

# Aviation Strategy

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January 1998

## 1998 - a happy new year?

In line with tradition we have put together some thoughts on key issues-facing the aviation industry in 1998:

### • Asian shock waves

Shock waves from the crises there could reverberate throughout the aviation world. A recent forecast from the IMF estimates the Asian effect as taking almost one percentage point off next year's global GDP growth rate (see below). Although it appears that the economic and aviation impact will be mostly contained within Asia, traffic to, from and within Asia (domestic and international) does account for about 25% of world RPKs.

Denial could worsen the Asian situation. In our last issue we estimated that the devaluation effect alone on current aircraft deliveries would equate to three times AAPO airlines' 1996 net profit, and wondered if Boeing was aggravating the situation by refusing to defer deliveries. Au contraire, Boeing has toured the Asian airlines asking them if they would like to defer, which would ease Boeing's production problems. The airlines refused almost totally.

What the Asian airlines may be doing is using the new deliveries to raise hard currency funds through securitisations and other financial instruments - a short term palliative but a long term debt burden. The corollary is that the airlines will try to sell their older aircraft - for instance, Cathay Pacific's decision to dispose of its 747-200s - which will tend to depress second-hand values globally.

### • American yield expectations

The US has barely disguised its schadenfreude at the Asian crisis, claiming a victory for entrepreneurial capitalism over corporatist capitalism. In the aviation industry, US airlines must now expect to produce similar profit numbers to the best of the Asians, but in a fully deregulated market. Yields are the key variable: the majors intend to push up yield levels in 1998 and avoid market share battles. This is the "new aviation" scenario we discussed in the October issue, and about which we still remain deeply suspicious.

Paradoxically, one of the new trends in the US could be reregulation. DoT and Congressional scrutiny of carrier behaviours at hubs will intensify, and legislation to inhibit competitive responses to new entrants is a possibility. The political environment in Washington is not particularly favourable to large airlines at present.

### • European aeropolitics

In Europe as well, the authorities attitudes to new entrants are generally supportive, and these carriers will continue to exploit the political element

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### ECONOMIC AND AVIATION FORECASTS

	IMF December 1997 forecast	Change from IMF Oct. 1997 forecast	IATA October 1997 forecast
World	3.5%	-0.8 points	6.8%
US	2.4%	-0.2 points	6.9%
EU	2.7%	-0.1 points	6.4%
Japan	1.1%	-1.0 points	5.3%
Asia (excl. Japan)	5.7%	-1.7 points	8.1%

Note: IMF forecast refers to annual change in real GDP; IATA forecast refers to annual change in sched. international pax. to, from and within these regions.

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in European competition. Euro-majors are planning to expand capacity in 1998 much more aggressively in the ex-Europe markets than in the intra-Europe markets (by 8.1% against 5.1%, according to an analysis by Morgan Stanley), indicating that the low-cost operators will gain more market share in 1998. The Euro-majors will also be facing renewed cost pressure as unions attempt to win their share of greatly increased profits.

### • Alliance questions

Political issues surrounding the global alliances must finally be resolved, and attention will switch to managerial problems. For example, SAS recently presented an overview of the internal working of Star at a London conference - the description of numerous committees each chaired by a different airline and each requiring unanimous decisions was reminiscent of IATA. Is this structure really suited to the demands of international deregulated markets?

### • Privatisation slots

Air France and Alitalia will have to get their privatisations away this year. Otherwise, the aviation and economic cycles will turn against these carriers and they will enter the next downturn without completing the necessary restructuring of

their internal and capital structures. Unfortunately, it looks as if their respective governments will limit the private ownership of their airlines to 49%, which will put a big dampener on the share prices.

### • Dynamic Latins

Latin America remains one of the most dynamic markets because many of the traditional barriers to international growth have been dismantled - restrictive bilaterals and government ownership. Investment funds which once would have been destined for Asia may well be diverted to that continent.

### • Where are we on the aviation cycle?

The industry has probably passed the peak in terms of traffic growth but we anticipate a moderate decline in the growth rate rather than a sharp fall. We are definitely at the apex of the ordering cycle, and starting a period of peak deliveries.

### • And Aviation Strategy?

Finally, we have been pleasantly surprised with the response to our newsletter and we hope that *Aviation Strategy* will become established as the niche publication for forward-thinkers in the aviation industry. In any case we wish all our readers a very happy 1998.

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## Delays and dilemmas in Brussels

The Commission's deadline for reporting on the BA/American alliance has slipped again. Now the Commissioners involved - Karel van Miert at DG4 (Competition), Neil Kinnock at DG7 (Transport) and Jacques Santer (President of the Commission) - will not make their recommendation to the Council of Ministers until the end of February, further testing the patience of Messrs Ayling and Crandall, who announced their plans in June 1996.

Part of the reason for the delay must be to do with the workload at DG4: scarcely a day goes by without a newspaper report on van Miert's involvement on some high profile investigation into other sectors - telecoms, computer software, financial services etc. But also, the scope of the investigation into BA/AA - because it was broadened to

include a comparison of Star and Atlantic Excellence alliances - has become much more complicated.

DG4's original analysis of the implications of BA/American focused on city-pair market shares, and concluded that the two carriers would have to give up 350 slots at Heathrow (roughly 8% of their total slots at the airport) in order to maintain the competitive balance. In the new investigation the analysis covers competition between hubs, and appears to accept the premise that in future global competition will be between alliances.

This puts a new perspective on the relative dominance of the European alliances, and in particular the perceived and actual differences between the proposed BA/AA grouping and Star, whose main constituent -

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the Lufthansa/United agreement - had previously been approved by the Commission with minimal conditions.

In terms of capacity shares (flights) the BA/AA alliance (plus Canadian and Qantas) has a smaller market share, 42%, at Heathrow than Star at Frankfurt, 66%, or the other two alliances. On Atlantic services BA/AA's share at Heathrow is higher than the other alliances' at their home hubs, but 66% versus 59% for Star does not appear to be too significant. Also, Star partners account for 19% of Atlantic frequencies from Heathrow.

### Slot quality versus quantity

If BA were to reduce its share of the Atlantic market at Heathrow to Star's at Frankfurt this would imply giving up about 56 slots. This is much less than the Commission's demand for 350 slots, but the important point is that they are Atlantic slots. On average BA made an operating profit of about £650,000 (\$1.1m) per weekly slot in 1996/97 on services to the Americas, while on intra-European services the average operating profit per slot was practically zero (slot profitability has been estimated from reported number of landings by BA on North Atlantic services and operating results by region from the annual report).

DG4 has been insisting on quality as well as quantity of the slots to be given up. But if some of the given-up slots were to go to United, then the Commission would, in effect, be adjusting the competitive balance in favour of Star. And if it does this does it then become obliged to look at other aspects of European hub dominance? Lufthansa's 95% share of the German domestic market at Frankfurt might be considered an issue, but the Commission has opted out on this one, referring Deutsche BA's recent complaint against Lufthansa concerning abuse of a dominant position to the *Kartellamt*, the German competition authority.

Another possible dilemma for the Commission is that in agreeing to the BA/AA alliance it will be giving the nod to a UK-US open skies agreement which the US authori-

ties are insisting on as a condition of their approval of BA/AA. Yet in December DG7 decided to pursue legal action against the eight European states that have signed individual opens skies agreements with the US, as well as the UK. The justification for this action is that the Commission ultimately aims to take over external aviation relations, and individual countries are supposed to be facilitating this transition, but in practice are not.

Despite all this, a compromise solution is rumoured. Total slots to be given up by BA/AA will be between 220 and 250, and there will be frequency caps on some routes. However, these slots will only have to be given up when requested by another airline and then only if the Heathrow Scheduling Committee is unable to provide them from other sources. Such a proposal should be acceptable to BA/AA, considering that Heathrow slot supply is increasing at 3% pa, and it should satisfy the Commission, as it will be able to claim to have extracted a significant concession. Whether EU competition policy is made any more coherent is another matter.

<b>ALLIANCES' MARKET SHARES AT EUROPEAN HUBS</b>					
	Intra-				Total
	Domestic	EU	Atlantic	Other	
<b>Shares at own hubs</b>					
<b>BA/AA/CP/QF at LHR</b>	58%	38%	66%	36%	42%
<b>Star at FRA</b>	95%	53%	59%	57%	66%
<b>Atlantic Excellence at BRU</b>	100%	50%	59%	67%	56%
<b>KLM/NW/UK at AMS</b>	84%	84%	67%	56%	62%
<b>Shares at competitors' hubs</b>					
<b>BA/AA/CP/QF at FRA</b>	0	6%	5%	1%	3%
<b>BA/AA/CP/QF at BRU</b>	0	7%	20%	0	6%
<b>BA/AA/CP/QF at AMS</b>	0	5%	0	0	3%
<b>Star at LHR</b>	0	14%	19%	11%	12%
<b>Star at BRU</b>	0	9%	10%	4%	8%
<b>Star at AMS</b>	0	5%	4%	4%	4%
<b>Atlantic Excellence at LHR</b>	0	1%	0	7%	3%
<b>Atlantic Excellence at FRA</b>	0	3%	13%	3%	3%
<b>Atlantic Excellence at AMS</b>	0	2%	8%	8%	3%
<b>KL/NW/UK at LHR</b>	0	5%	0	2%	3%
<b>KL/NW/UK at BRU</b>	0	3%	0	0	3%
<b>KL/NW/UK at FRA</b>	0	3%	5%	0	1%

**Note:** Based on analysis of arrivals in July 1997

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### Lan Chile: global investment lessons from Latin America

On November 7 Lan Chile became the first Latin American airline to be listed on US and European stock exchanges. How does a promising Latin American carrier sell itself to international investors?

