too congested to operate a wave system.

Multi-hub systems

The Star Alliance and the Atlantic Excellence Alliance are now operating multiple hub systems on both sides of the Atlantic: Frankfurt/Munich/Copenhagen/Chicago/ Washington Dulles/Los Angeles/Montreal and Zurich/Brussels/Vienna/Atlanta/Cincinnati respectively. Through connections at hubs both in North America and in Europe these alliances have already built broad networks and generated strong growth. This is making it difficult for an intercontinental airline to survive at a competing alliance hub - hence Delta's downgrading of operations at Frankfurt.

In recent times KLM has been the European leader in hub building, developing a four wave system at Schiphol in cooperation with its US partner Northwest but it evidently feels exposed by having only one hub in Europe. With another European hub, KLM and Northwest - with its three hubs at Minneapolis, Detroit and Memphis - could increase their services exponentially, and ease pressure on Schiphol airport where capacity constraints are being exacerbated by environmentalist pressure on the number and timing of flights.

Because neither Minneapolis nor Amsterdam is a major O&D point, traffic growth depends on connecting traffic and increasingly on traffic connecting at both hubs. So, unlike the prospective BA/American alliance, there is little scope for pushing yields up; revenue and, hopefully, profit growth has to come from more services.

The search for a second European hub was a large part of the rationale behind the ill-fated Alcazar project in 1993/94. And now again KLM is in alliance talks, this time with Alitalia, with the aim of developing Milan as the second hub. Improved operating results plus income from the sale of its Northwest stake have left KLM with Dfl2.8bn ($1.4bn) in cash as at the end of the first half of 1997/98.

The Malpensa 2000 project would seem to offer possibilities. Inevitably, it is running behind schedule, but work on the airport and surrounding infrastructure should be finished by 1999, enabling the transfer of all services, long-haul and intra-European - with the important exception of the Milan-Rome shuttle - from Linate to Malpensa. Alitalia management has a project team in place, including US schedulers, working on the construction of a European hub from scratch, so something startlingly innovative could emerge.

Situated at the opposite corner of Europe's golden rectangle from Amsterdam, a revitalised Malpensa could be used as a hub for KLM's traffic to the Middle East and the Indian sub-continent; it could collect feed from these regions and North Africa; it could be used as an alternate routing for US-Eastern European flows; and, as KLM and Alitalia are the only point-to-point operators between Amsterdam and Milan cities, there is already the basis for a shuttle service.

The big problem is that Northwest does not have authority to serve Italy and the US-Italy bilateral precludes a KLM codeshared operation from the US.

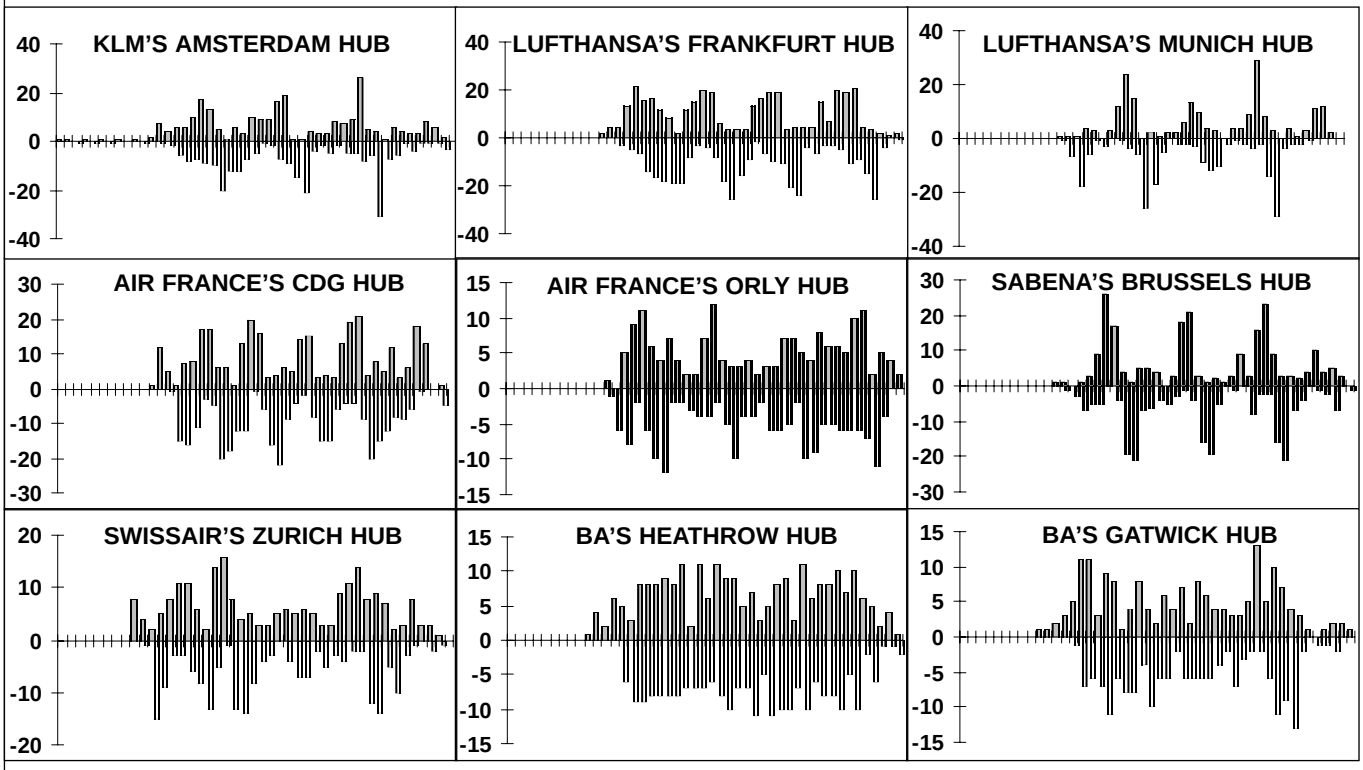
This aeropolitical barrier is convenient, as Air France - which is regarded in Rome as more compatible in political terms - can then be promoted as a commercial alternative to KLM. Air France and Alitalia codeshare on France-Italy routes and both have agreements with Continental, though only Alitalia codeshares (on Milan-Newark) at present.

This could create a new multi-hub system: Houston/Newark/Paris CDG/Milan, but to make it work Alitalia would have to be willing to shift many long-haul services from Rome. It also raises new antitrust questions: could immunity be extended to two major European airlines codesharing with one US carrier across the North Atlantic?

The third permutation involves Delta and Swissair. If Malpensa succeeds, one of the biggest losers would be Zurich, which currently siphons off a large proportion of Lombardy-originating traffic. Bringing Alitalia into the Atlantic Excellence Alliance would be an essentially defensive move, adding one more hub to the European network and attempting to control competition between Zurich and Milan.

However, Delta may be considering the prospect of linking up with a major European carrier - Air France - rather than continuing with two smaller carriers. In which case Delta, which also has an agreement with Air France and flies to Milan, could emerge as a direct competitor to Continental for the US role in a new tripartite alliance. The fact that it has just lost Singapore Airlines from the now defunct Global Excellence Alliance to Star yet again underlines the fluid nature of alliances.

WAVE PATTERNS AT EUROPEAN HUBS



Note: These graphs are constructed from data taken from the OAG. They show the number of arrivals and departures (on the y axis) by the hub airline only for a typical day in June this year. The day is split into 30 minute segments, starting at 0:00 hours and finishing at 24:00 hours, and arrivals/departures are shown per 30 minute segment. To create the wave patterns arrivals are shown as positive numbers above the horizontal axes, and departures as negative numbers below the axes.

Cargo airlines and the Chapter 3 dilemma

Airlines will have to reconsider their freighter fleet strategies as the world air-freight market continues to grow at a faster rate than world passenger traffic. So can the imposition of Chapter 3 noise regulations in the US in the year 2000 and Europe/Asia in 2003 be turned to the advantage of cargo airlines?

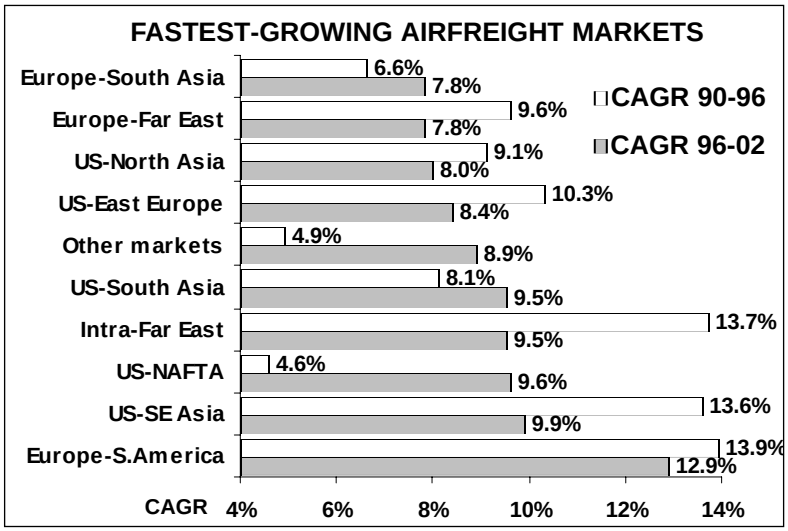
In 1995-2004 world passenger traffic is forecast to grow at 5.5% p.a., according to Boeing, but airfreight traffic will grow at 6.7% p.a. IATA is even more bullish, and has just predicted that airfreight traffic will grow at 7.5% p.a. during 1997-2001, compared with its scheduled passenger forecast of 6.6% growth p.a. in 1997-2001.