The initial problem faced by bankers is how to value a typical Latin American carrier, which is like a hybrid of the different airline types currently familiar to international investors. Like European flag carriers, Latin American airlines typically enjoy the privilege of being their countries' sole representatives on long haul international routes. But since they are fully privatised, receive no government protection, are allowed to fail and frequently operate in fully deregulated domestic and liberal international regimes, should their valuations be closer to those of the US Majors?

The carriers resemble Southeast Asian operators in the sense that they are located in a high-growth region. Yet, many Latin American countries still carry an element of economic and political risk. Since the carriers are typically small and own few assets (most of their aircraft are leased), should they be classified as high-risk investments more along the lines of the US start-ups?

The approach adopted by Merrill Lynch, the leading underwriters of the Lan Chile offering, was to look at several valuation methodologies. The Chilean carrier was believed to be closest to the "high-growth" airline type, for which the high-

est P/E ratio is currently 14.5. Based on that criteria, Lan's correct valuation was believed to be about 12-13 times estimated earnings. By comparison, the P/E ratios of the US Majors and European flag carriers are typically 8-9 and 13-14 respectively, while those of Southeast Asian operators average about 11.

Noting that airlines around the world trade at substantial discounts to industrial companies in their countries, Merrill decided that Hong Kong's 40% discount (rather than the US average of 57%) should apply in Chile. That gave Lan a valuation of 10-11 times estimated earnings, compared to the 16-18 typical for high-quality Chilean industrial companies.

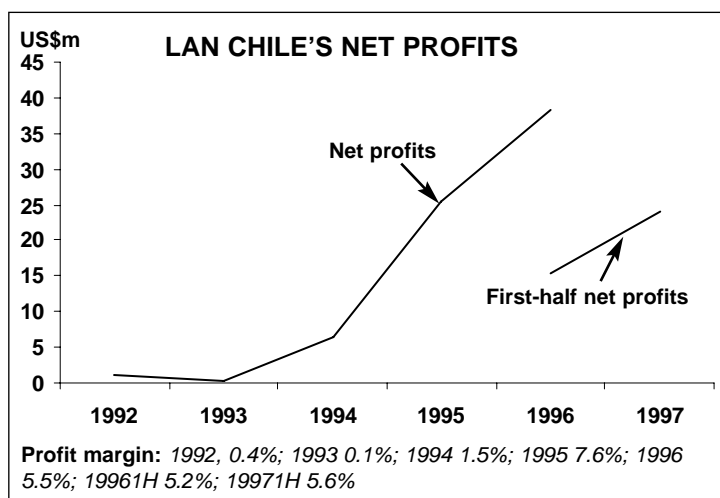
After also taking into account Latin America's strong traffic growth rates (the forecast is 7% annually) and Lan's good profit growth prospects over the next five years, Merrill began marketing the IPO at 12-13 times estimated 1998 earnings.

Initially, the aim was to achieve a wide international distribution - 50% US, 25% Europe and 25% Chile - and a 75%/25% split between institutional and private investors. The roadshow (a total of 62 management presentations) was targeted mainly at institutional families and dedicated Latin America mutual funds, in the US, the UK and three continental European countries.

### Armageddon intervenes

But the strategy had to be revised following the sudden change in the market conditions - referred to as "Armageddon" by those working in emerging markets - about halfway through the Lan Chile roadshow. Significantly, though, the deal went ahead even though the plunge in currencies and stock markets led to the postponement of other planned Latin American stock offerings.

The revised strategy meant more one-to-one meetings, more focus on the less market price-sensitive retail buyer, a reduction in the size of the offering and a lower offer price. In the end, the US IPO offering was reduced from 10.4m to 7.2m American Depository Shares (ADS) and the price



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was revised from \$18 to \$14 per ADS (each representing five common shares). This gave the airline a valuation of 10.3 times estimated 1998 earnings.

Bearing in mind the changed market conditions, the IPO was a success. The issue was driven by US institutional and retail buyers, with Europeans showing much less interest, and Lan Chile obtained a listing on NYSE. However, as in many other recent IPOs, the post-offering stock performance has been disappointing: the share price dipped to \$12 in late November and was still below the offer price in mid-December.

Net proceeds of the US and European offerings to Lan Chile were about \$70m, down from the \$80.8m envisaged in the pre-Armageddon days. The airline plans to use the funds to prepay \$30m of short-term debt (of which half would cover downpayments to Boeing on five 767s), pay down the \$14m balance due on the acquisition of Ladeco and to revamp cabin interiors and corporate image (\$25m).

### The IPO trend

The question now is whether Lan Chile is in some way unique or whether its successful IPO will set a trend in the region.

There is no doubt that Lan Chile possesses attributes that made it well qualified for a global IPO. After recovering from near-bankruptcy in 1991, the company has seen a strong and steady improvement in net profits to £38.3m in 1996 (5.5% of revenues). A profit of \$24.1m was reported for first-half 1997 (up 55.4%), and the profit margin was maintained despite extremely rapid capacity growth.

Lan Chile has streamlined its fleet from six types six years ago to just three at present: the 767-300ER, 737-200 and DC-8-71F. It has labour agreements in place that allow high levels of productivity. It is one of Latin America's most efficient operators, with unit costs well below the industry average and those of the US Majors.

Lan Chile has a relatively strong balance sheet, with total assets of \$316m, shareholders' equity of \$106m and long-term liabilities of \$76m at the end of 1996. It recently secured investment grade debt ratings. The balance sheet will be further strengthened by the outright purchase of five new 767-300ERs currently on firm order.

Through a combination of smart management strategies, Lan has secured strong positions in

different market segments and route areas. Its 1994 acquisition of FastAir gave it a firm footing in the region's booming cargo market - freight now accounts for almost one third of its total revenue. The recent purchase of Ladeco has taken care of the domestic market: the two now have a combined 75% market share (though they must remain separate entities). In the regional context, Lan already dominates the Southern Cone and continues to forge co-operative deals (most recently with Brazil's TAM).

All of that, plus Chile's liberal agreement with Peru which has enabled Lan to capture 6% of the US-Peru market, has put Lan into a strong position to compete under a possible Chile-US open skies regime (an MoU was signed on October 29), even if its proposed linkup with American does not win regulatory approval. But, Chile has rather smartly made the open skies deal contingent on the DoT granting antitrust immunity for the alliance. Lan has also signed a co-operative deal with American's partner Canadian.

While no other major South American operator can yet match Lan Chile's credentials in the international capital markets, one Central American carrier group does and another is getting close. The Aeromexico/Mexicana combine, organised under holding company Cintra and now very profitable, had planned to do a major \$400m public offering in both Mexican and international stock markets in 1997. But in early December 1997 the plans were postponed due to some concerns by Mexican anti-trust regulators about the monopolisation of the Mexican market.

The successful privately-owned Taca Group is widely expected to go public in the US at some stage. While there are no other obvious candi-

#### THE FINANCIAL RESULTS OF SELECTED LATIN AMERICAN CARRIERS\*

	1996 revenue (\$m)	1996 net profit (\$m)	Profit margin
<b>Aeromexico</b>	953.8	263.9	27.7%
<b>VASP</b>	1,200.0	157.5	13.1%
<b>Mexicana</b>	752.9	141.9	18.8%
<b>VARIG</b>	3,032.2	132.7	4.4%
<b>TAM Group</b>	600.0	65.0	10.8%
<b>Transbrasil</b>	838.4	44.9	5.4%
<b>Lan Chile</b>	697.7	38.3	5.5%
<b>AVIANCA</b>	629.0	18.9	3.0%
<b>ACES</b>	170.3	5.3	3.1%
<b>Lloyd Aereo Boliviano</b>	142.9	1.3	0.9%

Note: \* Only these 10 carriers report their results publicly.  
Source: *The AvMan Forecast 2001*.

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dates at present, it is worth noting that carriers such as Varig, TAM and ACES are now tapping their local equity markets.

ACES, the second largest Colombian carrier - which has ambitions "to become Latin America's best airline by 2005" - is also at an advanced stage of negotiations for the sale of an equity stake, possibly 40%, to Continental. This follows American's investment in 10% of Aerolineas Argentinas in a deal which involved Iberia, the former majority shareholder, whose share is now also 10%.

Latin American airlines will need increased access to international capital markets because their aircraft financing needs are substantial. Over the next five years, the region's carriers are estimated to need 600 new aircraft, costing \$18bn.

Two main forces are driving this trend. First, there is the need to replace geriatric fleets with new-generation aircraft - the average age of aircraft in Latin America is currently over 15 years. Second, the majority of the region's fleets are on operating leases, but airlines are increasingly perceiving ownership to be a more cost-effective option.

In recent years the Latin American airline industry has staged a spectacular return to profitability. The ten major carriers that publicly report their results earned a combined net profit of

By Heini Nuutinen

\$870m in 1996, representing a 10% profit margin.

But most of the balance sheets are still weak and much more restructuring is needed before the airlines can sell themselves to international investors - items on bankers' wish lists include further fleet and route rationalisation, labour productivity and service quality improvements, strategic partners and intra-regional alliances, consistent earnings growth, a solid ownership (i.e. no criminal investigations) and timely financial reporting.

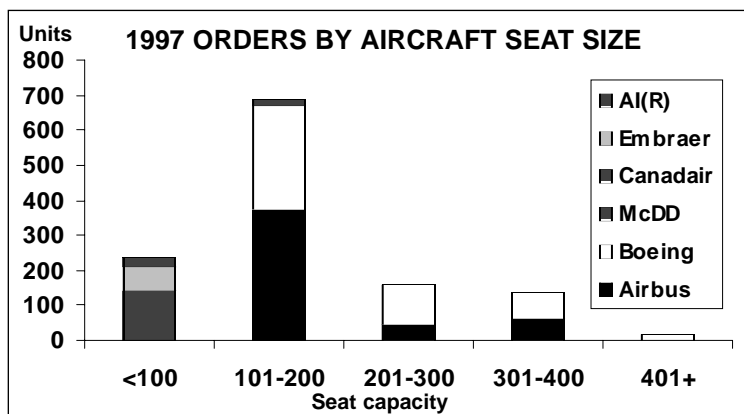
Since building trust is a vital prerequisite to going public, communication must improve. Bankers complain that most Latin American carriers seem unprepared for the volume and quality of information needed to negotiate financing deals, let alone the rigours of being a public company. There is a need to improve accounting systems, as well as investor and press relations.

Some bankers and investors, in turn, should get rid of their preconceived notions about Latin America built decades ago - European and Asian lenders tend to be more prone to that than their US counterparts. Change in the region has been so swift that the financial community has struggled to keep up with it, but some have simply not taken the time to understand the marketplace.

## Manufacturers at the top of the order cycle

In terms of orders, 1997 was a great year for the world's aircraft manufacturers - particularly Airbus and Boeing, who now dominate the industry as never before. But increasing orderbooks at

the two main manufacturers have been overshadowed by considerable internal problems - the effort to increase production rates in the case of Boeing, and the process of transforming from a consortium to a company in the case of Airbus. And it is whether and how the manufacturers will overcome these challenges - rather than orders received - that is the more accurate guide as to which of Airbus and Boeing will dominate the industry into the next millennium.



### Order bonanza

Apart from orders that manufacturers managed to squeeze into the last few days of December, *Aviation Strategy's* survey of 1997 reveals 479 orders for Airbus, 515 for Boeing, 64 for Embraer, 15 for McDonnell Douglas (now part

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of Boeing), 144 for Bombardier and 29 for Aero International (Regional). Our order totals disregard options and any "firm" orders that we believe are not truly firm (such as Lols, MoUs, double-counted orders etc). The total of 1,246 compares with 1,041 orders for 1996.

Looking at orders by aircraft seat size, the largest market by far was the 101-200 seat category - firmly occupied by the 737 and A319/320/321 series - which racked up an impressive 684 orders. Three-quarters of Boeing's sales in this category are in the 737-600 to -900 family, launched at the end of 1993. Airbus's plans for this market rest on developing products in the lower seat capacity range, via partnerships with Finmeccanica and Asian companies. If fully developed, the AE316 would carry 95-106 passengers, and the AE317 115-125 passengers. But will there be enough demand for these aircraft?

Boeing has the largest market share in the 201-300 seat category, but shares are more even in the 301-400 seat category, a market that Airbus

is keen to dominate. The consortium is spending \$2.9bn on the launch of two four-engined variants of the A340 - a 380-seat A340-600 and a long-range, 313-seat A340-500. With these and future models Airbus wants to win 50% of the 301-400 seat market, where its direct competition is the 777 and smaller versions of the 747.

Inevitably, however, there have been problems over the funding of these new models. Under the US-EU agreement up to a third of the cost of Airbus's two new aircraft can be financed by the consortium's respective governments. But the British government is very reluctant to provide further launch aid or, as BAe prefers to call it, launch investment. Launch aid used to be regularly provided for new aerospace projects but has greatly diminished in recent years. It is a commercial transaction in that the recipient is charged an interest rate equivalent to the inflation rate plus eight points, but it also subsidises risk as repayments are linked to sales of the products, and if there are no sales there are no repayments. The UK government's position - that as

	A300 -600R	A310 -300	A319	A320	A321	A330 TBA	A330 -200	A330 -300	A340	A340 -300	A340 -500	A340 -600
<b>AIRBUS 1997 FIRM ORDERS</b>												
<b>European airlines</b>												
Aer Lingus					4							
Air France			1									
British Midland				4	4							
Croatia AL			6									
Egyptair												2
Eurowings			1									
Finnair			5	3	4							
Lufthansa									2			10
Olympic AW									2	2		
Swissair					1		6					
Virgin Atlantic									1			8
<b>European total</b>												<b>66</b>
<b>North American airlines</b>												
Air Canada								5		3		
America West			22	24								
NorthwestAL			50									
US Airways			109	15								
<b>North American total</b>												<b>228</b>
<b>Asian airlines</b>												
Air Macau					1							
Asiana AL							3	3				
CASC				10	20							
Cathay Pacific								1		2		
EVA Air											3	3
Korean Air						4						
Silk Air			3	5								
Thai Airways	5							4				
Uzbekistan AL		1										
<b>Asian total</b>												<b>68</b>
<b>Others</b>												
Al Kharafi Con.			1									
ILFC				51	1	15						
Lotus Air				1								
Tunisair			3	4								
Undisclosed			8	9	3	14			7			
<b>Others total</b>												<b>117</b>
<b>TOTAL</b>	<b>5</b>	<b>1</b>	<b>209</b>	<b>126</b>	<b>38</b>	<b>33</b>	<b>9</b>	<b>13</b>	<b>12</b>	<b>7</b>	<b>3</b>	<b>23 479</b>

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BAe has a healthy balance sheet it should be able to find all its funding from commercial banks - seems perfectly logical.

### The 400+ seat rainbow

The elusive pot of orders at the end of the 400+ seat rainbow is still attractive to the big two manufacturers, particularly Airbus. A cross-section of the A3XX was shown at the Paris air show in June 1997, but development costs of at least \$8bn are still the main barrier to a launch. Airbus has signed MoUs with virtually the entire European aerospace industry, but is investment cash that Airbus needs most, not design engineers.

This leaves just one market left - aircraft with up to 100 seats. It is the toughest market of all, for the simple fact that there are still (just) more manufacturers here than in any other category, and the market itself is comparatively small.

For the three remaining independent manufacturers who compete in this market - Aero International (Regional), Embraer and Bombardier - 1997 can be regarded as a breakthrough year. The CRJ and the Embraer lines did particularly well, but will all three manufacturers be robust enough to survive the next aviation recession - whenever that may be? The decision by Aero International (Regional) to scrap plans for a 70-seater aircraft may be a foretaste of things to come.

<b>BOEING 1997 FIRM ORDERS</b>															
	737 -300	737 -400	737 -500	737 -600	737 -700	737 -800	737 -900	747 -400	747 -400F	747 -400M	757 -200	757 -300	767 -300ER	767 -400ER	777 -200
<b>European airlines</b>															
Aeroflot (ARIA)		10													
BA											3		3		5
Braathens Safe					6										
Cargolux								6							
Deutsche BA	13														
easyJet	12														
GB Airways	2														
Icelandair											2	2			
Lufthansa								2							
KLM						4									
Maersk Air			2												
Pegasus AL		1				1									
Pro Air		1													
Turkish AL						26									
<b>European total</b>															<b>101</b>
<b>North American airlines</b>															
Alaska AL		2			3		10							4	4
American AL															
Atlas Air								10							
Boeing Bus. Jet					26										
Continental AL											11			30	5
Delta AL						70					5		10	21	10
Eastwind AL					2										
United AL								3					8		
Sunrock AC	2	2		5											
<b>North American total</b>															<b>243</b>
<b>Asian airlines</b>															
Air China									2						5
ANA															1
CAAC	14				22			1			5				8
China Yunnan AL	3							2							
Far Eastern AT											5				
Qantas AW								3							
<b>Asian total</b>		4													<b>75</b>
<b>Others</b>															
Boullioun AS	3	2													
Emirates															2
GECAS		1													
GPA	1														
ILFC				31				2			6		7	5	10
Kenya AW	1														
LanChile AL													5		
Pembroke Capital	4				8										
Tunisair				4											
US Navy						2									
Undisclosed											1				1
<b>Others total</b>															<b>96</b>
<b>TOTAL</b>	<b>55</b>	<b>19</b>	<b>2</b>	<b>40</b>	<b>69</b>	<b>101</b>	<b>10</b>	<b>13</b>	<b>16</b>	<b>2</b>	<b>38</b>	<b>2</b>	<b>41</b>	<b>56</b>	<b>51 515</b>



# Aviation Strategy

## Analysis

There is some hope, however, that a trend is emerging for a trade-up from turboprops to small jets - although that would obviously have grave consequences for turboprop manufacturers.