AIRFREIGHT MARKET (000s metric tonnes)

	1990	1991	1992	1993	1994	1995	1996	1997F	1998F	1999F	2000F	2001F	2002F
US domestic	4,352	4,621	4,921	5,232	5,802	6,090	6,386	6,692	7,003	7,732	7,804	8,307	8,891
US-Africa	22	25	27	28	31	34	35	38	41	45	49	53	57
Africa-US	13	11	13	16	20	22	21	22	24	25	26	28	29
US-Middle East	57	73	71	79	74	77	93	102	111	122	132	140	149
Middle East-US	32	28	39	45	53	54	57	61	65	70	74	79	84
US-CIS	4	5	11	21	23	21	24	25	27	29	31	33	36
CIS-US	1	1	1	2	3	4	4	4	5	6	6	7	7
US-East Europe	12	14	15	19	20	23	24	26	29	32	35	38	42
East Europe-US	11	8	7	11	13	15	17	18	19	20	22	23	25
US-Cnt. Am./Cbn	86	92	94	95	94	105	101	105	108	113	117	123	128
Cbn/Cent. Am.-US	125	125	129	133	146	145	153	158	164	169	174	179	185
US-NAFTA	264	203	216	213	267	313	341	373	413	457	504	554	607
NAFTA-US	78	57	58	58	70	87	106	114	122	132	145	156	169
US-North Asia	361	372	391	435	507	642	674	717	774	874	982	1,094	1,224
North Asia-USA	455	498	482	547	613	644	702	742	787	828	873	916	960
US-South America	167	194	228	234	267	296	292	312	334	362	391	422	456
South America-US	263	263	277	301	325	345	375	391	409	428	449	469	489
US-Southeast Asia	86	94	105	122	142	172	206	222	249	278	310	344	380
Southeast Asia-US	114	114	126	148	183	202	222	245	269	294	321	348	377
US-South Asia	13	11	14	15	16	24	26	30	34	39	44	50	57
South Asia-US	60	59	77	86	91	83	91	99	108	116	126	135	145
US-SW Pacific	55	55	61	64	77	85	87	87	91	95	99	104	108
SW Pacific-US	24	22	23	25	30	32	34	36	38	40	42	44	46
US-West Europe	712	746	776	746	813	913	969	1,033	1,123	1,209	1,297	1,387	1,479
West Europe-USA	617	549	573	653	809	863	899	941	984	1,042	1,108	1,168	1,229
Europe-Africa	340	336	355	344	357	382	407	431	458	486	517	549	583
Africa-Europe	155	141	178	164	174	185	198	213	225	240	256	272	288
Europe-Cent. Am.	51	62	76	83	83	88	94	101	107	117	126	136	147
Cent. Am.-Europe	56	67	85	93	98	103	110	116	123	133	143	153	163
Europe-South Am.	65	68	86	106	129	157	174	195	224	258	296	340	388
South Am.-Europe	48	52	57	50	60	68	73	80	88	97	106	115	124
Europe-Far East	445	462	509	591	713	781	859	945	1,025	1,116	1,212	1,310	1,413
Far East-Europe	603	711	749	775	810	893	961	1,038	1,109	1,189	1,270	1,353	1,439
Europe/Middle East	223	253	294	298	303	327	355	384	416	451	489	530	574
Middle East-Europe	203	205	170	178	180	183	189	198	205	214	223	234	245
Europe-South Asia	72	53	63	72	88	89	96	104	112	121	130	141	152
South Asia-Europe	106	109	132	131	150	157	165	181	194	209	225	241	258
Europe-Canada	125	121	116	119	126	131	135	144	151	159	167	175	183
Canada-Europe	89	87	93	83	78	83	85	89	92	95	98	101	104
Europe-SW Pacific	78	67	70	74	89	100	107	114	122	131	139	148	157
SW Pacific-Europe	73	80	80	68	72	78	82	86	92	96	101	106	111
Intra-Asia	1,100	1,190	1,329	1,475	1,800	2,097	2,374	2,624	2,846	3,099	3,387	3,719	4,100
Intra Europe	832	827	848	892	954	982	1,013	1,045	1,082	1,121	1,165	1,214	1,267
Other regions	1,517	1,420	1,427	1,591	1,839	2,025	2,198	2,375	2,571	2,799	3,051	3,339	3,657
TOTAL	**14.2m**	**14.5m**	**15.5m**	**16.5m**	**18.6m**	**20.2m**	**21.6m**	**23.0m**	**24.6m**	**26.3m**	**28.2m**	**30.3m**	**32.7m**

Source: *MergeGlobal 1997 World Air Freight Industry Analysis and Forecast.*

According to the latest forecast by US-based cargo consultants MergeGlobal, world airfreight growth is expected to average 7.1% p.a. over 1997-2002. MergeGlobal has the best handle on actual airfreight traffic, having compiled a database from various sources on an "originated weight" basis. This eliminates the double counting - such as between a shipper and a forwarder - which bedevils analysis of this sector. A detailed analysis by route region is shown in the table opposite and in the graph on the right.



Freighter fleet effects

So how will the forecast growth in world airfreight affect demand for freighter aircraft? The world's freighter fleet is undoubtedly the poor relation of the passenger fleet. Once they have been utilised to their maximum, many former passenger aircraft end their useful life as freighters. As a result the global freighter fleet is older, more polluting and noisier than the global passenger fleet.

Worldwide, about 57% of the freighter narrowbody fleet and 22% of the freighter widebody fleet was still Chapter 2 as of the end of 1996 (see table below). European airlines generally have a higher compliance rate than the US carriers.

Chapter 3 noise legislation (2000 in the US, 2003 in Europe and most of Asia) therefore poses a major problem for the freight airlines. But it could also be seen as an opportunity to upgrade fleets, for example, by trading up from non-compliant narrowbodies to widebodies, in the expectation of achieving lower unit costs.

WORLD FREIGHTER JET FLEET BY NOISE CATEGORY, END 1996

	Chap 2	Chap 3	Total	% Chap 3
Widebodies				
Europe	1	33	34	97%
North America	57	166	223	74%
Asia	4	57	61	93%
Other	14	8	22	36%
Total	**76**	**264**	**340**	**78%**
Narrowbodies				
Europe	38	80	118	68%
North America	403	366	769	48%
Asia	14	10	24	42%
Other	157	10	167	6%
Total	**612**	**466**	**1,078**	**43%**

This strategy could be encouraged by the fleet policies of the world's passenger airlines. Traditionally, many passenger airlines have viewed belly lift as having little or no marginal cost - it is just space below passengers, and consequently any revenue derived from the belly is incremental profit. Freighter airlines, on the other hand, must cover all their costs per flight in order to remain viable.

But belly lift is not forecast to rise as rapidly as the overall airfreight market, not just because of the slower passenger growth rate but also because most passenger airlines now focus much more on their core competency - carrying passengers. Belly lift is seen increasingly as a distraction, despite the incremental revenues it produces, as carriers build up hubbing systems or point-to-point operations that rely on swift turnarounds.

Various other trends are curtailing the supply of belly capacity:

- Downsizing, notably the shift from 747s to smaller twinjets on the Atlantic.
- "Right-sizing", for example, switching to 767-300s which offer 25% less seating capacity than an MD-11 but almost 50% less belly space.
- Pioneering ultra-long-haul operations using 747-400s, which have minimal cargo capability despite the size of the aircraft.

As incrementally-costed belly lift diminishes as a percentage of world airfreight, so the industry cost structure must inevitably rise as

carriers add all-cargo capacity. Even the most efficient freighter operator using the cheapest converted aircraft has higher allocated costs than a belly carrier.

Yield improvements

These higher average unit costs should slow or even reverse the long term decline in cargo yield (2.5% p.a. in real terms over the past 25 years). Further improvements in industry yield may result from marginal players being forced out by the noise legislation, as the cheapest solution - the hush-kit - still costs several times the market value of first-generation jets.

For both the belly and freighter operators these trends promise increased profitability. They will also lead to a strengthening in the position of the market leaders who have the financial resources to cover capital expenditure.

As usual, the integrators are well positioned. FedEx's fleet is now about 67% Chapter 3, and the hushkitting of the remaining 727s plus deliveries of new A300/310s and MD11Fs will mean that it will meet the noise deadlines without problems.

UPS is now 100% Chapter 3 and has 757PFs and 767-300ERFs on order. The third largest cargo carrier, Atlas Air, is planning to increase its 747-400F order book from 10 to 11. The extra aircraft would join the four 747-400Fs which are currently scheduled to be delivered in 1998.

In October 1997 Cargolux Airlines ordered five 747-400Fs at a cost of $825m, to be delivered during October 1998-October 2001. Three of these will replace 747-200s and two will be used to increase capacity. In addition, the airline has also just taken delivery of another previously unannounced 747-400F.

For the next tier of cargo carriers the problems will be finding suitable conversion candidates among the 747-200s, TriStars and DC-10s on today's strong second-hand market.

MergeGlobal
Tel: US+703 276 9100
Fax: US+703 276 9296

LETTER TO THE EDITORS

Nothing better than grandfather

SIRS - The opinions expressed in last issue's article on slot allocation (The need to dump grandfather, *Aviation Strategy* November 1997) are not supported by the great majority of airlines, including Britannia.

Grandfather rights underpin long-term planning and investment. London Heathrow is not the only co-ordinated airport. There are many, including small regional airports. Any form of enforced slot confiscation or surrender will have very serious effects far beyond the benefits of increasing Virgin Atlantic's short-term gain in increasing its access to Heathrow.

Those advocating abolition of grandfather rights tend to be those seeking to break in. They tend not to think beyond the time when they have achieved the desired access when they, too, are then required to surrender slots. Does surrender value continue until every airline desiring access has achieved this and there is no longer any significant carrier left at that airport? In the case of charter, slot surrender will result each year in a merry-go-round of increasingly unstable airlines chasing the same passengers.

Britannia is not a "winner" from grandfather rights in the slot allocation stakes. Nor do we seek to operate from London Heathrow. Our yearly programme changes result in a steady erosion of historic precedence. However, we have been unable to suggest a better system.

Robert G. Parker-Eaton
Deputy Managing Director, Britannia Airways

Aviation Economics welcomes letters and comments on issues covered by our articles

US airlines all together - for now

Third quarter 1997 produced excellent results for US airlines - $1.9bn against $1.2bn for the same quarter of 1996 - underpinned primarily by firm demand and lower fuel costs. Whether the US majors can sustain this improvement through the fourth quarter and beyond depends, as ever, upon whether airlines remain united on commissions and fares, or whether any of them breaks rank.

This year the US market has been characterised by high business fares, as revealed in the American Express domestic business airfare survey. *Aviation Strategy* has converted Amex's survey of business fares on 215 US city pairs into an index, with a base of 100 in the first quarter of 1993. The index shows that in the last 18 months full coach (defined as unrestricted economy class fares booked in Y class) and typical business (the lowest economy fare available to the business traveller) have increased significantly. On the other hand the lowest discount (the lowest, most restrictive fares, which leisure travellers usually buy) have stayed broadly level over the last 12 months.