### Elsewhere ...

Orders apart, it has been a problematical year for Airbus and Boeing. At Airbus the low point of 1997 was the continuing French versus British/German squabbling over the future of the consortium. The French idea of "balanced partnership" is likely to slow down crucial moves towards turning the consortium into a proper company, particularly as an "Airbus-plus" - combining aerospace and defence - is now a possibility. If Europe's defence industries are included, it could open up endless bickering on structuring and management/leadership. The British, via BAe, are Europe's unofficial defence industry leaders, in direct contrast to the position in aerospace where the French, via Aerospatiale, lead.

An ongoing row about the future of Airbus would particularly suit Boeing, which is facing well-documented teething problems as it ramps up pro-

duction from 18 aircraft per month in 1996 to 46 per month. However, Boeing's production challenge, if overcome, will have a significant effect on profits long-term. Essentially, Boeing has switched to a JIT system, in which education of suppliers is a key priority, although not easy to achieve. Boeing is also cutting 12,000 jobs - around 10% of the workforce. Together, the workforce reduction combined with the increase in output will result in a massive improvement in productivity - and analysts are marking up 1998 earnings per share forecasts (by around 10 cents per share) as a result. In addition, Boeing claims it will save \$1bn a year in costs from the merger with McDonnell Douglas by 1999.

### Into 1998

In 1998, orders are likely to be well down on 1997. Asia is more likely to have a net cancellation, most of the major US re-fleeting plans have been completed and European demand will come mainly from those state-aided carriers which are now allowed to re-equip. For manufacturers, the measure of success in 1998 will be production efficiency rather than order numbers.

<b>OTHER MANUFACTURERS' 1997 FIRM ORDERS</b>									
	Emb -145	Emb -145LR	MD -11	MD -11F	MD -80	MD -90-30ER	CRJ	RJ -85	RJ 1100
<b>European airlines</b>									
Adria Airways							2		
AMC Aviation						2			
Brit Air							8		
British Regional AL	15								
CityFlyer Express									1
Crossair									4
Luxair	2								
Maersk Air							3		
Midway							10		
Portugalia AL	4								
Tyrolean AW							1		
<b>European total</b>									<b>52</b>
<b>North American airlines</b>									
Air Canada							2		
American Eagle							25		
Atlantic Coast							6		
Atlantic SouthEast AL							30		
Comair							30		
Continental Exp.		25							
Mesa Air							16		
Northwest AL								24	
<b>North American total</b>									<b>158</b>
<b>Asian airlines</b>									
Chinese government							5		
EVA Airways				6					
<b>Asian total</b>									<b>11</b>
<b>Others</b>									
Brazilian government	8								
Rio-Sul	10								
South African Exp.							6		
Undisclosed			1	4	2				
<b>Others total</b>									<b>31</b>
<b>TOTAL</b>	<b>39</b>	<b>25</b>	<b>1</b>	<b>10</b>	<b>2</b>	<b>2</b>	<b>144</b>	<b>24</b>	<b>5 252</b>

# Aviation Strategy

## Briefing

### US Airways - juggling planes, unions and US2

US Airways' new pilots contract offers only modest up-front cost savings, but the deal has enabled the company to go ahead with various strategies that will reduce costs in the long term. Will the \$5bn Airbus order, a low-cost airline venture and transatlantic expansion ensure US Airways' survival in a more competitive East coast environment?

Securing an acceptable agreement with ALPA was a major accomplishment in a climate where airline workers not only balk at the idea of concessions but demand hefty pay rises. Since US Airways' unions could not agree to concessions in 1995, they could hardly be expected to soften their attitude at a time when profits are soaring. The pilots did not budge even in the face of a downsizing strategy introduced by chairman and CEO Stephen Wolf earlier this year.

It was the "carrot" part of Wolf's negotiating strategy that eventually worked: the promise of a firm order for 124 Airbus aircraft, which had to be confirmed by the end of September, and a commitment to levels of growth for the company. This is the first time ever that a growth clause has been included in an airline labour contract. The management has guaranteed that output (measured in block hours) will grow at either 2% p.a. or at 120% of the average of the four largest

majors (i.e. if their growth rate averages 2%, US Airways will have to grow at 2.4%). However, there are a number of let-out clauses allowing, for instance, the growth rate to be curtailed if the economy runs into a recession.

The union forwent pay rises and a much-desired seat on the board for a package that also included 11.5m stock options, no-furlough protection, an early retirement incentive plan and the recall of all pilots furloughed since 1991. The early retirement plan covers 325 of the company's most senior captains and will facilitate a quick upward movement in the seniority list.

The two most significant parts of the deal are greater scheduling flexibility and the creation of a low-cost airline division, dubbed "US2". The new venture can account for up to 23% of US Airways' total flying hours, or 25% if the Shuttle is included. Its pilots will be paid at Southwest's rates and will fly up to 13% more hours than those in mainline operations.

Since the deal was ratified with a 84% majority and Wolf has so far lived up to his promises, the pilots are now expected to cooperate fully with the management. Relations have been further smoothed by the fact that all the pilots furloughed this year have already been recalled and that the 283 still on furlough (since 1991) will in all probability be recalled by the end of 1998 - well ahead of the 2001 deadline stipulated in the contract.

The Airbus order for is A319s, A320s and A321s and takes care of the US Airways' narrowbody replacement and growth requirements for the foreseeable future. The first 4-6 A319s are due to arrive in late 1998, another 20 or so in 1999 and the rest in 2000-2003. In addition to the firm order, 116 delivery positions are subject to confirmation and 160 aircraft are on option.

New labour agreements still need to be clinched with the other two main unions,

US AIRWAYS' FLEET PLANS			
	Current fleet	Orders (options)	Delivery/retirement schedule
767-200ER	12	-	
757-200	34	-	
737-200	64	-	Expected to go to US2 in 1H98
737-300	85	-	
737-400	54	-	
A319/320/321	-	124 (276)	4-6 in 98, 20 in 99, and about 25 per year in 00-03
MD-80	31	-	
DC-9-30	57	-	All to be retired by around 00/01
F-100	40	-	
<b>TOTAL</b>	<b>377</b>	<b>124 (276)</b>	

**Note:** A widebody order for perhaps 12 aircraft, either the A330 or the 777, is expected over the next year or two. Aircraft may be leased in the interim period.

# Aviation Strategy

## Briefing

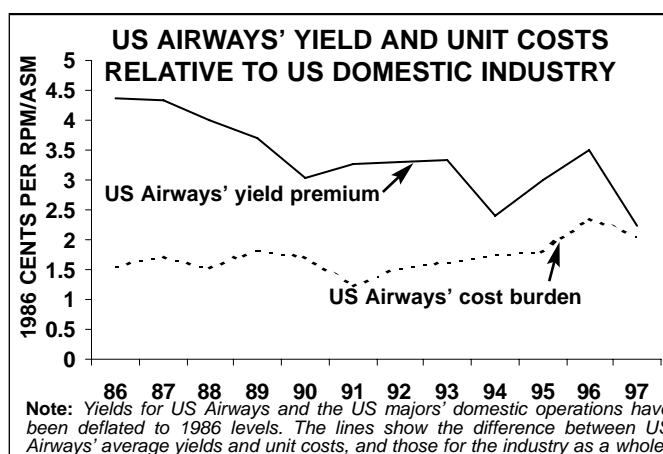
AFA and IAM, as well as TWU and the Communications Workers of America (which the airline's 10,000 reservations clerks and ticket sellers recently voted to join). The expectation has always been that once the ALPA deal was in place, the other contracts would be a mere formality. However, IAM has been angered by the decisions to close three maintenance facilities and outsource the maintenance of the GE engines chosen to power the future Airbus fleet, so securing an acceptable deal may require give-backs from the management.

The potential overall cost savings offered by the pilots' contract and the other union deals will clearly not go anywhere near the \$500m annual total sought from the workforce two or three years ago. No estimates are yet available of the overall impact of the ALPA deal, but a spokesman for the pilots' Master Executive Council suggested that the savings from sick leave reduction, greater scheduling flexibility and other productivity measures in mainline operations may add up to \$70m-\$80m annually. As part of the deal, US Airways' pilot costs (excluding benefits) will decline to the average of the four largest majors, plus 1%, by 2001.

On top of that, there will be the operating benefits of a more modern and streamlined fleet - estimated by *Aviation Strategy* to be about \$70m a year in cash terms to begin with, building eventually to about \$250m a year - and the yet to be determined cost savings derived from US2. US Airways has not released any specific cost-cutting targets - it is simply seeking to reduce its unit costs "as close as possible to Southwest's".

Despite a longer average stage length, US Airways' unit costs (12.5 cents per ASM) in 1996 were 63% above those of the ultimate benchmark for the industry, Southwest (7.5 cents). Unit labour costs were over twice as high, the result of a 50% difference in salaries and benefits per employee and a 40% difference in productivity.

Because of its location in the Northeast (cold winters, crowded airspace, etc) and because it will remain a full-service airline, US Airways cannot expect to get its cost structure right down to Southwest levels. One US Airways insider suggested that the



unit cost level generally considered appropriate would be around 10 cents per ASM. But even that may be a little unrealistic as the unit costs of carriers like American and Continental, which have longer average stage lengths and less focus on the Northeast, hover around the 9 cent mark.

Whatever the exact numbers, US Airways is expected to outperform the industry in terms of unit cost reduction over the next five years. The key question now is: to what extent will it also lose its revenue-premium and underperform the industry in terms of yield?

As the graph above illustrates, US Airways' yield premium in real terms has been steadily eroding over the past ten years compared with the US domestic industry. And the airline's vulnerability to low-cost competition was vividly illustrated when Continental Lite invaded US Airways' territory in 1994 - its yields fell by 15%. A further risk to its yield structure may arise from the establishment of its low-cost subsidiary.

## US2: protector of US Airways' franchise

Since the early part of November, an employee task force at US Airways has been looking into every aspect of setting up a new low-cost division, including brand identity, style of service, fleet, route network and scheduling. The venture, which the company considers as "the single most important thing US Airways can do to protect

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## Briefing

and enhance our franchise", will be directly targeted at Southwest and Delta Express and is expected to be launched in early 1998.

The weekly reports of the task force are confidential, but details are beginning to emerge. Not surprisingly, US2 will be a hybrid of Southwest and Delta Express, possibly with elements of United's Shuttle thrown in. It will operate point-to-point services with a focus on Baltimore-Washington. The pilots' contract limits US2's operations to sectors shorter than 1,000 miles, except between Florida and east of the Mississippi (including St. Louis). The venture will not be allowed to serve mainline city pairs except to connect to international flights.

The company has apparently decided to utilise the 737-200, of which there are currently 64 in US Airways' fleet (the pilots' contract permits any aircraft up to the A320's size). Although US2's operations are initially limited to 54 aircraft, provisions in the contract appear to allow rapid additions to the fleet once US Airways' mainline growth gathers pace.

Now that US Airways has exercised its option to buy the (New York-Boston-Washington) Shuttle, which it has partly owned and managed since 1992, there is the option of adding the 12-aircraft 727 operation into US2. However, this move is unlikely at present.

One inherent risk faced by a full-service carrier when setting up a low-cost operation is that the new venture may attract substan-

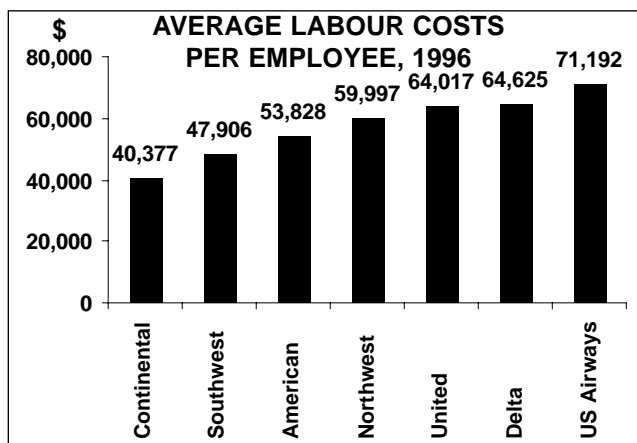
tial volumes of premium-fare traffic from the mainline operation. This problem is particularly relevant for US Airways because it has such a high-yield franchise. For example, what will happen to yields at Columbus (Ohio) if US2 begins serving that city from Baltimore?

Yield deterioration in mainline operations is probably inevitable when setting up a low-cost subsidiary. However, Delta's experience has shown that going point-to-point should enable US Airways to free up slots and capacity for premium-fare traffic at hubs. Also, the initial impact may not be that detrimental because US2 will be employed in markets where yields are already affected by low-cost competition, but the situation is likely to change as competition heats up and US2 expands its operations.

In its efforts to minimise the impact on yields, US Airways will benefit from the hard lessons learned by its competitors. Like Delta, it will take care to separate the identity of its subsidiary from the mainline operation. But, unlike Delta, which earlier cut too deeply in areas affecting service quality, US Airways has no image or quality problems to grapple with. It will continue to spend heavily on customer service in mainline operations, the latest example being the mid-December launch of a new premium "Envoy Class" on transatlantic routes.

All in all, US Airways really has no choice other than to get on the low-cost bandwagon. Although it currently faces competition from Southwest and Delta Express in only 6-10% of its markets, a new wave of low-cost carriers' expansion in East coast markets in 1997 sent US Airways' yield plummeting by 5-6% in the April-June and July-September quarters, after a period of relative stability in 1996.

There is a pressing need to take back Baltimore, where US Airways has contracted as Southwest has built up a major presence. As much as 80% of traffic in markets such as Washington-Cleveland now goes through Baltimore because of the availability of low fares. And, with 20% of its assets engaged in operations to and from Florida, which has become a hotbed of low-cost competition, US Airways needs to secure its position in those markets.



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Although not immediately on the cards, Southwest's interest in serving points such as Islip (Long Island), Allentown (Pennsylvania) and Manchester (New Hampshire) are a cause for concern. Allentown is only a 30-minute drive from US Airways' Philadelphia hub.

### Will international expansion help?

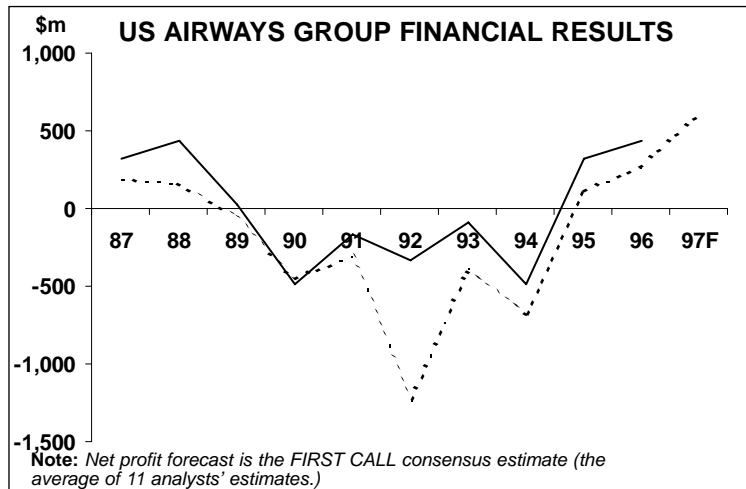
US Airways' initial efforts to become a "global competitor" inevitably focus on the transatlantic market, where expansion was announced following the ratification of the pilots' deal. London Gatwick and Amsterdam will be added to the route system in the spring of 1998, to bring the total European destinations to seven, while applications have been filed to serve Philadelphia-Milan and Pittsburgh-Paris.

Much of the expansion focuses on Philadelphia, where the carrier plans to spend \$300m over three years to build new international and commuter airline terminals. The facilities will allow for ample future growth and eventually make Philadelphia a larger hub than Pittsburgh.

The new route licences will come in handy in the absence of obvious domestic growth opportunities. However, the scope for growth in the short-to-medium term will be limited by the lack of an appropriate long haul fleet. The 767-200ER is too small - its economics work only in selected high-yield markets - and there are currently only 12 in the fleet.

Talks have begun with both Airbus and Boeing about a possible widebody order, either for the A330 or the 777. But it is not expected in the near future, and the long lead times will mean that the carrier is probably years away from fixing that particular problem.

US Airways could do with a strong international airline partner, now that its relationship with BA is firmly history. It can offer a good East coast franchise, but Philadelphia is not New York and that is a major limiting factor. In contrast to the domestic situation, US Airways' international yields are lower



than its larger competitors like American and United because traffic mix is poorer.

### Going West?

The recent decision to add Canadair Regional Jets to US Airways Express operator Mesa's fleet from January - a total of 12 will be introduced in 1998 - will help to enhance the breadth of US Airways' domestic network. However, at some stage the carrier will need to tackle effectively the potential problem of having such a geographically limited network.

The short-term outlook for the US industry is spectacular, with businesses showing exceptional tolerance for high fares in the premium East coast markets. This should enable US Airways to consolidate profitability - its profit margins have so far lagged a little behind those of the other Majors.

But when the next economic downturn approaches, by which time more of the East coast will have been transformed into low-yield markets, US Airways would probably be better off as part of a larger airline system. The carrier would like to create a Midwest hub, but how will it do it?

The pilots' contract includes provisions to discuss a hub for US2 in the Midwest. St. Louis would be ideal - in theory something that could be achieved through a merger with TWA but, having recovered from serious financial losses itself, US Airways is not likely to ally with a major whose balance sheet is very weak.