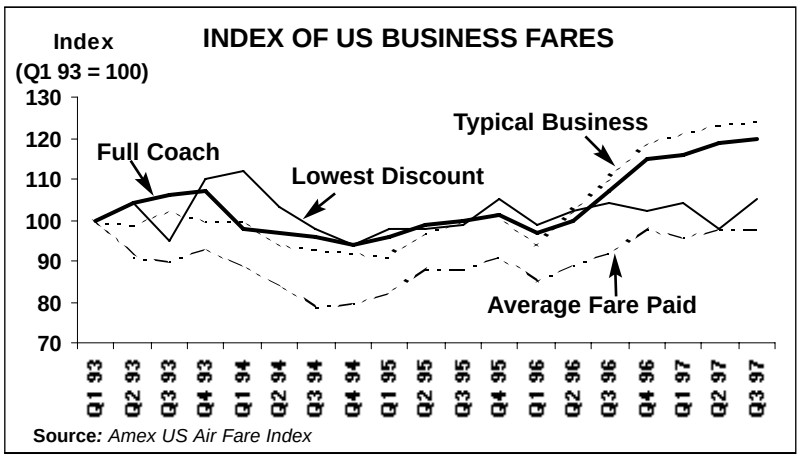
Higher business fares and static leisure fares are evidence that leading US airlines use increasingly sophisticated yield management techniques. In November United ran its first yield management and seat forecasting calculations based on IBM's Deep Blue computer system. This conjures up the image of future US competition being waged between super-computers. More prosaically, United claims that Deep Blue will raise revenues by $50-100m per year, which sounds impressive but actually equates to 0.3-0.6% of United's annual turnover.

There are other significant factors at play in the trend towards higher US fares. A key external factor has been the federal government. The 10% federal ticket tax lapsed in January 1996, was reinstated in August 1996, lapsed again in January 1997 and was reinstated yet again in March 1997. Not all the tax was immediately passed on to travellers, but since March fares have steadily crept upwards. Most significantly, in September Northwest increased unrestricted fares by 5%, and most other airlines soon followed. The industry somehow arrived at an unofficial consensus of higher fares all round. And the upward trend seems to be continuing until the end of this year - the US Labor Department reported domestic airline fares rose 3.8% in October, the largest increase since March.

The industry's hope is that this consensus will continue into 1998, with discounts and sales limited to restricted leisure tickets. Predictably, business travellers have been complaining about the rising fares, but with industry consensus they have had little option but to pay the higher fares. With a strong US economy (six years of uninterrupted growth) fuelling demand, there has been an impressive rise in domestic passenger traffic - US majors' domestic load factor rose from 65.7% in 1995 to 68.5% in 1996, and is topping 70% so far this year (see page 20).

However, not all airlines have yet been able to convert the new fare structure into higher average yields. For the industry as a whole net yields were down by 3% in the third quarter compared to 1996. The temptation is still there for some airlines to go for traffic growth and steal market share at the expense of yields in the search for profit.

The good news is that in September most US airlines cut domestic travel agent commissions from 10% to 8%. Many travel agents were outraged, but the move is indicative about how bullish (and consensual) the airlines are. Together, higher fares and load factors, and lower commissions and fuel prices, will lead to even better fourth quarter results, analysts predict.



Source: *Amex US Air Fare Index*

Airport privatisation - a scramble for private finance

In 1997 airport privatisation went global. Airport privatisation, however, is a different animal from airline privatisation. There is little ideological backing for privatising airports and few claims have been made for the competitive benefits of share sales.

Although 10 years have passed since the pioneering share sale of BAA, privatisation elsewhere failed to catch on. There have been a few exceptions, all heavily oversubscribed - Vienna sold a 48% stake in 1992 and Copenhagen 49% in 1994 - but these were minority stake sales with the public bodies retaining control of airport policy.

It is only in the last 12 months that the concept has become fashionable. Around 50 countries are actively pursuing various forms of privatisation of their transport infrastructure, of which airports play a vital part. So why now?

Basically, airports are finding it increasingly difficult to match infrastructure with demand. Required annual expenditure on airport expansion and development, just to keep pace with the forecast growth, has been estimated at around $25bn a year. At the same time, central government and local authorities, the traditional owners of airports throughout the world, are re-evaluating their asset holdings in the search for non-tax funds. State ownership is often cited by many airports as a barrier to expansion, but public finance problems are now the driving force behind the latest sales.

The catalyst for finding solutions has been the finance markets, which now regard airports as sound new investment opportunities that offer potentially high returns, steady growth and little risk. While income from aeronautical charges does not usually cover the costs of running an airport, profits can be generated by the booming retail sector, as illustrated by the success of retail business at BAA, where it now accounts for 60% of total revenues. Another valuable asset, so far little exploited, is large tracts of unused land within airport boundaries, which can be turned into duty-free zones and light industrial parks.

MAJOR AIRPORT PRIVATISATIONS

	Seller	Already sold	Price	To sell	Sale date
Australia	FAC	3	$2.6bn	19	1998+
Germany	Gov.			*5	1998+
Argentina	Gov.			38	1997/98
Mexico	Gov.			35	1998+
Uruguay	Gov.			1	1999
South Africa	ACSA			**9	1998
Japan	Gov.			1	2005
UK		18	na		
Italy		2	na		

Note: **Partial stakes; **49% of ACSA.*

What type of privatisation?

Several privatisation models are being tried, aiming to satisfy criteria such as government policy and objectives, timescale, regulatory issues, price and potential return on investment. Public offerings were initially the preferred option, providing a broad-based ownership and continued access to additional capital. But trade sales, as in Australia, strategic investments, as planned for South Africa, and private tender are beginning to move ahead. Some plans feature a combination of two or more.

Another form of financing is the Build-Operate-Transfer (BOT) concept, whereby private companies (usually consortia) agree to build, develop and operate a facility on long-term concessions, while ownership is retained by the authorities. At the end of the term, the airport has to be handed back, although a number of schemes offer options - some automatic - for extending the period. BOT can only work successfully if the concession period is long enough for the operator to recoup its investment. The minimum viable concession is 30 years - as at the new Spata International Airport for Athens, being built by a Hochtief-led consortium, and as planned for Argentina - although 50 years, as agreed in Australia and envisaged for Mexico, is the preferred term.

What is most important to airlines is that airports remain monopolies or quasi-monopolies after privatisation - hence the need to introduce some form of regulation. Control over airport charges is included in some of the projects surveyed here, but no one seems to have advocated as clear a solution as the RPI-x formula BAA

works under. Airlines are being left to hope that cost savings from more efficient commercial operations will filter through.

Australia's sales bonanza

The Australian government's plan to privatise all 22 airports under the control of the Federal Airports Corporation (FAC) could not have got off to a better start. Having expected around A$3bn (US$2.3bn) for all 22 airports, the sale of the first tranche of three - Brisbane, Melbourne and Perth - alone netted A$3,337m (US$2.56bn). Completed on 1 July 1997, the transaction will result in a headline surplus of more than A$8bn in the present 1997/98 financial year. If this early success is repeated for the other state capital airports in the FAC portfolio, the total proceeds could exceed A$6bn (US$4.6bn), or double the government's initial expectations.

The price paid for Brisbane Airport in Queensland was A$1.39bn, while Victoria's Melbourne fetched A$1.31bn, and the smaller Western Australian airport at Perth was sold for A$643m. These prices, an improvement on the first round of bids, were achieved at an acceptable level of debt, with the winning consortia all geared at a 60/40 debt/equity ratio. BZW, the lead business advisor to the federal government, points out that the prices paid for these airports are between 16-20 times their earnings before depreciation, interest and tax - considerably higher than the lead-in privatisation programmes in Europe. While this represents excellent news for the government, it will put considerable financial pressure on the new operators to achieve a fair return on their investment, especially as they are committed to an aeronautical pricing scheme structured to reduce charges by up to 24.6% over the next five years, and to spend some A$500m on the three airports during the next decade.

All three airports went to different consortia, in line with the government's objective of diversity of ownership and a majority Australian interest. Brisbane went to the Brisbane Airport Corp, a consortium that included Amsterdam Airport Schiphol; Melbourne's successful bidder was Australia Pacific Airports Corporation, which included the UK's BAA; and Perth was won by the Australia Development Group Pty Ltd, a grouping that included AGI - whose shareholders include Lockheed Martin, Soros Capital and GE Capital - and infrastructure investment company Infratil Australia. All have 50-year leases with options for another 49 years at no extra cost.

For BAA, which was advised by NatWest Markets, the Australian venture marks the latest step in its global ambitions - it already runs the Indianapolis airport system, manages the retail business at Pittsburgh in the US and has bought a 70% stake in Naples airport in Southern Italy. At completion, the APAC holding was BAA (25.1%), AMP (49.9%) and Axiom (25.0%), but it is expected that Hastings Fund Management will exercise its option of taking a 10% stake which would come from BAA. APAC will contribute a total of A$354m in equity and shareholder loans, with the balance funded by borrowing facilities. Assuming that BAA's share is reduced to 15.1%, its capital contribution will total A$53m, all of it internally funded.

The government has now announced details of the second phase of its privatisation programme, which includes airports at Adelaide, Alice Springs, Canberra, Coolangatta, Darwin, Hobart, Launceston, Townsville, Mount Isa and Tennant Creek, expected to bring in about A$1.9bn. The sale should be finalised by mid-1998. Several smaller regional and general aviation fields on offer are expected to be sold outright. This only leaves the much coveted prize of Sydney, which will not be offered to investors until the go-ahead for a new airport at Badgery's Creek is given.

German government bows out

The German federal government owns minority interests in five of Germany's biggest airports. But the pressure of matching expenditure with tax income has forced a re-evaluation of the role of the state as an investor in the economic sector, and in November 1995 the cabinet decided to withdraw totally from participation in airports. Hamburg was to be used as a test privatisation, to be followed by Cologne/Bonn, Berlin, Frankfurt and Munich, but it is the plans for developing the former DDR airport of Schönefeld into the new Berlin Brandenburg International Airport (BBI) that is grabbing the headlines.

The board of directors and shareholders of Berlin Brandenburg Flughafen (BBF), the holding company which owns the city's three airports at Tegel, Tempelhof and Schönefeld, approved

plans in September 1997 to privately finance the new airport. The project is expected to cost between Dm5-8bn ($2.7-4.3bn), depending on the final design configuration, and is scheduled for completion by 2006. The airport will get new terminal facilities and a second runway, and will then be able to handle 20m passengers, nearly double the present combined throughput of 11m. Tegel is to be closed in 2002 when work on BBI begins, while historic Tempelhof will handle its last passenger in 2006 or 2007.

Investors will be allowed to bid for a minimum 74.9% stake, with the remainder to be sold at a later date. It is the intention that the new airport will be funded virtually entirely with private money, although the public sector has committed up to Dm1.8bn for the support infrastructure, such as road, underground and high-speed rail connections. Dm1bn has already been pledged by the European Investment Bank (EIB). Expressions of interest were due in November 1997 and the preselection process should be completed by autumn 1998.

The tender will be managed by BZW, which calls this particular privatisation model a "hybrid acquisition and project finance". It involves a 50-year concession to plan, build and operate the new facility, while at the same time being contracted to operate the existing three airports until their planned closure. The new owners are also required to assume existing BBF debts, believed to be in the order of Dm700-800m. Doubts about Berlin's ability to produce adequate profits for the new owners continue to be raised and the Berlin example will undoubtedly shape the privatisation of other German airports to follow.

GERMAN AIRPORTS WITH FEDERAL GOVERNMENT HOLDING

Berlin	26.00%	Federal Government
	37.00%	State of Brandenburg
	37.00%	State & City of Berlin
Cologne/Bonn	30.94%	Federal Government
	31.12%	City of Cologne
	30.94%	State of North Rhine-Westphalia
	6.06%	City of Bonn
	0.94%	Rhein-Sieg District
Frankfurt/Main	25.87%	Federal Government
	45.24%	State of Hesse
	28.89%	City of Frankfurt
Hamburg	26.00%	Federal Government
	64.00%	City of Hamburg
	10.00%	State of Schleswig-Holstein
Munich	26.00%	Federal Government
	52.00%	Free State of Bavaria
	23.00%	City of Munich

Düsseldorf's Airport 2000 Plus reconstruction and expansion programme has also been secured through a part-privatisation programme. The state of North Rhine-Westphalia, which currently owns a half share in Germany's third-largest airport, along with the city authority, will sell its share into the private sector. It has had no shortage of interest, with most well-established airport operators knocking at its doors, but has selected the Harpen/Airports Group International (AGI) joint venture as the preferred bidder. AGI already manages, among others, Hartsfield Atlanta International Terminal and Terminal 3 at Toronto's Pearson International, while Harpen is a German property development company.

The asking price for North Rhine-Westphalia's 50% holding is likely to be close to the Dm2bn ($1.2bn) required to implement the Airport 2000 Plus project, which would increase Düsseldorf's throughput capacity from 15m to 22m passengers a year.

Argentine legal tangle

The planned privatisation of 38 of Argentina's main airports, in terms of numbers, is the largest in the world. It would also have been one of the quickest, but President Menem's headlong rush towards getting private money to finance the $2bn modernisation of the country's neglected airport infrastructure has run foul of its own legal system. Twice, the courts have overruled presidential degrees designed to force through the privatisation as unconstitutional, but the government still insists that the 30-year concessions will be awarded as planned in December 1997.

These legal tangles have done little, however, to bolster the already shaky confidence of the consortia bidding for the concession (SEA/Ogden, Montreal Airports/Airsys, FAG/Sideco and AENA/FCC Dragados), nor can indicators of present and future profitability figures offer great encouragement. According to figures submitted to UBS, which is acting as financial advisor to the Argentine government, the entire system of 57 airports generated just $139m revenue in 1996, with operating profits (allegedly) of $97m. The two principal airports serving Buenos Aires, Ezeiza and Aeroparque, alone accounted for $100m in operating profits, suggesting that the remaining airports made a collective loss.

Projections, based on Argentina's strengthen-

ing economy, relative political stability, and the positive effects on regional traffic growth of the Mercosur economic grouping and domestic deregulation, indicate a substantial increase in both revenues and profits. Yet, the projected $428m operating profit by 2011 will still come from the two main airports. The investment needs of around $700m for the remaining airport will, therefore, have to be generated by the Buenos Aires airports.

Argentina has set tough conditions to be met by any potential operator. Apart from existing duty-free, bonded warehouse, ground handling and catering contracts, which remain in force until 2009/2010, the new operator will be able to provide all other forms of revenue-generating activities, including the establishment of airport-related businesses on airport land. The level of aeronautical charges, however, will be set by a proposed new regulatory authority, SNA, which will take over responsibility for the 57 airports.

Latin America joins in

Mexico appears to have considered and rejected a trade sale along similar lines to that in Australia, in its plans to privatise 35 out of 58 airports. Instead, the imminent strategy document, being prepared by the Secretaría de Comunicaciones y Transportes (SCT) in association with advisors SBC Warburg and local bank Interacciones, will be opting for a sale through a public offering, using the stock market to encourage wider participation in the airport system. The sale is expected to raise at least $400m, although the government's stated aim is to modernise the infrastructure. Foreign investment has been pegged to 49%, with airline participation limited to 5%.

The SCT document will also provide answers to the question of how the airports are to be privatised. A block sale has been discarded and the favoured option is believed to be splitting the airports into three or four regional groups, each group totalling around 10m passengers - Mexico's total annual traffic will exceed 50m in 1997. Mexico City's Benito Juarez International Airport, which will pass 17m passengers in 1997, will be sold separately, although its future remains in the balance. In addition to considering the construction of a new runway, the state airport authority Aeropuertos Servicios Auxiliares (ASA) is also evaluating the feasibility of a new airport at nearby Texcoco, or possibly Hidalgo.

To make investing in its airports more attractive, the government is placing only the most viable airports into the private sector. While the ASA insists that all 35 are at least breaking even, it is unlikely that any but the six busiest - Mexico City, Cancun, Guadalajara, Tijuana, Monterrey and Acapulco - are truly profitable. The fate of the other 23 smaller facilities, presently cross-subsidised, remains undecided. Investors and potential operators will need to see financial figures, projected traffic growth and investment needs, before parting with their money.

Elsewhere in Latin America, Uruguay plans to privatise Carrasco International Airport in Montevideo as part of its economic liberalisation policy, and to enable the capital to play a more significant role within the Mercosur alliance of states. With the close proximity of Buenos Aires, however, its scope may be limited. A government task force, supported by Lufthansa Consulting and Coopers & Lybrand Germany, is developing a privatisation strategy and technical and economic framework, with the emphasis of attracting foreign investment, led by experienced airport operators. It is expected that the privatisation will be based on a BOT scheme. A memorandum for international investors should be ready by the end of 1997, with the bid process following quickly to meet a planned 1999 date for the hand over of the airport to the new operators.

In response to impressive growth of international traffic, Peru's president Alberto Fujimori has announced that modernisation and expansion work at Lima's Jorge Chavez International Airport, the country's main gateway, will be put out to tender early in 1998, although no details as to the intended type of privatisation have been given. Rehabilitation of the terminal building and a new runway form the central elements of the proposed work. In Colombia, the CODAG joint venture majority-owned by Spanish construction firm Dragados, is building a second runway at Bogotá and will maintain both under a 20-year concession. The landing fees for the term will repay the $116m bond issue.

Airports Group International (AGI) has won a 25-year contract to manage and operate Bolivia's three main airports - Cochabamba, La Paz and Santa Cruz de la Sierra - which account for 80% of the country's air traffic. Under the terms of the

contract, AGI is responsible for the management of landside and airside operations and maintenance, and has committed to a $100m investment to improve and expand facilities at the three airports. Around one-fifth of its profit is to be paid over to the Bolivian government. Chile is also ready to jump onto the privatisation bandwagon, while Brazil's Infraero is actively seeking foreign capital for the development of commercial activities at its 67 airports.

South Africa - focus on strategic equity partner

In his government's plan for the restructuring of the Airports Company of South Africa (ACSA), transport minister Mac Maharaj places the emphasis on inviting a strategic equity partner to assist ACSA in developing its operational expertise and to enhance its profitability and market value. The partner will also be expected to contribute to the building up of ACSA's aeronautical business and assist in the management of capital expenditure. ACSA took over the operation of the country's nine main airports in 1994, in a first commercialisation step towards the partial privatisation plan now submitted to the parliamentary Standing Committee.

The nine airports under ACSA control are the three principal international gateways of Johannesburg, Cape Town and Durban, together with provincial airports at Blomfontein, East London, George, Kimberly, Port Elizabeth and Upington. The three gateways are profitable, and ACSA has been able to steer the others close to break-even, reducing the need for cross-subsidy. There is considerable scope for commercial development and better use of surplus land. This, together with a trebling of air traffic since the dismantling of apartheid and continuing growth of business links and tourism, should make this privatisation offer an attractive opportunity for potential investors.

In the financial year to 31 March 1997, ACSA reported revenues of R578m ($122m), with a net income of R159m ($34m). The sale plan for a 49% stake in ACSA includes a 20% initial shareholding for the strategic partner, expected to be an internationally-recognised airport operator, or a consortium or joint venture led by one or more such operators. The strategic partner will also have the option for an additional 10%, which can be exercised on the date of the initial public offering of shares, planned to take place within two years or on the third anniversary of the initial transaction. The South African government intends to select the preferred partner for ACSA, prepare documents and complete the transaction by 31 March 1998.

India plans policy changes

India is facing a mounting bill for the urgently required modernisation and expansion of its airport infrastructure. A draft policy on airport infrastructure proposes a “revolutionary thrust” towards raising revenue from non-aeronautical commercial activities, giving airport operators total freedom, with no government control.

While the Airport Authority of India (AAI) will be directed to focus on projects which will be financially viable, the document also suggests that capital costs and losses sustained by airports being developed to meet social objectives would be reimbursed by the government. Various bid procedures are being discussed. Foreign investment of up to 40% in the domestic air transport sector was approved in April 1997.

Opportunities for private sector investment in airports during the current IXth Plan (1997-2002) include the proposed new airports for Mumbai (Bombay), likely to cost up to $3bn, and the stalled Bangalore airport, which has a price tag of $300m. All greenfield airport projects will be based on the BOT concept. In total, the AAI is responsible for five international airports, 87 domestic airports and 28 civil enclaves within military airfields.

As in India, airport privatisation is only slowly developing in the Far East. The Second Bangkok International Airport will be built with some private input, and the massive investment in airport projects in China, said by the Civil Aviation Administration of China (CAAC) to be in the area of $2-3bn in the current five-year plan to 2000, will also be accomplished with the introduction of foreign investment. This would particularly be applicable to the new Pudong International Airport for Shanghai and the replacement of Baiyun International at Guangzhou.

In Japan, a new airport for Aichi province, planned to be opened in approximately 2005, could become the first in Japan to be operated on a private basis.

Europe leads, the US follows - reluctantly

Of the UK's major airports, only Manchester remains firmly in public hands and has no plans to change the status quo, while Birmingham's seven West Midlands councils have sold a majority 51% to facilitate the go-ahead of a £260m ($420m), 10-year development plan. The new shareholders include Irish airport operator Aer Rianta and NatWest Ventures, together holding 40%, with National Car Parks/John Laing having an 8.25% share and airport employees 2.75%.

Luton is looking to the private sector to finance a planned investment of £170m ($220m) over the next 10 years, designed to enable it to handle 8.5m passengers a year. Political necessity has forced Luton Borough Council to opt for a 30-year franchise rather than outright sale, as the Labour councillors were elected on a promise not to sell. The plan has already caused controversy, as the Borough is believed to have ruled out any bid by Luton's major airlines, leaving the door open to TBI and National Express to extend their portfolio. The franchising is being handled by UBS and will take a year to complete. The first phase of Luton's investment programme foresees construction of a parallel taxiway, extra apron space and expansion of its departures terminal.