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## Briefing

### Russian aviation: the Wild East starts to calm down

Russia's aviation industry appears to be settling down following a frantic period of start-ups and reorganisation in the years after the break-up of the former Soviet Union.

As of November 1997 325 Russian airlines held operating licences, a slight fall on the 329 of a year earlier. Just 20 were start-ups - mostly holiday charters, shopping trips or freight charters. Passenger volumes fell from 31m in 1995 to 26.9m in 1996, but indications are that volumes will level out in 1997. While domestic traffic will continue to fall, international traffic - which grew by 40% in 1996 - is expected to grow by another 30% in 1997, to reach 13m. Thus, international traffic has grown from 6% of the market in 1990 to

almost 50% in 1997, revealing increasing demand by Russians to see the outside world. The chart (right) shows a similar trend for all CIS airlines.

1997 was a year when many Russian airlines finally started to overhaul their finances. This followed a disastrous 1996, when state- or partially state-owned airlines lost approximately \$300m - \$11 per passenger. The losses were caused by falling volumes, rising costs, low fares and falling GDP - and the pain that followed forced many Russian airlines to face market realities.

In November 1997, a group of major regional airlines, including Samara Airlines, Krasnoyarskavia, Komi Avia and Sibir, agreed a co-operation pact in order to "protect themselves" from

RUSSIAN FLEETS																				
	ARIA	Vnukovo AL	Domodedora	Pulkovo AC	Transaero	Kras Air	Samara AC	Baikal Avia	DAK	Komi Avia	Ural Airlines	Sibir	Chita Avia	Kola Avia	Remex	Bykovo Avia	Karat	Atran	Volga Dnepr	TOTAL
IL-96-300	6																			6
IL-96M	17				6															23
IL-967	3																			3
IL-86	17	22		9	1	4					4	7								64
IL-767D	17																			17
IL-767D			4												6					10
IL-76						12	3	6										7	2	30
IL-62	7					5			22											34
IL-62M			25																	25
IL-18			2																	2
IL-9-300			2																	2
TU-154				22		22	14	12	22		20									112
TU-154M														6						6
TU-154B/M	29	25										14	7							75
TU-134	13			16			8			35										72
TU-204		3																		3
AN-124-100	1																			7
AN-12								6		3	4							8		21
AN-2				6		20		11		45			24							106
AN-24								9	17	12		5	7			10				60
AN-26								6	10	12	8	4	3			6		6		55
AN-28										19										19
AN-32												1								1
MIL 8								12												12
YAK 40						7	4			10										19
YAK 42							3													23
A310-300	10															12	8			23
767-300ER	2				10															2+10
777	2																			2
737-400	10																			10
DC-10-30					3															3
757					5+10															5+10
737-200					5															5
737-700					10															10
TOTAL	102	50	33	53	14	70	32	62	71	136	36	31	41	6	6	28	8	21	17	817
Orders	32				36															68

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## Briefing

the dominance of Moscow-based airlines. A second alliance is also being formed by a group of eastern Russian airlines.

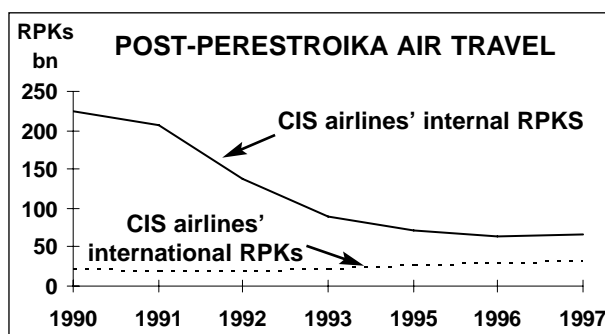
Part of the reason for the alliance trend is the pressure on airlines from the continuing delay in new aircraft programmes; only five new passenger aircraft were delivered by Russian manufacturers in 1996, and 1997 was not much better. But, the first of Sirocco's westernised TU-20ks was scheduled to be delivered before the end of 1997, and the first 30-seat AN-38 regional turboprops was also due for delivery before the end of 1997.

Meanwhile, 1997 saw the certification of the AN-38, the IL-114, (a 60-seat regional turboprop), and Sirocco's TU-204-120, the version with RB 211-525 engines and western avionics. The new PW2337 powered IL-967 - the cargo version - should be approved shortly, and the next few years should see the passenger IL-967, the 100-seat TU-334, the 64-seat BE-200, the 19-seat BE-32, the 50-seat AN-140 turboprop and some others receive certification. One hurdle still to be crossed will be the need to certify not only the aircraft but also the manufacturing factory and component suppliers; this practice was not considered necessary in the state-owned industry of the Soviet Union, and there is still some reluctance to accept the new rules.

While coping with these developments, Russia's airlines have been trying to turn themselves into well managed, profitable carriers - with varying degrees of success. *Aviation Strategy* profiles the most important Russian airlines over pages 15-17:

### Aeroflot - Russian International Airlines (ARIA)

ARIA is still the largest passenger and freight airline in Russia, and 1997 saw a number of key developments. ARIA continued to expand its domestic route network and began some hub type services through three Russian cities. But a proposed alliance with Continental - including a daily Moscow-Newark codeshare - has been delayed as Continental has not received approval to fly the route. However, a new board at ARIA has continued to renew the fleet; the first 737s are due in April 1998, additional A310s have been leased (from GECAS) and two 777s will be leased from ILFC are due in the Spring. They will fill the gap before IL-967s are delivered. And a close look is being taken at several Tupolev TU-



204 versions to replace the TU-154 and IL-76.

- Chief Executive: Valeri M. Okulov
- Address: Moscow 125167, Leningradski Prospekt 37
- Tel: (095) 7529001 Fax: (095) 1556647

### Vnukovo Airlines

Early in 1997 a Moscow court invalidated the 1995 sale of Vnukovo Airlines, and so the Russian government still retains a "golden share" (= veto) for major decisions. 1996 traffic volumes fell to 2m passengers, a figure which still leaves the airline in second position in Russia. It flies only domestic scheduled services (although it has applied for international routes) plus an expanding domestic/international charter network. Vnukovo is understood to be finalising a lease of up to 20 TU-204s.

- Chief Executive: V. M. Romanov
- Address: Moscow 103027, Vnukovo Airport
- Tel: (095) 4362576 Fax: (095) 4362572

### Domodedora Civil Aviation Production Association

The long expected government order to divide the Domodedora organisation came in November 1997. The airport terminal has already been separated and is now operating independently, and the airline and administration will divide in January. The airline section of the Association carried 1.5m passengers in 1996. In 1997 scheduled services were started to Uzbekistan, Azerbaijan and China, and charter services were expanded to the UAE, Italy, Greece and Spain. The airline has turned down the opportunity to fly charters to North America due to the cost of upgrading its ageing fleet. \$25m has been spent expanding cargo terminal capacity, and work on a \$60m terminal will begin early in 1998.

- Chief Executive: L. S. Sergeev
- Address: Moscow 103225, Domodedovo Airport
- Tel: (095) 3238507 Fax: (095) 9528651

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### **Pulkovo Aviation Company**

The St. Petersburg-based airline achieved 2% passenger growth in 1996, to 1.5m, as it continues to develop both scheduled and charter services. A lack of long range equipment has forced the airline to agree to ARIA being approved to operate a Moscow-St. Petersburg-New York service, but it is unlikely that Pulkovo will ignore this route for too long. It continues to lease out surplus capacity, and is looking at possible replacements for its fleet.

- Chief Executive: B. G. Demchenko
- Address: 196210 St. Petersburg, Pilot St. 18/4
- Tel: (812) 1229924 Fax: (812) 1043702

### **Transaero**

Transaero flew 1.6m passengers in 1996 - 50% up on 1995. Although by August 1997 scheduled passenger numbers had grown again - by 26% - a lack of aircraft resulted in charter volumes falling. Overall, passenger growth was 9%. In the first eight months of 1997 Transaero achieved a \$38m operating profit on revenues of \$209m, up 3.5% on the same period in 1996. Transaero serves 29 cities from Moscow's Sheremetyevo airport - 20 in the CIS and 9 others. In 1997, Transaero ordered six long range IL-96Ms, for delivery starting in 2001. Two 737-700s are due early in 1998, on lease from Germania, and at least 10 will be added in the next few years, along with 10 767-300s and 10 more 757s. Transaero is also interested in the TU-204.

- Chief Executive: N. Kogevnikov
- Address: 103340 Moscow, Sheremetyevo Airport
- Tel: (095) 5785060 Fax: (095) 5785038

### **Kras Air/Krasnoyarsk Avialinii**

Although traffic volumes were almost unchanged in 1996 at 1.4m, Kras Air has ordered the first 10 Rolls Royce-powered TU-204-120s from Sirocco as part of a fleet modernisation plan. Unexpectedly, it has opted to purchase the first three aircraft (due for delivery December 1997-March 1998) and is likely to lease the others. It continues to lease out some surplus aircraft, most recently an IL-86 to new carrier Trans European, and several TU-154s to Iran.