After the part-privatisation of Rome, Naples has become the second Italian airport to obtain private sector investment, with Milan likely to be the next in line. The UK's BAA completed the acquisition of a 70% stake in Gestioni Servizi Aeroporti Camani, operator of Naples-Capodichino Airport, in summer 1997. The other shares are held by the City of Naples (12.5%), the Province of Naples (12.5%) and Alitalia. BAA is committed to invest $160m in the southern Italian airport, which draws its traffic mostly from tourists, over the next 15 years. Portugal is also making plans to privatise its airport system and is being advised by BZW and local bank BPI on the various options available.

Perhaps the most interesting programme is unfolding in Russia, where St Petersburg's Pulkovo Airport is preparing to build a new international passenger terminal with the help of a loan from the EBRD. The project is run by the International Airport Terminal Pulkovo, a Russian joint-stock company whose members include the City of St Petersburg, State Enterprise Pulkovo and Strategic Partners (Holdings). SPH, partly owned by STV International, will finance, design, construct and operate the new terminal. The $175m, two-phase programme will bring capacity up to 6m passengers a year. The operation of Moscow's Sheremetyevo II, Russia's major international gateway, will be auctioned in 1998, although the government is to retain ownership.

Across the Atlantic, airport privatisation has been slow to leave the ground. This is largely due to easy access to the bond market and the availability of the passenger facility charge, presently limited to $3 per passenger. But decreasing grants from the Aviation Trust Fund are causing airports to seek additional funding. To date, only one major airport system - Indianapolis - is operated on a private basis. The 10-year contract was won by the UK's BAA in October 1995.

The Indianapolis experiment has so far not been taken up elsewhere in the US, but a trend is developing towards the private operation of terminal facilities. In May 1997, The Port Authority of New York and New Jersey transferred operation of the international arrivals building Terminal 4 at JFK International to the JFKIAT consortium. This includes Schiphol USA (40%), a subsidiary of Schiphol Management Services. The contract gives the consortium control at least until 2015. Over the coming four years, the consortium will rebuild the terminal into a completely new three-level structure, with more gates and greatly enlarged retail areas. The $1bn project is being financed through bond issues from the Port Authority.

PRIVATELY-OWNED AIRPORTS IN THE UK

Airport	Company	Stake	Year
Aberdeen	BAA	100%	1987
Belfast City	Shorts	100%	1989
Belfast Int.	TBI	100%	1996
Birmingham Int.	Aer Rianta + partners	40%	1997
	NCP/John Laing	8%	1997
Bournemouth	National Express	100%	1995
Bristol	FirstBus	51%	1998
Cardiff Wales	TBI	100%	1995
East Midlands	National Express	100%	1993
Edinburgh	BAA	100%	1987
Glasgow	BAA	100%	1987
Liverpool	Peel Holdings	76%	1997
London City	Dermot Desmond	100%	1996
London Gatwick	BAA	100%	1987
London Heathrow	BAA	100%	1987
London Stansted	BAA	100%	1987
Prestwick	PIK	100%	1992
Sheffield City	Tinsley Park	100%	1997
Southampton	BAA	100%	1990

The forgotten art of superior customer intimacy

Expanding on the concept that airlines service consists of five segments - pre-pre-flight, pre-flight, in-flight, post-flight and post-post-flight (see pages 17-19, *Aviation Strategy* November 1997) - **Louis Gialloreto** takes a closer look at the pre-pre and post-post phases.

The pre-pre phase of the airline service process deals with those activities that stimulate a decision to select one carrier over another. These are normally referred to as market communications and the activities performed by the distribution channels. The post-post phase can be defined as all those activities designed to stimulate repeat business, and these occur after the customer has completed the service process on a particular trip.

Many might consider that these activities have always been rather traditional components of the overall service process. Yet in many airlines' organisational structures these processes are separate and in many cases misfocussed, even though the customer sees airline service (pre-pre, pre, in, post, post-post) as a single and optimally seamless process.

Airlines tend to see and structure each of their service processes as individual ones which, in the fullness of time, *should* culminate in an ever increasing pile of loyal repeat customers. Surely, however, it is time for the more enlightened managements to examine these parts of their overall service process more thoroughly.

Pre-pre: the fight to cut costs

With regard to the pre-pre-flight phase, airlines around the world have finally decided to deal with a key portion of their costs - travel trade commissions. Until 1994, this had been the single biggest unattacked cost pile remaining for airlines to downsize. However, because the industry has allowed undue concentration of power among third party wholesale and retail travel organisations, their ability to deal with these in any significant way has been greatly reduced.

Two solutions seem feasible. The first is the evolution of technology (such as the Internet), which has allowed for viable direct booking transactions, especially on simple type itineraries where travel retailers add little if any value. Direct booking via the Internet has the added advantage of presenting the airline with a customer information database. It is this information, in the proper format, that allows airlines to build value relationships with customers and therefore stem the tide back to the third party channels in any downturn.

The second solution, of course, is to reduce commissions. This process is already under way via flat fees and capping in the US, and is now winding its way into others markets (BA being the latest proponent). A variant on this is a uniform system of commission based on average yield/ticket sold in each distribution outlet. Many carriers have, at any given time, tried to implement such a system, with varying degrees of success.

Today, any carrier that has activated both these ideas and is trying Internet bookings as well as making the first step towards cutting commissions is ahead of 75-80% of the rest of the airline industry. But in tackling the pre-pre cost of commissions there must be some words of warning. Direct selling can catch airlines with inadequate technology and the expectation of lower fares can have a destabilising effect on customers' expectations of airlines. Frustrated customers who try to book direct and fail are likely to fall back into the waiting arms of the third party distributor.

In addition, commission capping is a cyclical solution that works best when the market is growing. One can be sure that as soon as recession hits, weaker airlines will break ranks and abolish caps in order to garner travel trade favour and loyalty - as fleeting as this may be.

Post-post: the customer is king

The key question in the post-post phase is how to better handle and retain customers. Some airlines thought that the frequent flier programme was the answer, which of course it was for the first 18-24 months after introduction in many western markets. But when one airline's FFP is matched by other airlines' FFPs in any given mar-

ket, then its advantages melt into an increasingly significant cost pile. That is unless an airline can mine this databank for the keys to long-lasting customer intimacy and enhanced revenue.

However, evidence of this mining is slim at best given the continuing propensity to let price drive the decision to purchase. In fact, FFPs are not tailored enough for the needs of differing types of frequent flier. The last recession caused the demise of many middle managers and thus thinned the FFP database of active fliers, and even given their replacement by *nouveau* fliers who are working their way up the mileage scale, the net effect is flat or even worse.

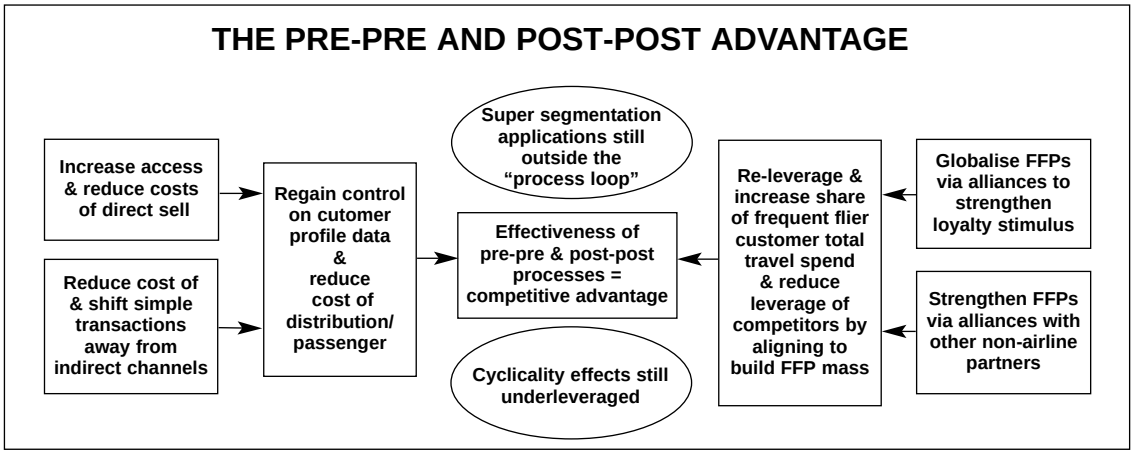
This depletion phenomenon is paired with the evolution of the frequent flier for whom the stimulus of the traditional FFP is becoming increasingly irrelevant. The average US frequent flier belongs to 4-4.5 FFPs, thereby watering down the effect of a single programme. These *habitues* place an increasingly large emphasis on better and more consistent service. This is compounded by travel weary FFPs who have more FFP miles than they could use in a lifetime of retirements.

This revised segmentation of infrequent; *nouveau*, very frequent and "worn-down" frequents should allow an airline to understand what percentage of their loyalty is stimulated through FFP perks and what share is actually retained via better consistent service. For example, if an airline has a high share of very frequents and fails to live up to service perceptions then it should not be surprised at an outflow of customers.

But instead of attempting advanced database segmentation and acting upon the results, most airlines are busy aligning their FFPs with those of others in order to form a seamless global programme that will reduce if not eliminate FFP leakage due to lack of a global network for accumulation or redemption. The theory is that this re-leverages the current FFP investment and also raises barriers to entry to those who are unable to globalise their FFP. As is so often the case, however, the FFP is something with a life of its own, and most wonder at the ROI, real or implied, that it represents. As a whole the industry has failed to adapt to the evolution of the market and seems to forget that FFPs are now 10 years old at some airlines, and therefore need to be re-adapted and refocussed to add strong value, real or perceived.

Beside the FFP, the post-post phase of the airline service process has only one other traditional component - the infamous customer complaints department. BA tried to fill a gaping hole in the process when it placed video recording facilities in some arrivals lounges and baggage claim areas in order to record immediate feedback. However, because customers are in a hurry to de-process themselves once the aircraft comes to a full and complete stop at the gate, airlines are reticent about annoying them with surveys or other data-gathering methods. Yet in a way this is the critical phase, when one can defuse loyalty-destroying service disasters and celebrate unmitigated successes.

As the market upturn progresses the industry tends to minimise the importance of these issues because growth hides many evils, but come downturn airlines will again be seeking to retain market share. Very few airlines seem intent on using this upturn to build their quotient of customer intimacy. If airlines wish to evolve the way other service industries have, they should take these two phases more intimately into the overall service process, and use the levers implicit in these phases to drive intimacy and loyalty in non-traditional ways.



EUROPEAN SCHEDULED TRAFFIC

	Europe (int. only)			North Atlantic			Europe-Far East			Total long-haul			Total international		
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %
1990	113.4	70.9	62.5	128.8	89.7	69.6	80.5	57.6	71.6	272.6	191.7	70.3	405.8	274.9	67.7
1991	114.8	65.2	56.8	120.9	84.3	69.7	80.0	53.1	66.4	267.6	182.0	68.0	397.8	257.9	64.7
1992	129.6	73.5	56.7	134.5	95.0	70.6	89.4	61.6	68.9	296.8	207.1	69.8	445.8	293.4	65.8
1993	137.8	79.8	57.9	145.1	102.0	70.3	96.3	68.1	70.7	319.1	223.7	70.1	479.7	318.0	66.3
1994	144.7	87.7	60.6	150.3	108.8	72.4	102.8	76.1	74.0	334.0	243.6	72.9	503.7	346.7	68.8
1995	154.8	94.9	61.3	154.1	117.6	76.3	111.1	81.1	73.0	362.6	269.5	74.3	532.8	373.7	70.1
1996	165.1	100.8	61.1	163.9	126.4	77.1	121.1	88.8	73.3	391.9	292.8	74.7	583.5	410.9	70.4
Sep 97	15.2	10.6	69.6	16.3	13.6	83.6	11.0	8.5	77.5	36.7	29.6	80.5	54.4	41.9	77.0
Ann. chng	5.4%	8.7%	2.1%	9.7%	9.7%	0.5%	8.6%	7.5%	-0.8%	7.9%	9.5%	1.2%	7.1%	9.2%	1.5%
Jan-Sep 97	131.0	84.2	64.3	133.0	106.1	79.6	96.4	72.7	75.5	313.0	242.7	77.5	464.9	341.2	73.4
Ann. chng	5.5%	9.6%	2.4%	8.5%	10.1%	1.2%	7.1%	10.1%	2.1%	6.9%	10.3%	2.3%	6.5%	10.0%	2.4%

Source: AEA

US MAJORS' SCHEDULED TRAFFIC

	Domestic			North Atlantic			Pacific			Latin America			Total international		
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %
1990	863.1	523.2	60.6	121.3	84.2	69.4	106.7	75.8	71.0	42.2	26.6	63.0	270.2	186.5	69.0
1991	835.1	512.7	61.4	108.0	75.2	69.6	117.0	78.5	67.1	44.3	27.4	61.8	269.2	181.0	67.2
1992	857.8	536.9	62.6	134.4	92.4	68.7	123.1	85.0	69.0	48.0	27.4	57.0	305.4	204.7	67.0
1993	867.7	538.5	62.1	140.3	97.0	69.2	112.5	79.7	70.8	55.8	32.5	58.2	308.7	209.2	67.8
1994	886.9	575.6	64.9	136.1	99.5	73.0	107.3	78.2	72.9	56.8	35.2	62.0	300.3	212.9	70.9
1995	900.4	591.4	65.7	130.4	98.5	75.6	114.3	83.7	73.2	62.1	39.1	63.0	306.7	221.3	72.1
1996	925.7	634.4	68.5	132.6	101.9	76.8	118.0	89.2	75.6	66.1	42.3	64.0	316.7	233.3	73.7
Sep 97	78.3	51.1	65.2										28.5	22.1	77.7
Ann. chng	2.8%	3.6%	0.6%										4.5%	6.9%	1.8%
Jan-Sep 97	712.5	500.3	70.2										246.5	186.1	75.5
Ann. chng	3.4%	5.1%	3.0										4.1%	5.6%	1.1

Note: US Majors = American, Alaska, Am. West, Continental, Delta, NWA, Southwest, TWA, United, USAir **Source:** US DoT.

ICAO WORLD TRAFFIC AND ESG FORECAST

	Domestic			International			Total			Domestic growth rate		International growth rate		Total growth rate	
	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK bn	RPK bn	LF %	ASK %	RPK %	ASK %	RPK %	ASK %	RPK %
1990	1,270	795	62.6	1,527	1,062	69.5	2,797	1,857	66.4	5.8	5.0	9.4	8.9	7.8	7.0
1991	1,267	800	63.2	1,487	998	67.1	2,754	1,798	65.3	-0.3	0.6	-2.6	-6.1	-1.6	-3.2
1992	1,300	840	64.6	1,711	1,149	67.2	3,011	1,989	66.1	2.7	5.0	15.0	15.2	9.4	10.7
1993	1,347	856	63.6	1,790	1,209	67.5	3,137	2,065	65.8	3.6	1.9	4.6	5.2	4.2	3.8
1994	1,403	924	65.8	1,930	1,326	68.7	3,333	2,250	67.5	4.2	7.9	7.8	9.7	6.3	9.0
1995	1,477	980	66.3	2,044	1,424	69.7	3,521	2,404	68.3	5.3	6.1	5.9	7.4	5.6	6.9
1996	1,526	1,046	68.6	2,163	1,537	71.1	3,689	2,583	70.0	3.3	6.7	5.8	7.9	4.8	7.4
***1997**	1,587	1,110	70.0	2,290	1,661	72.5	3,877	2,771	71.5	4.0	6.2	5.9	8.1	5.1	7.3
***1998**	1,667	1,167	70.0	2,462	1,773	72.0	4,129	2,940	71.2	5.1	5.1	7.5	6.8	6.5	6.1
***1999**	1,751	1,221	69.8	2,630	1,889	71.8	4,381	3,111	71.0	5.0	4.7	6.8	6.5	6.1	5.8
***2000**	1,839	1,271	69.1	2,807	2,002	71.3	4,646	3,273	70.5	5.1	4.1	6.7	6.0	6.1	5.2
***2001**	1,910	1,304	68.2	2,960	2,082	70.4	4,870	3,386	69.5	4.8	2.5	5.4	4.0	4.8	3.4
***2002**	1,928	1,295	67.2	3,027	2,099	69.3	4,955	3,394	68.5	1.8	-0.6	2.3	0.8	1.8	0.2

Note: * = Forecast; ICAO traffic includes charters. **Source:** Airline Monitor.

DEMAND TRENDS (1990=100)

	Real GDP					Real exports					Real imports				
	US	UK	Germany	France	Japan	US	UK	Germany	France	Japan	US	UK	Germany	France	Japan
1990	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
1991	99	98	101	101	104	106	99	112	104	105	99	95	113	103	97
1992	102	98	102	102	105	113	103	112	109	110	107	101	115	104	96
1993	105	100	100	101	105	117	107	106	109	112	117	104	108	101	96
1994	109	103	103	104	106	126	117	115	115	117	131	110	117	107	104
1995	111	106	105	106	107	137	126	122	123	123	141	115	124	113	119
1996	113	108	107	107	111	146	134	128	128	126	150	123	127	116	132
***1997**	117	112	110	109	112	160	142	138	138	140	166	132	134	122	137
***1998**	120	115	113	112	115	170	150	149	148	155	178	141	142	130	148

Note: * = Forecast; Real = adjusted for inflation. **Source:** OECD Economic Outlook. Real GDP forecast from The Economist poll of forecasts

COST INDICES (1990=100)

	Europe						US					
	Unit revenue	Unit op. cost	Unit lab. cost	Efficiency	Av. lab. cost	Unit fuel cost	Unit revenue	Unit op. cost	Unit lab. cost	Efficiency	Av. lab. cost	Unit fuel cost
1990	100	100	100	100	100	100	100	100	100	100	100	100
1991	106	109	103	105	108	88	100	102	102	101	103	84
1992	99	103	96	119	114	80	98	100	101	107	108	75
1993	100	100	90	133	118	82	101	98	99	116	115	67
1994	100	98	87	142	123	71	98	94	101	124	125	62
1995	99	97	86	151	128	67	99	93	98	129	127	61
1996	100	101	88	155	135	80	102	94	98	129	126	72

Note: European indices = weighted average of BA, Lufthansa and KLM. US indices = American, United and Southwest. Unit revenue = airline revenue per ATK. Unit operating cost = cost per ATK. Unit labour cost = salary, social charges and pension costs per ATK. Efficiency = ATKs per employee. Average labour cost = salary, social costs and pension costs per employee. Unit fuel cost = fuel expenditure and taxes per ATK.

FINANCIAL TRENDS (1990=100)

	Inflation (1990=100)					Exchange rates (against US$)					LIBOR
	US	UK	Germany	France	Japan		UK	Germany	France	Japan	6 month Euro-dollar
1990	100	100	100	100	100	**1990**	0.56	1.62	5.45	145	8.27%
1991	104	106	104	103	103	**1991**	0.57	1.66	5.64	135	5.91%
1992	107	107	109	106	105	**1992**	0.57	1.56	5.29	127	3.84%
1993	111	109	114	108	106	**1993**	0.67	1.65	5.66	111	3.36%
1994	113	109	117	110	107	**1994**	0.65	1.62	5.55	102	5.06%
1995	117	112	119	112	107	**1995**	0.63	1.43	4.99	94	6.12%
1996	120	114	121	114	107	**1996**	0.64	1.51	5.12	109	4.48%
***1997**	122	117	123	115	109	**Nov 1997**	0.59	1.74	5.81	127	5.97%
***1998**	126	121	126	117	109						

Note: * = Forecast, from The Economist. **Source:** OECD Economic Outlook.