- Chief Executive: V. I. Medvediev
- Address: 663020 Krasnoyarsk, Yermel'yanovo Village
- Tel: (3912) 236366 Fax: (3912) 244896

### **Samara Air Company**

Samara has lead the way in building co-operation and alliances among Russia's regional airlines (see introduction). It has also introduced flexible tariffs to expand its passenger base which has grown to 530,000 round trips in 1997. It has added an FFP, and has new interline agreements with British Airways and Finnair. It operates scheduled services domestically, plus to China, Israel and Austria.

- Chief Executive: A. F. Kozlov
- Address: 443064 Samara, Kurumoch Airport
- Tel: (8462) 227530 Fax: (8462) 227105

### **Baikal Avia**

Baikal Avia expects to carry some 560,000 passengers in 1997. Following the major disruption resulting from the customs seizure of its leased 757, the airline incurred major financial losses for the year. With regional government support, it is currently working to develop an alliance of Siberian airlines which will focus on fleet commonality.

- Chief Executive: V. N. Kovalenko
- Address: 664009 Irkutsk, Shiriamov Str. 13
- Tel: (3952) 344250 Fax: (3952) 349250

### **Khabarovsk Air Detachment/ DAK-Far Eastern Air Company**

In 1996, this far eastern Russian airline carried more than 500,000 passengers, mainly on domestic routes but with some services to the US and to China. About half its fleet remains active; but overhauls have not been carried out on low-passenger routes. It still plans to add IL-96s, but these will be delayed until traffic improves.

- Chief Executive: P. I. Sevostianov
- Address: 6880012 Khabarovsk - 12 Airport
- Tel: (4210) 372577 Fax: (4210) 378222

### **Komi Avia**

Komi is expects to have carried 570,000 passengers in 1997, a similar figure to 996. The airline employs 6,000 people but a major restructuring is possible following a fare freeze imposed by the government of the autonomous republic. This is believed to be having a considerable impact on the airline's revenue.

- Chief Executive: A. V. Yeshenko
- Address: 167610 Komi Republic, Syktyvkar Pervomaiskaya St. 53
- Tel: (82122) 22797 Fax: (82122) 25583



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### Ural Airlines

Ural AL flew 1m passengers in 1996. The city of Yekaterinburg is becoming a popular business destination, and the local airline is facing competition from Lufthansa and British Airways as well as domestic carriers such as Transaero. It has added some AN-12s and AN-26s to its fleet.

- Chief Executive: S. N. Skuratov
- Address: 620005 Yekaterinburg Airport, Sputnikov St. 6
- Tel: (3432) 342367 Fax: (3432) 266657

### Sibir

The Novosibirsk-based former Aeroflot unit became a private company in 1994, and now serves 20 CIS cities plus Frankfurt, Hanover, Sharjah and Urumchi (China). It also operates charters to Bulgaria, Germany, Israel, Cyprus, Syria, Turkey and China. In 1996 it carried 0.65m passengers. Turnover was \$94m, with a \$0.44m net loss.

- Chief Executive: G. V. Kulichev
- Address: 633115 Novosibirsk Region, Tolmachevo Airport
- Tel: (3832) 227572 Fax: (3837) 322271

### Chita Avia

Chita Avia will carry an estimated 235,000 passengers in 1997 - a 2.3% drop on 1996. However, the airline - in which the government retains a 14% stake - has been improving airport facilities, and three Tu-154Ms have been bought. With traffic demand down for the moment, two Tu-154s are leased out to Iran. Scheduled services are flown to six major cities in Russia and to Beijing. Charter flights operate to Greece and Turkey.

- Chief Executive: N. I. Semonov
- Address: 6720188 Irkutsk Region, Chita Airport
- Tel: (30222) 41045 Fax: (30222) 66396

### Kogalymavia/Kola Avia

Kola Avia has dispensed with its helicopter fleet and added six Tu-154Ms as it focuses on developing scheduled passenger services and oil support flights. It is currently looking for suitable regional aircraft. In 1997 400,000 passengers were carried (10% up on 1996), and the growing oil industry means that passengers are forecast to increase to 1m by 2002.

- Chief Executive: N. N. Zolnikov
- Address: 626481 Tyumen Region, Kogalim Airport
- Tel: (34667) 23101 Fax: (34667) 29695

### Remex

A new cargo operator with an unusual background, Remex was established to allow Russia's airlines to pay for aircraft overhauls not with money, but by leasing their aircraft to the overhauler for a period to repay the cost. It began operations in April 1997 and flies charters to western European cities. Remex expects to double its fleet in 1998, and possibly acquire Yak-42s.

- Chief Executive: K. Vartanov
- Address: 125047 Moscow, 2nd. Tverskaya - Yamskaya St. 52
- Tel: (095) 2509520 Fax: (095) 2510567

### Bykovo Avia

A difficult period has seen a battle to control the airline, which is based at Moscow's smallest civil airport. As a result traffic volumes have fallen.

- General Director: G. I. Sytnik
- Address: 140150 Moscow Region, Bykovo Airport
- Tel: (095) 5545583 Fax: (095) 5548073

### Karat

Karat continues to develop a domestic scheduled network from Moscow's Vnukovo airport, as well as charters to the Middle East and Europe. 1996 passenger volumes were 220,000.

- Chief Executive: V. V. Mikhaev
- Address: 117571 Moscow, Vernadskogo Prpt 125A
- Tel: (095) 4342114 Fax: (095) 4332633

### Atran

Atran increased cargo volumes by 7% in 1996 to 70m tkms, and the first nine months of 1997 saw traffic growth of 47%. Customers include Lufthansa, Martinair, and UPS.

- Chief Executive: R. R. Khristal
- Address: 109004 Moscow, Zemianoi Val 66/16
- Tel: (095) 2444072 Fax: (095) 2442933

### Volga Dnepr

Russia's first non-Aeroflot airline, and the major independent cargo carrier, saw traffic fall 14% to 0.25m tkms in 1996. Traffic fell another 30% in 1997, partly due to difficulties in obtaining An-124 engine spares. Delays in the Tu-204 programme have forced it to negotiate with Sirocco for up to four cargo versions of the 204-120, and it also plans to add four Il-967s for delivery after 2001.

- Chief Executive: A. I. Isaikin
- Address: 432062 Ulyanovsk, Karbishevo St. 14
- Tel: (8422) 202671 Fax: (8422) 204997

# Aviation Strategy

## Management

### Leveraging the customer's perception of control

Completing his look at the five segments of the airline service process (see *Aviation Strategy* November & December 1997), McGill University's **Louis Gialloreto** considers the benefits of improving pre-flight and post-flight services to customers.

Of the five-stage airline service process, it is the pre- and post-flight areas that have received the most attention from airlines on a global basis over the last five years. A combination of airport privatisation and a focus by some airlines on airport-based services has led to the updating and overhauling of many pre- and post-flight customer service areas.

The non-airport part of the pre-flight process includes primarily reservations, and the major changes here have been the maximisation of automation and some segregation of lines per class of traveller. Alas, most of the changes in these areas have been in terms of tangible hardware, rather than improvements in the soft spec, and this is a problem that is seen throughout the airline service process. There is the odd exception - the biggest staff smiler every month at Dubai airport receives a month's pay as a bonus. Is there a lesson for airlines here?

#### Airports do matter

Not surprisingly, it is the ground-based parts of the service process that airlines feel that they have the greatest control over - after all, business lounges are rarely delayed due to bad weather or French air traffic control. And from the customer's perspective, they often feel more at ease in this primary ground-based portion of the trip than they do on the actual flight. Psychologically at least, part of the reason that many do not fly is that they do not relish the lack of control they feel over their immediate environment. But passengers *are* in control in the pre-flight lounges. This being the case, they not only notice but use more of the pre-flight tools

and amenities than those that are available in-flight.

This argument goes against some of the traditional airline service doctrines that stipulate that one should focus maximum expenditure on those parts of the process which take up the highest percentage of elapsed trip time - the in-flight portion. In fact airlines should spend *less* time and effort on in-flight techno-gadgetry and other marginal service amenities than on services that can relieve in advance the inevitable stress that travelling causes.

On-site shower rooms, games rooms and beds are all aimed at minimising the physiological effects of air travel. This is very much tied up with the process of reducing the perceived total elapsed time a journey may take. Keeping passengers in touch with offices and other work sites during the pre-flight process is a key way of reducing the perception of wasted time. And if an airline can reduce perceived time loss it will win considerable brand awareness among customers.

#### How to spend wisely

When an airline combines successfully the two parts of the pre- and post-flight processes - customer control over his or her environment with reduced perceived elapsed time of the journey, a new vision of ground services can truly be realised. It seems a complicated process (see diagram, right), and somewhat intangible given that we are talking about soft spec improvements, but the bottom line is that airlines can significantly increase customer satisfaction - and hence brand loyalty - via better pre- and post-flight processes.