AIRCRAFT VALUES

	Mid-life value ($000)		Mid-life value ($000)		Mid-life value ($000)		Mid-life value ($000)
727-200 Adv (HK)	5,450	767-300ER	56,760	L-1011-200/250	11,138	BAe 146-200	7,140
737-200 Adv (HK)	5,702	777-200B/IGW	126,000			BAe 146-300	12,420
737-300	19,723			A300B4-200	8,418	RJ-85	19,670
737-400	25,223	MD-82	16,423	A300-600R	58,850	RJ-100	22,670
737-500	18,826	MD-83	22,198	A310-300	26,707		
737-600	30,000	MD-90-30	32,589	A319-100	29,680	F-100	13,437
737-700	36,000	MD-95	34,600	A320-200	33,258		
737-800	43,000	DC-10-30	16,412	A321-100	40,195	Canadair RJ-600	14,680
747-400	108,700	MD-11	79,870	A330-300	97,566		
757-300	63,000			A340-300	106,000	EMB-145	14,650

Note: Values are for the oldest aircraft of this series, in clean “half-life” (i.e. mid way between D checks) condition. **Source:** MBA

JET ORDERS

	Date	Buyer	Order	Price	Engines	Delivery	Other information
Airbus	Nov 24	Lotus Air	1 A320				+1 option
	Nov 17	Egyptair	2 A340-600s		Trent 500	03+	+2 options
	Nov 7	EVA Air	6 A340-500/600s			02+	Launch customer, +6 options
	Nov 5	Air Canada	5 A330-300s,				
			3 A340-300s			3Q 99+	+28 options
	Nov 5	Aer Lingus	2 A321s		CFM56	1Q 98+	+276 options
	Nov 3	USAirways	124 A319/320s		CFM56	4Q 98+	
	Oct 31	SilkAir	3 A319s, 5 A320s		V2500	3Q 98+	+10 options
Boeing	Nov 24	EVA Airways	2 MD-11Fs			99	
	Nov 14	Far Eastern	5 757-200s, 2 MD-83s			98-00	+ 5 757-200 options
	Nov 10	Alaska Airlines	10 737-900s,		CFM56-7		737-900 launch customer
			2 737-400s,3 737-700s	$1bn (inc opts)			+10 737-900 options
	Oct 30	China govmnt	36 737s, 5 757s,				
			1 747, 8 777s	$3bn			
	Oct 28	Tunisair	4 737-600s	$171m	CFM56-7		From options. +3 options
Bombardier	Nov 20	Atlantic Coast	6 CRJs	$125m		98+	+6 options
	Nov 20	Comair	12 CRJ-100LRs	$250m		98-99	Converted from options
	Nov 13	Tyrolean AW	1 CRJ-200BLR			97	
	Nov 12	Mesa Air	16 CRJ-200LRs	$350m	CF34-3B1		
	Oct 30	Maersk Air	3 CRJ-200LRs	$64m		2Q98+	+12 options

	Airline revenue	Airline costs	Airline operating profit	Airline net profit	Sched. ASK	Sched. RPK	Load factor	Airline rev. per schd. ASK	Airline costs per schd. ASK	Passengers	ATK	RTK	Load factor	Employees
	US$m	US$m	US$m	US$m	m	m	%	Cents	Cents	000s	m	m	%	
American														
Jan-Mar 96	3,614	3,389	225	157	60,283.7	39,518.5	65.6	5.99	5.62	18,751	9,311.4	4,766.7	51.2	92,656
Apr-Jun 96	3,865	3,418	447	293	61,724.2	42,826.5	69.4	6.26	5.54	20,200	9,539.9	5,128.8	53.8	92,316
Jul-Sep 96	3,890	3,446	444	282	62,922.5	44,722.1	71.1	6.18	5.48	20,806	9,726.6	5,265.6	54.1	91,476
Oct-Dec 96	3,640	3,441	200	284	60,677.9	41,138.5	67.8	6.00	5.67	19,528	9,366.1	4,969.5	53.1	91,476
Jan-Mar 97	3,683	3,484	199	152	60,301.3	40,659.1	67.4	6.11	5.78	19,563	9,283.2	4,848.4	52.2	93,246
Apr-Jun 97	4,011	3,556	445	302	62,278.9	43,935.6	70.5	6.44	5.71					
Jul-Sep 97				323	63,321.1	45,845.6	72.4							
America West														
Jan-Mar 96	413	379	34	14	7,949.0	5,631.6	70.8	5.20	4.77	4,229	1,000.2	604.3	60.4	10,331
Apr-Jun 96	464	402	62	28	8,540.1	6,175.7	72.3	5.43	4.71	4,569	1,079.0	659.2	61.1	10,553
Jul-Sep 96	423	476	-53	-46	8,842.6	6,391.2	72.3	4.78	5.38	4,665	1,119.4	682.3	61.0	10,617
Oct-Dec 96	440	415	25	12	9,213.7	6,385.1	69.3	4.77	4.50	4,607	1,162.4	688.1	59.2	10,866
Jan-Mar 97	462	429	33	14	9,292.5	6,399.7	68.9	4.97	4.61	4,584	1,168.8	686.7	58.8	11,442
Apr-Jun 97	478	427	51	23	9,385.3	6,657.0	70.9	5.09	4.55					11,335
Jul-Sep 97	462	425	37	18	9.615.2	6,747.3	70.2	4.80	4.42					
Continental														
Jan-Mar 96	1,225	1,136	89	88	20,469.3	13,718.2	67.0	5.98	5.55	8,384	2,515.5	1,563.0	62.1	32,657
Apr-Jun 96	1,379	1,190	189	166	21,723.5	15,204.7	70.0	6.35	5.48	9,183	2,647	1,723.7	65.1	31,891
Jul-Sep 96	1,385	1,360	25	18	23,110.8	16,210.3	70.1	5.99	5.89	9,296	2,785.9	1,830.0	65.7	32,706
Oct-Dec 96	1,323	1,231	91	47	22,718.2	14,964.7	65.9	5.82	5.42	8,879	2,803.4	1,732.3	61.8	33,468
Jan-Mar 97	1,436	1,308	127	74	22,782.9	15,698.9	68.9	6.30	5.74	9,081	2,820.6	1,790.5	63.5	33,766
Apr-Jun 97	1,522	1,325	197	128	23,930.8	17,456.7	72.9	6.36	5.54					
Jul-Sep 97				110	26,113.5	19,403.0	74.3							
Delta														
Jan-Mar 96	2,964	3,350	-386	-276	50,883.0	33,736.6	66.3	5.82	6.58	22,439	7,008.3	3,906.1	55.7	61,110
Apr-Jun 96	3,360	3,069	291	161	53,879.8	38,863.5	72.1	6.24	5.70	24,896	7,460.1	4,439.4	59.5	61,771
Jul-Sep 96	3,432	2,990	442	238	55,273.7	40,838.2	73.9	6.21	5.41	25,242	7,677.8	4,623.5	60.2	63,862
Oct-Dec 96	3,197	2,973	224	125	54,982.5	37,638.0	68.5	5.81	5.41	24,625	7,606.7	4,421.2	58.1	63,862
Jan-Mar 97	3,420	3,077	343	189	54,175.8	37,317.3	68.9	6.31	5.68	24,573	7,489.7	4,354.8	58.1	67,851
Apr-Jun 97	3,541	3,022	519	301	55,566.9	41,436.1	74.6	6.37	5.44					
Jul-Sep 97				254	57,410.7	42,771.3	74.5							
Northwest														
Jan-Mar 96	2,178	2,036	142	43	35,696.2	25,062.6	70.2	6.10	5.70	12,036	5,641.9	3,295.5	58.4	45,587
Apr-Jun 96	2,489	2,100	389	203	37,746.8	28,256.9	74.9	6.59	5.56	13,556	6,033.6	3,722.2	61.7	46,184
Jul-Sep 96	2,688	2,203	485	254	40,452.8	31,071.2	76.8	6.65	5.45	14,368	6,445.2	4,045.4	62.8	46,994
Oct-Dec 96	2,296	2,204	92	26	37,209.8	26,050.1	70.0	6.17	5.92	12,723	5,965.7	3,566.9	59.8	47,631
Jan-Mar 97	2,290	2,144	146	65	37,094.7	26,697.3	72.0	6.17	5.78	12,661	5,800.7	3,471.3	59.8	47,628
Apr-Jun 97	2,467	2,167	300	136	38,974.8	29,189.2	74.0	6.33	5.56					48,197
Jul-Sep 97				290	41,481.2	32,223.8	77.7							
Southwest														
Jan-Mar 96	770	714	56	33	15,512.2	9,394.6	60.6	4.96	4.60	12,595	1,982.2	974.3	49.2	21,130
Apr-Jun 96	908	765	142	85	16,357.6	10,959.3	67.0	5.55	4.68	14,014	2,099.4	1,137.8	54.2	21,559
Jul-Sep 96	889	785	103	61	16,863.5	11,802.9	70.0	5.27	4.66	14,478	2,164.7	1,224.4	56.6	22,844
Oct-Dec 96	829	780	49	28	16,776.0	11,431.8	68.1	4.94	4.65	14,285	2,148.9	1,188.4	55.3	23,395
Jan-Mar 97	884	797	87	51	16,923.1	10,515.0	62.1	5.22	4.71	13,329	2,163.7	1,097.2	50.7	23,980
Apr-Jun 97	957	801	156	94	17,671.9	11,289.6	63.9	5.41	4.53					23,777
Jul-Sep 97				93	18,494.2	12,176.3	65.8							
TWA														
Jan-Mar 96	757	811	-54	-37	14,786.2	9,410.1	63.6	5.12	5.49	5,338	2,052.8	1.119.6	54.5	24,900
Apr-Jun 96	925	863	62	25	16,204.8	11,315.6	69.8	5.71	5.33	6,046	2,239.5	1,310.4	58.5	25,194
Jul-Sep 96	952	926	26	-14	18,426.6	12,918.4	70.1	5.16	5.02	6,381	2,550.6	1,476.5	57.9	26,332
Oct-Dec 96	771	1,005	-233	-259	15,909.2	9,985.2	62.8	4.85	6.31	5,517	2,201.5	1,195.1	54.3	26,578
Jan-Mar 97	744	844	-100	-70	13,769.7	9,129.7	66.3	5.41	6.13	5,345	1,898.2	1,054.3	55.5	25,662
Apr-Jun 97	804	799	6	-14	14,740.1	10,272.2	69.7	5.46	5.42					25,800
Jul-Sep 97					15,922.1	11,446.7	71.9							
United														
Jan-Mar 96	3,598	3,534	64	-23	62,536.8	42,939.5	68.7	5.75	5.65	18,937	8,960.3	5,175.0	57.8	83,141
Apr-Jun 96	4,023	3,623	400	196	64,851.6	47,405.6	73.1	6.20	5.59	20,736	9,330.4	5,696.9	61.1	83,347
Jul-Sep 96	4,344	3,731	613	340	68,560.8	51,669.2	75.4	6.34	5.44	22,241	9,868.5	6,134.8	62.2	84,579
Oct-Dec 96	3,817	3,764	54	19	65,806.0	45,557.2	69.2	5.80	5.72	19,948	9,505.3	5,615.2	59.1	86,008
Jan-Mar 97					64,828.6	45,292.9	69.9			19,683	9,386.1	5,530.0	58.9	86,443
Apr-Jun 97					67,458.3	48,894.6	72.5							89,000
Jul-Sep 97					71,375.4	53,721.2	75.3							
USAirways														
Jan-Mar 96	1,676	1,685	-9	-32	21,713.3	14,015.9	64.5	7.72	7.76	12,938	2,914.6	1520.6	52.2	41,981
Apr-Jun 96	1,933	1,726	207	201	22,728.0	16,163.4	71.1	8.50	7.59	14,961	3,067.2	1,744.6	56.9	41,864
Jul-Sep 96	1,866	1,769	97	68	23,510.7	16,416.8	69.8	7.94	7.53	14,329	3,297.6	1,806.1	54.8	42,192
Oct-Dec 96	1,898	1,823	74	27	23,591.5	16,074.3	68.1	8.04	7.73	14,412	3,182.8	1,755.7	55.2	43,144
Jan-Mar 97	1,923	1,749	174	153	23,304.6	15,931.4	68.4	8.25	7.50	13,733	3,141.2	1,734.3	55.2	42,225
Apr-Jun 97	2,031	1,772	259	206	23,921.3	17,625.5	73.7	8.49	7.41					42,160
Jul-Sep 97					23,984.2	17,606.4	73.4							
ANA														
Jan-Mar 96	3,792	3,759	33	-142	34,478.4	22,337.5	64.8	11.00	10.90	16,580				15,832
Apr-Jun 96	SIX MONTH FIGURES													
Jul-Sep 96	4,060	3,846	214	75	36,248.3	23,421.2	64.6	11.20	10.61	20,104				15,914
Oct-Dec 96	SIX MONTH FIGURES													
Jan-Mar 97	3,090	3,160	-69	-40	41,442.7	26,945.8	65.0	7.46	7.62	24,721				15,996
Apr-Jun 97	SIX MONTH FIGURES													
Jul-Sep 97	3,928	3,829	99	50	39,702.7	25,742.0	64.8	9.89	9.65	20,730				
Cathay Pacific														
Jan-Mar 96														
Apr-Jun 96														
Jul-Sep 96	TWELVE MONTH FIGURES													
Oct-Dec 96	4,151	3,665	486	490	54,306.0	40,185.0	74.0	7.64	6.75	10,985	10,018.0	7.072.0	70.6	15,757
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
JAL														
Jan-Mar 96	5,214	5,305	-91	-172	59,066.0	40,637.4	68.8	8.83	8.98	18,027	8,402.0	5,789.0	68.9	21,000
Apr-Jun 96	SIX MONTH FIGURES													
Jul-Sep 96	5,406	5,269	137	24	54,783.8	38,491.2	70.3	9.87	9.62	15,046	8,254.3	5,406.0	65.5	19,046
Oct-Dec 96	SIX MONTH FIGURES													
Jan-Mar 97	4,797	4,882	-86	-138	61,639.1	43,455.6	70.5	7.78	7.92	18,890	8,868.0	6,225.0	70.2	19,046
Apr-Jun 97	SIX MONTH FIGURES													
Jul-Sep 97	5,325	5,016	309	169	56,060.9	39,748.3	70.9	9.50	8.95	16,020	8,556.0	5,705.0	66.7	