Indeed, if one assumes an incontrovertible cognitive relationship between the customer's perceived control of the air travel process and brand comfort (leading to brand loyalty in cases of sustained positive feel-

# Aviation Strategy

## Management

ing), then planning the service process of the future becomes much simpler. But the part of the positive brand spin which is so hard to attain is to deliver the expected brand feeling on a *consistent* basis. Once again it must be noted that ground-based parts of the experience are more easily delivered on a consistent basis than are other parts. It is becoming increasingly clear that in the medium- to long-run those airlines that manage to start and build a consistently improving brand feel will attract a disproportionately high percentage of frequent fliers in their areas of geographic market influence. (And this becomes even more important when customers become FFP insensitive due to over-endowed mileage accounts.)

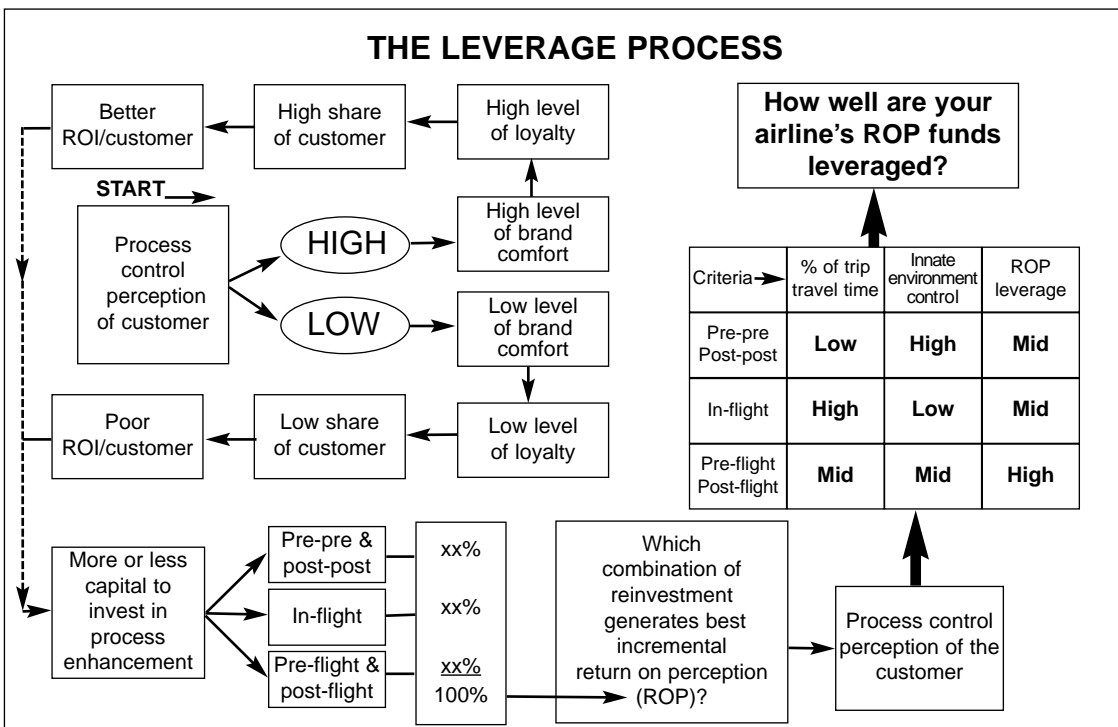
### Post-flight neglect

While airlines have been spending inordinate amounts of money trying to strengthen pre-flight, the post-flight part of the process has only seen limited improvement. For example, there has not been any measurable improvement in baggage delivery systems during the current aviation cycle upturn - and in fact standards may even be perceived to be deteriorating after the Denver airport fiasco.

Most seasoned travellers know that the logistical accuracy of baggage systems has not improved and, to make matters worse, airlines are now cracking down on carry-on luggage. This is partly due to increasing load factors, but the result is that many frequent fliers are losing what they have been trained to perceive as an acquired right of higher yield travel.

There has been some counterbalance via the segregation of custom line-ups by class of service at some locations, which directly contributes to a measurable reduction in elapsed process time. But while some parts of the post-flight process take less time for some customers, others - such as baggage - take the same or more time. And since baggage reclaim is the last step in the post-flight process, the perception is that overall elapsed time - and thus service quality - has not changed substantially.

Overall, therefore, airlines have to get better at recognising the importance of the post-flight phase. Together with improved pre-flight service to customers, successful leverage of these two components will lead to better brand loyalty in the medium-term - and that means bigger profits for positively differentiated airlines in the long-term.



# Aviation Strategy

## Macro-trends

	Intra-Europe			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
Oct 97	15.4	10.2	66.5	15.8	12.6	79.9	11.4	8.5	74.3	36.6	28.3	77.4	54.4	40.2	73.8
Ann. chng	6.6%	11.0%	2.6	7.6%	7.9%	0.2	9.4%	7.4%	-1.4	7.9%	8.0%	0.0	7.6%	8.8%	0.8
Jan-Oct 97	146.4	94.4	64.5	149.1	118.8	79.7	107.7	81.2	75.4	349.5	271.0	77.5	519.4	381.3	73.4
Ann. chng	5.6%	9.8%	2.4	8.4%	9.9%	1.1	7.4%	9.8%	1.7	7.0%	10.0%	2.1	6.6%	9.9%	2.2

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
Oct 97	80.9	55.2	68.2										28.7	21.2	74.0
Ann. chng	2.6%	2.0%	-0.4										6.0%	5.3%	-0.5
Jan-Oct 97	793.5	568.5	71.6										275.2	207.3	75.3
Ann. chng	3.3%	7.2%	2.6										4.3%	5.6%	0.9

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

# Aviation Strategy

## Macro-trends

### 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	Dec 1997	0.60	1.77	5.93	129	5.91%
*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	Dec 19	Swissair	6 A330-200s, 1 A321			99-00	
	Dec 19	Air Macau	1 A321-200			4Q98	
	Dec 18	Olympic AW	2 A340-300s		CFM56-5C	99	+2 options
	Dec 18	Al Kharafi Con.	1 A319		V2527		Corporate version
	Dec 15	Virgin Atlantic	8 A340-600s		Trent 500	02+	+8 options
	Dec 5	Lufthansa	10 A340-600s		Trent 500		
Boeing	Dec 2	Deutsche BA	6 737-300s			1Q98-99	
Aero Int. (Reg.)	Dec 9	CityFlyer Exp.	1RJ100			2Q98	+1 option
	Dec 5	Crossair	4 RJ100s			98-99	



# Aviation Strategy

## Micro-trends

	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 000s	ATK m	RTK m	Load factor %	Employees
	US\$m	US\$m	US\$m	US\$m	m	m	%	Cents	Cents					
<b>Korean Air</b>														
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														
<b>Malaysian</b>														
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	TWELVE MONTH FIGURES													
Oct-Dec 96	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
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
<b>Singapore</b>														
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
<b>Thai Airways</b>														
Jan-Mar 96	TWELVE MONTH FIGURES													
Apr-Jun 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
Jul-Sep 96	TWELVE MONTH FIGURES													
Oct-Dec 96														
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
<b>Air France</b>														
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	TWELVE MONTH FIGURES													
Jul-Sep 96	8,133	7,910	223	75	77,333.0	58,586.0	75.8	10.52	10.23	16,733				36,173
Oct-Dec 96	TWELVE MONTH FIGURES													
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
<b>Alitalia</b>														
Jan-Mar 96	TWELVE MONTH FIGURES													
Apr-Jun 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
Jul-Sep 96	TWELVE MONTH FIGURES													
Oct-Dec 96														
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
<b>BA</b>														
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
<b>Iberia</b>														
Jan-Mar 96	TWELVE MONTH FIGURES													
Apr-Jun 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
Jul-Sep 96	TWELVE MONTH FIGURES													
Oct-Dec 96														
Jan-Mar 97														
Apr-Jun 97														
Jul-Sep 97														
<b>KLM</b>														
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
<b>Lufthansa</b>														
Jan-Mar 96	2,069	2,087	-18	-33*	20,801.0	13,380.0	64.3	9.95	10.03	7,297	4,755.0	3,259.0	68.5	28,123
Apr-Jun 96	2,272	2,230	42	110*	22,243.0	14,922.0	67.1	10.21	10.03	8,039	5,293.0	3,603.0	68.1	28,451
Jul-Sep 96	2,349	2,209	140	265*	23,221.0	17,180.0	74.0	10.12	9.51	8,578	5,420.0	3,909.0	72.1	28,304
Oct-Dec 96	2,356	2,250	106	111*	22,278.0	15,293.0	68.6	10.58	10.10	7,886	5,230.0	3,762.0	71.9	28,018
Jan-Mar 97	1,980	1,980	0	12*	21,820.0	14,932.0	68.4	9.07	9.07	7,209	4,985.0	3,477.0	69.7	27,842
Apr-Jun 97	2,165	2,075	90	221*	24,194.0	17,559.0	72.6	8.95	8.58	8,587	5,505.0	3,893.0	70.7	28,336
Jul-Sep 97	2,264	2,100	164	456*	25,296.0	19,429.0	76.8	8.95	8.30	9,204	5,787.0	4,298.0	74.3	28,219
<b>SAS</b>														
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
<b>Swissair</b>														
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	SIX MONTH FIGURES													

Note: \*Pre-tax

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