	Airline revenue	Airline costs	Airline operating profit	Airline net profit	Sched. ASK	Sched. RPK	Load factor	Airline rev. per schd. ASK	Airline costs per schd. ASK	Passengers	ATK	RTK	Load factor	Employees
	US$m	US$m	US$m	US$m	m	m	%	Cents	Cents	000s	m	m	%	
Korean Air														
Jan-Mar 96														
Apr-Jun 96														
Jul-Sep 96	TWELVE MONTH FIGURES													
Oct-Dec 96	4,341	4,314	27	-249	52,982.2	37,700.0	71.2	8.19	8.14	23,553	10,953.3	8,253.2	75.3	15,511
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
Malaysian														
Jan-Mar 96	2,218	2,128	90	92	35,161.4	24,565.8	69.9	6.31	6.05	14,311	5,381.9	3,354.7	62.3	17,766
Apr-Jun 96														
Jul-Sep 96														
Oct-Dec 96	TWELVE MONTH FIGURES													
Jan-Mar 97	2,398	2,282	116	135	40,096.9	27,903.7	69.6	5.98	5.69	15,371	5,246.4	3,212.4	61.2	15,230
Apr-Jun 97														
Jul-Sep 97														
Singapore														
Jan-Mar 96	2,280	2,032	248	360	34,976.5	25,607.4	73.2	6.52	5.81	5,675	6,500.7	4,498.4	69.2	13,209
Apr-Jun 96	SIX MONTH FIGURES													
Jul-Sep 96	2,263	2,037	226	398	36,152.9	27,202.4	75.2	6.26	5.64	5,930	6,599.8	4,632.9	70.2	13,376
Oct-Dec 96	SIX MONTH FIGURES													
Jan-Mar 97	2,249	2,022	227	316	37,354.4	27,490.1	73.6	6.02	5.41	6,092	6,901.3	4,879.1	70.7	13,307
Apr-Jun 97	SIX MONTH FIGURES													
Jul-Sep 97	2,298	2,010	288	402	38,125.4	28,216.7	74.0	6.03	5.27	6,135	7,231.0	5,091.5	70.4	13,365
Thai Airways														
Jan-Mar 96														
Apr-Jun 96	TWELVE MONTH FIGURES													
Jul-Sep 96	2,594	2,372	222	134	42,099.0	29,226.0	69.4	6.16	5.63	14,308	5,789.0	3,940.0	68.1	22,136
Oct-Dec 96														
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
Air France														
Jan-Mar 96	7,896	7,813	83	-453	71,055.0	51,712.0	72.8	11.11	11.00	14,980				36,484
Apr-Jun 96														
Jul-Sep 96														
Oct-Dec 96	TWELVE MONTH FIGURES													
Jan-Mar 97	8,133	7,910	223	75	77,333.0	58,586.0	75.8	10.52	10.23	16,733				36,173
Apr-Jun 97														
Jul-Sep 97														
Alitalia														
Jan-Mar 96														
Apr-Jun 96														
Jul-Sep 96	TWELVE MONTH FIGURES													
Oct-Dec 96	5,064			780	50,136.8	34,556.2	68.9	10.10		23,138	8,167.7	5,674.0	69.5	16,507
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
BA														
Jan-Mar 96	2,810	2,729	81	95	31,256.0	22,210.0	70.4	8.91	8.66	7,378	4,478.0	3,075.0	68.7	57,674
Apr-Jun 96	3,206	2,908	297	175	34,949.0	25,261.0	72.3	9.17	8.32	8,494	4,989.0	3,463.0	69.4	58,578
Jul-Sep 96	3,560	3,068	493	427	36,262.0	28,322.0	78.1	9.82	8.46	9,264	5,150.0	3,773.0	73.3	59,160
Oct-Dec 96	3,301	3,087	215	154	34,795.0	24,761.0	71.2	9.49	8.87	8,034	4,931.0	3,435.0	69.7	58,911
Jan-Mar 97	3,179	3,130	49	113	33,783.0	23,960.0	70.9	9.41	9.27	7,648	4,837.0	3,333.0	68.9	60,188
Apr-Jun 97	3,624	3,395	229	260	37,298.0	27,242.0	73.0	9.72	9.10	8,948	5,358.0	3,742.0	69.8	60,083
Jul-Sep 97	3,646	3,319	327	244	38,007.0	29,040.0	76.4	9.59	8.73	9,369	5,430.0	3,934.0	72.4	61,321
Iberia														
Jan-Mar 96														
Apr-Jun 96														
Jul-Sep 96	TWELVE MONTH FIGURES													
Oct-Dec 96	3,770	3,500	270	28	36,959.0	25,900.9	70.1	10.20	9.47	15,278	5,252.3	3,216.3	61.2	22,455
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
KLM														
Jan-Mar 96	1,363	1,424	-61	5	15,037.0	10,979.0	73.0	9.07	9.47		2,782.0	1,975.0	71.0	25,528
Apr-Jun 96	1,441	1,394	47	159	15,980.0	11,729.0	73.4	9.02	8.72		2,892.0	2,045.0	70.7	25,969
Jul-Sep 96	1,680	1,569	111	154	17,296.0	13,820.0	79.9	9.71	9.09		3,075.0	2,373.0	77.2	26,278
Oct-Dec 96	1,483	1,494	-11	-4	16,806.0	12,346.0	73.5	8.82	8.89		3,010.0	2,203.0	73.2	26,353
Jan-Mar 97	1,361	1,444	-83	-153	16,279.0	12,455.0	76.5	8.36	8.87		2,838.0	2,090.0	73.6	26,385
Apr-Jun 97	1,692	1,566	126	99	17,310.0	13,663.0	78.9	9.77	9.05		2,999.0	2,338.0	78.0	26,620
Jul-Sep 97	1,842	1,592	250	438	18,798.0	15,747.0	83.8	9.80	8.47		3,233.0	2,589.0	80.1	26,771
Lufthansa														
Jan-Mar 96														
Apr-Jun 96														
Jul-Sep 96	SIX MONTH FIGURES													
Oct-Dec 96	9,052	8,780	272	371	91,998.2	63,260.2	68.8	9.84	9.54	33,118	17,888.3	12,523.7	70.0	28,224
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
SAS														
Jan-Mar 96	1,157	1,108	50	46	7,256.0	4,320.0	59.5	15.95	15.27	4,541				20,155
Apr-Jun 96	1,313	1,189	124	129	7,585.0	5,046.0	66.5	17.31	15.67	5,198				20,727
Jul-Sep 96	1,239	1,211	28	32	8,084.0	5,390.0	66.7	15.32	14.97	5,111				21,389
Oct-Dec 96	1,122	1,080	43	64	7,678.0	4,688.0	61.1	14.62	14.06	4,948	4,084.6	2,423.1	59.3	23,121
Jan-Mar 97	1,076	1,109	-34	-36	7,443.0	4,335.0	58.2	14.45	14.91	4,551				21,251
Apr-Jun 97	1,310	1,141	168	178	7,962.0	5,392.0	67.7	16.45	14.33	5,617				21,515
Jul-Sep 97	1,180	1,104	76	83	8,084.0	5,598.0	69.2	14.60	13.66	5,227				21,839
Swissair														
Jan-Mar 96	SIX MONTH FIGURES													
Apr-Jun 96	2,257	2,128	130	-42	16,439.3	10,155.0	61.8	13.73	12.94	4,227	2,810.0	1,882.0	67.0	10,202
Jul-Sep 96	SIX MONTH FIGURES													
Oct-Dec 96	1,285	1,348	-63	-355	16,372.6	11,074.0	64.4	7.85	8.23	4,506	3,027.0	2,113.9	69.8	10,202
Jan-Mar 97	SIX MONTH FIGURES													
Apr-Jun 97	1,787	1,724	63	76	17,464.4	11,880.7	68.0	10.23	9.87	5,019	3,029.0	2,136.5	70.5	10,163
Jul-Sep 97														

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For further information please contact:

Keith McMullan
Managing Director, Aviation Economics
James House, LG2, 22/24 Corsham Street, London N1 6DR
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